Characteristics of Flow past Warped and Wedge Transitions

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ABSTRACT

Characteristics of Flow past Warped and Wedge Transitions

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Expanding channel transitions link the subcritical flow emerging from reservoirs to narrow concrete rectangular channels connected to very wide trapezoidal earth channels of irrigation networks. The present study includes the effects of various design changes in warped and wedge transitions on the behavior of flow emerging from transitions. The efficiency of a good transition is measured in terms of its ability to provide a low value for the maximum velocity and a nearly uniform velocity distribution at the transition exit section. Also, a well-designed transition reduces an energy loss in the transition and ensures that the secondary flow intensity in the downstream trapezoidal channel is low enough to avoid the channel boundary erosion. The study indicated that the changes made in the design of warped and wedge transitions did achieve these stated objectives.

A LDA was used to measure the flow velocity. The point measurements were non-intrusive, and provided a three-dimensional distributions graph of the mean flow velocity as well as the intensity of turbulent fluctuations. The data determined by LDA as well as the depth data form point gauge measurement yielded the longitudinal flow profile and the maximum velocity ratio, as well as the head loss in the transition and the intensity of secondary flow. Flow separation characteristics were recorded by tracing the separation zone and the points of reattachment based on velocity data. These were confirmed by visual observation involving dye tests. The information provided assists field engineer to design efficient transition. Simple appurtenances such as vanes in warped transition and short streamlining strips along the diagonal of wedge transition were shown to be effective in improving the transition efficiency measured in terms of reducing flow separation and conserving energy.

The 3-D model tested was successful in quantifying the effects of vanes in warped transitions. To simulate the complex flow in the warped transition, RNG k-ε and RSM models were adopted and the results were validated by using the available experimental data for a warped transition. It is shown that the use of a vane effectively reduces flow separation and eddy motion in the transition and downstream channel.

KEYWORDS

Warped transition; Wedge transition; Modified wedge transition; Flow separation; Secondary flow; Head loss; Laser Doppler Anemometry measurements; Open channel flow; Hydraulics; Hydraulic design; Experimentation.

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TABLE OF CONTENT

LIST OF FIGURES

LIST OF TABLES

NOTATION

The following symbols have been used in this paper:

A	Flow area (m^2);
A_r	Cross-sectional area of the upstream rectangular channel (m^2);
A_t	Cross-sectional area of the downstream trapezoidal channel (m^2);
B	Base width of the downstream trapezoidal channel (m);
b	Width of the upstream rectangular channel (m);
C_c	Contraction coefficient;
c_o	Outlet loss coefficient;
E	Specific energy (m);
EARSM	Explicit Algebraic Reynolds Stress Model;
F	Froude number;
g	Acceleration due to gravity (m/s^2);
H	Head above the V-notch crest (m);
h_T	Energy head loss in a transition (m);
k	Specific turbulent kinetic energy (m^2/s^2);
K_t	Head loss coefficient;
L_1	Length of the upstream rectangular channel (m);
L_2	Length of the warped transition (m);
L_3	Length of the downstream trapezoidal channel (m);
PISO	Pressure-implicit with splitting of operators;
Q	Flowrate (m^3/s);
R	Reynolds number;
RANS	Reynolds-averaged-Navier-Stokes;

rms Root mean square;

RNG Renormalized group;

RSM Reynolds stress turbulence model;

SST Shear Stress Transport;

S_v Secondary flow parameter;

U Magnitude of the time-averaged velocity vector (m/s);

U_i Mean inlet velocity (m/s);

U_m Cross-sectional average of the longitudinal flow velocity u (m/s);

U_{max} Maximum velocity (m/s);

(u, v, w) Time-averaged velocity components in the x-, y-, and z-direction (m/s);

(u', v', w') Fluctuating velocity components in the x-, y-, and z-direction (m/s);

VOF Volume of fluid;

V_1 Cross-sectional average of the velocity at the transition inlet (m/s);

V_2 Cross-sectional average of the velocity at the transition outlet (m/s);

(x, y, z) Coordinates in the longitudinal, lateral and vertical direction (m);

Z Flow depth (m);

2-D Two dimensional;

3-D Three dimensional;

α Velocity coefficient;

ΔE Total energy head loss (m).

1. INTRODUCTION

1.1 Study Background

In open channel systems serving field applications such as networks of irrigation and power channels, the open channel shapes vary. To link different shapes of channels one provides a transition which gradually varies in shape. Expanding channel transitions carrying subcritical flow permit flow to pass from a narrower channel to a wider channel. The change in cross-section of the channel transition will be generally very gradual to avoid excessive flow separation which may result in large energy losses.

Flow in a transition linking narrow concrete rectangular channels emerging from reservoirs with very wide trapezoidal earth channels of irrigation networks are inherently three-dimensional (3-D) in character. In hydraulic engineering, a well-designed transition permits reduction of flow separation which in turn limits energy losses and thus increases the command of the downstream channel that serves farmlands. It also reduces the strength of the secondary flow in the downstream channel which diminishes channel boundary erosion. Lastly, the gradual reduction of velocity in the transition should provide a more uniform velocity distribution at the exit of the transition and reduce the magnitude of the maximum velocity of the flow at the entrance of the downstream trapezoidal earth channel. This too reduces the boundary scouring tendency of the flow in the earth channel. Flow separation occurs either due to change in channel boundary alignment or due to flow deceleration which gives rise to adverse pressure gradient in the transition.

In the past, the studies of open channel transitions were mainly limited to transition in rectangular channels. Part of this problem could be traced to the difficulties in constructing transition walls which are three dimensional in shape.

Studies on rectangular open channel transitions have been published in the past. These include both experimental (Abbot and Kline, 1962; Mehta, 1979 and 1981; Graber, 1982; Nashta and Grade, 1988; Escudier et al., 2002; and Haque, 2008) and numerical studies (Haque, 2008; Gandhi et al., 2010; and Najmeddin and Li, 2016). Some of the studies have also used various appurtenances such as humps (Ramamurthy et al., 1970) and baffles (Hashimi, 1966; Smith and Yu, 1966; and Skogerboe et al., 1971) to minimize energy losses.

Regarding transition connecting a rectangular channel with a trapezoidal channel, a passing reference is made by Ippen (1949) to the single test result of flow in a warped channel transition. Very recently, Asnaashari et al. (2016) has described the flow behavior in transitions linking a rectangular channel to a trapezoidal channel. They used both experimental and numerical modelling procedures to study the flow behaviors of the transitions. They designed a single transition geometry that had an optimum shape to minimize the head loss. In reality, to verify that the shape chosen by them was optimal they should have conducted more than a single test. However, their study provides valuable design information to practicing engineers dealing with such transitions.

To summarize, the main issues associated with channel transitions are the following:

(a) Provide uniform flow at the transition exit.

(b) Limit flow separation and hence reduces head losses.

(c) Result in a flow structure which is uniform to ensure low levels of the maximum exit velocity.

(d) Reduce secondary flows and turbulent intensities in the downstream channel to diminish scour potential of channel boundary.

Since analytical solutions to obtain the flow behavior involving flow separation is not always possible, one seeks a solution based on experimental procedures or computational fluid dynamic (CFD) methods. For flow in rectangular channel transitions, Abbott and Kline (1962) have shown that the flow is bi-stable and hence flow separation occurs on one side of the transition when the expansion is not excessive. They also showed that flow from the transition with the large divergence angle emerges as a jet.

The present study related to warped and wedge transitions uses both experimental procedures and numerical modelling to study obtain data related to the three-dimensional flow behavior of two different types of channel transitions. A Dantec Laser Doppler Anemometer (LDA) was used to measure the flow velocity in the channel under subcritical flow conditions. The CFD model based on RNG k-ε and RSM models were used to predict the flow behavior. The predictions of numerical modelling were validated using test data.

1.2 Objective

The present study is based on experimental studies and numerical modelling. These studies were used to validate the prediction of numerical simulations as stated earlier. The main objective of the study is to obtain the following characteristics of the flow behavior in the warped and wedge transitions linking a narrow rectangular channel to a wider trapezoidal channel. The specific objectives of this study are as follows:

- Determine the flow properties such as, the velocity distribution throughout the channel cross-section, longitudinal contour with super imposed of velocity vector and the size of the flow separation zone in the complex three-dimensional flow.
- Determine the turbulent intensity, the intensity of the secondary flow, water surface profile and energy losses in the system.
- To determine the effect of the vanes (one vane and three vanes) and modify the channel boundary shape in the transition, i.e., limit flow separation and reduce the loss of energy to improve the flow characteristics in the downstream trapezoidal channel.
- To validate the three-dimensional CFD model for channel expansion and use this model to quantify the 3-D mean and turbulent flow field with and without vanes.

1.3 Layout of the Thesis

Chapter 2 delivers a summary of the pertinent literature review on open channel transitions. It covers the progress made in open channel transition investigation which include both experimental and numerical modelling like flow separation, turbulent eddies, energy losses as well as other well-known facts regarding the design of hydraulically effective channel transition.

Chapter 3 presents the experimental results of flow characteristics using the warped transition with and without vanes (one vane and three vanes). The information in this chapter material was published in Journal of Irrigation and Drainage Engineering–ASCE, 143(8), p. 04017022.

Chapter 4 presents the experimental results of flow characteristics using the wedge and modified wedge transitions. The material presented in this chapter was submitted to Journal of Hydraulic Engineering. Chapter 5 presents the numerical results of flow characteristics using the warped transition.

Chapter 6 recapitulates the results of the present experimental studies and numerical modelling, and further explores topics that need to be addressed in future research on transition.

1.4 Research contributions

Contributions from this thesis research are highlighted below:

- This thesis research has contributed to the design and construction of warped and modified wedge transitions in a novel manner. Rigorous laboratory tests of the transitions have demonstrated an improved hydraulic performance in comparison to existing transitions that connect a narrow rectangular channel section and a large trapezoidal channel section.
- The occurrences of flow reversal and flow separation in channel transitions are major issues facing researchers in the field of hydraulic engineering. For the first time, this research has introduced the idea of using vanes, which can be installed into existing or new channel transitions, to effectively reduce flow separation and associated losses of flow energy.
- This research has produced detailed non-intrusive measurements of flow velocity and turbulence quantities from a conventional wedge transition, a modified wedge

transition, and a warped transition. These are new measurements of good quality. They are useful for model validations and prototype studies.

- This research has extended the experimental results, which are expensive and time-consuming to obtain, by means of computational fluid dynamics. The computational results provide a systematic exploration of the characteristics of flow past channel transitions.

2. PAST STUDIES OF OPEN CHANNEL TRANSITION

2.1 Flow Separation

Since fluids flow from a higher energy location to a lower energy location, flow can occur when an adverse pressure gradient is present. For sub critical flow in an expanding open channel transition, depth in the downstream channel is higher than in the upstream channel. If the flow divergence in the transition is large, the flow tends to separate from the transition sidewalls and gets reattached at a downstream section.

The point of separation [Fig. 2.1] is determined by the condition that the velocity gradient is normal to the wall. In general,

$$\tau_w = \mu(\partial u/\partial y)_{wall} = 0\ (separation) \tag{2.1}$$

The locus of separation is determined by the integration of the boundary layer equation.

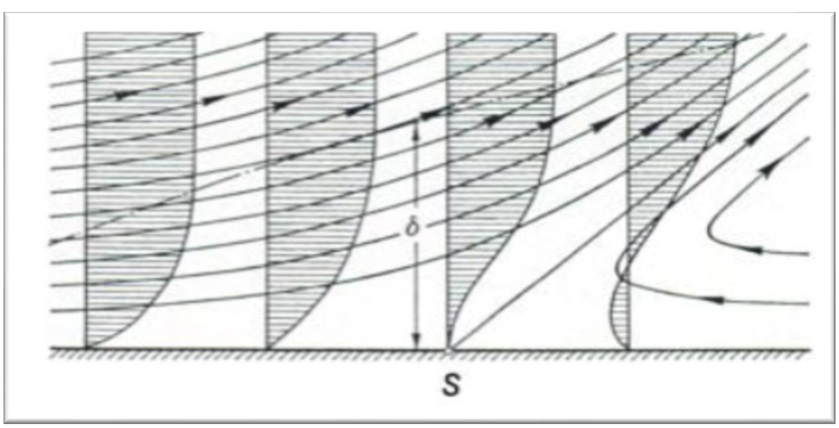


Fig. 2.1. Flow in the boundary layer near the point of separation, S (Schlichting, 1979).

Fig. 2.2(a) and Fig. 2.2(b) indicate the flow configuration for flow past a normal flat plate. In Fig. 2.2(a), flow is perpendicular to the wall. The flow is diverted symmetrically along the central streamline up to the section which is very close to the wall, however, presence of the central plate normal to the wall [Fig. 2.2(b)] triggers the boundary layer flow to separate.

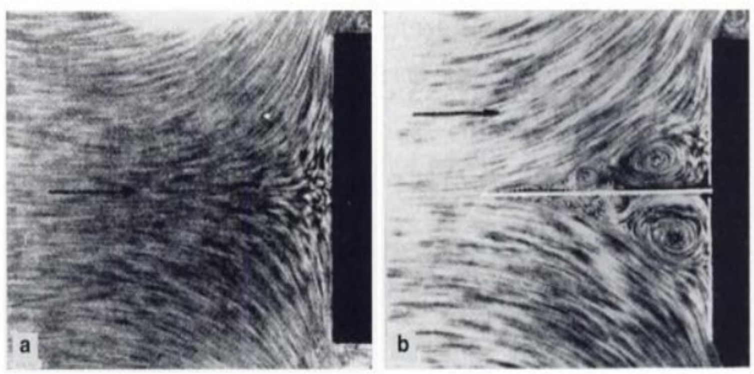


Fig. 2.2. (a) Free stagnation flow without separation, **(b)** Decelerated stagnation flow with separation (photographed by Foettinger, 1993).

One notes that flow separation may be prevented or delayed, if flow momentum is increased near the wall (Prandtl, 1904). In the past, visual techniques have been used to trace the details of the separating flow characteristics. Alternatively, techniques involving tufts (Bradshaw, 1964; and Carlson et all., 1967) and tiny hydrogen bubbles (Chang, 1976, p. 89) can also be used to study the behavior of flow separation.

2.2 Geometric Shape of the Expansion Transition

One major factor that is crucial in the design of a channel transition linking a rectangular channel to a trapezoidal channel is the selection of its shape. The transition should be simple to construct and economical to maintain. The simplest transition [Figs. 2.3(a) and 2.3(b)] results in an abrupt change in the channel cross-section. This will be accompanied by a massive flow separation. It also generates a huge head loss in the transition and strong secondary currents and turbulences in the downstream channel. These are undesirable. A well-designed transition minimizes energy losses and prevents boundary scour. To fulfill these objectives, the shape, size, area and alignment of the transitions occur gradually. In engineering practice, the commonly used transitions [Fig. 2.3] are the following: (a) the abrupt transition for downstream rectangular channel (b) the abrupt transition for downstream trapezoidal channel (c) the straight-line transition (d) the warped transition (e) the wedge transition (f) the cylindrical-quadrant transition.

Hinds (1928) applied the energy concept to design the various geometries of siphons and flumes. The design criterion was meant to minimize the head loss, streamline flow, shorter length, and to obtain the normal flow conditions at the outlet of the transition. The water-surface profile in the transition was determined by adopting two connected reverse parabolas of equal length (Chow, 1959). Hashimi (1966) conducted experiment with different types of transitions including the S-curve transition which was the most efficient transition. However, Smith and Yu (1966) concluded that the S-curve warped wall transition was the least effective design. According to Smith and Yu (1966), a straight wall transition [Fig. 2.3(c), “straight line”] was more efficient than a curved wall transition of equal length.

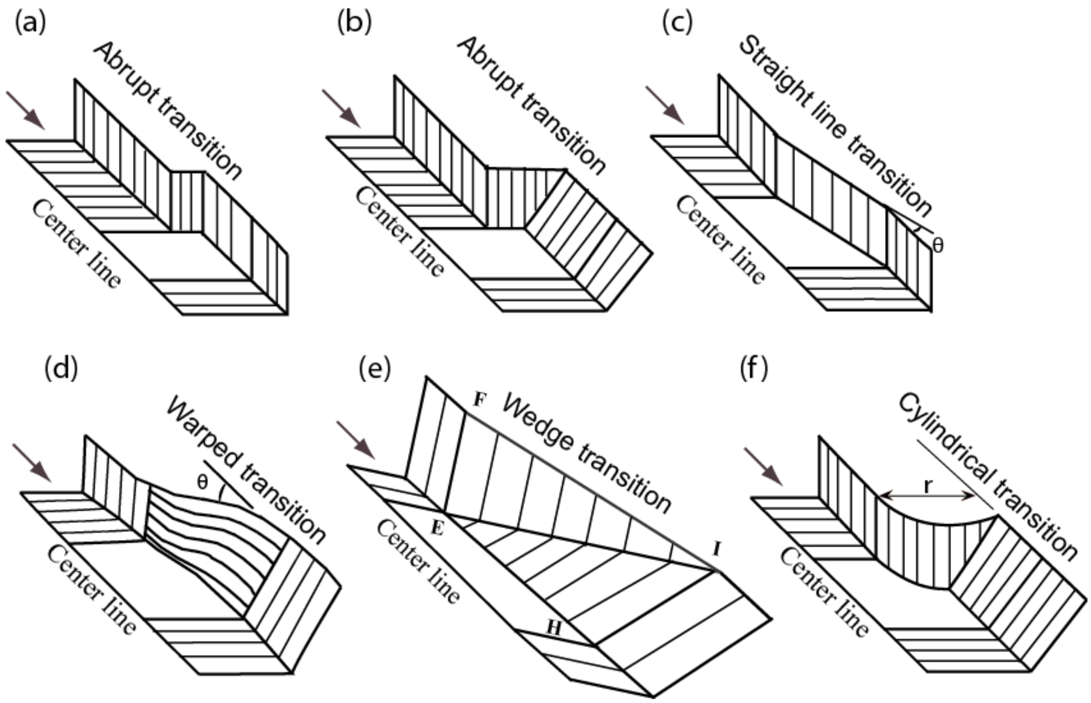


Fig. 2.3. Transition types

The last three (warped, wedge and cylindrical) transitions are not recommended for higher velocities, and application restricted to the subcritical flow (Hinds, 1928; and Scobey, 1933). To construct the channel transition, cylindrical, wedge and warped are suitable for small structures to large structures respectively. If the wall of the warped type transition is properly designed, water-surface profile becomes smooth and continuous. The warped transition (Hinds, 1928) is costly to construct, and it is difficult to obtain the proper shape of the channel geometry. It is usually considered to be the lowest energy loss in expansion (Ippen, 1949). Open channel flow behavior through the transition is complex, and different channel transitions can be applied according to the purpose and site-specific condition. The aim of choosing the transition is to minimize the head loss and channel erosion, linearly change the water surface profile, and prevent the occurrence of cross-wave and standing waves. The ultimate aim is to design a safe and stable channel with low cost.

As mention earlier, in comparison to the study of expansive channel transition in a rectangular channel, a very limited amount of work has been done on the flow characteristics of transition rectangular to trapezoidal channel [Hinds, 1928; Scobey, 1933; Ippen, 1949]. There is a lack of qualitative and quantitative experimental data on the rectangular to trapezoidal channels.

2.3 Flow Pattern in a Channel Transition

2.3.1 Asymmetric Flow in the Symmetric Transition and Effect of Divergence Angle

It has been observed that the flow is asymmetric in symmetric rectangular open channel transition when the divergence angle is not very large. When the divergence angle is very large, flow emerges as a jet (Abbott and Kline, 1962). They found that the flow patterns were asymmetric when the transition ratio (B/b) was larger than 1.5. Here, b and B denote the widths of the approach channel and the downstream channel. Further, they noted that symmetric flow occurred in the transition when the transition ratio was less than 1.5. Several other studies (Mehta, 1979 and 1981; Graber, 1982; Nashta and Grade, 1988; and Escudier et al., 2002) have confirmed the occurrence of unsymmetrical flow in symmetric open channel rectangular transitions in which the divergence angle is not very high. In channel transitions which are abrupt (Fig 2.3), the flow deflects which results in significant effect in pressure, mean flow velocities and its turbulent characteristics (Formica, 1955).

Mehta (1979) experimentally and analytically studied the two-dimensional (2-D) flow pattern in rectangular channel expansions with transition ratios (B/b) of 1.25, 2.0, 2.5, and 3.0. Mehta

(1981) also studied the 2-D flow performance in sudden transitions, and presented the associated mean flow pattern and the turbulent characteristics. He also noted that an increase in the transition ratio resulted in a more asymmetric flow. Escudier et al. (2002) studied on turbulent flow through a sudden channel transition (B/b = 4.0, aspect ratio = 5.33) using LDA. The authors measured the mean velocity and turbulence stresses. Slight shifts in the direction of flow, i.e. small curve in the approach channel influence the nature of flow separation.

2.3.2 Hydraulic Performance of Channel Expansion

In subcritical flow transition, the emphasis is essential to provide smooth and gradual changes in the boundary to prevent flow separation, and consequent energy losses. Even if there are slight changes to the curvature in transition, the boundary zone of the retarded liquid expands rapidly. Its impact on velocity distributions which become highly uneven, with corresponding large values of the energy coefficient (α) and momentum coefficient (β), and fluid flow may fail completely to flow over the channel walls. Several experimental studies were carried out before to find out the losses in the abrupt expansion (Hinds, 1928; Formica, 1955; Smith and Yu, 1966; Mazumder, 1967; and Nashta and Garde, 1988). The channel transition ratio (B/b) has a significant influence upon the hydraulic characteristics of open channel transition. As the transition ratio is increased, non-uniform velocity distribution appeared in the channel section, which increased the energy loss in the expansion.

Hinds (1928) designed a transition to connect a rectangular channel section to a downstream trapezoidal channel. He assumed a reverse parabola for the water surface profile in the transition. He specified energy loss (ΔE_u) in the gradual transition as follows.

$$\Delta E_u = \left(V_1^2 - V_2^2\right)/2g \tag{2.2}$$

where, ΔE_u = change in velocity head between the inlet and outlet of the channel transition.

V_1 = Velocity at the inlet of the channel transition.

V_2 = Velocity at the outlet of the channel transition.

Also,

$$E_L = K\Delta E_u \tag{2.3}$$

where, ΔE_L is the energy loss along the channel length, K is the loss coefficient whose value varies between 0.2 and 0.3.

Daugherty et al. (1964) determined energy losses in a closed conduit with a sudden transition as

$$\Delta E = \left(C_L / 2g\right)\left(V_1' - V_2'\right)^2 \tag{2.4}$$

where ΔE = energy loss in the transition.

C_L = the loss coefficient.

V_1' = flow velocity at inlet of the channel transition.

V_2' = flow velocity at the outlet of the channel transition.

Formica (1955) obtained an average value of the loss coefficient (C_L) to be in the range of 0.41 to 0.87 for different types of open channel transitions by using the above mention expression [Eq. (2.4)]. Formica (1955) carried out the experiments on subcritical flow passing through sudden transitions of several *B*/*b* ratios and presented the typical flow profiles and energy profiles in the transitions. He measured the flow velocity using the Pitot tube.

Hashimi (1966) experimentally investigated head losses of subcritical flow in different types of transitions. He presented relation between the Froude number and the transition loss coefficient. The result showed that the geometry and Froude number both influence the loss of energy in the channel expansions. He compared the head losses between the different types of transition and concluded that the smooth S-shape curve transition had a low head loss coefficient. However, unexpectedly, the S-shape curve with vanes was associated with the highest head loss coefficient. Skogerboe et al. (1971) studied the energy loss analysis in an open channel transition and expressed the head loss in the transition in terms of velocity head at the inlet of the transition. They showed that the coefficient used in the head loss calculation is not constant, but it is a function of the inlet Froude number (F) and the transition ratio (B/b). Morris and Wiggert (1972) as well as Brater and King (1976) also determined the constant loss coefficient for a transition channel.

Vittal and Chiranjeevi (1983) used the rational method with the concept of specific energy to design the open channel transition between the rectangular channel and the trapezoidal channel for subcritical flow. The authors identified the suitable boundary functions describing the geometric shape (bed width, side slope and bed elevation) of the transition partly analytically, and partly experimentally, which gave the minimum head loss. They proposed the separating streamlines equation at different depths of the transition. In reality, flow is 3-D and one equation cannot represent the flow behavior in the channel cross-section. Swamee and Basak (1991, 1992 and 1993) designed the channel based on minimizing the energy loss incurred in the system. According to Morris and Wiggert (1972, p. 185), smooth and continuous flow profile provides the higher energy conversion. This is achieved only when the change in boundary profile is gradual. But it increases the surface contact area in the transition. This increases the surface resistance, and cannot be ignored as compared to the form-loss. Isbash and Lebedev (1961) presented the equation for the separating streamline for the abrupt transition of rectangular channels. Their model shows that the separating streamline in the transition does not change with flow depth.

Nashta and Garde (1988) studied experimentally and analytically in channels of sudden transition with transition ratios of 1.5 to 3.0 for subcritical flow. The optimum shape governed by the minimum value of the friction loss and form loss in the transition. The authors developed the total loss function, and its value should be minimum to obtain the optimum transition profile. The energy loss in the sudden transition was obtained by the application of the continuity, momentum and energy equation.

Alauddin and Basak (2006) developed the methodology for the design of the abrupt open channel transition and presented the empirical equation. The aim of the study was to minimize the flow separation, result in small energy loss. The authors developed the model on abrupt transition and gradual transition. They found the transition profile closely to the shape of the separating streamline which helped to reduce the secondary motion and flow separation. Provision of smooth outlet was the key parameter to eliminate the separation and the chances of eddy formation to a significant amount. They found the best overall efficiency (ratio of the potential-energy gain to the kinetic-energy loss as water flows through the transition) and higher efficiency (less energy losses) in comparison to the others (Hartley et al., 1940; Chaturvedi, 1963; Nashta and Grade, 1988; and Swamee and Basak, 1993). All other transitions had abrupt endings at the downstream part of transition, which was responsible for the separation and obtained the lower efficiency, noticed at the exit section in these transitions. Haque (2008) studied flow profiles, turbulent kinetic energy and turbulence intensity in straight-line transition. Basak and Alauddin (2010) investigated the effect of upstream Froude numbers and inlet discharges on the efficiency of the transition in a straight-line transition.

Channel transition produces the significant head loss which reduces the optimum resource utilization. Furthermore, the minimum head loss design will increase the life of the channel. Therefore, calculation of energy loss with respect to the channel geometry is the key parameter to the design engineers.

2.4 Flow Characteristics in Expansion

Theoretically, when flow passes through the transition, flow decelerates, and surface will rise. This is equal to the difference in velocity head between the inlet and outlet of the transition. In the process of raising the water level, such amount of energy is converted from kinetic energy to potential energy. In reality, due to an enlargement of the cross-section, the main current does not follow the walls. As a result, flow separation appeared on one side or two sides of the mainstream in the widened downstream part of the transition depending on the transition ratio. The separated flows extract considerable energy from the main stream, thereby contributing substantially to the energy losses. Such losses may be computed as a fraction of the velocity head (Chow, 1959). A hydraulically efficient channel means maximum conversion of kinetic energy to potential energy or minimum energy dissipation.

Abbott and Kline (1962) experimentally studied on diffuser flow and found the three zones of flow in turbulent separation. They are: three-dimensional zone, two-dimensional zone and time dependent tail region that is periodically changes the size. Chaturvedi (1963) studied on expansive subcritical flow in open channel transition with transition ratios 2.0, 2.67 and 4.0. The diverging vertical curve walls from the inlet to the outlet was 1:5. The author found that when the curvature of divergence is high, the domination of local stresses will prevail due to the pressure variation and lateral inertial forces. Downstream flow pattern depends on the upstream flow condition, and flow instability at the inlet will become more aggravated as the flow moves through the transition. Efficient conversion of kinetic energy to pressure energy plays a vital role for an efficient transition design (Chaturvedi, 1963) and obtained an average value of loss coefficients are shown in Table 2.1.

According to Smith and Yu (1966), the channel was rapid transition when total central angle between the sidewalls greater than 28° 10′. The result showed that separation cannot be avoided in rapid transition although there is a low expansion ratio ($1\leq B/b \geq 2$). Flow started to deviate one sidewall from the inlet of the transition. In the meantime, large eddies appeared in between the jet and other sidewall. To reduce flow separation, they suggested that the sidewall flare rate should not exceed 1:10 (maximum total central angle 11° 26′) in a gradual transition. The authors observed separation when the central angle exceeded 19º even if the expansion ratio (B/b) was less than 2.0.

Seetharamia and Ramamurthy (1968) first introduced the triangular sill in the rectangular channel transition. Triangular sill increases the length of the transition which help to suppress the flow separation and eddy formation in the downstream channel, and reduce the part of the energy loss. As subcritical flow passes over the sill, part of the flow energy head is stored as elevation. Similarly, Ramamurthy et al. (1970) used the simple hump in expanding rectangular channel transition. Bed level is increased gradually in the transition region which allows to decrease the pressure gradient in the longitudinal direction. Again, after reaching the summit, it is gradually brought back to the initial level following equal negative slope. This helps the decelerated flow to accelerate and reduce the extent of flow separation. They used the precast concrete slab channel which impact on channel roughness and flow. It is difficult to incorporate the frictional force accurately in momentum equation. However, fundamental momentum principle is applicable. Haque (2008) and Najafi-Nejad-Nasser and Li (2015) used a hump on the bottom of the rectangular channel transition which is effective to suppress the flow separation and the recovery of energy head. Hump in transition helps to transfer the flow energy form kinetic energy to potential energy. Therefore, part of the flow energy is available as an elevation head which is a source for the downstream.

Nashta and Grade (1988) evaluated the eddy length by using dye and movement of thread. When the transition ratio (B/b) ≥ 1.5, flow was found to be asymmetric leading to different eddy lengths on the two sides and the velocity deviated from the centerline. The eddy length was increased while increasing the transition ratio, but the increase of the shorter length was relatively more than that of the longer eddy length. They obtained the uniform vertical velocity distribution in the direction of flow. This was only possible due to the diffusion of the turbulence generated at the high shear zone, which equalized the influence of the velocity distribution. The authors presented the curve in relation between the deflection angle and transition ratio, but their research focused on sudden transition.

Swamee and Basak (1991) established the methodology to design the subcritical expansive transition of a rectangular open channel flow. They produced the optimal bed width profile after analyzing the several number of profiles and obtained less energy loss than compared to the existing method (Mitra, 1940; Chaturvedi, 1963; Nashta and Grade, 1988). Swamee and Basak

(1992) further studied to design the expansive transition between the rectangular to the trapezoidal channel section. Using the optimal control theory, the authors improved the geometric shape compared to the Vittal and Chiranjeevi (1983) and developed the analytical solution to minimize the flow separation and energy losses. The researchers used the pipe flow loss coefficient to develop the methodology in an open channel flow. Swamee and Basak (1993) combined the design ideas presented in Swamee and Basak (1991 and 1992). The selection of the bed width ratio, the length of transition and the side slope of the transition guides the flow separation and energy losses in the system. They used the optimal control theory for the design of rectangular to trapezoidal expansion for the gradually varied subcritical flow and produced the equations based on the minimization of the head losses.

Frizzell and Werth (2006) presented the results of a physical model study to evaluate the separation zones in such hydraulic phenomenon. The physical model was applied to validate the analytical method of the opposing flow condition. There was an agreement between the analytical method and the physical model. The validated analytical method approach can be used to predict the maximum width of the separation zone.

Several investigators have studied subcritical open channel flow (Table 2.2), which improved the flow behavior in the channel transition. Understanding the development of the shape of the separating streamlines, deflection angles, the length of standing eddies and asymmetric behavior are the key parameters in order to predict the flow characteristics in the transition channel. It helps the designer to design the optimal channel transition.

2.5 Turbulence Characteristics in a Channel Expansion

The turbulence fluid motion is an irregular condition of flow in which the various quantities show a random variation with time and space coordinates, so that statistically distinct average values can be discerned (Hinze, 1975). Most of the open channel flow which are used in engineering application are in turbulent nature. The characteristics of the turbulent depend on its environment. Turbulence has complex spatial-temporal behavior, but randomness or irregularity, dissipation, diffusivity, three-dimensional vorticity fluctuations, large Reynolds numbers and continuum are some of the common characteristics of the turbulence flow. Turbulence features a cascade process and is defined by its eddy motion. Turbulence flow appear in the form of a large number of eddies that range from a large size to a small size. It is the chain process that carries the smaller eddies by large eddies and some of them are overlapping in space. In this process, the turbulent kinetic energy transfers from larger scale eddies to smaller scale eddies. Molecular viscosity plays a vital role to smoothen the velocity fluctuations.

In the three-dimensional flow field, the flow is often regarded as comprising of two complex components, a primary flow and a secondary flow. The secondary flow appears in the channel due to the interface between the primary flow and channel geometry features. Prandtl (1952) identified two types of secondary flows; stress induced and skew induced, whereas the flow takes place in the transverse direction of the primary flow. In comparison, between these two flows, stress induced flow is less effective than skew induced flow due to the anisotropic distributions of the boundary shear stress in a straight channel (Brundrett and Baines, 1964; Gessner and Jones, 1965; and Perkins, 1970). This is called the secondary flows of Prandtl's second kind. The secondary flow, which is generated due to the change in the channel parameters that can skew the primary flow is called the skew-induced secondary flow. This is a powerful secondary flow caused by the skewing of cross-stream vorticity into a mainstream direction. Flows through a channel bend, rapid change in cross-sectional shapes and channels of noncircular cross-sections induced this kind of secondary flow. This phenomenon is also known as the "secondary flow of the second kind" and is discussed in Squire and Winter (1951), Prandtl (1952), Perkins (1970), and Kay and Nedderman (1985).

El-Shewey and Joshi (1996) conducted an experimental study to find out the turbulence flow characteristics in a sudden transition. Using a Laser Doppler Velocimetry (LDV), the authors observed the high turbulence intensities near both the channel-bed and the free surface, in comparison to the middle depth. Results showed that with increasing the expansion ratio, the stream-wise and vertical variation of turbulence intensities increased and became pronounced within and downstream of the transition, changing rapidly in the wall, core and the free surface regions. Alouri and Souhar (2000) studied on turbulent asymmetric flow in a flat duct with symmetric sudden expansion. They found the asymmetric and unsteady flow pattern in two-dimensional flow. Both symmetric and asymmetric regions of recirculation zones have been observed. The key parameters are the transition ratio and the aspect ratio.

Escudier et al. (2002) identified the mean and axial traverse velocities, axial and traverse intensities, and the Reynolds shear stress with the wall pressure variation for a plane of a sudden transition. The flow pattern downstream of the transition is asymmetric and strong anisotropy behavior was found in the upper circulation region in compare to the lower circulation region. Maximum axial turbulence intensity was 26% higher than the bulk inlet velocity in the upper circulation region, however, maximum traverse intensity was only 14% higher at this location. Papanicolaou and Hilldale (2002) studied the channel flow to get the turbulent characteristics downstream of a gradual channel transition. The turbulent intensity distributions showed that the flow is anisotropic throughout the depth. A gradual channel transition creates an unbalanced turbulent stress distribution affecting the distribution of the intensities.

2.6 Numerical Modelling

Computational fluid dynamics (CFD) is widely applied due the low cost, flexibility and lesser time consumption in compare to the physical model. Therefore, this is the alternative tools to study in open channel flow, flow structures, river morphology, river management, flood protection and sediment transport studies etc. The CFD model predicted some of the gross flow characteristics, such as velocity profile, and the zone of separation in the open channel transition. The CFD model was also used in a hump and vane which was effective to reduce the flow separation.

Cacqueray et al. (2009) applied the Ansys-CFX to simulate the model, experimented by knight et al. (1984). Research showed that the CFD over predicted the sidewalls shear while it underestimated the bed shear stress in compare the results of Rhodes and Knight (1994). Booij (2003) used CFD with the LES method to assess the secondary flow pattern and turbulence structure in the curved channel and a curved 180° bend channel by Van Balean et al. (2009). Ansari et al. (2011) extended the work of the Cacqueray et al. (2009) to the case of trapezoidal channels using the CFD with different aspect ratios, slant angle and bed roughness, and result delivered the positive agreement between them.

Haque (2008) used the numerical model [two-equation k-ε model] to predict the flow characteristics of open channel flow. The experimental result was used to validate the CFD solution. The validation of the model using test data was reasonable. Bodnar and Prihoda (2006) and Seyedashraf et al. (2012) investigated the secondary flow, velocity pattern in traverse direction, the bed shear stress distribution and the water depth variation in longitudinal and traverse directions which were induced by a curved channel flow while using the two-equation turbulence models (k-ε). Gandhi et al. (2010) also used the same turbulence model and determined the flow velocity profile with the effect of transition in the channel. Feurich and Olsen (2012) used the STAR–CCM$^+$ model to study the flow behavior in the rectangular gradual transition for the supercritical flow configuration. The test data produced by Mazumder and Hager (1993) was used to verify their study.

Filonovich et al. (2013) used three different turbulence models (k-ε, SST and EARSM) for numerical simulation of experimental results to verify the velocity profiles in the compound channel. This research shows that velocities underestimate and overestimate the upper interface and lower interface respectively by using the isotropic model. The EARSM gave more realistic results because it generated the secondary flow from the interface between the main channel and floodplain.

Mohanta et al. (2014) simulated flow on non-prismatic compound channels using three-dimensional two-phase CFD with finite volume method and a dynamic sub-grid-scale. They concluded that there is a good agreement on velocity distribution using CFD analysis with the experimental result. Najmeddin and Li (2016) obtained numerical solutions to the problem of flow in rectangular gradual expansions and verified the solutions by experimental result. Asnaashari et al. (2016) numerically studied the open channel transition which was used to connect a rectangular channel to a trapezoidal channel. They used the RSM model and the symmetric flow separation was obtained. But numerical result did not match well with experimental result, which was asymmetric flow separation.

The numerical model study is more flexible and less time consuming to change the transition geometry like the angle of divergence, the length of transition, the crest height of a hump fitted at the channel bed of the transition and the Froude number on the flow. This is, also, cost effective tool to examine the flow characteristics subject to various geometries and boundary condition with compare to the lab model. Only few researchers [Table 2.3] investigated the flow characteristics in the transition in open channel flow using the numerical model. These studies covered only a few cases in terms of approach flow and type of transition. The numerical approach will permit the new opportunity to investigate the complex flow characteristics of open channel transition in efficient and systematic way and help to provide new engineering design inputs.

2.7 Methods to Control Flow Separation

Flow separation occurs when the slow-moving flow near the solid boundary reverses its direction and flow experiences a deceleration. Bernoulli's equation shows that flow deceleration or decrease in kinetic energy is accompanied by an increase in pressure in the direction of the flow. If such a rise occurs, it can overcome the inertia of the slow-moving flow near the wall and reverse its direction. Fluid outside of the boundary layer has enough momentum to overcome this pressure which is trying to push it backwards. The fluid within the boundary layer has so little momentum that it will quickly stop moving, and possibly reverse in direction. A substantial amount of momentum and energy may be required to initiate the forward movement of the reversed flow. Because of the importance of flow separation, several researchers (Ramamurthy and Basak, 1970; Haque, 2008; Dake et al., 1967; Skogerboe et al., 1971; Feil, 1962; Mazumdar, 1967; and Smith and Yu, 1966) studied in channel expansion using the hump, splitter and baffles to control the flow separation and eddy length.

At the edge of the separated boundary layer, the velocities change direction and create vortices. This happens when fluid is moving in the opposite direction. This boundary layer separation creates the vortices which increase turbulence and result and increase in large energy losses in the flow. These separating or divergent flows are inherently unstable and far more energy is lost than in parallel or convergent flow. Increasing the reverse flow area causes a velocity drop and hence a pressure rise. As the angle of divergence increases, this causes a rise in a probability of boundary layer separation. To avoid or reduce the separation, flow has to be modified by using the control technique. According to Chang (1976), control techniques for flow separation are either to design the surface configuration of expansion in such a way that there is sufficient available energy along the flow path near the wall or to use a suitable device in a proper position in order to maintain sufficient energy level along the flow path near the wall. Basically, devices with or without extra power are used to control the flow separation. In the past, various methods have been adopted to overcome this problem. These are as follows:

- Controlling viscosity effect in transition by suction: Separation can be controlled by suction technique. Suction can be applied to either porous or series of finite slots. Suction reduces the thickness of the boundary layer by removing the low momentum fluid next to the surface and thus preventing the flow separation.

- Increasing the momentum of the surface fluid: The mixing layer of the particles can be increased by using an auxiliary device such as vortex generator attached to the main body. Vortex generator is used to delay separation by mixing high momentum fluid from the outer flow with low momentum fluid in the vicinity of the wall. The vortex generator helps to re-energize the fluid near the surface.
- To evolve optimum geometric proportions for the hump and vane and their alignment in terms of hydraulic parameters: Different shapes and sizes of humps, baffles and vanes can be used in channel expansion to reduce flow separation. The vane reduces the angle of expansion which minimize the flow separation. Hump used in expansion transition accelerates the flow and reduces the flow separation.
- Proper design of the channel: Design the wall surface properly to match the flow streamlines which reduces the velocity difference among the streamlines and minimizes flow separation.

Feil (1964) investigated flow characteristics by using the vane systems for very-wide angle subsonic diffusers. Using the concept of source point translation, the author found the optimum vane configuration and showed that this method is an effective way to improve the performance of wide angle diffusers. Short diffusers with length of throat ratio of smaller than 3.0, exhibited a good performance up to $\theta = 40°$. Hyatt (1965) studied the use of baffles in a trapezoidal open channel transition. The triangular cross-section baffle was found to be more efficient in curbing separation than the square baffle. The velocity distribution at the exit of the trapezoidal transition was fairly uniform. The head loss in the trapezoidal transition was nearly the same with or without the columns, which can probably be attributed to the streamlining effect of the triangular baffles.

In order to satisfactorily distribute the flow in the expansion, it was necessary to extend the height of the baffles through the entire depth of flow.

Smith and Yu (1966) examined square baffles with triangular arrangement in rapid transition. Results showed that flow was uniformly spread and velocity distribution at the outlet was more uniform compared to the gradual transition. Head loss and scour problem are the main disadvantages of the transition, as they required long and costly structures to avoid separation. Hashimi (1966) conducted an experimental study to find out the transition flow behavior by using the different control techniques. For example, he studied baffle, pier and vane in abrupt and gradual transition. Results showed that control techniques helped to reduce the separation. Ramamurthy et al. (1970) studied rectangular channel transition by providing the straight hump in longitudinal direction. Due to the hump, flow accelerates and suppresses flow separation, and limits the area of flow reversal.

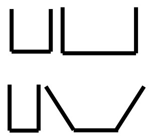
Table 2.1. Loss co-efficient for different open channel transitions

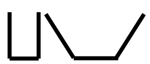
Investigators	Year	Cross section	Expansion type	b/B	θ	v/v'	C_L	Flow features	Remarks
Chaturvedi	1963		Straight walled flared gradual expansion	2.0, 2.67 & 4.0	13°			Discharge, depth and mean velocity	Large eddy with reverse flow.
			Curved wall flared transition		13°		0.40		Progressively diminishing the size of eddy created by separation in the one-sided flow.
Smith and Yu	1996		Rapid expansion		28°10'	2.5	0.5	Discharge, depth and mean velocity	Scouring is imminent. Large eddy between jet and side walls.
			Rapid expansion with three square baffles	3.0	-	1.26	0.84		Efficient for revers flow but inefficient in head loss. When velocity is reduction is important this may be more suitable
			Rapid expansion with three squares baffles	4.0	-		0.81 & 0.77		
			Abrupt	1.5	-		1.02		Channel efficiency is decreased while increasing the expansion ratio.
			Abrupt	3.0	-		1.08		
			Gradual expansion		11°26'	2.10			A straight walled diverging transition is more efficient than a curved wall transition of the same length.

Table 2.2. Summary of the experimental studies

Investigators	Year	u/s & d/s channel	Expansion Type & ratio (b/B)	Velocity measurement & flow features	Remarks
Chaturvedi*	1963		Sudden; 2.0, 2.67 & 4.0	Discharge, depth & mean velocity.	Approach flow significant effect the transition outlet flow. Flow instability at the inlet will become more aggravated at the outlet.
Abbot and Kline*	1966		Abrupt; 2.67	Modification hot-film anemometer & flow visualization. Mean velocity & turbulence intensity $\sqrt{(\overline{u'^2})}$.	Asymmetry flow with symmetric sudden expansion. No appreciable change in the separation zone for the variation detected at 1% to 8% of the inlet turbulence intensity.
Skogerboe et al.*	1966		Abrupt with triangular baffles; 3.0	Ott current meter Flow quantity, depth & flow velocity.	No separation for sub critical & supercritical. But head loss is same as with or without baffles.
			Gradual with triangular baffles; 5.0		
Hashimi*	1966	 Gradual expansion 25° central angle	With four vanes equally distributed; 3.0	Pitot tube;	Flow separation was minor & overall uniform. Serrated velocity distribution was obtained at the exit of the transition.
			With a tetrahedron; 3.0	Pitot tube;	No flow separation. The plugging flow is turned up by the tetrahedron.

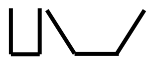
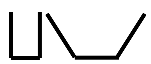
Investigators	Year	u/s & d/s channel	Expansion Type & ratio (b/B)	Velocity measurement & flow features	Remarks
			With baffle piers; 3.0	Pitot tube;	No flow separation. Velocity distribution is smooth.
			With baffle piers (one-third height of the d/s flow depth); 3.	Pitot tube;	No flow separation. More efficient than above.
		Gradual expansion 35° central angle	With vanes 7° apart; 3.0	Pitot tube;	
Ramamurthy and Basak*	1970		Longitudinal hump with gradual expansion;	Pitot tube and dye tests. Better velocity distribution & lesser chance of siltation.	Bed level is increased gradually in the transition which allows to decrease the pressure gradient in the axial direction. Reduce the reverse flow & head loss.
Cherdron et al.*	1978		Sudden; 2.0 and 3.0	Non-intrusive LDA & Flow visualization.	Asymmetric flow was shown to lie in disturbances generated at the edge of the expansion and amplified in the shear layer.
Mehta*	1979, 1981		Sudden; 1.25, 2.0, 2.5 & 3.0	Combined static & dynamic pitot tube, and hot wire anemometer. Discharge, depth, velocity & turbulence intensity.	Flow pattern is truly symmetric & stall regions are equal on both sides when expansion ratio (B/b) was 1.25. Asymmetric flow pattern after increasing the B/b ratio. $R = 1\times10^5$, 0.75×10^5 & 0.5×10^5

Investigators	Year	u/s & d/s channel	Expansion Type & ratio (b/B)	Velocity measurement & flow features	Remarks
Vittal and Chiranjeevi*	1983		Sudden; 2.0	Discharge, depth, velocity & turbulence intensity.	In rectangular transition, unsymmetrical flow & axial length of the eddy at the top has to be slightly shorter than that at the bottom. Flow was unsymmetrical & more pronounced in trapezoidal channel.
Swamee & Basak**	1991		Gradual;	Analytical method was used to design the transition. They proposed the suitable boundary functions to describe the geometric shape.	Based on optimal control theory, they presented the methodology for the optimal design of the transition.
Swamee & Basak**	1992 & 1993		Gradual;		
Escudier et al.*	2002		Sudden; 4.0	LDA;	Flow was asymmetric & the reason for that flow behavior is the effect of inlet.
Papanicolaou & Hilldale*	2002		Gradual	Acoustic Doppler Velocimetry (ADV);	Flow field was anisotropic through the depth.
Alauddin and Basak*	2006		Abrupt & Gradual; 2.67	Pitot tube; Discharge, depth & velocity. Froude No 0.32-0.70;	Higher efficiency obtained by the provision of a smooth outlet of the transition.
Haque*	2008		Gradual expansion	LDA and Pitot tube; 3-D velocity components & turbulent intensity.	Most of the cases (Q = 0.007 m^3/s, 0.0142 m^3/s m^3/s, 0.0158 m^3/s) flow separation was one sided but in one case (Q = 0.0113 m^3/s) flow separation was symmetrical.

Investigators	Year	u/s & d/s channel	Expansion Type & ratio (b/B)	Velocity measurement & flow features	Remarks
			Gradual expansion with 12.5 mm hump; 1.66		Reduces the flow separation significantly.
			Gradual expansion with 25 mm hump 2.67		Removes the separation completely.
			Gradual expansion with one vane; 2.67		Reduces the flow separation.
			Gradual expansion with three vanes; 2.67		Completely removed the separation.
Basak and Alauddin*	2010		Gradual; 1.67	Effect of different upstream Froude numbers & inlet discharges.	Efficiency of the transition decreases when the upstream Froude number and inlet discharge increase.
Najafi-Nejad-Nasser and Li*	2015		Gradual expansion with hump; 1.67	Piezometer;	The use of triangular hump can effectively reduce the head loss. Recommended hump height was 5-9% of the depth of the approach flow.
Asnaashari et al.*	2016		Gradual; 1.6	Micro Moline instrument;	The efficiency of the transition decreases, as the inlet Froude number increases.

* Experimental method and ** analytical method

Table 2.3. Summary of the three-dimensional model studies

Investigators	Year	u/s & d/s channel	Expansion Type	Turbulent model	Remarks
Haque	2008		Gradual;	VOF method with standard k-ε model.	Flow separation was symmetric in the experimental study. But their numerical model study using the test data indicated that large area of flow separation was one sided and small area appeared on the opposite side.
Gandhi et. al	2010		Gradual;	VOF method with standard k-ε model.	Not sufficient test and numerical data to compare the result.
Feurich and Olsen	2012		Gradual;	VOF with STAR-CCM^{+};	Model was capable to reproduce the free surface of such flows reasonably well. Flow was supercritical (F=8.0).
Najmeddin and Li	2016		Gradual;	VOF method with standard k-ω model.	Flow separation were both sidewalls, but distribution of eddies were asymmetric.
Asnaashari et al.	2016		Gradual;	Finite-volume method with a Reynolds stress turbulence model.	In experimental study, flow separation in the transition was generally asymmetric. However, their numerical model showed that flow separation was always symmetric.

2.8 Conclusions

The water flow in the system may be either open channel or pipe flow. These two kinds of flow are similar in many aspects, however, one key difference, is that in an open channel flow, there is a free surface flow (Chow, 1959). Despite the similarities between these two kinds of flow, it is much more difficult to solve problems of flow in open channels than in pressure pipes (Chow, 1959), and adding transition in the system increases the complexity of the problem.

Channel transition is a common phenomenon in artificial channel networks. The types of channel transition depend on the specific site condition. Due to the channel transition, flow separation occurs which may be on one side or both sides of the walls. The separation side creates large return eddy while the main flow continuous on the other side. When the divergence angle is very large the flow emerges as a central jet. Both of these flow conditions in an unlined channel have disastrous results in the form of scour of the downstream banks and channel bed. Therefore, suitable techniques can be provided to control flow separation from the channel sidewalls. Earlier researchers have made an impressive progress in this regard. However, much more research efforts are needed for detailed, quantitative results.

The experimental and numerical study presented by previous researchers mainly focused their attention on the abrupt transition and only few researchers worked on the transition to connect the channel in between the rectangular and the trapezoidal. This study will extend the research in this field by investigating the effect of change in the cross-sectional shape.

3. EXPERIMENTAL STUDY OF FLOW PAST A WARPED TRANSITION

3.1 General Background

The networks of irrigation canals obtain water from the reservoirs. The canals are generally trapezoidal earthen channels. The flow emerging from the reservoir normally enters a narrow rectangular concrete channel and passes through a transition which is linked to a large trapezoidal earth channel. The flow through the transition is three-dimensional (3-D) and subcritical. The design of an efficient transition should lead to a unit which is economical to construct and easy to maintain, while providing the minimum head losses. It is also desirable that the transition is short to limit the construction cost. The exit flow of the transition should be reasonably uniform and have a low value for the maximum velocity to ensure a lower scour potential in the downstream earth channel (Ippen, 1949).

The objective of this chapter is to obtain the characteristics of 3-D flow in a single vane system and a three-vane system located in the warped transition connecting a rectangular channel and a trapezoidal channel were studied. The goal was to determine the transition flow parameters such as the longitudinal flow profile, energy loss in the transition, and maximum velocity in the transition exit flow. Other flow details linked to flow parameters such as flow separation, turbulence intensity and secondary flow characteristics were also studied. Further, the characteristics of flow separation were recorded by tracing the line of flow separation and the point of reattachment based on velocity data. Some of these results were also confirmed by visual observation that involved dye tests. The velocity profiles in the downstream trapezoidal channel were also determined in detail to know the secondary flow characteristics.

In the design of short 3-D transitions, it is reasonable to assume that the flow is gradually varied and hence energy losses can be estimated using Manning's equation. In model testing, it is important to determine and incorporate the velocity coefficient α (Chow, 1959) while computing the energy loss in the transition. This coefficient will be usually far from unity. The deceleration of flow in the transition gives rise to an adverse pressure gradient. This can lead to flow separation that causes considerable energy losses. Flow separation in the transition reduces the net area of axial flow and increases the maximum velocity. This may result in channel boundary erosion in the downstream earth channel.

In earlier studies, Hinds (1928) and Scobey (1933) provided some guidelines for the design of transitions in which 3-D flow occurs. In the past, the warped type, the wedge type and the cylindrical type transitions (U.S. Department of Transportation, 1983) were the most common transitions [Figs. 3.1(a) and 3.1(b)]. Among these three types of transitions, the warped transition is the most expensive to construct, although it is the most efficient in limiting energy losses. For small transitions, the cylindrical unit is less expensive. However, the associated energy losses are higher (Ippen, 1949).

Ippen (1949) has provided a good discussion of the recommendations of Hinds (1928) and Scobey (1933) for expanding open channel transitions. He suggests that the installation of even numbered splitter vanes in the transition reduces energy losses in transitions. Even when a single vane is introduced, it decreases the angle of divergence and hence reduces the flow separation and the head loss. It is well known that the present of a single vane in the rare of a cylinder reduces pressure drag experienced by the cylinder significantly. Hence, even a single vane can be expected to improve the flow characteristics of transition flow.

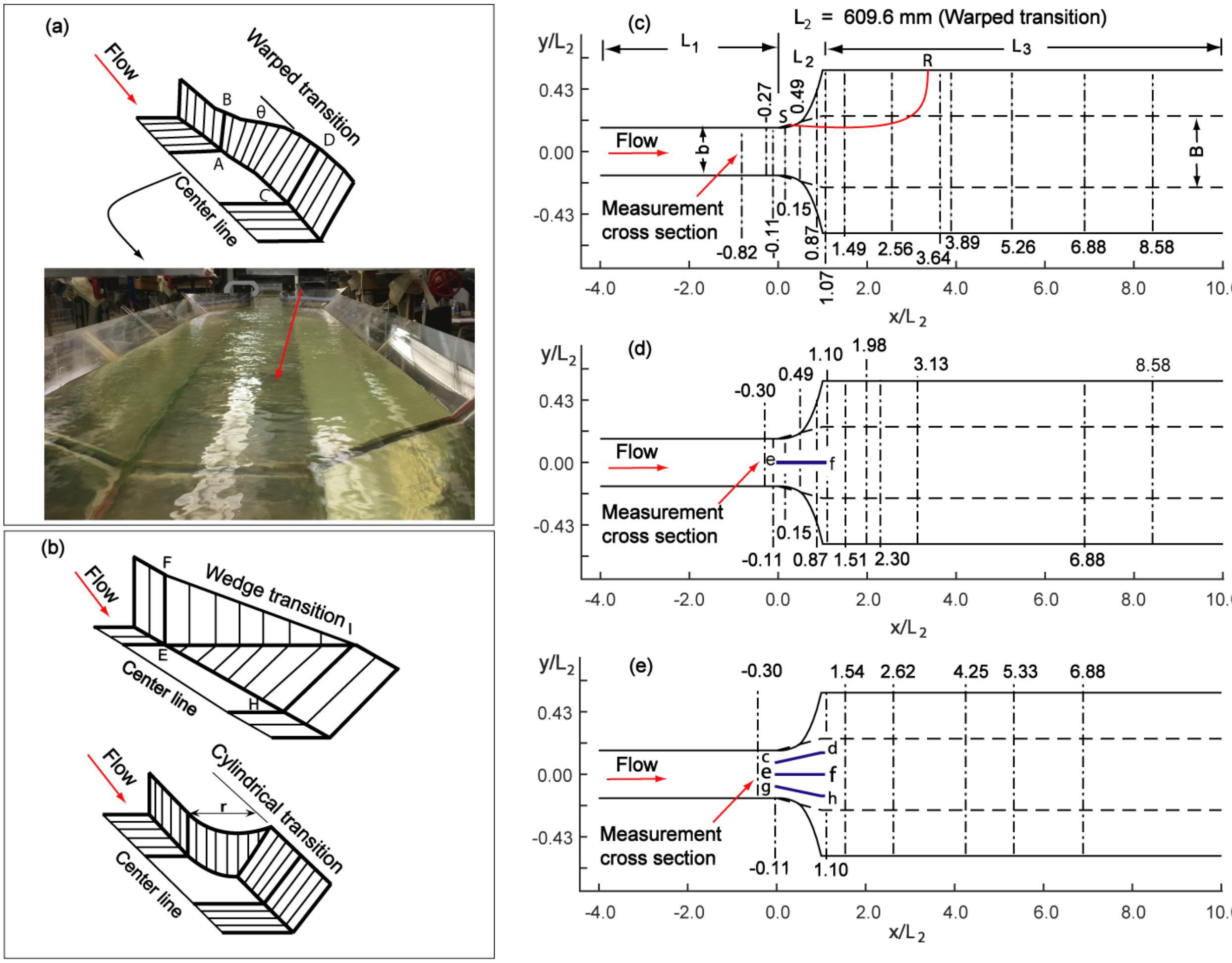


Fig. 3.1. Open-channel transitions: (a) 3-D view of a warped expansion and a photo of the flume used in this study, which consists of a short narrow rectangular channel-section, a warped expansion and a long wide trapezoidal channel-section, with the red arrow indicating the direction of flow; (b) 3-D view of wedge and cylindrical expansions; (c) plan view of the flume without any vane in the expansion; (d) one vane (line segment $\overline{ef}$) being added to the expansion shown in (c), along its central line; (e) three vanes (line segments $\overline{cd}$, $\overline{ef}$, and $\overline{gh}$) being added to the expansion shown in (c).

Chow (1959) has presented the contributions of Hinds (1928) to the design of expanding channel transitions too. According to him, the rise in the water surface (recovery of velocity head ($\Delta y'$) from the inlet to the outlet of a transition is linked to the difference in the velocity heads (Δh_v) and the outlet loss coefficient (c_0). Thus,

$$\Delta y' = (1 - c_o)\Delta h_v \tag{3.1}$$

Vittal and Chiranjeevi (1983) have discussed the contributions of Hinds (1928) as well as Mitra (1940) and Chaturvedi (1963) to the design of expanding channel transitions. They rightly state that one should consider the effects of actual the bed and the side wall profiles in computing transition losses. For the head loss in the design of expanding open channel transitions, Swamee and Basak (1991, 1992 and 1993) used the continuity equation and a generalized type of the form-loss equation for rectangular channel expansions proposed by Henderson (1966). They used the optimal control theory procedures to minimize the head loss in the transition connecting a rectangular channel to a rectangular channel or a trapezoidal channel. For each case, they provided the optimum bed and side wall profiles that reduced the transition head loss. Morris and Wiggert (1972) indicate that contributions due to surface resistance cannot be ignored, compared to form-loss. They also assert that this is true especially, when the changes in boundary profile are gradual. Isbash and Lebedev (1961) have presented the equation for the separating streamline for the abrupt expansion of rectangular channels. Their model indicates that the separating streamline in the transition does not change with flow depth. However, Vittal and Chiranjeevi (1983) conducted experiments on transitions connecting rectangular channels to trapezoidal channels and their results indicate that the separating streamlines at different depths of the transition are different. In earlier study, fitting a simple hump on the channel floor of a transition connecting rectangular channel was shown to suppress flow separation (Ramamurthy et al. 1970 and Haque 2008). Najafi-Nejad-Nasser and Li (2015) showed that the installation of a hump in a rectangular transition reduces flow separation and energy losses. In the field installations, thin stainless-steel vanes can be installed by embedding them at the bottom of the channel in a narrow concrete floor strip. On the top, steel bar bracing can be provided at intervals to impart stability. Alauddin and Basak (2006) reduced the energy losses in a rectangular channel transition due to flow separation by streamlining the channel wall boundary.

Asnaashari et al. (2016) used the procedure outlined by Swamee and Basak (1991, 1992 and 1993) to get the bed and side wall profiles of the transition linking a rectangular channel to a trapezoidal channel. They experimentally and numerically studied the flow characteristics of this transition. Flow separation in the transition was generally asymmetric in their experimental study. However, their numerical model indicated that flow separation was always symmetric. Their experimental results also include the detailed water surface and velocity profiles. They provide a considerable information related to the efficiency of transition and energy loss as a function of inlet Froude numbers (F). They observed that transition energy losses increase with the increase in the value of the inlet Froude numbers. The test data of Basak and Alauddin (2010) confirmed this observation. In the past, in their experiments Abbott and Kline (1962) observed that flow separation in an expanding transition linking to rectangular channels was always asymmetric.

For transitions, like the hump, a vertical vane also serves as an appurtenance in the transition that suppresses flow separation. In the current study, use of a single vane in the middle of the transition confines the expanding flow to a narrower region and hence decreases head losses due to flow separation. Similarly, the three-vane system improved the uniformity of the flow in the transition and the downstream channel and to some extent improves the head loss. The additional vanes contributed to increase the boundary friction losses. Compare to one-vane system, the gain in energy for the three-vane system was small.

3.2 Experimental Apparatus and Procedure

The horizontal flume used for the study was made of 12.7 mm thick Plexiglas. The flume system consisted of an upstream rectangular channel [Fig. 3.2(a)], a transition [Fig. 3.1(a)] and a downstream trapezoidal channel [Fig. 3.2(b)]. The upstream channel had a width b = 203.2 mm, a sidewall height z = 304.8 mm and a length L_1 = 2.44 m. The downstream channel had a base width B = 304.8 mm, side slopes of 45° and a length L_3 = 6.10 m. The two channels were connected by a warped transition with a length L_2 = 0.61 m. The upstream vertical side $\overline{AB}$ [Fig. 3.1(a)] of the transition inlet and the inclined side $\overline{CD}$ of the transition outlet [Fig. 3.1(a)] are skew lines. As such, the 3-D surface forming the warped transition side walls had to be constructed using several narrow flexible polycarbonate strips (0.8 mm). To this end, 0.8 mm thick polycarbonate strips were used to form the transition sides. Seven identical flexible trapezoidal strips were used to connect the end $\overline{AB}$ to the end $\overline{CD}$ to form the warped side walls. The resulting joints were bridged on the outside wall by 10 mm strips of flexible polycarbonate sheet to prevent leakage. A 30° V-notch tank was used to measure the rate of flow. In the experiment, the depth measurement was measured to the nearest 0.1 mm and the maximum error in the discharge measurement estimated to be 3%. The flow entered the approach channel through a constant head tank, which maintained steady flow conditions. A honey comb wire mesh and a contracting section were provided in the tank to minimize turbulence. The outlet of the tank was streamlined at the bottom wall and sidewalls, and thus provided a relatively uniform and low turbulence flow in the approach channel.

Along a line [Fig. 3.1(c), the bold dashed line SR] locally normal to the sidewall, the direction of flow was initially in the direction of primary flow toward downstream. The development of flow separation resulted in flow direction change with distance away from the wall. The width of the separation zone was determined as the distance between the sidewall and the point where the net flow crossing the normal line was zero (Han et al., 2011). The flow separation line is denoted by the dashed line SR in Fig. 3.1(c). The separation and reattachment points were located by finding the points S and R where the velocity was zero. Dye test results supplemented the velocity measurement data in determining the dividing streamline and the reattachment point.

The experiments were carried out on three different transition flow configurations. Flow with no-vane, with one-vane and with three-vanes [Figs. 3.1(c), 3.1(d) and 3.1(e)] were studied. The single vane was placed at the middle of the channel transition and the three-vanes were placed with equally dividing the maximum expansion angle. The vanes were hung from a top support and touched the bottom transition. The bottom of the vane was sealed perfectly so that water did not leak beneath them. The vanes were made of 1.6 mm thick polycarbonate plates. They were fixed at the top and bottom ends. Vanes extended 25.4 mm upstream and 50.8 mm downstream from the inlet and the outlet of the transition [Figs. 3.1(c), 3.1(d) and 3.1(e)]. The cross-sectional area of the vertical vanes chosen should be extremely small compared to the channel cross-section to avoid a large head loss. For stability support, one can provide some bridging on the top. A slight extension in the upstream and downstream were provided in the vanes in the transition to guide the flow. In field installations, thin stainless-steel vanes can be installed by embedding them at the bottom of the channel in a narrow concrete floor strip. On the top, steel bar bracing can be provided at intervals to impart stability. A Dantec Laser Doppler Anemometry (LDA) system was used in the backscatter mode for the measurement of time-averaged velocity components (*u*, *v*, *w*) and fluctuating velocity components (*u*′, *v*′, *w*′). The magnitude of the time-averaged velocity vector $\langle u, v, w \rangle$ were determined as

$$U = \sqrt{u^2 + v^2 + w^2} \tag{3.2}$$

Figs.3.1(c), 3.1(d) and 3.1(e) and Figs. 3.2(a) and 3.2(b) show the plans and sections used to collect the velocity data. LDA measurements were made at different cross-sections and are labeled according to the relative longitudinal co-ordinates x/L_2, where L_2 denotes the transition length. For the configuration without vanes [Fig. 3.1(c)], three cross-sections (x/L_2 = –0.82, –0.27 and –0.11) were chosen in the upstream rectangular channel; three more sections (x/L_2 = 0.15, 0.49 and 0.87) and eight other sections (x/L_2 = 1.07, 1.49, 2.56, 3.64, 3.89, 5.26, 6.88, 8.58) were also chosen in the transition and in the trapezoidal channel. In the rectangular channel [Fig. 3.1(c)], at each chosen cross section, velocities were measured along ten vertical lines [Fig. 3.2(a)] and each vertical line contained seven points for velocity measurement. In the trapezoidal channel [Fig. 3.1(c)], velocities were measured along 28 vertical lines [Fig. 3.2(b)]. Each vertical line contained multiple points of velocity measurement. The relative heights (z/*Z*), where *Z* is the depth of flow, of these points measured from the bottom were 0.02, 0.06, 0.16, 0.26, 0.47, 0.66, and 0.83, respectively. Coordinate $x = 0$ denotes the entrance of the transition.

For the one-vane [Fig. 3.1(d)] system, velocities were measured at two cross-sections (x/L2 = –0.30 and –0.11) in the rectangular channel, at three sections in the transition (x/L2 = 0.15, 0.49

and 0.87) and at seven sections (x/L2 = 1.10, 1.51, 1.98, 2.30, 3.13, 6.88 and 8.58) in the trapezoidal channel. In the rectangular channel and the trapezoidal channel, velocities were measured at eight vertical lines and at 18 vertical lines at each cross-section.

For the three-vane [Fig. 3.1(e)] configuration, two cross-sections (x/L_2 = -0.30 and -0.11) were selected in the upstream rectangular channel and six cross-sections (x/L_2 = 1.10, 1.54, 2.62, 4.25, 5.33 and 6.88) were placed in the downstream trapezoidal channel. Due to vane interference in this system, LDA measurements were restricted to the upstream and downstream cross-sections of the transition. All the point measurements used the sampling frequency of up to 150 Hz depending on the flow zone. In the transition, the number of vertical lines and the number of points of velocity measurement were different in each cross-section since the cross section varied along its axis. The flow was subcritical and turbulent.

To determine the effectiveness of the vanes in improving the flow characteristics in the transition, the velocity profiles and turbulence intensities in the transition and the downstream channel were determined. The velocity data were analyzed to determine the maximum velocity as well as separation zones at various cross sections. Detailed secondary flow profile in the downstream channels were determined to know the potential of boundary erosion in the trapezoidal channel.

To estimate the energy loss in the system, specific energy (E) was calculated at the upstream and the downstream channels. It was noted that

$$E = Z + \alpha \frac{U_m^{\;2}}{2g} \tag{3.3}$$

where Z is the measured flow depth; U_m is the cross-sectionally averaged axial flow velocity; and g is the acceleration due to gravity. As the test flume was horizontal, specific energy loss denotes the total energy loss.

3.3 Results

The (x, y) coordinates [Figs. 3.1(c), 3.1(d) and 3.1(e)] are oriented such that the x-axis denotes the downstream direction, and the y-axis denotes the lateral direction. The z coordinate is the normal distance measured from the channel bottom. Velocity measurements were carried out in the warped transition with and without vanes, and under subcritical flow conditions. The Froude number F was 0.30. The Reynolds number R in the approach channel was maintained at a high value of 98890 to 108790 (Table 3.1). The flow rate ranged from 20.3 to 22.6 L/s (Table 3.1). To reduce the effect of separation and decrease losses, the use of vanes in the transition was explored.

Table 3.1. Configurations of warped transition and hydraulic conditions of flow experiments

Case	Rectangular channel width	Number of vanes	Trapezoidal channel base width	V-Notch depth	Flowrate	Mean inlet velocity	Reynolds number	Froude number
	b (mm)		B (mm)	(mm)	Q (L/s)	U_i (cm/s)	R	F
A	203.2	0	304.8	324.1	22.6	48.7	108790	0.32
B	203.2	1	304.8	312.2	20.3	43.3	100940	0.30
C	203.2	3	304.8	311.1	20.3	44.9	98890	0.30

3.3.1 No-vane System

In all vertical cross sections (for example, Figs. 3.2(a) to 3.2(j)], the flow configuration is relative to an observer looking upstream. In the rectangular channel section [Fig. 3.1(c), x/L_2 = –0.27 and

x/L_2 = –0.11], the approach flow was nearly uniform [Figs. 3.2(c) and 3.2(d)]. After entering the transition [Fig. 3.1(c), x/L_2 = 0.15], the flow starts to separate from the inlet of the transition [Fig. 3.2(e)] and reattaches to the side wall of the downstream channel. Flow is clearly asymmetric [Figs. 3.2(e) and 3.2(f)] and this increases the velocity coefficient (α) and the maximum velocity U_{max}. The latter indicates the potential to erode the earth channel boundary. The ratio U_{max}/U_m for all the three configurations are shown in Table 3.2. In Fig. 3.1(c), x/L_2 = 1.07 denotes the outlet of the transition. Here, a large area of flow separation is visible on the right side of Fig. 3.2(g). The maximum velocity is shifted to the side away from the separation zone. At a short distance downstream of the transition outlet (x/L_2 = 3.64), the reverse flow area is reduced drastically in Fig. 3.2(h), in comparison to Fig. 3.2(g). At the section corresponding to x/L_2 = 3.89, although reverse flow no longer existed, flow is highly non-uniform [Fig. 3.2(i)]. However, at x/L_2 = 8.58, flow appears to have nearly recovered [Fig. 3.2(j)].

Table 3.2. A comparison of experimental parameters between this study and Ippen (1949).

Parameter	Present study			Ippen (1949)	
	No vane	One vane	Three vanes	No vane	Four vanes
Area ratio A_t/A_r	3.00	3.00	3.00	5.00	5.00
Velocity coefficient α	6.24	3.79	2.16	-	-
Velocity ratio U_{max}/U_m	3.15	2.52	2.50	2.50	1.10
Outlet coefficient c_o	0.27	0.15	0.12	-	-
Expansion angle θ	24.6	24.6	24.6	12.5	12.5

A_t denotes the cross-sectional area of the downstream trapezoidal channel.
A_r denotes the cross-sectional area of the upstream rectangular channel.

The contour plot of U [Eq. (3.2)], together with the (superimposed) $\langle u, v \rangle$ vectors, are shown in Figs. 3.3(a), 3.3(b) and 3.3(c) at different depths of flow (z/Z = 0.06, 0.47 and 0.83). Flow gets deflected to the right side of the transition (to an observer facing downstream). At larger heights above the bottom (or smaller flow depths below the water surface), the flow separation region increased longitudinally and laterally [Figs. 3.3(a), 3.3(b) and 3.3(c)]. Near the free surface, the separating streamline starts from the inlet of the transition and gets attached to the inclined wall of the downstream channel at x/L_2 = 3.88. The maximum separation width was y/L_2 = 0.47 (Table 3.3).

In the no-vane system, flow separation occurred and gave rise to a steady recirculating region on one side of the transition walls. The main flow remained attached to the wall on the opposite side, and continued downstream. By temporally disturbing the flow in the transition, flow separation was seen to switch to the other side, without any change to the conditions of the approach flow. This is to say that the flow is bi-stable.

In the transition and in the downstream channel [Figs. 3.3(d), 3.3(e) and 3.3(f)], secondary flow appears to be quite strong in the region of flow separation (right side). The velocity vector $\langle v, w \rangle$ in these zones were normalized by the cross-sectionally averaged axial velocity U_m. U_m is obtained by taking area-weighted average as

$$U_m = \frac{u_1 A_1 + u_2 A_2 + \cdots + u_m A_m}{A_1 + A_2 + \cdots A_m} \tag{3.4}$$

where u_1, u_2, …, u_m are the time-averaged axial velocities measured at a series of positions [Figs. 3.2(a) and 3.2(b), the plus symbols] at a given vertical cross section; and A_1, A_2, …, A_m are the areas of sub-segments represented by u_1, u_2, …, u_m. Contours of secondary velocities at locations x/L_2 = 0.49 and 1.07 from the inlet of the transition are shown in Figs. 3.3(d) and 3.3(e), respectively. These indicate a higher value, i.e. a strong secondary flow circulation in the flow separation area and a weaker secondary flow zone on the other side of the transition. However, at $x/L_2 = 8.58$ which is farther away in the downstream channel, secondary currents have diminished drastically [Fig. 3.3(f)]. When the secondary currents are very small, the boundary erosion potential at the inclined side boundaries of the erodible downstream channel diminishes.

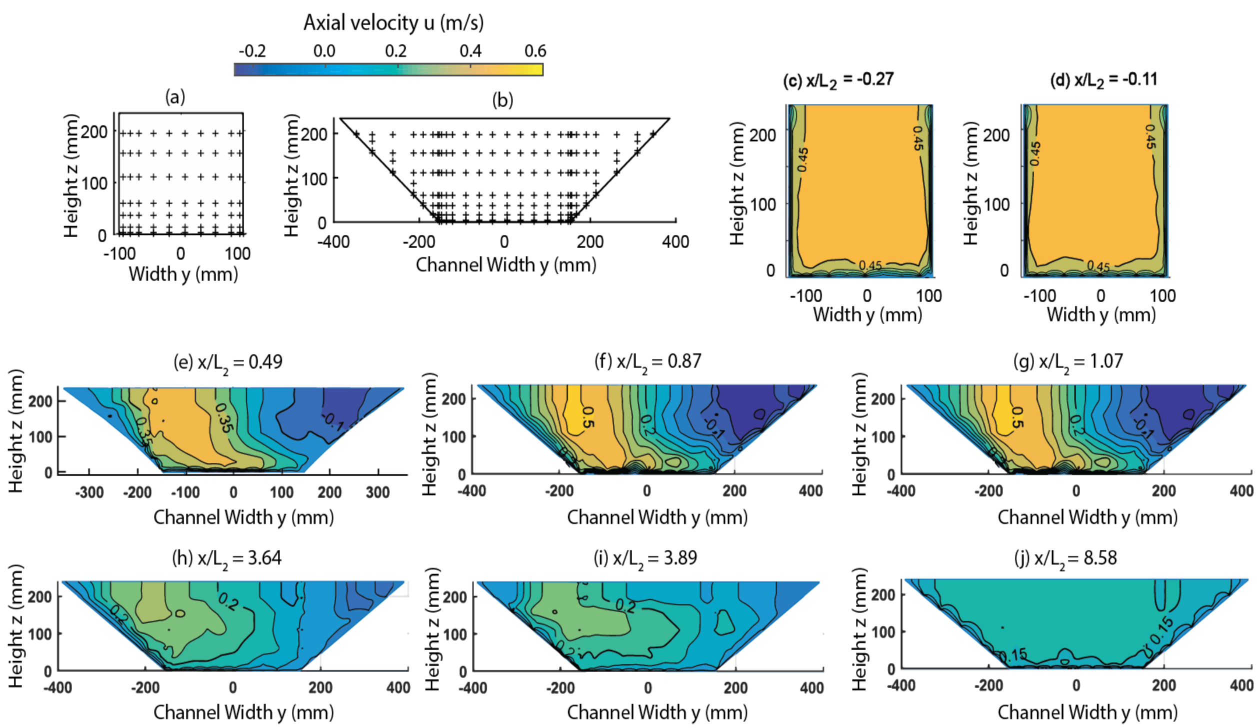


Fig. 3.2. Vertical cross sections at selected locations along the length of the flume [Fig. 3.1(c)]: (a) cross section in the narrow rectangular channel section at $x/L_2 = -0.11$ upstream of the entrance of the warped expansion [Fig. 3.1(c)]; (b) cross section in the trapezoidal channel section at $x/L_2 = 1.07$ downstream of the entrance; (c) to (j) contours of time-averaged axial velocity u at eight selected vertical cross-sections. The plus symbols in (a) and (b) mark the positions of LDA measurements. There is no vane in the expansion [Fig. 3.1(c)].

Specific turbulent kinetic energy k denotes the root-man-square value of the velocity fluctuations, given by

$$k = \frac{1}{N}\sum_{i=1}^{N}\left(u_i'^2 + v_i'^2 + w_i'^2\right) \tag{3.5}$$

where N is the number of data records at a measurement position. Suspended sediment load in the flow is detained by the turbulence present. As such, knowing the level of turbulence enables us to discern the ability of flow to suspend and transport the fine sediment load. Fig. 3.4 shows the distribution of turbulent kinetic energy at different heights above the channel bottom. Higher shear along the separating stream line results in a higher level of turbulence. At a location $x/L_2 = 6.5$, turbulence level as well as secondary flow level are both small [Figs. 3.4(a), 3.4(b) and 3.4(c)]. The axial velocity is nearly uniform. These features indicate that the flow has almost recovered.

Table 3.3. The maximum length and width of flow separation zones (FSZ) for warped transitions between cases of no vane, one vane and three vanes. The maximum length and width of FSZ are normalized by the transition length L_2

Relative height above the bottom z/Z	Normalized maximum length of the FSZ					Normalized maximum width of the FSZ				
	No vane	One vane		Three vanes		No vane	One vane		Three vanes	
	Left FSZ	Left FSZ	Right FSZ	Left FSZ	Right FSZ	Left FSZ	Left FSZ	Right FSZ	Left FSZ	Right FSZ
0.83	3.88	1.96	2.0	0.08	0.09	0.47	0.25	0.26	0.06	0.05
0.66	2.25	0.92	0.93	0	0	0.36	0.17	0.18	0	0
0.47	1.9	0.67	0.69	0	0	0.31	0.08	0.09	0	0
0.26	1.5	0	0	0	0	0.10	0	0	0	0
0.16	1.1	0	0	0	0	0.06	0	0	0	0

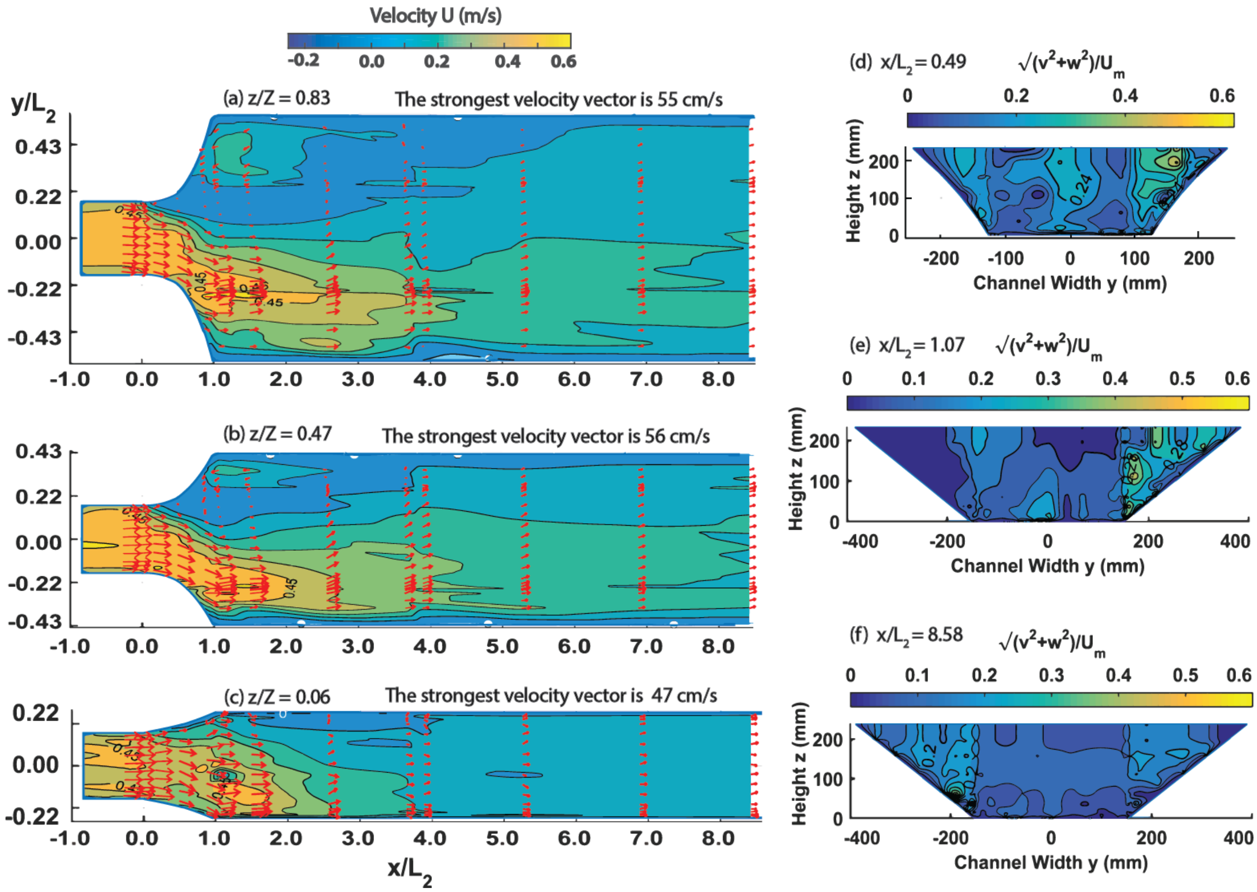


Fig. 3.3. Contours of the time-averaged velocity magnitude [Eq. (3.2)] at three selected heights [panels (a) to (c)] above the flume bottom, where horizontal velocity vectors $\langle u, v \rangle$ are superimposed; and contours of the normalized magnitude of the secondary flow velocity ($\sqrt{v^2 + w^2} / U_m$) in three selected vertical cross sections [panels (d) to (f)]. There is no vane in the expansion [Fig. 3.1(c)].

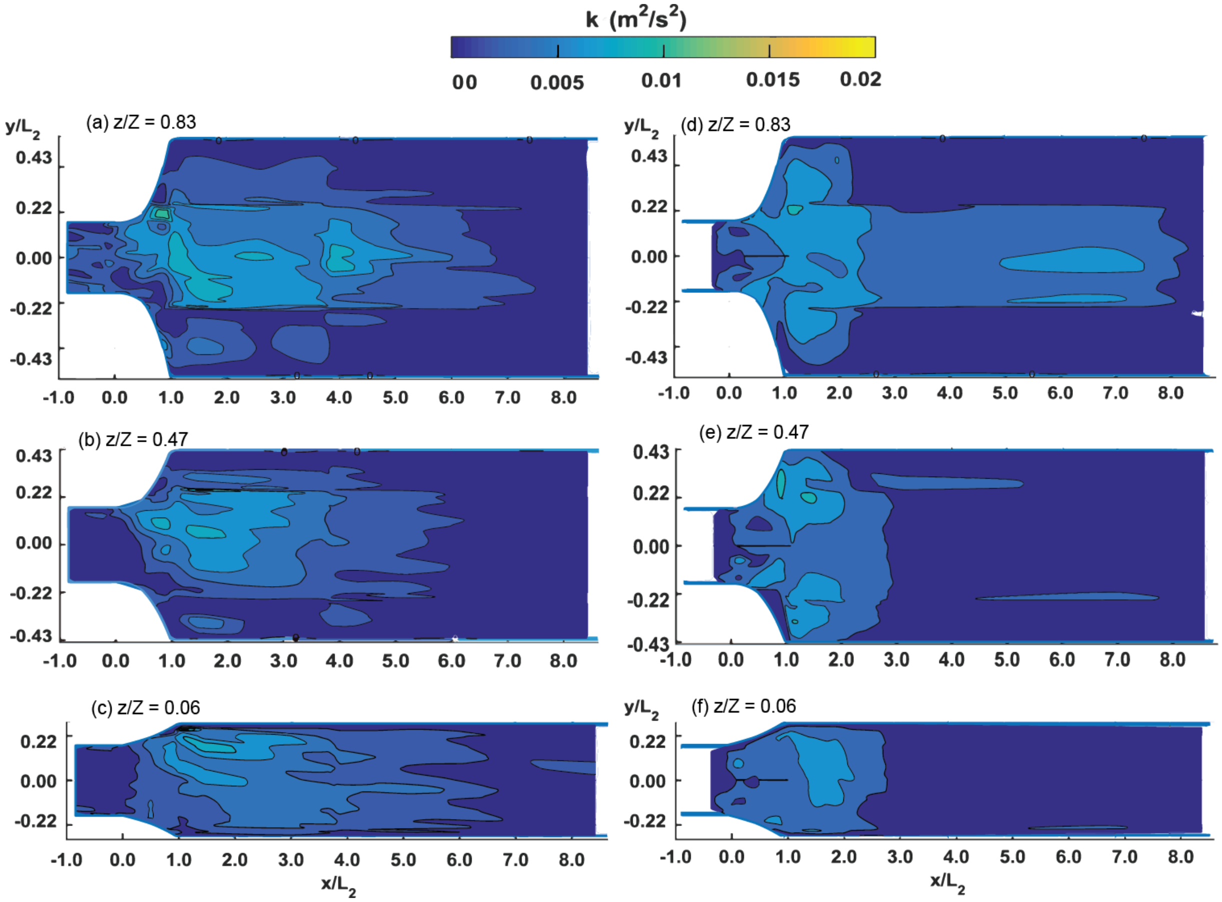


Fig. 3.4. Contours of the turbulent kinetic energy k [Eq. (3.5)] at three selected heights [panels (a) to (c)] above the flume bottom, with no vane in the expansion [Fig. 3.1(c)]. Contours of k [Eq. (3.5)] at three selected heights [panels (d) to (f)] above the flume bottom, with one vane in the expansion [Fig. 3.1(d)].

3.3.2 One-vane System

For the system of the transition with one vane, at $x/L_2 = 0.49$ [Fig. 3.1(d)], Fig. 3.5(a) shows the axial velocity contours. The flow configuration appears nearly symmetric with flow reversal in only a small zone [Fig. 3.5(a)]. The flow separation width appears to increase at a downstream location $x/L_2 = 0.87$ [Fig. 3.5(b)]. Just after the outlet of the transition ($x/L_2 = 1.1$), Fig. 3.5(c) shows that flow separation zones are very nearly symmetric. Further downstream at $x/L_2 = 2.3$ and 3.13 [Figs. 3.5(d) and 3.5(e)], reverse flow is no longer present. At a location $x/L_2 = 8.58$, flow has recovered completely [Fig. 3.5(f)].

For the one-vane system, Figs. 3.6(a), 3.6(b) and 3.6(c) show the contours of U [Eq. (3.2)] at different depths for flow in the transition and downstream channel. The velocity distributions in Figs. 3.3(a), 3.3(b) and 3.3(c) and Figs. 3.6(a), 3.6(b) and 3.6(c) indicate that the flow is more uniform in the case of the one-vane system. For the one-vane system [Figs. 3.6(a), 3.6(b) and 3.6(c)], the sizes of the recirculation zones adjacent to the wall are relatively small and appear on both sides. The data of Table 3.3 shows that the normalized maximum length of separation gets reduced from 3.88 to 1.96, when a single vane is provided for the transition. Further, the corresponding normalized maximum width of separation gets reduced from 0.47 to 0.25. In the one-vane system, flow gets deflected only on one side [Fig. 3.6(b)] and further the deflected flow does not interact with the flow on the other side of the vane. In the past, one has noticed the significantly reduction of drag for flow past cylinder when a splitter plate was fitted in the back of the cylinder (Roshko, 1953).

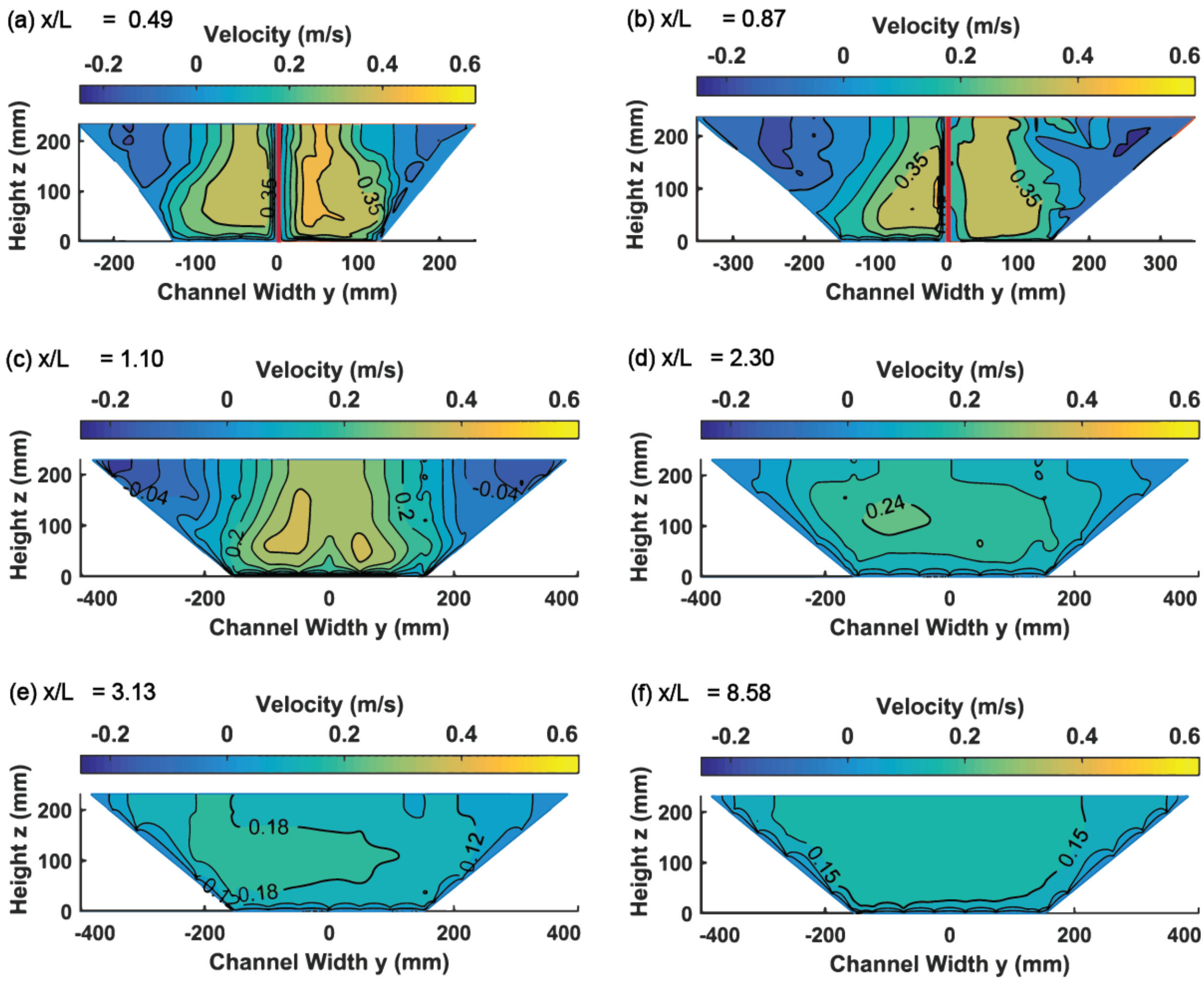


Fig. 3.5. Contours of time-averaged axial velocity *u* at six selected vertical cross-sections [panels (a) to (f)]. One vane was added to the expansion along its central line [Fig. 3.1(d)].

The normalized velocity contours of secondary flow [Figs. 3.6(d) and 3.6(e)] are shown for the channel at x/L_2 = 0.49 and 1.1. Higher values of secondary flow are present on both sides of the channel. The width of the flow separation increases as the flow moves from middle of the transition to the end of the transition. Further, the magnitude of the secondary flow is much higher at the outlet of the transition. As the flow continues in the downstream direction, progressively the magnitude of the secondary flow diminishes [Fig. 3.6(f)] and becomes almost insignificant at x/L_2 = 8.58.

Figs. 3.4(d) to 3.4(f) show the distribution of k [Eq. (3.5)] at three different flow depths for the with one-vane system. Compared to the one-vane system [Fig. 3.4(d)], the value of k is considerably higher [Fig. 3.4(a)] in the no-vane system. This can be traced to the relatively larger separation zone associated with the one-vane system. The high intensity of k persists downstream through a longer reach. At the corresponding depths, for the one-vane system [Figs. 3.4(d), 3.4(e) and 3.4(f)] the high intensity of k is confined only to a short region downstream of the transition outlet. Compared to the no-vane system [Figs. 3.4(a), 3.4(b) and 3.4(c)], one notes that the regions of high intensity of k for the one-vane system are confined to a narrow zone near the outlet [Figs. 3.4(d), 3.4(e) and 3.4(f)].

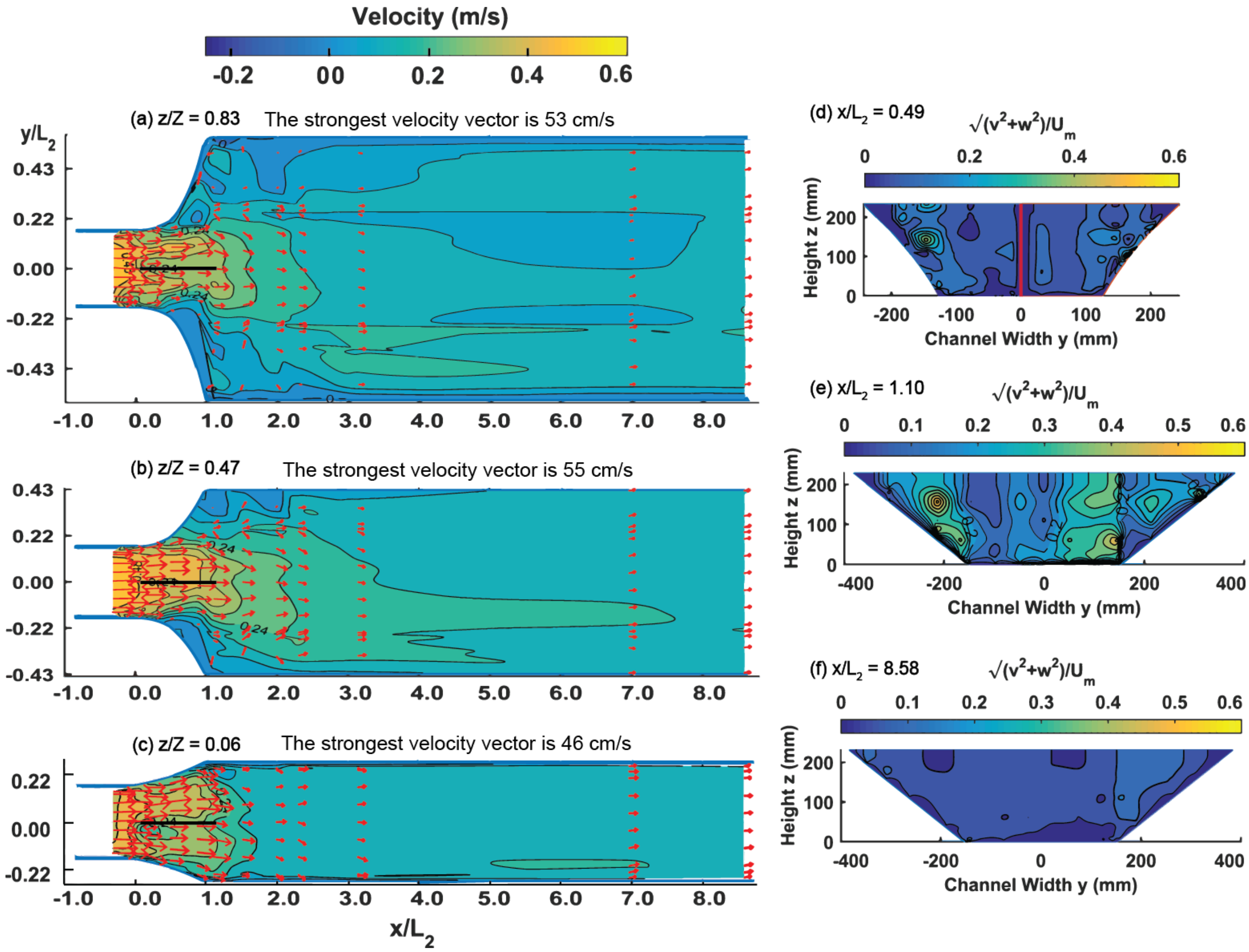


Fig. 3.6. Contours of the time-averaged velocity magnitude [Eq. (3.2)] at three selected heights [panels (a) to (c)] above the flume bottom, where horizontal velocity vectors $\langle u,v \rangle$ are superimposed; and contours of the normalized magnitude of the secondary flow velocity ($\sqrt{v^2+w^2}\,/U_m$) in three selected vertical cross sections [panels (d) to (f)]. There was one vane in the expansion [Fig. 3.1(d)].

3.3.3 Three-vanes System

For the three-vane system, Figs. 3.7(a) to 3.7(d) show contours of the axial flow velocity *u*. It shows that the three-vane system is even more effective in suppressing flow separation. As the deflection angle of the flow gets reduced significantly. Flow separation zones are confined to two very small regions near the transition outlet. This is caused by the abrupt change in alignment of the side walls. Figs. 3.7(b) and 3.7(c) indicate that the flow regains near uniformity in the downstream channel after leaving the transition. A little further in the downstream channel at a reach where $x/L_2 = 6.88$, fully recovered flow occurs with uniform velocity.

Figs. 3.7(e), 3.7(f) and 3.7(g) show the distribution of *U* [Eq. (3.2)] for the three-vane system. Fig. 3.7(e) indicates that flow separation is confined to a very narrow region near the free surface at the outlet of the transition. For the three-vane system, flow is more uniform than for the one-vane system [Fig. 3.6(a)]. Not surprisingly, for the three-vane system, the extent of flow separation is reduced and the mean velocity distribution becomes more uniform much earlier at a downstream channel location [$x/L_2 = 6.88$] compared to the single vane system (Table 3.3). As indicated earlier, uniformity of flow, the existence of strong secondary currents, as well as the intensity of turbulence are important features of the flow in the downstream erodible earth channel. One can recall that only a very small separation region at the transition outlet occurred in the surface layer.

Generally, secondary flow contours for the one-vane system [Fig. 3.6(e)] and the three-vane system [Fig. 3.8(a)] indicate that secondary flow velocity distribution is more uniform for the three-vane system also. This observation holds good as well for other locations downstream of the transition outlet [Figs. 3.6(d), 3.6(e) and 3.6(f) and Figs. 3.8(a) to 3.8(d)]. The zones where k is quite small are more extensive in the three-vane system [Figs. 3.8(e), 3.8(f) and 3.8(g)] compared to the one-vane system [Figs. 3.4(d), 3.4(e) and 3.4(f)].

It is feasible to incorporate vanes into an existing expanding transition in irrigation networks to reduce head losses when the flow passes through it. This will increase the command of farm land served by the irrigation networks. Further, the use of the vanes will promote uniform flow at the transition exit, and hence will reduce the maximum exit velocity as well as the non-uniformity of velocity distributions. This in turn reduces the scour potential of the downstream earth channels connected to the transition. The design of the vanes should be very thin. In practice, one can possibly use stainless steel plates as efficient vanes, installed vertically at the channel-bottom, with lateral support at the top. If concrete vanes are used, they should be as thin as possible. It is important note that an excessive number of vanes are not desirable as they will result in excessive friction losses.

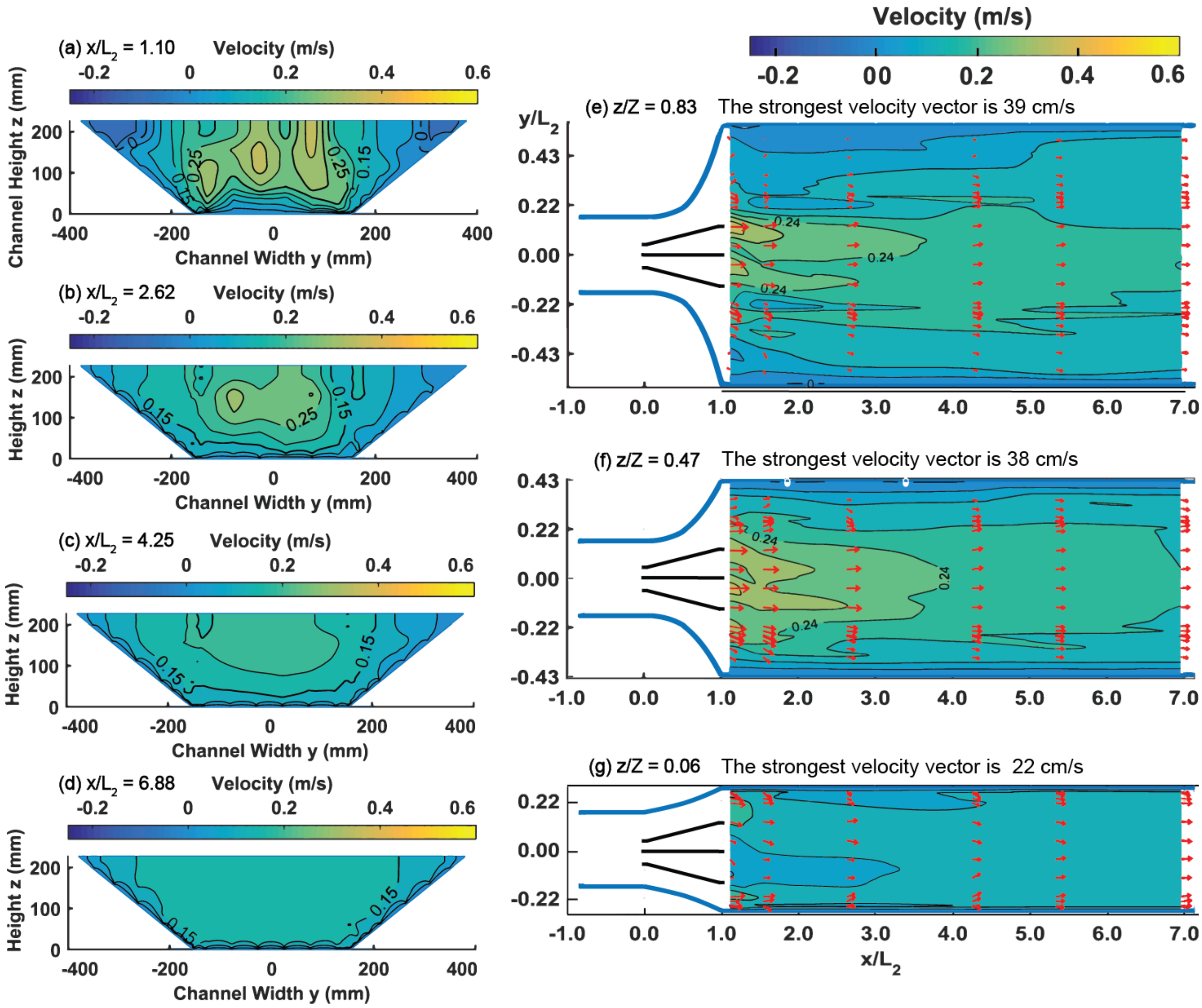


Fig. 3.7. Contours of time-averaged axial velocity u at four selected vertical cross-sections [Panels (a) to (d)]. Contours of the time-averaged velocity magnitude [Eq. (3.2)] at three selected heights [panels (e) to (g)] above the flume bottom, where horizontal velocity vectors $\langle u, v \rangle$ are superimposed. There were three vanes in the expansion [Fig. 3.1(e)].

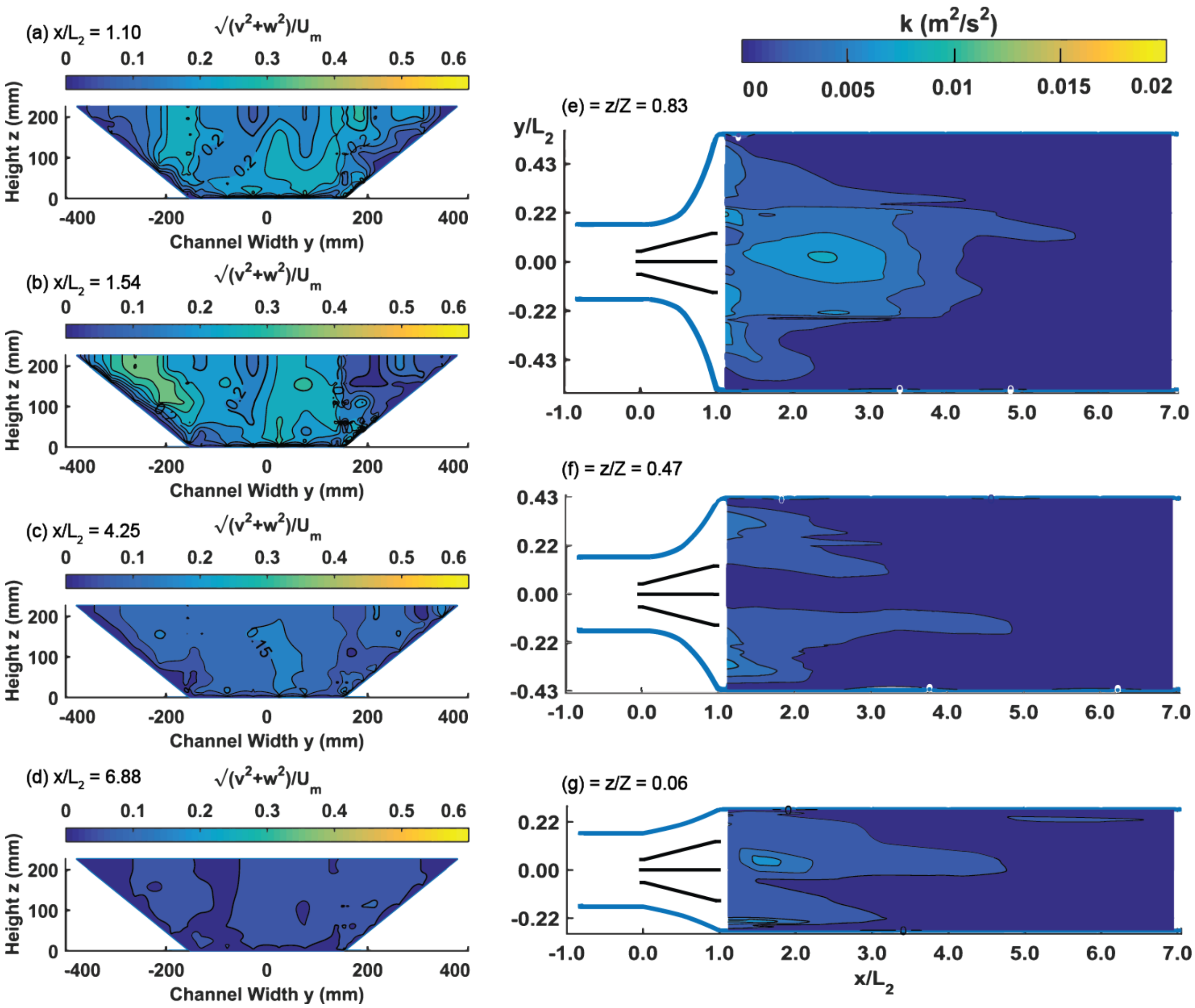


Fig. 3.8. Contours of the normalized magnitude of the secondary flow velocity ($\sqrt{v^2+w^2}/U_m$) in four selected vertical cross sections [panels (a) to (d)]. Contours of specific turbulent kinetic energy k [Eq. (3.5)] at three selected heights [panels (e) to (g)] above the flume bottom. There were three vanes in the expansion [Fig. 3.1(e)].

3.3.4 Energy Loss in the Transitions

Energy loss in the transition is a major parameter. It is linked to the transition efficiency. A high efficiency transition that reduces energy loss contributes to the ability of the transition connected to an irrigation network to serve a larger area of farm lands. An efficient transition linking power channels permits gains in the developed hydropower.

For all the three transitions, energy loss information was collected. The measured water surface data [Fig. 3.9(b)] at sections $x/L_2 = 0$ to $x/L_2 = 6.88$, allows the estimation of the specific energy loss and hence the total energy loss. Based on Eq. (3.2), the specific energy loss ΔE between locations $x/L_2 = -0.11$ and $x/L_2 = 6.88$ [Fig. 3.1(c)] was also determined [Fig. 3.9(a)]. From this, one can estimate the energy loss in the region between the transition outlet and region where the flow re-establishment occurs in all systems. This is possible because energy loss beyond the flow establishment section is same for all downstream channels. In the present experiment, this estimation was not possible as the flow had not fully recovered in the no-vane system.

For the no-vane, the one-vane and the three-vane systems, the energy loss ΔE between sections $x/L_2 = -0.11$ to $x/L_2 = 6.88$ was 0.37, 0.21, and 0.17 cm, respectively [Fig. 3.9(a)]. The specific energy loss was smaller in the one-vane system, compared to the no-vane system. For transition with vanes, flow separation was reduced considerably (Table 3.3). The three-vane configuration performed better than other two systems. Compared to the energy loss data between sections $x/L_2 = -0.11$ and $x/L_2 = 6.88$ [Fig. 3.9(a)], the one-vane system is significantly better than the no-vane system. The comparison of energy loss between sections $x/L_2 = -0.11$ and $x/L_2 = 6.88$ [Fig. 3.9(a)] indicates that energy loss for the three-vane system is slightly improved than the one-vane system

[Fig. 3.9(a)]. The surface profiles for nearly equal discharges in the flume indicates that the three-vane transition provides the most efficient transition [Fig. 3.9(b)].

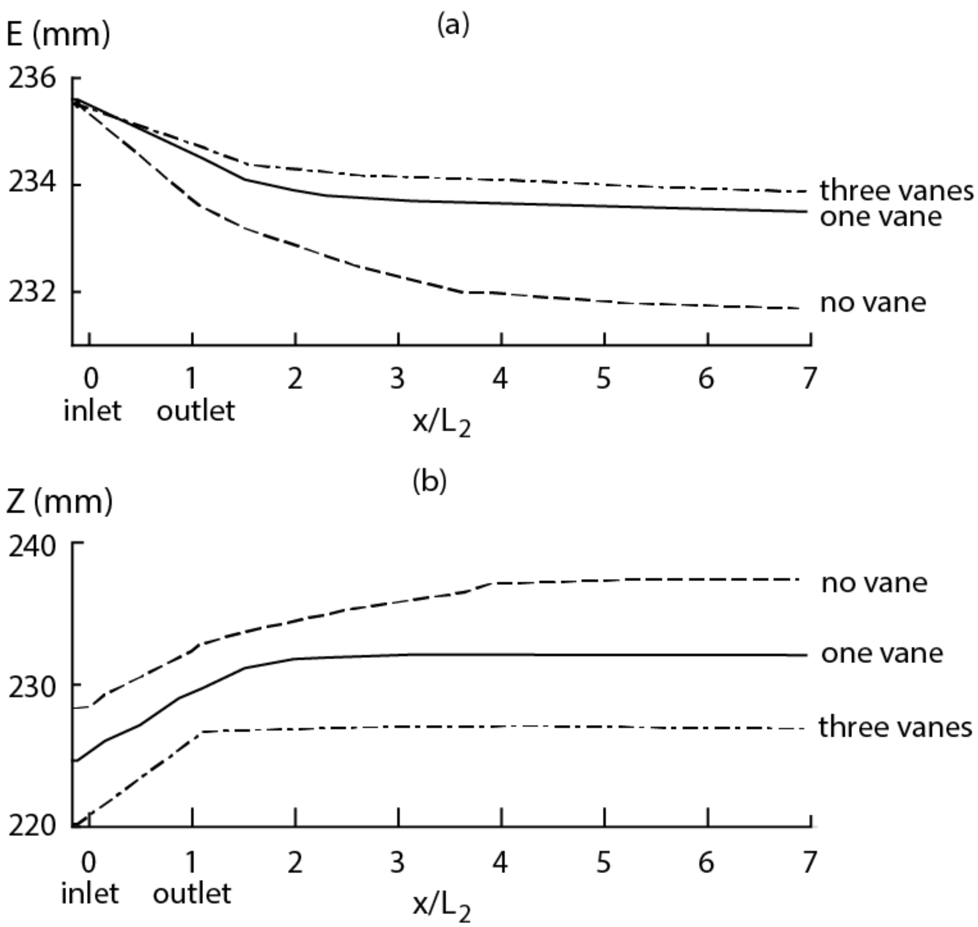


Fig. 3.9. A comparison of longitudinal profiles (along the length of flume) between the cases without any vane [Fig. 3.1(c)], with one vane [Fig. 3.1(d)], and with three vanes [Fig. 3.1(e)]: (a) specific energy head given in Eq. (3.2) and free surface [panel (b)].

3.3.5 Other Flow Characteristics of Transitions

As mentioned earlier, the uniformity of flow, the existence of strong secondary currents, as well as the intensity of turbulence are important features of the flow in the downstream erodible earth channel. An efficient transition confines flow non-uniformity to a short reach downstream of its outlet and hence requires less boundary protection such as channel surface lining only in a short reach of the earth channel. Another key characteristic of transition flow is the head loss [Eq. (3.1)]. The head loss coefficient c_o depends on the head loss due to boundary friction as well as loss due to flow separation caused by flow divergence. Friction losses depend on the boundary area and the wall shear stress. The introduction of vanes decreases the divergence angle of the flow and thereby diminishes the expansion losses. However, they add to the increase in friction losses. For a transition in which subcritical flow occurs and the change of cross-section is gradual, Morris and Wiggert (1972) rightly indicate that contributions due to boundary friction will be considerable and cannot be ignored, compared to other losses caused by flow separation.

Based on the transition studies of Hinds (1928), Chow (1959) reported that the head loss coefficient c_o [Eq. (3.1)] for warped expanding transition with expansion angle 12.5° was 0.2. In the present tests, for the no-vane system, the expansion angle was 24.60° and the loss coefficient was 0.27. For the one-vane system and the three-vane system, c_o was 0.15 and 0.12, respectively (Table 3.2). The flow in the transition was 3-D in all the three systems. The one-vane system was effective in improving the transition characteristics (head loss reduction, decrease of erosion potential), the three-vane system was slightly better than the one-vane system for head loss between sections $x/L_2 = -0.11$ to $x/L_2 = 6.88$ [Fig. 3.9 (a)]. The ratio of the maximum velocity to the cross-sectionally averaged velocity U_{max}/U_m indicates a measure of the likelihood of channel boundary erosion. Ippen (1949) determined the values of these velocity ratios to be 2.5 and 1.1 respectively, for the transitions without and with four vanes (expansion angle $\theta = 12.5°$) that linked a rectangular channel and a trapezoidal channel. In the present study, the ratios of the maximum velocity to the mean velocity were 3.15, 2.52 and 2.50 for the transition without vanes, with one-vane and with three-vane, respectively.

3.4 Summary and Conclusions

Experimental data for the no-vane, the one-vane and the three-vane systems indicated that the three-vane system was the most efficient transition case for which the energy loss was relatively low. Further in the systems with vanes, the desirable characteristics such as flow uniformity, the reduction of secondary flow intensity as well as the reduction of maximum velocity are achieved in a short reach of the downstream channel. As the flow recovery in the downstream channel was complete in a shorter reach (x/L_2 = 0.048), boundary protection works for the channel would be minimum. Compared to the no-vane system, the three-vane system provided a gain of 2.0 mm of energy. In the field irrigation networks, the earthen channels will be typically 40 to 100 times larger than the lab models. Hence, the reduction of losses in the field transitions will be very significant. As irrigation channel slopes are very mild, their command area can be much high. The improvements of the flow characteristics in vane systems can be traced to the effective reduction of flow separation and hence the energy loss.

4. EXPERIMENTAL STUDY OF FLOW CHARACTERISTICS IN WEDGE AND MODIFIED WEDGE TRANSITIONS

4.1 General Background

In hydraulic structures such as reservoirs built for providing water for irrigation networks, the flow of water leaves the reservoir through a narrow rectangular concrete channel which gets connected to a very large trapezoidal earthen channel [Figs. 4.1(a) and 4.1(b)] which forms part of a network. The two channels are connected by a transition which allows the gradual change of flow [Fig. 4.1(c)]. Even in very well-designed transitions linking the upstream rectangular channel with the downstream trapezoidal channel, the flow will be three dimensional (3-D) and will often be accompanied by a large flow separation zone which results in a considerable head loss. A well-designed transition should provide a nearly uniform flow at the transition outlet. The objectives of this chapter are:

- To improve our understanding of the transition flow characteristics in a wedge transition
- To control flow separation and hence improve the flow characteristics by introducing modifications to the wedge transition.

The wedge transition is relatively simple to construct, among the most common types of transitions linking rectangular and trapezoidal channels.

The increase in flow area in the transition decelerates the flow, giving rise to an adverse pressure gradient. If the adverse pressure gradient is sufficiently large, flow will separate from the sidewalls and, as a result, causes considerable head loss. Consequently, the command area served by the irrigation network will diminish. Further, the secondary flow as well as the increased turbulence in the downstream trapezoidal earthen channel lead to boundary erosion. Also, if the flow is considerably non-uniform at the outlet of the transition, the maximum velocity too increases significantly and promotes channel boundary erosion. Strong secondary flow currents may persist in the downstream channel and affect channel stability. The purpose of this experimental study is to reduce flow separation in the transition and the downstream channel, and to provide a nearly uniform outlet flow at the outlet of the transition.

In the design of transitions, the emphasis is to provide a gradual change in the boundary to reduce flow separation and consequently limit head loss. Flow separation leads to highly uneven velocity distributions with corresponding large values of the velocity coefficient α (Chow, 1959). Also, the main fluid flow may fail to completely follow the channel walls. Consequently, the maximum velocity of the flow emerging from the transition attains a high value. This is not a desirable attribute of the transition.

A large number of analytical, experimental and numerical studies of transition flows exist. They are generally confined to transitions connecting rectangular channels to rectangular channels. In the past, only a single systematic experimental study (Ippen, 1949) was reported, which related to a specific warped transition linking a rectangular channel to a trapezoidal channel. Hinds (1928) and Scobey (1933) applied the energy concept to design various types of channel transitions. The design criteria were meant to minimize the head loss and provide a uniform flow at the outlet of the transition. Hinds (1928) suggested that flow in a transition can be treated as gradually-varied flow to permit the use of Manning's equation to estimate the friction loss in the transition.

According to Ippen (1949), the warped, the cylindrical-quadrant and the wedge transitions are the three common subcritical transitions [Figs. 4.1(f), 4.1(g), and 4.1(d)] that can be used to link a narrow rectangular channel to a much wider trapezoidal earth channel. The costs of the more efficient warped transition [Fig. 4.1(f)] suited for larger velocities are relatively high. However, the transition connecting the two channels can also be formed by a transition which has wedge shaped sidewalls [Fig. 4.1(d)]. One notes that the upstream vertical edge [Figs. 4.1(d) and 4.1(e), the line $\overline{EF}$] of the rectangular channel and the corresponding downstream inclined edge [Figs. 4.1(d) and 4.1(e), the line $\overline{HI}$] of the trapezoidal channel are skew lines. Hence, two planes are needed to form the wedge shape [Fig. 4.1(d)]. The two channels can also be connected by a transition whose walls are parts of circular segments [Fig. 4.1(g)]. Among these shapes, the warped transition [Fig. 4.1(f)] is the most effective and hydraulically efficient transition that is characterized by the least amount of head loss. The cylindrical shape [Fig. 4.1(g)] is the least effective transitional shape to link the upstream and downstream channels. However, it is more suitable for small structures from the construction point of view (Ippen, 1949).

Abbot and Kline (1962) have demonstrated that asymmetric flow patterns may occur in a perfectly symmetric gradually expanding rectangular open channel transition. In a transition linking rectangular open channels, it is clearly demonstrated that flow is steady and symmetric, and experiences flow separation on one side when the divergence angle is large. In fact, separation can occur on one side or the other, and the behavior is termed as bi-stable (Fox et al., 2009, p. 711). The study also observes that for large divergence angles, the flow from the rectangular channel emerges as a jet. In the previous study of Simmons (1964), one would expect the flow out of the conduit entering the broken back wedge transition to emerge as a jet. The problems connected with channel transitions include flow separation, generation of turbulence and head loss. To reduce these problems related to flow separation, one may introduce appurtenances such as baffles (Smith and Yu 1966), splitter vanes (Haque 2008) and humps (Ramamurthy et al., 1970; Najafi- Nejad-Nasser and Li, 2015). For transitions linking rectangular channels, a few investigators (El-Shewey and Joshi, 1996; Mehta, 1979 and 1981; Alouri and Souhar, 2000) have carried out experimental studies to determine the turbulent intensities in the transition and in the channel downstream of the transition.

In forming a transition linking a rectangular channel to a trapezoidal channel, head loss due to flow separation gets reduced if the change in the boundary alignment is made gradual. For estimates of the head loss in a transition h_T, Morris and Wiggert (1972) have suggested the following equation

$$h_T = K_t\left(\frac{V_2^2}{2g} - \frac{V_1^2}{2g}\right) \tag{4.1}$$

where K_t is the head loss coefficient; V_1 and V_2 are the cross-sectionally averaged flow velocities at the inlet and outlet of the channel transition, respectively; and g is the acceleration of gravity. Estimates of h_T are on the basis of the change of the velocity head between the two ends of the transition.

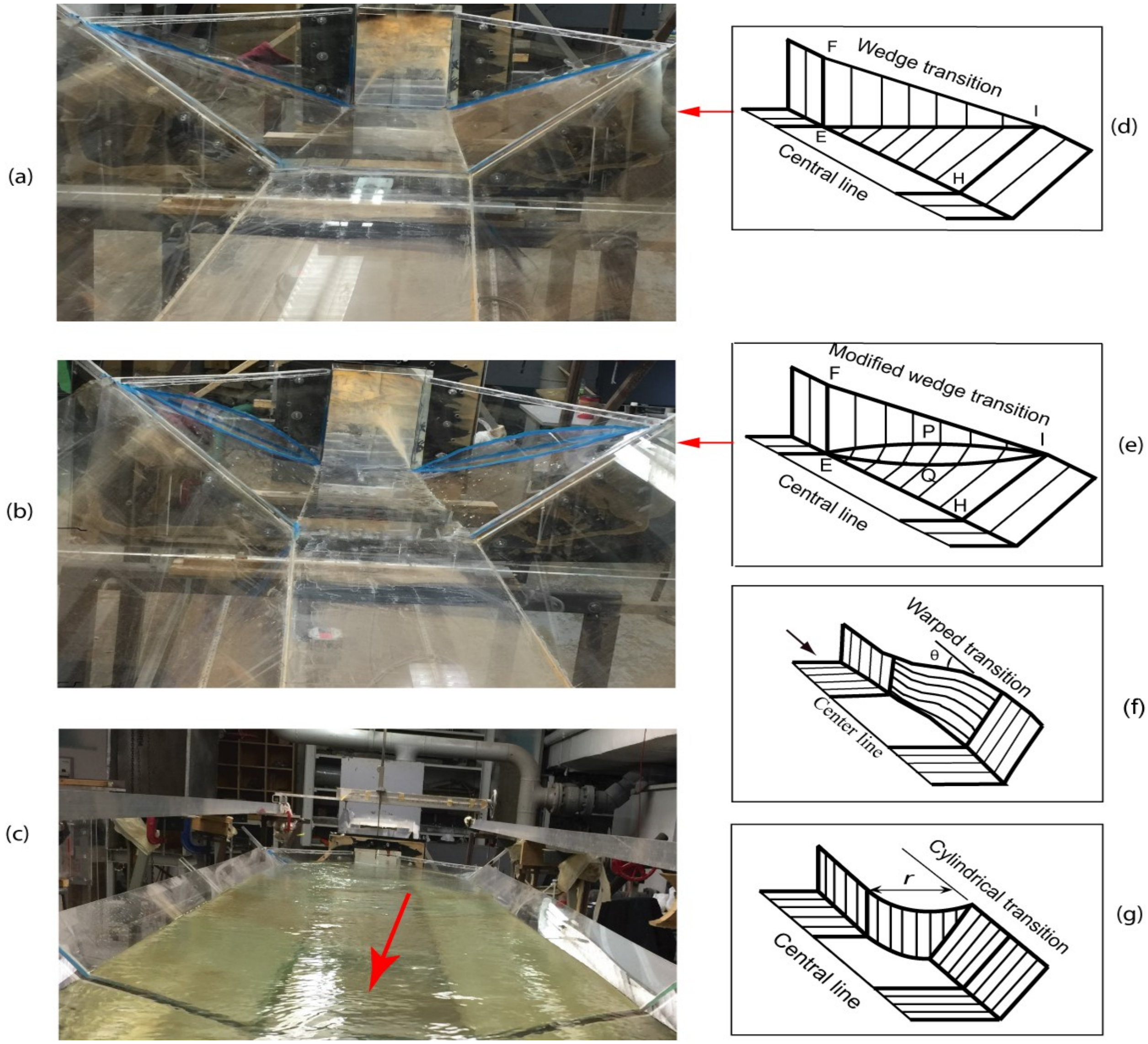


Fig. 4.1. Experimental channel setup: (a) photo of a wedge transition; (b) photo of a modified wedge transition; (c) water flow passing through a narrow rectangular channel-section, a wedge transition, and a wide trapezoidal channel-section; (d) details of the wedge transition; (e) details of the modified wedge transition; (f) a warped transition; and (g) a cylindrical transition. The arrow in (c) indicates the direction of flow. The warped and cylindrical transitions (f and g) are shown to illustrate the geometric difference from wedge transitions.

Hinds (1928) provided the design of channel transitions which implies that the head loss in the transition depends only on the flow characteristics at the transition entry and outlet section. Vittal and Chiranjeevi (1983) rightly stated that disregarding the actual bed and side walls profiles in computing transition losses is not appropriate. They also provided a good summary of contributions of Hinds (1928), Mitra (1940) and Chaturvedi (1963) to the design of open channel transitions. Later, Swamee and Basak (1991, 1992 and 1993) used optimal control theory to minimize the head loss by optimizing the transition bed width, side slope and bed profile. In the development of their model, they adopted the head loss model of Henderson (1966) for an abrupt rectangular open channel transition. When the changes in the boundary profile are gradual, the contribution due to friction losses cannot be ignored compared to flow separation losses (Morris and Wiggert, 1972). Ishabel and Lebdev (1961) proposed an equation for the locus of the separating streamline in an abrupt rectangular channel transition. They assumed that the shape of the streamline does not change with depth. In practice, it is observed that the zone of flow separation gets reduced at lower depths. Latter, Vittal and Chiranjeevi (1983) too determined the separating streamline in the transition connecting a rectangular channel and a trapezoidal channel. Their proposed separating streamline varied with flow depth.

Formica (1955) experimentally studied the characteristics of both sudden and gradual transitions linking rectangular channels. The author presented typical water surface profiles which in turn yield energy losses. Only one field study (Papanicolaou and Hilldale, 2002) related to gradually expanding rectangular transition exists. The emphasis of this study was on turbulent intensity and secondary flow behavior in the transition. For the purpose of channel transition design, Alauddin and Basak (2006) proposed a gradually expanding channel transition geometry that improved the hydraulic efficiency and reduced the head loss. Haque (2008) presented the mean velocity profile and turbulence intensity in expanding transitions linking rectangular channels. Basak and Alauddin (2010) studied the effect of inlet Froude numbers on the efficiency of transitions. Najafi-Nejad-Nasser and Li (2015) used the momentum and the energy concepts to determine the effect of a hump in a channel transition. Their results were verified by using measured data related to the depth of flow and energy head loss coefficient. Very recently, for flow through a transition connecting a rectangular channel to a trapezoidal channel, Asnaashari et al. (2016) used the procedure outlined by Swamee and Basak (1993) to get the optimum bed and side wall profiles which reduced the transition energy losses. However, to verify that the transition geometry is indeed optimum, one has to compare the loss result of the optimum geometry with the flow characteristics of other related transition geometries. Asnaashari et al. (2016) too reported that flow separation was generally asymmetric in their experiments and symmetric in numerical modeling. They provided some interesting and useful results which include the detailed water surface and velocity profiles. Asnaashari et al. (2016) related the efficiency of transition and energy loss to the inlet Froude number, F, and suggested an increase in the transition energy loss with increasing value of F. In fact, one sided flow separation was noted in a warped transition linking a narrow rectangular channel to a wide trapezoidal channel (chapter 3).

The focus of this experimental study is on the characteristics of 3-D flow in wedge [Fig. 4.1(a)] and modified wedge systems [Fig. 4.1(b)]. This entails detailed measurements of the transition flow parameters, including longitudinal flow profile, transition energy loss, and maximum velocity at the transition outlet; flow separation zones; turbulence intensity and velocity profiles in the downstream trapezoidal channel; and secondary flow characteristics. Such detailed measurements of high quality are not available in the existing literature.

4.2 Experimental Apparatus and Procedure

This experimental study was performed using a horizontal flume formed by 12.7 mm thick Plexiglas plates [Figs. 4.1(a), 4.1(b) and 4.1(c)]. The flume's configuration and dimensions are shown in Fig. 4.2. The flume consisted of an upstream channel section of rectangular shape [Fig. 4.3(a)], a wedge expansion [Figs. 4.1(a) and 4.1(b)] and a downstream channel section of trapezoidal shape [Fig. 4.3(b)]. The upstream rectangular channel had a width of b = 203.2 mm, a sidewall height of 304.8 mm, and a length of L_1 = 3048.0 mm [Fig. 4.3(c)]. The downstream trapezoidal channel had a base width of B = 304.8 mm, a side slope angle 1:1 (or 45°), the same sidewall height as the upstream channel, and a length of L_3 = 6000.0 mm [Fig. 4.3(c)]. These two channels were connected by a wedge transition with a length of L_2 = 609.6 mm [Fig. 4.3(c)] and the same sidewall height as the upstream and downstream channel sections. A horizontal platform was fixed below the channel bottom to facilitate the positioning of a Laser Doppler Anemometry (LDA) probe. Using this platform, flow velocities were measured from the bottom and sidewalls of the flume. A LDA system was used in the backscatter mode for non-intrusive measurements of time-averaged velocity components (u, v, w) and the fluctuating velocity components (u', v', w') in the streamwise, lateral and vertical directions or (x, y, z) directions (Fig. 4.3), respectively.

The magnitude, U, of the velocity vector $\langle u, v, w \rangle$ is obtained as

$$U = \sqrt{u^2 + v^2 + w^2} \tag{4.2}$$

The specific turbulent kinetic energy, k, is determined by

$$k = \frac{1}{2}\left(\overline{u'^2} + \overline{v'^2} + \overline{w'^2}\right) \tag{4.3}$$

The normalized secondary flow, S_v, is calculated by the equation

$$S_v = \sqrt{v^2 + w^2} / U_m \tag{4.4}$$

where U_m is the cross-sectional average of the longitudinal velocity component u.

The upstream channel [Fig. 4.1(c)] was connected to a large head tank (Fig. 4.2) with a contracting section and honeycomb filters to limit turbulence to low levels in the flow approaching the transition. The downstream channel was connected to an outlet gate to control the flow depth in the channel. The outlet flow was directed to a 30° V-notch to measure the discharge Q, given by

$$Q = \frac{8}{15} C_c \, tan \frac{\theta}{2} \sqrt{2g} H^{5/2} \tag{4.5}$$

where C_c is the contraction coefficient (equal to 0.586, Henderson, 1966, p. 178), θ is the notch angle (equal to 30°), g is the acceleration of gravity, and H is the head above the V-notch crest. In the experiments, mean values of the free water surface levels were collected using a point gauge with an accuracy of 0.1 mm. The maximum error in the discharge measurement is estimated to be 3%.

Along a line [Fig. 4.3(c), the line segment $\overline{P_s P_r}$] locally normal to the sidewall in the flow separation zone, the flow just off the wall is in the backward direction or opposed to the x-direction. The flow changes direction, as one moves away from the wall. The flow separation line [Fig.

4.3(c)] is denoted by the curve $\overline{P_sP_r}$ from the wall at which the net flow crossing the radial line is zero (Han et al., 2011). The separation and reattachment points were located by finding the point where the velocity was zero. Dye test results supplemented the LDA velocity data in determining the dividing streamline $\overline{P_sP_r}$ and the reattachment point P_r.

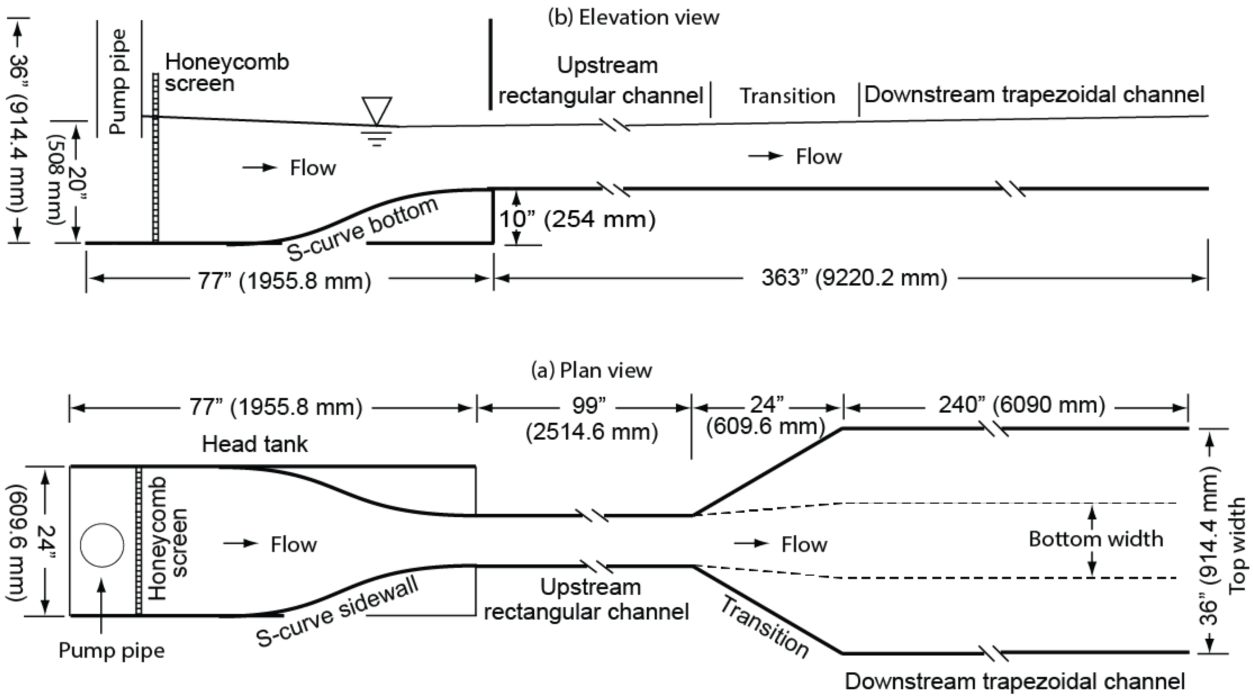


Fig. 4.2. Configuration and dimensions of the head tank, upstream rectangular channel, transition, and downstream trapezoidal channel: (a) plan view; and (b) elevation view. The total length of the flume system is the 36′ and 8″ (or 11.176 m).

The experiments were carried out using two different wedge transition configurations. A transition with conventional wedge walls [Figs. 4.1(a) and 4.1(d)] and a transition with modified wedge walls [Figs. 4.1(b) and 4.1(e)] were studied. Hence, two planes [Fig. 4.1(d), vertical plane EFI and inclined plane EHI) are needed to form each of the two wedge shaped side walls. Forming the wedge-shaped transition was simple as it consisted of a sidewall formed by two plane transparent sheets joined along the diagonal $\overline{\mathrm{EI}}$ [Fig. 4.1(d)]. The wedge-shaped side walls cause the flow to experience a sudden change in direction as it crosses the diagonal $\overline{\mathrm{EI}}$ of the side wall and this is not desirable. To remove the sudden change of flow direction along the diagonal line $\overline{\mathrm{EI}}$ of each sidewall, a tapered sector plate EPIQ [Fig. 4.1(e)] formed by a thin (1.6 mm) Polycarbonate sheet of 101.6 mm wide at the center the diagonal was glued along the diagonals of the two sidewalls [Fig. 4.1(e)]. The modification was expected to improve the flow behavior at the wedge wall.

Figs. 4.3(a), 4.3(b) and 4.3(d) show the cross sections used to collect velocity data. LDA measurements were made at 11 cross-sections [Fig. 4.3(c), CS1 to CS11], located at different normalized longitudinal distances x/L_2, where L_2 denotes the transition length. For the rectangular channel [Fig. 4.3(c), L_1], velocities were measured at the two cross-sections: CS1 at $x/L_2 = -0.27$, and CS2 at $x/L_2 = -0.11$. At each of these two cross-sections [Fig. 4.3(d)], velocity measurements were taken at eight lateral positions and seven vertical positions corresponding to relative heights z/Z equal to 0.02, 0.06, 0.16, 0.26, 0.47, 0.66, and 0.83, respectively, where Z is the measured depth of flow.

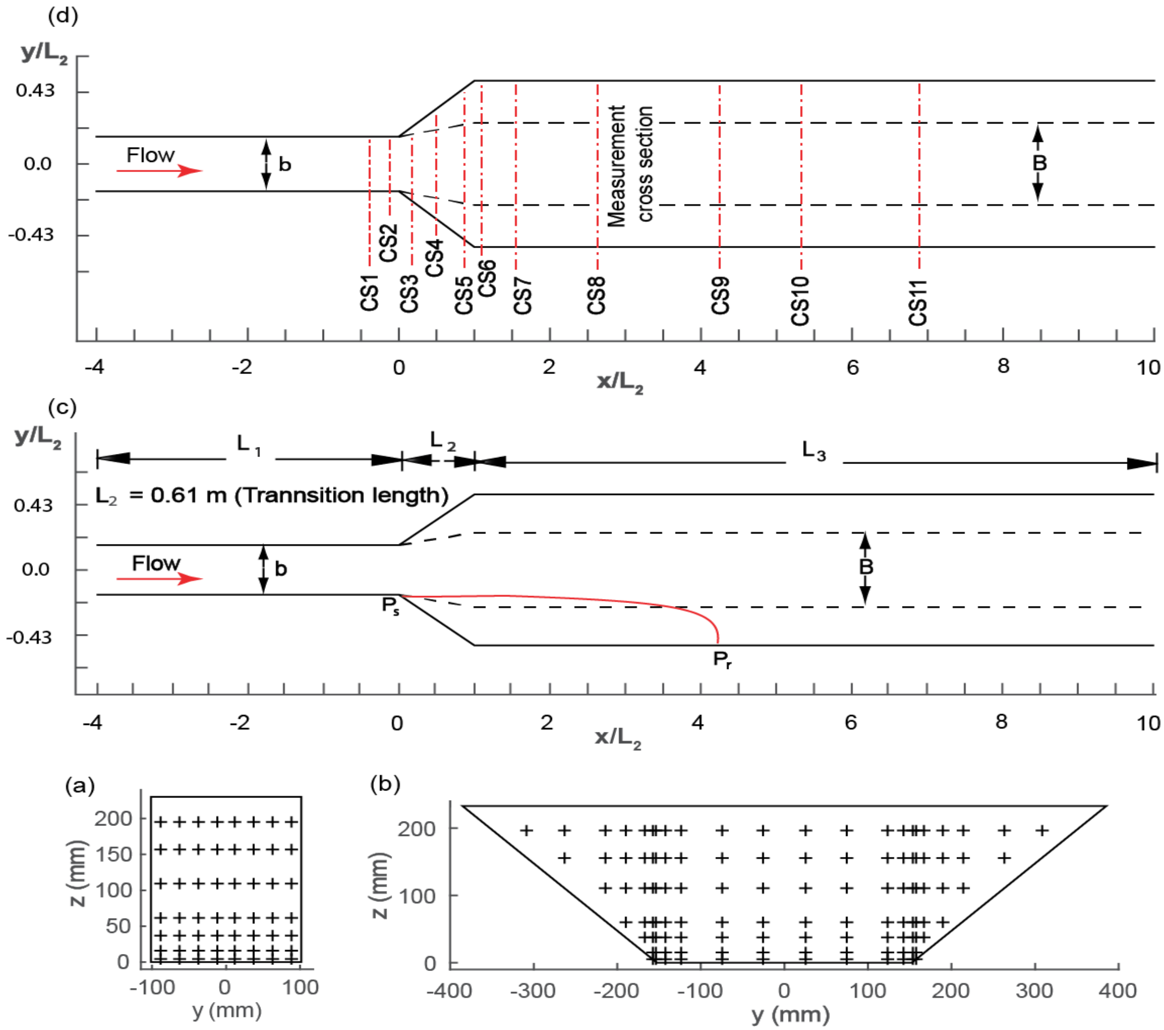


Fig. 4.3. Locations and cross sections of measurements: (a) velocity measurement locations (the plus symbols) in the upstream rectangular channel; (b) velocity measurement locations (the plus symbols) in the downstream trapezoidal channel; (c) normalized dimensions of the experimental channel; and (d) distributed cross sections (CS1 to CS11) of velocity measurements. The transition length is L_2 = 24″ (or 609.6 mm).

Three cross sections (CS3, CS4 and CS5, located at x/L_2 = 0.15, 0.49, and 0.87, respectively) were used to measure the velocity in the transition [Fig 4.3(c), L_2]. The number of vertical lines and the number of points of velocity measurement were different at each cross-section. In the trapezoidal channel [Fig. 4.3(c), L_3], six cross sections (CS6, CS7,…, CS11, located at x/L_2 = 1.1, 1.54, 2.62, 4.25, 5.33, and 6.88, respectively) were chosen to measure the velocity. At each of these cross sections, velocities were measured along 24 vertical lines [Fig. 4.3(b)] and each vertical line contained multiple points of velocity measurement. At the measuring points, the sampling frequency up to 150 Hz was used. The flow was subcritical and turbulent. Hydraulic conditions of the flow experiments are presented in Table 4.1.

Table 4.1. Geometry of the laboratory channels and wedge transitions and hydraulic conditions of flow experiments

Parameter	Wedge transition system	Modified wedge transition system
Upstream rectangular channel width *b* (mm)	203.2	203.2
Downstream trapezoidal channel base width *B* (mm)	304.8	304.8
Expanding angle of the transition (°)	24.6	24.6
Head above the V-notch crest *H* (mm)	304.4	307.1
Flowrate *Q* (L/s)	19.3	19.7
Cross-sectionally averaged inlet velocity *Ui* (m/s)	0.41	0.42
Reynolds number R	9.5×10^4	9.4×10^4
Froude number F	0.28	0.28

The velocity profiles and the turbulence intensities in the transition and the downstream trapezoidal channel were determined in order to quantify how effective the modified wedge was in improving the flow characteristics of the transition. The LDA velocity data were analyzed to determine the maximum velocity and to delineate the flow separation zones. Detailed secondary flow profiles in the downstream trapezoidal channel were determined to identify the potential for boundary erosion in the channel.

For estimates of the energy loss in the wedge system, the specific energy head, E, was calculated at the upstream and the downstream channels

$$E = Z + \frac{\alpha U_m^{\ 2}}{2g} \tag{4.6}$$

For a given cross section, the velocity coefficient is evaluated by

$$\alpha = \frac{\iint u^3 dA}{U_m^{\ 3} A} \tag{4.7}$$

where A is the flow area at a cross section. The flume bed was horizontal. Thus, the total energy head loss in the flow between two adjacent cross sections is given by $\Delta E = E_1 - E_2$, where E_1 and E_2 are the specific energy heads at the cross sections.

4.3 Results

The (x, y, z) coordinates are oriented such that the x-axis points in the downstream direction, the y-axis in the lateral direction [Fig. 4.3(c)], and the z coordinate is the normal distance measured from the channel bottom. LDA measurements of flow velocity were made from the wedge transition and modified wedge transition under subcritical flow condition, with the inlet Froude number F equal to 0.28 (Table 4.1). The Reynolds number, R, for the approach flow was maintained at values of 9.4×10^4 to 9.5×10^4. The discharge (Eq. 5.5) ranged from 19.3 to 19.7 L/s. The data obtained from LDA measurements were used to develop the velocity profiles.

4.3.1 Uniformity of Flow

Contours of the time-averaged longitudinal velocity component, u, as seen by an observer looking upstream, at six selected vertical cross sections are plotted in Fig. 4.4 and Fig. 4.5 for the wedge and modified wedge transitions, respectively. For both systems, in the approach channel section CS_2 [Fig. 4.3(d), at $x/L_2 = -0.11$], the flow was nearly uniform [Figs. 4.4(a) and 4.5(a)], and water surface was very smooth. Upon entering the transition [Fig. 4.3(d)], the flow began to separate from the left (facing upstream) sidewall, with negative values for u [Figs. 4.4(b) and 4.5(b)]. In the wedge transition, the zone of flow separation appeared to grow in width [from Figs. 4.4(b), 4.4(c) and 4.4(d)] in the direction of primary flow and attained the maximum width as seen in Fig. 4.4(e). Also, the zone of flow separation became wider near the water surface. The modified wedge transition produced similar flow separation characteristics [Figs. 4.5(b–e)]. However, the modification [Fig. 4.1(b)] achieved a reduction to the dimensions of the undesirable flow separation zone. The dimensions of the flow separation zones for the two wedge transitions are compared in Table 4.2.

The flow field was asymmetric about the channel central line, with non-uniform velocity distributions. This would increase the potential to erode earthen channel boundaries. Values of the velocity coefficient α (Eq. 4.7), as an indicator of the non-uniform velocity distributions, along with the ratio of the maximum longitudinal velocity U_{max} to the cross sectional average U_m of the longitudinal velocity component at the transition outlet, are compared in Table 4.3, between the wedge and the modified wedge transitions. The latter [Fig. 4.1(b)] improved flow velocity uniformity and reduced energy head loss.

Table 4.2. A comparison of the maximum length l_m (in the x direction) and maximum width w_m (in the y direction) of elongated flow separation zones between the wedge system [Fig. 4.1(a)] and modified wedge system [Fig. 4.1(b)], at different relative heights (z/Z) above the channel bed. The l_m and w_m values shown are normalized by the transition length L_2 [Fig. 4.3(c)].

Relative height z/Z	Wedge system		Modified wedge system	
	l_m/L_2	w_m/L_2	l_m/L_2	w_m/L_2
0.16 (near the bed)	1.31	0.11	1.08	0.12
0.26	1.72	0.20	1.43	0.21
0.47	2.26	0.32	2.03	0.30
0.66	3.12	0.34	2.28	0.33
0.83 (near the surface)	4.10	0.44	3.79	0.42

Although reverse flow no longer existed at the cross section CS9 at $x/L_2 = 4.25$ [Fig. 4.3(d)], flow was highly non-uniform [Fig. 4.4(f) and Fig. 4.5(f)]. In Fig. 4.4(g), the velocity distribution shows a significant improvement as water flowed from the cross section CS9 [Fig. 4.4(f)] to the cross section CS11 at $x/L_2 = 6.88$. The flow appeared to have essentially recovered at this location. For the modified wedge system, the flow appears to have recovered fully in the downstream trapezoidal channel, and the velocity coefficient is slightly smaller than the value of α for the wedge transition (Table 4.3). Compared to the wedge transition, the modified wedge transition displaced a slightly smaller zone of flow separation [Figs. 4.5(b–f)]. When flow reached the downstream channel location at $x/L_2 = 6.88$, the flow was unidirectional in both the wedge and the modified wedge transitions. At this cross section, the water surface was quite smooth in both the systems to permit accurate depth measurements.

Table 4.3. A comparison of transition flow parameters between the wedge and modified wedge systems

Parameter	Wedge system	Modified wedge system	Warped system[a]
Trapezoidal to rectangular channel flow-area ratio A_t/A_r	3.00	3.00	3.00
Velocity coefficient α at the transition exit (at $x/L_2 = 1$)	5.99	5.94	6.24
α at the downstream cross section CS11 (at $x/L_2 = 6.88$)	1.23	1.16	1.13
Velocity ratio U_{max}/U_m at the transition exit	3.28	3.11	3.15
Head loss coefficient K_t at the transition exit	0.41	0.32	0.27

[a] *data from table 3.2*

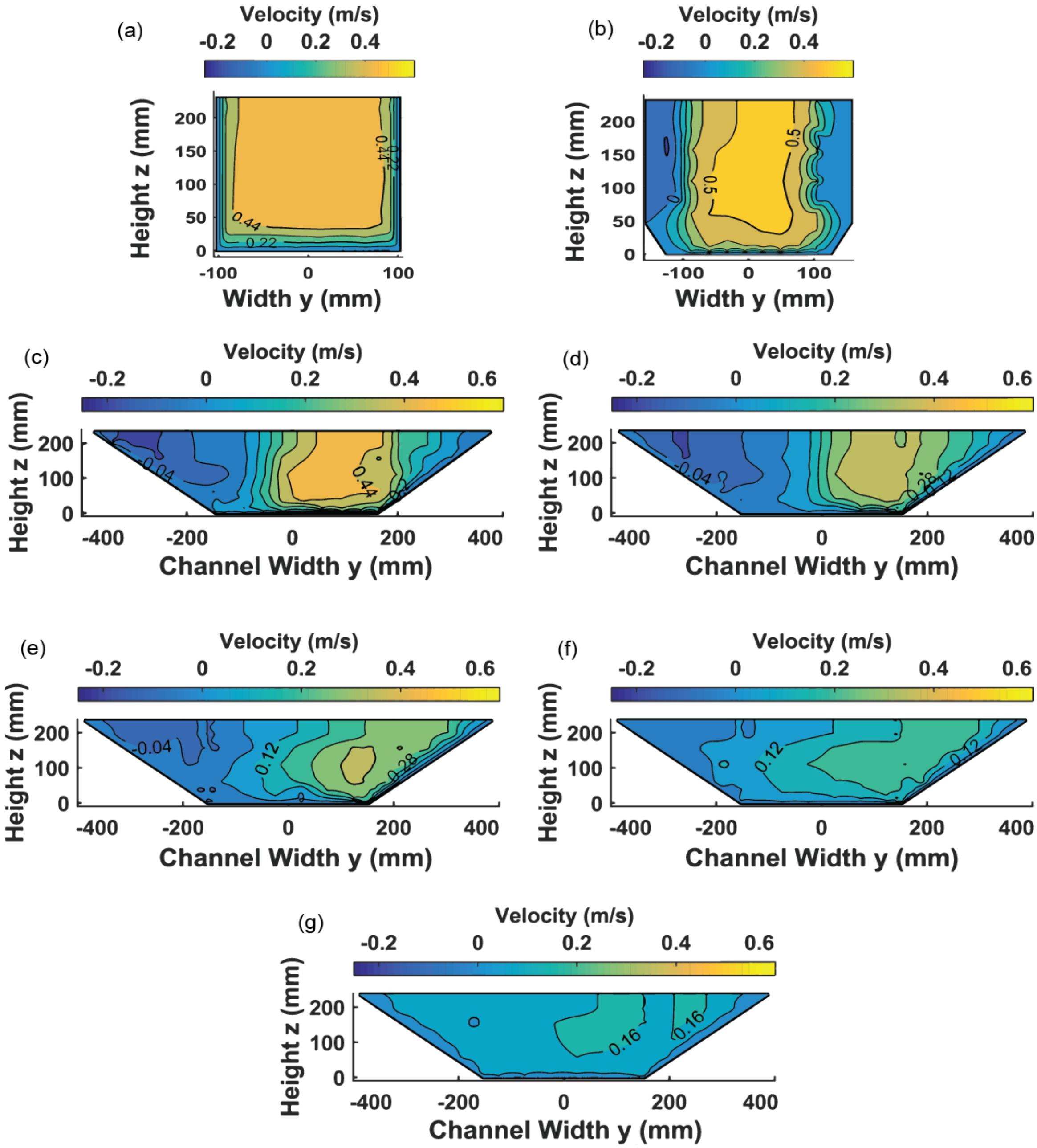


Fig. 4.4. Vertical cross sections, showing distributions of the time-averaged longitudinal velocity component u in the wedge transition system [Figs. 4.1(a) and 4.1(d)]. The cross sections [marked in Fig. 4.3(d)] are: (a) CS2 at $x/L_2 = -0.11$; (b) CS3 at $x/L_2 = 0.15$; (c) CS5 at $x/L_2 = 0.87$; (d) CS6 at $x/L_2 = 1.10$; (e) CS8 at $x/L_2 = 2.62$; (f) CS9 at $x/L_2 = 4.25$; and (g) CS11 at $x/L_2 = 6.88$.

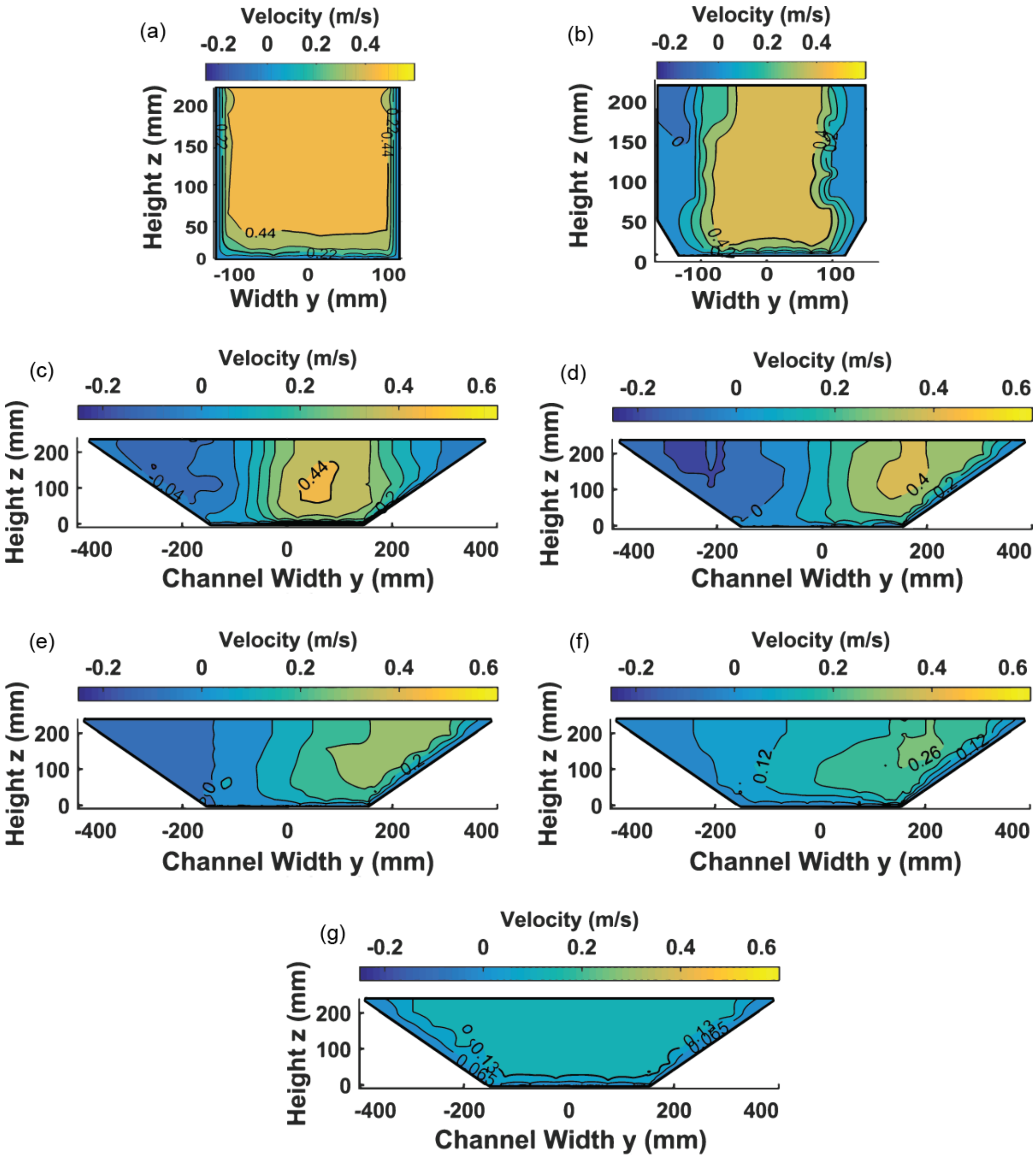


Fig. 4.5. Vertical cross sections, showing distributions of the time-averaged longitudinal velocity component u in the modified wedge transition system [Figs. 4.1(b) and 4.1(e)]. The cross sections [marked in Fig. 4.3(d)] are: (a) CS2 at x/L_2 = -0.11; (b) CS3 at x/L_2 = 0.15; (c) CS5 at x/L_2 = 0.87; (d) CS6 at x/L_2 = 1.10; (e) CS8 at x/L_2 = 2.62; (f) CS9 at x/L_2 = 4.25; and (g) CS11 at x/L_2 = 6.88.

4.3.2 Primary Flow

The magnitude U of the time-averaged velocity vector $\langle u,v,w \rangle$ is given in equation (4.2). Contours of U are plotted in Figs. 4.6(a–c) for the wedge transition and in Figs. 4.6(d–f) for the modified wedge, at three relative heights above the channel bed (at z/Z = 0.02, 0.26 and 0.83). Horizontal velocity vectors $\langle u,v \rangle$ are superimposed in the plots to indicate the direction of flow. The main flow shifted to the right (facing upstream) side of the channel transition. At the inlet of the transition [point P_s, marked in Fig. 4.3(c)], flow separated [Fig. 4.6(a)] and got reattached to the wall of the downstream channel [point P_r, marked in Fig. 4.3(c)] at x/L_2 = 4.10 and the maximum separation width was y/L_2 = 0.49. The largest area of flow separation [Fig. 4.6(a)] occurred at the water surface (Table 4.2). Near the channel bed, flow reversal occurred only in a small region [Fig. 4.6(c)].

A comparison of the velocity distributions between Figs. 4.6(a–c) and Figs. 4.6(d–f) indicates that the flow is more uniform in the modified wedge system. For the modified wedge system [Figs. 4.6(d –f)], the sizes of the recirculation zones adjacent to the sidewall were relatively small. The maximum length of separation was reduced from x/L_2 = 4.10 to 3.79 (Table 4.2), when a modified wedge was provided for the transition. Further, the corresponding maximum width of separation was reduced from y/L_2 = 0.44 to 0.42 (Table 4.2). For the modified wedge system, the extent of flow separation was reduced.

Compared to the wedge system, the modified wedge system made time-averaged velocity distributions more uniform earlier at a downstream channel location (at x/L_2 = 5.5). A comparison of the velocity coefficient between the two systems is given in Table 4.3. The uniformity of flow, the strength of secondary currents, and the intensity of turbulence were important features of the flow in the downstream erodible channel.

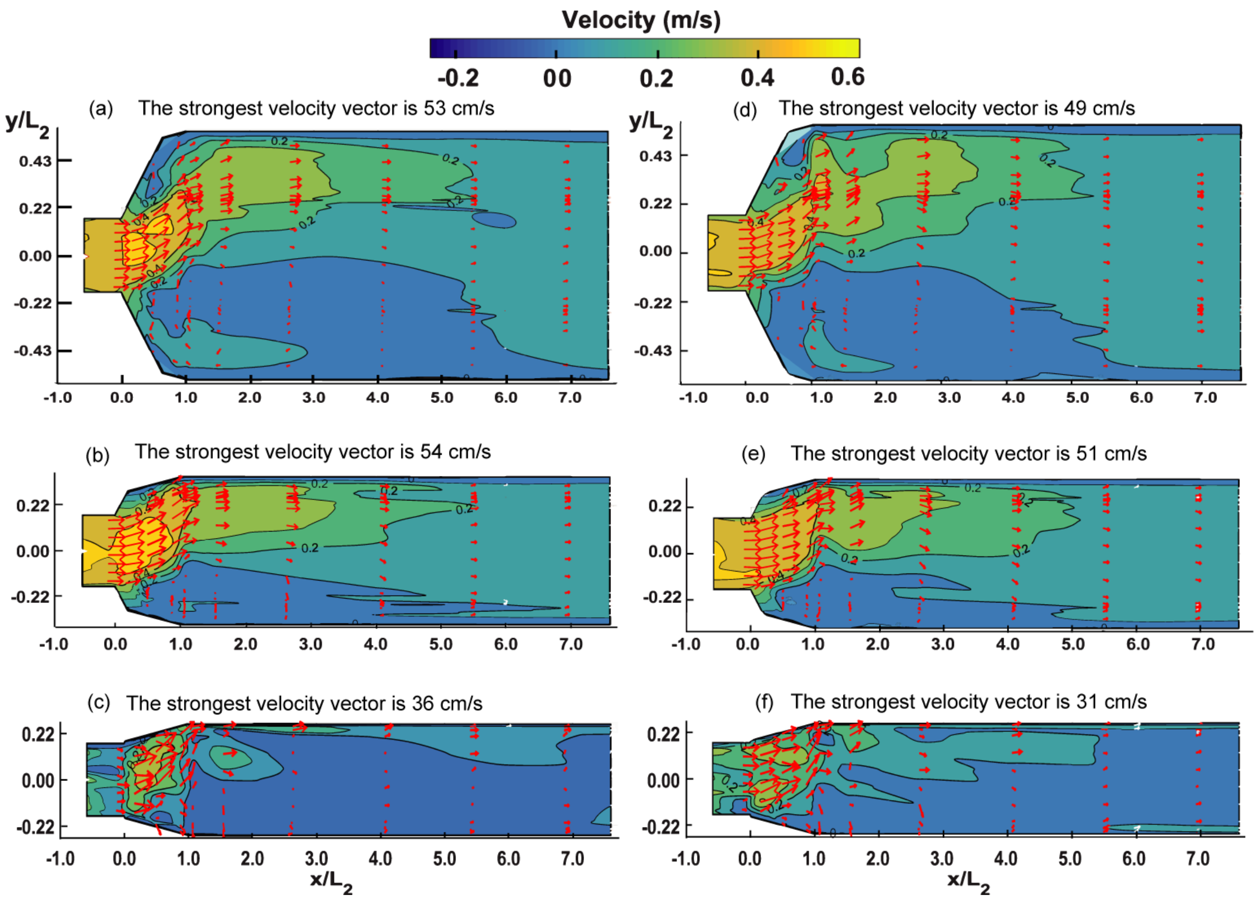


Fig. 4.6. Horizontal planes at different relative heights, *z*/*Z*, above the channel bed, showing contours of time-averaged velocity magnitudes (Eq. 4.2): (a) *z*/*Z* = 0.83; (b) *z*/*Z* = 0.26; (c) *z*/*Z* = 0.02; (d) *z*/*Z* = 0.83; (e) *z*/*Z* = 0.26; and (f) *z*/*Z* = 0.02, of which (a to c) are for the wedge transition system [Figs. 4.1(a) and 4.1(d)], whereas (d to f) are for the modified wedge transition [Figs. 4.1(b) and 4.1(e)]. Horizontal velocity vectors [*u*, *v*] are superimposed to indicate the direction of flow.

4.3.3 Secondary Flow

The lateral and vertical velocity components (v, w) were used to determine secondary flow. Its velocity magnitude was normalized by the cross sectional average U_m of the local longitudinal velocity component u, giving the secondary flow parameter S_v (Eq. 4.4). At the cross sections CS4, CS6, CS9 and CS11 [Fig. 4.3(d)], located at x/L_2 = 0.49, 1.1, 4.25, and 6.88, respectively, in the downstream trapezoidal channel, distributions of S_v were shown in Figs. 4.7(a–d) for the wedge transition and in Figs. 4.7(e–h) for the modified wedge transition. In Figs. 4.7(a–b), there was a strong secondary flow circulation on the left side (facing upstream) of the transition, where flow separation was noticeable [e.g. Fig. 4.6(a)]. On the right side (facing upstream), the flow accelerated (Fig. 4.6). However, farther along in the downstream channel at the cross sections CS9 (at x/L_2 = 4.25) and CS11 (at x/L_2 = 6.88), secondary currents diminished considerably [Figs. 4.7(c–d)]. With weak secondary currents, the erosion potential at the inclined side boundaries of the erodible downstream channel diminishes.

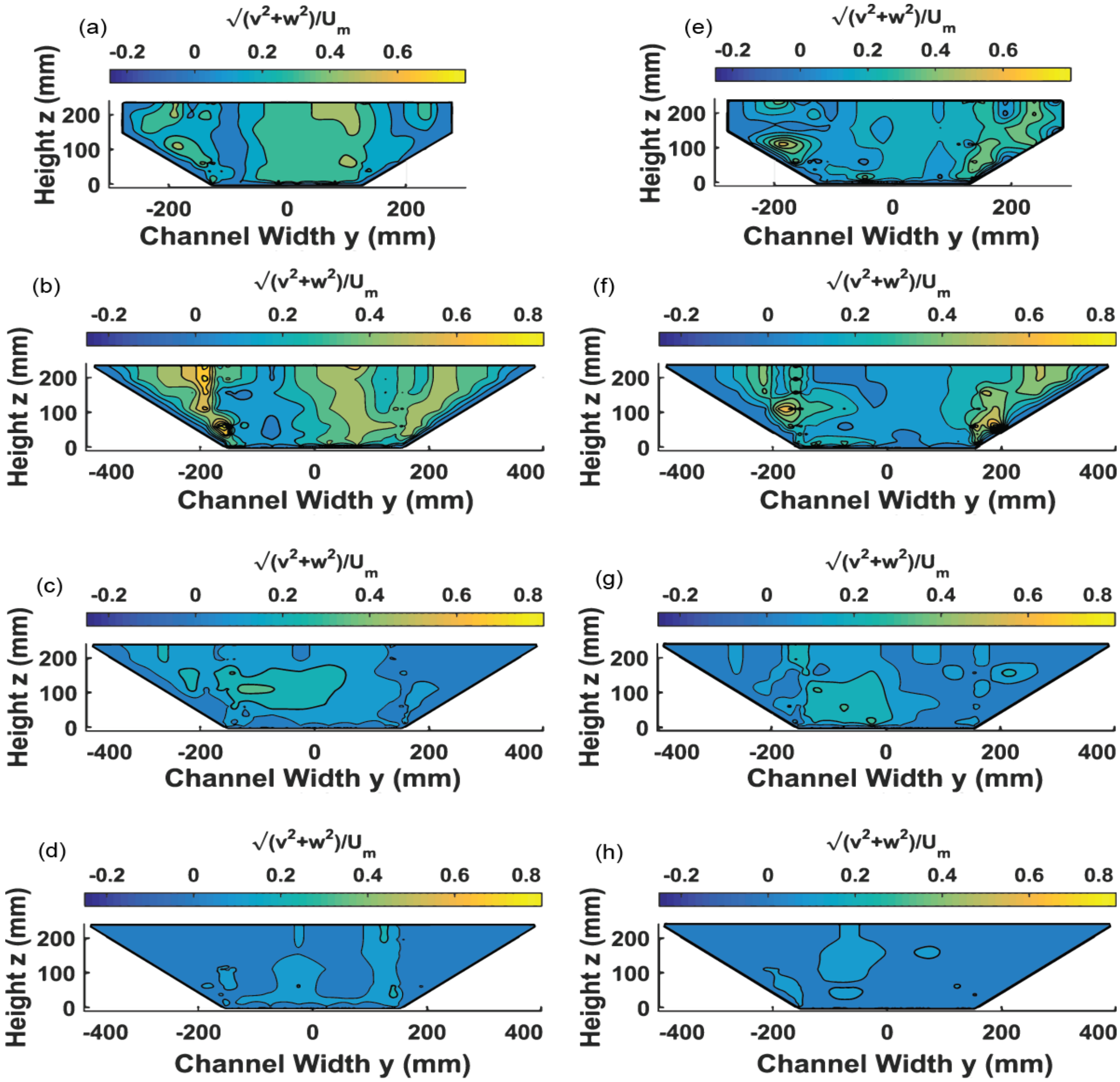


Fig. 4.7. Vertical cross sections, showing distributions of the secondary flow parameter S_v (Eq. 4.4). The cross sections [marked in Fig. 4.3(d)] are: (a) CS4 at $x/L_2 = 0.49$; (b) CS6 at $x/L_2 = 1.10$; (c) CS9 at $x/L_2 = 4.25$; (d) CS11 at $x/L_2 = 6.88$; (e) CS4 at $x/L_2 = 0.49$; (f) CS6 at $x/L_2 = 1.10$; (g) CS9 at $x/L_2 = 4.25$; and (h) CS11 at $x/L_2 = 6.88$, of which (a to d) are for the wedge transition system [Figs. 4.1(a) and 4.1(d)], whereas (e to h) are for the modified wedge transition system [Figs. 4.1(b) and 4.1(e)].

For the modified wedge transition, distributions of S_v at the cross sections CS4 (at $x/L_2 = 0.49$) and CS6 (at $x/L_2 = 1.1$) are shown in Figs. 4.7(e) and 4.7(f). Secondary flow of relatively strong magnitude was present on both sides of the transition. The width of the flow separation increased as water flowed through the transition. Secondary currents at the outlet of the transition [Fig. 4.7(f)], had similar flow patterns as those at the middle of the transition [Fig. 4.7(e)], but their magnitudes as well as circulation area increased. As the flow continued in the downstream direction, progressively the magnitude of the secondary flow diminished [Figs. 4.7(g–h)] and became almost insignificantly small at $x/L_2 = 6.88$. The observations have confirmed that the distributions of the secondary flow velocity were more uniform in the modified wedge system than the wedge transition system. This is true for all locations downstream of the transition outlet [Figs. 4.7(b–d) and 4.7(f–h)].

4.3.4 Turbulent Kinetic Energy

The turbulent kinetic energy *k* (Eq. 4.3) was determined from measured root-mean-square velocity fluctuations. Turbulent flow can carry suspended sediment load in the channel. Knowledge of the level of turbulence will enable us to assess the ability of flow to re-suspend and transport fine sediment grains. The distributions of *k* at different depths [Figs. 4.8(a–f)] exhibit a number of features. Higher shear along the separating streamline generated a higher level of turbulence. Maximum turbulent intensities occurred either close to the bed or near the free surface. Turbulent intensities increased towards the free surface, indicating a transfer of the higher momentum flux from the channel bed region to the free surface region (El-Shewey and Joshi, 1996; and Brundette and Baines, 1985).

At the location $x/L_2 = 6.5$, the turbulence level as well as the magnitude of secondary flow were both small for the wedge transition [Figs. 4.8(a–c)] and for the modified wedge transition [Figs. 4.8(d –f)]. The longitudinal velocity was almost uniform. In other words, the flow has almost recovered at the location $x/L_2 = 6.5$. For the wedge transition, large zones with k values as high as 0.016 m^2/s^2 were present adjacent to the separating streamline near the surface. For the modified wedge transition, smaller zones with k values of up to 0.013 m^2/s^2 were present near the surface. In general, the modification of the wedge shape side wall appears to have reduced turbulent intensity. The diagonal strips attached to the side walls effectively prevents abrupt changes in the direction of flow and thereby reduces head loss in the transition, with a reduced head loss coefficient (Table 4.3). Also, a comparison between Figs. 4.8(a–c) and Figs. 4.8(d–f) indicates a less extensive zone of high level of turbulence in the downstream trapezoidal channel for the modified wedge transition.

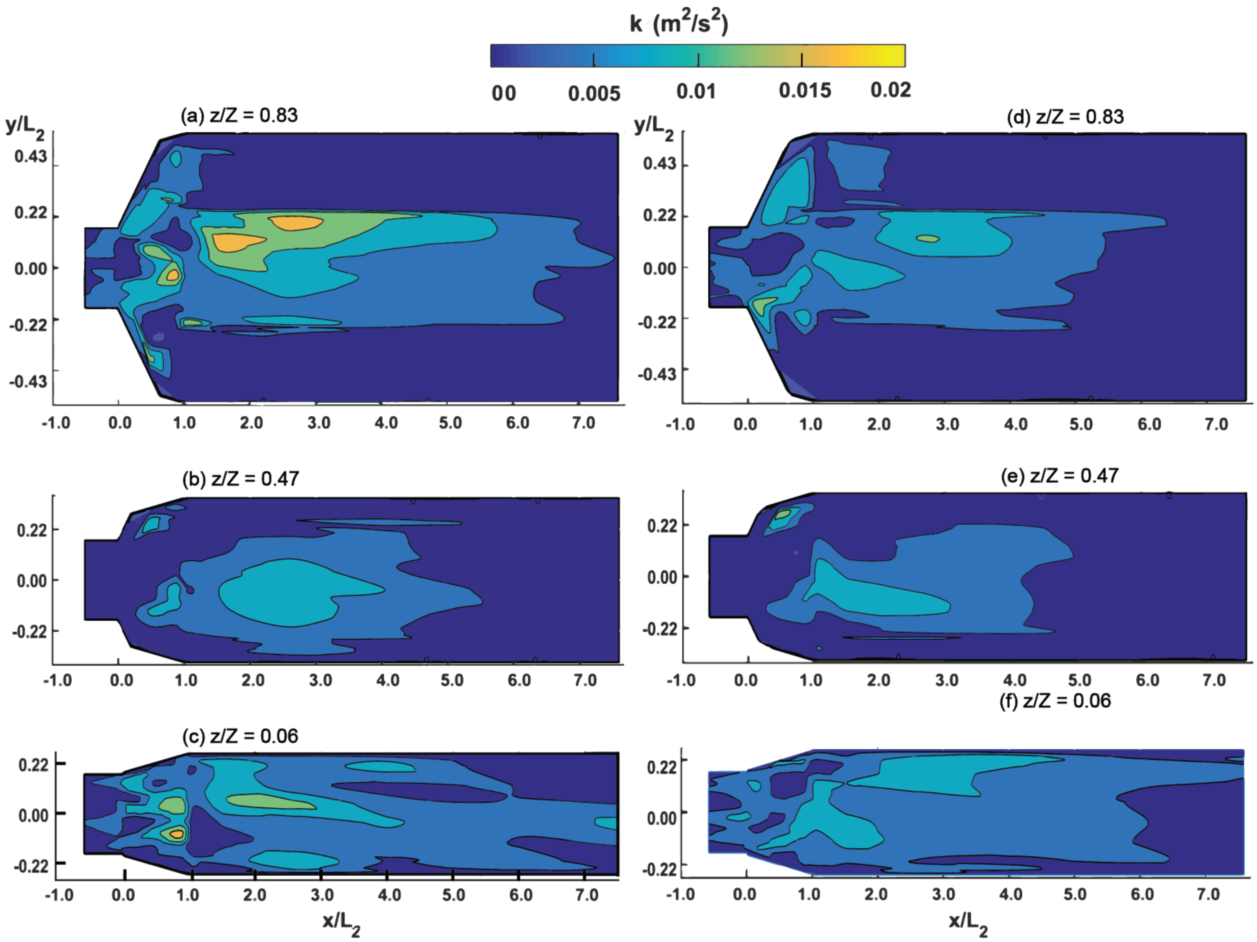


Fig. 4.8. Horizontal planes at different relative heights, *z*/*Z*, above the channel bed, showing contours of the turbulent kinetic energy (Eq. 4.3): (a) *z*/*Z* = 0.83; (b) *z*/*Z* = 0.26; (c) *z*/*Z* = 0.02; (d) *z*/*Z* = 0.83; (e) *z*/*Z* = 0.26; and (f) *z*/*Z* = 0.02, of which (a to c) are for the wedge transition system [Figs. 4.1(a) and 4.1(d)], whereas (d to f) are for the modified wedge transition [Figs. 4.1(b) and 4.1(e)].

4.3.5 Energy Loss in the Transitions

Energy loss is the key parameter in the channel transition. Transition structures should be designed to achieve both economy in construction costs as well as efficiency in energy conservation. As noted earlier, the increase of loss of transition energy in the transition reduces the irrigation command area. The issue of energy losses in channel transitions is an important and relevant issue in many other hydraulics engineering applications. Water surface data [Fig. 4.9(a)] was collected along the channel section from $x/L_2 = -0.11$ to $x/L_2 = 6.88$. Using Equation (4.6), the data permit the estimation of distributed specific energy E [Fig. 4.9(b)], and hence the specific energy loss and total energy loss. Between the locations $x/L_2 = -0.11$ and $x/L_2 = 6.88$ [Fig. 4.3(d)], the specific energy loss was $\Delta E = 4.4$ mm for the wedge system, compared to 3.7 mm for the modified wedge transition [Fig. 4.9(b)]. Between the two transition systems [Figs. 4.1(a) and 4.1(b)], the energy loss downstream of the flow establishment section is the same in the downstream trapezoidal channels. Thus, it is possible to estimate the energy loss in the channel section between the transition outlet and the flow re-establishment cross section.

In the experiments of this paper, for the wedge transition, the flow recovery was essentially complete at $x/L_2 = 6.88$. For the modified wedge transition, the recovery was complete at $x/L_2 = 5.5$. The modification produced an energy gain of $\Delta E = 0.8$ mm at $x/L_2 = 6.88$, compared to the energy level for the wedge transition system. This gain is small. However, in field irrigation networks, with the earthen channels being typically 40 to 100 times larger than the lab models, the gain of energy for the modified wedge transition would be significant. In the case of irrigation channels with very mild bed slopes, the reduced transition loss will accommodate longer main channels, meaning a larger command area.

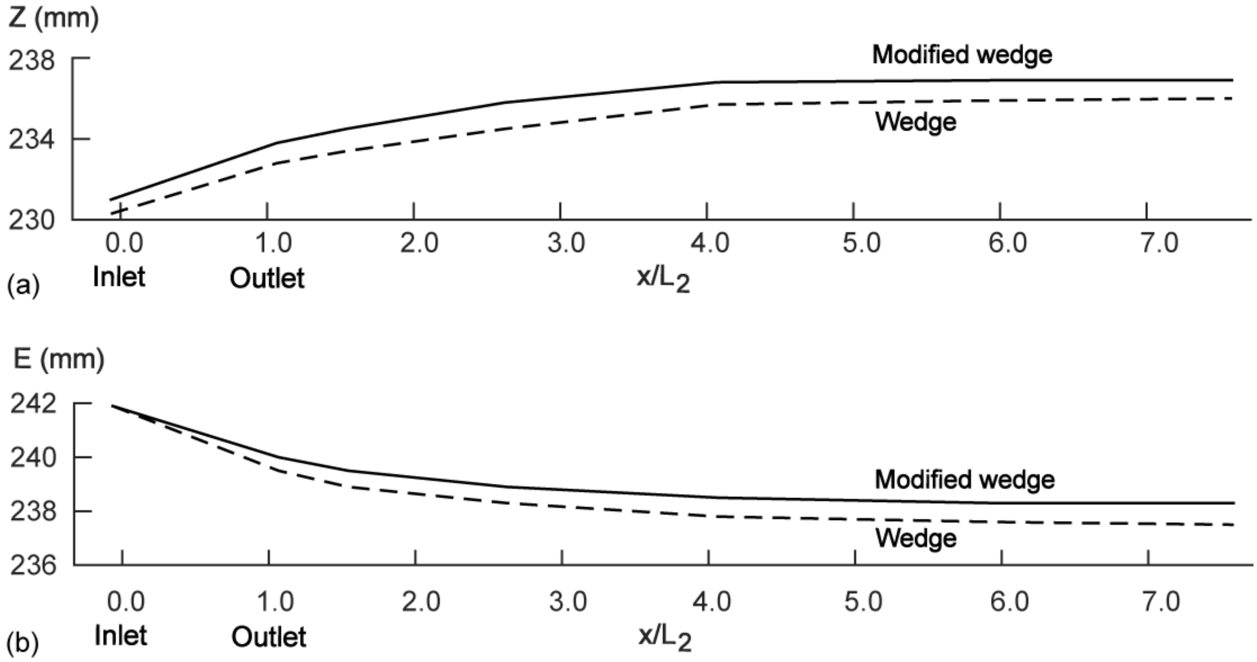


Fig. 4.9. Comparison of data between the wedge transition system [Figs. 4.1(a) and 4.1(d)] and the modified wedge transition system [Figs. 4.1(b) and 4.1(e)]: (a) water surface profiles; and (b) specific energy head (Eq. 4.6) profiles. In (a), Z is measured from the channel bed.

4.3.6 Other Flow Characteristics of Transitions

Non-uniform distributions of flow velocity in the channel generally increase the maximum velocity of the flow which in turn increases the susceptibility of the earthen channel to get eroded. An efficient transition that confines flow non-uniformity to a short reach downstream of its outlet requires less boundary protection (such as channel surface lining) in a short reach of the earth channel. Therefore, uniform velocity distribution at the outlet of the transition is an important attribute of well design transition. The head loss in the transition depends on the flow separation caused by expanding flow as well as boundary resistance. Surface resistance depends on the nature of the surface, the area of the channel and the magnitude of the wall shear stress. According to Morris and Wiggert (1972), for transitions in which subcritical flow occurs and the change of cross section is gradual, boundary friction will cause significant energy losses, which cannot be ignored in comparison to other losses caused by flow separation. Morris and Wiggert (1972) reported that the head loss coefficient K_t (Eq. 4.1) for wedge expanding transition was 0.5. In the present tests, for the wedge system, the loss coefficient was 0.41. For the modified wedge system, K_t was 0.32 (Table 4.3). The ratio of the maximum velocity U_{max} to the average velocity U_m is a measure of the likelihood of channel boundary erosion. This ratio was 3.2 for the wedge transition and 3.1 for the modified wedge transition, as determined from the LDA velocity data.

The experimental results presented above are from new research on wedge and modified-wedge transitions, which have not been studied in the past for linking narrow rectangular concrete channels to wide trapezoidal earth channels of an irrigation network. The new wedge and modified-wedge transition results complement the warped transition data presented in chapter 3. The results are significant because the equipment design was well conceived, and the instrumentation used was based on modern velocity measurement technique. In the prototype (at large scale field channels), the command of the channels is shown to increase considerably.

4.4 Summary and Conclusions

In expanding transitions connecting a narrow rectangular channel to a large trapezoidal channel, it is notoriously difficult to accurately measure the velocity because of the turbulent condition of flow. This paper reports new, non-intrusive measurements of velocity from laboratory experiments of subcritical flow passing through a wedge transition and a modified wedge transition. An analysis of the measurements has reached the following conclusions:

- For both transitions, the velocity field exhibits three dimensional variations, and is asymmetrical about the channel central line in the perfectly symmetrical channel.
- Flow separation occurs on one side of the transitions. This forces the flow to accelerate and hence prevents the occurrence of separation on the other side.
- Modifications to the wedge transition by introducing a narrow thin strip along the diagonal of its sidewalls effectively guide the flow and prevent abrupt change in the direction of flow.
- Compared to the wedge transition, the modified wedge transition is shown to lead to hydraulic performance improvements, including a much earlier recovery of the flow in the downstream trapezoidal channel, a reduction in the turbulence level as well as the strength of the secondary flow, and hence a lower potential of channel boundary erosion.
- The improvements include a decrease in the value of the head loss coefficient to 0.32 from 0.41 for the wedge transition, and a relative gain in the energy head at the location in the downstream channel where the flow has essentially recovered. The corresponding head gain at field scales would be quite significant.

The improvements are due to the reduction of the separation zone in the modified wedge transition.

5. NUMERICAL MODELLING OF WARPED TRANSITION FLOW

5.1 Introduction

Hydraulic structures such as reservoirs are built to control flood water or to convey water for power, irrigation or water supply. The flow developing from the reservoir generally comes out of a rectangular narrow concrete channel and gets linked to a very wide trapezoidal earth channel. This link is a three-dimensional (3-D) transition structures [Fig. 5.1] that carries the flow at subcritical flow conditions. A well design 3-D transition should lead to a unit which is cost-effective to construct and easy to maintain while providing minimum head losses. Also, it is desirable that the transition is short to reduce construction costs and provide an exit flow which is fairly uniform. The latter ensures a reduction of the downstream earth channel boundary scour potential by providing low values for the maximum flow velocity. Moreover, the uniform exit flow also reduces the swirl component associated with the secondary flow in the downstream channel is small.

Recently, flow in a warped transition linking a narrow rectangular channel with a very wide trapezoidal channel was investigated experimentally. In this study, the nonintrusive velocity measurements were made using a LDA (Laser Doppler Anemometry) setup. Asnaashari et al. (2016) used micro Moline instrument to experimental study a similar transition linking a rectangular channel to a trapezoidal channel. Warped transitions are difficult to construct both in the field and in the laboratory. The difficulty can be traced to the fact that the vertical inlet edges of the transition and the slanted inclined exit edges of the transition are skew lines. Hence, the transition sidewalls are three-dimensional in appearance. Besides the problems associated with the constructing 3-D transitions, obtaining detailed velocity data in the transition is difficult. To overcome these problems associated with experimental studies one can resort to CFD (Computational Fluid Dynamics) modelling based on numerical methods to obtain the flow characteristics of warped transitions. The advantage of numerical modelling is related to reduce expenses and its ability to accommodate slightly difference inlet and outlet boundary conditions and flow configurations while constructing the model.

The standard $k-\varepsilon$ model uses the isotropic turbulence closure based on eddy viscosity concept. It is noted that this model is not effective in generating the secondary flows in the plane normal to the primary flow direction (Pezzinga, 1998; Cokljat and Younis, 1995; and Kang and Choi 2006). Also, the standard $k-\varepsilon$ model seems to under-predict the size of the flow separation zone (Dargahi, 2004). In the past, the $k-\omega$ turbulence model was also used for turbulence closure in numerical simulations. This is also known to handle anticipated anisotropic turbulence well (Najmeddin, 2012). Unlikely the standard $k-\varepsilon$ model, the Renormalization group (RNG) model renormalizes the Navier-Stokes equations to account for the different scales of motion present in the flow (Yakhot and Orszag, 1986). As such, the RNG model is more reliable, precise and finds a wider application compared to the standard $k-\varepsilon$ model. It may added that RNG model accommodates flow configurations involving flow separations very well and provides results matching experimental data. The Reynold's Stress Model (RSM) discards the eddy viscosity approach and directly computes the all Reynolds stresses of anisotropic turbulent flows (Launder, 1975). Large eddy simulation (LES) is a turbulence model where large eddies that carry the most turbulent energy are resolved directly, while small eddies are modeled (Smagorinsky, 1963).

Wilcox (2004) provides a details description of various CFD models that are presently used in practice.

Haque (2008) studied flows in rectangular open channel transitions and determined various mean velocity profiles and turbulence kinetic energy levels in the transitions. His experimental results agreed well with the numerical modelling $\mathrm{k}-\varepsilon$ that was developed by him. Najmeddin and Li (2016) contributed in the research of three-dimensional subcritical turbulent flows in rectangular channel expansions with or without a hump. The k-ω turbulence model was used for the study with the issue of flow separation, energy losses and eddy motions, which is important in hydraulic engineering systems such as irrigation networks and hydropower structures. Asnaashari et al. (2016) used the 3-D model to determine the flow characteristics in a 3-D transition connecting a rectangular channel to a trapezoidal channel. They also used the Reynolds-averaged Navier–Stokes (RANS) equations to model the transition flow using the finite-volume method.

In the present study, $RNG\ \ k-\varepsilon$ and RSM models were applied to investigate the flow behaviors in an open channel warped transition using a CFD code (FLUENT). The CFD model was validated using experimental data obtained earlier. The test data includes mean velocity profiles, ratio of the velocities magnitude as well as various turbulence characteristics and secondary flow behavior. The present study contributes to a better understanding of sub critical flow behavior in a warped transition including secondary flow features in the downstream channel. Quantitative data related to energy loss, maximum exit velocity, turbulence intensity as well as the extent of flow separation zones are presented. For field applications, the effectiveness of the transition in conserving the flow energy and the reduction of channel boundary erosion can be determined using these data.

5.2 Description of model parameters

The model domain consists of an upstream rectangular channel section (L_1), a warped transition (L_2) and a downstream trapezoidal channel (L_3) section [Fig. 5.1]. A warped transition, with or without vanes were used as the models [Fig. 5.1]. The dimension of the transition matched the physical model.

In the lab model, the open channel flume section was constructed using 12mm thick Plexiglas sheets. The upstream rectangular channel section and downstream trapezoidal channel section were connected by a 0.609 m (L_2) long warped transition. The upstream channel had a base width b = 0.203 m wide and Z = 0.305 m deep and the downstream channel had a base width B = 0.305 m and a side slope θ = 45° (Fig. 5.1). The experimental velocity data reported in chapter 3 was used to validate the prediction of the CFD model. The flow was fully turbulent and subcritical.

Turbulent flow is naturally unsteady, rotational, and three-dimensional. In the Reynolds-Averaged Navier-Stokes approaches, all the unsteadiness is regarded as a part of the turbulence and is averaged out. The Reynolds-Averaged form of 3D Navier-Stokes equations for an incompressible and turbulent fluid flow can be written as follows:

$$\frac{\partial u_i}{\partial x_i} = 0 \qquad 5.1$$

$$\frac{\partial u_i}{\partial t} + u_j \frac{\partial u_i}{\partial x_i} = -\frac{1}{\rho}\frac{\partial p}{\partial x_i} + \frac{\partial}{\partial x_j}(2\nu S_{ij} + \tau_{ji}) \qquad 5.2$$

Where ρ, ν, t, and xi are the density of water, kinematic viscosity of water, time, and Cartesian coordinates (i = 1, 2, 3) respectively. And, u_i is the Reynolds-averaged velocity components in the x_i xi direction; and p is the Reynolds-averaged pressure. The Reynolds-stress tensor, τ_{ij} and the strain-rate tensor, S_{ij} are defined as follows:

$$\tau_{ij} = -\overline{u'_i u'_j} \qquad 5.3$$

$$S_{ij} = \frac{1}{2}\left(\frac{\partial u_i}{\partial x_j} + \frac{\partial u_j}{\partial x_i}\right) \qquad 5.4$$

where $u'_i = \widetilde{u}_i - u_i$ (fluctuating part of the velocity) and $\widetilde{u}_i$ denote the components of the instantaneous velocity.

Fluent code is based on the full three-dimensional form of Navier-Stokes equations and use a finite volume method (FVM). The integral forms of the transport equations are transformed on to the computational domain and then discretized with FVM. The computational domain is divided into finite number of small control volumes and the governing equations are applied in each finite volume defined by the grid. The scalar values are stored in the cell centers. The $RNG \quad k-\varepsilon$ model predicts the flow characteristics near the wall including separation zones and flow in the curved boundaries. The Reynolds Stress Model (RSM) computes the individual components of the Reynolds stress tensor directly. Therefore, it has a greater potential to give the accurate predictions for complex flows.

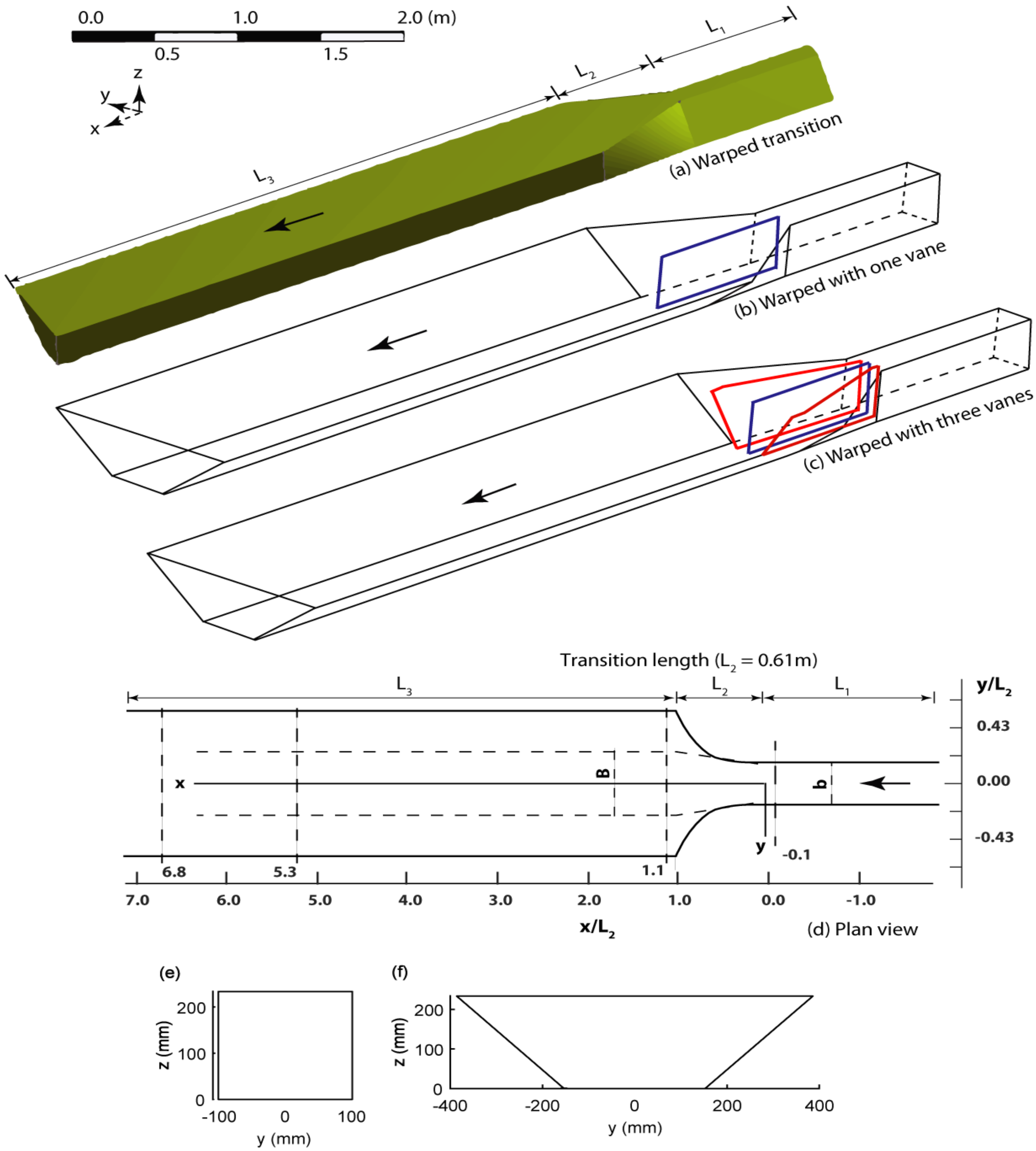


Fig. 5.1. 3-D geometry, plan of channel and two sections (rectangular and trapezoidal), showing warped transition with one-vane and three-vanes.

The volume of fluid (VOF) method is a computational tool for the free surface flows (interface capturing methods), which do not specify any sharp boundary was initially proposed by Hirt and Nicholls (1981). The VOF model is used when two or more fluids are involved to solve the momentum equation and track the volume of fraction of each fluid. The density difference between two phases (gas and liquid) is relatively high. Therefore, the interface between these fluids is considered as a free surface. In the VOF method (Ferziger and Peric, 2002), the fractional volume of fluid governs the shape and location of free surface, where a zero value denotes an empty cell with no fluid and the value unity indicates the full cell that is occupied by the fluid. The value between zero and one represents the cell containing the interface between the liquid (like water) and another fluid (like gas). The VOF model formulation relies on the fact that two or more fluids (or phases) are not interpenetrating. The pressure implicit splitting of operators (PISO) was proposed by Issa (1986) to solve the coupling between pressure and velocity. The non-iterative PISO solution method is used to calculate the transient problem and it helps to converge the problem faster.

The residual in the iterative numerical solution is one of the most fundamental measures to determine the convergence of the acquired solution. The residual measures the local imbalance of a conserved variable in each control volume or discretized transport equation. The residual will never be exactly zero. However, the lower residual value in each conservation equation represents the more accurate solution. The numerical solution was considered to be converging, when the imbalance residual reached a value of 0.001% or when the solution did not change in successive iterations. Further, an adequate additional time step was added to confirm the steadiness of the flow field in the final solution.

5.3 Grid Generation and boundary condition

The geometry [Fig. 5.1] defines the shape of the problem to be analyzed and most of the engineering problems involve complex geometrics. These complex geometrics cannot be easily fitted to the Cartesian coordinates. Therefore, boundary fitted orthogonal grids and curvilinear coordinates are usually used to compute the flow in complex geometries, as in the case of the warped transition. Generating the mesh implies discretizing or subdividing the geometry into cells or elements at which flow parameters are computed. Therefore, the grid configuration has a significant impact on convergence, solution accuracy and CPU time required. Several mesh configurations were tested and special care was needed to generate the mesh in the expansion channel. The local density, orthogonal quality, aspect ratio and skewness of the cells were checked for all cell configurations.

The region where the flow experiences rapid change in key parameters requires a mesh which is sufficiently fine to capture the flow behavior. The flow characteristics near the boundary region is fairly complex and needs to be captured key engineering parameters such as flow separation and reattachment points, geometry of separation bubbles as well as pressure drop. A suitable fine mesh near the boundary is provided to obtain the details of the eddy in the separation zone. The grid spacing was controlled to place the first grid cells next to the walls so that generally they were well within the logarithmic region [$30<y^+<100$] to satisfy the use of the non-equilibrium law of wall (Viegas et al. 1985). The y^+ value is set using equation (5.5).

$$y^+ = \frac{\rho u_t \Delta y}{\mu} \tag{5.5}$$

Here, Δy denotes the first cell height while u_t denotes the frictional velocity (Eq. 5.6). The wall shear stress was found using equation (5.7).

$$u_t = \sqrt{\frac{\tau_w}{\rho}} \tag{5.6}$$

$$\tau_w = \frac{\rho u_m^{\ 2} c_f}{2} \tag{5.7}$$

Here, ρ is the fluid density, u_{m} is the freestream mean velocity, μ is the absolute viscosity and c_f is the skin friction.

A sensitivity analysis was performed to ensure that the model predictions were mesh-independent. Four simulations used successively smaller cell sizes for the calculations of flow variables. The cell sizes were 10, 8, 7, and 6 mm, respectively. The corresponding total nodes for the model domain were 1846426, 2598063, 3665906, and 4433012. The mesh had fine resolutions through inflation next to wall boundaries [Fig. 5.2] and for the expansion, where flow was expected to vary rapidly, with strong eddies and velocity shear. The approach flow conditions were identical among the four simulations. A comparison of the model predictions between the 6- and 7-mm cell size simulations showed differences of flow velocity less than 1% at a series of selected cells. This confirms that there is no need for using cell sizes smaller than 6 mm.

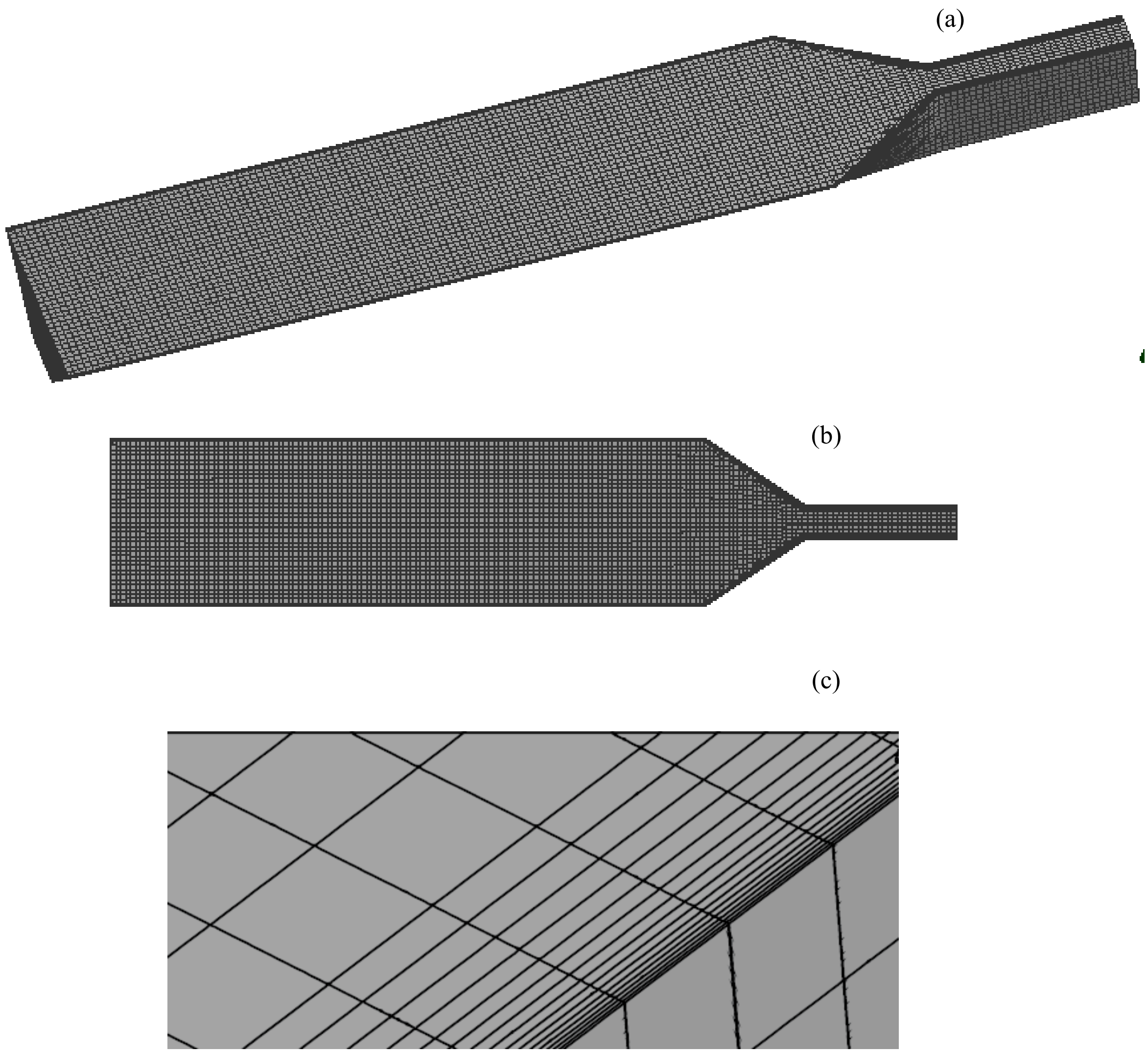


Fig. 5.2. Finite volume mesh configuration used for flow computations, showing the inflation of meshes near all solid walls; (a) 3-D view (b) Plan view and (c) Inflation mesh.

Fluid velocity at the inlet was defined either mean velocity with known water depth or a measured velocity field at a specific cross-section [Table 5.1]. To reduce the computational cost, upstream and downstream channel length were reduced. In the VOF model, at the inlet, the depth of water and the depth of air are required. Experimental inlet velocity as well as turbulence intensity and turbulence length scales were used to specify the boundary conditions at the inlet as in an earlier study (Ramamurthy et al., 2013). The turbulence intensity is given in terms of a fractional intensity (2.5%) and the turbulence length scale is taken to be equal to the inlet flow depth. The grid has a vertical domain height of 0.37 m allowing air to occupy the top 40% of the domain. The time step of the unsteady simulation was set as 0.00035.

The boundary of the flow domain was assumed to be smooth. In general, fluid flow near the wall is complex and the presence of wall significantly affects the mean and turbulent structure. Due to the higher gradient of the flow variables occurring near the wall region, the flow parameters rapidly change near the boundary layer. To account for the wall effect, the wall function approach is used to simulate the flow near the wall. The standard wall functions (Launder and Spalding, 1974) give reasonable predictions for the majority of high Reynolds number wall bounded flows. However, non-equilibrium wall functions further extend the applicability of the wall function approach by including the effects of the pressure gradient as in complex flows which involve flow separation. Hence, the non-equilibrium wall function was used in the present study.

5.4 Results

With recent advances in computing techniques and numerical solution procedures, one seeks the CFD approach to solve open channel flow problems. In this study, a few simulations were carried out by using the software ANSYS Fluent to simulate the warped transition flow configuration [Table 5.1]. In this study, the x coordinate [Fig. 5.1] denotes the downstream direction, and the y-axis denotes the lateral direction. The z coordinate is the normal distance measured from the channel bottom. The earlier experimental velocity measurements related to flow in a warped transition are shown in Table 5.1.

Table 5.1. Configurations of warped transition and hydraulic conditions of flow experiments

Case	Number of vanes	Flowrate	Mean inlet velocity	Reynolds number	Froude number
		Q (m^3/s)	U_m (m/s)	R	F
A	0	0.022	0.487	1.08×10^5	0.32
B	1	0.020	0.433	1.00×10^5	0.30
C	3	0.020	0.449	0.99×10^5	0.30

Rectangular channel width (b): 0.2032 m
Trapezoidal channel base width (B): 0.3048 m

5.4.1 Warped Transition with No-vanes

As stated earlier, two different turbulence models (RSM and $RNG\ \ k-\varepsilon$) were used in the study. The simulation results based on these models for the warped transition are compared with the test data. The parameters selected include u/u_m which is the axial velocity u and the average velocity u_m at different sections [Fig. 5.1]. The results show that the velocity distribution is nearly uniform before entering the transition [x/L_2 = -0.11]. After entering the transition, the flow begins to accelerate on one side (right side for the observer looking downstream) leading to the separation of flow on the left wall at location x/L_2 = 1.07. The reattachment point (x/L_2 = 4.5) is located farther downstream on the downstream channel wall. The flow appears to recover at a location x/L_2 =5.26 [Fig. 5.3]. The predictions of the models are reasonably validated for the test data [Fig. 5.3].

The contours of the parameter denoting the sectorial addition of axial velocity (u) and the composite velocity (u, v) at specific flow depths are displayed in Fig. 5.4. It provides some details of the flow in the separation zone. Fig. 5.4 also indicates that the flow accelerates to the right of the center line of the expanding transition (red region) and the flow decelerates along the zone left of the center line (blue region). Near the channel bottom [z/Z = 0.47], the zone of separation appears to shrink. The separation zone is caused by both the change in alignment as well as the deceleration of the expanding flow. The details of determining of flow separation zone are provided in chapter 3. The geometry of the flow separation zone predicted by the CFD models are generally validated by the experimental data [Table 5.2]. The visual observations based on dye injection tests too confirmed the existence of flow separation on one side (left) only as predicted by the $RNG\ \ k-\varepsilon$ and the RSM models. The RSM also predicted a very tiny separation zone on the right side of the transition only near the free surface.

For the $RNG\ \ k-\varepsilon$ and RSM models, near the free surface, the length of flow separation x/L_2 and the width y/L_2 of flow separation are quite close to the values of the earlier test data. Flow separation was one sided and appeared to be bi-stable as observed in the tests reported by Kline **(**Fox et al., 2009, p. 711**)**. All details are shown in Table 5.2.

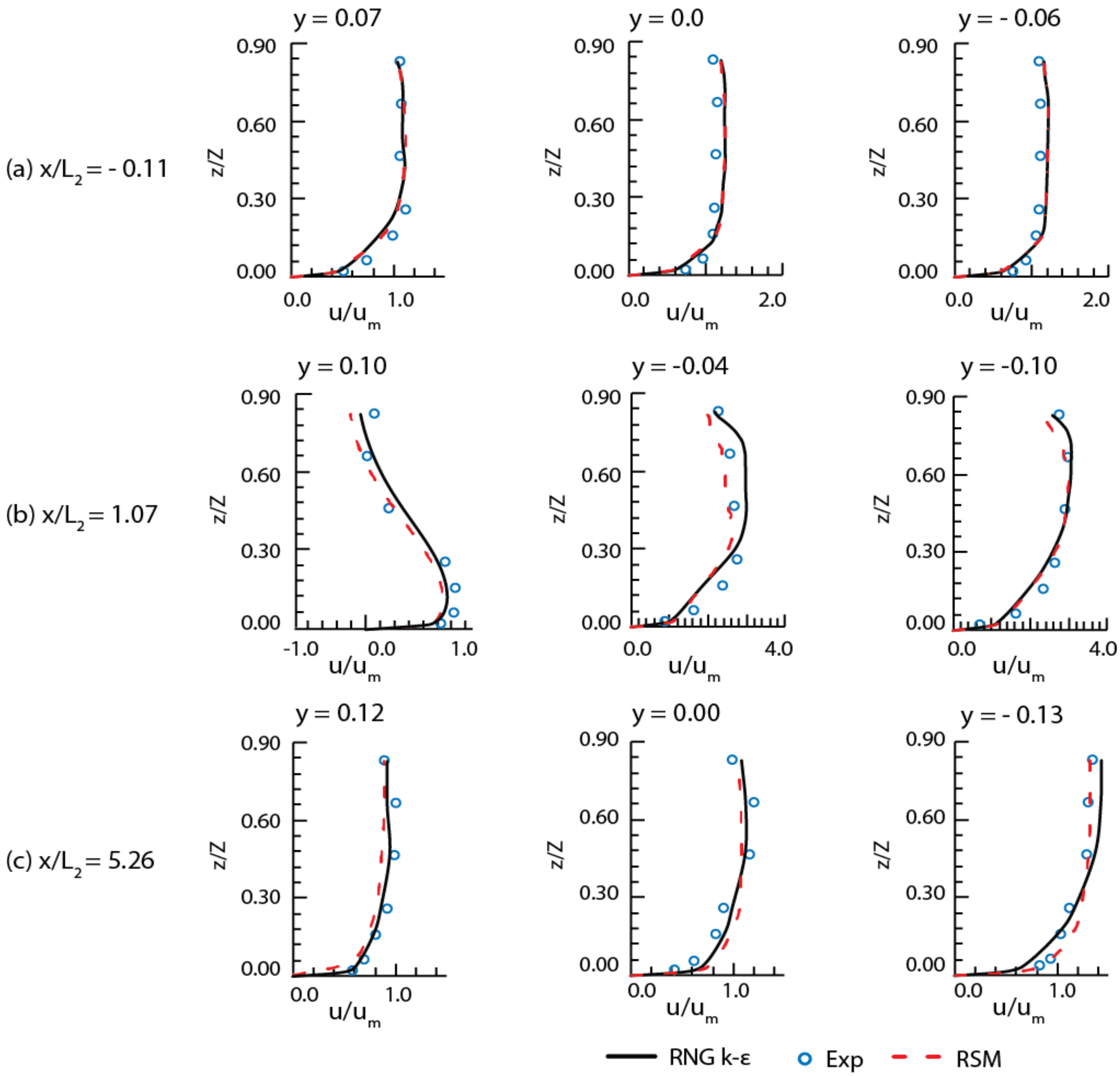


Fig. 5.3. Velocity distribution at various locations **(**measured and predicted data).

The turbulence kinetic energy (k) is characterized by measured root-mean-square (RMS) velocity fluctuations (Eq. 5.8).

$$k = \frac{1}{2}(\overline{u'^2} + \overline{v'^2} + \overline{w'^2}) \tag{5.8}$$

Here, u', v' and w' are the fluctuating velocity components in the streamwise, lateral and vertical direction respectively. Fig. 5 shows the distribution of k at two different flow depths. The value of k is higher in the flow circulation zone [Fig. 5.5]. Higher level of turbulence appears to occur in the vicinity of the separating streamline. The maximum value of k predicted by the RSM model [Figs. 5.5 (c) and 5.5(d)] are close to the earlier experimental results [Figs. 5.5(a) and 5.5(b)]. However, the $RNG\ \ k-\varepsilon$ model [Figs. 5.5 (e) and 5.5(f)] predictions of k are a little lower than the values noted in the tests.

Table 5.2. The normalized maximum length (NML) and normalized maximum width (NMW) of flow separation zones (FSZ) for warped transitions. The maximum length and width are normalized by the transition length L_2

Relative height above the bottom z/Z	No-vane						One-vane							
	Normalized maximum length of the FSZ			Normalized maximum width of the FSZ			Normalized maximum length of the FSZ				Normalized maximum width of the FSZ			
	Exp	RNG k-e	RSM	Exp	RNG k-e	RSM	Exp		RNG k-e		Exp		RNG k-e	
							Left	Right	Left	Right	Left	Right	Left	Right
0.83	3.88	4.50	4.02	0.47	0.48	0.50	1.96	2.00	1.80	2.60	0.25	0.26	0.22	0.25
0.66	2.25	3.80	3.00	0.36	0.29	0.35	0.92	0.93	1.29	1.95	0.17	0.18	0.12	0.16
0.47	1.9	3.20	2.60	0.31	0.23	0.24	0.67	0.69	0.81	1.0	0.08	0.09	0.06	0.07

Table 5.3. Comparison of velocity parameters based on experimental and numerical studies

Parameter	Experimental study			Present study			
	No-vane	One-vane	Three-vanes	No-vane		One-vane	Three-vanes
				RNG k-ε	RSM	RNG k-ε	RNG k-ε
Velocity coefficient α	6.24	3.79	2.16	6.46	6.16	4.62	3.71
Velocity ratio U_{max}/U_m	3.15	2.52	2.50	3.21	3.22	2.91	2.72
Outlet velocity coefficient K_t	0.27	0.15	0.12	0.35	0.35	0.18	0.16

A_i: *Transition inlet area (rectangular)*
A_o: *Transition outlet area (trapezoidal)*
$A_o/A_i = 3$

In the experimental study, one can determine the streamline pattern by tracing the envelope of the velocity vector plot at different flow depths. The dash lines in Fig. 5.6 denote the trace of the separating streamlines *SR* noted in the experimental study. The model predictions of trace of the separating streamlines *SR* are validated by the test data.

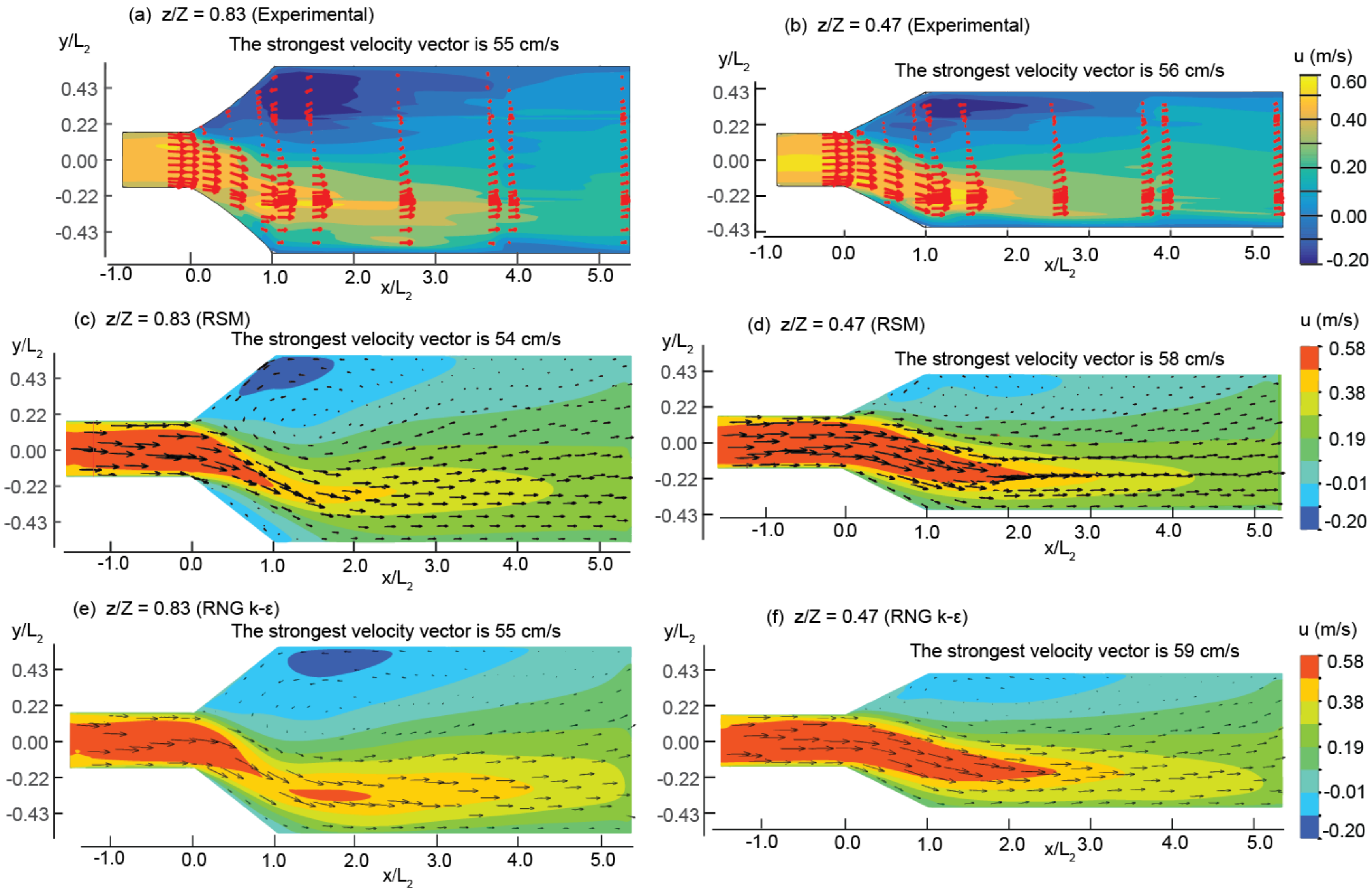


Fig. 5.4. Contours of the time-averaged along the longitudinal velocity magnitude at two selected heights [(a) z/Z =0.83 and (b) =z/Z = 0.47] above the channel bottom, where velocity vectors (u, v) are superimposed.

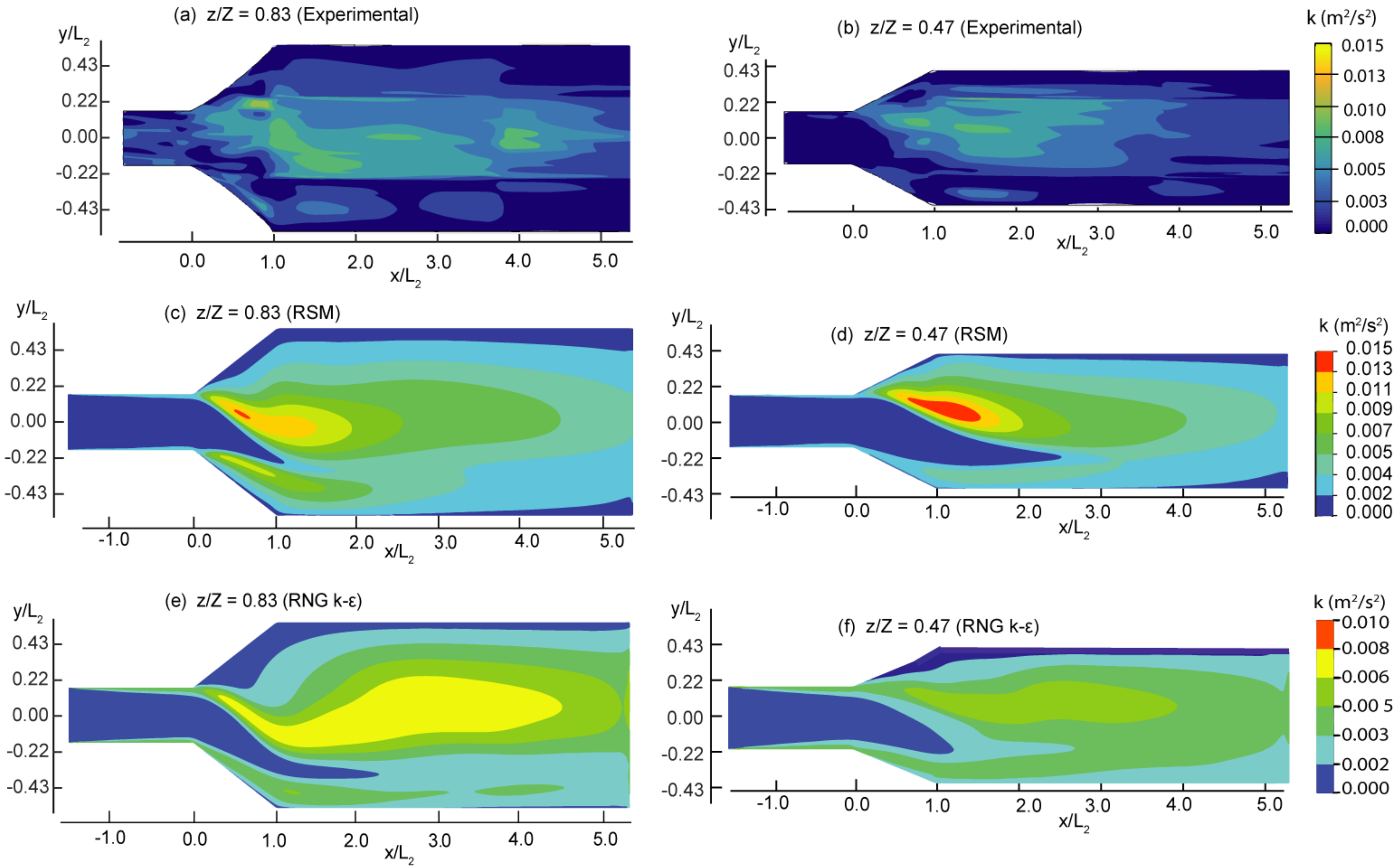


Fig. 5.5. Contours of the turbulent kinetic energy (*k*) at two selected heights [(a) z/Z = 0.83 and (b) = 0.47] above the channel bottom.

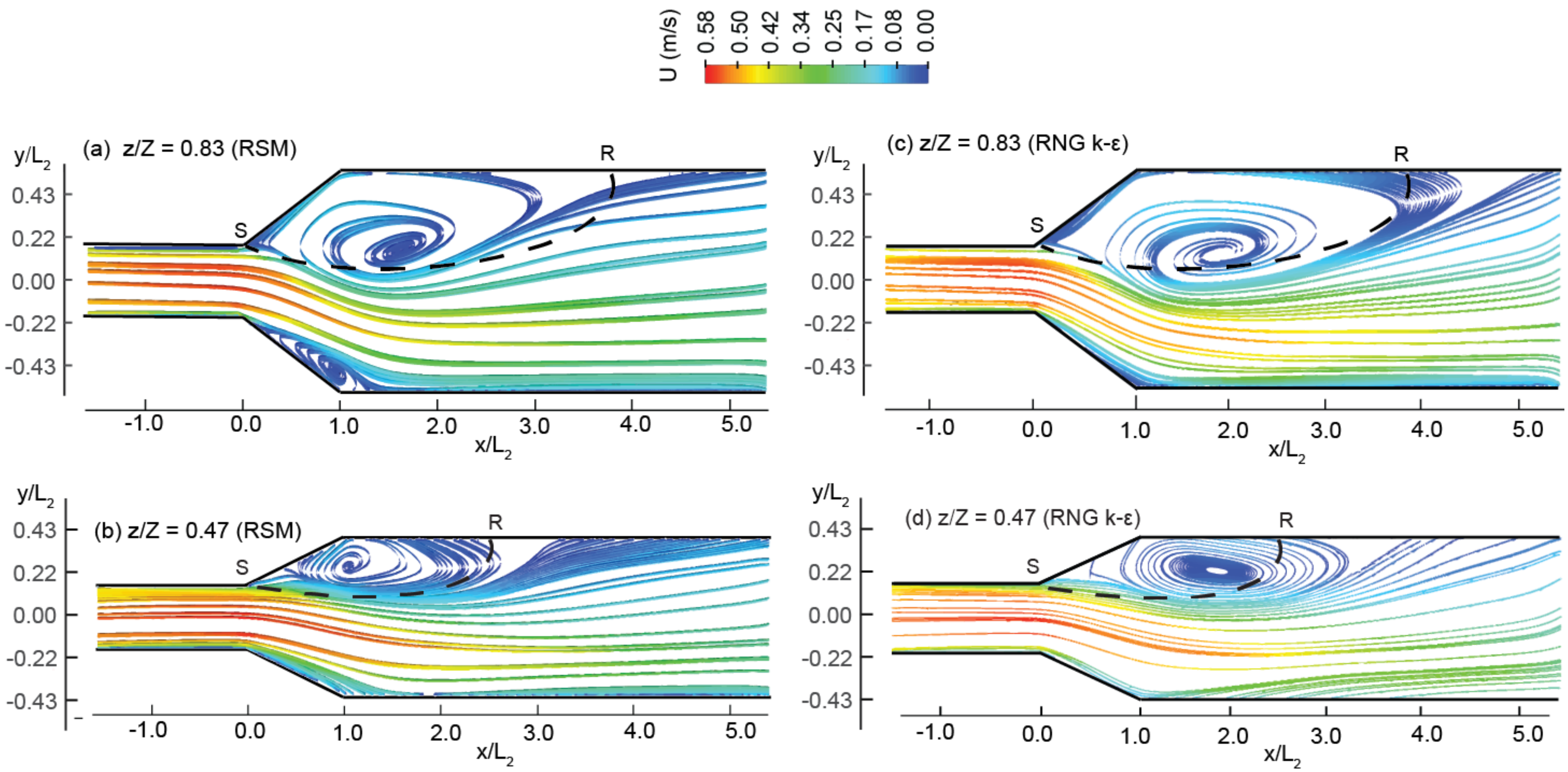


Fig. 5.6. Streamlines at two selected heights [(a) z/Z = 0.83 and (b) = 0.47] above the channel bottom.

5.4.2 Warped Transitions with One-vane

For the warped transition with one-vane, Fig. 5.7 shows that both the predicted and the measured velocity profiles across the cross-section at different locations. The results show that velocity distribution is nearly uniform in an upstream channel. After entering the transition flow begins to decelerate both sides near the wall and accelerated flow near the vane. The flow seems to recover at location $x/L_2 = 6.88$. The model predictions are reasonably validated for the test data [Fig. 5.7].

The one-vane system [Fig. 5.8] is associated with two zones of separation. For the one-vane system, Figs. 5.8(c) and 5.8(d) show the contours of the parameter denoting the superposition of vector *u* and the composite vector *u, v*. The presence of the vane appears to shrink the size of the recirculation zone. At the outlet of the transition [$x/L_2 = 1.1$], one notices a core flow with a high velocity [Fig. 5.8] and the flow is essentially symmetric. At cross-section $x/L_2 = 2.5$ [Fig. 5.8 (a)], the reverse flow is no longer present. The velocity field appears to have recovered at the downstream location where $x/L_2 = 6.88$. Comparing the model data with the test data, one notes good agreement for the maximum length (x/L_2) and maximum width (y/L_2) of the flow separation zone (Table 5.2). The area of the zone of separation appears to get reduced at a lower depth [Fig. 5.8]. The reduce area of flow separation appears to reduce the energy loss.

Figs. 5.9(a-d) show the distribution of *k* at the two different flow depths ($z/Z = 0.83$ and 0.47) for the one-vane system based on experimental and numerical studies. These sketches indicate that turbulent kinetic energy *k* is higher in the two recirculation zones. One notes that the presence of the central vane in the transition reduces the turbulence level in the zone of separation as it reduces the angle of flow expansion [Fig. 5.9]. For the one-vane system [Figs. 5.9(c) and 5.9(d)], the high intensity of turbulent kinetic energy is confined to a short downstream region of the transition.

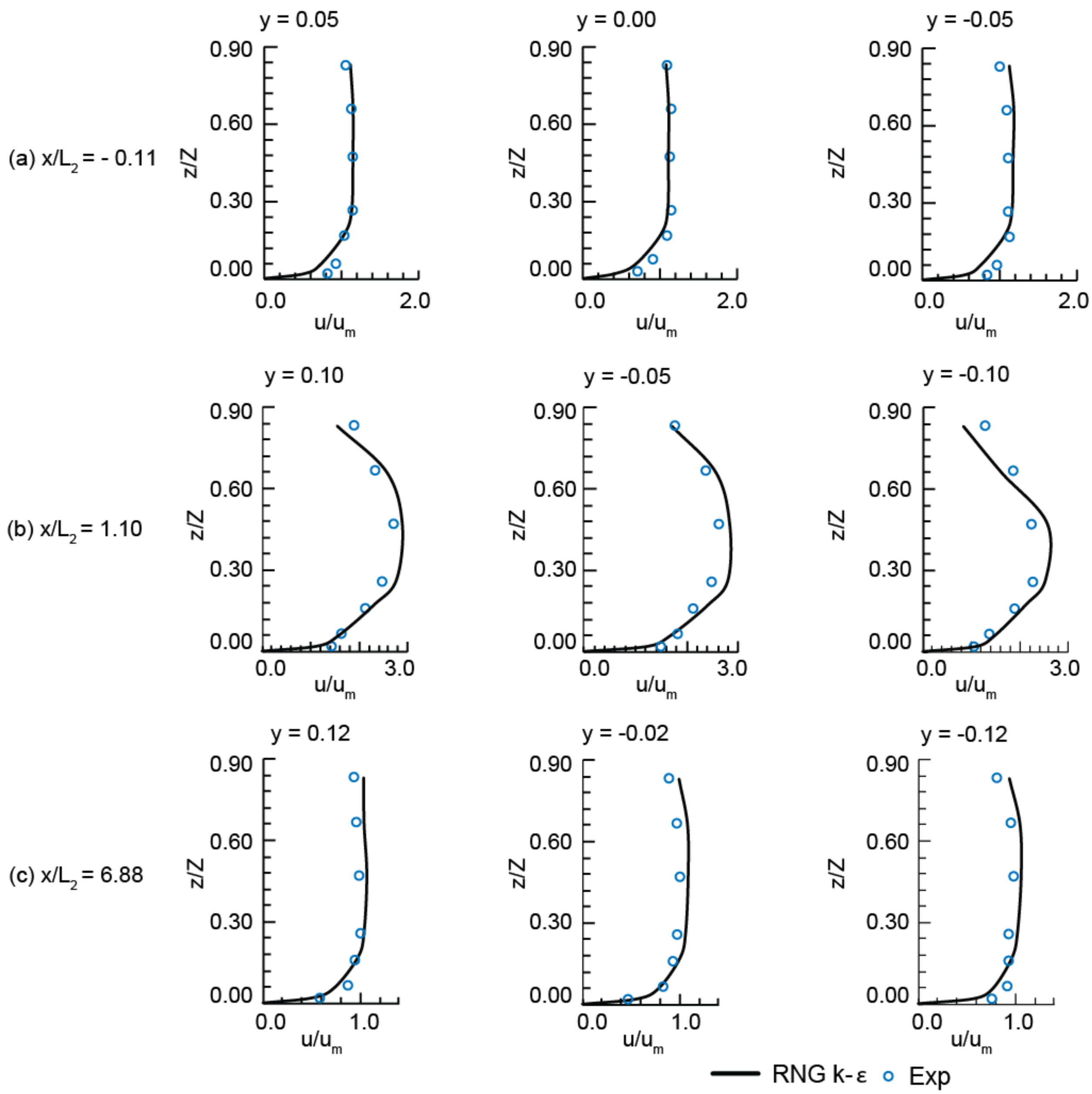


Fig. 5.7. Velocity distribution in warped transition with one-vane.

For the one-vane system, the streamlines configuration in the transition is shown in Figs. 5.10(a) and 5.10(b). The secondary current strength is also shown in this sketch. In the one-vane system, the streamline pattern indicates the flow displaces considerable symmetry. As the flow continues in the downstream direction, progressively the magnitude of the secondary current strength diminishes. As one moves to lower depths, there is a considerable decease in the secondary current [Figs. 5.10 (a) and 5.10(b)]. The direction of rotation of the secondary flow near the side wall of the boundary adds either to the stability or instability of the particles on the side wall.

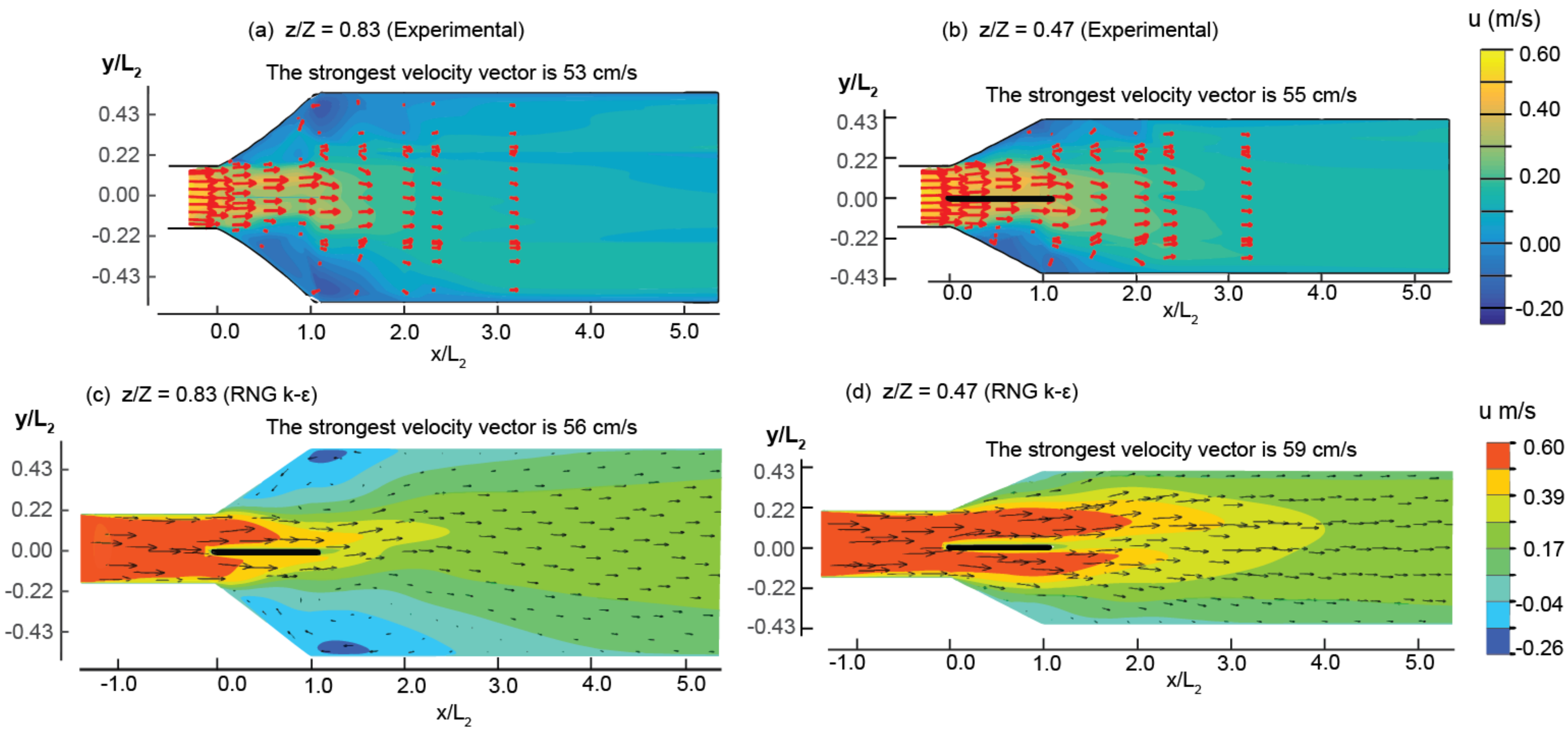


Fig. 5.8. Contours of the time-averaged along the longitudinal velocity magnitude at two selected heights [(a) z/Z =0.83 and (b) =z/Z = 0.47] above the channel bottom, where velocity vectors (u, v) are superimposed.

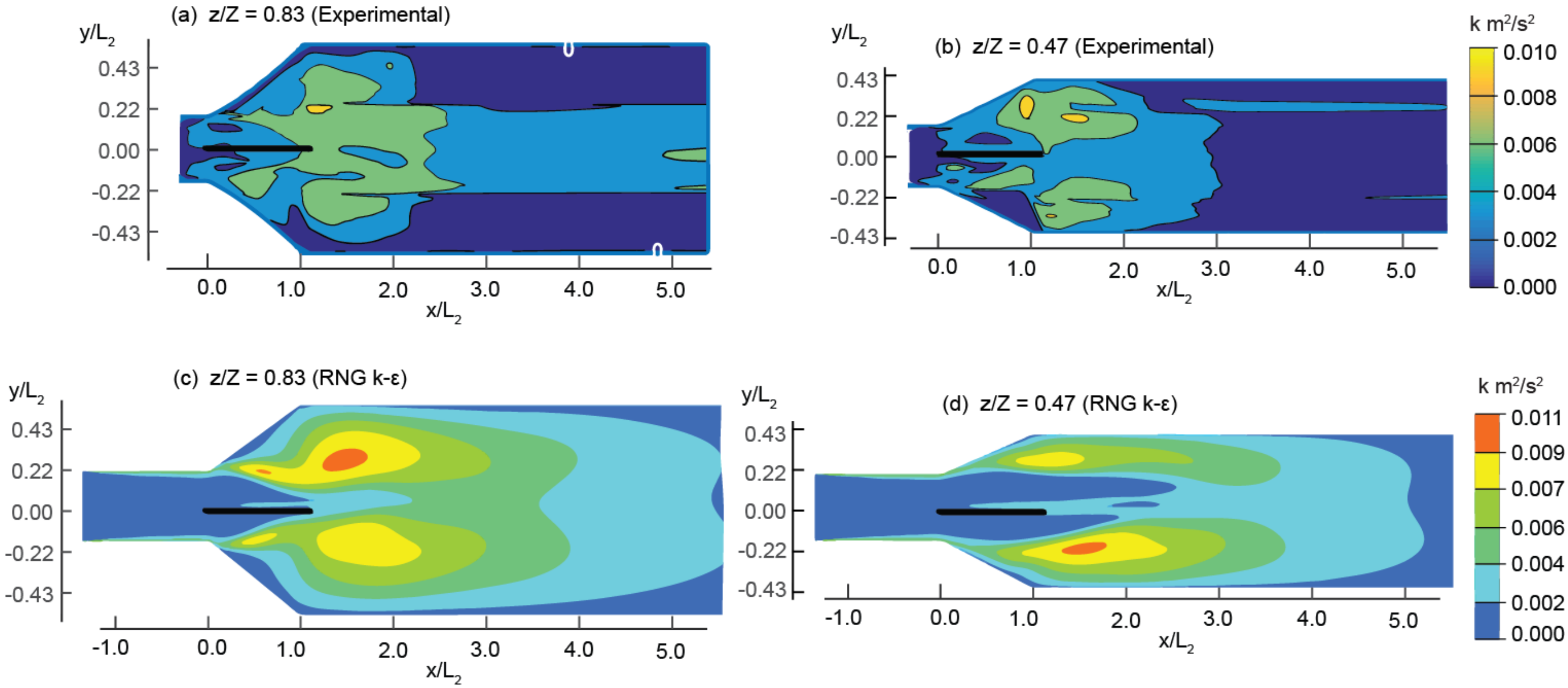


Fig. 5.9. Contours of the turbulent kinetic energy (*k*) at two selected heights [(a) z/Z = 0.83 and (b) = 0.47] above the channel bottom.

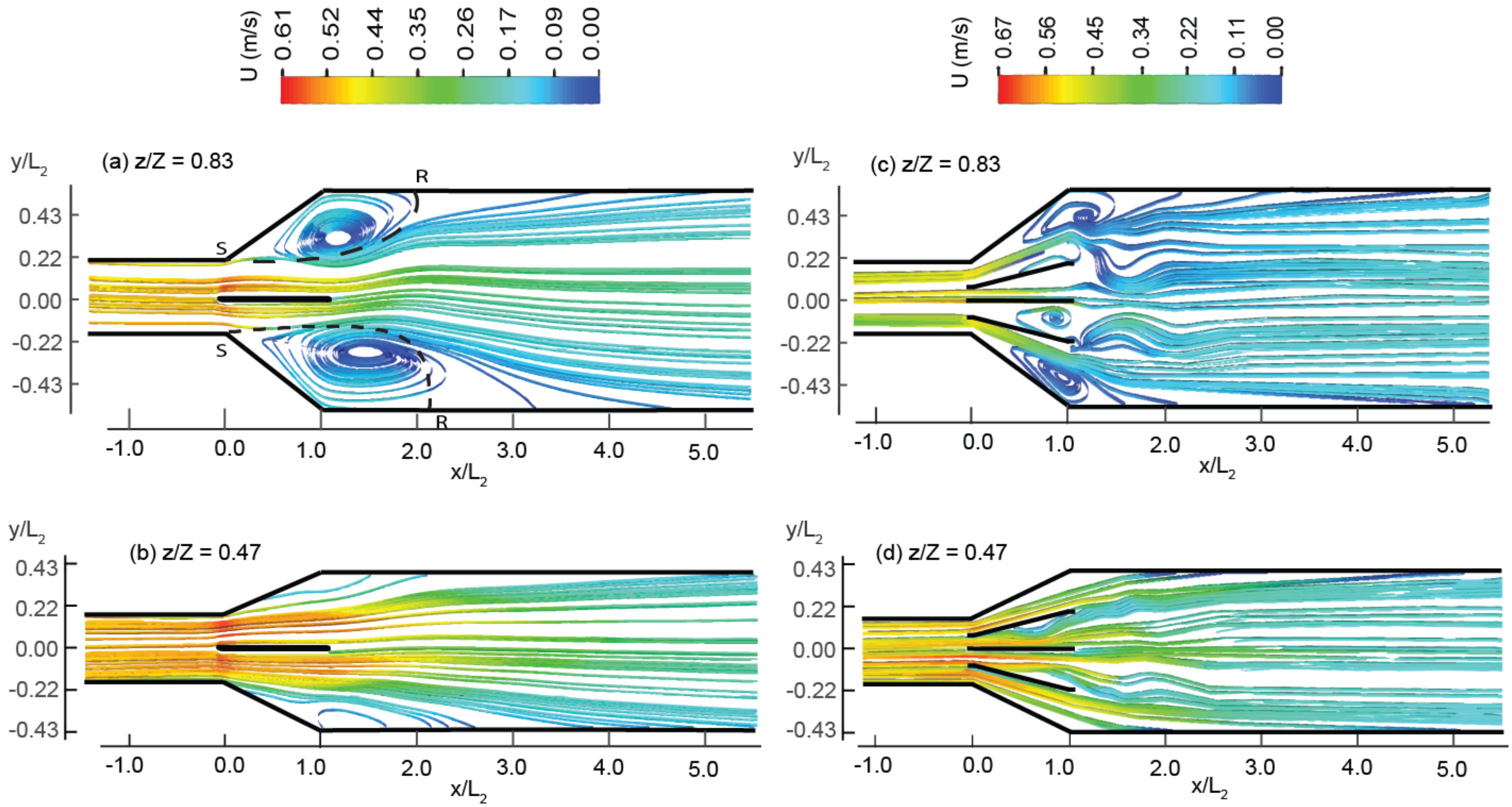


Fig. 5.10. Streamlines at selected heights [z/Z = 0.83 and z/Z = 0.47] above the channel bottom for one-vane [(a) and (b)] and three-vanes [(c) and (d)] system.

5.4.3 Warped Transition with Three-vanes

Figs. 5.11(a-c) show the flow velocity profiles provided by the experimental and numerical studies. In the approach channel (x/L_2 = -0.11), flow is nearly uniform [Fig. 5.11(a)]. At the transition exit (x/L_2 = 1.10), the velocity distribution indicates that the flow has not recovered. However, at a short distance (x/L_2 = 5.33), the flow appears to have nearly recovered. Compared to the transitions with the vanes [Figs.5. 7(c) and 5.11(c)], the velocity distribution in the no-vanes case is slightly less uniform across the cross-section considered [Fig. 5.3(c)]. This is reflected in the higher energy loss for the no-vane case [Fig. 5.3(c)]. The results of test data related to velocity distribution generally validates the predictions of the CFD model [Fig. 5.3, Fig. 5.7 and Fig. 5.11].

For the three-vane system, Fig. 5.12 shows contours of the longitudinal velocity with the overlay of (u, v) vectors. Compared to other two systems (no-vane and one-vane), the three-vane system is more effective in suppressing flow separation, as noticed by the smaller separation zone in the transition. At z/Z 0.83, the flow separation was both sides and the normalized maximum length of separation were 0.65 and 0.35 at the outlet of the transition. Similarly, the maximum width of separation was 0.31 and 0.17, respectively. Further, the flow too is more uniform than in the other two systems [Fig. 5.4, Fig. 5.8 and Fig. 5.12]. The three-vane system being an efficient transition requires less protection of the boundary (lining) of the downstream earth channel.

The contours of the turbulent kinetic energy k for the three-vane system indicate that the k value [Fig. 5.13] goes back to its level in the approach channel in a shorter downstream distance ($x/L_2 \approx 4$) compare to the one-vane system [Fig. 5.9]. For the three-vane system, streamlines configuration is shown in Figs. 5.10(c) and 5.10(d). The streamlines pattern shows that flow separation appears considerable symmetry pattern and magnitude of the secondary current strength gradually reduces.

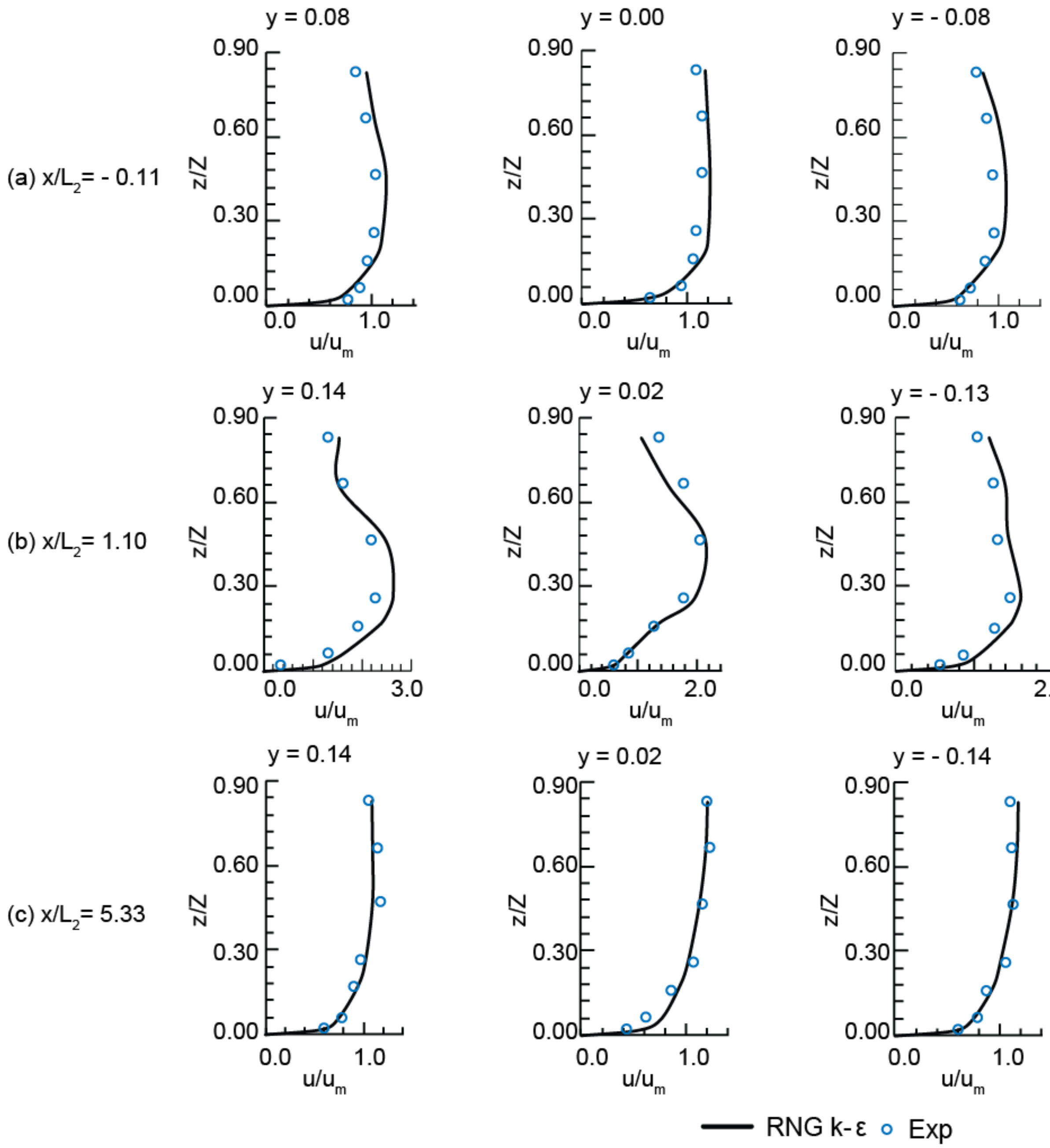


Fig. 5.11. Velocity distribution in warped transition with three-vanes.

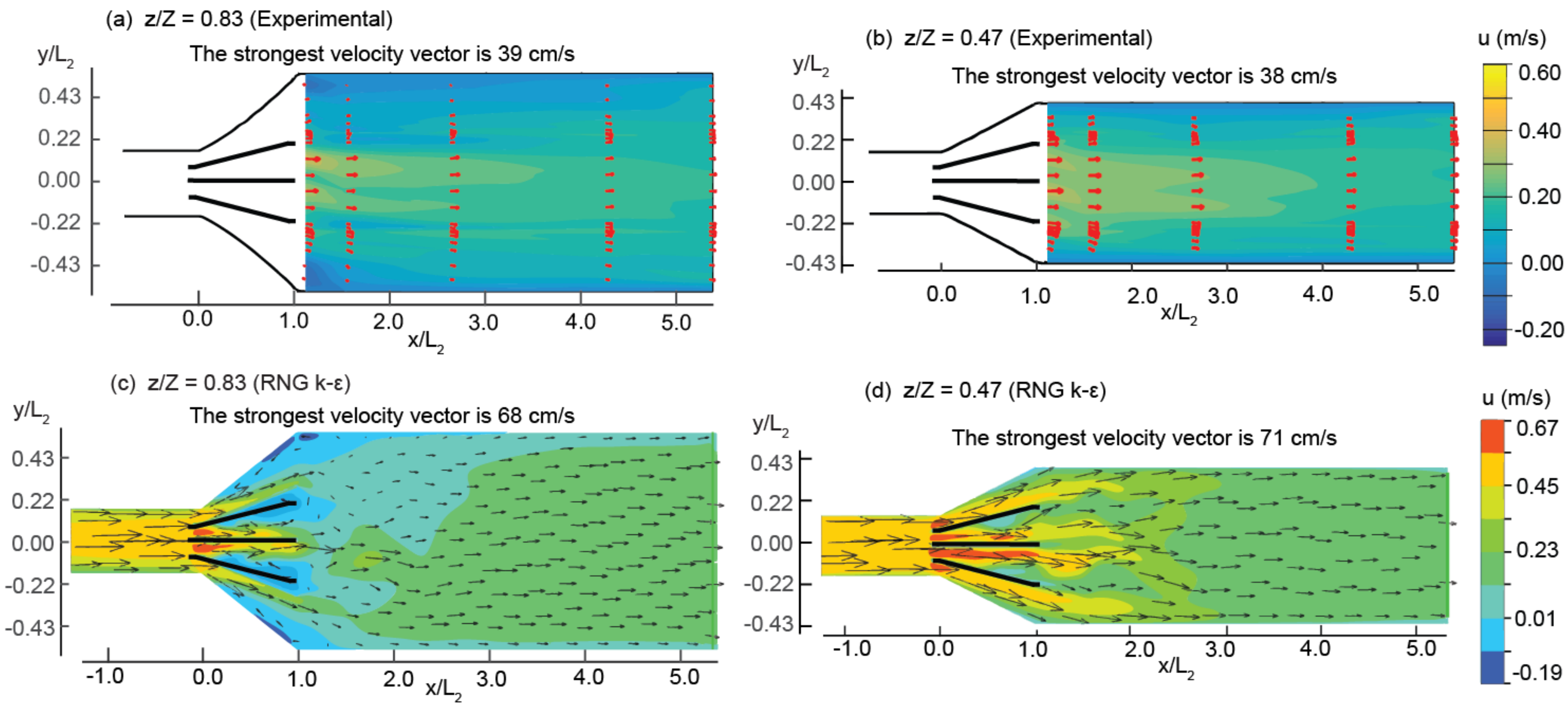


Fig. 5.12. Contours of the time-averaged along the longitudinal velocity magnitude at two selected heights [(a) z/Z =0.83 and (b) =z/Z = 0.47] above the channel bottom, where velocity vectors (u, v) are superimposed.

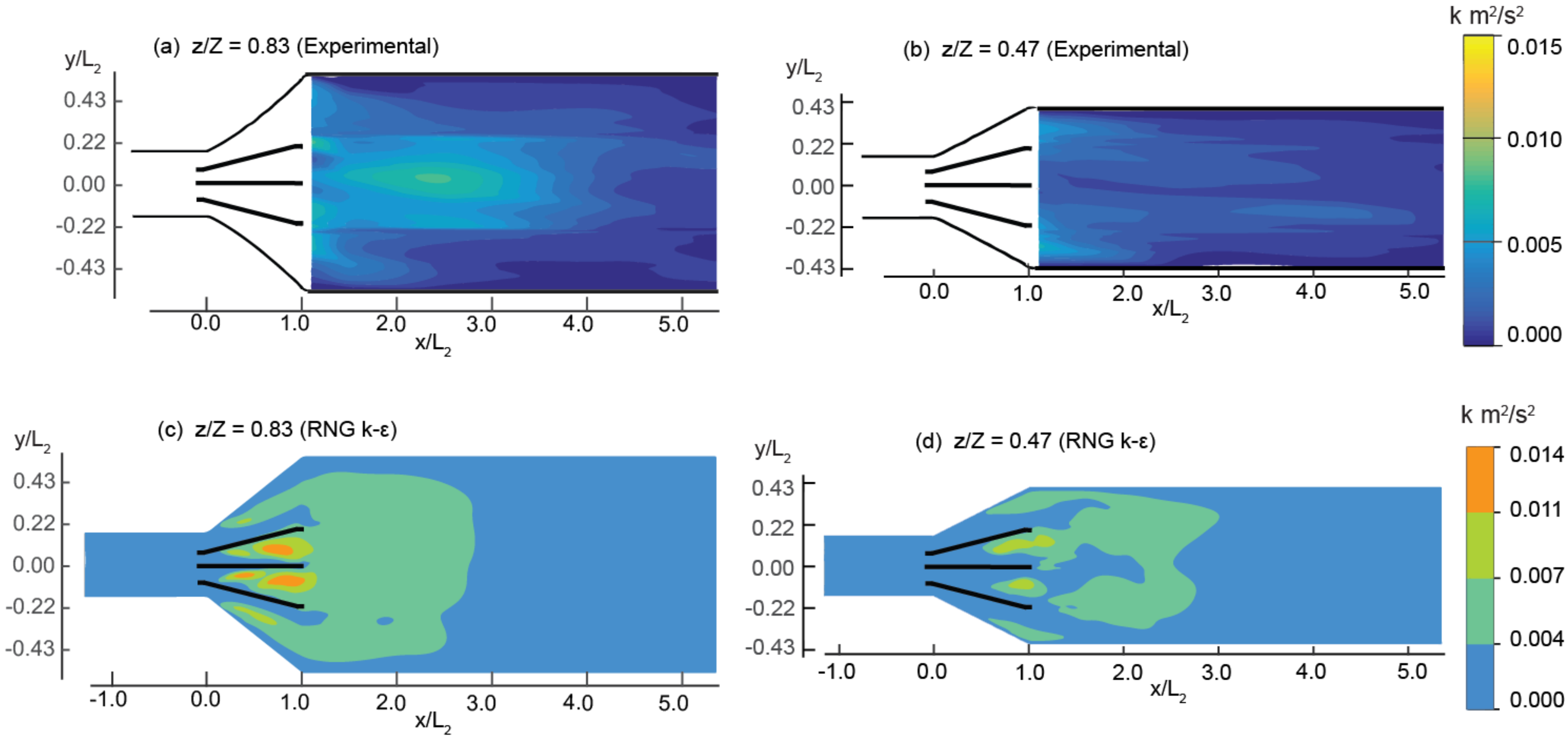


Fig. 5.13. Contours of the turbulent kinetic energy (*k*) at two selected heights [(a) z/Z = 0.83 and (b) = 0.47] above the channel bottom.

5.4.4 Other Flow Characteristics of Transitions

The head loss in the transition is a key parameter, directly linked to the severity of the flow separation in the transition. Therefore, higher head losses reduce the command of the farm land served by the irrigation networks. The non-uniformity flow and higher values of maximum velocity indicate larger potential boundary erosion of earth channels of the irrigation network.

The head loss coefficient (K_t) depends on both the boundary friction and the loss due to turbulence associated with flow separation. Insert the vanes in the channel transition decreases the flow divergence angle but increases the boundary area and the wall shear stress. Hence, the gain in the total head for the three-vane case is only marginal, since there is an increase in the friction head loss caused by the increased vane area. In this context, one notes the observation of Morris and Wiggert (1972) who rightly indicate that boundary friction losses are just as significant as form losses in gradually varying open channel transitions. According to them, the head loss in the transition (Δh_L) can be expressed in terms of the velocity head at the inlet and outlet (Eq. 5.9). Thus,

$$\Delta h_L = K_t \left(\frac{V_2^2 - V_1^2}{2g} \right) \qquad (5.9)$$

Here, K_t = head loss coefficient and the velocity at the transition inlet and outlet are V_2 and V_1. The coefficient (Δh_L) depends on the loss due to boundary friction as well as form loss associated with flow separation caused by flow divergence.

Experimental data (chapter 3) reported that the head loss coefficient K_t for the warped expanding transition with no-vanes was 0.27. Similarly, for the one-vane and three-vane systems, the value of K_t predicted was 0.15 and 0.12 (Table 5.3). In the present numerical study, K_t for the no-vane, one-vane and three-vane systems were predicted to be 0.35, 0.18 and 0.16 respectively (Table 5.3).

The dimensionless maximum velocity (u_{max}/u_m) indicates a measure of the of the boundary erosion potential. Earlier experiment indicated that this ratio was 3.15, 2.52 and 2.50 respectively, for the transitions with no-vane, one-vane and three-vane cases. The corresponding values of this ratio was predicted by the numerical model were respectively were 3.22, 2.91 and 2.72 for the transition with no-vane, one-vane and three-vane cases (Table 5.3).

5.5 Conclusions

This study analyzed the effect of vanes on the flow characteristics of an open channel warped transition. To simulate the complex flow features of the open channel flow such as flow separation, secondary flow, and head loss, a RNG k-ε model and a RSM model were adopted with a VOF method. Among other tested turbulence models, RSM model provided the closest agreement with the experimental data but predicted a very tiny separation zone on the right side of the transition.

The results show that the vanes can improve the flow characteristics in the transition and in the downstream trapezoidal channel. The presence of the vanes renders the flow distribution to be more uniform and reduce the extent of flow separation and thereby limit head losses. Conservation of energy enhances the command of the form land linked to the irrigation channel network. Due to the presence of vanes in the transition, the strength of the secondary flow also gets reduced. These help to diminish the erosion potential of flow in the downstream earth channel.

6. CONCLUSION AND SCOPE OF FURTHER STUDIES

6.1 Conclusion

The use of several flexible thin strips of polycarbonate sheets permits one to fabricate a lab model of warped and wedge transitions which has a three-dimensional surface. 3-D velocity data obtained from the non-intrusive laboratory measurement revealed the detailed flow characteristics in warped and wedge transitions that are required in field installations. The present study also includes the effects of various design changes such as the use of vanes in warped transitions. Further, the performance of wedge and modified wedge indicated that they are simple to construct in the lab and field and are quite efficient in their performance with regards to the nature of exit flow at the end of the transition and the conservation of energy.

Compared to the experiment without vanes in the warped transition, experiments with one vane in the transition indicated that the flow disturbances persist for shorter distances from the exit of the transition in the downstream channel. Further, the main flow re-establishes itself in a shorter reach. For the three vanes system, the extent of the flow separation zone is significantly reduced. This improves the transition performance in terms of energy efficiency. Also, the vanes enabled the expanding flow to retain a more uniform flow distribution at the transition exit and thereby permit a faster recovery of fully developed flow in the downstream trapezoidal channel. This permits low intensity secondary flow and turbulence intensity in the downstream trapezoidal earth channel and reduces the scouring potential.

The tests result indicated that the three-vane system was the most efficient transition for which the energy loss was comparatively low. In general, for the transition with vanes, the desirable characteristics such as flow uniformity, reduction of secondary flow intensity as well as reduction of maximum axial velocity were achieved in a short reach of the downstream channel. Quantitatively, the three-vane system provided a gain of 2.0 mm energy compared to the no vane system. In field channels, which are generally 40 to 100 times larger in irrigation networks, the gain in energy corresponding to the laboratory models is 0.80 m to 2.0 m. Therefore, the reduction of losses in field warped transitions with vanes will be very significant. In irrigation networks, the channel slopes are generally very mild and hence small gains in conserving energy lead to significant augmentation of command area. The improvements of the flow characteristics in vane systems can be traced to the effective reduction of flow separation and hence the energy loss.

The value of the exit angle θ for the warped transition (with vanes) was 24.6° and the maximum velocity U_{max}/U_m ratio at the transition exit was 3.15, 2.52 and 2.50 for no vane, one vane and three vane systems. For the earlier tests on warped transition with vanes reported by Ippen (1949) the exit angle θ was 12.5° and the corresponding maximum velocity ratio was 2.50 and 1.10 for no vane and four vane systems. For warped transitions (with and without vanes) system, results provide the detail information about the flow behavior in terms of energy loss, flow separation, secondary flow intensity, turbulence kinetic energy, loss coefficient and velocity coefficient. This data bank will be considerable used for field engineer dealing with irrigation networks. The experimental data validated the numerical model that was developed as part of the study. The experimental results related to flow separation, turbulent kinetic energy, maximum velocity ratio, velocity coefficient and head loss coefficient validated the model prediction.

The wedge transition is a relatively simple structure as it is easy to construct in the lab and in the field. The use of a short-curved strip along the diagonal of the wedge shape side wall improved the performance of the wedge transition. For instance, the head loss coefficient K= 0.32 for modified wedge transition which is comparable to the value of K= 0.41 for a warped transition. Compare to the flow behavior in terms of uniformity of velocity distribution at the transition exit, the performance of both modified wedge transition and the warped transition was nearly similar. The value of the maximum velocity U_{max}/U_m ratio at the transition exit was 3.28 and 3.11 for the wedge and the modified wedge systems respectively. Slight change in the geometry of the wedge transition provided by the thin strips sheet along the diagonal was reduced the head loss coefficient K from 0.41 to 0.32. This improvement of K can be traced to the effect of strip which prevented the abrupt change the flow direction at the diagonal section of the side wall.

The 3-D model tested was successful in quantifying the effects of vanes in warped transitions. To simulate the complex flow in the warped transition, RNG k-ε and RSM models were adopted, after the assessment of results related to modelling based on different turbulence models. The predicted flow separation and head loss coefficient from the models showed a good agreement with the measured test data. Also, among other tested turbulence models, RNG k-ε and RSM model provided the closest agreement with the experimental data, with only slight discrepancies in the flow separation zone and turbulent kinetic energy.

6.2 Suggestions for Future Research

It would be interesting to extend this study in the following directions:

- Conduct field-scale investigations involving erodible earth channels at downstream in order to determine the scouring potential of the flow.

- Besides vanes in the transition, use other types of appurtenances in the transition to allow for a comparison of their effectiveness and efficiency.
- Investigate the scale effects of warped and wedge transitions on flow behaviour.
- Validate and use computational fluid dynamics models to predict the flow behaviour under a wide range of approach flow and structural conditions, give the high costs of laboratory experiments.

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APPENDIX A. LDA EXPERIMENTAL DATA

Table A.1 Flow field data for the warped transition (Q= 0.0226 m^3/s)

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
-0.5000	0.0953	0.0050	0.3043	-0.0178	0.0065	0.0155	0.0187	0.0234
-0.5000	0.0826	0.0050	0.2956	-0.0158	0.0008	0.0718	0.0199	0.0201
-0.5000	0.0699	0.0050	0.3954	-0.0132	-0.0060	0.0829	0.0267	0.0203
-0.5000	0.0445	0.0050	0.3759	-0.0025	0.0040	0.0610	0.0271	0.0154
-0.5000	0.0191	0.0050	0.3198	0.0047	0.0059	0.0393	0.0307	0.0078
-0.5000	-0.0064	0.0050	0.3717	-0.0004	0.0273	0.0998	0.0305	0.0251
-0.5000	-0.0318	0.0050	0.3296	0.0071	0.0281	0.0142	0.0307	0.0256
-0.5000	-0.0572	0.0050	0.3472	0.0033	0.0361	0.0110	0.0308	0.0190
-0.5000	-0.0826	0.0050	0.2514	0.0082	0.0400	0.0177	0.0257	0.0209
-0.5000	-0.0953	0.0050	0.3373	0.0031	0.0316	0.0536	0.0241	0.0206
-0.1650	0.0953	0.0050	0.3443	-0.0149	0.0055	0.0605	0.0236	0.0236
-0.1650	0.0826	0.0050	0.4042	0.0006	0.0002	0.0395	0.0254	0.0209
-0.1650	0.0699	0.0050	0.3917	-0.0137	-0.0040	0.0749	0.0255	0.0211
-0.1650	0.0445	0.0050	0.3761	-0.0116	0.0019	0.0396	0.0269	0.0175
-0.1650	0.0191	0.0050	0.2762	-0.0037	0.0023	0.0770	0.0277	0.0189
-0.1650	-0.0064	0.0050	0.3911	0.0123	0.0212	0.0453	0.0290	0.0208
-0.1650	-0.0318	0.0050	0.1000	0.0303	0.0235	0.0643	0.0309	0.0334
-0.1650	-0.0572	0.0050	0.2439	0.0108	0.0396	0.0795	0.0316	0.0206
-0.1650	-0.0826	0.0050	0.3808	0.0073	0.0390	0.0658	0.0286	0.0205
-0.1650	-0.0953	0.0050	0.0004	0.0322	0.0351	0.0056	0.0259	0.0180
-0.0700	0.0953	0.0050	0.3618	0.0058	0.0059	0.0842	0.0281	0.0255
-0.0700	0.0826	0.0050	0.3710	0.0039	-0.0013	0.0123	0.0272	0.0227
-0.0700	0.0699	0.0050	0.3602	0.0014	-0.0027	0.0165	0.0280	0.0220
-0.0700	0.0445	0.0050	0.3970	-0.0070	0.0056	0.0348	0.0316	0.0180
-0.0700	0.0191	0.0050	0.3527	0.0092	0.0065	0.0806	0.0322	0.0193
-0.0700	-0.0064	0.0050	0.4111	-0.0204	0.0295	0.0523	0.0299	0.0206
-0.0700	-0.0318	0.0050	0.3331	-0.0247	0.0340	0.0158	0.0179	0.0204
-0.0700	-0.0572	0.0050	0.3933	-0.0234	0.0278	0.0383	0.0251	0.0213
-0.0700	-0.0826	0.0050	0.3671	-0.0187	0.0269	0.0790	0.0262	0.0225
-0.0700	-0.0953	0.0050	0.3202	0.0032	0.0243	0.0879	0.0247	0.0234
0.0940	0.0943	0.0050	0.3967	-0.0148	0.0141	0.0422	0.0423	0.0108
0.0940	0.0673	0.0050	0.3373	-0.0004	0.0250	0.0866	0.0266	0.0190
0.0940	0.0402	0.0050	0.3374	0.0001	0.0229	0.0774	0.0212	0.0184
0.0940	0.0131	0.0050	0.2933	-0.0159	0.0286	0.0954	0.0137	0.0124
0.0940	-0.0139	0.0050	0.3326	0.0003	0.0313	0.0910	0.0207	0.0109
0.0940	-0.0410	0.0050	0.1417	-0.0358	-0.0046	0.0961	0.0172	0.0254
0.0940	-0.0681	0.0050	0.2564	-0.0960	-0.0084	0.0750	0.0343	0.0139
0.0940	-0.0952	0.0050	0.1714	0.0012	0.0067	0.0609	0.0230	0.0272
0.2990	0.1275	0.0050	0.1960	-0.0130	-0.0130	0.0653	0.0197	0.0197
0.2990	0.1115	0.0050	0.2500	-0.0817	-0.0186	0.0568	0.0161	0.0637
0.2990	0.0796	0.0050	0.2604	-0.0843	-0.0147	0.0442	0.0499	0.0613
0.2990	0.0478	0.0050	0.3139	-0.0080	-0.0243	0.0472	0.0544	0.0602
0.2990	0.0159	0.0050	0.3206	0.0008	-0.0190	0.0654	0.0235	0.0567
0.2990	-0.0159	0.0050	0.2843	-0.0061	-0.0210	0.0724	0.0670	0.0607
0.2990	-0.0478	0.0050	0.3103	-0.0755	0.0190	0.0665	0.0507	0.0381
0.2990	-0.0796	0.0050	0.2008	-0.0969	-0.0113	0.0520	0.0380	0.0527
0.2990	-0.1115	0.0050	0.1467	-0.0260	-0.0113	0.0604	0.0582	0.0553

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
0.2990	-0.1275	0.0050	0.0271	-0.0086	-0.0086	0.0698	0.0592	0.0592
0.5300	0.1468	0.0050	0.2048	-0.0132	-0.0132	0.0974	0.0198	0.0198
0.5300	0.1304	0.0050	0.1050	-0.0852	0.0133	0.0890	0.0198	0.0255
0.5300	0.0932	0.0050	0.1186	-0.0788	0.0085	0.0680	0.0366	0.0331
0.5300	0.0559	0.0050	0.3578	-0.0845	0.0044	0.0843	0.0347	0.0381
0.5300	0.0186	0.0050	0.3684	-0.0420	0.0010	0.0735	0.0461	0.0468
0.5300	-0.0186	0.0050	0.3994	-0.0534	-0.0012	0.0744	0.0213	0.0535
0.5300	-0.0559	0.0050	0.3467	-0.0189	0.0040	0.0843	0.0337	0.0536
0.5300	-0.0931	0.0050	0.1847	0.0061	-0.0156	0.0919	0.0134	0.0657
0.5300	-0.1304	0.0050	0.1308	-0.0099	-0.0056	0.0789	0.0231	0.0642
0.5300	-0.1468	0.0050	0.0011	0.0001	0.0001	0.0098	0.0047	0.0047
0.6500	0.1534	0.0050	0.3077	0.0158	0.0158	0.0436	0.0277	0.0277
0.6500	0.1467	0.0050	0.2983	0.0100	0.0126	0.0497	0.0164	0.0247
0.6500	0.1371	0.0050	0.0012	0.0001	0.0059	0.0233	0.0018	0.0293
0.6500	0.1226	0.0050	0.0231	0.0204	0.0054	0.0862	0.0171	0.0345
0.6500	0.0908	0.0050	0.3818	0.0028	-0.0051	0.0757	0.0097	0.0414
0.6500	0.0589	0.0050	0.0504	0.0177	-0.0162	0.1346	0.0205	0.0464
0.6500	0.0271	0.0050	0.0115	0.0031	0.0412	0.0623	0.0109	-0.0096
0.6500	-0.0048	0.0050	0.3113	0.0079	-0.0464	0.1539	0.0200	0.0527
0.6500	-0.0366	0.0050	0.2791	0.0001	-0.0055	0.0965	0.0023	0.0653
0.6500	-0.0685	0.0050	0.2987	-0.0021	-0.0270	0.0937	0.0299	0.0626
0.6500	-0.1003	0.0050	0.1578	0.0004	-0.0126	0.1044	0.0103	0.0676
0.6500	-0.1322	0.0050	0.0591	-0.0118	-0.0265	0.0831	0.0261	0.0622
0.6500	-0.1467	0.0050	0.0786	-0.0022	-0.0207	0.0915	0.0197	0.0603
0.6500	-0.1534	0.0050	0.0332	0.0064	0.0064	0.0633	0.0574	0.0574
0.9096	0.1534	0.0050	0.3894	0.0108	0.0108	0.0738	0.0287	0.0287
0.9096	0.1467	0.0050	0.2764	0.0002	-0.0193	0.1286	0.0022	0.0443
0.9096	0.1371	0.0050	0.3364	0.0001	0.0118	0.0726	0.0026	0.0497
0.9096	0.1226	0.0050	0.3152	0.0000	0.0004	0.0949	0.0030	0.0403
0.9096	0.0908	0.0050	0.3351	0.0005	0.0105	0.1039	0.0055	0.0422
0.9096	0.0589	0.0050	0.3583	0.0040	-0.0117	0.0950	0.0163	0.0543
0.9096	0.0271	0.0050	0.2171	-0.0006	-0.0243	0.0966	0.0259	0.0428
0.9096	-0.0048	0.0050	0.2791	-0.0136	-0.0255	0.1139	0.0287	0.0511
0.9096	-0.0366	0.0050	0.2565	-0.0056	-0.0271	0.1064	0.0166	0.0668
0.9096	-0.0685	0.0050	0.1105	-0.0091	-0.0171	0.1123	0.0296	0.0603
0.9096	-0.1003	0.0050	0.1056	0.0000	-0.0143	0.0907	0.0020	0.0573
0.9096	-0.1322	0.0050	0.0653	-0.0012	-0.0257	0.0744	0.0100	0.0629
0.9096	-0.1467	0.0050	0.0727	0.0002	-0.0002	0.0662	0.0028	0.0443
0.9096	-0.1534	0.0050	0.0316	0.0037	0.0037	0.0866	0.0365	0.0365
1.5596	0.1534	0.0050	0.1383	-0.0149	-0.0149	0.0404	0.0279	0.0279
1.5596	0.1467	0.0050	0.0060	0.0063	0.0280	0.0314	0.0525	0.0280
1.5596	0.1371	0.0050	0.2552	-0.0068	0.0219	0.0731	0.0579	0.0219
1.5596	0.1226	0.0050	0.2529	0.0127	0.0269	0.0733	0.0464	0.0269
1.5596	0.0908	0.0050	0.2047	0.0311	0.0332	0.0500	0.0658	0.0332
1.5596	0.0589	0.0050	0.2051	0.0043	0.0440	0.0733	0.0683	0.0440
1.5596	0.0271	0.0050	0.1066	0.0000	0.0222	0.1138	0.0051	0.0222
1.5596	-0.0048	0.0050	0.1695	0.0137	-0.0067	0.0815	0.0659	0.0262
1.5596	-0.0366	0.0050	0.1164	0.0235	-0.0161	0.0657	0.0602	0.0533
1.5596	-0.0685	0.0050	0.1221	0.0074	0.0188	0.0883	0.0676	0.0615
1.5596	-0.1003	0.0050	0.0865	0.0488	0.0047	0.0746	0.0674	0.0575
1.5596	-0.1322	0.0050	0.0202	-0.0348	0.0086	0.0620	0.0644	0.0510
1.5596	-0.1467	0.0050	0.0215	0.0008	0.0036	0.0742	0.0350	0.0486
1.5596	-0.1534	0.0050	0.0245	0.0242	0.0242	0.0535	0.0258	0.0258
2.2196	0.1534	0.0050	0.1364	-0.0044	-0.0044	0.0329	0.0300	0.0300

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
2.2196	0.1467	0.0050	0.0988	-0.0150	0.0280	0.0891	0.0402	0.0280
2.2196	0.1371	0.0050	0.1813	0.0154	0.0226	0.0573	0.0358	0.0226
2.2196	0.1226	0.0050	0.1740	0.0023	0.0276	0.0462	0.0421	0.0276
2.2196	0.0908	0.0050	0.1352	0.0279	0.0378	0.0461	0.0427	0.0378
2.2196	0.0589	0.0050	0.1289	-0.0155	0.0354	0.0624	0.0521	0.0354
2.2196	0.0271	0.0050	0.1354	-0.0038	0.0474	0.0594	0.0486	0.0474
2.2196	-0.0048	0.0050	0.1261	-0.0055	0.0006	0.0570	0.0586	0.0006
2.2196	-0.0366	0.0050	0.0773	-0.0165	0.0406	0.0636	0.0716	0.0406
2.2196	-0.0685	0.0050	0.0692	-0.0008	0.0368	0.0613	0.0121	0.0368
2.2196	-0.1003	0.0050	0.0883	0.0064	0.0393	0.0852	0.0468	0.0393
2.2196	-0.1322	0.0050	0.0458	-0.0070	0.0383	0.0436	0.0432	0.0383
2.2196	-0.1467	0.0050	0.0367	-0.0183	0.0376	0.0538	0.0368	0.0376
2.2196	-0.1534	0.0050	0.0139	-0.0190	-0.0190	0.0671	0.0379	0.0379
2.3696	0.1534	0.0050	0.1850	-0.0119	-0.0119	0.0642	0.0240	0.0240
2.3696	0.1467	0.0050	0.1788	-0.0324	-0.0018	0.0435	0.0559	0.0143
2.3696	0.1371	0.0050	0.1413	0.0040	0.0033	0.0803	0.0443	0.0113
2.3696	0.1226	0.0050	0.1279	-0.0054	0.0042	0.0764	0.0513	0.0125
2.3696	0.0908	0.0050	0.1288	-0.0131	0.0027	0.0662	0.0449	0.0128
2.3696	0.0589	0.0050	0.1152	-0.0106	0.0044	0.0795	0.0433	0.0119
2.3696	0.0271	0.0050	0.1099	-0.0053	0.0127	0.0709	0.0575	0.0171
2.3696	-0.0048	0.0050	0.1151	-0.0172	-0.0047	0.0771	0.0506	0.0353
2.3696	-0.0366	0.0050	0.1249	-0.0027	-0.0005	0.0729	0.0426	0.0387
2.3696	-0.0685	0.0050	0.1199	0.0100	-0.0081	0.0757	0.0440	0.0411
2.3696	-0.1003	0.0050	0.0696	-0.0244	0.0051	0.0710	0.0598	0.0351
2.3696	-0.1322	0.0050	0.0431	-0.0095	0.0043	0.0486	0.0548	0.0326
2.3696	-0.1467	0.0050	0.0672	-0.0060	-0.0075	0.0472	0.0241	0.0331
2.3696	-0.1534	0.0050	0.0471	-0.0009	-0.0009	0.0344	0.0110	0.0110
3.2046	0.1534	0.0050	0.1327	0.0164	0.0164	0.0383	0.0167	0.0167
3.2046	0.1467	0.0050	0.0100	-0.0054	-0.0192	0.0435	0.0308	0.0251
3.2046	0.1371	0.0050	0.1535	-0.0084	-0.0215	0.0428	0.0358	0.0218
3.2046	0.1226	0.0050	0.0536	-0.0029	-0.0242	0.0901	0.0368	0.0243
3.2046	0.0908	0.0050	0.1594	-0.0361	-0.0276	0.0573	0.0485	0.0219
3.2046	0.0589	0.0050	0.1153	-0.0067	0.0035	0.0537	0.0249	0.0235
3.2046	0.0271	0.0050	0.0788	-0.0157	0.0055	0.0593	0.0501	0.0062
3.2046	-0.0048	0.0050	0.1565	-0.0147	-0.0141	0.0444	0.0390	0.0221
3.2046	-0.0366	0.0050	0.1337	0.0054	0.0027	0.0349	0.0451	0.0231
3.2046	-0.0685	0.0050	0.1072	-0.0050	0.0077	0.0508	0.0477	0.0292
3.2046	-0.1003	0.0050	0.1157	-0.0218	-0.0006	0.0587	0.0309	0.0321
3.2046	-0.1322	0.0050	0.0988	-0.0175	-0.0007	0.0442	0.0338	0.0306
3.2046	-0.1467	0.0050	0.0748	0.0029	0.0013	0.0563	0.0333	0.0302
3.2046	-0.1534	0.0050	0.0858	0.0091	0.0091	0.0447	0.0173	0.0173
4.1946	0.1534	0.0050	0.1013	0.0180	0.0180	0.0402	0.0169	0.0169
4.1946	0.1467	0.0050	0.1244	0.0051	-0.0106	0.0293	0.0236	0.0197
4.1946	0.1371	0.0050	0.1228	-0.0147	-0.0121	0.0412	0.0240	0.0211
4.1946	0.1226	0.0050	0.1626	-0.0197	-0.0166	0.0427	0.0423	0.0186
4.1946	0.0908	0.0050	0.1513	-0.0036	-0.0183	0.0483	0.0227	0.0199
4.1946	0.0589	0.0050	0.1339	-0.0047	-0.0251	0.0369	0.0279	0.0152
4.1946	0.0271	0.0050	0.1044	-0.0017	0.0034	0.0785	0.0369	0.0168
4.1946	-0.0048	0.0050	0.0739	0.0073	-0.0067	0.0871	0.0352	0.0145
4.1946	-0.0366	0.0050	0.1373	-0.0086	0.0043	0.0376	0.0352	0.0197
4.1946	-0.0685	0.0050	0.1258	-0.0131	0.0002	0.0752	0.0221	0.0235
4.1946	-0.1003	0.0050	0.0919	0.0138	-0.0028	0.0558	0.0264	0.0243
4.1946	-0.1322	0.0050	0.1162	0.0025	-0.0024	0.0524	0.0260	0.0235
4.1946	-0.1467	0.0050	0.1157	-0.0073	-0.0041	0.0452	0.0279	0.0226

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
4.1946	-0.1534	0.0050	0.1167	0.0121	0.0121	0.0196	0.0193	0.0193
5.2303	0.1534	0.0050	0.1279	-0.0045	-0.0045	0.0226	0.0136	0.0136
5.2303	0.1467	0.0050	0.1132	0.0052	-0.0077	0.0238	0.0220	0.0135
5.2303	0.1371	0.0050	0.1068	-0.0017	-0.0058	0.0285	0.0218	0.0131
5.2303	0.1226	0.0050	0.1246	-0.0066	-0.0079	0.0303	0.0334	0.0138
5.2303	0.0908	0.0050	0.1296	0.0248	-0.0070	0.0215	0.0243	0.0145
5.2303	0.0589	0.0050	0.1303	-0.0184	-0.0144	0.0301	0.0265	0.0151
5.2303	0.0271	0.0050	0.1352	0.0004	-0.0093	0.0250	0.0287	0.0132
5.2303	-0.0048	0.0050	0.1297	0.0090	-0.0194	0.0591	0.0304	0.0135
5.2303	-0.0366	0.0050	0.1462	0.0009	-0.0068	0.0381	0.0330	0.0194
5.2303	-0.0685	0.0050	0.1272	0.0103	-0.0007	0.0260	0.0221	0.0224
5.2303	-0.1003	0.0050	0.1388	-0.0103	-0.0031	0.0304	0.0349	0.0236
5.2303	-0.1322	0.0050	0.1390	-0.0071	-0.0056	0.0447	0.0204	0.0213
5.2303	-0.1467	0.0050	0.1165	-0.0047	-0.0034	0.0595	0.0196	0.0224
5.2303	-0.1534	0.0050	0.1108	0.0080	0.0080	0.0222	0.0100	0.0100
0.6500	-0.1574	0.0100	0.0990	0.0603	0.0603	0.0839	0.0447	0.0447
0.9096	-0.1574	0.0100	0.1139	0.0497	0.0497	0.0512	0.0350	0.0350
1.5596	-0.1574	0.0100	0.0131	0.0108	0.0108	0.1038	0.0419	0.0419
2.2196	-0.1574	0.0100	0.0522	-0.0469	-0.0469	0.0474	0.0436	0.0436
2.3696	0.1574	0.0100	0.1544	-0.0118	-0.0118	0.0648	0.0234	0.0234
2.3696	-0.1574	0.0100	0.1081	0.0127	0.0127	0.0548	0.0243	0.0243
3.2046	0.1574	0.0100	0.1525	0.0054	0.0054	0.0429	0.0180	0.0180
3.2046	-0.1574	0.0100	0.0736	0.0131	0.0131	0.0389	0.0194	0.0194
4.1946	0.1574	0.0100	0.1507	0.0010	0.0010	0.0359	0.0139	0.0139
4.1946	-0.1574	0.0100	0.1044	-0.0056	-0.0056	0.0305	0.0179	0.0179
5.2303	0.1574	0.0100	0.1475	0.0148	0.0148	0.0287	0.0268	0.0268
5.2303	-0.1574	0.0100	0.0969	-0.0005	-0.0005	0.0271	0.0131	0.0131
0.5300	0.1531	0.0120	0.2017	-0.0224	-0.0224	0.0866	0.0364	0.0364
0.0940	0.1104	0.0130	0.2513	-0.0307	-0.0307	0.0985	0.0290	0.0290
-0.5000	0.0953	0.0152	0.3586	0.0015	0.0016	0.0363	0.0270	0.0258
-0.5000	0.0826	0.0152	0.3881	0.0065	0.0051	0.0749	0.0241	0.0155
-0.5000	0.0699	0.0152	0.4526	-0.0003	-0.0020	0.0318	0.0219	0.0170
-0.5000	0.0445	0.0152	0.4230	0.0065	0.0062	0.0326	0.0246	0.0146
-0.5000	0.0191	0.0152	0.4116	0.0030	0.0030	0.0306	0.0258	0.0180
-0.5000	-0.0064	0.0152	0.4513	0.0084	0.0309	0.0320	0.0229	0.0279
-0.5000	-0.0318	0.0152	0.4441	0.0066	0.0307	0.0377	0.0235	0.0299
-0.5000	-0.0572	0.0152	0.4560	-0.0012	0.0392	0.0343	0.0255	0.0169
-0.5000	-0.0826	0.0152	0.4337	0.0005	0.0422	0.0331	0.0231	0.0194
-0.5000	-0.0953	0.0152	0.3906	0.0026	0.0372	0.0383	0.0232	0.0195
-0.1650	0.0953	0.0152	0.3673	-0.0013	0.0063	0.0380	0.0288	0.0261
-0.1650	0.0826	0.0152	0.4444	0.0022	-0.0011	0.0302	0.0262	0.0197
-0.1650	0.0699	0.0152	0.4704	-0.0035	-0.0035	0.0299	0.0234	0.0185
-0.1650	0.0445	0.0152	0.4156	-0.0008	0.0078	0.0351	0.0257	0.0152
-0.1650	0.0191	0.0152	0.4242	0.0003	0.0039	0.0338	0.0281	0.0175
-0.1650	-0.0064	0.0152	0.4743	0.0077	0.0282	0.0291	0.0256	0.0190
-0.1650	-0.0318	0.0152	0.4542	0.0125	0.0269	0.0390	0.0251	0.0317
-0.1650	-0.0572	0.0152	0.4462	0.0097	0.0398	0.0336	0.0264	0.0180
-0.1650	-0.0826	0.0152	0.4498	0.0047	0.0397	0.0249	0.0238	0.0190
-0.1650	-0.0953	0.0152	0.3417	0.0077	0.0373	0.0723	0.0233	0.0171
-0.0700	0.0953	0.0152	0.3932	0.0027	0.0092	0.0433	0.0287	0.0264
-0.0700	0.0826	0.0152	0.4531	0.0052	0.0054	0.0283	0.0271	0.0196
-0.0700	0.0699	0.0152	0.4461	0.0037	0.0035	0.0321	0.0226	0.0219
-0.0700	0.0445	0.0152	0.4221	0.0069	0.0071	0.0315	0.0282	0.0161
-0.0700	0.0191	0.0152	0.4333	0.0125	0.0048	0.0372	0.0292	0.0174

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
-0.0700	-0.0064	0.0152	0.4719	0.0136	0.0325	0.0288	0.0266	0.0222
-0.0700	-0.0318	0.0152	0.4568	0.0086	0.0396	0.0318	0.0272	0.0214
-0.0700	-0.0572	0.0152	0.4286	0.0074	0.0314	0.0342	0.0291	0.0190
-0.0700	-0.0826	0.0152	0.4314	0.0058	0.0323	0.0355	0.0210	0.0200
-0.0700	-0.0953	0.0152	0.3643	0.0075	0.0274	0.0339	0.0224	0.0210
0.0940	0.1104	0.0152	0.3086	-0.0119	-0.0119	0.0819	0.0174	0.0174
0.0940	0.0943	0.0152	0.4472	-0.0106	0.0166	0.0423	0.0328	0.0195
0.0940	0.0673	0.0152	0.3837	-0.0317	0.0269	0.0391	0.0588	0.0193
0.0940	0.0402	0.0152	0.3910	-0.0073	0.0240	0.0423	0.0285	0.0186
0.0940	0.0131	0.0152	0.4281	-0.0203	0.0293	0.0396	0.0513	0.0096
0.0940	-0.0139	0.0152	0.3996	0.0061	0.0338	0.0426	0.0258	0.0113
0.0940	-0.0410	0.0152	0.3890	0.0219	-0.0018	0.0461	0.0266	0.0225
0.0940	-0.0681	0.0152	0.3763	0.0350	-0.0086	0.0397	0.0210	0.0106
0.0940	-0.0952	0.0152	0.2751	0.0291	-0.0088	0.0519	0.0337	0.0169
0.2990	0.1275	0.0152	0.2598	-0.0272	-0.0272	0.0620	0.0152	0.0152
0.2990	0.1115	0.0152	0.3304	-0.0428	-0.0203	0.0566	0.0342	0.0606
0.2990	0.0796	0.0152	0.3189	-0.0247	-0.0090	0.0458	0.0490	0.0597
0.2990	0.0478	0.0152	0.3687	-0.0889	-0.0149	0.0507	0.0353	0.0631
0.2990	0.0159	0.0152	0.4082	-0.0746	-0.0241	0.0458	0.0480	0.0542
0.2990	-0.0159	0.0152	0.4002	-0.0611	-0.0194	0.0531	0.0312	0.0602
0.2990	-0.0478	0.0152	0.3865	-0.0256	-0.0126	0.0589	0.0298	0.0497
0.2990	-0.0796	0.0152	0.2888	-0.0161	-0.0062	0.0624	0.0349	0.0527
0.2990	-0.1115	0.0152	0.1720	0.0044	-0.0151	0.0713	0.0459	0.0536
0.2990	-0.1275	0.0152	0.0210	-0.0214	-0.0214	0.0477	0.0512	0.0512
0.5300	0.1468	0.0152	0.2628	-0.0216	-0.0112	0.0488	0.0273	0.0273
0.5300	0.1531	0.0152	0.2566	-0.0284	-0.0284	0.0814	0.0177	0.0177
0.5300	0.1304	0.0152	0.3043	-0.0654	0.0193	0.0686	0.0330	0.0217
0.5300	0.0932	0.0152	0.3752	-0.0737	0.0155	0.0594	0.0247	0.0310
0.5300	0.0559	0.0152	0.4214	-0.0575	0.0133	0.0565	0.0298	0.0345
0.5300	0.0186	0.0152	0.4414	-0.0461	0.0048	0.0501	0.0327	0.0440
0.5300	-0.0186	0.0152	0.4349	-0.0145	0.0026	0.0661	0.0335	0.0501
0.5300	-0.0559	0.0152	0.3801	0.0252	0.0038	0.0878	0.0554	0.0535
0.5300	-0.0931	0.0152	0.2378	0.0523	-0.0191	0.0795	0.0556	0.0576
0.5300	-0.1304	0.0152	0.1888	0.0464	-0.0056	0.0507	0.0604	0.0631
0.5300	-0.1468	0.0152	-0.0006	-0.0375	-0.0375	0.0112	0.0140	0.0140
0.6500	0.1534	0.0152	0.3377	0.0103	0.0103	0.0413	0.0320	0.0320
0.6500	0.1574	0.0152	0.3164	0.0132	0.0132	0.0502	0.0242	0.0242
0.6500	0.1467	0.0152	0.3297	0.0199	0.0192	0.0364	0.0148	0.0216
0.6500	0.1371	0.0152	0.3566	0.0177	0.0068	0.0497	0.0147	0.0299
0.6500	0.1226	0.0152	0.3757	0.0224	0.0057	0.0466	0.0118	0.0350
0.6500	0.0908	0.0152	0.4505	0.0192	-0.0038	0.0561	0.0161	0.0418
0.6500	0.0589	0.0152	0.4771	0.0197	-0.0143	0.0591	0.0151	0.0464
0.6500	0.0271	0.0152	0.1291	0.0151	0.0388	0.0939	0.0197	-0.0060
0.6500	-0.0048	0.0152	0.4515	0.0048	-0.0445	0.0648	0.0264	0.0531
0.6500	-0.0366	0.0152	0.3092	0.0000	-0.0053	0.1037	0.0239	0.0645
0.6500	-0.0685	0.0152	0.3121	-0.0007	-0.0260	0.0784	0.0267	0.0623
0.6500	-0.1003	0.0152	0.2547	-0.0093	-0.0120	0.0752	0.0344	0.0666
0.6500	-0.1322	0.0152	0.1567	-0.0140	-0.0253	0.1052	0.0274	0.0617
0.6500	-0.1467	0.0152	0.2230	-0.0156	-0.0253	0.0871	0.0265	0.0542
0.6500	-0.1534	0.0152	0.1708	0.0465	0.0465	0.1213	0.0570	0.0570
0.6500	-0.1574	0.0152	0.1106	0.0433	0.0433	0.0906	0.0410	0.0410
0.9096	0.1534	0.0152	0.4724	0.0234	0.0234	0.0523	0.0241	0.0241
0.9096	0.1574	0.0152	0.2961	0.0083	0.0083	0.0452	0.0336	0.0336
0.9096	0.1467	0.0152	0.4050	0.0073	-0.0221	0.0564	0.0173	0.0440

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
0.9096	0.1371	0.0152	0.4018	0.0061	0.0103	0.0686	0.0159	0.0490
0.9096	0.1226	0.0152	0.4579	0.0068	0.0001	0.0684	0.0138	0.0414
0.9096	0.0908	0.0152	0.4933	0.0108	0.0111	0.0675	0.0163	0.0424
0.9096	0.0589	0.0152	0.4250	0.0027	-0.0098	0.0651	0.0176	0.0540
0.9096	0.0271	0.0152	0.3927	-0.0040	-0.0224	0.0821	0.0227	0.0435
0.9096	-0.0048	0.0152	0.3255	-0.0077	-0.0244	0.1059	0.0286	0.0511
0.9096	-0.0366	0.0152	0.3047	-0.0101	-0.0256	0.0806	0.0283	0.0655
0.9096	-0.0685	0.0152	0.2505	-0.0019	-0.0163	0.0843	0.0352	0.0598
0.9096	-0.1003	0.0152	0.1358	-0.0185	-0.0125	0.1189	0.0309	0.0566
0.9096	-0.1322	0.0152	0.0925	-0.0104	-0.0238	0.0710	0.0308	0.0622
0.9096	-0.1467	0.0152	0.0809	-0.0057	0.0192	0.0835	0.0166	0.0381
0.9096	-0.1534	0.0152	0.1187	0.0104	0.0104	0.0735	0.0486	0.0486
0.9096	-0.1574	0.0152	-0.0676	0.0286	0.0286	0.0539	0.0306	0.0306
1.5596	0.1534	0.0152	0.2657	0.0286	0.0286	0.0525	0.0380	0.0380
1.5596	0.1574	0.0152	0.2665	-0.0162	-0.0162	0.0647	0.0423	0.0423
1.5596	0.1467	0.0152	0.2777	0.0193	0.0293	0.0523	0.0487	0.0293
1.5596	0.1371	0.0152	0.2716	0.0003	0.0226	0.0788	0.0590	0.0226
1.5596	0.1226	0.0152	0.2695	0.0273	0.0273	0.0731	0.0589	0.0273
1.5596	0.0908	0.0152	0.2118	0.0530	0.0333	0.0882	0.0473	0.0333
1.5596	0.0589	0.0152	0.2043	0.0275	0.0437	0.0759	0.0639	0.0437
1.5596	0.0271	0.0152	0.2340	-0.0221	0.0229	0.0631	0.0795	0.0229
1.5596	-0.0048	0.0152	0.1750	0.0106	-0.0057	0.0763	0.0608	0.0271
1.5596	-0.0366	0.0152	0.1325	0.0296	-0.0149	0.0431	0.0657	0.0526
1.5596	-0.0685	0.0152	0.0984	0.0305	0.0174	0.0742	0.0581	0.0601
1.5596	-0.1003	0.0152	0.1048	-0.0183	0.0048	0.0557	0.0766	0.0563
1.5596	-0.1322	0.0152	0.0251	0.0431	0.0085	0.0911	0.0606	0.0506
1.5596	-0.1467	0.0152	0.0239	0.0026	0.0086	0.0596	0.0462	0.0450
1.5596	-0.1534	0.0152	0.0313	0.0172	0.0172	0.0541	0.0413	0.0413
1.5596	-0.1574	0.0152	0.0201	0.0158	0.0158	0.0359	0.0299	0.0299
2.2196	0.1534	0.0152	0.2087	0.0164	0.0164	0.0399	0.0328	0.0328
2.2196	0.1574	0.0152	0.1339	-0.0231	-0.0231	0.0421	0.0345	0.0345
2.2196	0.1467	0.0152	0.1696	-0.0126	0.0256	0.0547	0.0492	0.0256
2.2196	0.1371	0.0152	0.1969	0.0013	0.0229	0.0467	0.0556	0.0229
2.2196	0.1226	0.0152	0.1897	-0.0089	0.0275	0.0882	0.0450	0.0275
2.2196	0.0908	0.0152	0.1686	-0.0254	0.0374	0.0523	0.0591	0.0374
2.2196	0.0589	0.0152	0.1784	-0.0042	0.0351	0.0741	0.0620	0.0351
2.2196	0.0271	0.0152	0.1669	-0.0045	0.0463	0.0526	0.0784	0.0463
2.2196	-0.0048	0.0152	0.1669	0.0060	0.0026	0.0526	0.0587	0.0026
2.2196	-0.0366	0.0152	0.1335	-0.0149	0.0402	0.0603	0.0610	0.0402
2.2196	-0.0685	0.0152	0.0714	-0.0044	0.0367	0.0412	0.0498	0.0367
2.2196	-0.1003	0.0152	0.1024	0.0071	0.0391	0.0671	0.0631	0.0391
2.2196	-0.1322	0.0152	0.0652	0.0010	0.0383	0.0570	0.0440	0.0383
2.2196	-0.1467	0.0152	0.0400	0.0190	0.0362	0.0542	0.0408	0.0362
2.2196	-0.1534	0.0152	0.0195	-0.0397	-0.0397	0.0359	0.0411	0.0411
2.2196	-0.1574	0.0152	0.0195	0.0338	0.0338	0.0450	0.0241	0.0241
2.3696	0.1534	0.0152	0.1591	-0.0023	-0.0023	0.0447	0.0245	0.0245
2.3696	0.1574	0.0152	0.1699	-0.0063	-0.0063	0.0453	0.0262	0.0262
2.3696	0.1467	0.0152	0.1875	-0.0029	0.0017	0.0466	0.0444	0.0106
2.3696	0.1371	0.0152	0.1616	-0.0063	0.0021	0.0609	0.0470	0.0105
2.3696	0.1226	0.0152	0.1699	-0.0118	0.0014	0.0712	0.0452	0.0135
2.3696	0.0908	0.0152	0.1467	0.0193	0.0031	0.0799	0.0437	0.0127
2.3696	0.0589	0.0152	0.1334	0.0212	0.0047	0.0815	0.0395	0.0119
2.3696	0.0271	0.0152	0.1314	-0.0059	0.0121	0.0829	0.0405	0.0168
2.3696	-0.0048	0.0152	0.1422	0.0072	0.0067	0.0628	0.0368	0.0336

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
2.3696	-0.0366	0.0152	0.1215	-0.0210	-0.0008	0.0565	0.0519	0.0385
2.3696	-0.0685	0.0152	0.1298	0.0046	-0.0076	0.0802	0.0372	0.0407
2.3696	-0.1003	0.0152	0.0893	-0.0009	0.0047	0.0642	0.0411	0.0350
2.3696	-0.1322	0.0152	0.0775	-0.0406	0.0025	0.0414	0.0428	0.0384
2.3696	-0.1467	0.0152	0.0812	-0.0169	-0.0015	0.0464	0.0440	0.0296
2.3696	-0.1534	0.0152	0.0936	0.0004	0.0004	0.0280	0.0184	0.0184
2.3696	-0.1574	0.0152	0.1202	0.0152	0.0152	0.0325	0.0165	0.0165
3.2046	0.1534	0.0152	0.1689	0.0094	0.0094	0.0614	0.0226	0.0226
3.2046	0.1574	0.0152	0.1814	-0.0033	-0.0033	0.0448	0.0136	0.0136
3.2046	0.1467	0.0152	0.1234	-0.0118	-0.0131	0.0397	0.0377	0.0247
3.2046	0.1371	0.0152	0.1707	-0.0094	-0.0210	0.0593	0.0423	0.0219
3.2046	0.1226	0.0152	0.1712	0.0025	-0.0236	0.0397	0.0414	0.0243
3.2046	0.0908	0.0152	0.1640	-0.0166	-0.0267	0.0517	0.0570	0.0221
3.2046	0.0589	0.0152	0.1282	-0.0333	0.0028	0.0453	0.0482	0.0236
3.2046	0.0271	0.0152	0.0806	-0.0161	0.0046	0.0844	0.0472	0.0072
3.2046	-0.0048	0.0152	0.1586	-0.0024	-0.0136	0.0525	0.0440	0.0222
3.2046	-0.0366	0.0152	0.1510	0.0040	0.0020	0.0357	0.0378	0.0232
3.2046	-0.0685	0.0152	0.1157	0.0301	0.0066	0.0587	0.0418	0.0292
3.2046	-0.1003	0.0152	0.1349	0.0168	-0.0009	0.0525	0.0502	0.0317
3.2046	-0.1322	0.0152	0.1205	-0.0237	-0.0012	0.0542	0.0282	0.0303
3.2046	-0.1467	0.0152	0.1017	0.0161	-0.0019	0.0507	0.0474	0.0292
3.2046	-0.1534	0.0152	0.0922	0.0236	0.0236	0.0522	0.0242	0.0242
3.2046	-0.1574	0.0152	0.0967	0.0207	0.0207	0.0397	0.0200	0.0200
4.1946	0.1534	0.0152	0.1359	0.0053	0.0053	0.0264	0.0171	0.0171
4.1946	0.1574	0.0152	0.1722	0.0010	0.0010	0.0451	0.0216	0.0216
4.1946	0.1467	0.0152	0.1453	0.0040	-0.0130	0.0378	0.0272	0.0221
4.1946	0.1371	0.0152	0.1683	0.0152	-0.0123	0.0419	0.0239	0.0210
4.1946	0.1226	0.0152	0.1711	-0.0110	-0.0166	0.0474	0.0346	0.0189
4.1946	0.0908	0.0152	0.1551	-0.0007	-0.0183	0.0336	0.0380	0.0199
4.1946	0.0589	0.0152	0.1715	0.0026	-0.0244	0.0263	0.0368	0.0155
4.1946	0.0271	0.0152	0.1635	-0.0039	0.0024	0.0493	0.0275	0.0170
4.1946	-0.0048	0.0152	0.1494	0.0205	-0.0068	0.0275	0.0353	0.0148
4.1946	-0.0366	0.0152	0.1608	-0.0098	0.0036	0.0317	0.0371	0.0197
4.1946	-0.0685	0.0152	0.1257	0.0011	-0.0003	0.0362	0.0412	0.0233
4.1946	-0.1003	0.0152	0.1288	0.0142	-0.0029	0.0264	0.0318	0.0242
4.1946	-0.1322	0.0152	0.1226	0.0065	-0.0025	0.0465	0.0260	0.0234
4.1946	-0.1467	0.0152	0.1160	0.0071	-0.0120	0.0239	0.0275	0.0229
4.1946	-0.1534	0.0152	0.1207	0.0207	0.0207	0.0255	0.0223	0.0223
4.1946	-0.1574	0.0152	0.1121	-0.0019	-0.0019	0.0244	0.0158	0.0158
5.2303	0.1534	0.0152	0.1661	-0.0031	-0.0031	0.0215	0.0174	0.0174
5.2303	0.1574	0.0152	0.1745	-0.0133	-0.0133	0.0195	0.0170	0.0170
5.2303	0.1467	0.0152	0.1461	0.0080	-0.0065	0.0225	0.0189	0.0134
5.2303	0.1371	0.0152	0.1217	-0.0011	-0.0061	0.0189	0.0209	0.0131
5.2303	0.1226	0.0152	0.1393	0.0028	-0.0080	0.0246	0.0229	0.0138
5.2303	0.0908	0.0152	0.1574	0.0212	-0.0072	0.0249	0.0326	0.0145
5.2303	0.0589	0.0152	0.1359	0.0068	-0.0141	0.0300	0.0295	0.0151
5.2303	0.0271	0.0152	0.1609	0.0076	-0.0094	0.0300	0.0233	0.0133
5.2303	-0.0048	0.0152	0.1405	-0.0125	-0.0188	0.0271	0.0284	0.0137
5.2303	-0.0366	0.0152	0.1183	-0.0058	-0.0068	0.0787	0.0212	0.0194
5.2303	-0.0685	0.0152	0.1662	0.0136	-0.0010	0.0236	0.0247	0.0223
5.2303	-0.1003	0.0152	0.1559	-0.0006	-0.0034	0.0223	0.0280	0.0234
5.2303	-0.1322	0.0152	0.1317	0.0060	-0.0058	0.0238	0.0218	0.0210
5.2303	-0.1467	0.0152	0.1306	0.0077	-0.0100	0.0379	0.0185	0.0241
5.2303	-0.1534	0.0152	0.1364	-0.0014	-0.0014	0.0301	0.0137	0.0137

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
5.2303	-0.1574	0.0152	0.1217	0.0137	0.0137	0.0193	0.0129	0.0129
0.6500	-0.1676	0.0202	0.0082	0.0332	0.0332	0.1330	0.0550	0.0550
0.9096	-0.1676	0.0202	-0.0566	0.0108	0.0108	0.0568	0.0402	0.0402
1.5596	-0.1676	0.0202	0.0934	0.0205	0.0205	0.0486	0.0245	0.0245
2.2196	-0.1676	0.0202	0.0328	0.0260	0.0260	0.0616	0.0192	0.0192
2.3696	0.1676	0.0202	0.1417	-0.0045	-0.0045	0.0583	0.0246	0.0246
2.3696	-0.1676	0.0202	0.0446	-0.0044	-0.0044	0.0520	0.0234	0.0234
3.2046	0.1676	0.0202	0.1161	0.0061	0.0061	0.0292	0.0183	0.0183
3.2046	-0.1676	0.0202	0.0801	0.0062	0.0062	0.0176	0.0251	0.0251
4.1946	0.1676	0.0202	0.1341	-0.0105	-0.0105	0.0249	0.0249	0.0249
4.1946	-0.1676	0.0202	0.1095	0.0077	0.0077	0.0232	0.0208	0.0208
5.2303	0.1676	0.0202	0.1179	-0.0229	-0.0229	0.0221	0.0285	0.0285
5.2303	-0.1676	0.0202	0.1314	0.0053	0.0053	0.0209	0.0187	0.0187
0.5300	-0.1468	0.0263	0.1118	-0.0266	-0.0266	0.0334	0.0203	0.0203
0.2990	0.1275	0.0300	0.3631	-0.0420	-0.0420	0.0423	0.0182	0.0182
-0.0700	0.0953	0.0372	0.4344	0.0049	0.0006	0.0398	0.0284	0.0252
-0.0700	0.0826	0.0372	0.4931	0.0036	-0.0052	0.0239	0.0245	0.0176
-0.0700	0.0699	0.0372	0.4902	0.0108	0.0014	0.0253	0.0203	0.0165
-0.0700	0.0445	0.0372	0.4707	0.0110	0.0045	0.0312	0.0233	0.0143
-0.0700	0.0191	0.0372	0.4783	0.0138	0.0060	0.0291	0.0220	0.0182
-0.0700	-0.0064	0.0372	0.5122	0.0144	0.0391	0.0137	0.0185	0.0171
-0.0700	-0.0318	0.0372	0.5035	0.0050	0.0440	0.0182	0.0156	0.0189
-0.0700	-0.0572	0.0372	0.4749	0.0028	0.0324	0.0253	0.0159	0.0162
-0.0700	-0.0826	0.0372	0.4739	-0.0018	0.0304	0.0242	0.0164	0.0175
-0.0700	-0.0953	0.0372	0.4050	0.0042	0.0264	0.0364	0.0194	0.0163
0.0940	0.0943	0.0372	0.4996	-0.0245	0.0233	0.0284	0.0200	0.0241
0.0940	0.0673	0.0372	0.4447	-0.0221	0.0279	0.0362	0.0318	0.0180
0.0940	0.0402	0.0372	0.4454	-0.0079	0.0267	0.0337	0.0253	0.0185
0.0940	0.0131	0.0372	0.4817	0.0004	0.0271	0.0281	0.0171	0.0185
0.0940	-0.0139	0.0372	0.4891	0.0110	0.0324	0.0210	0.0168	0.0123
0.0940	-0.0410	0.0372	0.4674	0.0237	0.0017	0.0329	0.0174	0.0247
0.0940	-0.0681	0.0372	0.4291	0.0305	-0.0089	0.0333	0.0259	0.0140
0.0940	-0.0952	0.0372	0.3177	0.0318	-0.0112	0.0559	0.0376	0.0116
0.0940	-0.1113	0.0372	0.1656	0.0001	0.0001	0.0663	0.0374	0.0265
0.2990	0.1115	0.0372	0.4140	-0.0636	-0.0128	0.0372	0.0235	0.0603
0.2990	0.0796	0.0372	0.3781	-0.0444	-0.0093	0.0404	0.0280	0.0682
0.2990	0.0478	0.0372	0.4549	-0.0578	-0.0265	0.0313	0.0180	0.0586
0.2990	0.0159	0.0372	0.4637	-0.0498	-0.0079	0.0309	0.0206	0.0629
0.2990	-0.0159	0.0372	0.4770	-0.0290	-0.0151	0.0267	0.0181	0.0578
0.2990	-0.0478	0.0372	0.4613	-0.0130	-0.0205	0.0287	0.0255	0.0526
0.2990	-0.0796	0.0372	0.3420	0.0119	-0.0195	0.0673	0.0307	0.0526
0.2990	-0.1115	0.0372	0.2128	0.0285	-0.0057	0.0841	0.0475	0.0590
0.5300	0.1468	0.0372	0.3091	-0.0122	-0.0122	0.0749	0.0174	0.0174
0.5300	0.1531	0.0372	0.3202	-0.0180	-0.0180	0.0745	0.0222	0.0222
0.5300	0.1659	0.0372	0.0104	-0.0578	-0.0578	0.0504	0.0515	0.0515
0.5300	0.1304	0.0372	0.3518	-0.0540	0.0156	0.0716	0.0258	0.0260
0.5300	0.0932	0.0372	0.4202	-0.0654	0.0088	0.0431	0.0295	0.0329
0.5300	0.0559	0.0372	0.4721	-0.0503	0.0029	0.0334	0.0215	0.0385
0.5300	0.0186	0.0372	0.4538	-0.0345	0.0037	0.0498	0.0309	0.0467
0.5300	-0.0186	0.0372	0.4365	-0.0123	0.0035	0.0784	0.0469	0.0568
0.5300	-0.0559	0.0372	0.3679	0.0378	0.0070	0.0988	0.0512	0.0459
0.5300	-0.0931	0.0372	0.2432	0.0058	-0.0176	0.0743	0.0713	0.0588
0.5300	-0.1304	0.0372	0.1520	0.0104	-0.0098	0.0967	0.0900	0.0606
0.5300	-0.1468	0.0372	0.1219	0.0246	0.0246	0.0541	0.0354	0.0354

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
0.6500	0.1534	0.0372	0.3848	0.0062	0.0062	0.0464	0.0251	0.0251
0.6500	0.1574	0.0372	0.4115	0.0058	0.0058	0.0416	0.0291	0.0291
0.6500	0.1676	0.0372	0.3011	0.0163	0.0163	0.0351	0.0261	0.0261
0.6500	0.1467	0.0372	0.3759	0.0146	0.0155	0.0375	0.0138	0.0258
0.6500	0.1371	0.0372	0.4256	0.0162	0.0154	0.0428	0.0137	0.0310
0.6500	0.1226	0.0372	0.4290	0.0165	0.0132	0.0375	0.0140	0.0343
0.6500	0.0908	0.0372	0.4618	0.0215	-0.0011	0.0243	0.0137	0.0424
0.6500	0.0589	0.0372	0.4748	0.0195	-0.0104	0.0826	0.0147	0.0464
0.6500	0.0271	0.0372	0.3947	0.0121	0.0338	0.0868	0.0243	0.0017
0.6500	-0.0048	0.0372	0.4246	0.0089	-0.0403	0.0720	0.0237	0.0538
0.6500	-0.0366	0.0372	0.3146	0.0004	-0.0049	0.0826	0.0282	0.0629
0.6500	-0.0685	0.0372	0.3649	-0.0050	-0.0238	0.0722	0.0344	0.0618
0.6500	-0.1003	0.0372	0.2270	-0.0129	-0.0046	0.0816	0.0331	0.0597
0.6500	-0.1322	0.0372	0.1593	-0.0032	-0.0156	0.0927	0.0305	0.0631
0.6500	-0.1467	0.0372	0.1642	-0.0099	-0.0093	0.0689	0.0343	0.0629
0.6500	-0.1534	0.0372	0.0572	0.0182	0.0182	0.1037	0.0584	0.0584
0.6500	-0.1574	0.0372	0.1245	0.0565	0.0565	0.0929	0.0554	0.0554
0.6500	-0.1676	0.0372	0.0697	0.0418	0.0418	0.0764	0.0449	0.0449
0.9096	0.1534	0.0372	0.4765	0.0234	0.0234	0.0337	0.0241	0.0241
0.9096	0.1574	0.0372	0.4418	0.0046	0.0046	0.0262	0.0189	0.0189
0.9096	0.1676	0.0372	0.3498	0.0208	0.0208	0.0552	0.0266	0.0266
0.9096	0.1467	0.0372	0.4585	0.0048	-0.0080	0.0776	0.0151	0.0460
0.9096	0.1371	0.0372	0.4183	0.0059	0.0253	0.0698	0.0161	0.0450
0.9096	0.1226	0.0372	0.4726	0.0036	-0.0244	0.0615	0.0179	0.0449
0.9096	0.0908	0.0372	0.5002	0.0087	0.0126	0.0422	0.0124	0.0429
0.9096	0.0589	0.0372	0.4548	0.0001	-0.0058	0.0664	0.0165	0.0534
0.9096	0.0271	0.0372	0.4136	-0.0088	-0.0182	0.0937	0.0267	0.0452
0.9096	-0.0048	0.0372	0.3428	-0.0140	-0.0220	0.0899	0.0259	0.0511
0.9096	-0.0366	0.0372	0.2948	-0.0116	-0.0222	0.1051	0.0304	0.0627
0.9096	-0.0685	0.0372	0.2525	-0.0165	-0.0144	0.0950	0.0289	0.0586
0.9096	-0.1003	0.0372	0.1536	-0.0125	-0.0195	0.0953	0.0348	0.0526
0.9096	-0.1322	0.0372	0.0809	-0.0128	-0.0210	0.0835	0.0296	0.0578
0.9096	-0.1467	0.0372	0.1091	-0.0195	-0.0129	0.0878	0.0305	0.0497
0.9096	-0.1534	0.0372	0.1264	0.0162	0.0162	0.0738	0.0390	0.0390
0.9096	-0.1574	0.0372	-0.0729	0.0458	0.0458	0.0426	0.0432	0.0432
0.9096	-0.1676	0.0372	-0.1053	0.0295	0.0295	0.0418	0.0415	0.0415
1.5596	0.1534	0.0372	0.3563	0.0284	0.0284	0.0464	0.0315	0.0315
1.5596	0.1574	0.0372	0.2754	0.0183	0.0183	0.0374	0.0304	0.0304
1.5596	0.1676	0.0372	0.2501	0.0037	0.0037	0.0557	0.0483	0.0483
1.5596	0.1467	0.0372	0.2873	0.0313	0.0279	0.0620	0.0528	0.0279
1.5596	0.1371	0.0372	0.2700	0.0418	0.0224	0.0768	0.0371	0.0224
1.5596	0.1226	0.0372	0.3235	0.0325	0.0226	0.0652	0.0454	0.0226
1.5596	0.0908	0.0372	0.2814	0.0473	0.0334	0.0624	0.0546	0.0334
1.5596	0.0589	0.0372	0.2761	0.0593	0.0429	0.0603	0.0684	0.0429
1.5596	0.0271	0.0372	0.2286	0.0318	0.0242	0.0896	0.0685	0.0242
1.5596	-0.0048	0.0372	0.2109	0.0353	-0.0035	0.0827	0.0861	0.0292
1.5596	-0.0366	0.0372	0.1989	0.0620	-0.0122	0.0666	0.0648	0.0513
1.5596	-0.0685	0.0372	0.1046	0.0490	0.0145	0.0812	0.0703	0.0571
1.5596	-0.1003	0.0372	0.0804	0.0376	0.0029	0.0708	0.0562	0.0553
1.5596	-0.1322	0.0372	0.0292	0.0455	0.0017	0.0826	0.0601	0.0488
1.5596	-0.1467	0.0372	0.0288	0.0445	-0.0037	0.0802	0.0703	0.0483
1.5596	-0.1534	0.0372	0.0476	0.0564	0.0564	0.0436	0.0425	0.0425
1.5596	-0.1574	0.0372	0.0338	0.0497	0.0497	0.0616	0.0275	0.0275
1.5596	-0.1676	0.0372	0.0909	0.0149	0.0149	0.0483	0.0545	0.0545

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
2.2196	0.1534	0.0372	0.2595	0.0113	0.0113	0.0694	0.0301	0.0301
2.2196	0.1574	0.0372	0.2243	0.0211	0.0211	0.0494	0.0289	0.0289
2.2196	0.1676	0.0372	0.1896	0.0140	0.0140	0.0393	0.0249	0.0249
2.2196	0.1467	0.0372	0.2243	0.0044	0.0279	0.0666	0.0544	0.0279
2.2196	0.1371	0.0372	0.2714	0.0246	0.0257	0.0500	0.0456	0.0257
2.2196	0.1226	0.0372	0.2544	0.0280	0.0296	0.0448	0.0453	0.0296
2.2196	0.0908	0.0372	0.2283	0.0192	0.0367	0.0684	0.0596	0.0367
2.2196	0.0589	0.0372	0.2213	0.0197	0.0344	0.0609	0.0562	0.0344
2.2196	0.0271	0.0372	0.1956	0.0306	0.0440	0.0505	0.0511	0.0440
2.2196	-0.0048	0.0372	0.1910	0.0294	0.0069	0.0591	0.0695	0.0069
2.2196	-0.0366	0.0372	0.1651	0.0170	0.0392	0.0551	0.0562	0.0392
2.2196	-0.0685	0.0372	0.1311	0.0299	0.0365	0.0754	0.0623	0.0365
2.2196	-0.1003	0.0372	0.1336	0.0153	0.0347	0.0597	0.0621	0.0347
2.2196	-0.1322	0.0372	0.0978	0.0159	0.0400	0.0745	0.0577	0.0400
2.2196	-0.1467	0.0372	0.0925	0.0327	0.0340	0.0582	0.0547	0.0340
2.2196	-0.1534	0.0372	0.0287	-0.0183	-0.0183	0.0673	0.0270	0.0270
2.2196	-0.1574	0.0372	0.0448	0.0146	0.0146	0.0355	0.0310	0.0310
2.2196	-0.1676	0.0372	0.0329	0.0123	0.0123	0.0224	0.0357	0.0357
2.3696	0.1534	0.0372	0.2172	0.0031	0.0031	0.0433	0.0295	0.0295
2.3696	0.1574	0.0372	0.1799	-0.0222	-0.0222	0.0371	0.0360	0.0360
2.3696	0.1676	0.0372	0.1806	-0.0014	-0.0014	0.0528	0.0310	0.0310
2.3696	0.1467	0.0372	0.1844	0.0041	0.0030	0.0466	0.0343	0.0121
2.3696	0.1371	0.0372	0.1781	0.0153	0.0072	0.0616	0.0451	0.0130
2.3696	0.1226	0.0372	0.2048	0.0126	0.0038	0.0670	0.0429	0.0117
2.3696	0.0908	0.0372	0.1700	0.0243	0.0047	0.0728	0.0478	0.0131
2.3696	0.0589	0.0372	0.1976	0.0172	0.0061	0.0728	0.0550	0.0122
2.3696	0.0271	0.0372	0.1954	0.0329	0.0109	0.0703	0.0430	0.0160
2.3696	-0.0048	0.0372	0.2049	0.0377	-0.0111	0.0541	0.0463	0.0365
2.3696	-0.0366	0.0372	0.1740	0.0133	-0.0016	0.0707	0.0556	0.0380
2.3696	-0.0685	0.0372	0.1645	0.0089	-0.0045	0.0562	0.0467	0.0415
2.3696	-0.1003	0.0372	0.1163	0.0115	0.0013	0.0723	0.0455	0.0373
2.3696	-0.1322	0.0372	0.0867	0.0248	0.0044	0.0664	0.0407	0.0314
2.3696	-0.1467	0.0372	0.1151	0.0086	0.0037	0.0499	0.0324	0.0347
2.3696	-0.1534	0.0372	0.1298	0.0214	0.0214	0.0400	0.0382	0.0382
2.3696	-0.1574	0.0372	0.1381	0.0140	0.0140	0.0470	0.0200	0.0200
2.3696	-0.1676	0.0372	0.0905	0.0307	0.0307	0.0558	0.0379	0.0379
3.2046	0.1534	0.0372	0.1876	0.0083	0.0083	0.0355	0.0190	0.0190
3.2046	0.1574	0.0372	0.1943	0.0063	0.0063	0.0758	0.0102	0.0102
3.2046	0.1676	0.0372	0.1685	-0.0104	-0.0104	0.0496	0.0121	0.0121
3.2046	0.1467	0.0372	0.1301	0.0062	-0.0203	0.0496	0.0448	0.0273
3.2046	0.1371	0.0372	0.1890	0.0063	-0.0164	0.0460	0.0351	0.0210
3.2046	0.1226	0.0372	0.1778	0.0285	-0.0215	0.0537	0.0381	0.0244
3.2046	0.0908	0.0372	0.1992	0.0373	-0.0247	0.0499	0.0364	0.0226
3.2046	0.0589	0.0372	0.1586	0.0119	0.0013	0.0525	0.0349	0.0238
3.2046	0.0271	0.0372	0.1472	0.0207	0.0027	0.0552	0.0478	0.0095
3.2046	-0.0048	0.0372	0.1774	0.0323	-0.0126	0.0622	0.0528	0.0225
3.2046	-0.0366	0.0372	0.1526	0.0127	0.0006	0.0540	0.0318	0.0234
3.2046	-0.0685	0.0372	0.1362	-0.0003	0.0043	0.0361	0.0437	0.0291
3.2046	-0.1003	0.0372	0.1483	0.0395	-0.0045	0.0470	0.0545	0.0307
3.2046	-0.1322	0.0372	0.1245	0.0185	-0.0062	0.0424	0.0451	0.0284
3.2046	-0.1467	0.0372	0.1234	0.0063	0.0019	0.0437	0.0377	0.0302
3.2046	-0.1534	0.0372	0.1204	0.0077	0.0077	0.0385	0.0227	0.0227
3.2046	-0.1574	0.0372	0.1190	0.0066	0.0066	0.0379	0.0204	0.0204
3.2046	-0.1676	0.0372	0.0832	0.0053	0.0053	0.0625	0.0202	0.0202

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
4.1946	0.1534	0.0372	0.1647	0.0104	0.0104	0.0321	0.0166	0.0166
4.1946	0.1574	0.0372	0.1872	-0.0007	-0.0007	0.0288	0.0180	0.0180
4.1946	0.1676	0.0372	0.1714	-0.0150	-0.0150	0.0208	0.0168	0.0168
4.1946	0.1467	0.0372	0.1662	0.0090	-0.0038	0.0348	0.0286	0.0181
4.1946	0.1371	0.0372	0.1914	0.0068	-0.0063	0.0255	0.0313	0.0207
4.1946	0.1226	0.0372	0.1927	0.0147	-0.0155	0.0363	0.0314	0.0184
4.1946	0.0908	0.0372	0.1692	0.0059	-0.0181	0.0371	0.0321	0.0199
4.1946	0.0589	0.0372	0.1761	0.0092	-0.0229	0.0347	0.0224	0.0162
4.1946	0.0271	0.0372	0.1733	-0.0040	0.0003	0.0329	0.0458	0.0175
4.1946	-0.0048	0.0372	0.1571	0.0319	-0.0068	0.0406	0.0273	0.0155
4.1946	-0.0366	0.0372	0.1597	0.0044	0.0021	0.0294	0.0280	0.0198
4.1946	-0.0685	0.0372	0.1444	0.0048	-0.0013	0.0379	0.0324	0.0229
4.1946	-0.1003	0.0372	0.1336	0.0095	-0.0035	0.0339	0.0286	0.0230
4.1946	-0.1322	0.0372	0.1259	-0.0073	-0.0011	0.0281	0.0306	0.0232
4.1946	-0.1467	0.0372	0.1338	0.0157	0.0006	0.0358	0.0299	0.0202
4.1946	-0.1534	0.0372	0.1296	0.0027	0.0027	0.0215	0.0204	0.0204
4.1946	-0.1574	0.0372	0.1389	-0.0003	-0.0003	0.0282	0.0189	0.0189
4.1946	-0.1676	0.0372	0.1232	-0.0019	-0.0019	0.0228	0.0191	0.0191
5.2303	0.1534	0.0372	0.1724	0.0220	0.0220	0.0322	0.0234	0.0234
5.2303	0.1574	0.0372	0.1816	-0.0454	-0.0454	0.0271	0.0266	0.0266
5.2303	0.1676	0.0372	0.1474	0.0068	0.0068	0.0240	0.0311	0.0311
5.2303	0.1467	0.0372	0.1540	-0.0046	-0.0134	0.0265	0.0237	0.0143
5.2303	0.1371	0.0372	0.1079	-0.0038	-0.0067	0.0306	0.0264	0.0131
5.2303	0.1226	0.0372	0.1573	0.0171	-0.0058	0.0246	0.0208	0.0125
5.2303	0.0908	0.0372	0.1695	0.0064	-0.0078	0.0293	0.0258	0.0145
5.2303	0.0589	0.0372	0.1683	0.0129	-0.0134	0.0294	0.0201	0.0151
5.2303	0.0271	0.0372	0.1322	0.0035	-0.0096	0.0244	0.0239	0.0136
5.2303	-0.0048	0.0372	0.1610	0.0121	-0.0174	0.0383	0.0289	0.0141
5.2303	-0.0366	0.0372	0.1581	0.0042	-0.0069	0.0266	0.0228	0.0194
5.2303	-0.0685	0.0372	0.1659	0.0051	-0.0018	0.0277	0.0257	0.0222
5.2303	-0.1003	0.0372	0.1598	0.0119	-0.0056	0.0237	0.0256	0.0217
5.2303	-0.1322	0.0372	0.1527	0.0092	-0.0083	0.0281	0.0211	0.0179
5.2303	-0.1467	0.0372	0.1433	0.0104	-0.0012	0.0266	0.0216	0.0188
5.2303	-0.1534	0.0372	0.1446	0.0193	0.0193	0.0180	0.0170	0.0170
5.2303	-0.1574	0.0372	0.1457	0.0050	0.0050	0.0339	0.0139	0.0139
5.2303	-0.1676	0.0372	0.1834	0.0233	0.0233	0.0293	0.0125	0.0125
-0.5000	0.0953	0.0372	0.3958	0.0043	0.0016	0.0373	0.0259	0.0254
-0.5000	0.0826	0.0372	0.4955	0.0044	0.0000	0.0262	0.0204	0.0146
-0.5000	0.0699	0.0372	0.5073	0.0083	0.0000	0.0204	0.0165	0.0140
-0.5000	0.0445	0.0372	0.4914	0.0125	0.0086	0.0254	0.0173	0.0158
-0.5000	0.0191	0.0372	0.4849	0.0052	0.0051	0.0323	0.0210	0.0173
-0.5000	-0.0064	0.0372	0.4962	0.0026	0.0349	0.0324	0.0167	0.0276
-0.5000	-0.0318	0.0372	0.5012	0.0020	0.0343	0.0220	0.0132	0.0264
-0.5000	-0.0572	0.0372	0.5064	-0.0074	0.0408	0.0197	0.0154	0.0147
-0.5000	-0.0826	0.0372	0.4867	-0.0030	0.0424	0.0202	0.0166	0.0166
-0.5000	-0.0953	0.0372	0.4183	0.0023	0.0343	0.0368	0.0189	0.0148
-0.1650	0.0953	0.0372	0.4047	0.0049	0.0029	0.0373	0.0292	0.0260
-0.1650	0.0826	0.0372	0.4863	0.0073	0.0029	0.0246	0.0230	0.0120
-0.1650	0.0699	0.0372	0.4880	0.0045	-0.0019	0.0208	0.0183	0.0152
-0.1650	0.0445	0.0372	0.5078	0.0014	0.0082	0.0315	0.0232	0.0158
-0.1650	0.0191	0.0372	0.4815	0.0080	0.0059	0.0260	0.0210	0.0179
-0.1650	-0.0064	0.0372	0.5248	0.0055	0.0333	0.0173	0.0181	0.0186
-0.1650	-0.0318	0.0372	0.5134	0.0038	0.0332	0.0176	0.0146	0.0341
-0.1650	-0.0572	0.0372	0.4895	-0.0012	0.0406	0.0214	0.0162	0.0161

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
-0.1650	-0.0826	0.0372	0.5008	-0.0017	0.0407	0.0176	0.0166	0.0168
-0.1650	-0.0953	0.0372	0.4368	0.0044	0.0364	0.0301	0.0213	0.0144
0.6500	-0.1896	0.0422	0.0886	0.0367	0.0367	0.0837	0.0329	0.0329
0.9096	-0.1896	0.0422	0.0234	0.0167	0.0167	0.0434	0.0506	0.0506
1.5596	-0.1896	0.0422	0.0634	0.0236	0.0236	0.0712	0.0229	0.0229
2.2196	-0.1896	0.0422	0.0626	-0.0232	-0.0232	0.0417	0.0265	0.0265
2.3696	0.1896	0.0422	0.2025	-0.0244	-0.0244	0.0320	0.0444	0.0444
2.3696	-0.1896	0.0422	0.0295	0.0030	0.0030	0.0485	0.0329	0.0329
3.2046	0.1896	0.0422	0.1424	0.0095	0.0095	0.0361	0.0217	0.0217
3.2046	-0.1896	0.0422	0.0966	-0.0057	-0.0057	0.0457	0.0196	0.0196
4.1946	0.1896	0.0422	0.1451	0.0011	0.0011	0.0302	0.0187	0.0187
4.1946	-0.1896	0.0422	0.0843	0.0084	0.0084	0.0256	0.0112	0.0112
5.2303	0.1896	0.0422	0.1518	-0.0176	-0.0176	0.0259	0.0221	0.0221
5.2303	-0.1896	0.0422	0.0990	0.0057	0.0057	0.0203	0.0139	0.0139
0.5300	0.1659	0.0438	0.3217	-0.0230	-0.0230	0.0972	0.0247	0.0247
0.2990	0.1403	0.0450	0.2782	-0.0518	-0.0518	0.0602	0.0265	0.0265
-0.0700	0.0953	0.0609	0.4532	0.0013	0.0007	0.0392	0.0289	0.0241
-0.0700	0.0826	0.0609	0.5122	0.0055	-0.0033	0.0208	0.0214	0.0148
-0.0700	0.0699	0.0609	0.5177	0.0103	-0.0006	0.0158	0.0180	0.0135
-0.0700	0.0445	0.0609	0.5232	0.0139	0.0107	0.0160	0.0161	0.0169
-0.0700	0.0191	0.0609	0.5249	0.0143	0.0119	0.0119	0.0173	0.0202
-0.0700	-0.0064	0.0609	0.5180	0.0135	0.0459	0.0155	0.0149	0.0194
-0.0700	-0.0318	0.0609	0.5057	0.0039	0.0405	0.0147	0.0160	0.0143
-0.0700	-0.0572	0.0609	0.4841	0.0006	0.0322	0.0183	0.0185	0.0167
-0.0700	-0.0826	0.0609	0.4849	-0.0018	0.0239	0.0291	0.0178	0.0165
-0.0700	-0.0953	0.0609	0.4198	0.0046	0.0299	0.0500	0.0172	0.0183
0.0940	0.1104	0.0609	0.4234	-0.0275	-0.0275	0.0569	0.0160	0.0160
0.0940	0.0943	0.0609	0.5284	-0.0313	0.0202	0.0218	0.0182	0.0259
0.0940	0.0673	0.0609	0.4958	-0.0184	0.0268	0.0225	0.0167	0.0146
0.0940	0.0402	0.0609	0.4922	-0.0121	0.0289	0.0197	0.0143	0.0153
0.0940	0.0131	0.0609	0.4976	-0.0027	0.0304	0.0182	0.0163	0.0174
0.0940	-0.0139	0.0609	0.4892	0.0103	-0.0138	0.0192	0.0148	0.0227
0.0940	-0.0410	0.0609	0.4713	0.0249	-0.0037	0.0191	0.0164	0.0256
0.0940	-0.0681	0.0609	0.4449	0.0302	-0.0082	0.0311	0.0228	0.0137
0.0940	-0.0952	0.0609	0.3194	0.0305	-0.0140	0.0646	0.0398	0.0102
0.0940	-0.1113	0.0609	0.1820	0.0036	0.0036	0.0972	0.0360	0.0255
0.2990	0.1275	0.0609	0.4453	-0.0431	-0.0431	0.0720	0.0099	0.0099
0.2990	0.1403	0.0609	0.3616	-0.0521	-0.0521	0.0527	0.0247	0.0247
0.2990	0.1115	0.0609	0.4648	-0.0761	-0.0089	0.0281	0.0226	0.0608
0.2990	0.0796	0.0609	0.4373	-0.0648	-0.0171	0.0323	0.0198	0.0531
0.2990	0.0478	0.0609	0.4805	-0.0585	-0.0156	0.0251	0.0179	0.0540
0.2990	0.0159	0.0609	0.4893	-0.0525	-0.0143	0.0195	0.0157	0.0550
0.2990	-0.0159	0.0609	0.4708	-0.0403	-0.0127	0.0275	0.0224	0.0611
0.2990	-0.0478	0.0609	0.4397	-0.0280	0.0152	0.0336	0.0307	0.0497
0.2990	-0.0796	0.0609	0.3002	0.0136	0.0010	0.0969	0.0436	0.0543
0.2990	-0.1115	0.0609	0.1583	0.0287	-0.0011	0.0927	0.0655	0.0549
0.2990	-0.1275	0.0609	0.0640	-0.0096	-0.0096	0.0748	0.0318	0.0318
0.5300	0.1468	0.0609	0.3733	-0.0129	-0.0129	0.0763	0.0149	0.0149
0.5300	0.1531	0.0609	0.4369	-0.0180	-0.0180	0.0635	0.0222	0.0222
0.5300	0.1659	0.0609	0.4139	-0.0211	-0.0211	0.0363	0.0222	0.0222
0.5300	0.1304	0.0609	0.4191	-0.0601	0.0104	0.0336	0.0210	0.0347
0.5300	0.0932	0.0609	0.4608	-0.0637	0.0082	0.0302	0.0219	0.0355
0.5300	0.0559	0.0609	0.4649	-0.0559	0.0064	0.0437	0.0306	0.0429
0.5300	0.0186	0.0609	0.4097	-0.0430	0.0077	0.0751	0.0396	0.0457

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
0.5300	-0.0186	0.0609	0.3037	-0.0292	0.0039	0.0800	0.0622	0.0478
0.5300	-0.0559	0.0609	0.2433	-0.0010	-0.0040	0.0735	0.0692	0.0578
0.5300	-0.0931	0.0609	0.1310	-0.0140	-0.0102	0.0773	0.0877	0.0581
0.5300	-0.1304	0.0609	0.0410	-0.0147	-0.0041	0.0681	0.0620	0.0566
0.6500	0.1534	0.0609	0.4033	0.0125	0.0125	0.0458	0.0182	0.0182
0.6500	0.1574	0.0609	0.4423	0.0080	0.0080	0.0450	0.0210	0.0210
0.6500	0.1676	0.0609	0.3727	0.0148	0.0148	0.0429	0.0250	0.0250
0.6500	0.1896	0.0609	0.2743	0.0059	0.0059	0.0548	0.0170	0.0170
0.6500	0.1467	0.0609	0.4449	0.0220	0.0104	0.0390	0.0114	0.0345
0.6500	0.1371	0.0609	0.4539	0.0203	0.0086	0.0501	0.0115	0.0323
0.6500	0.1226	0.0609	0.4451	0.0170	0.0028	0.0389	0.0119	0.0381
0.6500	0.0908	0.0609	0.4749	0.0214	0.0047	0.0503	0.0189	0.0431
0.6500	0.0589	0.0609	0.4712	0.0124	-0.0061	0.0497	0.0225	0.0464
0.6500	0.0271	0.0609	0.3334	0.0110	0.0283	0.0934	0.0252	0.0101
0.6500	-0.0048	0.0609	0.3637	0.0048	-0.0358	0.0776	0.0315	0.0545
0.6500	-0.0366	0.0609	0.2460	0.0072	-0.0044	0.0708	0.0378	0.0611
0.6500	-0.0685	0.0609	0.1913	-0.0057	-0.0238	0.0862	0.0374	0.0606
0.6500	-0.1003	0.0609	0.1072	-0.0032	-0.0104	0.1056	0.0423	0.0682
0.6500	-0.1322	0.0609	0.1435	-0.0043	-0.0285	0.0834	0.0331	0.0586
0.6500	-0.1467	0.0609	0.0742	-0.0078	-0.0157	0.0803	0.0312	0.0550
0.6500	-0.1534	0.0609	0.0355	0.0334	0.0334	0.0761	0.0499	0.0499
0.6500	-0.1574	0.0609	0.0633	0.0439	0.0439	0.0637	0.0638	0.0638
0.6500	-0.1676	0.0609	-0.0336	0.0254	0.0254	0.0574	0.0383	0.0383
0.6500	-0.1896	0.0609	-0.0908	0.0262	0.0262	0.1124	0.0422	0.0422
0.9096	0.1534	0.0609	0.5073	0.0226	0.0226	0.0362	0.0173	0.0173
0.9096	0.1574	0.0609	0.4748	0.0244	0.0244	0.0654	0.0183	0.0183
0.9096	0.1676	0.0609	0.3946	0.0205	0.0205	0.0330	0.0156	0.0156
0.9096	0.1896	0.0609	0.3931	0.0169	0.0169	0.0469	0.0299	0.0299
0.9096	0.1467	0.0609	0.4579	0.0030	-0.0150	0.0684	0.0165	0.0409
0.9096	0.1371	0.0609	0.5002	0.0040	-0.0022	0.0422	0.0166	0.0550
0.9096	0.1226	0.0609	0.4919	0.0042	0.0284	0.0558	0.0203	0.0482
0.9096	0.0908	0.0609	0.5104	0.0026	0.0104	0.0504	0.0213	0.0404
0.9096	0.0589	0.0609	0.4037	0.0010	-0.0015	0.0931	0.0241	0.0528
0.9096	0.0271	0.0609	0.3126	-0.0134	-0.0138	0.1039	0.0245	0.0470
0.9096	-0.0048	0.0609	0.2753	-0.0078	-0.0194	0.0985	0.0292	0.0512
0.9096	-0.0366	0.0609	0.2830	-0.0164	-0.0185	0.0929	0.0322	0.0596
0.9096	-0.0685	0.0609	0.2513	-0.0025	-0.0151	0.0862	0.0350	0.0536
0.9096	-0.1003	0.0609	0.1408	-0.0128	0.0010	0.0940	0.0366	0.0543
0.9096	-0.1322	0.0609	0.0467	-0.0269	-0.0135	0.0947	0.0337	0.0611
0.9096	-0.1467	0.0609	0.0717	-0.0138	-0.0223	0.1019	0.0313	0.0526
0.9096	-0.1534	0.0609	0.0633	0.0236	0.0236	0.0894	0.0659	0.0659
0.9096	-0.1574	0.0609	-0.0743	0.0334	0.0334	0.0719	0.0620	0.0620
0.9096	-0.1676	0.0609	-0.1120	0.0660	0.0660	0.0402	0.0431	0.0431
0.9096	-0.1896	0.0609	-0.0927	0.0546	0.0546	0.0594	0.0677	0.0677
1.5596	0.1534	0.0609	0.3838	0.0206	0.0206	0.0604	0.0242	0.0242
1.5596	0.1574	0.0609	0.3274	0.0385	0.0385	0.0660	0.0316	0.0316
1.5596	0.1676	0.0609	0.3708	0.0300	0.0300	0.0521	0.0273	0.0273
1.5596	0.1896	0.0609	0.3305	0.0232	0.0232	0.0426	0.0291	0.0291
1.5596	0.1467	0.0609	0.2929	0.0495	0.0269	0.0813	0.0500	0.0269
1.5596	0.1371	0.0609	0.2704	0.0433	0.0246	0.0604	0.0481	0.0246
1.5596	0.1226	0.0609	0.3133	0.0438	0.0347	0.0643	0.0375	0.0347
1.5596	0.0908	0.0609	0.2998	0.0657	0.0327	0.0667	0.0518	0.0327
1.5596	0.0589	0.0609	0.3019	0.0554	0.0421	0.0638	0.0620	0.0421
1.5596	0.0271	0.0609	0.2724	0.0495	0.0271	0.0611	0.0643	0.0271

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
1.5596	-0.0048	0.0609	0.2242	0.0460	-0.0012	0.0943	0.0694	0.0314
1.5596	-0.0366	0.0609	0.2024	0.0732	-0.0094	0.0768	0.0665	0.0498
1.5596	-0.0685	0.0609	0.1071	0.0554	0.0095	0.0702	0.0734	0.0492
1.5596	-0.1003	0.0609	0.0806	0.0602	0.0114	0.0977	0.0632	0.0483
1.5596	-0.1322	0.0609	0.0345	0.0637	0.0149	0.0828	0.0674	0.0443
1.5596	-0.1467	0.0609	0.0471	0.0208	0.0169	0.0947	0.0690	0.0456
1.5596	-0.1534	0.0609	0.0517	0.0362	0.0362	0.0473	0.0393	0.0393
1.5596	-0.1574	0.0609	0.0483	0.0409	0.0409	0.0588	0.0295	0.0295
1.5596	-0.1676	0.0609	0.0625	0.0020	0.0020	0.0860	0.0197	0.0197
1.5596	-0.1896	0.0609	0.0622	0.0089	0.0089	0.0457	0.0295	0.0295
2.2196	0.1534	0.0609	0.2847	0.0221	0.0221	0.0675	0.0194	0.0194
2.2196	0.1574	0.0609	0.2591	0.0144	0.0144	0.0749	0.0375	0.0375
2.2196	0.1676	0.0609	0.2258	0.0309	0.0309	0.0430	0.0263	0.0263
2.2196	0.1896	0.0609	0.2476	0.0065	0.0065	0.0489	0.0423	0.0423
2.2196	0.1467	0.0609	0.2348	0.0377	0.0293	0.0506	0.0446	0.0293
2.2196	0.1371	0.0609	0.2638	0.0147	0.0220	0.0539	0.0647	0.0220
2.2196	0.1226	0.0609	0.2769	0.0350	0.0253	0.0551	0.0511	0.0253
2.2196	0.0908	0.0609	0.2261	0.0380	0.0346	0.0508	0.0541	0.0346
2.2196	0.0589	0.0609	0.2217	0.0442	0.0336	0.0632	0.0519	0.0336
2.2196	0.0271	0.0609	0.2179	0.0305	0.0416	0.0604	0.0589	0.0416
2.2196	-0.0048	0.0609	0.2077	0.0361	0.0116	0.0544	0.0585	0.0116
2.2196	-0.0366	0.0609	0.1794	0.0499	0.0383	0.0496	0.0591	0.0383
2.2196	-0.0685	0.0609	0.1604	0.0516	0.0370	0.0560	0.0681	0.0370
2.2196	-0.1003	0.0609	0.1435	0.0355	0.0414	0.0519	0.0633	0.0414
2.2196	-0.1322	0.0609	0.1275	0.0291	0.0367	0.0612	0.0638	0.0367
2.2196	-0.1467	0.0609	0.0937	0.0274	0.0338	0.0661	0.0677	0.0338
2.2196	-0.1534	0.0609	0.0383	0.0185	0.0185	0.0498	0.0399	0.0399
2.2196	-0.1574	0.0609	0.0915	0.0435	0.0435	0.0624	0.0318	0.0318
2.2196	-0.1676	0.0609	0.0335	0.0279	0.0279	0.0335	0.0348	0.0348
2.2196	-0.1896	0.0609	0.0698	0.0312	0.0312	0.0294	0.0287	0.0287
2.3696	0.1534	0.0609	0.2314	0.0046	0.0046	0.0529	0.0253	0.0253
2.3696	0.1574	0.0609	0.1900	0.0067	0.0067	0.0447	0.0371	0.0371
2.3696	0.1676	0.0609	0.2514	-0.0005	-0.0005	0.0502	0.0345	0.0345
2.3696	0.1896	0.0609	0.2517	-0.0052	-0.0052	0.0585	0.0269	0.0269
2.3696	0.1467	0.0609	0.2308	0.0181	0.0010	0.0423	0.0413	0.0127
2.3696	0.1371	0.0609	0.2045	0.0178	0.0068	0.0636	0.0398	0.0129
2.3696	0.1226	0.0609	0.2170	0.0181	0.0099	0.0520	0.0415	0.0122
2.3696	0.0908	0.0609	0.2063	0.0119	0.0026	0.0577	0.0539	0.0124
2.3696	0.0589	0.0609	0.2132	0.0354	0.0055	0.0612	0.0421	0.0120
2.3696	0.0271	0.0609	0.2164	0.0160	0.0095	0.0624	0.0461	0.0152
2.3696	-0.0048	0.0609	0.1971	0.0250	-0.0107	0.0677	0.0551	0.0327
2.3696	-0.0366	0.0609	0.1979	0.0266	-0.0022	0.0621	0.0501	0.0356
2.3696	-0.0685	0.0609	0.1821	0.0164	-0.0086	0.0456	0.0399	0.0393
2.3696	-0.1003	0.0609	0.1182	0.0218	0.0026	0.0705	0.0486	0.0327
2.3696	-0.1322	0.0609	0.1205	0.0066	0.0056	0.0369	0.0549	0.0304
2.3696	-0.1467	0.0609	0.1201	0.0198	0.0108	0.0561	0.0465	0.0298
2.3696	-0.1534	0.0609	0.1347	0.0183	0.0183	0.0338	0.0290	0.0290
2.3696	-0.1574	0.0609	0.1332	-0.0186	-0.0186	0.0477	0.0294	0.0294
2.3696	-0.1676	0.0609	0.1021	0.0088	0.0088	0.0500	0.0313	0.0313
2.3696	-0.1896	0.0609	0.0817	0.0141	0.0141	0.0636	0.0221	0.0221
3.2046	0.1534	0.0609	0.2029	0.0150	0.0150	0.0518	0.0149	0.0149
3.2046	0.1574	0.0609	0.2181	0.0112	0.0112	0.0304	0.0165	0.0165
3.2046	0.1676	0.0609	0.2418	0.0051	0.0051	0.0429	0.0148	0.0148
3.2046	0.1896	0.0609	0.1635	0.0059	0.0059	0.0325	0.0203	0.0203

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
3.2046	0.1467	0.0609	0.1803	0.0243	-0.0192	0.0531	0.0420	0.0230
3.2046	0.1371	0.0609	0.1899	0.0205	-0.0203	0.0510	0.0400	0.0233
3.2046	0.1226	0.0609	0.2281	0.0182	-0.0205	0.0474	0.0410	0.0242
3.2046	0.0908	0.0609	0.2242	0.0331	-0.0246	0.0367	0.0407	0.0227
3.2046	0.0589	0.0609	0.1934	0.0171	-0.0003	0.0415	0.0403	0.0240
3.2046	0.0271	0.0609	0.1648	0.0181	0.0006	0.0400	0.0479	0.0120
3.2046	-0.0048	0.0609	0.1874	0.0088	-0.0115	0.0506	0.0471	0.0228
3.2046	-0.0366	0.0609	0.1530	0.0184	-0.0010	0.0451	0.0531	0.0237
3.2046	-0.0685	0.0609	0.1554	0.0079	-0.0018	0.0516	0.0462	0.0308
3.2046	-0.1003	0.0609	0.1653	0.0380	-0.0012	0.0555	0.0450	0.0296
3.2046	-0.1322	0.0609	0.1512	0.0126	0.0025	0.0530	0.0429	0.0307
3.2046	-0.1467	0.0609	0.1282	0.0216	-0.0020	0.0466	0.0488	0.0277
3.2046	-0.1534	0.0609	0.1291	0.0114	0.0114	0.0607	0.0279	0.0279
3.2046	-0.1574	0.0609	0.1270	0.0119	0.0119	0.0490	0.0297	0.0297
3.2046	-0.1676	0.0609	0.1290	0.0038	0.0038	0.0368	0.0248	0.0248
3.2046	-0.1896	0.0609	0.1154	0.0178	0.0178	0.0270	0.0196	0.0196
4.1946	0.1534	0.0609	0.2147	0.0201	0.0201	0.0207	0.0152	0.0152
4.1946	0.1574	0.0609	0.1888	0.0146	0.0146	0.0243	0.0272	0.0272
4.1946	0.1676	0.0609	0.1976	0.0120	0.0120	0.0259	0.0143	0.0143
4.1946	0.1896	0.0609	0.1568	0.0176	0.0176	0.0229	0.0173	0.0173
4.1946	0.1467	0.0609	0.1557	-0.0123	-0.0137	0.0340	0.0332	0.0176
4.1946	0.1371	0.0609	0.1976	0.0136	-0.0207	0.0544	0.0338	0.0210
4.1946	0.1226	0.0609	0.1843	0.0039	-0.0171	0.0397	0.0303	0.0215
4.1946	0.0908	0.0609	0.1843	0.0177	-0.0169	0.0371	0.0273	0.0208
4.1946	0.0589	0.0609	0.1972	0.0111	-0.0213	0.0385	0.0306	0.0170
4.1946	0.0271	0.0609	0.1938	0.0168	-0.0020	0.0347	0.0337	0.0180
4.1946	-0.0048	0.0609	0.1815	0.0206	-0.0069	0.0337	0.0367	0.0163
4.1946	-0.0366	0.0609	0.1613	0.0203	0.0006	0.0413	0.0319	0.0198
4.1946	-0.0685	0.0609	0.1785	0.0181	-0.0020	0.0363	0.0290	0.0228
4.1946	-0.1003	0.0609	0.1411	0.0303	-0.0032	0.0307	0.0302	0.0243
4.1946	-0.1322	0.0609	0.1467	0.0165	-0.0064	0.0327	0.0302	0.0224
4.1946	-0.1467	0.0609	0.1492	0.0141	-0.0028	0.0353	0.0297	0.0216
4.1946	-0.1534	0.0609	0.1357	0.0271	0.0271	0.0274	0.0157	0.0157
4.1946	-0.1574	0.0609	0.1448	0.0245	0.0245	0.0162	0.0175	0.0175
4.1946	-0.1676	0.0609	0.1457	0.0125	0.0125	0.0196	0.0239	0.0239
4.1946	-0.1896	0.0609	0.1527	0.0198	0.0198	0.0381	0.0161	0.0161
5.2303	0.1534	0.0609	0.1766	0.0186	0.0186	0.0310	0.0273	0.0273
5.2303	0.1574	0.0609	0.1853	0.0115	0.0115	0.0217	0.0250	0.0250
5.2303	0.1676	0.0609	0.1840	0.0207	0.0207	0.0199	0.0245	0.0245
5.2303	0.1896	0.0609	0.1632	0.0491	0.0491	0.0295	0.0304	0.0304
5.2303	0.1467	0.0609	0.1541	0.0138	-0.0044	0.0237	0.0240	0.0136
5.2303	0.1371	0.0609	0.1463	0.0078	-0.0077	0.0294	0.0236	0.0136
5.2303	0.1226	0.0609	0.1747	0.0116	-0.0088	0.0317	0.0227	0.0152
5.2303	0.0908	0.0609	0.1601	0.0037	-0.0069	0.0264	0.0212	0.0155
5.2303	0.0589	0.0609	0.1667	0.0082	-0.0126	0.0284	0.0287	0.0151
5.2303	0.0271	0.0609	0.1565	0.0091	-0.0099	0.0291	0.0252	0.0140
5.2303	-0.0048	0.0609	0.1627	0.0109	-0.0159	0.0240	0.0260	0.0146
5.2303	-0.0366	0.0609	0.1587	0.0106	-0.0071	0.0339	0.0258	0.0194
5.2303	-0.0685	0.0609	0.1659	0.0172	-0.0012	0.0277	0.0242	0.0213
5.2303	-0.1003	0.0609	0.1729	0.0125	-0.0035	0.0244	0.0256	0.0231
5.2303	-0.1322	0.0609	0.1560	0.0121	-0.0035	0.0338	0.0227	0.0201
5.2303	-0.1467	0.0609	0.1582	0.0143	-0.0014	0.0274	0.0242	0.0191
5.2303	-0.1534	0.0609	0.1482	0.0126	0.0126	0.0186	0.0161	0.0161
5.2303	-0.1574	0.0609	0.1562	0.0109	0.0109	0.0271	0.0137	0.0137

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
5.2303	-0.1676	0.0609	0.1339	0.0016	0.0016	0.0135	0.0170	0.0170
5.2303	-0.1896	0.0609	0.1471	0.0040	0.0040	0.0185	0.0131	0.0131
-0.5000	0.0953	0.0609	0.4317	0.0050	-0.0031	0.0369	0.0245	0.0234
-0.5000	0.0826	0.0609	0.4904	0.0074	-0.0029	0.0251	0.0178	0.0140
-0.5000	0.0699	0.0609	0.5157	0.0106	0.0043	0.0197	0.0141	0.0092
-0.5000	0.0445	0.0609	0.5240	0.0119	0.0135	0.0173	0.0113	0.0153
-0.5000	0.0191	0.0609	0.5277	0.0081	0.0118	0.0160	0.0118	0.0190
-0.5000	-0.0064	0.0609	0.5439	0.0009	0.0473	0.0105	0.0139	0.0239
-0.5000	-0.0318	0.0609	0.5253	0.0009	0.0455	0.0144	0.0165	0.0271
-0.5000	-0.0572	0.0609	0.5066	-0.0065	0.0466	0.0171	0.0196	0.0124
-0.5000	-0.0826	0.0609	0.5040	-0.0084	0.0420	0.0212	0.0175	0.0131
-0.5000	-0.0953	0.0609	0.4379	0.0009	0.0315	0.0348	0.0195	0.0156
-0.1650	0.0953	0.0609	0.4228	0.0074	0.0023	0.0347	0.0277	0.0215
-0.1650	0.0826	0.0609	0.4838	0.0055	-0.0013	0.0258	0.0211	0.0123
-0.1650	0.0699	0.0609	0.5101	0.0049	0.0030	0.0222	0.0166	0.0093
-0.1650	0.0445	0.0609	0.5265	0.0061	0.0099	0.0199	0.0159	0.0158
-0.1650	0.0191	0.0609	0.5398	0.0066	0.0121	0.0109	0.0142	0.0212
-0.1650	-0.0064	0.0609	0.5342	0.0043	0.0428	0.0135	0.0140	0.0207
-0.1650	-0.0318	0.0609	0.5232	0.0044	0.0339	0.0138	0.0163	0.0338
-0.1650	-0.0572	0.0609	0.4811	-0.0002	0.0468	0.0258	0.0180	0.0125
-0.1650	-0.0826	0.0609	0.5014	-0.0076	0.0390	0.0193	0.0198	0.0122
-0.1650	-0.0953	0.0609	0.4504	0.0018	0.0319	0.0322	0.0204	0.0169
0.6500	-0.2133	0.0659	0.0849	0.0449	0.0449	0.0541	0.0443	0.0443
0.9096	-0.2133	0.0659	0.0561	0.0246	0.0246	0.0433	0.0443	0.0443
1.5596	-0.2133	0.0659	-0.0803	0.0239	0.0239	0.0441	0.0331	0.0331
2.2196	-0.2133	0.0659	0.0140	0.0172	0.0172	0.0369	0.0227	0.0227
2.3696	0.2133	0.0659	0.1731	-0.0118	-0.0118	0.0514	0.0267	0.0267
2.3696	-0.2133	0.0659	0.0214	0.0121	0.0121	0.0638	0.0312	0.0312
3.2046	0.2133	0.0659	0.1400	-0.0127	-0.0127	0.0516	0.0199	0.0199
3.2046	-0.2133	0.0659	0.0700	0.0113	0.0113	0.0653	0.0226	0.0226
4.1946	0.2133	0.0659	0.1422	-0.0040	-0.0040	0.0333	0.0214	0.0214
4.1946	-0.2133	0.0659	0.0674	0.0070	0.0070	0.0255	0.0236	0.0236
5.2303	0.2133	0.0659	0.1376	0.0202	0.0202	0.0265	0.0403	0.0403
5.2303	-0.2133	0.0659	0.1353	0.0000	0.0000	0.0178	0.0011	0.0011
0.5300	-0.1977	0.0716	0.0014	-0.0402	-0.0402	0.0855	0.0362	0.0362
0.2990	0.1275	0.0751	0.4578	-0.0386	-0.0386	0.0199	0.0082	0.0082
0.2990	0.1403	0.0751	0.4562	-0.0450	-0.0450	0.0338	0.0111	0.0111
0.0940	-0.1113	0.0759	0.1756	-0.0098	-0.0098	0.0895	0.0467	0.0330
0.5300	-0.1786	0.0771	0.0273	-0.0083	-0.0083	0.0677	0.0351	0.0351
0.5300	0.1850	0.0782	0.2526	-0.0628	-0.0628	0.0796	0.0267	0.0267
0.2990	-0.1275	0.0846	0.0160	-0.0207	-0.0207	0.0571	0.0246	0.0246
0.5300	-0.1977	0.0858	-0.0238	-0.0406	-0.0406	0.0538	0.0471	0.0471
0.6500	-0.2133	0.0871	-0.1571	-0.0100	-0.0100	0.0378	0.0338	0.0338
0.9096	-0.2133	0.0871	-0.1767	0.0076	0.0076	0.0494	0.0272	0.0272
1.5596	-0.2133	0.0871	-0.0990	0.0167	0.0167	0.0508	0.0297	0.0297
2.2196	-0.2133	0.0871	0.0245	0.0154	0.0154	0.0628	0.0246	0.0246
2.3696	0.2133	0.0871	0.1909	0.0018	0.0018	0.0468	0.0319	0.0319
2.3696	-0.2133	0.0871	0.0796	0.0084	0.0084	0.0613	0.0188	0.0188
3.2046	0.2133	0.0871	0.1702	0.0155	0.0155	0.0421	0.0197	0.0197
3.2046	-0.2133	0.0871	0.0731	0.0036	0.0036	0.0386	0.0269	0.0269
4.1946	0.2133	0.0871	0.2098	0.0131	0.0131	0.0421	0.0194	0.0194
4.1946	-0.2133	0.0871	0.0950	0.0051	0.0051	0.0353	0.0150	0.0150
5.2303	0.2133	0.0871	0.1546	0.0189	0.0189	0.0166	0.0199	0.0199
5.2303	-0.2133	0.0871	0.1175	0.0197	0.0197	0.0210	0.0120	0.0120

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
0.0940	0.1104	0.0874	0.4574	-0.0387	-0.0387	0.0552	0.0104	0.0104
0.2990	-0.1466	0.0912	0.0100	0.0073	0.0073	0.0473	0.0202	0.0202
0.5300	-0.1786	0.0941	0.0149	-0.0176	-0.0176	0.0511	0.0255	0.0255
0.5300	0.1659	0.0988	0.4447	0.0014	0.0014	0.0327	0.0101	0.0101
0.2990	0.1403	0.1018	0.4806	-0.0406	-0.0406	0.0305	0.0094	0.0094
0.5300	-0.2168	0.1028	-0.0378	-0.0198	-0.0198	0.0429	0.0302	0.0302
-0.5000	0.0953	0.1101	0.4184	0.0068	-0.0131	0.0394	0.0236	0.0246
-0.5000	0.0826	0.1101	0.4877	0.0046	0.0014	0.0324	0.0208	0.0177
-0.5000	0.0699	0.1101	0.5104	0.0054	0.0060	0.0261	0.0202	0.0108
-0.5000	0.0445	0.1101	0.5228	0.0060	0.0060	0.0187	0.0168	0.0053
-0.5000	0.0191	0.1101	0.5461	0.0061	0.0158	0.0102	0.0142	0.0215
-0.5000	-0.0064	0.1101	0.5243	0.0074	0.0359	0.0167	0.0147	0.0322
-0.5000	-0.0318	0.1101	0.5108	0.0114	0.0343	0.0223	0.0195	0.0273
-0.5000	-0.0572	0.1101	0.4793	0.0155	0.0412	0.0260	0.0228	0.0167
-0.5000	-0.0826	0.1101	0.4435	0.0131	0.0339	0.0414	0.0197	0.0109
-0.5000	-0.0953	0.1101	0.4214	0.0096	0.0241	0.0504	0.0212	0.0130
-0.1650	0.0953	0.1101	0.4117	0.0092	-0.0135	0.0375	0.0267	0.0248
-0.1650	0.0826	0.1101	0.4809	0.0026	-0.0028	0.0272	0.0233	0.0167
-0.1650	0.0699	0.1101	0.4922	0.0027	0.0033	0.0237	0.0197	0.0088
-0.1650	0.0445	0.1101	0.5213	0.0020	0.0039	0.0173	0.0170	0.0178
-0.1650	0.0191	0.1101	0.5384	0.0042	0.0097	0.0126	0.0139	0.0246
-0.1650	-0.0064	0.1101	0.5276	0.0090	0.0435	0.0143	0.0161	0.0232
-0.1650	-0.0318	0.1101	0.5087	0.0131	0.0369	0.0240	0.0209	0.0304
-0.1650	-0.0572	0.1101	0.5132	0.0155	0.0457	0.0186	0.0220	0.0135
-0.1650	-0.0826	0.1101	0.4984	0.0148	0.0394	0.0675	0.0216	0.0106
-0.1650	-0.0953	0.1101	0.4233	0.0087	0.0307	0.0343	0.0230	0.0169
-0.0700	0.0953	0.1101	0.4303	0.0058	-0.0094	0.0412	0.0269	0.0223
-0.0700	0.0826	0.1101	0.4788	0.0078	0.0002	0.0309	0.0226	0.0153
-0.0700	0.0699	0.1101	0.4933	0.0083	0.0023	0.0278	0.0193	0.0107
-0.0700	0.0445	0.1101	0.5132	0.0122	0.0054	0.0179	0.0147	0.0178
-0.0700	0.0191	0.1101	0.5215	0.0139	-0.0060	0.0130	0.0150	0.0251
-0.0700	-0.0064	0.1101	0.5198	0.0172	0.0322	0.0134	0.0163	0.0267
-0.0700	-0.0318	0.1101	0.4932	0.0155	0.0399	0.0213	0.0204	0.0113
-0.0700	-0.0572	0.1101	0.5014	0.0181	0.0315	0.0194	0.0233	0.0152
-0.0700	-0.0826	0.1101	0.4831	0.0167	0.0176	0.0548	0.0219	0.0213
-0.0700	-0.0953	0.1101	0.3851	0.0152	0.0308	0.0360	0.0228	0.0187
0.0940	0.0943	0.1101	0.5241	-0.0397	0.0305	0.0224	0.0139	0.0261
0.0940	0.0673	0.1101	0.5105	-0.0324	0.0244	0.0151	0.0129	0.0166
0.0940	0.0402	0.1101	0.5059	-0.0260	0.0270	0.0159	0.0139	0.0136
0.0940	0.0131	0.1101	0.4925	-0.0173	0.0324	0.0193	0.0163	0.0155
0.0940	-0.0139	0.1101	0.4728	-0.0095	-0.0125	0.0251	0.0183	0.0237
0.0940	-0.0410	0.1101	0.4278	-0.0058	-0.0089	0.0366	0.0228	0.0197
0.0940	-0.0681	0.1101	0.3541	0.0034	-0.0106	0.0560	0.0297	0.0183
0.0940	-0.0952	0.1101	0.1740	0.0343	-0.0151	0.0803	0.0509	0.0105
0.0940	-0.1113	0.1101	0.0861	-0.0125	-0.0125	0.0931	0.0460	0.0326
0.2990	0.1275	0.1101	0.4392	-0.0366	-0.0366	0.0804	0.0140	0.0140
0.2990	0.1403	0.1101	0.4826	-0.0454	-0.0454	0.0839	0.0103	0.0103
0.2990	0.1657	0.1101	0.1371	-0.0006	-0.0006	0.0787	0.0245	0.0245
0.2990	0.1115	0.1101	0.4900	-0.0919	-0.0101	0.0217	0.0123	0.0568
0.2990	0.0796	0.1101	0.4738	-0.0767	-0.0015	0.0148	0.0111	0.0587
0.2990	0.0478	0.1101	0.4874	-0.0693	-0.0065	0.0194	0.0162	0.0562
0.2990	0.0159	0.1101	0.4721	-0.0691	0.0074	0.0283	0.0197	0.0569
0.2990	-0.0159	0.1101	0.4330	-0.0743	-0.0088	0.0425	0.0269	0.0570
0.2990	-0.0478	0.1101	0.3037	-0.0419	-0.0058	0.0820	0.0508	0.0493

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
0.2990	-0.0796	0.1101	0.0911	-0.0321	0.0142	0.0859	0.0620	0.0525
0.2990	-0.1115	0.1101	0.0148	-0.0223	0.0036	0.0698	0.0389	0.0517
0.2990	-0.1275	0.1101	-0.0279	-0.0286	-0.0286	0.0652	0.0468	0.0468
0.2990	-0.1466	0.1101	-0.0245	-0.0199	-0.0199	0.0375	0.0262	0.0262
0.5300	0.1531	0.1101	0.4269	0.0049	0.0049	0.0728	0.0126	0.0126
0.5300	0.1659	0.1101	0.4732	-0.0027	-0.0027	0.0399	0.0111	0.0111
0.5300	0.1850	0.1101	0.3793	-0.0672	-0.0672	0.0249	0.0212	0.0212
0.5300	0.1304	0.1101	0.4720	-0.0656	0.0103	0.0204	0.0211	0.0322
0.5300	0.0932	0.1101	0.4787	-0.0719	0.0082	0.0272	0.0214	0.0372
0.5300	0.0559	0.1101	0.4550	-0.0546	0.0054	0.0626	0.0338	0.0431
0.5300	0.0186	0.1101	0.3658	-0.0408	0.0062	0.0887	0.0521	0.0477
0.5300	-0.0186	0.1101	0.2076	-0.0235	0.0090	0.0682	0.0621	0.0459
0.5300	-0.0559	0.1101	0.0809	-0.0248	0.0076	0.0962	0.0729	0.0571
0.5300	-0.0931	0.1101	0.0037	-0.0575	-0.0057	0.0858	0.0588	0.0451
0.5300	-0.1304	0.1101	-0.0628	-0.0595	-0.0011	0.0457	0.0408	0.0556
0.5300	-0.1468	0.1101	-0.0320	0.0202	0.0202	0.0699	0.0298	0.0298
0.5300	-0.1595	0.1101	0.0095	-0.0240	-0.0240	0.0556	0.0226	0.0226
0.5300	-0.1786	0.1101	-0.0590	-0.0380	-0.0380	0.0491	0.0214	0.0214
0.5300	-0.1977	0.1101	-0.0664	-0.0437	-0.0437	0.0547	0.0294	0.0294
0.5300	-0.2168	0.1101	-0.0639	-0.0409	-0.0409	0.0532	0.0259	0.0259
0.6500	0.1534	0.1101	0.5108	0.0123	0.0123	0.0263	0.0207	0.0207
0.6500	0.1574	0.1101	0.5068	0.0064	0.0064	0.0291	0.0170	0.0170
0.6500	0.1676	0.1101	0.5410	0.0028	0.0028	0.0176	0.0201	0.0201
0.6500	0.1896	0.1101	0.4729	0.0059	0.0059	0.0224	0.0170	0.0170
0.6500	0.2133	0.1101	0.3382	0.0030	0.0030	0.0465	0.0161	0.0161
0.6500	0.1467	0.1101	0.4974	0.0299	0.0102	0.0225	0.0119	0.0321
0.6500	0.1371	0.1101	0.4977	0.0275	0.0081	0.0723	0.0111	0.0369
0.6500	0.1226	0.1101	0.4940	0.0253	0.0061	0.0431	0.0136	0.0409
0.6500	0.0908	0.1101	0.4848	0.0200	0.0075	0.0507	0.0213	0.0443
0.6500	0.0589	0.1101	0.3941	0.0134	0.0039	0.0695	0.0229	0.0469
0.6500	0.0271	0.1101	0.3006	0.0051	0.0170	0.0916	0.0298	0.0274
0.6500	-0.0048	0.1101	0.1721	0.0141	-0.0264	0.0821	0.0343	0.0561
0.6500	-0.0366	0.1101	0.0998	0.0120	-0.0041	0.0958	0.0344	0.0566
0.6500	-0.0685	0.1101	0.0316	0.0039	-0.0142	0.0922	0.0362	0.0603
0.6500	-0.1003	0.1101	-0.0255	-0.0067	-0.0180	0.0965	0.0360	0.0531
0.6500	-0.1322	0.1101	-0.0685	0.0088	-0.0166	0.0871	0.0307	0.0540
0.6500	-0.1467	0.1101	-0.0728	0.0095	0.0082	0.0827	0.0299	0.0569
0.6500	-0.1534	0.1101	-0.0433	-0.0357	-0.0357	0.0828	0.0361	0.0361
0.6500	-0.1574	0.1101	-0.0188	-0.0319	-0.0319	0.0778	0.0444	0.0444
0.6500	-0.1676	0.1101	-0.1308	-0.0553	-0.0553	0.0655	0.0417	0.0417
0.6500	-0.1896	0.1101	-0.1255	-0.0380	-0.0380	0.0638	0.0357	0.0357
0.6500	-0.2133	0.1101	-0.2192	-0.0284	-0.0284	0.0357	0.0299	0.0299
0.9096	0.1534	0.1101	0.5162	0.0130	0.0130	0.0500	0.0106	0.0106
0.9096	0.1574	0.1101	0.5096	0.0145	0.0145	0.0236	0.0142	0.0142
0.9096	0.1676	0.1101	0.5258	0.0192	0.0192	0.0277	0.0105	0.0105
0.9096	0.1896	0.1101	0.4573	0.0198	0.0198	0.0475	0.0167	0.0167
0.9096	0.2133	0.1101	0.2228	0.0232	0.0232	0.0804	0.0470	0.0470
0.9096	0.1467	0.1101	0.5526	0.0087	-0.0125	0.0434	0.0140	0.0444
0.9096	0.1371	0.1101	0.5317	0.0036	-0.0204	0.0534	0.0166	0.0306
0.9096	0.1226	0.1101	0.5256	0.0074	-0.0033	0.0413	0.0133	0.0460
0.9096	0.0908	0.1101	0.4445	0.0024	0.0164	0.0768	0.0261	0.0488
0.9096	0.0589	0.1101	0.3514	0.0081	0.0081	0.0974	0.0236	0.0555
0.9096	0.0271	0.1101	0.2521	-0.0035	-0.0046	0.0941	0.0356	0.0506
0.9096	-0.0048	0.1101	0.1799	-0.0006	-0.0141	0.0995	0.0357	0.0512

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
0.9096	-0.0366	0.1101	0.1358	-0.0098	-0.0108	0.1189	0.0366	0.0518
0.9096	-0.0685	0.1101	0.0907	-0.0042	-0.0057	0.0909	0.0386	0.0590
0.9096	-0.1003	0.1101	0.0725	0.0015	0.0142	0.0841	0.0346	0.0525
0.9096	-0.1322	0.1101	-0.0264	-0.0077	-0.0093	0.0941	0.0341	0.0570
0.9096	-0.1467	0.1101	-0.0229	0.0003	0.0165	0.0910	0.0298	0.0497
0.9096	-0.1534	0.1101	-0.0232	0.0215	0.0215	0.0913	0.0778	0.0778
0.9096	-0.1574	0.1101	-0.0751	-0.0194	-0.0194	0.0518	0.0420	0.0420
0.9096	-0.1676	0.1101	-0.1228	0.0013	0.0013	0.0470	0.0360	0.0360
0.9096	-0.1896	0.1101	-0.1310	-0.0200	-0.0200	0.0563	0.0617	0.0617
0.9096	-0.2133	0.1101	-0.1885	-0.0020	-0.0020	0.0295	0.0245	0.0245
1.5596	0.1534	0.1101	0.3809	0.0266	0.0266	0.0418	0.0308	0.0308
1.5596	0.1574	0.1101	0.3697	0.0321	0.0321	0.0517	0.0242	0.0242
1.5596	0.1676	0.1101	0.3738	0.0266	0.0266	0.0472	0.0256	0.0256
1.5596	0.1896	0.1101	0.3613	0.0155	0.0155	0.0458	0.0254	0.0254
1.5596	0.2133	0.1101	0.3957	0.0242	0.0242	0.0316	0.0260	0.0260
1.5596	0.1467	0.1101	0.3674	0.0508	0.0277	0.0547	0.0430	0.0277
1.5596	0.1371	0.1101	0.3653	0.0564	0.0313	0.0528	0.0559	0.0313
1.5596	0.1226	0.1101	0.3684	0.0507	0.0331	0.0583	0.0547	0.0331
1.5596	0.0908	0.1101	0.3306	0.0672	0.0335	0.0761	0.0570	0.0335
1.5596	0.0589	0.1101	0.3085	0.0665	0.0440	0.0679	0.0700	0.0440
1.5596	0.0271	0.1101	0.2542	0.0719	0.0301	0.0768	0.0664	0.0301
1.5596	-0.0048	0.1101	0.2373	0.0692	0.0036	0.0727	0.0735	0.0360
1.5596	-0.0366	0.1101	0.1777	0.0679	-0.0057	0.0669	0.0702	0.0452
1.5596	-0.0685	0.1101	0.1003	0.0486	0.0039	0.0784	0.0717	0.0503
1.5596	-0.1003	0.1101	0.0672	0.0339	0.0004	0.0757	0.0671	0.0465
1.5596	-0.1322	0.1101	0.0621	0.0616	0.0084	0.0829	0.0690	0.0524
1.5596	-0.1467	0.1101	0.0483	0.0256	-0.0206	0.0842	0.0644	0.0553
1.5596	-0.1534	0.1101	0.0529	0.0121	0.0121	0.0450	0.0420	0.0420
1.5596	-0.1574	0.1101	0.0474	0.0436	0.0436	0.0553	0.0535	0.0535
1.5596	-0.1676	0.1101	0.0326	-0.0085	-0.0085	0.0642	0.0423	0.0423
1.5596	-0.1896	0.1101	-0.0567	0.0106	0.0106	0.0804	0.0268	0.0268
1.5596	-0.2133	0.1101	-0.0908	0.0043	0.0043	0.0413	0.0303	0.0303
2.2196	0.1534	0.1101	0.2871	0.0276	0.0276	0.0400	0.0213	0.0213
2.2196	0.1574	0.1101	0.3049	0.0221	0.0221	0.0491	0.0252	0.0252
2.2196	0.1676	0.1101	0.2868	0.0437	0.0437	0.0436	0.0191	0.0191
2.2196	0.1896	0.1101	0.2841	0.0104	0.0104	0.0527	0.0246	0.0246
2.2196	0.2133	0.1101	0.3074	0.0211	0.0211	0.0455	0.0256	0.0256
2.2196	0.1467	0.1101	0.3283	0.0423	0.0304	0.0526	0.0469	0.0304
2.2196	0.1371	0.1101	0.2933	0.0424	0.0259	0.0689	0.0421	0.0259
2.2196	0.1226	0.1101	0.3079	0.0373	0.0243	0.0593	0.0503	0.0243
2.2196	0.0908	0.1101	0.3012	0.0402	0.0362	0.0545	0.0505	0.0362
2.2196	0.0589	0.1101	0.2578	0.0473	0.0330	0.0523	0.0508	0.0330
2.2196	0.0271	0.1101	0.2817	0.0366	0.0365	0.0469	0.0468	0.0365
2.2196	-0.0048	0.1101	0.2245	0.0524	0.0212	0.0597	0.0579	0.0212
2.2196	-0.0366	0.1101	0.2118	0.0532	0.0374	0.0648	0.0617	0.0374
2.2196	-0.0685	0.1101	0.1802	0.0657	0.0349	0.0627	0.0625	0.0349
2.2196	-0.1003	0.1101	0.1227	0.0479	0.0405	0.0652	0.0621	0.0405
2.2196	-0.1322	0.1101	0.1204	0.0500	0.0370	0.0642	0.0553	0.0370
2.2196	-0.1467	0.1101	0.0787	0.0409	0.0443	0.0698	0.0625	0.0443
2.2196	-0.1534	0.1101	0.0637	0.0121	0.0121	0.0386	0.0454	0.0454
2.2196	-0.1574	0.1101	0.0904	-0.0104	-0.0104	0.0609	0.0356	0.0356
2.2196	-0.1676	0.1101	0.0303	0.0107	0.0107	0.0576	0.0344	0.0344
2.2196	-0.1896	0.1101	0.0522	-0.0031	-0.0031	0.0474	0.0513	0.0513
2.2196	-0.2133	0.1101	0.0428	0.0340	0.0340	0.0294	0.0285	0.0285

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
2.3696	0.1534	0.1101	0.2613	0.0175	0.0175	0.0582	0.0260	0.0260
2.3696	0.1574	0.1101	0.2555	0.0215	0.0215	0.0452	0.0299	0.0299
2.3696	0.1676	0.1101	0.2957	0.0223	0.0223	0.0530	0.0254	0.0254
2.3696	0.1896	0.1101	0.2882	0.0100	0.0100	0.0506	0.0341	0.0341
2.3696	0.2133	0.1101	0.1954	0.0109	0.0109	0.0535	0.0337	0.0337
2.3696	0.1467	0.1101	0.3062	0.0320	0.0009	0.0460	0.0381	0.0126
2.3696	0.1371	0.1101	0.2843	0.0360	0.0043	0.0476	0.0418	0.0127
2.3696	0.1226	0.1101	0.2728	0.0277	0.0064	0.0530	0.0472	0.0125
2.3696	0.0908	0.1101	0.2834	0.0269	0.0086	0.0485	0.0401	0.0110
2.3696	0.0589	0.1101	0.2794	0.0447	0.0072	0.0504	0.0414	0.0106
2.3696	0.0271	0.1101	0.2485	0.0389	0.0065	0.0536	0.0446	0.0135
2.3696	-0.0048	0.1101	0.2492	0.0378	-0.0043	0.0663	0.0523	0.0393
2.3696	-0.0366	0.1101	0.2189	0.0432	-0.0040	0.0554	0.0541	0.0396
2.3696	-0.0685	0.1101	0.2028	0.0350	-0.0055	0.0487	0.0519	0.0333
2.3696	-0.1003	0.1101	0.1723	0.0446	0.0106	0.0624	0.0531	0.0322
2.3696	-0.1322	0.1101	0.1144	0.0247	-0.0068	0.0659	0.0587	0.0306
2.3696	-0.1467	0.1101	0.1069	0.0275	0.0090	0.0551	0.0511	0.0327
2.3696	-0.1534	0.1101	0.1670	-0.0048	-0.0048	0.0474	0.0302	0.0302
2.3696	-0.1574	0.1101	0.1461	0.0081	0.0081	0.0556	0.0277	0.0277
2.3696	-0.1676	0.1101	0.1519	-0.0167	-0.0167	0.0666	0.0309	0.0309
2.3696	-0.1896	0.1101	0.1527	0.0124	0.0124	0.0475	0.0336	0.0336
2.3696	-0.2133	0.1101	0.1143	-0.0001	-0.0001	0.0461	0.0331	0.0331
3.2046	0.1534	0.1101	0.2616	0.0154	0.0154	0.0389	0.0156	0.0156
3.2046	0.1574	0.1101	0.2179	0.0185	0.0185	0.0543	0.0186	0.0186
3.2046	0.1676	0.1101	0.2556	0.0104	0.0104	0.0460	0.0160	0.0160
3.2046	0.1896	0.1101	0.1953	0.0074	0.0074	0.0429	0.0181	0.0181
3.2046	0.2133	0.1101	0.2760	0.0116	0.0116	0.0409	0.0212	0.0212
3.2046	0.1467	0.1101	0.2310	0.0327	-0.0217	0.0459	0.0387	0.0261
3.2046	0.1371	0.1101	0.2347	0.0237	-0.0208	0.0422	0.0412	0.0220
3.2046	0.1226	0.1101	0.2354	0.0332	-0.0198	0.0482	0.0381	0.0250
3.2046	0.0908	0.1101	0.2446	0.0303	-0.0153	0.0431	0.0365	0.0244
3.2046	0.0589	0.1101	0.2061	0.0393	-0.0045	0.0488	0.0434	0.0246
3.2046	0.0271	0.1101	0.2117	0.0378	-0.0038	0.0382	0.0441	0.0170
3.2046	-0.0048	0.1101	0.2178	0.0423	-0.0091	0.0470	0.0411	0.0234
3.2046	-0.0366	0.1101	0.1950	0.0445	-0.0038	0.0448	0.0408	0.0248
3.2046	-0.0685	0.1101	0.1669	0.0450	0.0014	0.0468	0.0475	0.0270
3.2046	-0.1003	0.1101	0.1549	0.0269	-0.0001	0.0428	0.0395	0.0282
3.2046	-0.1322	0.1101	0.1405	0.0233	-0.0094	0.0491	0.0405	0.0258
3.2046	-0.1467	0.1101	0.1437	0.0276	-0.0041	0.0465	0.0448	0.0242
3.2046	-0.1534	0.1101	0.1350	0.0273	0.0273	0.0450	0.0264	0.0264
3.2046	-0.1574	0.1101	0.1298	0.0373	0.0373	0.0299	0.0284	0.0284
3.2046	-0.1676	0.1101	0.1474	0.0152	0.0152	0.0295	0.0324	0.0324
3.2046	-0.1896	0.1101	0.1145	0.0257	0.0257	0.0353	0.0277	0.0277
3.2046	-0.2133	0.1101	0.0893	0.0231	0.0231	0.0336	0.0272	0.0272
4.1946	0.1534	0.1101	0.2134	0.0130	0.0130	0.0346	0.0202	0.0202
4.1946	0.1574	0.1101	0.2192	0.0137	0.0137	0.0295	0.0191	0.0191
4.1946	0.1676	0.1101	0.1906	0.0144	0.0144	0.0377	0.0219	0.0219
4.1946	0.1896	0.1101	0.1915	0.0187	0.0187	0.0331	0.0191	0.0191
4.1946	0.2133	0.1101	0.1978	0.0147	0.0147	0.0291	0.0252	0.0252
4.1946	0.1467	0.1101	0.1666	0.0190	-0.0112	0.0375	0.0283	0.0192
4.1946	0.1371	0.1101	0.1994	0.0120	-0.0148	0.0288	0.0284	0.0200
4.1946	0.1226	0.1101	0.2066	0.0173	-0.0183	0.0323	0.0286	0.0222
4.1946	0.0908	0.1101	0.2002	0.0236	-0.0198	0.0329	0.0309	0.0185
4.1946	0.0589	0.1101	0.2088	0.0185	-0.0177	0.0349	0.0332	0.0190

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
4.1946	0.0271	0.1101	0.1906	0.0266	-0.0067	0.0324	0.0360	0.0191
4.1946	-0.0048	0.1101	0.1898	0.0249	-0.0070	0.0409	0.0326	0.0178
4.1946	-0.0366	0.1101	0.1801	0.0281	-0.0031	0.0366	0.0306	0.0204
4.1946	-0.0685	0.1101	0.1579	0.0294	-0.0059	0.0347	0.0413	0.0202
4.1946	-0.1003	0.1101	0.1519	0.0287	-0.0008	0.0393	0.0344	0.0228
4.1946	-0.1322	0.1101	0.1545	0.0244	-0.0001	0.0325	0.0323	0.0212
4.1946	-0.1467	0.1101	0.1559	0.0227	-0.0052	0.0302	0.0316	0.0211
4.1946	-0.1534	0.1101	0.1641	0.0194	0.0194	0.0406	0.0182	0.0182
4.1946	-0.1574	0.1101	0.1549	0.0280	0.0280	0.0271	0.0244	0.0244
4.1946	-0.1676	0.1101	0.1537	0.0038	0.0038	0.0319	0.0194	0.0194
4.1946	-0.1896	0.1101	0.1511	0.0136	0.0136	0.0261	0.0305	0.0305
4.1946	-0.2133	0.1101	0.1275	0.0082	0.0082	0.0268	0.0281	0.0281
5.2303	0.1534	0.1101	0.1955	0.0196	0.0196	0.0299	0.0236	0.0236
5.2303	0.1574	0.1101	0.1777	0.0243	0.0243	0.0305	0.0297	0.0297
5.2303	0.1676	0.1101	0.2027	0.0274	0.0274	0.0252	0.0227	0.0227
5.2303	0.1896	0.1101	0.1833	0.0187	0.0187	0.0337	0.0220	0.0220
5.2303	0.2133	0.1101	0.1735	0.0224	0.0224	0.0252	0.0234	0.0234
5.2303	0.1467	0.1101	0.1530	0.0120	-0.0045	0.0296	0.0248	0.0119
5.2303	0.1371	0.1101	0.1509	0.0116	-0.0088	0.0246	0.0237	0.0119
5.2303	0.1226	0.1101	0.1695	0.0135	-0.0145	0.0251	0.0232	0.0143
5.2303	0.0908	0.1101	0.1805	0.0164	-0.0115	0.0246	0.0247	0.0133
5.2303	0.0589	0.1101	0.1740	0.0138	-0.0111	0.0260	0.0228	0.0157
5.2303	0.0271	0.1101	0.1794	0.0169	-0.0103	0.0229	0.0241	0.0146
5.2303	-0.0048	0.1101	0.1747	0.0143	-0.0128	0.0264	0.0228	0.0156
5.2303	-0.0366	0.1101	0.1855	0.0175	-0.0079	0.0272	0.0229	0.0193
5.2303	-0.0685	0.1101	0.1824	0.0155	-0.0067	0.0235	0.0271	0.0230
5.2303	-0.1003	0.1101	0.1631	0.0185	-0.0055	0.0383	0.0251	0.0209
5.2303	-0.1322	0.1101	0.1641	0.0159	-0.0082	0.0289	0.0270	0.0219
5.2303	-0.1467	0.1101	0.1744	0.0162	-0.0007	0.0322	0.0260	0.0188
5.2303	-0.1534	0.1101	0.1770	0.0179	0.0179	0.0274	0.0137	0.0137
5.2303	-0.1574	0.1101	0.1896	0.0198	0.0198	0.0162	0.0144	0.0144
5.2303	-0.1676	0.1101	0.1680	0.0214	0.0214	0.0187	0.0197	0.0197
5.2303	-0.1896	0.1101	0.1800	0.0205	0.0205	0.0213	0.0180	0.0180
5.2303	-0.2133	0.1101	0.1307	0.0152	0.0152	0.0242	0.0247	0.0247
0.6500	-0.2625	0.1151	-0.1515	0.0169	0.0169	0.0540	0.0272	0.0272
0.9096	-0.2625	0.1151	-0.1475	-0.0128	-0.0128	0.0590	0.0263	0.0263
1.5596	-0.2625	0.1151	-0.1180	0.0137	0.0137	0.0351	0.0315	0.0315
2.2196	-0.2625	0.1151	0.0039	0.0113	0.0113	0.0228	0.0375	0.0375
2.3696	0.2625	0.1151	0.1915	-0.0016	-0.0016	0.0751	0.0247	0.0247
2.3696	-0.2625	0.1151	0.0422	-0.0015	-0.0015	0.0549	0.0196	0.0196
3.2046	0.2625	0.1151	0.1597	0.0019	0.0019	0.0310	0.0081	0.0081
3.2046	-0.2625	0.1151	0.0465	0.0066	0.0066	0.0196	0.0228	0.0228
4.1946	0.2625	0.1151	0.1299	0.0119	0.0119	0.0246	0.0178	0.0178
4.1946	-0.2625	0.1151	0.0952	0.0039	0.0039	0.0242	0.0174	0.0174
5.2303	0.2625	0.1151	0.1132	0.0077	0.0077	0.0281	0.0343	0.0343
5.2303	-0.2625	0.1151	0.1382	0.0172	0.0172	0.0072	0.0192	0.0192
0.5300	0.2105	0.1160	0.1551	-0.0221	-0.0221	0.0852	0.0182	0.0182
0.2990	-0.1656	0.1179	0.0001	0.0000	0.0000	0.0102	0.0061	0.0061
0.5300	-0.2359	0.1220	-0.1371	-0.0241	-0.0241	0.0877	0.0239	0.0239
0.5300	-0.1595	0.1229	-0.0458	-0.0374	-0.0374	0.0564	0.0343	0.0343
0.0940	0.1232	0.1237	0.0221	-0.0001	-0.0001	0.0575	0.0074	0.0074
0.0940	-0.1240	0.1256	-0.0317	-0.0187	-0.0187	0.0920	0.0244	0.0172
0.0940	0.1232	0.1278	0.2039	-0.0184	-0.0184	0.0932	0.0347	0.0347
0.5300	-0.1977	0.1284	-0.0928	-0.0303	-0.0303	0.0611	0.0384	0.0384

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
0.5300	-0.2359	0.1300	-0.1109	-0.0157	-0.0157	0.0513	0.0221	0.0221
0.2990	-0.1466	0.1312	-0.0695	-0.0378	-0.0378	0.0366	0.0237	0.0237
0.5300	0.1659	0.1332	0.4948	-0.0096	-0.0096	0.0299	0.0130	0.0130
0.5300	0.1850	0.1332	0.3710	-0.0702	-0.0702	0.0709	0.0063	0.0063
0.2990	0.1657	0.1351	0.2777	-0.0378	-0.0378	0.0690	0.0290	0.0290
0.0940	-0.1240	0.1357	-0.0409	-0.0167	-0.0167	0.0852	0.0352	0.0249
0.6500	-0.2625	0.1363	-0.2061	-0.0112	-0.0112	0.0308	0.0393	0.0393
0.9096	-0.2625	0.1363	-0.1534	-0.0266	-0.0266	0.0620	0.0261	0.0261
1.5596	-0.2625	0.1363	-0.0990	-0.0138	-0.0138	0.0508	0.0214	0.0214
2.2196	-0.2625	0.1363	0.0317	0.0392	0.0392	0.0257	0.0370	0.0370
2.3696	0.2625	0.1363	0.1867	0.0009	0.0009	0.0654	0.0284	0.0284
2.3696	-0.2625	0.1363	0.0785	-0.0070	-0.0070	0.0652	0.0299	0.0299
3.2046	0.2625	0.1363	0.2035	0.0066	0.0066	0.0226	0.0160	0.0160
3.2046	-0.2625	0.1363	0.0834	0.0205	0.0205	0.0321	0.0253	0.0253
4.1946	0.2625	0.1363	0.1443	0.0331	0.0331	0.0281	0.0188	0.0188
4.1946	-0.2625	0.1363	0.0907	0.0372	0.0372	0.0149	0.0212	0.0212
5.2303	0.2625	0.1363	0.1780	0.0241	0.0241	0.0216	0.0263	0.0263
5.2303	-0.2625	0.1363	0.1085	0.0132	0.0132	0.0232	0.0185	0.0185
0.5300	0.1531	0.1366	0.4715	0.0049	0.0049	0.0697	0.0126	0.0126
0.5300	-0.2168	0.1383	-0.1088	-0.0409	-0.0409	0.0430	0.0168	0.0168
0.5300	0.2296	0.1400	0.0893	-0.0150	-0.0150	0.0719	0.0431	0.0431
0.0940	-0.1240	0.1424	-0.0368	-0.0244	-0.0244	0.0399	0.0333	0.0235
0.5300	0.1468	0.1435	0.4326	-0.0129	-0.0129	0.0820	0.0115	0.0115
0.5300	0.1531	0.1435	0.4912	0.0018	0.0018	0.0195	0.0087	0.0087
0.2990	-0.1275	0.1445	-0.0364	0.0421	0.0421	0.0498	0.0397	0.0397
0.2990	-0.1656	0.1445	-0.0813	-0.0337	-0.0337	0.0399	0.0256	0.0256
0.5300	-0.1786	0.1449	-0.0795	-0.0311	-0.0311	0.0608	0.0314	0.0314
0.5300	-0.2550	0.1450	-0.1284	-0.0428	-0.0428	0.0370	0.0265	0.0265
0.5300	0.1468	0.1503	0.4663	0.0105	0.0105	0.0653	0.0096	0.0096
0.2990	-0.1846	0.1525	-0.0002	0.0058	0.0058	0.0093	0.0146	0.0146
0.5300	0.2296	0.1538	0.1427	0.0086	0.0086	0.0808	0.0494	0.0494
-0.0700	0.0953	0.1566	0.4269	-0.0001	-0.0055	0.0437	0.0283	0.0260
-0.0700	0.0826	0.1566	0.4648	-0.0030	0.0000	0.0366	0.0270	0.0181
-0.0700	0.0699	0.1566	0.4971	-0.0019	-0.0008	0.0324	0.0251	0.0119
-0.0700	0.0445	0.1566	0.5143	0.0042	-0.0002	0.0250	0.0222	0.0122
-0.0700	0.0191	0.1566	0.5251	0.0071	0.0041	0.0115	0.0187	0.0256
-0.0700	-0.0064	0.1566	0.5237	0.0128	0.0209	0.0105	0.0142	0.0314
-0.0700	-0.0318	0.1566	0.5193	0.0085	0.0366	0.0242	0.0174	0.0119
-0.0700	-0.0572	0.1566	0.5085	0.0137	0.0336	0.0347	0.0205	0.0128
-0.0700	-0.0826	0.1566	0.4511	-0.0001	0.0287	0.0365	0.0276	0.0201
-0.0700	-0.0953	0.1566	0.3918	0.0098	0.0195	0.0486	0.0256	0.0245
0.0940	0.1104	0.1566	0.4544	-0.0376	-0.0376	0.0546	0.0125	0.0125
0.0940	0.1232	0.1566	0.2322	-0.0258	-0.0258	0.1232	0.0316	0.0316
0.0940	0.0943	0.1566	0.5081	-0.0510	0.0313	0.0273	0.0191	0.0264
0.0940	0.0673	0.1566	0.5050	-0.0415	0.0184	0.0176	0.0138	0.0186
0.0940	0.0402	0.1566	0.5073	-0.0337	0.0245	0.0141	0.0102	0.0133
0.0940	0.0131	0.1566	0.5099	-0.0206	0.0333	0.0142	0.0115	0.0132
0.0940	-0.0139	0.1566	0.4962	-0.0131	-0.0079	0.0218	0.0153	0.0275
0.0940	-0.0410	0.1566	0.4649	-0.0102	-0.0080	0.0530	0.0219	0.0190
0.0940	-0.0681	0.1566	0.3723	0.0002	-0.0073	0.0621	0.0316	0.0190
0.0940	-0.0952	0.1566	0.2179	0.0228	-0.0128	0.0757	0.0428	0.0103
0.0940	-0.1113	0.1566	0.1222	-0.0207	-0.0207	0.0973	0.0600	0.0424
0.0940	-0.1240	0.1566	-0.0180	-0.0069	-0.0069	0.0678	0.0622	0.0440
0.0940	-0.1304	0.1566	-0.0001	-0.0174	-0.0174	0.0142	0.0655	0.0463

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
0.2990	0.1275	0.1566	0.4407	-0.0345	-0.0345	0.0745	0.0198	0.0198
0.2990	0.1403	0.1566	0.4703	-0.0323	-0.0323	0.0862	0.0110	0.0110
0.2990	0.1657	0.1566	0.3428	-0.0454	-0.0454	0.0733	0.0202	0.0202
0.2990	0.1115	0.1566	0.4380	-0.0757	0.0006	0.0318	0.0093	0.0511
0.2990	0.0796	0.1566	0.4733	-0.0870	0.0011	0.0213	0.0121	0.0446
0.2990	0.0478	0.1566	0.4883	-0.0838	-0.0051	0.0248	0.0151	0.0543
0.2990	0.0159	0.1566	0.4883	-0.0711	-0.0154	0.0299	0.0228	0.0540
0.2990	-0.0159	0.1566	0.4835	-0.0669	0.0119	0.0532	0.0329	0.0547
0.2990	-0.0478	0.1566	0.3151	-0.0478	-0.0011	0.0850	0.0601	0.0543
0.2990	-0.0796	0.1566	0.0880	-0.0269	0.0126	0.1020	0.0655	0.0479
0.2990	-0.1115	0.1566	-0.0240	-0.0453	-0.0044	0.0619	0.0555	0.0463
0.2990	-0.1466	0.1566	-0.0801	-0.0292	-0.0292	0.0383	0.0184	0.0184
0.2990	-0.1656	0.1566	-0.1053	-0.0415	-0.0415	0.0328	0.0150	0.0150
0.2990	-0.1846	0.1566	-0.0532	-0.0340	-0.0340	0.0453	0.0189	0.0189
0.5300	0.1468	0.1566	0.5039	-0.0008	-0.0008	0.0218	0.0106	0.0106
0.5300	0.1531	0.1566	0.5057	-0.0047	-0.0047	0.0598	0.0106	0.0106
0.5300	0.1659	0.1566	0.5170	-0.0106	-0.0106	0.0653	0.0101	0.0101
0.5300	0.1850	0.1566	0.3786	-0.0706	-0.0706	0.0256	0.0083	0.0083
0.5300	0.2105	0.1566	0.2483	-0.0277	-0.0277	0.0587	0.0336	0.0336
0.5300	0.2296	0.1566	0.1229	-0.0136	-0.0136	0.0833	0.0526	0.0526
0.5300	0.2550	0.1566	-0.0173	0.0500	0.0500	0.0347	0.0264	0.0264
0.5300	0.1304	0.1566	0.4749	-0.0831	0.0139	0.0304	0.0169	0.0355
0.5300	0.0932	0.1566	0.4771	-0.0674	0.0111	0.0296	0.0227	0.0394
0.5300	0.0559	0.1566	0.4565	-0.0575	0.0186	0.0614	0.0448	0.0432
0.5300	0.0186	0.1566	0.3851	-0.0408	0.0249	0.0732	0.0621	0.0467
0.5300	-0.0186	0.1566	0.2119	-0.0301	0.0201	0.0691	0.0636	0.0484
0.5300	-0.0559	0.1566	0.0670	-0.0260	-0.0029	0.0856	0.0950	0.0602
0.5300	-0.0931	0.1566	-0.0237	-0.0327	-0.0099	0.0745	0.0422	0.0372
0.5300	-0.1304	0.1566	-0.0390	-0.0722	-0.0026	0.0752	0.0613	0.0500
0.5300	-0.1468	0.1566	-0.0553	0.0250	0.0250	0.0742	0.0231	0.0231
0.5300	-0.1595	0.1566	-0.0684	-0.0093	-0.0093	0.0452	0.0411	0.0411
0.5300	-0.1786	0.1566	-0.0986	-0.0241	-0.0241	0.0865	0.0154	0.0154
0.5300	-0.1977	0.1566	-0.1184	-0.0353	-0.0353	0.0599	0.0302	0.0302
0.5300	-0.2168	0.1566	-0.1170	-0.0409	-0.0409	0.0563	0.0168	0.0168
0.5300	-0.2359	0.1566	-0.1393	-0.0287	-0.0287	0.0516	0.0269	0.0269
0.5300	-0.2550	0.1566	-0.1171	-0.0321	-0.0321	0.0473	0.0200	0.0200
0.6500	0.1534	0.1566	0.5479	0.0211	0.0211	0.0126	0.0211	0.0211
0.6500	0.1574	0.1566	0.5551	0.0195	0.0195	0.0268	0.0226	0.0226
0.6500	0.1676	0.1566	0.5351	0.0098	0.0098	0.0183	0.0155	0.0155
0.6500	0.1896	0.1566	0.5123	0.0032	0.0032	0.0172	0.0165	0.0165
0.6500	0.2133	0.1566	0.3961	0.0024	0.0024	0.0700	0.0205	0.0205
0.6500	0.2625	0.1566	0.2781	0.0074	0.0074	0.0807	0.0239	0.0239
0.6500	0.1467	0.1566	0.4992	0.0293	0.0139	0.0344	0.0107	0.0353
0.6500	0.1371	0.1566	0.5096	0.0292	0.0110	0.0245	0.0112	0.0394
0.6500	0.1226	0.1566	0.5024	0.0268	0.0053	0.0523	0.0140	0.0425
0.6500	0.0908	0.1566	0.4670	0.0214	0.0061	0.0711	0.0190	0.0472
0.6500	0.0589	0.1566	0.3941	0.0155	0.0090	0.0926	0.0239	0.0454
0.6500	0.0271	0.1566	0.2997	0.0090	0.0063	0.1010	0.0301	0.0437
0.6500	-0.0048	0.1566	0.1836	0.0026	-0.0176	0.1082	0.0353	0.0576
0.6500	-0.0366	0.1566	0.0708	0.0027	-0.0011	0.1007	0.0342	0.0556
0.6500	-0.0685	0.1566	0.0036	0.0053	-0.0097	0.0923	0.0334	0.0608
0.6500	-0.1003	0.1566	-0.0590	0.0149	-0.0016	0.0978	0.0291	0.0587
0.6500	-0.1322	0.1566	-0.1260	0.0062	-0.0071	0.0852	0.0287	0.0562
0.6500	-0.1467	0.1566	-0.1368	0.0077	-0.0162	0.0760	0.0271	0.0540

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
0.6500	-0.1534	0.1566	-0.1494	-0.0393	-0.0393	0.0725	0.0396	0.0396
0.6500	-0.1574	0.1566	-0.1724	-0.0143	-0.0143	0.0740	0.0479	0.0479
0.6500	-0.1676	0.1566	-0.1425	-0.0553	-0.0553	0.0845	0.0417	0.0417
0.6500	-0.1896	0.1566	-0.1611	-0.0290	-0.0290	0.0461	0.0463	0.0463
0.6500	-0.2133	0.1566	-0.2057	-0.0296	-0.0296	0.0508	0.0449	0.0449
0.6500	-0.2625	0.1566	-0.2418	-0.0401	-0.0401	0.0222	0.0431	0.0431
0.9096	0.1534	0.1566	0.5570	0.0147	0.0147	0.0246	0.0112	0.0112
0.9096	0.1574	0.1566	0.5464	0.0172	0.0172	0.0222	0.0136	0.0136
0.9096	0.1676	0.1566	0.5584	0.0190	0.0190	0.0339	0.0105	0.0105
0.9096	0.1896	0.1566	0.4448	0.0255	0.0255	0.0456	0.0111	0.0111
0.9096	0.2133	0.1566	0.4225	0.0148	0.0148	0.0543	0.0496	0.0496
0.9096	0.2625	0.1566	0.2951	0.0254	0.0254	0.0496	0.0546	0.0546
0.9096	0.1467	0.1566	0.5412	0.0075	-0.0120	0.0466	0.0149	0.0423
0.9096	0.1371	0.1566	0.5263	0.0089	-0.0274	0.0515	0.0168	0.0381
0.9096	0.1226	0.1566	0.5211	0.0031	-0.0118	0.0572	0.0185	0.0577
0.9096	0.0908	0.1566	0.4420	0.0033	0.0348	0.0843	0.0236	0.0471
0.9096	0.0589	0.1566	0.3571	0.0000	0.0150	0.0929	0.0292	0.0417
0.9096	0.0271	0.1566	0.2525	-0.0037	0.0041	0.0950	0.0303	0.0541
0.9096	-0.0048	0.1566	0.1724	-0.0044	-0.0091	0.0905	0.0348	0.0513
0.9096	-0.0366	0.1566	0.0812	-0.0085	-0.0040	0.1039	0.0313	0.0506
0.9096	-0.0685	0.1566	-0.0363	-0.0009	-0.0011	0.0748	0.0336	0.0549
0.9096	-0.1003	0.1566	-0.0659	0.0012	0.0126	0.0705	0.0308	0.0479
0.9096	-0.1322	0.1566	-0.1186	0.0026	0.0139	0.0594	0.0272	0.0547
0.9096	-0.1467	0.1566	-0.0982	0.0088	-0.0065	0.0617	0.0237	0.0493
0.9096	-0.1534	0.1566	-0.1336	0.0295	0.0295	0.0872	0.0460	0.0460
0.9096	-0.1574	0.1566	-0.1174	-0.0059	-0.0059	0.0467	0.0498	0.0498
0.9096	-0.1676	0.1566	-0.1440	-0.0348	-0.0348	0.0486	0.0369	0.0369
0.9096	-0.1896	0.1566	-0.1765	-0.0366	-0.0366	0.0392	0.0256	0.0256
0.9096	-0.2133	0.1566	-0.1668	-0.0145	-0.0145	0.0397	0.0353	0.0353
0.9096	-0.2625	0.1566	-0.1672	-0.0201	-0.0201	0.0378	0.0348	0.0348
1.5596	0.1534	0.1566	0.4027	0.0325	0.0325	0.0383	0.0295	0.0295
1.5596	0.1574	0.1566	0.4080	0.0309	0.0309	0.0614	0.0279	0.0279
1.5596	0.1676	0.1566	0.4048	0.0050	0.0050	0.0321	0.0159	0.0159
1.5596	0.1896	0.1566	0.4404	0.0235	0.0235	0.0239	0.0254	0.0254
1.5596	0.2133	0.1566	0.4715	0.0214	0.0214	0.0208	0.0242	0.0242
1.5596	0.2625	0.1566	0.3936	0.0044	0.0044	0.0275	0.0412	0.0412
1.5596	0.1467	0.1566	0.4035	0.0544	0.0237	0.0544	0.0485	0.0237
1.5596	0.1371	0.1566	0.3917	0.0563	0.0370	0.0590	0.0475	0.0370
1.5596	0.1226	0.1566	0.3729	0.0587	0.0288	0.0687	0.0546	0.0288
1.5596	0.0908	0.1566	0.3385	0.0627	0.0377	0.0727	0.0574	0.0377
1.5596	0.0589	0.1566	0.3062	0.0740	0.0312	0.0778	0.0634	0.0312
1.5596	0.0271	0.1566	0.2445	0.0536	0.0365	0.0733	0.0588	0.0365
1.5596	-0.0048	0.1566	0.1914	0.0639	0.0081	0.0881	0.0756	0.0404
1.5596	-0.0366	0.1566	0.1759	0.0361	0.0071	0.0774	0.0783	0.0470
1.5596	-0.0685	0.1566	0.1045	0.0397	0.0072	0.0850	0.0727	0.0504
1.5596	-0.1003	0.1566	0.0254	0.0409	0.0049	0.0724	0.0696	0.0413
1.5596	-0.1322	0.1566	0.0800	0.0314	0.0125	0.0758	0.0779	0.0560
1.5596	-0.1467	0.1566	0.0503	0.0337	-0.0036	0.0640	0.0714	0.0403
1.5596	-0.1534	0.1566	0.0657	0.0087	0.0087	0.0708	0.0548	0.0548
1.5596	-0.1574	0.1566	0.0442	0.0226	0.0226	0.0294	0.0540	0.0540
1.5596	-0.1676	0.1566	0.0131	-0.0140	-0.0140	0.1038	0.0465	0.0465
1.5596	-0.1896	0.1566	-0.0578	0.0114	0.0114	0.0506	0.0392	0.0392
1.5596	-0.2133	0.1566	-0.0646	0.0203	0.0203	0.0719	0.0462	0.0462
1.5596	-0.2625	0.1566	-0.0956	-0.0068	-0.0068	0.0269	0.0206	0.0206

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
2.2196	0.1534	0.1566	0.3248	0.0254	0.0254	0.0366	0.0279	0.0279
2.2196	0.1574	0.1566	0.3277	0.0212	0.0212	0.0433	0.0296	0.0296
2.2196	0.1676	0.1566	0.3475	0.0241	0.0241	0.0368	0.0326	0.0326
2.2196	0.1896	0.1566	0.3646	0.0174	0.0174	0.0374	0.0234	0.0234
2.2196	0.2133	0.1566	0.3493	0.0179	0.0179	0.0379	0.0207	0.0207
2.2196	0.2625	0.1566	0.2025	0.0050	0.0050	0.0510	0.0217	0.0217
2.2196	0.1467	0.1566	0.3384	0.0426	0.0318	0.0510	0.0382	0.0318
2.2196	0.1371	0.1566	0.3098	0.0428	0.0276	0.0656	0.0447	0.0276
2.2196	0.1226	0.1566	0.3319	0.0458	0.0255	0.0641	0.0457	0.0255
2.2196	0.0908	0.1566	0.3048	0.0387	0.0322	0.0653	0.0491	0.0322
2.2196	0.0589	0.1566	0.2745	0.0457	0.0283	0.0621	0.0477	0.0283
2.2196	0.0271	0.1566	0.2522	0.0418	0.0317	0.0634	0.0547	0.0317
2.2196	-0.0048	0.1566	0.2273	0.0550	0.0303	0.0667	0.0531	0.0303
2.2196	-0.0366	0.1566	0.2107	0.0528	0.0317	0.0662	0.0592	0.0317
2.2196	-0.0685	0.1566	0.1814	0.0579	0.0349	0.0684	0.0594	0.0349
2.2196	-0.1003	0.1566	0.1339	0.0471	0.0342	0.0717	0.0682	0.0342
2.2196	-0.1322	0.1566	0.0998	0.0489	0.0417	0.0677	0.0600	0.0417
2.2196	-0.1467	0.1566	0.0813	0.0567	0.0388	0.0606	0.0596	0.0388
2.2196	-0.1534	0.1566	0.0875	0.0359	0.0359	0.0635	0.0368	0.0368
2.2196	-0.1574	0.1566	0.1493	0.0183	0.0183	0.0569	0.0615	0.0615
2.2196	-0.1676	0.1566	0.0243	0.0264	0.0264	0.0568	0.0444	0.0444
2.2196	-0.1896	0.1566	0.0347	0.0076	0.0076	0.0692	0.0442	0.0442
2.2196	-0.2133	0.1566	0.0458	0.0255	0.0255	0.0472	0.0422	0.0422
2.2196	-0.2625	0.1566	-0.0385	-0.0004	-0.0004	0.0311	0.0366	0.0366
2.3696	0.1534	0.1566	0.3137	0.0170	0.0170	0.0469	0.0256	0.0256
2.3696	0.1574	0.1566	0.2666	0.0146	0.0146	0.0561	0.0240	0.0240
2.3696	0.1676	0.1566	0.3133	0.0128	0.0128	0.0571	0.0239	0.0239
2.3696	0.1896	0.1566	0.3003	0.0094	0.0094	0.0421	0.0227	0.0227
2.3696	0.2133	0.1566	0.3259	0.0168	0.0168	0.0496	0.0209	0.0209
2.3696	0.2625	0.1566	0.2878	0.0149	0.0149	0.0546	0.0217	0.0217
2.3696	0.1467	0.1566	0.2955	0.0309	0.0022	0.0816	0.0351	0.0129
2.3696	0.1371	0.1566	0.2991	0.0295	0.0032	0.0588	0.0457	0.0121
2.3696	0.1226	0.1566	0.2873	0.0294	0.0070	0.0588	0.0392	0.0124
2.3696	0.0908	0.1566	0.2830	0.0240	0.0089	0.0533	0.0412	0.0121
2.3696	0.0589	0.1566	0.2685	0.0456	0.0093	0.0718	0.0433	0.0119
2.3696	0.0271	0.1566	0.2325	0.0404	0.0045	0.0754	0.0514	0.0117
2.3696	-0.0048	0.1566	0.2262	0.0435	0.0031	0.0829	0.0535	0.0330
2.3696	-0.0366	0.1566	0.1975	0.0351	-0.0056	0.0604	0.0555	0.0346
2.3696	-0.0685	0.1566	0.1801	0.0270	0.0068	0.0696	0.0583	0.0302
2.3696	-0.1003	0.1566	0.1679	0.0307	-0.0109	0.0685	0.0491	0.0372
2.3696	-0.1322	0.1566	0.1185	0.0166	-0.0054	0.0519	0.0488	0.0371
2.3696	-0.1467	0.1566	0.1191	0.0144	-0.0010	0.0707	0.0476	0.0327
2.3696	-0.1534	0.1566	0.1468	-0.0079	-0.0079	0.0517	0.0281	0.0281
2.3696	-0.1574	0.1566	0.1251	-0.0042	-0.0042	0.0558	0.0395	0.0395
2.3696	-0.1676	0.1566	0.1529	-0.0133	-0.0133	0.0571	0.0363	0.0363
2.3696	-0.1896	0.1566	0.1307	-0.0067	-0.0067	0.0557	0.0272	0.0272
2.3696	-0.2133	0.1566	0.1254	-0.0071	-0.0071	0.0550	0.0348	0.0348
2.3696	-0.2625	0.1566	0.0527	0.0185	0.0185	0.0414	0.0291	0.0291
3.2046	0.1534	0.1566	0.2539	0.0196	0.0196	0.0411	0.0154	0.0154
3.2046	0.1574	0.1566	0.2261	0.0178	0.0178	0.0543	0.0173	0.0173
3.2046	0.1676	0.1566	0.2236	0.0169	0.0169	0.0525	0.0192	0.0192
3.2046	0.1896	0.1566	0.2521	0.0149	0.0149	0.0346	0.0170	0.0170
3.2046	0.2133	0.1566	0.2350	0.0126	0.0126	0.0460	0.0211	0.0211
3.2046	0.2625	0.1566	0.2101	0.0104	0.0104	0.0299	0.0138	0.0138

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
3.2046	0.1467	0.1566	0.2308	0.0300	-0.0184	0.0482	0.0338	0.0251
3.2046	0.1371	0.1566	0.2363	0.0330	-0.0152	0.0550	0.0338	0.0215
3.2046	0.1226	0.1566	0.2356	0.0397	-0.0173	0.0515	0.0377	0.0247
3.2046	0.0908	0.1566	0.2261	0.0384	-0.0137	0.0531	0.0369	0.0275
3.2046	0.0589	0.1566	0.2130	0.0389	-0.0052	0.0481	0.0420	0.0247
3.2046	0.0271	0.1566	0.2184	0.0365	-0.0080	0.0604	0.0510	0.0218
3.2046	-0.0048	0.1566	0.2005	0.0348	-0.0069	0.0598	0.0424	0.0240
3.2046	-0.0366	0.1566	0.1830	0.0338	-0.0079	0.0504	0.0462	0.0233
3.2046	-0.0685	0.1566	0.1695	0.0272	-0.0067	0.0489	0.0440	0.0261
3.2046	-0.1003	0.1566	0.1439	0.0282	-0.0061	0.0504	0.0492	0.0263
3.2046	-0.1322	0.1566	0.1298	0.0359	-0.0058	0.0485	0.0436	0.0283
3.2046	-0.1467	0.1566	0.1233	0.0302	-0.0036	0.0509	0.0461	0.0247
3.2046	-0.1534	0.1566	0.1427	0.0201	0.0201	0.0509	0.0323	0.0323
3.2046	-0.1574	0.1566	0.1135	0.0201	0.0201	0.0303	0.0281	0.0281
3.2046	-0.1676	0.1566	0.1290	0.0123	0.0123	0.0418	0.0294	0.0294
3.2046	-0.1896	0.1566	0.1091	0.0313	0.0313	0.0352	0.0270	0.0270
3.2046	-0.2133	0.1566	0.1088	0.0097	0.0097	0.0289	0.0283	0.0283
3.2046	-0.2625	0.1566	0.0878	0.0132	0.0132	0.0351	0.0220	0.0220
4.1946	0.1534	0.1566	0.2213	0.0130	0.0130	0.0443	0.0184	0.0184
4.1946	0.1574	0.1566	0.2117	0.0185	0.0185	0.0470	0.0205	0.0205
4.1946	0.1676	0.1566	0.2127	0.0144	0.0144	0.0309	0.0209	0.0209
4.1946	0.1896	0.1566	0.2052	0.0111	0.0111	0.0320	0.0213	0.0213
4.1946	0.2133	0.1566	0.2009	0.0142	0.0142	0.0246	0.0170	0.0170
4.1946	0.2625	0.1566	0.1788	0.0152	0.0152	0.0257	0.0252	0.0252
4.1946	0.1467	0.1566	0.1894	0.0221	-0.0148	0.0371	0.0289	0.0174
4.1946	0.1371	0.1566	0.1936	0.0256	-0.0106	0.0321	0.0336	0.0189
4.1946	0.1226	0.1566	0.2134	0.0205	-0.0155	0.0364	0.0301	0.0205
4.1946	0.0908	0.1566	0.2021	0.0206	-0.0159	0.0337	0.0280	0.0203
4.1946	0.0589	0.1566	0.1969	0.0166	-0.0154	0.0357	0.0302	0.0193
4.1946	0.0271	0.1566	0.1906	0.0168	-0.0112	0.0324	0.0348	0.0201
4.1946	-0.0048	0.1566	0.1851	0.0185	-0.0072	0.0350	0.0320	0.0193
4.1946	-0.0366	0.1566	0.1776	0.0243	-0.0048	0.0356	0.0374	0.0193
4.1946	-0.0685	0.1566	0.1650	0.0204	-0.0051	0.0404	0.0364	0.0221
4.1946	-0.1003	0.1566	0.1632	0.0178	-0.0075	0.0371	0.0350	0.0219
4.1946	-0.1322	0.1566	0.1439	0.0119	-0.0082	0.0427	0.0306	0.0221
4.1946	-0.1467	0.1566	0.1310	0.0153	-0.0095	0.0377	0.0300	0.0176
4.1946	-0.1534	0.1566	0.1399	0.0197	0.0197	0.0307	0.0220	0.0220
4.1946	-0.1574	0.1566	0.1637	0.0227	0.0227	0.0228	0.0314	0.0314
4.1946	-0.1676	0.1566	0.1442	0.0226	0.0226	0.0233	0.0208	0.0208
4.1946	-0.1896	0.1566	0.1375	0.0192	0.0192	0.0295	0.0180	0.0180
4.1946	-0.2133	0.1566	0.1446	0.0276	0.0276	0.0259	0.0223	0.0223
4.1946	-0.2625	0.1566	0.1032	0.0026	0.0026	0.0217	0.0219	0.0219
5.2303	0.1534	0.1566	0.1984	0.0269	0.0269	0.0334	0.0240	0.0240
5.2303	0.1574	0.1566	0.1976	0.0258	0.0258	0.0328	0.0240	0.0240
5.2303	0.1676	0.1566	0.1967	0.0195	0.0195	0.0330	0.0250	0.0250
5.2303	0.1896	0.1566	0.1934	0.0272	0.0272	0.0327	0.0279	0.0279
5.2303	0.2133	0.1566	0.1846	0.0192	0.0192	0.0358	0.0256	0.0256
5.2303	0.2625	0.1566	0.1770	0.0243	0.0243	0.0320	0.0276	0.0276
5.2303	0.1467	0.1566	0.1535	0.0156	-0.0077	0.0345	0.0229	0.0145
5.2303	0.1371	0.1566	0.1545	0.0140	-0.0093	0.0256	0.0219	0.0128
5.2303	0.1226	0.1566	0.1660	0.0151	-0.0082	0.0320	0.0237	0.0134
5.2303	0.0908	0.1566	0.1676	0.0145	-0.0124	0.0317	0.0230	0.0138
5.2303	0.0589	0.1566	0.1731	0.0156	-0.0095	0.0271	0.0213	0.0139
5.2303	0.0271	0.1566	0.1775	0.0099	-0.0108	0.0292	0.0255	0.0153

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
5.2303	-0.0048	0.1566	0.1818	0.0162	-0.0099	0.0275	0.0226	0.0166
5.2303	-0.0366	0.1566	0.1744	0.0145	-0.0062	0.0286	0.0272	0.0202
5.2303	-0.0685	0.1566	0.1771	0.0160	-0.0057	0.0260	0.0251	0.0217
5.2303	-0.1003	0.1566	0.1833	0.0182	-0.0058	0.0305	0.0256	0.0201
5.2303	-0.1322	0.1566	0.1786	0.0156	-0.0101	0.0255	0.0244	0.0166
5.2303	-0.1467	0.1566	0.1731	0.0113	-0.0086	0.0273	0.0234	0.0166
5.2303	-0.1534	0.1566	0.1671	0.0049	0.0049	0.0372	0.0129	0.0129
5.2303	-0.1574	0.1566	0.1719	0.0238	0.0238	0.0316	0.0176	0.0176
5.2303	-0.1676	0.1566	0.1611	0.0225	0.0225	0.0293	0.0154	0.0154
5.2303	-0.1896	0.1566	0.1494	0.0221	0.0221	0.0186	0.0210	0.0210
5.2303	-0.2133	0.1566	0.1517	0.0210	0.0210	0.0228	0.0213	0.0213
5.2303	-0.2625	0.1566	0.1341	0.0248	0.0248	0.0282	0.0115	0.0115
-0.5000	0.0953	0.1566	0.4106	-0.0006	-0.0113	0.0429	0.0260	0.0287
-0.5000	0.0826	0.1566	0.4692	-0.0014	-0.0039	0.0440	0.0244	0.0177
-0.5000	0.0699	0.1566	0.5073	-0.0015	0.0021	0.0361	0.0233	0.0098
-0.5000	0.0445	0.1566	0.5258	0.0025	0.0087	0.0176	0.0158	0.0152
-0.5000	0.0191	0.1566	0.5343	0.0026	0.0112	0.0205	0.0124	0.0237
-0.5000	-0.0064	0.1566	0.5392	0.0025	0.0147	0.0191	0.0117	0.0309
-0.5000	-0.0318	0.1566	0.5326	0.0097	0.0108	0.0177	0.0156	0.0295
-0.5000	-0.0572	0.1566	0.5134	0.0102	0.0442	0.0283	0.0183	0.0190
-0.5000	-0.0826	0.1566	0.4458	0.0070	0.0383	0.0668	0.0241	0.0100
-0.5000	-0.0953	0.1566	0.4059	0.0100	0.0339	0.0431	0.0256	0.0095
-0.1650	0.0953	0.1566	0.4076	0.0024	-0.0107	0.0419	0.0280	0.0261
-0.1650	0.0826	0.1566	0.4529	-0.0033	-0.0085	0.0828	0.0240	0.0181
-0.1650	0.0699	0.1566	0.4860	-0.0045	0.0002	0.0344	0.0227	0.0114
-0.1650	0.0445	0.1566	0.5187	-0.0011	0.0023	0.0223	0.0186	0.0124
-0.1650	0.0191	0.1566	0.5338	0.0012	0.0009	0.0195	0.0158	0.0158
-0.1650	-0.0064	0.1566	0.5350	0.0047	0.0179	0.0187	0.0138	0.0327
-0.1650	-0.0318	0.1566	0.5288	0.0062	0.0129	0.0121	0.0164	0.0329
-0.1650	-0.0572	0.1566	0.5184	0.0095	0.0438	0.0329	0.0196	0.0177
-0.1650	-0.0826	0.1566	0.4553	0.0100	0.0416	0.0294	0.0242	0.0124
-0.1650	-0.0953	0.1566	0.4259	0.0047	0.0371	0.0788	0.0315	0.0119
0.6500	-0.3090	0.1616	-0.1363	-0.0030	-0.0030	0.0443	0.0329	0.0329
0.9096	-0.3090	0.1616	-0.1580	-0.0065	-0.0065	0.0269	0.0490	0.0490
1.5596	-0.3090	0.1616	-0.0615	-0.0283	-0.0283	0.0418	0.0136	0.0136
2.2196	-0.3090	0.1616	-0.0435	-0.0050	-0.0050	0.0285	0.0187	0.0187
2.3696	0.3090	0.1616	0.1605	0.0114	0.0114	0.0361	0.0278	0.0278
2.3696	-0.3090	0.1616	0.0035	0.0165	0.0165	0.0306	0.0268	0.0268
3.2046	0.3090	0.1616	0.1548	0.0020	0.0020	0.0375	0.0080	0.0080
3.2046	-0.3090	0.1616	0.0799	0.0144	0.0144	0.0193	0.0316	0.0316
4.1946	0.3090	0.1616	0.1149	0.0173	0.0173	0.0203	0.0206	0.0206
4.1946	-0.3090	0.1616	0.0933	0.0054	0.0054	0.0182	0.0102	0.0102
5.2303	0.3090	0.1616	0.1450	0.0242	0.0242	0.0226	0.0205	0.0205
5.2303	-0.3090	0.1616	0.0868	0.0204	0.0204	0.0058	0.0153	0.0153
0.5300	0.1468	0.1641	0.5124	-0.0005	-0.0005	0.0244	0.0104	0.0104
0.5300	0.2296	0.1641	0.1535	-0.0067	-0.0067	0.0456	0.0339	0.0339
0.0940	-0.1304	0.1651	-0.0005	-0.0279	-0.0279	0.0094	0.0684	0.0484
0.5300	0.1531	0.1655	0.5139	-0.0197	-0.0197	0.0259	0.0214	0.0214
0.5300	-0.2550	0.1666	-0.1261	-0.0263	-0.0263	0.0404	0.0206	0.0206
0.5300	0.2550	0.1675	0.0161	0.0199	0.0199	0.0475	0.0338	0.0338
0.0940	0.1232	0.1681	0.1617	-0.0289	-0.0289	0.1081	0.0374	0.0374
0.0940	-0.1240	0.1734	-0.0599	-0.0191	-0.0191	0.0671	0.0303	0.0215
0.5300	-0.2359	0.1737	-0.1136	-0.0128	-0.0128	0.0585	0.0249	0.0249
0.2990	0.1657	0.1750	0.3679	-0.0511	-0.0511	0.0418	0.0245	0.0245

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
0.0940	-0.1304	0.1752	-0.0411	-0.0119	-0.0119	0.0927	0.0149	0.0105
0.5300	0.1850	0.1755	0.3724	-0.0721	-0.0721	0.0315	0.0113	0.0113
0.2990	-0.1846	0.1778	-0.1006	-0.0397	-0.0397	0.0337	0.0213	0.0213
0.5300	0.2296	0.1778	0.1292	-0.0085	-0.0085	0.0930	0.0381	0.0381
0.0940	0.1104	0.1816	0.4377	-0.0294	-0.0294	0.0666	0.0117	0.0117
0.6500	-0.3090	0.1821	-0.1783	-0.0446	-0.0446	0.0624	0.0214	0.0214
0.9096	-0.3090	0.1821	-0.1998	-0.0182	-0.0182	0.0433	0.0329	0.0329
1.5596	-0.3090	0.1821	-0.0817	0.0241	0.0241	0.0236	0.0324	0.0324
2.2196	-0.3090	0.1821	-0.0739	0.0028	0.0028	0.0369	0.0247	0.0247
2.3696	0.3090	0.1821	0.0879	0.0119	0.0119	0.0508	0.0221	0.0221
2.3696	-0.3090	0.1821	0.0012	-0.0200	-0.0200	0.0263	0.0359	0.0359
3.2046	0.3090	0.1821	0.1777	0.0002	0.0002	0.0379	0.0055	0.0055
3.2046	-0.3090	0.1821	0.0796	0.0158	0.0158	0.0287	0.0201	0.0201
4.1946	0.3090	0.1821	0.1800	0.0141	0.0141	0.0214	0.0164	0.0164
4.1946	-0.3090	0.1821	0.1274	0.0393	0.0393	0.0186	0.0227	0.0227
5.2303	0.3090	0.1821	0.1634	0.0158	0.0158	0.0235	0.0234	0.0234
5.2303	-0.3090	0.1821	0.1285	0.0194	0.0194	0.0157	0.0133	0.0133
0.0940	-0.1113	0.1834	0.0999	-0.0098	-0.0098	0.0916	0.0570	0.0403
0.0940	-0.1304	0.1861	-0.0584	-0.0132	-0.0132	0.0386	0.0334	0.0236
0.2990	-0.2036	0.1925	-0.0006	-0.0534	-0.0534	0.0328	0.0536	0.0536
-0.5000	0.0953	0.1955	0.4053	-0.0092	-0.0141	0.0610	0.0269	0.0285
-0.5000	0.0826	0.1955	0.4378	-0.0010	-0.0039	0.0580	0.0261	0.0192
-0.5000	0.0699	0.1955	0.4773	-0.0065	0.0017	0.0879	0.0254	0.0131
-0.5000	0.0445	0.1955	0.4916	-0.0121	0.0055	0.0487	0.0231	0.0185
-0.5000	0.0191	0.1955	0.5143	-0.0088	0.0074	0.0760	0.0212	0.0190
-0.5000	-0.0064	0.1955	0.5172	-0.0064	0.0159	0.0901	0.0167	0.0264
-0.5000	-0.0318	0.1955	0.5139	-0.0058	0.0284	0.0847	0.0202	0.0306
-0.5000	-0.0572	0.1955	0.5002	-0.0084	0.0428	0.0341	0.0219	0.0207
-0.5000	-0.0826	0.1955	0.4202	-0.0046	0.0349	0.0601	0.0244	0.0123
-0.5000	-0.0953	0.1955	0.3781	-0.0367	0.0374	0.0381	0.0296	0.0063
-0.1650	0.0953	0.1955	0.3992	-0.0133	-0.0087	0.0894	0.0251	0.0264
-0.1650	0.0826	0.1955	0.4375	-0.0116	-0.0008	0.0888	0.0268	0.0195
-0.1650	0.0699	0.1955	0.4736	-0.0099	0.0015	0.0626	0.0261	0.0108
-0.1650	0.0445	0.1955	0.5051	-0.0075	0.0005	0.0654	0.0196	0.0107
-0.1650	0.0191	0.1955	0.5044	-0.0059	0.0017	0.0573	0.0181	0.0101
-0.1650	-0.0064	0.1955	0.5083	-0.0145	0.0113	0.0685	0.0203	0.0195
-0.1650	-0.0318	0.1955	0.5156	-0.0167	0.0071	0.0811	0.0206	0.0345
-0.1650	-0.0572	0.1955	0.5207	-0.0170	0.0451	0.0680	0.0219	0.0200
-0.1650	-0.0826	0.1955	0.4463	-0.0134	0.0437	0.0430	0.0225	0.0126
-0.1650	-0.0953	0.1955	0.4069	-0.0256	0.0416	0.0403	0.0231	0.0127
-0.0700	0.0953	0.1955	0.4159	-0.0185	-0.0072	0.0626	0.0272	0.0272
-0.0700	0.0826	0.1955	0.4522	-0.0268	-0.0005	0.0773	0.0267	0.0206
-0.0700	0.0699	0.1955	0.4911	-0.0186	-0.0018	0.0623	0.0287	0.0129
-0.0700	0.0445	0.1955	0.5024	-0.0174	-0.0005	0.0609	0.0286	0.0099
-0.0700	0.0191	0.1955	0.4967	-0.0108	-0.0026	0.0897	0.0279	0.0150
-0.0700	-0.0064	0.1955	0.5063	-0.0131	0.0325	0.0656	0.0289	0.0252
-0.0700	-0.0318	0.1955	0.5138	-0.0106	0.0340	0.0517	0.0219	0.0151
-0.0700	-0.0572	0.1955	0.5105	-0.0084	0.0323	0.0728	0.0216	0.0108
-0.0700	-0.0826	0.1955	0.4336	-0.0205	0.0350	0.0269	0.0237	0.0135
-0.0700	-0.0953	0.1955	0.3992	-0.0151	0.0187	0.0861	0.0268	0.0189
0.0940	0.1104	0.1955	0.4369	-0.0251	-0.0251	0.0519	0.0174	0.0174
0.0940	0.0943	0.1955	0.4851	-0.0445	0.0185	0.0564	0.0176	0.0253
0.0940	0.0673	0.1955	0.4972	-0.0431	0.0196	0.0286	0.0115	0.0203
0.0940	0.0402	0.1955	0.5024	-0.0289	0.0222	0.0465	0.0131	0.0144

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
0.0940	0.0131	0.1955	0.4982	-0.0260	0.0299	0.0739	0.0128	0.0090
0.0940	-0.0139	0.1955	0.4837	-0.0180	-0.0107	0.1040	0.0116	0.0252
0.0940	-0.0410	0.1955	0.4046	-0.0150	-0.0105	0.0814	0.0171	0.0162
0.0940	-0.0681	0.1955	0.3165	-0.0083	-0.0084	0.0959	0.0450	0.0185
0.0940	-0.0952	0.1955	0.0846	0.0258	-0.0126	0.0815	0.0628	0.0116
0.0940	-0.1113	0.1955	0.0382	0.0056	0.0056	0.0919	0.0342	0.0242
0.0940	-0.1240	0.1955	-0.0571	-0.0113	-0.0113	0.0761	0.0385	0.0273
0.0940	-0.1304	0.1955	-0.0585	-0.0088	-0.0088	0.0357	0.0260	0.0184
0.2990	0.1275	0.1955	0.4331	-0.0325	-0.0325	0.0219	0.0256	0.0256
0.2990	0.1403	0.1955	0.4181	-0.0411	-0.0411	0.0962	0.0132	0.0132
0.2990	0.1657	0.1955	0.3701	-0.0547	-0.0547	0.0888	0.0118	0.0118
0.2990	0.1115	0.1955	0.4287	-0.0887	0.0031	0.0602	0.0153	0.0381
0.2990	0.0796	0.1955	0.4688	-0.0885	0.0090	0.0423	0.0169	0.0409
0.2990	0.0478	0.1955	0.4732	-0.0811	0.0119	0.0924	0.0161	0.0474
0.2990	0.0159	0.1955	0.4885	-0.0808	0.0125	0.0764	0.0232	0.0431
0.2990	-0.0159	0.1955	0.4550	-0.0582	0.0050	0.0896	0.0498	0.0474
0.2990	-0.0478	0.1955	0.2934	-0.0365	0.0100	0.0877	0.0598	0.0427
0.2990	-0.0796	0.1955	0.0590	-0.0124	0.0120	0.0870	0.0725	0.0418
0.2990	-0.1115	0.1955	-0.0061	0.0114	0.0127	0.0554	0.0841	0.0409
0.2990	-0.1656	0.1955	-0.0703	-0.0133	-0.0133	0.0495	0.0252	0.0252
0.2990	-0.1846	0.1955	-0.1115	-0.0317	-0.0317	0.0512	0.0190	0.0190
0.5300	0.1531	0.1955	0.5080	-0.0123	-0.0123	0.0362	0.0329	0.0329
0.5300	0.1659	0.1955	0.5508	-0.0109	-0.0109	0.0306	0.0111	0.0111
0.5300	0.2105	0.1955	0.3938	-0.0285	-0.0285	0.0387	0.0215	0.0215
0.5300	0.2296	0.1955	0.2184	-0.0017	-0.0017	0.0817	0.0299	0.0299
0.5300	0.2550	0.1955	0.1580	-0.0361	-0.0361	0.0863	0.0550	0.0550
0.5300	0.1304	0.1955	0.4399	0.0075	0.0256	0.0390	0.0133	0.0325
0.5300	0.0932	0.1955	0.4561	-0.0765	0.0243	0.0416	0.0336	0.0323
0.5300	0.0559	0.1955	0.4112	-0.0596	0.0220	0.0499	0.0430	0.0391
0.5300	0.0186	0.1955	0.2877	-0.0308	0.0218	0.0853	0.0714	0.0386
0.5300	-0.0186	0.1955	0.1929	-0.0154	0.0246	0.0910	0.0581	0.0405
0.5300	-0.0559	0.1955	0.0877	-0.0114	0.0013	0.0941	0.0535	0.0452
0.5300	-0.0931	0.1955	0.0305	-0.0189	-0.0153	0.0683	0.0499	
0.5300	-0.1304	0.1955	-0.0145	0.0109	-0.0096	0.0598	0.1358	0.0422
0.5300	-0.1595	0.1955	-0.0711	-0.0086	-0.0086	0.0625	0.0167	0.0167
0.5300	-0.1786	0.1955	-0.0871	-0.0095	-0.0095	0.0537	0.0086	0.0086
0.5300	-0.1977	0.1955	-0.1148	-0.0318	-0.0318	0.0552	0.0102	0.0102
0.5300	-0.2168	0.1955	-0.1244	-0.0272	-0.0272	0.0550	0.0211	0.0211
0.5300	-0.2359	0.1955	-0.1184	-0.0390	-0.0390	0.0702	0.0200	0.0200
0.5300	-0.2550	0.1955	-0.1439	-0.0171	-0.0171	0.0315	0.0178	0.0178
0.6500	0.1534	0.1955	0.5361	0.0188	0.0188	0.0392	0.0275	0.0275
0.6500	0.1574	0.1955	0.5468	0.0191	0.0191	0.0309	0.0269	0.0269
0.6500	0.1676	0.1955	0.5204	0.0163	0.0163	0.0170	0.0195	0.0195
0.6500	0.1896	0.1955	0.4890	0.0156	0.0156	0.0145	0.0188	0.0188
0.6500	0.2133	0.1955	0.4524	-0.0007	-0.0007	0.0235	0.0224	0.0224
0.6500	0.2625	0.1955	0.2687	0.0050	0.0050	0.0705	0.0233	0.0233
0.6500	0.3090	0.1955	0.1564	0.0072	0.0072	0.0577	0.0360	0.0360
0.6500	0.1467	0.1955	0.4450	0.0279	0.0285	0.0722	0.0172	0.0361
0.6500	0.1371	0.1955	0.4748	0.0284	0.0303	0.1083	0.0122	0.0403
0.6500	0.1226	0.1955	0.4962	0.0255	0.0182	0.0853	0.0139	0.0422
0.6500	0.0908	0.1955	0.4418	0.0202	0.0249	0.0816	0.0206	0.0467
0.6500	0.0589	0.1955	0.3877	0.0156	0.0195	0.0980	0.0233	0.0470
0.6500	0.0271	0.1955	0.2803	0.0099	-0.0026	0.1199	0.0272	0.0574
0.6500	-0.0048	0.1955	0.1737	0.0017	-0.0102	0.1151	0.0280	0.0588

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
0.6500	-0.0366	0.1955	0.1071	0.0017	-0.0026	0.1199	0.0335	0.0500
0.6500	-0.0685	0.1955	0.0527	-0.0017	-0.0111	0.1098	0.0355	0.0568
0.6500	-0.1003	0.1955	-0.0394	0.0020	0.0012	0.1084	0.0320	0.0446
0.6500	-0.1322	0.1955	-0.0675	0.0062	-0.0053	0.0874	0.0319	0.0543
0.6500	-0.1467	0.1955	-0.0699	0.0004	0.0139	0.0962	0.0269	0.0431
0.6500	-0.1534	0.1955	-0.1408	-0.0470	-0.0470	0.0820	0.0351	0.0351
0.6500	-0.1574	0.1955	-0.1590	-0.0096	-0.0096	0.0767	0.0607	0.0607
0.6500	-0.1676	0.1955	-0.1745	-0.0122	-0.0122	0.0709	0.0554	0.0554
0.6500	-0.1896	0.1955	-0.1689	-0.0066	-0.0066	0.0493	0.0565	0.0565
0.6500	-0.2133	0.1955	-0.1783	-0.0473	-0.0473	0.0624	0.0407	0.0407
0.6500	-0.2625	0.1955	-0.1893	-0.0172	-0.0172	0.0399	0.0314	0.0314
0.6500	-0.3122	0.1955	-0.1356	-0.0367	-0.0367	0.0311	0.0143	0.0143
0.9096	0.1534	0.1955	0.5347	0.0091	0.0091	0.0533	0.0145	0.0145
0.9096	0.1574	0.1955	0.5382	0.0084	0.0084	0.0467	0.0129	0.0129
0.9096	0.1676	0.1955	0.5501	0.0118	0.0118	0.0413	0.0118	0.0118
0.9096	0.1896	0.1955	0.3678	0.0197	0.0197	0.0770	0.0158	0.0158
0.9096	0.2133	0.1955	0.4053	0.0265	0.0265	0.0595	0.0346	0.0346
0.9096	0.2625	0.1955	0.2647	0.0183	0.0183	0.0671	0.0537	0.0537
0.9096	0.3090	0.1955	0.2052	0.0039	0.0039	0.0524	0.0305	0.0305
0.9096	0.1467	0.1955	0.4100	0.0080	0.0045	0.1136	0.0154	0.0424
0.9096	0.1371	0.1955	0.4775	0.0058	0.0054	0.1159	0.0204	0.0386
0.9096	0.1226	0.1955	0.4754	0.0053	-0.0055	0.1076	0.0202	0.0622
0.9096	0.0908	0.1955	0.4057	0.0023	0.0128	0.1301	0.0249	0.0440
0.9096	0.0589	0.1955	0.3428	-0.0025	0.0238	0.1121	0.0278	0.0540
0.9096	0.0271	0.1955	0.2761	-0.0059	0.0114	0.1080	0.0288	0.0571
0.9096	-0.0048	0.1955	0.1683	-0.0045	-0.0049	0.1035	0.0312	0.0513
0.9096	-0.0366	0.1955	0.0927	-0.0047	0.0024	0.0977	0.0296	0.0406
0.9096	-0.0685	0.1955	0.0143	-0.0123	-0.0044	0.0869	0.0285	0.0463
0.9096	-0.1003	0.1955	-0.0264	-0.0018	0.0120	0.0941	0.0256	0.0418
0.9096	-0.1322	0.1955	-0.0858	-0.0055	0.0054	0.0854	0.0291	0.0474
0.9096	-0.1467	0.1955	-0.0816	-0.0063	-0.0012	0.0928	0.0248	0.0543
0.9096	-0.1534	0.1955	-0.1620	-0.0001	-0.0001	0.0954	0.0541	0.0541
0.9096	-0.1574	0.1955	-0.1098	-0.0357	-0.0357	0.0627	0.0380	0.0380
0.9096	-0.1676	0.1955	-0.1310	-0.0138	-0.0138	0.0563	0.0372	0.0372
0.9096	-0.1896	0.1955	-0.1967	-0.0608	-0.0608	0.0419	0.0436	0.0436
0.9096	-0.2133	0.1955	-0.1577	-0.0421	-0.0421	0.0542	0.0296	0.0296
0.9096	-0.2625	0.1955	-0.1731	-0.0397	-0.0397	0.0580	0.0404	0.0404
0.9096	-0.3122	0.1955	-0.1563	-0.0360	-0.0360	0.0304	0.0304	0.0304
1.5596	0.1534	0.1955	0.3668	0.0312	0.0312	0.0700	0.0318	0.0318
1.5596	0.1574	0.1955	0.4442	0.0296	0.0296	0.0288	0.0296	0.0296
1.5596	0.1676	0.1955	0.4385	0.0295	0.0295	0.0356	0.0343	0.0343
1.5596	0.1896	0.1955	0.4262	0.0284	0.0284	0.0347	0.0283	0.0283
1.5596	0.2133	0.1955	0.3978	0.0238	0.0238	0.0496	0.0225	0.0225
1.5596	0.2625	0.1955	0.3331	0.0141	0.0141	0.0435	0.0319	0.0319
1.5596	0.3090	0.1955	0.3581	0.0023	0.0023	0.0384	0.0235	0.0235
1.5596	0.1467	0.1955	0.3755	0.0455	0.0302	0.0841	0.0588	0.0302
1.5596	0.1371	0.1955	0.3388	0.0452	0.0301	0.0977	0.0583	0.0301
1.5596	0.1226	0.1955	0.3413	0.0484	0.0340	0.0887	0.0589	0.0340
1.5596	0.0908	0.1955	0.2974	0.0489	0.0320	0.0888	0.0614	0.0320
1.5596	0.0589	0.1955	0.2422	0.0553	0.0418	0.1007	0.0599	0.0418
1.5596	0.0271	0.1955	0.2226	0.0679	0.0426	0.0849	0.0703	0.0426
1.5596	-0.0048	0.1955	0.1479	0.0439	0.0119	0.1012	0.0686	0.0440
1.5596	-0.0366	0.1955	0.1113	0.0368	0.0042	0.0787	0.0718	0.0395
1.5596	-0.0685	0.1955	0.0596	0.0392	-0.0123	0.0803	0.0668	0.0279

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
1.5596	-0.1003	0.1955	0.0208	0.0321	0.0089	0.0698	0.0726	0.0347
1.5596	-0.1322	0.1955	0.0804	0.0304	0.0032	0.0708	0.0721	0.0353
1.5596	-0.1467	0.1955	0.0345	0.0126	0.0091	0.0828	0.0639	0.0413
1.5596	-0.1534	0.1955	0.0737	0.0122	0.0122	0.0778	0.0396	0.0396
1.5596	-0.1574	0.1955	0.0395	0.0088	0.0088	0.0498	0.0347	0.0347
1.5596	-0.1676	0.1955	-0.0429	-0.0193	-0.0193	0.0621	0.0480	0.0480
1.5596	-0.1896	0.1955	-0.0290	0.0153	0.0153	0.0694	0.0318	0.0318
1.5596	-0.2133	0.1955	-0.0622	0.0003	0.0003	0.0547	0.0297	0.0297
1.5596	-0.2625	0.1955	-0.0603	-0.0020	-0.0020	0.0463	0.0296	0.0296
1.5596	-0.3122	0.1955	-0.0830	0.0191	0.0191	0.0217	0.0185	0.0185
2.2196	0.1534	0.1955	0.3180	0.0227	0.0227	0.0575	0.0240	0.0240
2.2196	0.1574	0.1955	0.3321	0.0171	0.0171	0.0410	0.0329	0.0329
2.2196	0.1676	0.1955	0.3618	0.0148	0.0148	0.0348	0.0330	0.0330
2.2196	0.1896	0.1955	0.3591	0.0233	0.0233	0.0382	0.0273	0.0273
2.2196	0.2133	0.1955	0.3097	0.0200	0.0200	0.0647	0.0237	0.0237
2.2196	0.2625	0.1955	0.3092	0.0196	0.0196	0.0721	0.0204	0.0204
2.2196	0.3090	0.1955	0.1757	-0.0125	-0.0125	0.0345	0.0387	0.0387
2.2196	0.1467	0.1955	0.2797	0.0307	0.0244	0.0630	0.0436	0.0244
2.2196	0.1371	0.1955	0.2656	0.0264	0.0293	0.0984	0.0496	0.0293
2.2196	0.1226	0.1955	0.2745	0.0293	0.0262	0.0920	0.0526	0.0262
2.2196	0.0908	0.1955	0.2545	0.0377	0.0305	0.0923	0.0543	0.0305
2.2196	0.0589	0.1955	0.2531	0.0440	0.0305	0.0864	0.0517	0.0305
2.2196	0.0271	0.1955	0.1825	0.0387	0.0277	0.0874	0.0558	0.0277
2.2196	-0.0048	0.1955	0.1806	0.0308	0.0379	0.0834	0.0527	0.0379
2.2196	-0.0366	0.1955	0.1602	0.0242	0.0342	0.0775	0.0560	0.0342
2.2196	-0.0685	0.1955	0.1337	0.0201	0.0357	0.0859	0.0588	0.0357
2.2196	-0.1003	0.1955	0.0906	0.0265	0.0352	0.0619	0.0554	0.0352
2.2196	-0.1322	0.1955	0.0546	0.0231	0.0375	0.0581	0.0618	0.0375
2.2196	-0.1467	0.1955	0.0609	0.0264	0.0251	0.0675	0.0564	0.0251
2.2196	-0.1534	0.1955	0.1337	0.0428	0.0428	0.0728	0.0413	0.0413
2.2196	-0.1574	0.1955	0.1528	0.0124	0.0124	0.0738	0.0390	0.0390
2.2196	-0.1676	0.1955	0.0358	0.0240	0.0240	0.0489	0.0429	0.0429
2.2196	-0.1896	0.1955	0.0303	0.0234	0.0234	0.0576	0.0405	0.0405
2.2196	-0.2133	0.1955	0.0707	0.0265	0.0265	0.0541	0.0378	0.0378
2.2196	-0.2625	0.1955	-0.0483	0.0462	0.0462	0.0613	0.0343	0.0343
2.2196	-0.3122	0.1955	-0.0253	0.0510	0.0510	0.0485	0.0187	0.0187
2.3696	0.1534	0.1955	0.3072	0.0212	0.0212	0.0494	0.0261	0.0261
2.3696	0.1574	0.1955	0.2301	0.0147	0.0147	0.0422	0.0224	0.0224
2.3696	0.1676	0.1955	0.2935	0.0134	0.0134	0.0560	0.0279	0.0279
2.3696	0.1896	0.1955	0.2846	0.0101	0.0101	0.0600	0.0275	0.0275
2.3696	0.2133	0.1955	0.3056	0.0117	0.0117	0.0441	0.0207	0.0207
2.3696	0.2625	0.1955	0.2276	0.0145	0.0145	0.0463	0.0260	0.0260
2.3696	0.3090	0.1955	0.0393	0.0066	0.0066	0.0342	0.0267	0.0267
2.3696	0.1467	0.1955	0.1264	0.0266	0.0042	0.0914	0.0405	0.0152
2.3696	0.1371	0.1955	0.2265	0.0282	0.0012	0.0930	0.0418	0.0143
2.3696	0.1226	0.1955	0.2267	0.0169	0.0056	0.0762	0.0444	0.0128
2.3696	0.0908	0.1955	0.1802	0.0311	0.0091	0.0823	0.0502	0.0117
2.3696	0.0589	0.1955	0.1521	0.0222	0.0106	0.0946	0.0508	0.0119
2.3696	0.0271	0.1955	0.1104	0.0321	0.0016	0.1293	0.0437	0.0106
2.3696	-0.0048	0.1955	0.1344	0.0305	-0.0016	0.1135	0.0506	0.0330
2.3696	-0.0366	0.1955	0.1099	0.0384	-0.0066	0.1098	0.0546	0.0337
2.3696	-0.0685	0.1955	0.1063	0.0276	-0.0034	0.0974	0.0534	0.0363
2.3696	-0.1003	0.1955	0.1189	0.0072	0.0006	0.0982	0.0460	0.0334
2.3696	-0.1322	0.1955	0.0536	0.0178	-0.0016	0.0776	0.0536	0.0380

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
2.3696	-0.1467	0.1955	0.0568	0.0282	-0.0046	0.0726	0.0489	0.0362
2.3696	-0.1534	0.1955	0.1506	0.0065	0.0065	0.0653	0.0277	0.0277
2.3696	-0.1574	0.1955	0.1154	0.0006	0.0006	0.0577	0.0361	0.0361
2.3696	-0.1676	0.1955	0.1144	-0.0079	-0.0079	0.0502	0.0356	0.0356
2.3696	-0.1896	0.1955	0.1140	0.0029	0.0029	0.0614	0.0285	0.0285
2.3696	-0.2133	0.1955	0.0647	0.0036	0.0036	0.0395	0.0235	0.0235
2.3696	-0.2625	0.1955	0.0355	-0.0276	-0.0276	0.0361	0.0374	0.0374
2.3696	-0.3090	0.1955	0.0113	-0.0022	-0.0022	0.0255	0.0257	0.0257
3.2046	0.1534	0.1955	0.2539	0.0184	0.0184	0.0059	0.0171	0.0171
3.2046	0.1574	0.1955	0.2593	0.0181	0.0181	0.0438	0.0165	0.0165
3.2046	0.1676	0.1955	0.2140	0.0221	0.0221	0.0500	0.0172	0.0172
3.2046	0.1896	0.1955	0.2490	0.0186	0.0186	0.0532	0.0175	0.0175
3.2046	0.2133	0.1955	0.2081	0.0168	0.0168	0.0412	0.0167	0.0167
3.2046	0.2625	0.1955	0.2086	0.0102	0.0102	0.0485	0.0144	0.0144
3.2046	0.3090	0.1955	0.1590	0.0120	0.0120	0.0405	0.0132	0.0132
3.2046	0.1467	0.1955	0.2314	0.0238	-0.0087	0.0723	0.0369	0.0260
3.2046	0.1371	0.1955	0.2144	0.0216	-0.0101	0.0738	0.0388	0.0227
3.2046	0.1226	0.1955	0.2115	0.0256	-0.0115	0.0710	0.0363	0.0247
3.2046	0.0908	0.1955	0.2139	0.0254	-0.0119	0.0559	0.0377	0.0250
3.2046	0.0589	0.1955	0.2152	0.0296	-0.0105	0.0587	0.0424	0.0254
3.2046	0.0271	0.1955	0.1804	0.0317	-0.0115	0.0569	0.0391	0.0259
3.2046	-0.0048	0.1955	0.1739	0.0281	-0.0050	0.0994	0.0412	0.0245
3.2046	-0.0366	0.1955	0.1663	0.0275	-0.0092	0.0712	0.0424	0.0258
3.2046	-0.0685	0.1955	0.1509	0.0203	-0.0155	0.0593	0.0447	0.0307
3.2046	-0.1003	0.1955	0.1345	0.0197	-0.0081	0.0688	0.0442	0.0238
3.2046	-0.1322	0.1955	0.1234	0.0101	-0.0113	0.0609	0.0411	0.0235
3.2046	-0.1467	0.1955	0.1093	0.0148	-0.0120	0.0539	0.0381	0.0221
3.2046	-0.1534	0.1955	0.1641	0.0182	0.0182	0.0529	0.0282	0.0282
3.2046	-0.1574	0.1955	0.0929	0.0185	0.0185	0.0384	0.0280	0.0280
3.2046	-0.1676	0.1955	0.1198	0.0214	0.0214	0.0423	0.0266	0.0266
3.2046	-0.1896	0.1955	0.1169	0.0189	0.0189	0.0528	0.0295	0.0295
3.2046	-0.2133	0.1955	0.0996	0.0275	0.0275	0.0332	0.0273	0.0273
3.2046	-0.2625	0.1955	0.0779	0.0153	0.0153	0.0317	0.0330	0.0330
3.2046	-0.3090	0.1955	0.0611	-0.0002	-0.0002	0.0314	0.0191	0.0191
4.1946	0.1534	0.1955	0.2226	0.0135	0.0135	0.0494	0.0193	0.0193
4.1946	0.1574	0.1955	0.2087	0.0222	0.0222	0.0417	0.0239	0.0239
4.1946	0.1676	0.1955	0.2096	0.0121	0.0121	0.0380	0.0203	0.0203
4.1946	0.1896	0.1955	0.2194	0.0115	0.0115	0.0390	0.0199	0.0199
4.1946	0.2133	0.1955	0.2464	0.0144	0.0144	0.0325	0.0251	0.0251
4.1946	0.2625	0.1955	0.1574	0.0047	0.0047	0.0227	0.0171	0.0171
4.1946	0.3090	0.1955	0.1724	0.0127	0.0127	0.0387	0.0202	0.0202
4.1946	0.1467	0.1955	0.1781	0.0107	-0.0071	0.0434	0.0285	0.0194
4.1946	0.1371	0.1955	0.1976	0.0171	-0.0159	0.0544	0.0275	0.0198
4.1946	0.1226	0.1955	0.2055	0.0161	-0.0166	0.0459	0.0308	0.0249
4.1946	0.0908	0.1955	0.1822	0.0160	-0.0170	0.0619	0.0301	0.0203
4.1946	0.0589	0.1955	0.1919	0.0158	-0.0118	0.0528	0.0344	0.0219
4.1946	0.0271	0.1955	0.1925	0.0125	-0.0149	0.0442	0.0321	0.0209
4.1946	-0.0048	0.1955	0.1638	0.0195	-0.0073	0.0445	0.0353	0.0205
4.1946	-0.0366	0.1955	0.1703	0.0166	-0.0089	0.0467	0.0321	0.0207
4.1946	-0.0685	0.1955	0.1441	0.0153	-0.0092	0.0375	0.0320	0.0192
4.1946	-0.1003	0.1955	0.1472	0.0130	-0.0024	0.0367	0.0309	0.0210
4.1946	-0.1322	0.1955	0.1291	0.0110	-0.0032	0.0418	0.0312	0.0198
4.1946	-0.1467	0.1955	0.1167	0.0093	-0.0107	0.0561	0.0310	0.0176
4.1946	-0.1534	0.1955	0.1484	0.0176	0.0176	0.0253	0.0213	0.0213

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
4.1946	-0.1574	0.1955	0.1417	0.0251	0.0251	0.0318	0.0233	0.0233
4.1946	-0.1676	0.1955	0.1631	0.0232	0.0232	0.0191	0.0204	0.0204
4.1946	-0.1896	0.1955	0.1272	0.0234	0.0234	0.0349	0.0234	0.0234
4.1946	-0.2133	0.1955	0.1282	0.0153	0.0153	0.0281	0.0177	0.0177
4.1946	-0.2625	0.1955	0.1268	0.0267	0.0267	0.0247	0.0192	0.0192
4.1946	-0.3090	0.1955	0.1181	0.0134	0.0134	0.0246	0.0285	0.0285
5.2303	0.1534	0.1955	0.1887	0.0259	0.0259	0.0415	0.0261	0.0261
5.2303	0.1574	0.1955	0.1969	0.0259	0.0259	0.0302	0.0240	0.0240
5.2303	0.1676	0.1955	0.1852	0.0212	0.0212	0.0389	0.0228	0.0228
5.2303	0.1896	0.1955	0.1830	0.0212	0.0212	0.0348	0.0202	0.0202
5.2303	0.2133	0.1955	0.1826	0.0147	0.0147	0.0302	0.0272	0.0272
5.2303	0.2625	0.1955	0.1640	0.0222	0.0222	0.0281	0.0268	0.0268
5.2303	0.3090	0.1955	0.1563	0.0111	0.0111	0.0240	0.0252	0.0252
5.2303	0.1467	0.1955	0.1478	0.0157	-0.0088	0.0283	0.0229	0.0135
5.2303	0.1371	0.1955	0.1654	0.0130	-0.0119	0.0288	0.0255	0.0132
5.2303	0.1226	0.1955	0.1715	0.0134	-0.0094	0.0282	0.0212	0.0137
5.2303	0.0908	0.1955	0.1629	0.0072	-0.0103	0.0282	0.0257	0.0155
5.2303	0.0589	0.1955	0.1644	0.0140	-0.0083	0.0336	0.0257	0.0158
5.2303	0.0271	0.1955	0.1788	0.0134	-0.0112	0.0333	0.0226	0.0158
5.2303	-0.0048	0.1955	0.1822	0.0072	-0.0075	0.0295	0.0267	0.0174
5.2303	-0.0366	0.1955	0.1750	0.0072	-0.0085	0.0356	0.0255	0.0193
5.2303	-0.0685	0.1955	0.1772	0.0107	-0.0066	0.0311	0.0252	0.0209
5.2303	-0.1003	0.1955	0.1714	0.0065	-0.0098	0.0440	0.0249	0.0177
5.2303	-0.1322	0.1955	0.1773	0.0067	-0.0084	0.0320	0.0223	0.0137
5.2303	-0.1467	0.1955	0.1775	0.0081	-0.0085	0.0282	0.0231	0.0142
5.2303	-0.1534	0.1955	0.1606	0.0174	0.0174	0.0217	0.0169	0.0169
5.2303	-0.1574	0.1955	0.1767	0.0201	0.0201	0.0310	0.0159	0.0159
5.2303	-0.1676	0.1955	0.1758	0.0196	0.0196	0.0251	0.0182	0.0182
5.2303	-0.1896	0.1955	0.1260	0.0155	0.0155	0.0298	0.0175	0.0175
5.2303	-0.2133	0.1955	0.1716	0.0200	0.0200	0.0196	0.0167	0.0167
5.2303	-0.2625	0.1955	0.1258	0.0170	0.0170	0.0149	0.0122	0.0122
5.2303	-0.3090	0.1955	0.1088	0.0122	0.0122	0.0259	0.0163	0.0163
0.5300	0.2296	0.1984	0.2791	-0.0024	-0.0024	0.0695	0.0253	0.0253
0.6500	-0.3479	0.2007	-0.2204	-0.0271	-0.0271	0.0362	0.0273	0.0273
0.9096	-0.3479	0.2007	-0.1885	-0.0463	-0.0463	0.0295	0.0228	0.0228
1.5596	-0.3479	0.2007	-0.0872	-0.0492	-0.0492	0.0287	0.0209	0.0209
2.2196	-0.3479	0.2007	-0.0697	0.0073	0.0073	0.0502	0.0254	0.0254
2.3696	0.3479	0.2007	0.0647	0.0006	0.0006	0.0406	0.0112	0.0112
2.3696	-0.3479	0.2007	-0.0003	-0.0130	-0.0130	0.0251	0.0176	0.0176
3.2046	0.3479	0.2007	0.1747	0.0006	0.0006	0.0360	0.0052	0.0052
3.2046	-0.3479	0.2007	0.0478	0.0015	0.0015	0.0205	0.0269	0.0269
4.1946	0.3479	0.2007	0.2253	0.0106	0.0106	0.0240	0.0182	0.0182
4.1946	-0.3479	0.2007	0.0751	-0.0089	-0.0089	0.0199	0.0111	0.0111
5.2303	0.3479	0.2007	0.1396	0.0175	0.0175	0.0285	0.0217	0.0217
5.2303	-0.3479	0.2007	0.1139	0.0000	0.0000	0.0347	0.0012	0.0012
0.2990	-0.2036	0.2125	-0.1091	-0.0322	-0.0322	0.0584	0.0138	0.0138

Table A.2 Flow field data for the warped with one-vane transition (Q= 0.0203 m^3/s)

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
0.5300	-0.1468	0.0038	0.1822	-0.0597	-0.0597	0.0648	0.0346	0.0346
-0.0700	0.0892	0.0050	0.2074	-0.0087	0.0186	0.0879	0.0206	0.0219
-0.0700	0.0594	0.0050	0.3767	0.0084	0.0302	0.0921	0.0207	0.0216
-0.0700	0.0297	0.0050	0.3700	0.0108	0.0300	0.0538	0.0387	0.0208
-0.0700	0.0000	0.0050	0.3763	0.0117	0.0341	0.0870	0.0180	0.0196
-0.0700	-0.0297	0.0050	0.3639	0.0020	-0.0141	0.0935	0.0330	0.0266
-0.0700	-0.0595	0.0050	0.3843	0.0103	-0.0090	0.0775	0.0172	0.0213
-0.0700	-0.0892	0.0050	0.3330	0.0093	-0.0094	0.0643	0.0171	0.0208
0.0940	0.0913	0.0050	0.3368	-0.0809	0.0239	0.0544	0.0421	0.0290
0.0940	0.0642	0.0050	0.3000	-0.2264	0.0287	0.0406	0.0151	0.0447
0.0940	0.0372	0.0050	0.2242	-0.0740	0.0346	0.0583	0.0389	0.0509
0.0940	0.0193	0.0050	0.1913	0.0122	0.0112	0.0689	0.0210	0.0553
0.0940	-0.0125	0.0050	0.3220	-0.0507	0.0424	0.0521	0.0258	0.0487
0.0940	-0.0460	0.0050	0.1972	-0.0152	0.0376	0.0704	0.0322	0.0450
0.0940	-0.0731	0.0050	0.2825	-0.0285	0.0341	0.0718	0.0397	0.0513
0.0940	-0.0985	0.0050	0.2771	0.0338	0.0066	0.0440	0.0323	0.0320
0.2990	0.1083	0.0050	0.1575	-0.0200	0.0379	0.0937	0.0727	0.0417
0.2990	0.0764	0.0050	0.1778	-0.0084	0.0349	0.0864	0.0695	0.0406
0.2990	0.0446	0.0050	0.0285	-0.0123	0.0068	0.0812	0.0747	0.0353
0.2990	0.0127	0.0050	0.1537	-0.0162	0.0197	0.0743	0.0929	0.0358
0.2990	-0.0318	0.0050	0.1512	0.0105	0.0180	0.0874	0.0258	0.0409
0.2990	-0.0573	0.0050	0.2422	0.0085	0.0012	0.0883	0.0271	0.0382
0.2990	-0.0892	0.0050	0.3068	0.0055	0.0183	0.0698	0.0699	0.0254
0.2990	-0.1083	0.0050	0.2709	0.0097	0.0159	0.0746	0.0448	0.0293
0.5300	0.1225	0.0050	0.1687	0.0150	0.0167	0.0877	0.0955	0.0408
0.5300	0.0852	0.0050	0.2182	0.0095	0.0144	0.0738	0.0459	0.0454
0.5300	0.0479	0.0050	0.2242	0.0038	-0.0073	0.0907	0.0415	0.0503
0.5300	0.0107	0.0050	0.2391	-0.0048	0.0096	0.0895	0.0333	0.0447
0.5300	-0.0393	0.0050	0.3173	-0.0088	0.0232	0.0766	0.0279	0.0402
0.5300	-0.0638	0.0050	0.3059	0.0004	0.0021	0.0837	0.0336	0.0406
0.5300	-0.1011	0.0050	0.2657	-0.0047	0.0130	0.0766	0.0363	0.0514
0.5300	-0.1266	0.0050	0.2063	-0.0164	0.0229	0.0845	0.0703	0.0403
0.6700	0.1534	0.0050	0.1836	-0.0325	-0.0325	0.0846	0.0454	0.0454
0.6700	0.1467	0.0050	0.1910	-0.0077	0.0073	0.0865	0.0403	0.0503
0.6700	0.0978	0.0050	0.2319	-0.0218	-0.0064	0.0900	0.0471	0.0443
0.6700	0.0489	0.0050	0.2712	-0.0128	-0.0340	0.0909	0.0343	0.0239
0.6700	0.0000	0.0050	0.2067	0.0002	-0.0332	0.0826	0.0065	0.0380
0.6700	-0.0489	0.0050	0.2829	-0.0065	0.0567	0.1077	0.0454	0.0389
0.6700	-0.0978	0.0050	0.1987	0.0050	0.0423	0.0861	0.0616	0.0628
0.6700	-0.1467	0.0050	0.1180	0.0049	0.0658	0.0990	0.0447	0.0496
0.6700	-0.1534	0.0050	0.1362	-0.0055	-0.0055	0.0738	0.0369	0.0369
0.9200	0.1534	0.0050	0.0918	-0.0310	-0.0310	0.0783	0.0482	0.0482
0.9200	0.1467	0.0050	0.1055	-0.0287	-0.0130	0.0833	0.0516	0.0514
0.9200	0.0978	0.0050	0.0901	-0.0105	0.0033	0.0931	0.0557	0.0388
0.9200	0.0489	0.0050	0.1641	-0.0015	-0.0350	0.0937	0.0309	0.0299
0.9200	0.0000	0.0050	0.1479	0.0104	-0.0147	0.0666	0.0632	0.0449
0.9200	-0.0489	0.0050	0.1595	0.0088	0.0474	0.0801	0.0623	0.0443
0.9200	-0.0978	0.0050	0.1302	0.0101	0.0471	0.0920	0.0690	0.0557
0.9200	-0.1467	0.0050	0.1019	-0.0004	0.0440	0.0824	0.0280	0.0516
0.9200	-0.1534	0.0050	0.0956	-0.0488	-0.0488	0.0941	0.0410	0.0410
1.2100	0.1534	0.0050	0.1315	0.0073	0.0073	0.0525	0.0455	0.0455
1.2100	0.1467	0.0050	0.0820	-0.0040	-0.0350	0.0730	0.0220	0.0592

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
1.2100	0.0978	0.0050	0.0937	-0.0167	-0.0011	0.0740	0.0528	0.0416
1.2100	0.0489	0.0050	0.0874	-0.0164	-0.0238	0.0733	0.0618	0.0380
1.2100	0.0000	0.0050	0.1008	0.0031	-0.0157	0.0749	0.0575	0.0437
1.2100	-0.0489	0.0050	0.0982	0.0104	0.0430	0.0625	0.0651	0.0434
1.2100	-0.0978	0.0050	0.0977	0.0224	0.0423	0.0851	0.0639	0.0469
1.2100	-0.1467	0.0050	0.0640	0.0049	0.0275	0.0785	0.0570	0.0405
1.2100	-0.1534	0.0050	0.0406	-0.0321	-0.0321	0.0655	0.0542	0.0542
1.4000	0.1534	0.0050	0.1034	-0.0288	-0.0288	0.0449	0.0370	0.0370
1.4000	0.1467	0.0050	0.1278	-0.0165	-0.0165	0.0674	0.0450	0.0323
1.4000	0.0978	0.0050	0.1151	-0.0351	-0.0137	0.0606	0.0588	0.0367
1.4000	0.0489	0.0050	0.1213	-0.0097	-0.0236	0.0535	0.0553	0.0406
1.4000	0.0000	0.0050	0.1296	0.0116	-0.0209	0.0655	0.0617	0.0368
1.4000	-0.0489	0.0050	0.1386	0.0090	0.0335	0.0681	0.0600	0.0395
1.4000	-0.0978	0.0050	0.0942	0.0194	0.0372	0.0825	0.0584	0.0384
1.4000	-0.1467	0.0050	0.0685	0.0055	0.0200	0.0628	0.0426	0.0454
1.4000	-0.1534	0.0050	0.1124	-0.0512	-0.0512	0.0320	0.0388	0.0388
1.9100	0.1534	0.0050	0.1316	-0.0098	-0.0098	0.0383	0.0278	0.0278
1.9100	0.1467	0.0050	0.0995	0.0002	-0.0137	0.0974	0.0084	0.0306
1.9100	0.0978	0.0050	0.0903	0.0002	-0.0179	0.0874	0.0084	0.0301
1.9100	0.0489	0.0050	0.0829	-0.0001	-0.0217	0.0768	0.0085	0.0302
1.9100	0.0000	0.0050	0.1290	-0.0001	-0.0137	0.0481	0.0076	0.0274
1.9100	-0.0489	0.0050	0.0951	0.0001	0.0260	0.0847	0.0064	0.0266
1.9100	-0.0978	0.0050	0.1163	0.0003	0.0303	0.0647	0.0112	0.0271
1.9100	-0.1467	0.0050	0.0983	0.0001	0.0260	0.0663	0.0047	0.0237
1.9100	-0.1534	0.0050	0.1052	0.0001	0.0001	0.0568	0.0060	0.0060
4.1946	0.1429	0.0050	0.0990	0.0162	-0.0046	0.0950	0.0284	0.0151
4.1946	0.1238	0.0050	0.1743	0.0079	-0.0057	0.0391	0.0300	0.0165
4.1946	0.0743	0.0050	0.1102	0.0175	-0.0064	0.0846	0.0362	0.0183
4.1946	0.0248	0.0050	0.1457	0.0102	-0.0102	0.0561	0.0319	0.0188
4.1946	-0.0248	0.0050	0.1378	0.0043	-0.0053	0.0696	0.0318	0.0473
4.1946	-0.0743	0.0050	0.0852	0.0026	-0.0048	0.0925	0.0326	0.0160
4.1946	-0.1238	0.0050	0.1368	0.0023	-0.0001	0.0612	0.0309	0.0226
4.1946	-0.1429	0.0050	0.1457	0.0074	0.0001	0.0407	0.0224	0.0169
5.2300	0.1429	0.0050	0.1202	-0.0233	-0.0017	0.0790	0.0365	0.0085
5.2300	0.1238	0.0050	0.1362	0.0031	-0.0054	0.0389	0.0184	0.0168
5.2300	0.0743	0.0050	0.1403	0.0061	-0.0068	0.0371	0.0184	0.0132
5.2300	0.0248	0.0050	0.1165	0.0011	-0.0035	0.0751	0.0184	0.0098
5.2300	-0.0248	0.0050	0.1257	0.0054	-0.0006	0.0527	0.0174	0.0250
5.2300	-0.0743	0.0050	0.1233	-0.0001	-0.0041	0.0439	0.0162	0.0398
5.2300	-0.1238	0.0050	0.0851	-0.0086	-0.0008	0.0700	0.0143	0.0238
5.2300	-0.1429	0.0050	0.1030	0.0107	0.0015	0.0778	0.0168	0.0161
0.5300	0.1468	0.0078	0.1702	-0.0781	-0.0781	0.0973	0.0219	0.0219
4.1946	0.1574	0.0100	0.1662	0.0065	0.0065	0.0307	0.0226	0.0226
4.1946	-0.1574	0.0100	0.1132	0.0033	0.0033	0.0373	0.0123	0.0123
5.2300	0.1574	0.0100	0.1227	0.0072	0.0072	0.0205	0.0123	0.0123
5.2300	-0.1574	0.0100	0.0999	0.0059	0.0059	0.0248	0.0120	0.0120
0.2990	-0.1275	0.0121	0.0006	0.0001	0.0001	0.0112	0.0068	0.0068
-0.1830	0.0876	0.0152	0.4046	-0.0007	-0.0060	0.0328	0.0216	0.0248
-0.1830	0.0736	0.0152	0.4217	-0.0005	0.0001	0.0322	0.0224	0.0200
-0.1830	0.0482	0.0152	0.4117	-0.0042	-0.0029	0.0377	0.0232	0.0188
-0.1830	0.0228	0.0152	0.4046	0.0021	-0.0079	0.0380	0.0247	0.0174
-0.1830	-0.0026	0.0152	0.4002	0.0043	-0.0063	0.0366	0.0230	0.0186
-0.1830	-0.0280	0.0152	0.3952	0.0038	-0.0023	0.0378	0.0241	0.0172
-0.1830	-0.0534	0.0152	0.3940	0.0071	-0.0015	0.0356	0.0236	0.0161

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
-0.1830	-0.0788	0.0152	0.3842	-0.0020	0.0006	0.0324	0.0208	0.0204
-0.1830	-0.0864	0.0152	0.3675	-0.0053	0.0016	0.0340	0.0201	0.0211
-0.0700	0.0892	0.0152	0.3613	-0.0014	0.0262	0.0685	0.0189	0.0271
-0.0700	0.0594	0.0152	0.4453	-0.0014	0.0313	0.1007	0.0234	0.0202
-0.0700	0.0297	0.0152	0.4225	-0.0008	0.0324	0.0533	0.0272	0.0172
-0.0700	0.0000	0.0152	0.4520	0.0100	0.0364	0.0372	0.0255	0.0174
-0.0700	-0.0297	0.0152	0.4544	-0.0002	-0.0088	0.0372	0.0220	0.0309
-0.0700	-0.0595	0.0152	0.4417	-0.0091	-0.0118	0.0378	0.0244	0.0182
-0.0700	-0.0892	0.0152	0.4295	-0.0029	-0.0099	0.0410	0.0316	0.0190
0.0940	0.1104	0.0152	0.0910	-0.0158	-0.0158	0.0853	0.0336	0.0336
0.0940	0.0913	0.0152	0.3604	-0.0453	0.0227	0.0929	0.0166	0.0310
0.0940	0.0642	0.0152	0.3559	-0.0117	0.0251	0.0553	0.0199	0.0450
0.0940	0.0372	0.0152	0.2704	-0.0049	0.0215	0.0707	0.0221	0.0478
0.0940	0.0193	0.0152	0.1872	0.0110	0.0257	0.0606	0.0213	0.0475
0.0940	-0.0125	0.0152	0.3716	0.0164	0.0393	0.0680	0.0208	0.0388
0.0940	-0.0460	0.0152	0.4250	0.0191	0.0323	0.0990	0.0229	0.0541
0.0940	-0.0731	0.0152	0.3746	-0.0045	0.0240	0.0713	0.0574	0.0480
0.0940	-0.0985	0.0152	0.3279	-0.0010	0.0101	0.0489	0.0157	0.0288
0.2990	0.1275	0.0152	0.1070	-0.0003	-0.0003	0.0905	0.0255	0.0255
0.2990	0.1083	0.0152	0.2324	-0.0068	0.0301	0.0822	0.0291	0.0432
0.2990	0.0764	0.0152	0.3224	-0.0093	0.0199	0.0735	0.0238	0.0359
0.2990	0.0446	0.0152	0.2956	-0.0015	0.0061	0.0744	0.0273	0.0305
0.2990	0.0127	0.0152	0.3060	-0.0023	0.0067	0.0631	0.0218	0.0343
0.2990	-0.0318	0.0152	0.3751	0.0037	0.0153	0.0723	0.0217	0.0339
0.2990	-0.0573	0.0152	0.3648	0.0136	0.0088	0.0808	0.0219	0.0254
0.2990	-0.0892	0.0152	0.3531	0.0200	0.0123	0.0845	0.0258	0.0250
0.2990	-0.1083	0.0152	0.2870	0.0255	0.0100	0.0874	0.0255	0.0246
0.5300	0.1468	0.0152	0.1832	-0.0274	-0.0274	0.0511	0.0433	0.0433
0.5300	0.1225	0.0152	0.2188	-0.0228	0.0074	0.0870	0.0581	0.0492
0.5300	0.0852	0.0152	0.3226	-0.0116	-0.0005	0.0592	0.0521	0.0456
0.5300	0.0479	0.0152	0.3178	-0.0084	-0.0185	0.0733	0.0329	0.0512
0.5300	0.0107	0.0152	0.3246	-0.0046	0.0036	0.0772	0.0256	0.0440
0.5300	-0.0393	0.0152	0.4025	-0.0076	0.0111	0.0789	0.0234	0.0423
0.5300	-0.0638	0.0152	0.3778	0.0034	-0.0286	0.0788	0.0292	0.0568
0.5300	-0.1011	0.0152	0.3659	0.0136	0.0226	0.0749	0.0354	0.0429
0.5300	-0.1266	0.0152	0.3149	0.0044	0.0205	0.0928	0.0486	0.0320
0.5300	-0.1468	0.0152	0.1752	-0.0173	-0.0173	0.0677	0.0139	0.0139
0.6700	0.1534	0.0152	0.2013	-0.0229	0.0229	0.0641	0.0458	0.0458
0.6700	0.1467	0.0152	0.2281	-0.0067	0.0185	0.0649	0.0578	0.0512
0.6700	0.0978	0.0152	0.2943	-0.0105	-0.0144	0.0675	0.0361	0.0454
0.6700	0.0489	0.0152	0.3095	-0.0201	-0.0339	0.0749	0.0331	0.0246
0.6700	0.0000	0.0152	0.2386	-0.0181	-0.0318	0.0603	0.0360	0.0385
0.6700	-0.0489	0.0152	0.3480	-0.0190	0.0539	0.0849	0.0362	0.0396
0.6700	-0.0978	0.0152	0.2624	-0.0328	0.0570	0.0726	0.0431	0.0541
0.6700	-0.1467	0.0152	0.0818	-0.0352	0.0285	0.0601	0.0596	0.0681
0.6700	-0.1534	0.0152	0.2019	-0.0166	-0.0166	0.0660	0.0550	0.0550
0.9200	0.1534	0.0152	0.1209	0.0013	0.0013	0.0854	0.0500	0.0500
0.9200	0.1467	0.0152	0.1124	-0.0004	0.0286	0.0736	0.0558	0.0568
0.9200	0.0978	0.0152	0.1982	-0.0085	-0.0021	0.0872	0.0487	0.0406
0.9200	0.0489	0.0152	0.2164	-0.0108	-0.0339	0.0940	0.0509	0.0305
0.9200	0.0000	0.0152	0.1723	-0.0087	-0.0145	0.0835	0.0604	0.0448
0.9200	-0.0489	0.0152	0.1842	0.0020	0.0456	0.0883	0.0655	0.0444
0.9200	-0.0978	0.0152	0.1386	-0.0196	0.0471	0.0999	0.0600	0.0541
0.9200	-0.1467	0.0152	0.1161	0.0003	0.0555	0.0752	0.0178	0.0537

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
0.9200	-0.1534	0.0152	0.1239	-0.0079	-0.0079	0.0750	0.0497	0.0497
1.2100	0.1534	0.0152	0.1203	-0.0211	-0.0211	0.0682	0.0489	0.0489
1.2100	0.1467	0.0152	0.1404	-0.0257	-0.0079	0.0708	0.0534	0.0453
1.2100	0.0978	0.0152	0.1286	-0.0191	0.0012	0.0715	0.0593	0.0392
1.2100	0.0489	0.0152	0.1411	-0.0071	-0.0235	0.0978	0.0569	0.0380
1.2100	0.0000	0.0152	0.1736	0.0024	-0.0154	0.0820	0.0586	0.0434
1.2100	-0.0489	0.0152	0.1487	-0.0045	0.0411	0.0914	0.0615	0.0434
1.2100	-0.0978	0.0152	0.1198	0.0063	0.0422	0.0802	0.0657	0.0463
1.2100	-0.1467	0.0152	0.1216	-0.0142	0.0388	0.0719	0.0629	0.0451
1.2100	-0.1534	0.0152	0.0997	-0.0274	-0.0274	0.0882	0.0331	0.0331
1.4000	0.1534	0.0152	0.1234	-0.0086	-0.0086	0.0560	0.0287	0.0287
1.4000	0.1467	0.0152	0.1203	-0.0371	-0.0137	0.0637	0.0490	0.0415
1.4000	0.0978	0.0152	0.1491	-0.0177	-0.0208	0.0478	0.0535	0.0326
1.4000	0.0489	0.0152	0.1346	-0.0306	-0.0234	0.0606	0.0423	0.0401
1.4000	0.0000	0.0152	0.1306	-0.0157	-0.0206	0.0760	0.0688	0.0366
1.4000	-0.0489	0.0152	0.1476	0.0125	0.0324	0.0759	0.0546	0.0395
1.4000	-0.0978	0.0152	0.1534	0.0035	0.0318	0.0733	0.0514	0.0366
1.4000	-0.1467	0.0152	0.1381	0.0002	0.0170	0.0722	0.0515	0.0376
1.4000	-0.1534	0.0152	0.1777	-0.0074	-0.0074	0.0412	0.0330	0.0330
1.9100	0.1534	0.0152	0.1739	0.0091	0.0091	0.0444	0.0272	0.0272
1.9100	0.1467	0.0152	0.1606	-0.0172	-0.0112	0.0486	0.0376	0.0324
1.9100	0.0978	0.0152	0.1660	-0.0232	-0.0180	0.0501	0.0471	0.0300
1.9100	0.0489	0.0152	0.1318	-0.0069	-0.0217	0.0427	0.0423	0.0301
1.9100	0.0000	0.0152	0.1478	-0.0039	-0.0138	0.0464	0.0406	0.0273
1.9100	-0.0489	0.0152	0.1451	0.0067	0.0254	0.0476	0.0439	0.0267
1.9100	-0.0978	0.0152	0.1479	0.0067	0.0296	0.0524	0.0355	0.0271
1.9100	-0.1467	0.0152	0.1425	0.0006	0.0195	0.0552	0.0220	0.0243
1.9100	-0.1534	0.0152	0.1472	-0.0207	-0.0207	0.0599	0.0231	0.0231
4.1946	0.1574	0.0152	0.1403	0.0076	0.0076	0.0271	0.0196	0.0196
4.1946	0.1429	0.0152	0.1569	0.0129	-0.0039	0.0739	0.0292	0.0135
4.1946	0.1238	0.0152	0.1818	0.0108	-0.0056	0.0421	0.0304	0.0165
4.1946	0.0743	0.0152	0.1643	0.0137	-0.0061	0.0504	0.0298	0.0182
4.1946	0.0248	0.0152	0.1586	0.0066	-0.0097	0.0397	0.0348	0.0187
4.1946	-0.0248	0.0152	0.1538	0.0010	-0.0051	0.0360	0.0338	0.0427
4.1946	-0.0743	0.0152	0.1604	-0.0014	-0.0045	0.0351	0.0302	0.0161
4.1946	-0.1238	0.0152	0.1642	0.0028	-0.0003	0.0418	0.0279	0.0224
4.1946	-0.1429	0.0152	0.1647	-0.0006	0.0012	0.0326	0.0272	0.0165
4.1946	-0.1574	0.0152	0.1376	0.0040	0.0040	0.0356	0.0163	0.0163
5.2300	0.1574	0.0152	0.1380	0.0082	0.0082	0.0169	0.0141	0.0141
5.2300	0.1429	0.0152	0.1519	0.0076	0.0000	0.0219	0.0165	0.0048
5.2300	0.1238	0.0152	0.1529	0.0115	-0.0054	0.0435	0.0145	0.0167
5.2300	0.0743	0.0152	0.1596	0.0088	-0.0067	0.0358	0.0162	0.0131
5.2300	0.0248	0.0152	0.1402	0.0011	-0.0035	0.0531	0.0214	0.0098
5.2300	-0.0248	0.0152	0.1471	0.0040	-0.0008	0.0398	0.0186	0.0207
5.2300	-0.0743	0.0152	0.1427	0.0014	-0.0037	0.0381	0.0217	0.0381
5.2300	-0.1238	0.0152	0.1377	0.0028	-0.0008	0.0349	0.0159	0.0229
5.2300	-0.1429	0.0152	0.1327	0.0058	-0.0012	0.0373	0.0153	0.0246
5.2300	-0.1574	0.0152	0.1123	0.0094	0.0094	0.0200	0.0117	0.0117
0.6700	0.1676	0.0202	0.1249	0.0374	0.0374	0.0974	0.0437	0.0437
0.6700	-0.1676	0.0202	0.0924	0.0085	0.0085	0.0822	0.0648	0.0648
0.9200	0.1676	0.0202	0.0510	-0.0036	-0.0036	0.0512	0.0574	0.0574
0.9200	-0.1676	0.0202	0.1198	-0.0619	-0.0619	0.0697	0.0663	0.0663
1.2100	0.1676	0.0202	0.1011	-0.0039	-0.0039	0.0776	0.0413	0.0413
1.2100	-0.1676	0.0202	0.1762	-0.0387	-0.0387	0.0611	0.0447	0.0447

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
1.4000	0.1676	0.0202	0.0825	-0.0245	-0.0245	0.0405	0.0416	0.0416
1.4000	-0.1676	0.0202	0.1216	-0.0147	-0.0147	0.0466	0.0366	0.0366
1.9100	0.1676	0.0202	0.1593	-0.0032	-0.0032	0.0403	0.0271	0.0271
1.9100	-0.1676	0.0202	0.1268	0.0000	0.0000	0.0654	0.0019	0.0019
0.2990	0.1275	0.0218	0.1719	0.0347	0.0347	0.0933	0.0259	0.0259
0.5300	0.1468	0.0228	0.1709	-0.0201	-0.0201	0.0852	0.0378	0.0378
0.2990	-0.1275	0.0236	0.1567	0.0176	0.0176	0.0763	0.0291	0.0291
0.5300	-0.1468	0.0241	0.1981	-0.0116	-0.0116	0.0670	0.0228	0.0228
-0.1830	0.0876	0.0372	0.4353	0.0006	-0.0123	0.0350	0.0213	0.0466
-0.1830	0.0736	0.0372	0.4653	0.0053	-0.0031	0.0235	0.0163	0.0188
-0.1830	0.0482	0.0372	0.4551	0.0090	-0.0019	0.0291	0.0173	0.0157
-0.1830	0.0228	0.0372	0.4504	0.0094	-0.0100	0.0283	0.0197	0.0178
-0.1830	-0.0026	0.0372	0.4616	0.0065	-0.0065	0.0262	0.0161	0.0179
-0.1830	-0.0280	0.0372	0.4533	0.0026	0.0018	0.0232	0.0175	0.0134
-0.1830	-0.0534	0.0372	0.4520	-0.0034	-0.0005	0.0214	0.0140	0.0148
-0.1830	-0.0788	0.0372	0.4279	-0.0027	-0.0017	0.0283	0.0161	0.0233
-0.1830	-0.0864	0.0372	0.4031	-0.0034	-0.0086	0.0346	0.0191	0.0197
-0.0700	0.0892	0.0372	0.4095	-0.0013	0.0227	0.0448	0.0194	0.0290
-0.0700	0.0594	0.0372	0.4929	0.0071	0.0301	0.0318	0.0261	0.0164
-0.0700	0.0297	0.0372	0.4788	0.0086	0.0304	0.0305	0.0208	0.0153
-0.0700	0.0000	0.0372	0.4971	-0.0015	0.0374	0.0276	0.0259	0.0149
-0.0700	-0.0297	0.0372	0.5157	-0.0110	-0.0120	0.0284	0.0154	0.0283
-0.0700	-0.0595	0.0372	0.5165	-0.0084	-0.0095	0.0206	0.0196	0.0156
-0.0700	-0.0892	0.0372	0.4597	-0.0051	-0.0126	0.0358	0.0266	0.0130
0.0940	0.0913	0.0372	0.4179	-0.0334	0.0256	0.0741	0.0212	0.0299
0.0940	0.0642	0.0372	0.3758	-0.0181	0.0513	0.0703	0.0182	0.0487
0.0940	0.0372	0.0372	0.4206	-0.0043	0.0592	0.0732	0.0170	0.0447
0.0940	0.0193	0.0372	0.4316	0.0028	-0.0011	0.0602	0.0167	0.0417
0.0940	-0.0125	0.0372	0.4690	0.0233	0.0318	0.0590	0.0236	0.0418
0.0940	-0.0460	0.0372	0.4622	0.0226	0.0311	0.0691	0.0147	0.0463
0.0940	-0.0731	0.0372	0.4512	0.0268	0.0363	0.0543	0.0198	0.0506
0.0940	-0.0985	0.0372	0.3531	0.0317	0.0340	0.0905	0.0196	0.0333
0.2990	0.1275	0.0372	0.2010	0.0311	0.0311	0.0822	0.0435	0.0435
0.2990	0.1083	0.0372	0.2869	-0.0240	0.0259	0.0569	0.0353	0.0425
0.2990	0.0764	0.0372	0.3493	-0.0131	0.0380	0.0672	0.0158	0.0426
0.2990	0.0446	0.0372	0.3751	-0.0065	0.0049	0.0425	0.0191	0.0387
0.2990	0.0127	0.0372	0.3747	-0.0028	0.0287	0.0668	0.0186	0.0329
0.2990	-0.0318	0.0372	0.4368	0.0127	0.0284	0.0659	0.0105	0.0328
0.2990	-0.0573	0.0372	0.4208	0.0161	0.0109	0.0444	0.0147	0.0230
0.2990	-0.0892	0.0372	0.4299	0.0201	0.0075	0.0388	0.0162	0.0254
0.2990	-0.1083	0.0372	0.4108	0.0270	0.0049	0.0506	0.0238	0.0244
0.5300	0.1468	0.0372	0.2243	-0.0197	-0.0197	0.0951	0.0362	0.0362
0.5300	0.1225	0.0372	0.2391	-0.0524	0.0368	0.0820	0.0673	0.0276
0.5300	0.0852	0.0372	0.3999	-0.0304	0.0081	0.0708	0.0447	0.0385
0.5300	0.0479	0.0372	0.3751	-0.0106	-0.0231	0.0605	0.0328	0.0580
0.5300	0.0107	0.0372	0.3876	-0.0074	0.0088	0.0791	0.0192	0.0449
0.5300	-0.0393	0.0372	0.4507	0.0045	0.0042	0.0686	0.0180	0.0425
0.5300	-0.0638	0.0372	0.4515	0.0078	-0.0121	0.0585	0.0147	0.0536
0.5300	-0.1011	0.0372	0.4225	0.0159	0.0084	0.0525	0.0239	0.0406
0.5300	-0.1266	0.0372	0.3725	0.0271	0.0221	0.0840	0.0350	0.0386
0.6700	0.1534	0.0372	0.2306	-0.0330	0.0330	0.0696	0.0510	0.0510
0.6700	0.1676	0.0372	0.1667	0.0383	0.0383	0.0590	0.0460	0.0460
0.6700	0.1467	0.0372	0.2530	0.0216	0.0231	0.0611	0.0679	0.0580

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
0.6700	0.0978	0.0372	0.3586	0.0104	0.0005	0.0454	0.0375	0.0456
0.6700	0.0489	0.0372	0.3640	-0.0065	-0.0368	0.0574	0.0224	0.0276
0.6700	0.0000	0.0372	0.2472	-0.0005	-0.0322	0.0609	0.0438	0.0397
0.6700	-0.0489	0.0372	0.4029	-0.0234	0.0429	0.0527	0.0335	0.0389
0.6700	-0.0978	0.0372	0.3572	-0.0523	0.0285	0.0990	0.0372	0.0678
0.6700	-0.1467	0.0372	0.1800	-0.0631	0.0280	0.0626	0.0670	0.0615
0.6700	-0.1534	0.0372	0.1985	0.0083	0.0083	0.0787	0.0539	0.0539
0.6700	-0.1676	0.0372	0.1852	0.0099	0.0099	0.0724	0.0432	0.0432
0.9200	0.1534	0.0372	0.1245	0.0185	0.0185	0.0547	0.0588	0.0588
0.9200	0.1676	0.0372	0.1265	-0.0116	-0.0116	0.0500	0.0606	0.0606
0.9200	0.1467	0.0372	0.2054	0.0247	0.0121	0.0808	0.0662	0.0536
0.9200	0.0978	0.0372	0.2483	0.0211	-0.0042	0.0864	0.0528	0.0425
0.9200	0.0489	0.0372	0.2699	-0.0012	-0.0298	0.0858	0.0314	0.0349
0.9200	0.0000	0.0372	0.2393	-0.0140	-0.0227	0.0650	0.0337	0.0428
0.9200	-0.0489	0.0372	0.2758	-0.0066	0.0303	0.0920	0.0592	0.0455
0.9200	-0.0978	0.0372	0.1929	-0.0520	0.0406	0.0504	0.0541	0.0545
0.9200	-0.1467	0.0372	0.1556	-0.0729	0.0418	0.0614	0.0691	0.0543
0.9200	-0.1534	0.0372	0.1314	0.0046	0.0046	0.0867	0.0652	0.0652
0.9200	-0.1676	0.0372	0.1435	0.0335	0.0335	0.0447	0.0379	0.0379
1.2100	0.1534	0.0372	0.1899	0.0186	0.0186	0.0847	0.0402	0.0402
1.2100	0.1676	0.0372	0.1548	-0.0199	-0.0199	0.0741	0.0493	0.0493
1.2100	0.1467	0.0372	0.1777	0.0053	0.0064	0.0741	0.0600	0.0487
1.2100	0.0978	0.0372	0.1809	0.0089	-0.0100	0.0750	0.0529	0.0432
1.2100	0.0489	0.0372	0.2377	-0.0056	-0.0229	0.0725	0.0654	0.0403
1.2100	0.0000	0.0372	0.1979	-0.0149	-0.0226	0.0798	0.0562	0.0429
1.2100	-0.0489	0.0372	0.1921	-0.0300	0.0378	0.0796	0.0632	0.0370
1.2100	-0.0978	0.0372	0.1687	-0.0246	0.0334	0.0705	0.0732	0.0480
1.2100	-0.1467	0.0372	0.1596	-0.0101	0.0221	0.0710	0.0644	0.0399
1.2100	-0.1534	0.0372	0.1384	0.0007	0.0007	0.0872	0.0454	0.0454
1.2100	-0.1676	0.0372	0.2010	-0.0005	-0.0005	0.0645	0.0410	0.0410
1.4000	0.1534	0.0372	0.1489	-0.0114	-0.0114	0.0667	0.0411	0.0411
1.4000	0.1676	0.0372	0.1337	0.0017	0.0017	0.0504	0.0412	0.0412
1.4000	0.1467	0.0372	0.2093	-0.0068	-0.0134	0.0735	0.0547	0.0351
1.4000	0.0978	0.0372	0.1572	-0.0031	-0.0153	0.0869	0.0522	0.0352
1.4000	0.0489	0.0372	0.1706	-0.0110	-0.0214	0.0469	0.0579	0.0373
1.4000	0.0000	0.0372	0.1695	-0.0250	-0.0185	0.0758	0.0641	0.0345
1.4000	-0.0489	0.0372	0.1973	-0.0228	0.0308	0.0674	0.0562	0.0395
1.4000	-0.0978	0.0372	0.2041	-0.0166	0.0254	0.0604	0.0601	0.0406
1.4000	-0.1467	0.0372	0.1531	-0.0175	0.0315	0.0614	0.0484	0.0365
1.4000	-0.1534	0.0372	0.1752	-0.0029	-0.0029	0.0384	0.0370	0.0370
1.4000	-0.1676	0.0372	0.1467	-0.0200	-0.0200	0.0425	0.0333	0.0333
1.9100	0.1534	0.0372	0.1940	0.0057	0.0057	0.0463	0.0251	0.0251
1.9100	0.1676	0.0372	0.1575	0.0039	0.0039	0.0475	0.0249	0.0249
1.9100	0.1467	0.0372	0.1583	-0.0143	-0.0180	0.0486	0.0437	0.0270
1.9100	0.0978	0.0372	0.1917	-0.0168	-0.0202	0.0514	0.0457	0.0333
1.9100	0.0489	0.0372	0.1620	-0.0217	-0.0216	0.0450	0.0427	0.0300
1.9100	0.0000	0.0372	0.1466	-0.0070	-0.0142	0.0554	0.0465	0.0272
1.9100	-0.0489	0.0372	0.1564	0.0071	0.0243	0.0492	0.0396	0.0269
1.9100	-0.0978	0.0372	0.1664	-0.0029	0.0280	0.0518	0.0395	0.0253
1.9100	-0.1467	0.0372	0.1516	-0.0015	0.0235	0.0469	0.0357	0.0217
1.9100	-0.1534	0.0372	0.1912	-0.0122	-0.0122	0.0735	0.0221	0.0221
1.9100	-0.1676	0.0372	0.1443	-0.0081	-0.0081	0.0592	0.0281	0.0281
4.1946	0.1574	0.0372	0.1770	0.0104	0.0104	0.0243	0.0199	0.0199
4.1946	0.1429	0.0372	0.1675	0.0104	-0.0075	0.0566	0.0286	0.0164

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
4.1946	0.1238	0.0372	0.1874	0.0094	-0.0070	0.0321	0.0322	0.0161
4.1946	0.0743	0.0372	0.1766	0.0099	-0.0054	0.0340	0.0302	0.0181
4.1946	0.0248	0.0372	0.1605	0.0085	-0.0086	0.0392	0.0350	0.0185
4.1946	-0.0248	0.0372	0.1682	0.0051	-0.0047	0.0354	0.0304	0.0415
4.1946	-0.0743	0.0372	0.1684	0.0094	-0.0039	0.0330	0.0284	0.0163
4.1946	-0.1238	0.0372	0.1673	0.0074	0.0011	0.0332	0.0295	0.0231
4.1946	-0.1429	0.0372	0.1689	0.0059	0.0015	0.0308	0.0245	0.0164
4.1946	-0.1574	0.0372	0.1785	0.0045	0.0045	0.0234	0.0166	0.0166
5.2300	0.1574	0.0372	0.1607	0.0055	0.0055	0.0191	0.0120	0.0120
5.2300	0.1429	0.0372	0.1670	0.0110	0.0013	0.0250	0.0129	0.0163
5.2300	0.1238	0.0372	0.1625	0.0098	-0.0066	0.0250	0.0178	0.0229
5.2300	0.0743	0.0372	0.1693	0.0063	-0.0063	0.0261	0.0143	0.0129
5.2300	0.0248	0.0372	0.1665	0.0130	-0.0035	0.0180	0.0181	0.0098
5.2300	-0.0248	0.0372	0.1554	0.0040	-0.0011	0.0170	0.0110	0.0115
5.2300	-0.0743	0.0372	0.1622	0.0058	-0.0031	0.0221	0.0161	0.0214
5.2300	-0.1238	0.0372	0.1510	0.0068	-0.0015	0.0176	0.0151	0.0195
5.2300	-0.1429	0.0372	0.1419	0.0023	0.0031	0.0313	0.0147	0.0102
5.2300	-0.1574	0.0372	0.1399	0.0078	0.0078	0.0177	0.0098	0.0098
0.0940	-0.1113	0.0404	0.2317	0.0243	0.0243	0.0675	0.0282	0.0282
0.2990	-0.1275	0.0409	0.3075	0.0209	0.0209	0.0794	0.0260	0.0260
4.1946	0.1896	0.0422	0.1285	0.0068	0.0068	0.0305	0.0211	0.0211
4.1946	-0.1896	0.0422	0.1507	0.0063	0.0063	0.0403	0.0209	0.0209
5.2300	0.1896	0.0422	0.1283	0.0057	0.0057	0.0177	0.0138	0.0138
5.2300	-0.1896	0.0422	0.1218	0.0086	0.0086	0.0265	0.0132	0.0132
0.5300	0.1257	0.0450	0.1236	-0.0476	-0.0476	0.0989	0.0143	0.0143
0.2990	0.1466	0.0490	0.0017	0.0115	0.0115	0.0977	0.0239	0.0239
0.5300	0.1067	0.0561	0.0738	-0.0167	-0.0167	0.0942	0.0170	0.0170
0.2990	-0.1275	0.0582	0.3296	0.0221	0.0221	0.0904	0.0316	0.0316
0.5300	-0.1850	0.0584	-0.0002	-0.0342	-0.0342	0.0706	0.0643	0.0643
0.0940	-0.1113	0.0606	0.2888	0.0282	0.0282	0.0597	0.0265	0.0265
-0.1830	0.0876	0.0609	0.4948	-0.0007	-0.0110	0.0316	0.0183	0.0234
-0.1830	0.0736	0.0609	0.5256	0.0012	-0.0081	0.0187	0.0141	0.0186
-0.1830	0.0482	0.0609	0.5301	0.0063	-0.0032	0.0162	0.0125	0.0135
-0.1830	0.0228	0.0609	0.5258	0.0047	-0.0064	0.0156	0.0131	0.0146
-0.1830	-0.0026	0.0609	0.5221	0.0022	-0.0013	0.0185	0.0136	0.0126
-0.1830	-0.0280	0.0609	0.5141	-0.0025	0.0050	0.0195	0.0139	0.0138
-0.1830	-0.0534	0.0609	0.4987	-0.0065	0.0011	0.0188	0.0135	0.0174
-0.1830	-0.0788	0.0609	0.4895	-0.0090	-0.0045	0.0247	0.0153	0.0319
-0.1830	-0.0864	0.0609	0.4569	-0.0079	-0.0070	0.0339	0.0173	0.0151
-0.0700	0.0892	0.0609	0.4358	-0.0040	0.0343	0.0418	0.0214	0.0293
-0.0700	0.0594	0.0609	0.5144	0.0069	0.0274	0.0196	0.0155	0.0186
-0.0700	0.0297	0.0609	0.5232	0.0073	0.0275	0.0188	0.0203	0.0149
-0.0700	0.0000	0.0609	0.5234	-0.0043	0.0336	0.0160	0.0188	0.0102
-0.0700	-0.0297	0.0609	0.5096	-0.0066	-0.0051	0.0248	0.0210	0.0285
-0.0700	-0.0595	0.0609	0.5113	-0.0076	-0.0097	0.0200	0.0219	0.0119
-0.0700	-0.0892	0.0609	0.4749	-0.0063	-0.0158	0.0357	0.0220	0.0114
0.0940	0.1104	0.0609	0.2371	-0.0155	-0.0155	0.0633	0.0235	0.0235
0.0940	0.0913	0.0609	0.4369	-0.0464	0.0176	0.0630	0.0173	0.0272
0.0940	0.0642	0.0609	0.4628	-0.0219	0.0257	0.0937	0.0164	0.0610
0.0940	0.0372	0.0609	0.4741	-0.0083	0.0257	0.0959	0.0128	0.0613
0.0940	0.0193	0.0609	0.4672	0.0027	-0.0063	0.0698	0.0110	0.0426
0.0940	-0.0125	0.0609	0.4926	0.0239	0.0296	0.0645	0.0116	0.0409
0.0940	-0.0460	0.0609	0.4844	0.0287	0.0211	0.0657	0.0149	0.0401
0.0940	-0.0731	0.0609	0.4729	0.0321	0.0157	0.0762	0.0200	0.0530

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
0.0940	-0.0985	0.0609	0.3846	0.0343	0.0278	0.0763	0.0191	0.0442
0.2990	0.1466	0.0609	0.0591	0.0271	0.0271	0.0767	0.0438	0.0438
0.2990	0.1083	0.0609	0.3119	-0.0224	0.0334	0.0822	0.0351	0.0382
0.2990	0.0764	0.0609	0.3912	-0.0173	0.0116	0.0909	0.0168	0.0475
0.2990	0.0446	0.0609	0.4097	-0.0086	0.0019	0.0471	0.0132	0.0361
0.2990	0.0127	0.0609	0.4283	-0.0023	0.0229	0.0297	0.0111	0.0366
0.2990	-0.0318	0.0609	0.4433	0.0107	0.0362	0.0682	0.0087	0.0311
0.2990	-0.0573	0.0609	0.4433	0.0151	0.0060	0.0393	0.0133	0.0254
0.2990	-0.0892	0.0609	0.4096	0.0187	0.0025	0.0760	0.0186	0.0293
0.2990	-0.1083	0.0609	0.4123	0.0218	0.0175	0.0614	0.0331	0.0219
0.5300	0.1225	0.0609	0.2325	-0.0371	0.0307	0.0982	0.0693	0.0261
0.5300	0.0852	0.0609	0.3886	-0.0351	0.0101	0.0826	0.0412	0.0428
0.5300	0.0479	0.0609	0.4416	-0.0199	-0.0153	0.0580	0.0215	0.0583
0.5300	0.0107	0.0609	0.4399	-0.0074	0.0170	0.0364	0.0126	0.0397
0.5300	-0.0393	0.0609	0.4662	0.0069	-0.0011	0.0655	0.0128	0.0331
0.5300	-0.0638	0.0609	0.4656	0.0078	-0.0276	0.0508	0.0274	0.0490
0.5300	-0.1011	0.0609	0.4064	0.0180	0.0083	0.0657	0.0318	0.0407
0.5300	-0.1266	0.0609	0.3759	0.0318	0.0192	0.0893	0.0370	0.0419
0.5300	-0.1659	0.0609	0.2004	-0.0152	-0.0152	0.0692	0.0193	0.0193
0.5300	-0.1850	0.0609	0.0264	-0.0045	-0.0045	0.0643	0.0616	0.0616
0.6700	0.1534	0.0609	0.2368	-0.0387	0.0387	0.0612	0.0594	0.0594
0.6700	0.1676	0.0609	0.1548	0.0497	0.0497	0.0897	0.0650	0.0650
0.6700	0.1467	0.0609	0.2664	0.0351	0.0153	0.0623	0.0696	0.0583
0.6700	0.0978	0.0609	0.4034	0.0186	-0.0081	0.0505	0.0534	0.0385
0.6700	0.0489	0.0609	0.4123	-0.0064	-0.0307	0.0504	0.0215	0.0261
0.6700	0.0000	0.0609	0.2995	-0.0050	-0.0238	0.0674	0.0441	0.0415
0.6700	-0.0489	0.0609	0.4133	-0.0453	0.0403	0.0397	0.0315	0.0419
0.6700	-0.0978	0.0609	0.3210	-0.0481	0.0265	0.0597	0.0568	0.0649
0.6700	-0.1467	0.0609	0.2215	-0.0714	0.0542	0.0567	0.0721	0.0717
0.6700	-0.1534	0.0609	0.2395	0.0202	0.0202	0.0636	0.0572	0.0572
0.6700	-0.1676	0.0609	0.1903	0.0075	0.0075	0.0615	0.0628	0.0628
0.9200	0.1534	0.0609	0.2406	0.0419	0.0419	0.0885	0.0585	0.0585
0.9200	0.1676	0.0609	0.2021	0.0321	0.0321	0.0536	0.0467	0.0467
0.9200	0.1467	0.0609	0.2800	0.0470	0.0276	0.0825	0.0614	0.0490
0.9200	0.0978	0.0609	0.2773	0.0275	0.0011	0.0930	0.0542	0.0331
0.9200	0.0489	0.0609	0.3252	0.0090	-0.0292	0.0601	0.0415	0.0314
0.9200	0.0000	0.0609	0.2570	-0.0181	-0.0096	0.0582	0.0400	0.0447
0.9200	-0.0489	0.0609	0.3265	-0.0452	0.0436	0.0749	0.0452	0.0431
0.9200	-0.0978	0.0609	0.2692	-0.0612	0.0418	0.0843	0.0732	0.0500
0.9200	-0.1467	0.0609	0.1951	-0.0564	0.0379	0.0549	0.0754	0.0570
0.9200	-0.1534	0.0609	0.1990	0.0385	0.0385	0.0529	0.0479	0.0479
0.9200	-0.1676	0.0609	0.1556	0.0328	0.0328	0.0507	0.0564	0.0564
1.2100	0.1534	0.0609	0.2119	0.0256	0.0256	0.0707	0.0362	0.0362
1.2100	0.1676	0.0609	0.1869	0.0163	0.0163	0.0792	0.0463	0.0463
1.2100	0.1467	0.0609	0.2076	0.0101	0.0182	0.0901	0.0692	0.0512
1.2100	0.0978	0.0609	0.2319	0.0238	-0.0096	0.0866	0.0480	0.0414
1.2100	0.0489	0.0609	0.2458	-0.0064	-0.0205	0.0915	0.0595	0.0320
1.2100	0.0000	0.0609	0.2587	-0.0223	-0.0084	0.0460	0.0469	0.0406
1.2100	-0.0489	0.0609	0.2280	-0.0321	0.0309	0.0902	0.0455	0.0491
1.2100	-0.0978	0.0609	0.2157	-0.0481	0.0287	0.0673	0.0604	0.0472
1.2100	-0.1467	0.0609	0.1663	-0.0524	0.0423	0.0853	0.0630	0.0473
1.2100	-0.1534	0.0609	0.1639	0.0107	0.0107	0.0653	0.0486	0.0486
1.2100	-0.1676	0.0609	0.1975	0.0066	0.0066	0.0965	0.0423	0.0423
1.4000	0.1534	0.0609	0.2096	0.0214	0.0214	0.0654	0.0442	0.0442

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
1.4000	0.1676	0.0609	0.1808	0.0365	0.0365	0.0683	0.0389	0.0389
1.4000	0.1467	0.0609	0.2107	0.0033	-0.0116	0.0704	0.0515	0.0359
1.4000	0.0978	0.0609	0.2149	-0.0037	-0.0090	0.0971	0.0636	0.0425
1.4000	0.0489	0.0609	0.1945	-0.0012	-0.0256	0.0825	0.0486	0.0400
1.4000	0.0000	0.0609	0.2111	-0.0148	-0.0211	0.0525	0.0514	0.0353
1.4000	-0.0489	0.0609	0.2435	-0.0295	0.0247	0.0571	0.0489	0.0392
1.4000	-0.0978	0.0609	0.1993	-0.0404	0.0376	0.0781	0.0554	0.0394
1.4000	-0.1467	0.0609	0.1680	-0.0430	0.0402	0.0724	0.0585	0.0345
1.4000	-0.1534	0.0609	0.1923	0.0067	0.0067	0.0434	0.0354	0.0354
1.4000	-0.1676	0.0609	0.1988	-0.0007	-0.0007	0.0415	0.0348	0.0348
1.9100	0.1534	0.0609	0.2113	0.0144	0.0144	0.0377	0.0283	0.0283
1.9100	0.1676	0.0609	0.1980	0.0081	0.0081	0.0551	0.0267	0.0267
1.9100	0.1467	0.0609	0.2046	-0.0117	-0.0138	0.0510	0.0412	0.0330
1.9100	0.0978	0.0609	0.1929	-0.0078	-0.0187	0.0481	0.0416	0.0285
1.9100	0.0489	0.0609	0.1997	-0.0139	-0.0213	0.0589	0.0440	0.0290
1.9100	0.0000	0.0609	0.1800	-0.0187	-0.0198	0.0567	0.0440	0.0284
1.9100	-0.0489	0.0609	0.1882	-0.0047	0.0203	0.0542	0.0416	0.0281
1.9100	-0.0978	0.0609	0.1659	-0.0125	0.0268	0.0478	0.0377	0.0259
1.9100	-0.1467	0.0609	0.1714	-0.0079	0.0249	0.0381	0.0387	0.0236
1.9100	-0.1534	0.0609	0.1599	-0.0054	-0.0054	0.0674	0.0241	0.0241
1.9100	-0.1676	0.0609	0.1562	-0.0133	-0.0133	0.0760	0.0238	0.0238
4.1946	0.1574	0.0609	0.1837	0.0072	0.0072	0.0235	0.0197	0.0197
4.1946	0.1896	0.0609	0.1793	0.0062	0.0062	0.0241	0.0215	0.0215
4.1946	0.1429	0.0609	0.1326	0.0033	-0.0009	0.0992	0.0279	0.0183
4.1946	0.1238	0.0609	0.1946	0.0029	-0.0041	0.0335	0.0270	0.0173
4.1946	0.0743	0.0609	0.1883	0.0062	-0.0049	0.0339	0.0326	0.0176
4.1946	0.0248	0.0609	0.1765	0.0040	-0.0075	0.0310	0.0324	0.0183
4.1946	-0.0248	0.0609	0.1759	0.0125	-0.0042	0.0361	0.0395	0.0399
4.1946	-0.0743	0.0609	0.1650	0.0145	-0.0035	0.0344	0.0282	0.0160
4.1946	-0.1238	0.0609	0.1670	0.0117	-0.0014	0.0305	0.0253	0.0212
4.1946	-0.1429	0.0609	0.1583	0.0070	-0.0050	0.0322	0.0315	0.0197
4.1946	-0.1574	0.0609	0.1633	0.0066	0.0066	0.0394	0.0202	0.0202
4.1946	-0.1896	0.0609	0.1675	0.0065	0.0065	0.0307	0.0202	0.0202
5.2300	0.1574	0.0609	0.1616	0.0091	0.0091	0.0249	0.0102	0.0102
5.2300	0.1896	0.0609	0.1581	0.0079	0.0079	0.0232	0.0139	0.0139
5.2300	0.1429	0.0609	0.1685	0.0111	-0.0081	0.0205	0.0148	0.0104
5.2300	0.1238	0.0609	0.1737	0.0095	-0.0030	0.0212	0.0163	0.0108
5.2300	0.0743	0.0609	0.1695	0.0043	-0.0050	0.0160	0.0167	0.0108
5.2300	0.0248	0.0609	0.1678	0.0062	-0.0035	0.0313	0.0151	0.0097
5.2300	-0.0248	0.0609	0.1655	0.0116	-0.0015	0.0184	0.0139	0.0015
5.2300	-0.0743	0.0609	0.1620	0.0062	-0.0032	0.0221	0.0179	0.0238
5.2300	-0.1238	0.0609	0.1614	0.0084	-0.0004	0.0195	0.0148	0.0125
5.2300	-0.1429	0.0609	0.1594	0.0112	0.0019	0.0346	0.0158	0.0135
5.2300	-0.1574	0.0609	0.1461	0.0105	0.0105	0.0191	0.0116	0.0116
5.2300	-0.1896	0.0609	0.1368	0.0112	0.0112	0.0201	0.0117	0.0117
0.6700	0.2133	0.0659	0.0565	0.0180	0.0180	0.0891	0.0609	0.0609
0.6700	-0.2133	0.0659	0.0637	0.0136	0.0136	0.0631	0.0563	0.0563
0.9200	0.2133	0.0659	0.0562	-0.0109	-0.0109	0.0818	0.0655	0.0655
0.9200	-0.2133	0.0659	0.0338	0.0283	0.0283	0.0753	0.0377	0.0377
1.2100	0.2133	0.0659	0.0787	0.0369	0.0369	0.0738	0.0509	0.0509
1.2100	-0.2133	0.0659	0.0507	0.0078	0.0078	0.0549	0.0444	0.0444
1.4000	0.2133	0.0659	0.0842	0.0008	0.0008	0.0510	0.0322	0.0322
1.4000	-0.2133	0.0659	0.1159	0.0021	0.0021	0.0342	0.0348	0.0348
1.9100	0.2133	0.0659	0.1254	0.0149	0.0149	0.0318	0.0265	0.0265

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
1.9100	-0.2133	0.0659	0.1204	-0.0001	-0.0001	0.0492	0.0052	0.0052
0.5300	-0.1659	0.0664	0.2022	-0.0143	-0.0143	0.0690	0.0235	0.0235
0.5300	0.1067	0.0672	0.0218	-0.0193	-0.0193	0.0728	0.0565	0.0565
0.5300	-0.1850	0.0675	0.1098	-0.0023	-0.0023	0.0992	0.0514	0.0514
0.2990	0.1275	0.0708	0.2199	0.0163	0.0163	0.0837	0.0420	0.0420
0.0940	0.1104	0.0709	0.2726	0.0073	0.0073	0.0745	0.0201	0.0201
0.5300	0.1257	0.0727	0.0731	-0.0347	-0.0347	0.0796	0.0531	0.0531
0.2990	-0.1465	0.0755	0.0021	-0.0002	-0.0002	0.0112	0.0075	0.0075
0.5300	-0.1850	0.0782	0.1033	0.0101	0.0101	0.0720	0.0485	0.0485
0.5300	0.0876	0.0783	0.0112	-0.0279	-0.0279	0.0769	0.0313	0.0313
0.2990	0.1466	0.0817	0.0345	0.0134	0.0134	0.0856	0.0480	0.0480
0.2990	0.1656	0.0817	-0.0640	0.0235	0.0235	0.0701	0.0291	0.0291
0.5300	-0.1659	0.0825	0.1211	-0.0174	-0.0174	0.0515	0.0599	0.0599
0.5300	0.1257	0.0838	0.0484	-0.0010	-0.0010	0.0938	0.0482	0.0482
0.0940	0.1104	0.0867	0.3074	0.0149	0.0149	0.1219	0.0192	0.0192
0.6700	0.2133	0.0871	0.0930	0.0542	0.0542	0.0744	0.0577	0.0577
0.6700	-0.2133	0.0871	0.0081	0.0159	0.0159	0.0703	0.0394	0.0394
0.9200	0.2133	0.0871	0.1064	0.0172	0.0172	0.0846	0.0623	0.0623
0.9200	-0.2133	0.0871	0.0779	0.0194	0.0194	0.0987	0.0686	0.0686
1.2100	0.2133	0.0871	0.1330	-0.0021	-0.0021	0.1097	0.0524	0.0524
1.2100	-0.2133	0.0871	0.0985	0.0191	0.0191	0.0695	0.0445	0.0445
1.4000	0.2133	0.0871	0.1304	0.0142	0.0142	0.0725	0.0418	0.0418
1.4000	-0.2133	0.0871	0.1165	0.0108	0.0108	0.0568	0.0266	0.0266
1.9100	0.2133	0.0871	0.1467	0.0147	0.0147	0.0384	0.0264	0.0264
1.9100	-0.2133	0.0871	0.1570	-0.0075	-0.0075	0.0565	0.0304	0.0304
0.0940	-0.1113	0.0876	0.3372	0.0266	0.0266	0.0660	0.0276	0.0276
0.5300	-0.2041	0.0889	-0.0013	-0.0141	-0.0141	0.0451	0.0447	0.0447
0.5300	0.1067	0.0894	0.0249	-0.0022	-0.0022	0.0842	0.0478	0.0478
0.5300	0.0686	0.0894	-0.0137	-0.0120	-0.0120	0.0818	0.0237	0.0237
0.2990	0.1275	0.0926	0.1715	0.0205	0.0205	0.0724	0.0339	0.0339
0.2990	-0.1275	0.0928	0.3212	0.0302	0.0302	0.0940	0.0413	0.0413
0.2990	-0.1465	0.0928	0.0855	-0.0057	-0.0057	0.0883	0.0497	0.0497
0.5300	-0.1850	0.0943	0.0604	-0.0049	-0.0049	0.0642	0.0495	0.0495
0.5300	-0.2041	0.0943	-0.0157	-0.0426	-0.0426	0.0850	0.0456	0.0456
0.5300	0.0876	0.0949	0.0066	-0.0212	-0.0212	0.0828	0.0276	0.0276
0.5300	-0.1468	0.0986	0.3063	-0.0097	-0.0097	0.0909	0.0293	0.0293
0.5300	-0.1659	0.0986	0.1408	-0.0312	-0.0312	0.0624	0.0626	0.0626
0.5300	0.0559	0.1016	-0.0112	-0.0789	-0.0789	0.0527	0.0255	0.0255
0.2990	-0.1655	0.1043	0.0001	-0.0946	-0.0946	0.0125	0.0118	0.0118
0.5300	0.1257	0.1061	0.0255	-0.0099	-0.0099	0.0814	0.0486	0.0486
0.5300	0.0686	0.1061	-0.0780	-0.0384	-0.0384	0.0755	0.0343	0.0343
0.5300	0.0559	0.1061	-0.0446	-0.0851	-0.0851	0.0485	0.0213	0.0213
-0.1830	0.0876	0.1101	0.4898	-0.0045	-0.0219	0.0294	0.0195	0.0370
-0.1830	0.0736	0.1101	0.5107	0.0012	-0.0149	0.0247	0.0162	0.0208
-0.1830	0.0482	0.1101	0.5280	0.0068	-0.0072	0.0161	0.0139	0.0122
-0.1830	0.0228	0.1101	0.5260	0.0074	-0.0045	0.0163	0.0138	0.0104
-0.1830	-0.0026	0.1101	0.5189	0.0053	0.0003	0.0191	0.0150	0.0118
-0.1830	-0.0280	0.1101	0.4988	0.0075	0.0042	0.0266	0.0175	0.0169
-0.1830	-0.0534	0.1101	0.4676	0.0089	0.0018	0.0260	0.0201	0.0211
-0.1830	-0.0788	0.1101	0.4272	0.0052	-0.0023	0.0360	0.0193	0.0229
-0.1830	-0.0864	0.1101	0.4048	0.0001	0.0025	0.0398	0.0189	0.0109
-0.0700	0.0892	0.1101	0.4349	-0.0006	0.0352	0.0456	0.0286	0.0297
-0.0700	0.0594	0.1101	0.5124	0.0049	0.0206	0.0213	0.0156	0.0209
-0.0700	0.0297	0.1101	0.5225	0.0125	0.0250	0.0273	0.0145	0.0162

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
-0.0700	0.0000	0.1101	0.5192	0.0055	0.0352	0.0203	0.0190	0.0122
-0.0700	-0.0297	0.1101	0.4814	0.0058	-0.0020	0.0296	0.0221	0.0252
-0.0700	-0.0595	0.1101	0.5091	0.0243	-0.0100	0.0226	0.0249	0.0157
-0.0700	-0.0892	0.1101	0.4706	0.0108	-0.0169	0.0517	0.0237	0.0118
0.0940	0.1104	0.1101	0.2839	0.0176	0.0176	0.0719	0.0191	0.0191
0.0940	0.0913	0.1101	0.4284	-0.0361	0.0132	0.0495	0.0177	0.0339
0.0940	0.0642	0.1101	0.4414	-0.0115	0.0238	0.0909	0.0147	0.0584
0.0940	0.0372	0.1101	0.4865	-0.0022	0.0252	0.0740	0.0111	0.0554
0.0940	0.0193	0.1101	0.4596	0.0024	0.0064	0.0509	0.0096	0.0408
0.0940	-0.0125	0.1101	0.4767	0.0185	0.0273	0.0775	0.0126	0.0410
0.0940	-0.0460	0.1101	0.4713	0.0252	0.0396	0.0591	0.0164	0.0465
0.0940	-0.0731	0.1101	0.4333	0.0227	-0.0033	0.0587	0.0221	0.0374
0.0940	-0.0985	0.1101	0.3393	0.0216	0.0213	0.0393	0.0227	0.0393
0.2990	0.1275	0.1101	0.1239	-0.0363	-0.0363	0.0539	0.0166	0.0166
0.2990	0.1466	0.1101	-0.0023	0.0052	0.0052	0.0824	0.0474	0.0474
0.2990	0.1656	0.1101	-0.0620	0.0101	0.0101	0.0515	0.0355	0.0355
0.2990	0.1083	0.1101	0.2510	-0.0183	0.0248	0.0943	0.0465	0.0364
0.2990	0.0764	0.1101	0.3939	-0.0081	0.0166	0.0668	0.0253	0.0397
0.2990	0.0446	0.1101	0.4286	-0.0057	0.0277	0.0432	0.0156	0.0356
0.2990	0.0127	0.1101	0.4387	-0.0030	0.0338	0.0556	0.0086	0.0354
0.2990	-0.0318	0.1101	0.4327	0.0035	0.0316	0.0657	0.0095	0.0323
0.2990	-0.0573	0.1101	0.4247	0.0058	0.0139	0.0456	0.0184	0.0210
0.2990	-0.0892	0.1101	0.3773	0.0046	0.0252	0.0641	0.0237	0.0228
0.2990	-0.1083	0.1101	0.3307	0.0164	0.0212	0.0829	0.0460	0.0195
0.5300	0.1225	0.1101	0.1401	0.0024	0.0306	0.0739	0.0952	0.0325
0.5300	0.0852	0.1101	0.2897	-0.0191	0.0083	0.0704	0.0651	0.0438
0.5300	0.0479	0.1101	0.3995	-0.0041	-0.0228	0.0705	0.0456	0.0590
0.5300	0.0107	0.1101	0.4478	-0.0075	0.0298	0.0494	0.0221	0.0349
0.5300	-0.0393	0.1101	0.4580	0.0076	0.0057	0.0663	0.0204	0.0404
0.5300	-0.0638	0.1101	0.4359	0.0018	-0.0171	0.0528	0.0295	0.0527
0.5300	-0.1011	0.1101	0.3498	0.0149	0.0102	0.0881	0.0525	0.0442
0.5300	-0.1266	0.1101	0.2237	0.0245	0.0166	0.0677	0.0561	0.0325
0.5300	-0.1659	0.1101	0.1272	-0.0082	-0.0082	0.0624	0.0254	0.0254
0.5300	-0.1850	0.1101	0.0691	0.0256	0.0256	0.0549	0.0447	0.0447
0.5300	-0.2041	0.1101	-0.0351	-0.0393	-0.0393	0.0814	0.0591	0.0591
0.5300	-0.2232	0.1101	-0.0644	-0.0392	-0.0392	0.0517	0.0432	0.0432
0.6700	0.1534	0.1101	0.1989	-0.0308	0.0308	0.0749	0.0577	0.0577
0.6700	0.1676	0.1101	0.1182	0.0339	0.0339	0.0693	0.0601	0.0601
0.6700	0.2133	0.1101	0.0196	0.0352	0.0352	0.0766	0.0735	0.0735
0.6700	0.1467	0.1101	0.1828	0.0199	0.0228	0.0557	0.0647	0.0590
0.6700	0.0978	0.1101	0.3236	0.0068	-0.0101	0.0597	0.0587	0.0428
0.6700	0.0489	0.1101	0.4086	-0.0003	-0.0306	0.0604	0.0414	0.0325
0.6700	0.0000	0.1101	0.3277	-0.0057	-0.0145	0.0752	0.0277	0.0422
0.6700	-0.0489	0.1101	0.3649	-0.0301	0.0319	0.0687	0.0396	0.0497
0.6700	-0.0978	0.1101	0.2551	-0.0329	0.0359	0.0809	0.0711	0.0561
0.6700	-0.1467	0.1101	0.1440	-0.0331	0.0264	0.0696	0.0879	0.0607
0.6700	-0.1534	0.1101	0.2200	0.0177	0.0177	0.0646	0.0785	0.0785
0.6700	-0.1676	0.1101	0.1310	0.0119	0.0119	0.0615	0.0719	0.0719
0.6700	-0.2133	0.1101	-0.0106	0.0336	0.0336	0.0850	0.0683	0.0683
0.9200	0.1534	0.1101	0.2711	0.0724	0.0724	0.0984	0.0514	0.0514
0.9200	0.1676	0.1101	0.2026	0.0288	0.0288	0.0955	0.0572	0.0572
0.9200	0.2133	0.1101	0.1056	0.0393	0.0393	0.0834	0.0538	0.0538
0.9200	0.1467	0.1101	0.2330	0.0388	0.0171	0.0971	0.0667	0.0527

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
0.9200	0.0978	0.1101	0.3095	0.0280	-0.0057	0.0780	0.0574	0.0404
0.9200	0.0489	0.1101	0.3417	0.0056	-0.0250	0.0570	0.0391	0.0330
0.9200	0.0000	0.1101	0.2750	-0.0150	-0.0036	0.0578	0.0403	0.0440
0.9200	-0.0489	0.1101	0.2974	-0.0471	0.0353	0.0706	0.0470	0.0464
0.9200	-0.0978	0.1101	0.2341	-0.0629	0.0359	0.0702	0.0684	0.0601
0.9200	-0.1467	0.1101	0.1817	-0.0559	0.0266	0.0926	0.0746	0.0533
0.9200	-0.1534	0.1101	0.2155	0.0292	0.0292	0.0826	0.0481	0.0481
0.9200	-0.1676	0.1101	0.1402	0.0384	0.0384	0.0483	0.0680	0.0680
0.9200	-0.2133	0.1101	0.1371	0.0403	0.0403	0.0880	0.0419	0.0419
1.2100	0.1534	0.1101	0.2652	0.0298	0.0298	0.0776	0.0497	0.0497
1.2100	0.1676	0.1101	0.2305	0.0282	0.0282	0.0816	0.0523	0.0523
1.2100	0.2133	0.1101	0.1655	0.0320	0.0320	0.0709	0.0374	0.0374
1.2100	0.1467	0.1101	0.2904	0.0316	-0.0012	0.0780	0.0513	0.0370
1.2100	0.0978	0.1101	0.3279	0.0216	-0.0085	0.0572	0.0477	0.0447
1.2100	0.0489	0.1101	0.2861	0.0001	-0.0221	0.0640	0.0410	0.0386
1.2100	0.0000	0.1101	0.2836	-0.0121	-0.0083	0.0544	0.0513	0.0407
1.2100	-0.0489	0.1101	0.2755	-0.0259	0.0236	0.0675	0.0524	0.0437
1.2100	-0.0978	0.1101	0.2411	-0.0507	0.0372	0.0733	0.0542	0.0424
1.2100	-0.1467	0.1101	0.2092	-0.0574	0.0129	0.0809	0.0568	0.0528
1.2100	-0.1534	0.1101	0.2102	0.0082	0.0082	0.0834	0.0466	0.0466
1.2100	-0.1676	0.1101	0.1759	0.0141	0.0141	0.0741	0.0385	0.0385
1.2100	-0.2133	0.1101	0.0473	0.0217	0.0217	0.0393	0.0454	0.0454
1.4000	0.1534	0.1101	0.2298	0.0205	0.0205	0.0682	0.0391	0.0391
1.4000	0.1676	0.1101	0.2373	0.0276	0.0276	0.0830	0.0395	0.0395
1.4000	0.2133	0.1101	0.1666	0.0287	0.0287	0.0786	0.0384	0.0384
1.4000	0.1467	0.1101	0.2352	0.0164	-0.0220	0.0791	0.0523	0.0422
1.4000	0.0978	0.1101	0.2782	0.0103	-0.0176	0.0679	0.0507	0.0406
1.4000	0.0489	0.1101	0.2557	0.0004	-0.0196	0.0594	0.0480	0.0362
1.4000	0.0000	0.1101	0.2218	-0.0208	-0.0180	0.0670	0.0467	0.0373
1.4000	-0.0489	0.1101	0.2391	-0.0318	0.0203	0.0706	0.0517	0.0384
1.4000	-0.0978	0.1101	0.2393	-0.0365	0.0281	0.0616	0.0529	0.0448
1.4000	-0.1467	0.1101	0.1936	-0.0446	0.0351	0.0679	0.0611	0.0359
1.4000	-0.1534	0.1101	0.2070	0.0116	0.0116	0.0408	0.0310	0.0310
1.4000	-0.1676	0.1101	0.1613	0.0030	0.0030	0.0347	0.0403	0.0403
1.4000	-0.2133	0.1101	0.1417	0.0139	0.0139	0.0448	0.0339	0.0339
1.9100	0.1534	0.1101	0.2083	0.0066	0.0066	0.0479	0.0292	0.0292
1.9100	0.1676	0.1101	0.2132	0.0117	0.0117	0.0520	0.0299	0.0299
1.9100	0.2133	0.1101	0.2148	0.0152	0.0152	0.0451	0.0235	0.0235
1.9100	0.1467	0.1101	0.2148	-0.0127	-0.0180	0.0520	0.0412	0.0288
1.9100	0.0978	0.1101	0.2032	-0.0054	-0.0167	0.0476	0.0453	0.0257
1.9100	0.0489	0.1101	0.1999	-0.0077	-0.0238	0.0559	0.0421	0.0304
1.9100	0.0000	0.1101	0.1950	-0.0118	-0.0102	0.0471	0.0389	0.0235
1.9100	-0.0489	0.1101	0.1820	-0.0126	0.0204	0.0484	0.0395	0.0282
1.9100	-0.0978	0.1101	0.1843	-0.0127	0.0210	0.0404	0.0369	0.0295
1.9100	-0.1467	0.1101	0.1744	-0.0235	0.0275	0.0431	0.0347	0.0267
1.9100	-0.1534	0.1101	0.1471	-0.0009	-0.0009	0.0685	0.0248	0.0248
1.9100	-0.1676	0.1101	0.1542	-0.0060	-0.0060	0.0628	0.0241	0.0241
1.9100	-0.2133	0.1101	0.1617	-0.0069	-0.0069	0.0674	0.0213	0.0213
4.1946	0.1574	0.1101	0.1842	0.0082	0.0082	0.0257	0.0224	0.0224
4.1946	0.1896	0.1101	0.1662	-0.0009	-0.0009	0.0280	0.0155	0.0155
4.1946	0.1429	0.1101	0.1770	0.0010	-0.0026	0.0660	0.0303	0.0170
4.1946	0.1238	0.1101	0.1923	0.0037	-0.0039	0.0326	0.0322	0.0178
4.1946	0.0743	0.1101	0.1861	0.0033	-0.0024	0.0327	0.0293	0.0175
4.1946	0.0248	0.1101	0.1795	0.0129	-0.0048	0.0310	0.0263	0.0179

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
4.1946	-0.0248	0.1101	0.1822	0.0142	-0.0035	0.0313	0.0287	0.0204
4.1946	-0.0743	0.1101	0.1800	0.0078	-0.0018	0.0307	0.0292	0.0176
4.1946	-0.1238	0.1101	0.1736	0.0142	-0.0047	0.0319	0.0263	0.0168
4.1946	-0.1429	0.1101	0.1727	0.0124	-0.0003	0.0339	0.0291	0.0199
4.1946	-0.1574	0.1101	0.1728	0.0106	0.0106	0.0300	0.0194	0.0194
4.1946	-0.1896	0.1101	0.1754	0.0089	0.0089	0.0244	0.0185	0.0185
5.2300	0.1574	0.1101	0.1743	0.0096	0.0096	0.0221	0.0113	0.0113
5.2300	0.1896	0.1101	0.1725	0.0078	0.0078	0.0170	0.0109	0.0109
5.2300	0.1429	0.1101	0.1755	0.0120	-0.0069	0.0170	0.0155	0.0101
5.2300	0.1238	0.1101	0.1700	0.0102	-0.0062	0.0202	0.0146	0.0111
5.2300	0.0743	0.1101	0.1733	0.0073	-0.0066	0.0179	0.0151	0.0153
5.2300	0.0248	0.1101	0.1730	0.0096	-0.0037	0.0164	0.0148	0.0097
5.2300	-0.0248	0.1101	0.1734	0.0117	-0.0017	0.0172	0.0188	0.0101
5.2300	-0.0743	0.1101	0.1677	0.0100	0.0004	0.0232	0.0171	0.0238
5.2300	-0.1238	0.1101	0.1556	0.0060	0.0001	0.0216	0.0169	0.0094
5.2300	-0.1429	0.1101	0.1629	0.0111	0.0011	0.0169	0.0160	0.0119
5.2300	-0.1574	0.1101	0.1652	0.0167	0.0167	0.0174	0.0122	0.0122
5.2300	-0.1896	0.1101	0.1534	0.0109	0.0109	0.0170	0.0117	0.0117
0.2990	-0.1655	0.1101	-0.0324	-0.0310	-0.0310	0.0770	0.0575	0.0575
0.5300	0.0876	0.1116	-0.0852	-0.0370	-0.0370	0.0626	0.0323	0.0323
0.0940	-0.1113	0.1145	0.2869	0.0122	0.0122	0.0775	0.0376	0.0376
4.1946	0.2625	0.1151	0.1299	0.0049	0.0049	0.0324	0.0231	0.0231
4.1946	-0.2625	0.1151	0.1236	0.0028	0.0028	0.0345	0.0211	0.0211
5.2300	0.2625	0.1151	0.1156	0.0072	0.0072	0.0322	0.0105	0.0105
5.2300	-0.2625	0.1151	0.0923	0.0032	0.0032	0.0256	0.0129	0.0129
0.5300	-0.2614	0.1211	-0.0941	-0.0092	-0.0092	0.0553	0.0491	0.0491
0.5300	0.1468	0.1227	0.0610	-0.0222	-0.0222	0.0966	0.0306	0.0362
0.5300	0.1067	0.1227	-0.0692	-0.0029	-0.0029	0.0886	0.0371	0.0371
0.5300	-0.2041	0.1264	-0.0334	-0.0500	-0.0500	0.0707	0.0564	0.0564
0.2990	-0.1465	0.1274	0.1088	0.0232	0.0232	0.0966	0.0575	0.0575
0.2990	-0.1655	0.1274	-0.0437	0.0177	0.0177	0.0795	0.0629	0.0629
0.2990	-0.1845	0.1274	-0.3087	-0.0365	-0.0365	0.0000	0.0297	0.0297
0.5300	0.1257	0.1283	-0.0516	-0.0526	-0.0526	0.0726	0.0232	0.0232
0.5300	0.0876	0.1283	-0.1048	-0.0249	-0.0249	0.0514	0.0230	0.0230
0.5300	-0.1659	0.1307	0.1770	-0.0156	-0.0156	0.0662	0.0298	0.0298
0.0940	0.1104	0.1340	0.2216	0.0308	0.0308	0.0920	0.0268	0.0268
4.1946	0.2625	0.1363	0.1552	0.0040	0.0040	0.0279	0.0199	0.0199
4.1946	-0.2625	0.1363	0.1346	0.0067	0.0067	0.0317	0.0210	0.0210
5.2300	0.2625	0.1363	0.1387	0.0102	0.0102	0.0192	0.0145	0.0145
5.2300	-0.2625	0.1363	0.1138	0.0096	0.0096	0.0169	0.0110	0.0110
0.5300	-0.2423	0.1371	-0.1236	-0.0469	-0.0469	0.0762	0.0335	0.0335
0.5300	-0.2614	0.1371	-0.1198	-0.0383	-0.0383	0.0615	0.0297	0.0297
0.0940	-0.1240	0.1415	0.0731	-0.0145	-0.0145	0.0856	0.0782	0.0782
0.2990	0.1466	0.1416	-0.0746	-0.0793	-0.0793	0.0916	0.0093	0.0093
0.5300	-0.1850	0.1425	0.0474	0.0136	0.0136	0.0681	0.0197	0.0197
0.2990	-0.1275	0.1447	0.2586	0.0318	0.0318	0.0942	0.0376	0.0376
0.2990	-0.1465	0.1447	0.0626	0.0364	0.0364	0.0931	0.0654	0.0654
0.2990	-0.1655	0.1447	-0.0250	0.0037	0.0037	0.0975	0.0628	0.0628
0.2990	-0.1845	0.1447	-0.0851	-0.0319	-0.0319	0.0619	0.0525	0.0525
0.5300	0.1257	0.1505	-0.0168	-0.0441	-0.0441	0.0875	0.0199	0.0199
0.5300	0.0482	0.1516	-0.1253	-0.0272	-0.0272	0.0452	0.0193	0.0193
0.5300	0.0559	0.1560	-0.1504	-0.0139	-0.0139	0.0570	0.0157	0.0157
-0.1830	0.0876	0.1566	0.4619	0.0026	-0.0138	0.0515	0.0241	0.0257
-0.1830	0.0736	0.1566	0.4941	-0.0044	-0.0161	0.0263	0.0193	0.0228

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
-0.1830	0.0482	0.1566	0.5195	0.0005	-0.0100	0.0214	0.0158	0.0156
-0.1830	0.0228	0.1566	0.5290	0.0056	-0.0042	0.0177	0.0129	0.0114
-0.1830	-0.0026	0.1566	0.5320	0.0055	0.0008	0.0146	0.0160	0.0099
-0.1830	-0.0280	0.1566	0.5294	0.0035	0.0034	0.0151	0.0138	0.0100
-0.1830	-0.0534	0.1566	0.5113	0.0008	0.0019	0.0270	0.0142	0.0140
-0.1830	-0.0788	0.1566	0.4608	-0.0009	-0.0156	0.0332	0.0187	0.0237
-0.1830	-0.0864	0.1566	0.4209	-0.0076	0.0006	0.0201	0.0172	0.0164
-0.0700	0.0892	0.1566	0.3954	-0.0026	0.0207	0.0868	0.0248	0.0284
-0.0700	0.0594	0.1566	0.4877	-0.0009	0.0221	0.0408	0.0200	0.0228
-0.0700	0.0297	0.1566	0.5140	0.0002	0.0322	0.0339	0.0149	0.0140
-0.0700	0.0000	0.1566	0.5238	0.0031	0.0380	0.0183	0.0169	0.0127
-0.0700	-0.0297	0.1566	0.5075	-0.0056	0.0020	0.0408	0.0189	0.0277
-0.0700	-0.0595	0.1566	0.4993	-0.0010	-0.0092	0.0540	0.0237	0.0154
-0.0700	-0.0892	0.1566	0.3954	0.0122	-0.0144	0.0576	0.0340	0.0116
0.0940	0.1104	0.1566	0.1366	0.0199	0.0199	0.0868	0.0350	0.0350
0.0940	0.0913	0.1566	0.3829	-0.0104	0.0386	0.0617	0.0256	0.0350
0.0940	0.0642	0.1566	0.4208	-0.0016	0.0323	0.0694	0.0185	0.0505
0.0940	0.0372	0.1566	0.4559	0.0016	0.0488	0.0978	0.0242	0.0645
0.0940	0.0193	0.1566	0.4544	0.0044	-0.0021	0.0444	0.0095	0.0432
0.0940	-0.0125	0.1566	0.4411	0.0124	0.0365	0.0790	0.0111	0.0490
0.0940	-0.0460	0.1566	0.4700	0.0131	0.0500	0.0642	0.0161	0.0483
0.0940	-0.0731	0.1566	0.4317	0.0244	0.0048	0.0838	0.0271	0.0379
0.0940	-0.0985	0.1566	0.3710	0.0237	0.0127	0.0623	0.0247	0.0399
0.0940	-0.1113	0.1566	0.2705	0.0077	0.0077	0.0630	0.0468	0.0468
0.0940	-0.1240	0.1566	0.0502	-0.0144	-0.0144	0.0850	0.0421	0.0421
0.2990	0.1275	0.1566	-0.0032	-0.0361	-0.0361	0.0405	0.0150	0.0150
0.2990	0.1466	0.1566	-0.0259	-0.0574	-0.0574	0.0756	0.0114	0.0114
0.2990	0.1656	0.1566	-0.1018	0.0385	0.0385	0.0527	0.0207	0.0207
0.2990	0.1083	0.1566	0.0699	0.0079	0.0148	0.0842	0.0825	0.0438
0.2990	0.0764	0.1566	0.2966	-0.0054	0.0078	0.0852	0.0544	0.0417
0.2990	0.0446	0.1566	0.4131	0.0015	0.0222	0.0370	0.0255	0.0352
0.2990	0.0127	0.1566	0.4001	-0.0035	0.0252	0.0824	0.0113	0.0403
0.2990	-0.0318	0.1566	0.4423	0.0034	0.0336	0.0812	0.0112	0.0365
0.2990	-0.0573	0.1566	0.4454	0.0017	0.0121	0.0501	0.0167	0.0247
0.2990	-0.0892	0.1566	0.3920	0.0034	0.0242	0.0731	0.0321	0.0233
0.2990	-0.1083	0.1566	0.2863	0.0340	0.0224	0.0765	0.0576	0.0212
0.5300	0.1225	0.1566	0.0548	0.0007	0.0387	0.0753	0.0058	0.0303
0.5300	0.0852	0.1566	0.1972	-0.0030	0.0159	0.0770	0.0841	0.0399
0.5300	0.0479	0.1566	0.3298	-0.0080	0.0049	0.0888	0.0527	0.0601
0.5300	0.0107	0.1566	0.4251	-0.0052	0.0292	0.0803	0.0356	0.0314
0.5300	-0.0393	0.1566	0.4336	0.0071	0.0075	0.0720	0.0316	0.0382
0.5300	-0.0638	0.1566	0.4366	0.0056	-0.0178	0.0627	0.0363	0.0634
0.5300	-0.1011	0.1566	0.3315	0.0181	0.0148	0.0971	0.0602	0.0352
0.5300	-0.1266	0.1566	0.2072	0.0206	-0.0012	0.0911	0.0891	0.0392
0.5300	-0.2232	0.1566	-0.0558	-0.0112	-0.0112	0.0999	0.0588	0.0588
0.5300	-0.2423	0.1566	-0.0968	-0.0268	-0.0268	0.0612	0.0459	0.0459
0.5300	-0.2614	0.1566	-0.1202	-0.0432	-0.0432	0.0584	0.0288	0.0288
0.6700	0.1534	0.1566	0.1501	-0.0109	0.0109	0.0771	0.0745	0.0745
0.6700	0.1676	0.1566	0.1027	-0.0180	0.0180	0.0737	0.0555	0.0555
0.6700	0.2133	0.1566	-0.0520	-0.0686	0.0686	0.0681	0.0808	0.0808
0.6700	0.1467	0.1566	0.1277	0.0065	-0.0049	0.0642	0.0750	0.0601
0.6700	0.0978	0.1566	0.2795	-0.0077	-0.0083	0.0588	0.0703	0.0438
0.6700	0.0489	0.1566	0.3995	-0.0077	-0.0387	0.0605	0.0566	0.0303

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
0.6700	0.0000	0.1566	0.3501	-0.0096	-0.0167	0.0964	0.0298	0.0408
0.6700	-0.0489	0.1566	0.3648	-0.0429	0.0279	0.0880	0.0495	0.0500
0.6700	-0.0978	0.1566	0.2566	-0.0530	0.0385	0.0797	0.0757	0.0565
0.6700	-0.1467	0.1566	0.1227	-0.0585	0.0125	0.0750	0.0891	0.0615
0.6700	-0.1534	0.1566	0.1653	0.0189	0.0189	0.0645	0.0654	0.0654
0.6700	-0.1676	0.1566	0.1226	0.0262	0.0262	0.0845	0.0663	0.0663
0.6700	-0.2133	0.1566	-0.0107	0.0413	0.0413	0.0790	0.0582	0.0582
0.9200	0.1534	0.1566	0.1787	0.0652	0.0652	0.0725	0.0453	0.0453
0.9200	0.1676	0.1566	0.1889	0.0491	0.0491	0.0832	0.0536	0.0536
0.9200	0.2133	0.1566	0.0815	0.0701	0.0701	0.0834	0.0566	0.0566
0.9200	0.1467	0.1566	0.1879	0.0519	0.0178	0.0955	0.0645	0.0634
0.9200	0.0978	0.1566	0.2725	0.0291	-0.0075	0.0935	0.0687	0.0382
0.9200	0.0489	0.1566	0.2974	0.0097	-0.0232	0.0716	0.0453	0.0402
0.9200	0.0000	0.1566	0.2796	-0.0098	-0.0088	0.0623	0.0435	0.0449
0.9200	-0.0489	0.1566	0.2976	-0.0402	0.0328	0.0757	0.0551	0.0454
0.9200	-0.0978	0.1566	0.2188	-0.0520	0.0346	0.0932	0.0739	0.0514
0.9200	-0.1467	0.1566	0.1638	-0.0591	0.0403	0.0938	0.0758	0.0562
0.9200	-0.1534	0.1566	0.1743	0.0132	0.0132	0.0885	0.0521	0.0521
0.9200	-0.1676	0.1566	0.1417	0.0319	0.0319	0.0610	0.0588	0.0588
0.9200	-0.2133	0.1566	0.0875	0.0525	0.0525	0.0811	0.0653	0.0653
1.2100	0.1534	0.1566	0.2308	0.0391	0.0391	0.0900	0.0469	0.0469
1.2100	0.1676	0.1566	0.2105	0.0375	0.0375	0.0795	0.0473	0.0473
1.2100	0.2133	0.1566	0.1689	-0.0398	0.0398	0.0785	0.0459	0.0459
1.2100	0.1467	0.1566	0.2407	0.0372	0.0045	0.0785	0.0647	0.0425
1.2100	0.0978	0.1566	0.2586	0.0163	-0.0159	0.0810	0.0555	0.0442
1.2100	0.0489	0.1566	0.2625	0.0020	-0.0192	0.0628	0.0551	0.0419
1.2100	0.0000	0.1566	0.2443	-0.0183	-0.0102	0.0654	0.0506	0.0442
1.2100	-0.0489	0.1566	0.2595	-0.0358	0.0141	0.0706	0.0516	0.0443
1.2100	-0.0978	0.1566	0.2157	-0.0398	0.0164	0.0830	0.0574	0.0487
1.2100	-0.1467	0.1566	0.1646	-0.0515	0.0184	0.0776	0.0629	0.0441
1.2100	-0.1534	0.1566	0.2226	0.0082	0.0082	0.0788	0.0433	0.0433
1.2100	-0.1676	0.1566	0.1682	0.0280	0.0280	0.0788	0.0432	0.0432
1.2100	-0.2133	0.1566	0.0300	0.0281	0.0281	0.0629	0.0389	0.0389
1.4000	0.1534	0.1566	0.2189	0.0228	0.0228	0.0787	0.0391	0.0391
1.4000	0.1676	0.1566	0.2425	0.0147	0.0147	0.0610	0.0457	0.0457
1.4000	0.2133	0.1566	0.2081	0.0203	0.0203	0.0616	0.0439	0.0439
1.4000	0.1467	0.1566	0.2252	0.0167	-0.0236	0.0724	0.0522	0.0355
1.4000	0.0978	0.1566	0.2385	0.0091	-0.0166	0.0710	0.0574	0.0371
1.4000	0.0489	0.1566	0.2272	-0.0156	-0.0221	0.0688	0.0537	0.0350
1.4000	0.0000	0.1566	0.1936	-0.0166	-0.0150	0.0704	0.0458	0.0334
1.4000	-0.0489	0.1566	0.2305	-0.0275	0.0219	0.0607	0.0523	0.0397
1.4000	-0.0978	0.1566	0.2072	-0.0441	0.0219	0.0676	0.0538	0.0419
1.4000	-0.1467	0.1566	0.1770	-0.0388	0.0373	0.0683	0.0582	0.0406
1.4000	-0.1534	0.1566	0.1827	0.0020	0.0020	0.0543	0.0388	0.0388
1.4000	-0.1676	0.1566	0.1625	0.0102	0.0102	0.0435	0.0342	0.0342
1.4000	-0.2133	0.1566	0.1716	0.0066	0.0066	0.0403	0.0410	0.0410
1.9100	0.1534	0.1566	0.1857	0.0025	0.0025	0.0504	0.0272	0.0272
1.9100	0.1676	0.1566	0.1906	0.0062	0.0062	0.0482	0.0286	0.0286
1.9100	0.2133	0.1566	0.1953	0.0075	0.0075	0.0549	0.0277	0.0277
1.9100	0.1467	0.1566	0.1899	-0.0007	-0.0192	0.0508	0.0417	0.0279
1.9100	0.0978	0.1566	0.1902	-0.0024	-0.0221	0.0543	0.0414	0.0274
1.9100	0.0489	0.1566	0.1871	-0.0076	-0.0173	0.0521	0.0410	0.0282
1.9100	0.0000	0.1566	0.1806	-0.0125	-0.0172	0.0547	0.0406	0.0258
1.9100	-0.0489	0.1566	0.1812	-0.0172	0.0136	0.0517	0.0395	0.0278

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
1.9100	-0.0978	0.1566	0.1686	-0.0270	0.0177	0.0508	0.0421	0.0325
1.9100	-0.1467	0.1566	0.1567	-0.0297	0.0209	0.0461	0.0369	0.0281
1.9100	-0.1534	0.1566	0.1485	-0.0018	-0.0018	0.0664	0.0244	0.0244
1.9100	-0.1676	0.1566	0.1478	-0.0024	-0.0024	0.0848	0.0304	0.0304
1.9100	-0.2133	0.1566	0.1479	-0.0063	-0.0063	0.0473	0.0216	0.0216
4.1946	0.1574	0.1566	0.1785	-0.0042	-0.0042	0.0262	0.0205	0.0205
4.1946	0.1896	0.1566	0.1493	-0.0083	-0.0083	0.0306	0.0115	0.0115
4.1946	0.2625	0.1566	0.1528	0.0036	0.0036	0.0198	0.0211	0.0211
4.1946	0.1429	0.1566	0.1536	0.0026	-0.0036	0.0922	0.0259	0.0187
4.1946	0.1238	0.1566	0.1802	0.0054	-0.0047	0.0625	0.0301	0.0187
4.1946	0.0743	0.1566	0.1810	0.0064	-0.0027	0.0476	0.0313	0.0180
4.1946	0.0248	0.1566	0.1743	0.0035	-0.0037	0.0487	0.0311	0.0171
4.1946	-0.0248	0.1566	0.1677	0.0136	-0.0016	0.0514	0.0325	0.0176
4.1946	-0.0743	0.1566	0.1628	0.0152	0.0010	0.0492	0.0324	0.0185
4.1946	-0.1238	0.1566	0.1472	0.0068	-0.0035	0.0598	0.0282	0.0209
4.1946	-0.1429	0.1566	0.1579	0.0133	-0.0027	0.0454	0.0265	0.0155
4.1946	-0.1574	0.1566	0.1613	0.0152	0.0152	0.0472	0.0164	0.0164
4.1946	-0.1896	0.1566	0.1685	0.0155	0.0155	0.0455	0.0231	0.0231
4.1946	-0.2625	0.1566	0.1511	0.0097	0.0097	0.0330	0.0203	0.0203
5.2300	0.1574	0.1566	0.1762	0.0074	0.0074	0.0178	0.0127	0.0127
5.2300	0.1896	0.1566	0.1746	0.0079	0.0079	0.0220	0.0103	0.0103
5.2300	0.2625	0.1566	0.1507	0.0052	0.0052	0.0204	0.0054	0.0054
5.2300	0.1429	0.1566	0.1796	0.0102	-0.0041	0.0208	0.0155	0.0136
5.2300	0.1238	0.1566	0.1763	0.0103	-0.0052	0.0312	0.0126	0.0136
5.2300	0.0743	0.1566	0.1747	0.0089	-0.0044	0.0238	0.0172	0.0109
5.2300	0.0248	0.1566	0.1736	0.0109	-0.0030	0.0194	0.0175	0.0093
5.2300	-0.0248	0.1566	0.1664	0.0098	-0.0039	0.0299	0.0204	0.0285
5.2300	-0.0743	0.1566	0.1655	0.0110	0.0006	0.0271	0.0175	0.0099
5.2300	-0.1238	0.1566	0.1618	0.0096	-0.0006	0.0240	0.0176	0.0100
5.2300	-0.1429	0.1566	0.1573	0.0073	-0.0005	0.0266	0.0168	0.0135
5.2300	-0.1574	0.1566	0.1667	0.0151	0.0151	0.0197	0.0094	0.0094
5.2300	-0.1896	0.1566	0.1635	0.0120	0.0120	0.0145	0.0101	0.0101
5.2300	-0.2625	0.1566	0.1312	0.0097	0.0097	0.0118	0.0096	0.0096
0.6700	0.3090	0.1611	-0.1415	-0.0140	-0.0140	0.0402	0.0427	0.0427
0.5300	0.1257	0.1616	-0.0318	-0.0400	-0.0400	0.0820	0.0133	0.0133
0.6700	-0.3090	0.1616	-0.1262	0.0520	0.0520	0.0899	0.0712	0.0712
0.9200	0.3090	0.1616	-0.0489	0.0185	0.0185	0.0726	0.0464	0.0464
0.9200	-0.3090	0.1616	-0.1039	-0.0082	-0.0082	0.0556	0.0320	0.0320
1.2100	0.3090	0.1616	0.0409	0.0145	0.0145	0.0880	0.0359	0.0359
1.2100	-0.3090	0.1616	0.0020	-0.0041	-0.0041	0.0609	0.0407	0.0407
1.4000	0.3090	0.1616	0.0543	0.0089	0.0089	0.0400	0.0363	0.0363
1.4000	-0.3090	0.1616	0.1033	0.0073	0.0073	0.0424	0.0386	0.0386
1.9100	0.3090	0.1616	0.1232	-0.0043	-0.0043	0.0320	0.0278	0.0278
1.9100	-0.3090	0.1616	0.0767	0.0000	0.0000	0.0440	0.0050	0.0050
4.1946	0.3090	0.1616	0.1212	0.0107	0.0107	0.0222	0.0176	0.0176
4.1946	-0.3090	0.1616	0.0911	-0.0063	-0.0063	0.0378	0.0184	0.0184
5.2300	0.3090	0.1616	0.1132	0.0083	0.0083	0.0296	0.0122	0.0122
5.2300	-0.3090	0.1616	0.0982	0.0026	0.0026	0.0229	0.0181	0.0181
0.0940	-0.1303	0.1617	0.0008	0.0013	0.0013	0.0866	0.0398	0.0398
0.2990	-0.1275	0.1620	0.2279	0.0311	0.0311	0.0947	0.0462	0.0462
0.2990	-0.1465	0.1620	0.0614	0.0168	0.0168	0.0980	0.0548	0.0548
0.2990	-0.1845	0.1620	-0.0886	-0.0241	-0.0241	0.0656	0.0320	0.0320
0.5300	0.0482	0.1627	-0.1207	-0.0249	-0.0249	0.0621	0.0344	0.0344
0.5300	0.0559	0.1671	-0.1291	-0.0148	-0.0148	0.0494	0.0284	0.0284

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
0.0940	-0.1303	0.1684	-0.0235	-0.0119	-0.0119	0.0814	0.0419	0.0419
0.5300	-0.2232	0.1693	0.0114	-0.0053	-0.0053	0.0863	0.0433	0.0433
0.5300	-0.2423	0.1693	-0.0402	-0.0422	-0.0422	0.0965	0.0512	0.0512
0.5300	-0.2614	0.1693	-0.1134	-0.0256	-0.0256	0.0555	0.0326	0.0326
0.5300	0.0686	0.1727	-0.0758	0.0076	0.0076	0.0675	0.0161	0.0161
0.2990	-0.2035	0.1729	-0.0895	-0.0938	-0.0938	0.0812	0.0346	0.0346
0.5300	-0.2041	0.1746	0.0451	0.0184	0.0184	0.0740	0.0459	0.0459
0.0940	-0.1240	0.1752	-0.0190	-0.0013	-0.0013	0.0817	0.0489	0.0489
0.5300	0.0876	0.1782	-0.0418	-0.0208	-0.0208	0.0910	0.0079	0.0079
0.5300	0.0686	0.1782	-0.1294	-0.0317	-0.0317	0.0629	0.0306	0.0306
0.5300	0.0559	0.1782	-0.1035	-0.0071	-0.0071	0.0676	0.0313	0.0313
0.2990	-0.1275	0.1793	0.1490	0.0212	0.0212	0.0968	0.0443	0.0443
0.2990	-0.1465	0.1793	0.0691	0.0030	0.0030	0.0991	0.0456	0.0456
0.2990	-0.1655	0.1793	0.0311	0.0242	0.0242	0.0978	0.0353	0.0353
0.2990	0.1656	0.1797	-0.0932	0.0128	0.0128	0.0666	0.0457	0.0457
0.2990	0.1846	0.1797	0.0001	0.0221	0.0221	0.0844	0.0136	0.0136
0.6700	0.3090	0.1821	-0.1623	-0.0031	-0.0031	0.0301	0.0351	0.0351
0.6700	-0.3090	0.1821	-0.1683	0.0469	0.0469	0.0831	0.0592	0.0592
0.9200	0.3090	0.1821	-0.0386	-0.0017	-0.0017	0.0556	0.0413	0.0413
0.9200	-0.3090	0.1821	-0.0254	0.0219	0.0219	0.0972	0.0375	0.0375
1.2100	0.3090	0.1821	0.0801	-0.0372	0.0372	0.0507	0.0427	0.0427
1.2100	-0.3090	0.1821	0.0109	0.0176	0.0176	0.0435	0.0353	0.0353
1.4000	0.3090	0.1821	0.0941	0.0322	0.0322	0.0891	0.0313	0.0313
1.4000	-0.3090	0.1821	0.1063	0.0118	0.0118	0.0349	0.0285	0.0285
1.9100	0.3090	0.1821	0.1438	-0.0005	-0.0005	0.0322	0.0245	0.0245
1.9100	-0.3090	0.1821	0.1006	-0.0042	-0.0042	0.0554	0.0238	0.0238
4.1946	0.3090	0.1821	0.1287	0.0052	0.0052	0.0299	0.0160	0.0160
4.1946	-0.3090	0.1821	0.1090	0.0017	0.0017	0.0369	0.0204	0.0204
5.2300	0.3090	0.1821	0.1507	0.0132	0.0132	0.0199	0.0086	0.0086
5.2300	-0.3090	0.1821	0.1191	0.0066	0.0066	0.0261	0.0112	0.0112
0.5300	0.0482	0.1849	-0.1323	-0.0116	-0.0116	0.0729	0.0292	0.0292
0.0940	-0.1303	0.1886	-0.0903	-0.0382	-0.0382	0.0500	0.0271	0.0271
0.0940	0.1221	0.1918	-0.0418	0.0073	0.0073	0.0501	0.0160	0.0113
-0.1830	0.0876	0.1955	0.4485	-0.0082	-0.0096	0.0376	0.0211	0.0325
-0.1830	0.0736	0.1955	0.4636	-0.0085	-0.0138	0.0344	0.0208	0.0241
-0.1830	0.0482	0.1955	0.5008	-0.0058	-0.0120	0.0207	0.0139	0.0173
-0.1830	0.0228	0.1955	0.5303	-0.0012	-0.0053	0.0149	0.0122	0.0141
-0.1830	-0.0026	0.1955	0.5178	-0.0130	-0.0010	0.0163	0.0184	0.0107
-0.1830	-0.0280	0.1955	0.5276	-0.0056	0.0066	0.0206	0.0110	0.0105
-0.1830	-0.0534	0.1955	0.5209	-0.0030	0.0019	0.0168	0.0162	0.0130
-0.1830	-0.0788	0.1955	0.4487	0.0051	0.0013	0.0518	0.0081	0.0256
-0.1830	-0.0864	0.1955	0.4343	0.0101	-0.0035	0.0306	0.0118	0.0107
-0.0700	0.0892	0.1955	0.2267	0.0028	0.0075	0.0971	0.0295	0.0306
-0.0700	0.0594	0.1955	0.3812	-0.0035	0.0258	0.0872	0.0311	0.0207
-0.0700	0.0297	0.1955	0.4812	-0.0087	0.0329	0.0412	0.0256	0.0108
-0.0700	0.0000	0.1955	0.4998	-0.0107	0.0364	0.0704	0.0218	0.0138
-0.0700	-0.0297	0.1955	0.4919	-0.0065	-0.0041	0.0952	0.0324	0.0287
-0.0700	-0.0595	0.1955	0.4552	-0.0119	-0.0119	0.0879	0.0328	0.0206
-0.0700	-0.0892	0.1955	0.3843	-0.0015	-0.0141	0.0640	0.0412	0.0130
0.0940	0.1104	0.1955	0.1123	0.0109	0.0109	0.0868	0.0358	0.0358
0.0940	0.0913	0.1955	0.3264	0.0057	0.0363	0.0914	0.0262	0.0377
0.0940	0.0642	0.1955	0.3633	0.0098	-0.0074	0.0497	0.0175	0.0433
0.0940	0.0372	0.1955	0.4283	0.0094	0.0237	0.0785	0.0151	0.0547
0.0940	0.0193	0.1955	0.4106	0.0059	0.0103	0.0552	0.0146	0.0356

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
0.0940	-0.0125	0.1955	0.3183	0.0060	0.0010	0.0593	0.0131	0.0415
0.0940	-0.0460	0.1955	0.4402	0.0066	0.0376	0.0794	0.0135	0.0488
0.0940	-0.0731	0.1955	0.3278	0.0070	0.0096	0.0398	0.0189	0.0350
0.0940	-0.0985	0.1955	0.3258	0.0158	0.0061	0.0924	0.0392	0.0352
0.0940	-0.1113	0.1955	0.1382	-0.0013	-0.0013	0.0734	0.0426	0.0426
0.0940	-0.1240	0.1955	-0.0666	-0.0197	-0.0197	0.0876	0.0471	0.0471
0.0940	-0.1303	0.1955	-0.0864	-0.0232	-0.0232	0.0622	0.0262	0.0262
0.0940	-0.1366	0.1955	0.0062	-0.0494	-0.0494	0.0317	0.0125	0.0125
0.2990	0.1656	0.1955	-0.0609	0.0183	0.0183	0.0739	0.0578	0.0578
0.2990	0.1083	0.1955	0.0667	-0.0150	0.0076	0.0855	0.0889	0.0406
0.2990	0.0764	0.1955	0.2135	-0.0136	0.0032	0.0919	0.0590	0.0337
0.2990	0.0446	0.1955	0.4048	0.0017	0.0183	0.0659	0.0319	0.0345
0.2990	0.0127	0.1955	0.3242	0.0011	0.0197	0.0832	0.0250	0.0377
0.2990	-0.0318	0.1955	0.3701	0.0018	0.0199	0.0921	0.0109	0.0368
0.2990	-0.0573	0.1955	0.4514	0.0007	0.0183	0.0830	0.0240	0.0253
0.2990	-0.0892	0.1955	0.2856	0.0101	0.0189	0.0953	0.0507	0.0265
0.2990	-0.1083	0.1955	0.1465	0.0075	0.0248	0.0863	0.0733	0.0241
0.5300	0.1225	0.1955	0.0534	0.0014	0.0311	0.0799	0.0110	0.0395
0.5300	0.0852	0.1955	0.1167	-0.0056	0.0227	0.0841	0.0366	0.0428
0.5300	0.0479	0.1955	0.2832	-0.0067	0.0015	0.0853	0.0434	0.0565
0.5300	0.0107	0.1955	0.3077	-0.0078	0.0250	0.0857	0.0296	0.0330
0.5300	-0.0393	0.1955	0.3550	0.0095	0.0294	0.0947	0.0417	0.0426
0.5300	-0.0638	0.1955	0.4106	0.0148	-0.0122	0.0978	0.0523	0.0502
0.5300	-0.1011	0.1955	0.2820	0.0296	0.0096	0.0900	0.0553	0.0414
0.5300	-0.1266	0.1955	0.0495	0.0030	0.0100	0.0955	0.0046	0.0432
0.5300	-0.2232	0.1955	0.0789	0.1009	0.1009	0.0852	0.0042	0.0042
0.5300	-0.2423	0.1955	0.0250	-0.0026	-0.0026	0.0954	0.0309	0.0309
0.5300	-0.2614	0.1955	-0.0131	0.0151	0.0151	0.0608	0.0466	0.0466
0.6700	0.1534	0.1955	0.1354	-0.0142	0.0142	0.0885	0.0585	0.0585
0.6700	0.1676	0.1955	0.1083	-0.0205	0.0205	0.0830	0.0625	0.0625
0.6700	0.2133	0.1955	-0.0127	-0.0334	0.0334	0.0782	0.0600	0.0600
0.6700	0.3090	0.1955	-0.1480	-0.0265	-0.0265	0.0327	0.0051	0.0051
0.6700	0.1467	0.1955	0.1255	0.0118	-0.0015	0.0708	0.0842	0.0565
0.6700	0.0978	0.1955	0.2475	-0.0030	-0.0159	0.0687	0.0707	0.0399
0.6700	0.0489	0.1955	0.3589	0.0042	-0.0311	0.1052	0.0519	0.0395
0.6700	0.0000	0.1955	0.3210	-0.0104	-0.0074	0.0975	0.0357	0.0492
0.6700	-0.0489	0.1955	0.3333	-0.0392	-0.0082	0.0950	0.0641	0.0481
0.6700	-0.0978	0.1955	0.2432	-0.0472	0.0239	0.0879	0.0796	0.0531
0.6700	-0.1467	0.1955	0.1380	-0.0561	0.0285	0.0879	0.0829	0.0639
0.6700	-0.1534	0.1955	0.1417	0.0189	0.0189	0.0798	0.0650	0.0650
0.6700	-0.1676	0.1955	0.1329	0.0134	0.0134	0.0782	0.0604	0.0604
0.6700	-0.2133	0.1955	-0.0345	0.0248	0.0248	0.0870	0.0534	0.0534
0.6700	-0.3090	0.1955	-0.1529	-0.0139	-0.0139	0.0786	0.0414	0.0414
0.9200	0.1534	0.1955	0.1499	0.0266	0.0266	0.0761	0.0528	0.0528
0.9200	0.1676	0.1955	0.1146	0.0316	0.0316	0.0991	0.0606	0.0606
0.9200	0.2133	0.1955	0.0528	0.0649	0.0649	0.0875	0.0545	0.0545
0.9200	0.3090	0.1955	-0.0582	-0.0423	0.0423	0.0625	0.0430	0.0430
0.9200	0.1467	0.1955	0.1375	0.0259	0.0122	0.0958	0.0744	0.0502
0.9200	0.0978	0.1955	0.2427	0.0191	-0.0294	0.0735	0.0650	0.0426
0.9200	0.0489	0.1955	0.2658	0.0091	-0.0111	0.0923	0.0568	0.0423
0.9200	0.0000	0.1955	0.2445	-0.0088	-0.0170	0.0838	0.0551	0.0397
0.9200	-0.0489	0.1955	0.2459	-0.0254	0.0011	0.0944	0.0637	0.0461
0.9200	-0.0978	0.1955	0.2170	-0.0534	0.0235	0.0913	0.0674	0.0446
0.9200	-0.1467	0.1955	0.1332	-0.0540	0.0174	0.0888	0.0727	0.0589

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
0.9200	-0.1534	0.1955	0.1387	0.0123	0.0123	0.0781	0.0538	0.0538
0.9200	-0.1676	0.1955	0.1308	0.0172	0.0172	0.0859	0.0572	0.0572
0.9200	-0.2133	0.1955	0.0864	0.0108	0.0108	0.0947	0.0576	0.0576
0.9200	-0.3090	0.1955	-0.0081	0.0477	0.0477	0.0567	0.0420	0.0420
1.2100	0.1534	0.1955	0.1695	0.0203	0.0203	0.0852	0.0465	0.0465
1.2100	0.1676	0.1955	0.1665	0.0144	0.0144	0.0817	0.0482	0.0482
1.2100	0.2133	0.1955	0.1369	-0.0237	0.0237	0.0764	0.0495	0.0495
1.2100	0.3090	0.1955	0.0886	-0.0369	0.0369	0.0438	0.0384	0.0384
1.2100	0.1467	0.1955	0.1753	0.0183	-0.0157	0.1059	0.0616	0.0423
1.2100	0.0978	0.1955	0.2038	0.0087	-0.0259	0.0881	0.0603	0.0400
1.2100	0.0489	0.1955	0.2089	-0.0091	-0.0166	0.0854	0.0578	0.0325
1.2100	0.0000	0.1955	0.2116	-0.0152	-0.0148	0.0936	0.0487	0.0352
1.2100	-0.0489	0.1955	0.2157	-0.0187	0.0067	0.0911	0.0631	0.0391
1.2100	-0.0978	0.1955	0.2067	-0.0266	0.0084	0.1006	0.0591	0.0451
1.2100	-0.1467	0.1955	0.0963	-0.0314	0.0087	0.0804	0.0643	0.0463
1.2100	-0.1534	0.1955	0.1800	0.0121	0.0121	0.0748	0.0416	0.0416
1.2100	-0.1676	0.1955	0.1458	-0.0084	-0.0084	0.0632	0.0478	0.0478
1.2100	-0.2133	0.1955	0.0341	0.0132	0.0132	0.0664	0.0563	0.0563
1.2100	-0.3090	0.1955	0.0308	0.0002	0.0002	0.0913	0.0365	0.0365
1.4000	0.1534	0.1955	0.1899	0.0000	0.0000	0.0762	0.0042	0.0042
1.4000	0.1676	0.1955	0.1633	0.0000	0.0000	0.0813	0.0078	0.0078
1.4000	0.2133	0.1955	0.1712	0.0001	0.0001	0.0617	0.0057	0.0057
1.4000	0.3090	0.1955	0.0557	0.0003	0.0003	0.0520	0.0058	0.0058
1.4000	0.1467	0.1955	0.1715	0.0002	-0.0332	0.0851	0.0594	0.0370
1.4000	0.0978	0.1955	0.1844	-0.0072	-0.0280	0.0911	0.0589	0.0350
1.4000	0.0489	0.1955	0.1898	-0.0094	-0.0201	0.0859	0.0613	0.0313
1.4000	0.0000	0.1955	0.1811	-0.0165	-0.0157	0.0909	0.0598	0.0307
1.4000	-0.0489	0.1955	0.1600	-0.0166	0.0074	0.0842	0.0602	0.0381
1.4000	-0.0978	0.1955	0.1623	-0.0222	0.0013	0.0903	0.0662	0.0424
1.4000	-0.1467	0.1955	0.1102	-0.0225	0.0221	0.0883	0.0592	0.0409
1.4000	-0.1534	0.1955	0.1568	0.0069	0.0069	0.0451	0.0383	0.0383
1.4000	-0.1676	0.1955	0.1287	0.0004	0.0004	0.0448	0.0387	0.0387
1.4000	-0.2133	0.1955	0.1098	0.0126	0.0126	0.0531	0.0340	0.0340
1.4000	-0.3090	0.1955	0.0490	0.0174	0.0174	0.0334	0.0308	0.0308
1.9100	0.1534	0.1955	0.1832	0.0003	0.0003	0.0489	0.0066	0.0066
1.9100	0.1676	0.1955	0.1910	0.0001	0.0001	0.0524	0.0032	0.0032
1.9100	0.2133	0.1955	0.1802	0.0001	0.0001	0.0528	0.0055	0.0055
1.9100	0.3090	0.1955	0.1509	0.0002	0.0002	0.0354	0.0044	0.0044
1.9100	0.1467	0.1955	0.1448	-0.0004	-0.0224	0.0887	0.0428	0.0272
1.9100	0.0978	0.1955	0.1599	-0.0052	-0.0225	0.0724	0.0394	0.0269
1.9100	0.0489	0.1955	0.1579	-0.0134	-0.0212	0.0749	0.0406	0.0289
1.9100	0.0000	0.1955	0.1577	-0.0156	-0.0189	0.0775	0.0379	0.0295
1.9100	-0.0489	0.1955	0.1431	-0.0171	0.0084	0.0773	0.0368	0.0283
1.9100	-0.0978	0.1955	0.1382	-0.0151	0.0111	0.0726	0.0378	0.0273
1.9100	-0.1467	0.1955	0.0971	-0.0172	0.0174	0.0537	0.0380	0.0248
1.9100	-0.1534	0.1955	0.1318	-0.0036	-0.0036	0.0623	0.0245	0.0245
1.9100	-0.1676	0.1955	0.1459	-0.0011	-0.0011	0.0639	0.0286	0.0286
1.9100	-0.2133	0.1955	0.1153	0.0011	0.0011	0.0573	0.0265	0.0265
1.9100	-0.3090	0.1955	0.0945	-0.0060	-0.0060	0.0601	0.0197	0.0197
4.1946	0.1574	0.1955	0.1748	0.0109	0.0109	0.0326	0.0135	0.0135
4.1946	0.1896	0.1955	0.1572	-0.0069	-0.0069	0.0276	0.0204	0.0204
4.1946	0.2625	0.1955	0.1730	0.0035	0.0035	0.0234	0.0148	0.0148
4.1946	0.3090	0.1955	0.1358	0.0029	0.0029	0.0252	0.0160	0.0160
4.1946	0.1429	0.1955	0.0859	0.0243	-0.0021	0.0939	0.0220	0.0185

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
4.1946	0.1238	0.1955	0.0759	0.0117	-0.0051	0.0987	0.0502	0.0174
4.1946	0.0743	0.1955	0.1493	0.0099	-0.0002	0.0860	0.0284	0.0162
4.1946	0.0248	0.1955	0.1322	0.0177	-0.0006	0.0926	0.0778	0.0171
4.1946	-0.0248	0.1955	0.1050	0.0073	-0.0018	0.0931	0.0310	0.0471
4.1946	-0.0743	0.1955	0.0934	0.0072	-0.0002	0.0937	0.0328	0.0172
4.1946	-0.1238	0.1955	0.0804	0.0122	-0.0021	0.0898	0.0309	0.0178
4.1946	-0.1429	0.1955	0.0763	-0.0001	-0.0018	0.0851	0.0338	0.0211
4.1946	-0.1574	0.1955	0.1652	0.0089	0.0089	0.0329	0.0198	0.0198
4.1946	-0.1896	0.1955	0.1606	0.0085	0.0085	0.0306	0.0181	0.0181
4.1946	-0.2625	0.1955	0.1436	0.0140	0.0140	0.0273	0.0199	0.0199
4.1946	-0.3090	0.1955	0.1387	0.0026	0.0026	0.0364	0.0185	0.0185
5.2300	0.1574	0.1955	0.1761	0.0088	0.0088	0.0181	0.0099	0.0099
5.2300	0.1896	0.1955	0.1748	0.0017	0.0017	0.0189	0.0059	0.0059
5.2300	0.2625	0.1955	0.1594	0.0070	0.0070	0.0335	0.0097	0.0097
5.2300	0.3090	0.1955	0.1371	0.0072	0.0072	0.0171	0.0095	0.0095
5.2300	0.1429	0.1955	0.1756	0.0075	-0.0042	0.0396	0.0163	0.0173
5.2300	0.1238	0.1955	0.1774	0.0125	-0.0045	0.0417	0.0135	0.0167
5.2300	0.0743	0.1955	0.1713	0.0117	-0.0033	0.0438	0.0176	0.0105
5.2300	0.0248	0.1955	0.1672	0.0092	-0.0037	0.0383	0.0194	0.0096
5.2300	-0.0248	0.1955	0.1641	0.0063	-0.0029	0.0484	0.0166	0.0442
5.2300	-0.0743	0.1955	0.1597	0.0051	0.0011	0.0248	0.0187	0.0093
5.2300	-0.1238	0.1955	0.1560	0.0115	-0.0009	0.0428	0.0180	0.0110
5.2300	-0.1429	0.1955	0.1522	0.0093	-0.0007	0.0499	0.0144	0.0188
5.2300	-0.1574	0.1955	0.1652	0.0126	0.0126	0.0161	0.0128	0.0128
5.2300	-0.1896	0.1955	0.1531	0.0150	0.0150	0.0174	0.0103	0.0103
5.2300	-0.2625	0.1955	0.1430	0.0124	0.0124	0.0128	0.0107	0.0107
5.2300	-0.3090	0.1955	0.1311	0.0076	0.0076	0.0246	0.0098	0.0098
0.2990	0.1846	0.1960	-0.1274	0.0392	0.0392	0.0493	0.0200	0.0200
0.2990	0.2036	0.1960	-0.0002	0.0003	0.0003	0.0154	0.0106	0.0106
0.2990	-0.2035	0.1960	-0.0540	0.0061	0.0061	0.0796	0.0525	0.0525
0.5300	0.0482	0.1960	-0.1154	0.0087	0.0087	0.0771	0.0311	0.0311
0.0940	0.1221	0.1970	-0.0337	0.0076	0.0076	0.0617	0.0182	0.0129
0.5300	0.1067	0.2004	-0.1057	-0.0021	-0.0021	0.0987	0.0298	0.0298
0.6700	0.3479	0.2007	-0.2017	-0.0003	-0.0003	0.0519	0.0573	0.0573
0.6700	-0.3479	0.2007	-0.1595	-0.0261	-0.0261	0.0463	0.0305	0.0305
0.9200	0.3479	0.2007	-0.0097	-0.0102	-0.0102	0.0461	0.0305	0.0305
0.9200	-0.3479	0.2007	-0.0760	0.0347	0.0347	0.0479	0.0475	0.0475
1.2100	0.3479	0.2007	-0.0034	-0.0085	0.0085	0.0453	0.0425	0.0425
1.2100	-0.3479	0.2007	-0.0010	0.0048	0.0048	0.0513	0.0317	0.0317
1.4000	0.3479	0.2007	0.0102	0.0003	0.0003	0.0334	0.0048	0.0048
1.4000	-0.3479	0.2007	0.0199	-0.0082	-0.0082	0.0373	0.0248	0.0248
1.9100	0.3479	0.2007	0.0718	0.0003	0.0003	0.0406	0.0048	0.0048
1.9100	-0.3479	0.2007	0.0179	0.0006	0.0006	0.0544	0.0085	0.0085
4.1946	0.3479	0.2007	0.1035	0.0092	0.0092	0.0188	0.0125	0.0125
4.1946	-0.3479	0.2007	0.1034	-0.0004	-0.0004	0.0410	0.0168	0.0168
5.2300	0.3479	0.2007	0.0989	0.0126	0.0126	0.0278	0.0105	0.0105
5.2300	-0.3479	0.2007	0.1025	0.0034	0.0034	0.0242	0.0072	0.0072
0.5300	0.0482	0.2071	-0.1145	0.0079	0.0079	0.0750	0.0150	0.0150

Table A.3 Flow field data for the warped with three-vanes transition (Q= 0.0203 m^3/s)

X m	Y m	Z m	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
0.6700	0.1534	0.0050	0.1611	-0.0012	-0.0012	0.0584	0.0340	0.0340
0.6700	0.1429	0.0050	0.0940	0.0008	0.0060	0.0788	0.0147	0.1112
0.6700	0.1302	0.0050	0.0604	0.0056	0.0253	0.0861	0.0251	0.0501
0.6700	0.0787	0.0050	0.0287	-0.0040	0.0385	0.0489	0.0389	0.0531
0.6700	0.0273	0.0050	0.0218	0.0000	0.0453	0.0409	0.0038	0.0317
0.6700	-0.0242	0.0050	0.0456	-0.0292	0.0402	0.0946	0.0298	0.0289
0.6700	-0.0757	0.0050	0.0766	-0.0204	0.0497	0.0783	0.0272	0.0209
0.6700	-0.1271	0.0050	0.1479	-0.0120	0.0001	0.0921	0.0325	0.0323
0.6700	-0.1398	0.0050	0.1316	-0.0317	-0.0079	0.0572	0.0423	0.0292
0.6700	-0.1534	0.0050	0.0914	-0.0343	-0.0343	0.0670	0.0359	0.0359
0.9400	0.1534	0.0050	0.0930	-0.0007	-0.0007	0.0621	0.0352	0.0352
0.9400	0.1429	0.0050	0.0536	0.0094	-0.0050	0.0811	0.0425	0.0711
0.9400	0.1302	0.0050	0.0928	0.0010	0.0179	0.0740	0.0135	0.0312
0.9400	0.0787	0.0050	0.0323	0.0063	0.0275	0.0430	0.0378	0.0356
0.9400	0.0273	0.0050	0.0995	-0.0243	0.0389	0.0475	0.0386	0.0187
0.9400	-0.0242	0.0050	0.0244	-0.0281	0.0512	0.0621	0.0330	0.0198
0.9400	-0.0757	0.0050	0.1524	0.0026	0.0347	0.0471	0.0385	0.0230
0.9400	-0.1271	0.0050	0.1226	-0.0249	0.0127	0.0709	0.0430	0.0289
0.9400	-0.1398	0.0050	0.0971	-0.0118	0.0087	0.0792	0.0435	0.0303
0.9400	-0.1534	0.0050	0.0945	-0.0332	-0.0332	0.0592	0.0355	0.0355
1.6000	0.1534	0.0050	0.1069	0.0088	0.0088	0.0277	0.0207	0.0207
1.6000	0.1429	0.0050	0.0970	0.0021	0.0043	0.0445	0.0112	0.0246
1.6000	0.1302	0.0050	0.0794	0.0121	0.0062	0.0662	0.0400	0.0290
1.6000	0.0787	0.0050	0.0494	0.0052	0.0173	0.0600	0.0334	0.0211
1.6000	0.0273	0.0050	0.1331	-0.0024	0.0135	0.0462	0.0160	0.0098
1.6000	-0.0242	0.0050	0.0483	-0.0153	0.0287	0.0823	0.0377	0.0186
1.6000	-0.0757	0.0050	0.1027	-0.0060	0.0237	0.0510	0.0356	0.0232
1.6000	-0.1271	0.0050	0.0758	-0.0008	0.0047	0.0471	0.0317	0.0210
1.6000	-0.1398	0.0050	0.0652	-0.0070	-0.0016	0.0414	0.0252	0.0107
1.6000	-0.1534	0.0050	0.0590	-0.0069	-0.0069	0.0354	0.0185	0.0185
2.5900	0.1534	0.0050	0.1063	-0.0011	-0.0011	0.0251	0.0183	0.0183
2.5900	0.1429	0.0050	0.0976	0.0001	-0.0079	0.0457	0.0038	0.1086
2.5900	0.1302	0.0050	0.1131	-0.0001	0.0023	0.0744	0.0041	0.0211
2.5900	0.0787	0.0050	0.0904	0.0004	0.0173	0.0340	0.0077	0.0245
2.5900	0.0273	0.0050	0.1172	-0.0012	0.0153	0.0294	0.0226	0.0245
2.5900	-0.0242	0.0050	0.1105	-0.0178	0.0254	0.0363	0.0239	0.0177
2.5900	-0.0757	0.0050	0.1242	-0.0201	0.0146	0.0293	0.0338	0.0223
2.5900	-0.1271	0.0050	0.1286	-0.0067	0.0100	0.0327	0.0231	0.0185
2.5900	-0.1398	0.0050	0.0796	-0.0038	0.0078	0.0294	0.0192	0.0105
2.5900	-0.1534	0.0050	0.1050	-0.0113	-0.0113	0.0326	0.0228	0.0228
3.2500	0.1534	0.0050	0.0977	-0.0094	-0.0094	0.0278	0.0144	0.0144
3.2500	0.1429	0.0050	0.1228	0.0122	0.0035	0.1014	0.0241	0.0154
3.2500	0.1302	0.0050	0.1313	0.0101	0.0083	0.0417	0.0218	0.0186
3.2500	0.0787	0.0050	0.1333	-0.0069	0.0024	0.0331	0.0423	0.0157
3.2500	0.0273	0.0050	0.1220	-0.0013	0.0062	0.0250	0.0278	0.0194
3.2500	-0.0242	0.0050	0.0739	-0.0051	0.0129	0.0855	0.0290	0.0155
3.2500	-0.0757	0.0050	0.1298	-0.0187	0.0126	0.0349	0.0284	0.0159
3.2500	-0.1271	0.0050	0.1242	0.0039	0.0144	0.0489	0.0264	0.0151
3.2500	-0.1398	0.0050	0.1296	-0.0112	0.0099	0.0713	0.0213	0.0146
3.2500	-0.1534	0.0050	0.1212	-0.0126	-0.0126	0.0252	0.0173	0.0173
4.1946	0.1534	0.0050	0.1212	-0.0037	-0.0037	0.0250	0.0110	0.0110
4.1946	0.1429	0.0050	0.0384	0.0015	0.0038	0.0619	0.0136	0.0155

X m	Y m	Z m	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
4.1946	0.1302	0.0050	0.1398	0.0059	0.0047	0.0219	0.0181	0.0135
4.1946	0.0787	0.0050	0.1317	0.0047	0.0069	0.0346	0.0169	0.0130
4.1946	0.0273	0.0050	0.1484	0.0069	0.0080	0.0289	0.0265	0.0132
4.1946	-0.0242	0.0050	0.1546	0.0029	0.0074	0.0214	0.0291	0.0131
4.1946	-0.0757	0.0050	0.1317	0.0020	0.0073	0.0649	0.0198	0.0138
4.1946	-0.1271	0.0050	0.1235	-0.0001	0.0013	0.0822	0.0043	0.0087
4.1946	-0.1398	0.0050	0.1252	-0.0090	0.0036	0.0950	0.0199	0.0115
4.1946	-0.1534	0.0050	0.1066	-0.0125	-0.0125	0.0245	0.0100	0.0100
0.6700	0.1574	0.0100	0.1464	0.0072	0.0072	0.0561	0.0435	0.0435
0.6700	-0.1574	0.0100	0.1132	-0.0373	-0.0373	0.0602	0.0396	0.0396
0.9400	0.1574	0.0100	0.1166	-0.0066	-0.0066	0.0493	0.0447	0.0447
0.9400	-0.1574	0.0100	0.0597	-0.0285	-0.0285	0.0615	0.0387	0.0387
1.6000	0.1574	0.0100	0.1111	0.0029	0.0029	0.0289	0.0198	0.0198
1.6000	-0.1574	0.0100	0.0721	-0.0096	-0.0096	0.0264	0.0145	0.0145
2.5900	0.1574	0.0100	0.0956	-0.0035	-0.0035	0.0197	0.0157	0.0157
2.5900	-0.1574	0.0100	0.1110	-0.0215	-0.0215	0.0386	0.0296	0.0296
3.2500	0.1574	0.0100	0.1008	-0.0078	-0.0078	0.0245	0.0173	0.0173
3.2500	-0.1574	0.0100	0.1037	-0.0075	-0.0075	0.0291	0.0156	0.0156
4.1946	0.1574	0.0100	0.0014	0.0000	0.0000	0.0127	0.0010	0.0010
4.1946	-0.1574	0.0100	0.1122	-0.0166	-0.0166	0.0250	0.0157	0.0157
0.6700	0.1534	0.0152	0.1804	-0.0024	-0.0024	0.0615	0.0386	0.0386
0.6700	0.1574	0.0152	0.1745	-0.0049	-0.0049	0.0578	0.0405	0.0405
0.6700	0.1429	0.0152	0.1329	0.0009	0.0262	0.1045	0.0077	0.0371
0.6700	0.1302	0.0152	0.2231	0.0058	0.0186	0.0650	0.0391	0.0416
0.6700	0.0787	0.0152	0.0510	0.0032	0.0381	0.0443	0.0403	0.0520
0.6700	0.0273	0.0152	0.0685	-0.0313	0.0438	0.0553	0.0436	0.0315
0.6700	-0.0242	0.0152	0.0899	-0.0158	0.0327	0.0481	0.0377	0.0290
0.6700	-0.0757	0.0152	0.1798	-0.0203	0.0495	0.0522	0.0412	0.0159
0.6700	-0.1271	0.0152	0.2277	-0.0104	0.0231	0.0753	0.0407	0.0287
0.6700	-0.1398	0.0152	0.1957	-0.0137	0.0128	0.0579	0.0413	0.0340
0.6700	-0.1534	0.0152	0.1218	-0.0291	-0.0291	0.0756	0.0353	0.0353
0.6700	-0.1574	0.0152	0.1217	-0.0278	-0.0278	0.0433	0.0353	0.0353
0.9400	0.1534	0.0152	0.1121	-0.0209	-0.0209	0.0475	0.0257	0.0257
0.9400	0.1574	0.0152	0.1228	-0.0201	-0.0201	0.0523	0.0297	0.0297
0.9400	0.1429	0.0152	0.1565	0.0098	-0.0068	0.0574	0.0485	0.0878
0.9400	0.1302	0.0152	0.1748	0.0062	0.0140	0.0654	0.0440	0.0333
0.9400	0.0787	0.0152	0.1044	0.0028	0.0281	0.0587	0.0551	0.0348
0.9400	0.0273	0.0152	0.0989	-0.0028	0.0380	0.0406	0.0437	0.0186
0.9400	-0.0242	0.0152	0.1519	-0.0206	0.0474	0.0894	0.0669	0.0243
0.9400	-0.0757	0.0152	0.1599	-0.0048	0.0448	0.0493	0.0367	0.0291
0.9400	-0.1271	0.0152	0.1520	-0.0017	0.0252	0.0638	0.0379	0.0301
0.9400	-0.1398	0.0152	0.1309	-0.0110	0.0098	0.0571	0.0414	0.0312
0.9400	-0.1534	0.0152	0.1272	-0.0237	-0.0237	0.0500	0.0336	0.0336
0.9400	-0.1574	0.0152	0.1193	-0.0427	-0.0427	0.0650	0.0361	0.0361
1.6000	0.1534	0.0152	0.1066	0.0031	0.0031	0.0273	0.0197	0.0197
1.6000	0.1574	0.0152	0.1233	0.0026	0.0026	0.0268	0.0198	0.0198
1.6000	0.1429	0.0152	0.1309	0.0236	0.0032	0.0624	0.0234	0.0204
1.6000	0.1302	0.0152	0.1278	0.0163	0.0065	0.0381	0.0368	0.0500
1.6000	0.0787	0.0152	0.1153	0.0017	0.0143	0.0360	0.0382	0.0256
1.6000	0.0273	0.0152	0.1165	-0.0065	0.0143	0.0429	0.0424	0.0110
1.6000	-0.0242	0.0152	0.1675	-0.0126	0.0253	0.0548	0.0426	0.0193
1.6000	-0.0757	0.0152	0.1584	0.0070	0.0203	0.0507	0.0370	0.0228
1.6000	-0.1271	0.0152	0.1140	-0.0059	0.0090	0.0491	0.0374	0.0203
1.6000	-0.1398	0.0152	0.0720	-0.0115	-0.0005	0.0451	0.0353	0.0167

X m	Y m	Z m	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
1.6000	-0.1534	0.0152	0.0659	-0.0147	-0.0147	0.0243	0.0157	0.0157
1.6000	-0.1574	0.0152	0.0791	-0.0130	-0.0130	0.0309	0.0186	0.0186
2.5900	0.1534	0.0152	0.1210	-0.0024	-0.0024	0.0295	0.0125	0.0125
2.5900	0.1574	0.0152	0.1250	-0.0099	-0.0099	0.0262	0.0195	0.0195
2.5900	0.1429	0.0152	0.1286	0.0178	0.0003	0.0325	0.0245	0.0177
2.5900	0.1302	0.0152	0.1351	0.0216	0.0071	0.0273	0.0227	0.0172
2.5900	0.0787	0.0152	0.1303	0.0246	0.0147	0.0328	0.0314	0.0210
2.5900	0.0273	0.0152	0.1305	-0.0013	0.0157	0.0351	0.0427	0.0242
2.5900	-0.0242	0.0152	0.1380	-0.0130	0.0230	0.0601	0.0360	0.0178
2.5900	-0.0757	0.0152	0.1301	-0.0144	0.0213	0.0401	0.0298	0.0178
2.5900	-0.1271	0.0152	0.1150	-0.0132	0.0053	0.0339	0.0346	0.0173
2.5900	-0.1398	0.0152	0.1255	-0.0126	0.0093	0.0263	0.0259	0.0144
2.5900	-0.1534	0.0152	0.1299	-0.0253	-0.0253	0.0337	0.0236	0.0236
2.5900	-0.1574	0.0152	0.0999	-0.0132	-0.0132	0.0285	0.0188	0.0188
3.2500	0.1534	0.0152	0.1243	-0.0073	-0.0073	0.0252	0.0104	0.0104
3.2500	0.1574	0.0152	0.1190	-0.0074	-0.0074	0.0229	0.0189	0.0189
3.2500	0.1429	0.0152	0.1335	0.0030	0.0034	0.0234	0.0205	0.0152
3.2500	0.1302	0.0152	0.1420	0.0097	0.0076	0.0270	0.0229	0.0182
3.2500	0.0787	0.0152	0.1429	0.0074	0.0034	0.0316	0.0320	0.0168
3.2500	0.0273	0.0152	0.1498	0.0071	0.0062	0.0328	0.0320	0.0192
3.2500	-0.0242	0.0152	0.1482	-0.0129	0.0131	0.0290	0.0310	0.0156
3.2500	-0.0757	0.0152	0.1466	-0.0111	0.0131	0.0482	0.0320	0.0158
3.2500	-0.1271	0.0152	0.1490	-0.0048	0.0168	0.0363	0.0291	0.0149
3.2500	-0.1398	0.0152	0.1356	-0.0082	0.0143	0.0673	0.0242	0.0198
3.2500	-0.1534	0.0152	0.1278	-0.0130	-0.0130	0.0283	0.0184	0.0184
3.2500	-0.1574	0.0152	0.1352	-0.0094	-0.0094	0.0314	0.0154	0.0154
4.1946	0.1534	0.0152	0.1475	-0.0028	-0.0028	0.0215	0.0148	0.0148
4.1946	0.1574	0.0152	0.1176	-0.0017	-0.0017	0.0287	0.0152	0.0152
4.1946	0.1429	0.0152	0.1520	0.0057	0.0016	0.0207	0.0174	0.0171
4.1946	0.1302	0.0152	0.1448	0.0085	0.0073	0.0234	0.0161	0.0139
4.1946	0.0787	0.0152	0.1521	0.0024	0.0076	0.0260	0.0226	0.0126
4.1946	0.0273	0.0152	0.1634	0.0051	0.0086	0.0180	0.0259	0.0142
4.1946	-0.0242	0.0152	0.1571	-0.0052	0.0066	0.0501	0.0229	0.0136
4.1946	-0.0757	0.0152	0.1599	-0.0016	0.0113	0.0335	0.0244	0.0145
4.1946	-0.1271	0.0152	0.1589	-0.0029	0.0048	0.0282	0.0173	0.0123
4.1946	-0.1398	0.0152	0.1438	-0.0055	0.0018	0.0557	0.0149	0.0095
4.1946	-0.1534	0.0152	0.1282	-0.0185	-0.0185	0.0191	0.0141	0.0141
4.1946	-0.1574	0.0152	0.1188	-0.0165	-0.0165	0.0195	0.0147	0.0147
0.6700	0.1676	0.0202	0.1502	-0.0127	-0.0127	0.0544	0.0332	0.0332
0.6700	-0.1676	0.0202	0.1261	-0.0520	-0.0520	0.0756	0.0431	0.0431
0.9400	0.1676	0.0202	0.0909	-0.0077	-0.0077	0.0515	0.0389	0.0389
0.9400	-0.1676	0.0202	0.0959	-0.0333	-0.0333	0.0616	0.0342	0.0342
1.6000	0.1676	0.0202	0.1239	0.0066	0.0066	0.0316	0.0194	0.0194
1.6000	-0.1676	0.0202	0.1124	-0.0076	-0.0076	0.0364	0.0312	0.0312
2.5900	0.1676	0.0202	0.1178	-0.0039	-0.0039	0.0311	0.0226	0.0226
2.5900	-0.1676	0.0202	0.0949	-0.0139	-0.0139	0.0314	0.0195	0.0195
3.2500	0.1676	0.0202	0.1317	-0.0042	-0.0042	0.0237	0.0161	0.0161
3.2500	-0.1676	0.0202	0.1186	-0.0163	-0.0163	0.0315	0.0195	0.0195
4.1946	0.1676	0.0202	0.1164	-0.0048	-0.0048	0.0230	0.0161	0.0161
4.1946	-0.1676	0.0202	0.1343	-0.0132	-0.0132	0.0296	0.0153	0.0153
0.6700	0.1534	0.0372	0.2106	-0.0279	-0.0279	0.0678	0.0379	0.0379
0.6700	0.1574	0.0372	0.1913	-0.0202	-0.0202	0.0503	0.0326	0.0326
0.6700	0.1676	0.0372	0.1975	-0.0225	-0.0225	0.0652	0.0385	0.0385
0.6700	0.1429	0.0372	0.2228	-0.0042	0.0377	0.0584	0.0404	0.0563

X m	Y m	Z m	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
0.6700	0.1302	0.0372	0.2954	-0.0098	0.0331	0.0723	0.0355	0.0422
0.6700	0.0787	0.0372	0.1061	-0.0041	0.0434	0.0620	0.0467	0.0468
0.6700	0.0273	0.0372	0.1431	-0.0036	0.0378	0.0766	0.0519	0.0294
0.6700	-0.0242	0.0372	0.1296	-0.0081	0.0363	0.0675	0.0420	0.0296
0.6700	-0.0757	0.0372	0.2419	-0.0108	0.0443	0.0498	0.0401	0.0262
0.6700	-0.1271	0.0372	0.2895	0.0052	0.0436	0.0586	0.0350	0.0381
0.6700	-0.1398	0.0372	0.2276	0.0038	0.0383	0.0745	0.0426	0.0386
0.6700	-0.1534	0.0372	0.1244	-0.0145	-0.0145	0.0815	0.0339	0.0339
0.6700	-0.1574	0.0372	0.1399	-0.0160	-0.0160	0.0968	0.0378	0.0378
0.6700	-0.1676	0.0372	0.1126	-0.0244	-0.0244	0.0536	0.0371	0.0371
0.9400	0.1534	0.0372	0.1814	-0.0277	-0.0277	0.0741	0.0323	0.0323
0.9400	0.1574	0.0372	0.1805	-0.0230	-0.0230	0.0639	0.0352	0.0352
0.9400	0.1676	0.0372	0.1322	-0.0151	-0.0151	0.0725	0.0383	0.0383
0.9400	0.1429	0.0372	0.1957	-0.0055	0.0234	0.0845	0.0428	0.0331
0.9400	0.1302	0.0372	0.2330	-0.0028	0.0129	0.0644	0.0397	0.0315
0.9400	0.0787	0.0372	0.1491	-0.0155	0.0263	0.0573	0.0446	0.0307
0.9400	0.0273	0.0372	0.1513	-0.0051	0.0350	0.0575	0.0424	0.0188
0.9400	-0.0242	0.0372	0.1899	-0.0025	0.0514	0.0642	0.0405	0.0168
0.9400	-0.0757	0.0372	0.2034	-0.0025	0.0278	0.0515	0.0414	0.0221
0.9400	-0.1271	0.0372	0.2053	0.0062	0.0402	0.0648	0.0421	0.0274
0.9400	-0.1398	0.0372	0.1985	0.0143	0.0387	0.0733	0.0388	0.0295
0.9400	-0.1534	0.0372	0.1369	-0.0154	-0.0154	0.0702	0.0288	0.0288
0.9400	-0.1574	0.0372	0.1219	-0.0186	-0.0186	0.0592	0.0359	0.0359
0.9400	-0.1676	0.0372	0.0954	-0.0258	-0.0258	0.0681	0.0304	0.0304
1.6000	0.1534	0.0372	0.1243	0.0039	0.0039	0.0392	0.0238	0.0238
1.6000	0.1574	0.0372	0.1582	-0.0001	-0.0001	0.0322	0.0191	0.0191
1.6000	0.1676	0.0372	0.1372	0.0008	0.0008	0.0245	0.0209	0.0209
1.6000	0.1429	0.0372	0.1568	0.0019	0.0138	0.0750	0.0345	0.0224
1.6000	0.1302	0.0372	0.1380	-0.0052	0.0200	0.0590	0.0391	0.0228
1.6000	0.0787	0.0372	0.1426	0.0004	0.0162	0.0516	0.0374	0.0220
1.6000	0.0273	0.0372	0.1573	0.0021	0.0160	0.0501	0.0473	0.0136
1.6000	-0.0242	0.0372	0.2059	-0.0044	0.0278	0.0498	0.0433	0.0190
1.6000	-0.0757	0.0372	0.1823	0.0048	0.0214	0.0474	0.0407	0.0246
1.6000	-0.1271	0.0372	0.1557	0.0074	0.0198	0.0424	0.0379	0.0178
1.6000	-0.1398	0.0372	0.1165	0.0050	0.0043	0.0495	0.0465	0.0197
1.6000	-0.1534	0.0372	0.0881	-0.0155	-0.0155	0.0304	0.0212	0.0212
1.6000	-0.1574	0.0372	0.1108	-0.0181	-0.0181	0.0310	0.0180	0.0180
1.6000	-0.1676	0.0372	0.0993	-0.0116	-0.0116	0.0395	0.0225	0.0225
2.5900	0.1534	0.0372	0.1498	-0.0038	-0.0038	0.0326	0.0164	0.0164
2.5900	0.1574	0.0372	0.1584	-0.0071	-0.0071	0.0342	0.0235	0.0235
2.5900	0.1676	0.0372	0.1527	-0.0055	-0.0055	0.0232	0.0208	0.0208
2.5900	0.1429	0.0372	0.1349	0.0063	0.0042	0.0234	0.0314	0.0177
2.5900	0.1302	0.0372	0.1443	0.0033	0.0089	0.0298	0.0274	0.0185
2.5900	0.0787	0.0372	0.1463	0.0075	0.0172	0.0362	0.0298	0.0229
2.5900	0.0273	0.0372	0.1541	-0.0017	0.0164	0.0381	0.0303	0.0235
2.5900	-0.0242	0.0372	0.1697	-0.0001	0.0267	0.0334	0.0338	0.0191
2.5900	-0.0757	0.0372	0.1455	0.0027	0.0204	0.0380	0.0341	0.0212
2.5900	-0.1271	0.0372	0.1490	-0.0053	0.0164	0.0369	0.0337	0.0163
2.5900	-0.1398	0.0372	0.1375	0.0034	0.0053	0.0423	0.0337	0.0166
2.5900	-0.1534	0.0372	0.1480	-0.0131	-0.0131	0.0359	0.0248	0.0248
2.5900	-0.1574	0.0372	0.1070	-0.0189	-0.0189	0.0439	0.0229	0.0229
2.5900	-0.1676	0.0372	0.1047	-0.0207	-0.0207	0.0280	0.0242	0.0242
3.2500	0.1534	0.0372	0.1611	-0.0019	-0.0019	0.0313	0.0135	0.0135
3.2500	0.1574	0.0372	0.1555	-0.0033	-0.0033	0.0203	0.0149	0.0149

X m	Y m	Z m	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
3.2500	0.1676	0.0372	0.1431	-0.0009	-0.0009	0.0281	0.0152	0.0152
3.2500	0.1429	0.0372	0.1538	0.0112	0.0119	0.0281	0.0267	0.0211
3.2500	0.1302	0.0372	0.1456	0.0103	0.0059	0.0308	0.0263	0.0147
3.2500	0.0787	0.0372	0.1476	0.0031	0.0068	0.0278	0.0294	0.0178
3.2500	0.0273	0.0372	0.1629	0.0033	0.0048	0.0347	0.0286	0.0177
3.2500	-0.0242	0.0372	0.1469	0.0052	0.0135	0.0638	0.0287	0.0138
3.2500	-0.0757	0.0372	0.1693	-0.0027	0.0167	0.0388	0.0269	0.0171
3.2500	-0.1271	0.0372	0.1614	-0.0037	0.0127	0.0249	0.0274	0.0126
3.2500	-0.1398	0.0372	0.1497	0.0016	0.0175	0.0339	0.0235	0.0162
3.2500	-0.1534	0.0372	0.1528	-0.0120	-0.0120	0.0324	0.0149	0.0149
3.2500	-0.1574	0.0372	0.1545	-0.0158	-0.0158	0.0225	0.0155	0.0155
3.2500	-0.1676	0.0372	0.1565	-0.0143	-0.0143	0.0209	0.0173	0.0173
4.1946	0.1534	0.0372	0.1703	-0.0038	-0.0038	0.0212	0.0111	0.0111
4.1946	0.1574	0.0372	0.1586	-0.0017	-0.0017	0.0229	0.0148	0.0148
4.1946	0.1676	0.0372	0.1642	-0.0051	-0.0051	0.0208	0.0125	0.0125
4.1946	0.1429	0.0372	0.1639	0.0061	0.0094	0.0238	0.0182	0.0147
4.1946	0.1302	0.0372	0.1646	0.0006	0.0077	0.0240	0.0194	0.0150
4.1946	0.0787	0.0372	0.1737	0.0023	0.0048	0.0247	0.0211	0.0136
4.1946	0.0273	0.0372	0.1708	0.0043	0.0070	0.0227	0.0213	0.0123
4.1946	-0.0242	0.0372	0.1777	0.0097	0.0113	0.0210	0.0198	0.0123
4.1946	-0.0757	0.0372	0.1735	0.0078	0.0081	0.0285	0.0196	0.0109
4.1946	-0.1271	0.0372	0.1542	0.0022	0.0079	0.0206	0.0195	0.0142
4.1946	-0.1398	0.0372	0.1625	0.0015	0.0050	0.0206	0.0181	0.0128
4.1946	-0.1534	0.0372	0.1501	-0.0140	-0.0140	0.0246	0.0120	0.0120
4.1946	-0.1574	0.0372	0.1515	-0.0173	-0.0173	0.0199	0.0140	0.0140
4.1946	-0.1676	0.0372	0.1560	-0.0136	-0.0136	0.0210	0.0100	0.0100
0.6700	0.1896	0.0422	0.0708	-0.0028	-0.0028	0.0684	0.0385	0.0385
0.6700	-0.1896	0.0422	0.0903	-0.0548	-0.0548	0.0722	0.0394	0.0394
0.9400	0.1896	0.0422	0.0949	-0.0038	-0.0038	0.0600	0.0358	0.0358
0.9400	-0.1896	0.0422	0.0636	-0.0527	-0.0527	0.0541	0.0378	0.0378
1.6000	0.1896	0.0422	0.1098	0.0070	0.0070	0.0454	0.0254	0.0254
1.6000	-0.1896	0.0422	0.0885	-0.0113	-0.0113	0.0395	0.0213	0.0213
2.5900	0.1896	0.0422	0.1108	-0.0005	-0.0005	0.0335	0.0152	0.0152
2.5900	-0.1896	0.0422	0.1044	-0.0131	-0.0131	0.0285	0.0286	0.0286
3.2500	0.1896	0.0422	0.1230	-0.0057	-0.0057	0.0253	0.0135	0.0135
3.2500	-0.1896	0.0422	0.1142	-0.0155	-0.0155	0.0293	0.0192	0.0192
4.1946	0.1896	0.0422	0.1243	-0.0061	-0.0061	0.0301	0.0130	0.0130
4.1946	-0.1896	0.0422	0.1307	-0.0108	-0.0108	0.0214	0.0141	0.0141
0.6700	0.1534	0.0609	0.2370	-0.0336	-0.0336	0.0727	0.0355	0.0355
0.6700	0.1574	0.0609	0.2117	-0.0298	-0.0298	0.0640	0.0421	0.0421
0.6700	0.1676	0.0609	0.2034	-0.0324	-0.0324	0.0805	0.0395	0.0395
0.6700	0.1896	0.0609	0.0992	-0.0111	-0.0111	0.0867	0.0412	0.0412
0.6700	0.1429	0.0609	0.2665	-0.0145	0.0243	0.0709	0.0427	0.0507
0.6700	0.1302	0.0609	0.3421	-0.0192	0.0249	0.0480	0.0310	0.0520
0.6700	0.0787	0.0609	0.1995	-0.0001	0.0294	0.0615	0.0462	0.0469
0.6700	0.0273	0.0609	0.2872	-0.0017	0.0374	0.0851	0.0505	0.0306
0.6700	-0.0242	0.0609	0.2436	-0.0100	0.0499	0.0581	0.0352	0.0223
0.6700	-0.0757	0.0609	0.3101	-0.0056	0.0444	0.0532	0.0410	0.0236
0.6700	-0.1271	0.0609	0.2958	0.0076	0.0485	0.0665	0.0415	0.0312
0.6700	-0.1398	0.0609	0.2988	0.0120	0.0475	0.0553	0.0405	0.0345
0.6700	-0.1534	0.0609	0.1786	-0.0010	-0.0010	0.0749	0.0390	0.0390
0.6700	-0.1574	0.0609	0.2211	-0.0007	-0.0007	0.0846	0.0345	0.0345
0.6700	-0.1676	0.0609	0.1119	-0.0051	-0.0051	0.1007	0.0502	0.0502
0.6700	-0.1896	0.0609	0.1212	-0.0259	-0.0259	0.0783	0.0423	0.0423

X m	Y m	Z m	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
0.9400	0.1534	0.0609	0.2467	-0.0368	-0.0368	0.0656	0.0305	0.0305
0.9400	0.1574	0.0609	0.2175	-0.0322	-0.0322	0.0781	0.0320	0.0320
0.9400	0.1676	0.0609	0.1806	-0.0317	-0.0317	0.0864	0.0344	0.0344
0.9400	0.1896	0.0609	0.1498	-0.0135	-0.0135	0.0660	0.0393	0.0393
0.9400	0.1429	0.0609	0.2608	-0.0191	0.0358	0.0613	0.0384	0.0328
0.9400	0.1302	0.0609	0.2417	-0.0134	0.0329	0.0729	0.0437	0.0247
0.9400	0.0787	0.0609	0.2030	-0.0093	0.0345	0.0527	0.0486	0.0315
0.9400	0.0273	0.0609	0.1985	-0.0034	0.0330	0.0640	0.0457	0.0178
0.9400	-0.0242	0.0609	0.2760	-0.0097	0.0517	0.0591	0.0373	0.0163
0.9400	-0.0757	0.0609	0.2406	0.0039	0.0382	0.0506	0.0407	0.0247
0.9400	-0.1271	0.0609	0.2478	0.0131	0.0441	0.0539	0.0401	0.0284
0.9400	-0.1398	0.0609	0.2149	0.0251	0.0488	0.0599	0.0428	0.0277
0.9400	-0.1534	0.0609	0.1701	-0.0042	-0.0042	0.0743	0.0317	0.0317
0.9400	-0.1574	0.0609	0.1644	-0.0007	-0.0007	0.0849	0.0357	0.0357
0.9400	-0.1676	0.0609	0.1710	-0.0038	-0.0038	0.0651	0.0351	0.0351
0.9400	-0.1896	0.0609	0.0890	-0.0101	-0.0101	0.0655	0.0334	0.0334
1.6000	0.1534	0.0609	0.1531	-0.0040	-0.0040	0.0424	0.0262	0.0262
1.6000	0.1574	0.0609	0.1438	-0.0056	-0.0056	0.0331	0.0226	0.0226
1.6000	0.1676	0.0609	0.1386	-0.0041	-0.0041	0.0374	0.0228	0.0228
1.6000	0.1896	0.0609	0.1357	-0.0005	-0.0005	0.0248	0.0244	0.0244
1.6000	0.1429	0.0609	0.1741	-0.0068	0.0229	0.0539	0.0375	0.0242
1.6000	0.1302	0.0609	0.1910	-0.0039	0.0225	0.0479	0.0367	0.0243
1.6000	0.0787	0.0609	0.2108	-0.0051	0.0214	0.0572	0.0416	0.0195
1.6000	0.0273	0.0609	0.1926	-0.0064	0.0203	0.0516	0.0411	0.0211
1.6000	-0.0242	0.0609	0.2356	-0.0039	0.0288	0.0608	0.0390	0.0182
1.6000	-0.0757	0.0609	0.2337	0.0137	0.0291	0.0474	0.0398	0.0223
1.6000	-0.1271	0.0609	0.1699	0.0129	0.0156	0.0483	0.0402	0.0200
1.6000	-0.1398	0.0609	0.1448	0.0168	0.0132	0.0498	0.0400	0.0202
1.6000	-0.1534	0.0609	0.1213	-0.0114	-0.0114	0.0371	0.0233	0.0233
1.6000	-0.1574	0.0609	0.1041	-0.0065	-0.0065	0.0367	0.0214	0.0214
1.6000	-0.1676	0.0609	0.0715	-0.0089	-0.0089	0.0526	0.0220	0.0220
1.6000	-0.1896	0.0609	0.0952	-0.0125	-0.0125	0.0473	0.0245	0.0245
2.5900	0.1534	0.0609	0.1457	-0.0057	-0.0057	0.0315	0.0189	0.0189
2.5900	0.1574	0.0609	0.1618	-0.0089	-0.0089	0.0388	0.0228	0.0228
2.5900	0.1676	0.0609	0.1530	-0.0049	-0.0049	0.0270	0.0167	0.0167
2.5900	0.1896	0.0609	0.1332	-0.0045	-0.0045	0.0254	0.0186	0.0186
2.5900	0.1429	0.0609	0.1626	-0.0003	0.0055	0.0369	0.0298	0.0239
2.5900	0.1302	0.0609	0.1534	0.0026	0.0144	0.0369	0.0267	0.0170
2.5900	0.0787	0.0609	0.1713	0.0090	0.0208	0.0360	0.0315	0.0185
2.5900	0.0273	0.0609	0.1736	-0.0025	0.0167	0.0463	0.0251	0.0225
2.5900	-0.0242	0.0609	0.1900	0.0075	0.0238	0.0364	0.0307	0.0172
2.5900	-0.0757	0.0609	0.1824	0.0090	0.0224	0.0342	0.0325	0.0182
2.5900	-0.1271	0.0609	0.1679	0.0083	0.0120	0.0351	0.0369	0.0177
2.5900	-0.1398	0.0609	0.1534	0.0104	0.0093	0.0463	0.0385	0.0154
2.5900	-0.1534	0.0609	0.1444	-0.0139	-0.0139	0.0419	0.0278	0.0278
2.5900	-0.1574	0.0609	0.1565	-0.0090	-0.0090	0.0412	0.0203	0.0203
2.5900	-0.1676	0.0609	0.1475	-0.0191	-0.0191	0.0399	0.0283	0.0283
2.5900	-0.1896	0.0609	0.1227	-0.0111	-0.0111	0.0347	0.0203	0.0203
3.2500	0.1534	0.0609	0.1539	-0.0037	-0.0037	0.0239	0.0140	0.0140
3.2500	0.1574	0.0609	0.1636	-0.0060	-0.0060	0.0296	0.0222	0.0222
3.2500	0.1676	0.0609	0.1654	-0.0045	-0.0045	0.0260	0.0178	0.0178
3.2500	0.1896	0.0609	0.1519	-0.0058	-0.0058	0.0247	0.0231	0.0231
3.2500	0.1429	0.0609	0.1616	0.0063	0.0080	0.0249	0.0314	0.0192
3.2500	0.1302	0.0609	0.1718	-0.0033	0.0086	0.0327	0.0252	0.0170

X m	Y m	Z m	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
3.2500	0.0787	0.0609	0.1739	0.0053	0.0050	0.0361	0.0318	0.0158
3.2500	0.0273	0.0609	0.1604	0.0018	0.0081	0.0344	0.0295	0.0205
3.2500	-0.0242	0.0609	0.1828	0.0087	0.0146	0.0339	0.0249	0.0190
3.2500	-0.0757	0.0609	0.1770	0.0076	0.0133	0.0296	0.0321	0.0166
3.2500	-0.1271	0.0609	0.1652	0.0128	0.0141	0.0295	0.0282	0.0183
3.2500	-0.1398	0.0609	0.1804	0.0044	0.0134	0.0361	0.0242	0.0177
3.2500	-0.1534	0.0609	0.1726	-0.0184	-0.0184	0.0355	0.0214	0.0214
3.2500	-0.1574	0.0609	0.1746	-0.0135	-0.0135	0.0198	0.0165	0.0165
3.2500	-0.1676	0.0609	0.1543	-0.0133	-0.0133	0.0304	0.0193	0.0193
3.2500	-0.1896	0.0609	0.1418	-0.0159	-0.0159	0.0269	0.0219	0.0219
4.1946	0.1534	0.0609	0.1535	-0.0047	-0.0047	0.0238	0.0123	0.0123
4.1946	0.1574	0.0609	0.1537	-0.0059	-0.0059	0.0231	0.0150	0.0150
4.1946	0.1676	0.0609	0.1619	-0.0062	-0.0062	0.0221	0.0131	0.0131
4.1946	0.1896	0.0609	0.1598	-0.0064	-0.0064	0.0217	0.0178	0.0178
4.1946	0.1429	0.0609	0.1716	0.0007	0.0053	0.0205	0.0175	0.0146
4.1946	0.1302	0.0609	0.1683	0.0052	0.0016	0.0209	0.0149	0.0128
4.1946	0.0787	0.0609	0.1634	0.0049	0.0065	0.0205	0.0161	0.0132
4.1946	0.0273	0.0609	0.1781	0.0042	0.0094	0.0231	0.0189	0.0129
4.1946	-0.0242	0.0609	0.1780	0.0035	0.0081	0.0225	0.0178	0.0137
4.1946	-0.0757	0.0609	0.1688	0.0074	0.0029	0.0226	0.0205	0.0145
4.1946	-0.1271	0.0609	0.1726	0.0080	0.0079	0.0226	0.0160	0.0123
4.1946	-0.1398	0.0609	0.1660	0.0050	0.0022	0.0203	0.0185	0.0120
4.1946	-0.1534	0.0609	0.1437	-0.0144	-0.0144	0.0189	0.0143	0.0143
4.1946	-0.1574	0.0609	0.1661	-0.0148	-0.0148	0.0232	0.0138	0.0138
4.1946	-0.1676	0.0609	0.1442	-0.0171	-0.0171	0.0236	0.0167	0.0167
4.1946	-0.1896	0.0609	0.1465	-0.0152	-0.0152	0.0191	0.0128	0.0128
0.6700	0.2133	0.0659	0.0719	-0.0103	-0.0103	0.0713	0.0545	0.0545
0.6700	-0.2133	0.0659	0.0425	-0.0063	-0.0063	0.0681	0.0444	0.0444
0.9400	0.2133	0.0659	0.0993	-0.0049	-0.0049	0.0818	0.0438	0.0438
0.9400	-0.2133	0.0659	0.0660	-0.0323	-0.0323	0.0749	0.0326	0.0326
1.6000	0.2133	0.0659	0.1405	0.0002	0.0002	0.0327	0.0256	0.0256
1.6000	-0.2133	0.0659	0.1026	-0.0216	-0.0216	0.0388	0.0294	0.0294
2.5900	0.2133	0.0659	0.1154	0.0023	0.0023	0.0352	0.0206	0.0206
2.5900	-0.2133	0.0659	0.1007	-0.0163	-0.0163	0.0323	0.0295	0.0295
3.2500	0.2133	0.0659	0.1340	-0.0047	-0.0047	0.0260	0.0170	0.0170
3.2500	-0.2133	0.0659	0.1113	-0.0117	-0.0117	0.0310	0.0165	0.0165
4.1946	0.2133	0.0659	0.1199	0.0006	0.0006	0.0233	0.0175	0.0175
4.1946	-0.2133	0.0659	0.1199	-0.0186	-0.0186	0.0317	0.0179	0.0179
0.6700	0.2133	0.0871	0.0956	-0.0311	-0.0311	0.0719	0.0443	0.0443
0.6700	-0.2133	0.0871	0.0827	-0.0050	-0.0050	0.0767	0.0385	0.0385
0.9400	0.2133	0.0871	0.1296	-0.0119	-0.0119	0.0765	0.0387	0.0387
0.9400	-0.2133	0.0871	0.1301	-0.0062	-0.0062	0.0596	0.0367	0.0367
1.6000	0.2133	0.0871	0.1395	-0.0041	-0.0041	0.0304	0.0191	0.0191
1.6000	-0.2133	0.0871	0.0891	-0.0121	-0.0121	0.0326	0.0184	0.0184
2.5900	0.2133	0.0871	0.1389	-0.0130	-0.0130	0.0262	0.0219	0.0219
2.5900	-0.2133	0.0871	0.0973	-0.0037	-0.0037	0.0239	0.0215	0.0215
3.2500	0.2133	0.0871	0.1437	-0.0016	-0.0016	0.0258	0.0171	0.0171
3.2500	-0.2133	0.0871	0.1659	-0.0093	-0.0093	0.0367	0.0193	0.0193
4.1946	0.2133	0.0871	0.1574	-0.0100	-0.0100	0.0191	0.0128	0.0128
4.1946	-0.2133	0.0871	0.1365	-0.0171	-0.0171	0.0261	0.0137	0.0137
0.6700	0.1534	0.1101	0.2847	-0.0405	-0.0405	0.0827	0.0374	0.0374
0.6700	0.1574	0.1101	0.2688	-0.0476	-0.0476	0.0895	0.0404	0.0404
0.6700	0.1676	0.1101	0.2593	-0.0515	-0.0515	0.0794	0.0434	0.0434
0.6700	0.1896	0.1101	0.1489	-0.0326	-0.0326	0.0930	0.0484	0.0484

X m	Y m	Z m	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
0.6700	0.2133	0.1101	0.1272	-0.0410	-0.0410	0.0682	0.0550	0.0550
0.6700	0.1429	0.1101	0.3205	-0.0307	0.0216	0.0634	0.0467	0.0452
0.6700	0.1302	0.1101	0.3277	-0.0205	0.0241	0.0598	0.0394	0.0734
0.6700	0.0787	0.1101	0.2650	-0.0066	0.0324	0.0606	0.0393	0.0438
0.6700	0.0273	0.1101	0.3792	-0.0001	0.0331	0.0375	0.0329	0.0304
0.6700	-0.0242	0.1101	0.2759	-0.0046	0.0509	0.0413	0.0366	0.0244
0.6700	-0.0757	0.1101	0.3431	-0.0037	0.0301	0.0425	0.0366	0.0224
0.6700	-0.1271	0.1101	0.2672	0.0031	0.0468	0.0649	0.0435	0.0373
0.6700	-0.1398	0.1101	0.2765	0.0180	0.0496	0.0628	0.0362	0.0429
0.6700	-0.1534	0.1101	0.2133	-0.0027	-0.0027	0.0796	0.0339	0.0339
0.6700	-0.1574	0.1101	0.2037	-0.0034	-0.0034	0.0923	0.0331	0.0331
0.6700	-0.1676	0.1101	0.1760	-0.0055	-0.0055	0.0748	0.0428	0.0428
0.6700	-0.1896	0.1101	0.1397	0.0047	0.0047	0.0833	0.0429	0.0429
0.6700	-0.2133	0.1101	0.1471	0.0123	0.0123	0.0799	0.0433	0.0433
0.9400	0.1534	0.1101	0.2494	-0.0401	-0.0401	0.0663	0.0299	0.0299
0.9400	0.1574	0.1101	0.2705	-0.0383	-0.0383	0.0646	0.0278	0.0278
0.9400	0.1676	0.1101	0.2517	-0.0436	-0.0436	0.0602	0.0320	0.0320
0.9400	0.1896	0.1101	0.2086	-0.0430	-0.0430	0.0719	0.0336	0.0336
0.9400	0.2133	0.1101	0.1475	-0.0425	-0.0425	0.0808	0.0378	0.0378
0.9400	0.1429	0.1101	0.2539	-0.0230	0.0436	0.0619	0.0404	0.0286
0.9400	0.1302	0.1101	0.2509	-0.0195	0.0389	0.0517	0.0395	0.0292
0.9400	0.0787	0.1101	0.3073	-0.0120	0.0300	0.0557	0.0404	0.0312
0.9400	0.0273	0.1101	0.3006	-0.0005	0.0331	0.0481	0.0325	0.0185
0.9400	-0.0242	0.1101	0.3132	-0.0033	0.0498	0.0444	0.0285	0.0181
0.9400	-0.0757	0.1101	0.2873	0.0071	0.0429	0.0467	0.0350	0.0264
0.9400	-0.1271	0.1101	0.2027	0.0135	0.0472	0.0593	0.0388	0.0258
0.9400	-0.1398	0.1101	0.2072	0.0278	0.0466	0.0550	0.0364	0.0270
0.9400	-0.1534	0.1101	0.2040	-0.0062	-0.0062	0.0603	0.0332	0.0332
0.9400	-0.1574	0.1101	0.1960	-0.0052	-0.0052	0.0638	0.0295	0.0295
0.9400	-0.1676	0.1101	0.2080	-0.0020	-0.0020	0.0648	0.0297	0.0297
0.9400	-0.1896	0.1101	0.1399	0.0031	0.0031	0.0755	0.0368	0.0368
0.9400	-0.2133	0.1101	0.1398	0.0115	0.0115	0.0708	0.0324	0.0324
1.6000	0.1534	0.1101	0.1893	-0.0143	-0.0143	0.0391	0.0239	0.0239
1.6000	0.1574	0.1101	0.1874	-0.0097	-0.0097	0.0432	0.0232	0.0232
1.6000	0.1676	0.1101	0.1799	-0.0133	-0.0133	0.0423	0.0280	0.0280
1.6000	0.1896	0.1101	0.1680	-0.0135	-0.0135	0.0348	0.0242	0.0242
1.6000	0.2133	0.1101	0.1764	-0.0105	-0.0105	0.0330	0.0196	0.0196
1.6000	0.1429	0.1101	0.2094	-0.0093	0.0238	0.0413	0.0387	0.0243
1.6000	0.1302	0.1101	0.2189	-0.0150	0.0241	0.0461	0.0378	0.0225
1.6000	0.0787	0.1101	0.2986	-0.0084	0.0258	0.0537	0.0374	0.0165
1.6000	0.0273	0.1101	0.2692	0.0013	0.0205	0.0414	0.0346	0.0183
1.6000	-0.0242	0.1101	0.2853	0.0056	0.0301	0.0449	0.0351	0.0175
1.6000	-0.0757	0.1101	0.2516	0.0071	0.0311	0.0521	0.0349	0.0241
1.6000	-0.1271	0.1101	0.1804	0.0156	0.0292	0.0405	0.0381	0.0227
1.6000	-0.1398	0.1101	0.1560	0.0111	0.0302	0.0434	0.0433	0.0269
1.6000	-0.1534	0.1101	0.1367	-0.0009	-0.0009	0.0434	0.0256	0.0256
1.6000	-0.1574	0.1101	0.1486	-0.0040	-0.0040	0.0425	0.0281	0.0281
1.6000	-0.1676	0.1101	0.1323	-0.0049	-0.0049	0.0489	0.0296	0.0296
1.6000	-0.1896	0.1101	0.1213	-0.0085	-0.0085	0.0385	0.0204	0.0204
1.6000	-0.2133	0.1101	0.1011	-0.0026	-0.0026	0.0377	0.0234	0.0234
2.5900	0.1534	0.1101	0.1805	-0.0120	-0.0120	0.0398	0.0228	0.0228
2.5900	0.1574	0.1101	0.1818	-0.0123	-0.0123	0.0337	0.0220	0.0220
2.5900	0.1676	0.1101	0.1843	-0.0166	-0.0166	0.0358	0.0230	0.0230
2.5900	0.1896	0.1101	0.1533	-0.0147	-0.0147	0.0383	0.0195	0.0195

X m	Y m	Z m	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
2.5900	0.2133	0.1101	0.1586	-0.0136	-0.0136	0.0303	0.0253	0.0253
2.5900	0.1429	0.1101	0.2015	-0.0025	0.0080	0.0429	0.0305	0.0203
2.5900	0.1302	0.1101	0.1890	-0.0049	0.0188	0.0378	0.0290	0.0210
2.5900	0.0787	0.1101	0.2070	-0.0017	0.0193	0.0460	0.0293	0.0510
2.5900	0.0273	0.1101	0.2291	0.0036	0.0169	0.0308	0.0291	0.0216
2.5900	-0.0242	0.1101	0.2255	0.0110	0.0259	0.0412	0.0313	0.0186
2.5900	-0.0757	0.1101	0.2180	0.0145	0.0186	0.0361	0.0318	0.0214
2.5900	-0.1271	0.1101	0.1934	0.0176	0.0187	0.0367	0.0341	0.0223
2.5900	-0.1398	0.1101	0.1849	0.0196	0.0192	0.0354	0.0359	0.0213
2.5900	-0.1534	0.1101	0.1575	0.0007	0.0007	0.0409	0.0243	0.0243
2.5900	-0.1574	0.1101	0.1765	-0.0070	-0.0070	0.0380	0.0226	0.0226
2.5900	-0.1676	0.1101	0.1730	-0.0050	-0.0050	0.0364	0.0216	0.0216
2.5900	-0.1896	0.1101	0.1527	-0.0011	-0.0011	0.0380	0.0215	0.0215
2.5900	-0.2133	0.1101	0.1079	-0.0017	-0.0017	0.0346	0.0221	0.0221
3.2500	0.1534	0.1101	0.1719	-0.0097	-0.0097	0.0320	0.0172	0.0172
3.2500	0.1574	0.1101	0.1719	-0.0072	-0.0072	0.0276	0.0170	0.0170
3.2500	0.1676	0.1101	0.1752	-0.0082	-0.0082	0.0299	0.0185	0.0185
3.2500	0.1896	0.1101	0.1805	-0.0048	-0.0048	0.0314	0.0164	0.0164
3.2500	0.2133	0.1101	0.1642	-0.0050	-0.0050	0.0229	0.0145	0.0145
3.2500	0.1429	0.1101	0.1990	0.0000	0.0105	0.0302	0.0272	0.0162
3.2500	0.1302	0.1101	0.1846	-0.0070	0.0093	0.0348	0.0273	0.0194
3.2500	0.0787	0.1101	0.1961	-0.0034	0.0105	0.0370	0.0278	0.0163
3.2500	0.0273	0.1101	0.2056	-0.0026	0.0047	0.0326	0.0249	0.0147
3.2500	-0.0242	0.1101	0.1967	0.0052	0.0155	0.0274	0.0276	0.0178
3.2500	-0.0757	0.1101	0.2022	0.0141	0.0162	0.0303	0.0223	0.0121
3.2500	-0.1271	0.1101	0.1963	0.0160	0.0159	0.0321	0.0293	0.0170
3.2500	-0.1398	0.1101	0.1921	0.0155	0.0124	0.0289	0.0261	0.0195
3.2500	-0.1534	0.1101	0.1744	-0.0133	-0.0133	0.0296	0.0164	0.0164
3.2500	-0.1574	0.1101	0.1650	-0.0107	-0.0107	0.0247	0.0161	0.0161
3.2500	-0.1676	0.1101	0.1630	-0.0107	-0.0107	0.0238	0.0160	0.0160
3.2500	-0.1896	0.1101	0.1613	-0.0121	-0.0121	0.0340	0.0171	0.0171
3.2500	-0.2133	0.1101	0.1660	-0.0096	-0.0096	0.0232	0.0159	0.0159
4.1946	0.1534	0.1101	0.1612	-0.0074	-0.0074	0.0208	0.0116	0.0116
4.1946	0.1574	0.1101	0.1797	-0.0088	-0.0088	0.0253	0.0146	0.0146
4.1946	0.1676	0.1101	0.1635	-0.0067	-0.0067	0.0254	0.0139	0.0139
4.1946	0.1896	0.1101	0.1687	-0.0063	-0.0063	0.0217	0.0138	0.0138
4.1946	0.2133	0.1101	0.1560	-0.0089	-0.0089	0.0182	0.0140	0.0140
4.1946	0.1429	0.1101	0.1771	-0.0006	0.0088	0.0241	0.0170	0.0131
4.1946	0.1302	0.1101	0.1750	0.0013	0.0093	0.0232	0.0177	0.0134
4.1946	0.0787	0.1101	0.1792	0.0018	0.0063	0.0186	0.0160	0.0135
4.1946	0.0273	0.1101	0.1879	0.0055	0.0121	0.0199	0.0200	0.0138
4.1946	-0.0242	0.1101	0.1799	0.0064	0.0076	0.0214	0.0184	0.0115
4.1946	-0.0757	0.1101	0.1773	0.0029	0.0062	0.0221	0.0196	0.0123
4.1946	-0.1271	0.1101	0.1749	0.0094	0.0092	0.0199	0.0162	0.0130
4.1946	-0.1398	0.1101	0.1763	0.0095	0.0060	0.0262	0.0186	0.0107
4.1946	-0.1534	0.1101	0.1559	-0.0136	-0.0136	0.0215	0.0136	0.0136
4.1946	-0.1574	0.1101	0.1706	-0.0142	-0.0142	0.0201	0.0130	0.0130
4.1946	-0.1676	0.1101	0.1542	-0.0133	-0.0133	0.0249	0.0145	0.0145
4.1946	-0.1896	0.1101	0.1768	-0.0115	-0.0115	0.0178	0.0120	0.0120
4.1946	-0.2133	0.1101	0.1581	-0.0120	-0.0120	0.0353	0.0106	0.0106
0.6700	0.2625	0.1151	0.0424	-0.0031	-0.0031	0.0556	0.0490	0.0490
0.6700	-0.2625	0.1151	0.0231	0.0032	0.0032	0.0717	0.0409	0.0409
0.9400	0.2625	0.1151	0.0628	-0.0126	-0.0126	0.0511	0.0388	0.0388
0.9400	-0.2625	0.1151	0.0097	0.0014	0.0014	0.0786	0.0289	0.0289

X m	Y m	Z m	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
1.6000	0.2625	0.1151	0.1205	0.0011	0.0011	0.0306	0.0217	0.0217
1.6000	-0.2625	0.1151	0.0752	-0.0025	-0.0025	0.0341	0.0274	0.0274
2.5900	0.2625	0.1151	0.1165	0.0028	0.0028	0.0329	0.0201	0.0201
2.5900	-0.2625	0.1151	0.0864	-0.0116	-0.0116	0.0472	0.0276	0.0276
3.2500	0.2625	0.1151	0.1136	-0.0100	-0.0100	0.0198	0.0173	0.0173
3.2500	-0.2625	0.1151	0.1175	-0.0047	-0.0047	0.0274	0.0186	0.0186
4.1946	0.2625	0.1151	0.1186	0.0005	0.0005	0.0223	0.0107	0.0107
4.1946	-0.2625	0.1151	0.1100	-0.0172	-0.0172	0.0256	0.0142	0.0142
0.6700	0.2625	0.1363	0.0909	0.0109	0.0109	0.0269	0.0293	0.0293
0.6700	-0.2625	0.1363	0.0071	-0.0116	-0.0116	0.0416	0.0332	0.0332
0.9400	0.2625	0.1363	0.1102	-0.0201	-0.0201	0.0602	0.0462	0.0462
0.9400	-0.2625	0.1363	0.0642	0.0093	0.0093	0.0644	0.0321	0.0321
1.6000	0.2625	0.1363	0.1303	-0.0095	-0.0095	0.0313	0.0211	0.0211
1.6000	-0.2625	0.1363	0.0801	0.0107	0.0107	0.0402	0.0223	0.0223
2.5900	0.2625	0.1363	0.1332	-0.0098	-0.0098	0.0227	0.0197	0.0197
2.5900	-0.2625	0.1363	0.0867	-0.0056	-0.0056	0.0486	0.0205	0.0205
3.2500	0.2625	0.1363	0.1469	-0.0121	-0.0121	0.0236	0.0169	0.0169
3.2500	-0.2625	0.1363	0.1402	-0.0054	-0.0054	0.0338	0.0159	0.0159
4.1946	0.2625	0.1363	0.1326	-0.0061	-0.0061	0.0231	0.0131	0.0131
4.1946	-0.2625	0.1363	0.1314	-0.0127	-0.0127	0.0246	0.0119	0.0119
0.6700	0.1534	0.1566	0.2392	-0.0278	-0.0278	0.0873	0.0454	0.0454
0.6700	0.1574	0.1566	0.2354	-0.0343	-0.0343	0.0855	0.0417	0.0417
0.6700	0.1676	0.1566	0.2534	-0.0411	-0.0411	0.0757	0.0415	0.0415
0.6700	0.1896	0.1566	0.1687	-0.0493	-0.0493	0.0977	0.0479	0.0479
0.6700	0.2133	0.1566	0.1123	-0.0222	-0.0222	0.0779	0.0552	0.0552
0.6700	0.2625	0.1566	0.0969	0.0122	0.0122	0.0363	0.0321	0.0321
0.6700	0.1429	0.1566	0.2620	-0.0406	0.0313	0.0758	0.0437	0.0468
0.6700	0.1302	0.1566	0.2743	-0.0176	0.0350	0.0707	0.0546	0.0414
0.6700	0.0787	0.1566	0.3062	-0.0098	0.0322	0.0463	0.0315	0.0397
0.6700	0.0273	0.1566	0.3726	-0.0007	0.0247	0.0367	0.0327	0.0284
0.6700	-0.0242	0.1566	0.2793	-0.0027	0.0477	0.0436	0.0285	0.0203
0.6700	-0.0757	0.1566	0.3707	-0.0006	0.0304	0.0363	0.0242	0.0268
0.6700	-0.1271	0.1566	0.2116	0.0009	0.0417	0.0734	0.0429	0.0360
0.6700	-0.1398	0.1566	0.1998	0.0149	0.0402	0.0794	0.0510	0.0329
0.6700	-0.1534	0.1566	0.1767	-0.0085	-0.0085	0.0864	0.0393	0.0393
0.6700	-0.1574	0.1566	0.1523	-0.0095	-0.0095	0.0736	0.0362	0.0362
0.6700	-0.1676	0.1566	0.1509	-0.0070	-0.0070	0.0864	0.0376	0.0376
0.6700	-0.1896	0.1566	0.1295	0.0080	0.0080	0.0774	0.0377	0.0377
0.6700	-0.2133	0.1566	0.0838	-0.0008	-0.0008	0.0879	0.0428	0.0428
0.6700	-0.2625	0.1566	0.0263	0.0071	0.0071	0.0708	0.0415	0.0415
0.9400	0.1534	0.1566	0.2225	-0.0317	-0.0317	0.0509	0.0314	0.0314
0.9400	0.1574	0.1566	0.2169	-0.0282	-0.0282	0.0622	0.0291	0.0291
0.9400	0.1676	0.1566	0.1938	-0.0324	-0.0324	0.0716	0.0337	0.0337
0.9400	0.1896	0.1566	0.2290	-0.0458	-0.0458	0.0650	0.0312	0.0312
0.9400	0.2133	0.1566	0.1935	-0.0444	-0.0444	0.0620	0.0329	0.0329
0.9400	0.2625	0.1566	0.0980	-0.0375	-0.0375	0.0555	0.0369	0.0369
0.9400	0.1429	0.1566	0.1633	-0.0155	0.0377	0.0645	0.0429	0.0296
0.9400	0.1302	0.1566	0.1715	-0.0144	0.0361	0.0520	0.0426	0.0272
0.9400	0.0787	0.1566	0.3513	-0.0176	0.0413	0.0461	0.0259	0.0252
0.9400	0.0273	0.1566	0.3022	-0.0020	0.0268	0.0499	0.0260	0.0157
0.9400	-0.0242	0.1566	0.2984	0.0046	0.0457	0.0483	0.0286	0.0195
0.9400	-0.0757	0.1566	0.2965	0.0077	0.0551	0.0582	0.0401	0.0230
0.9400	-0.1271	0.1566	0.1709	0.0152	0.0378	0.0624	0.0422	0.0229
0.9400	-0.1398	0.1566	0.1600	0.0171	0.0398	0.0693	0.0425	0.0315

X m	Y m	Z m	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
0.9400	-0.1534	0.1566	0.1419	-0.0086	-0.0086	0.0602	0.0306	0.0306
0.9400	-0.1574	0.1566	0.1218	-0.0133	-0.0133	0.0761	0.0353	0.0353
0.9400	-0.1676	0.1566	0.1476	-0.0029	-0.0029	0.0728	0.0358	0.0358
0.9400	-0.1896	0.1566	0.1444	0.0019	0.0019	0.0605	0.0326	0.0326
0.9400	-0.2133	0.1566	0.0918	0.0048	0.0048	0.0727	0.0347	0.0347
0.9400	-0.2625	0.1566	0.0645	-0.0042	-0.0042	0.0519	0.0350	0.0350
1.6000	0.1534	0.1566	0.2233	-0.0178	-0.0178	0.0445	0.0286	0.0286
1.6000	0.1574	0.1566	0.2040	-0.0178	-0.0178	0.0522	0.0289	0.0289
1.6000	0.1676	0.1566	0.1946	-0.0192	-0.0192	0.0342	0.0282	0.0282
1.6000	0.1896	0.1566	0.1760	-0.0165	-0.0165	0.0427	0.0238	0.0238
1.6000	0.2133	0.1566	0.1852	-0.0194	-0.0194	0.0363	0.0232	0.0232
1.6000	0.2625	0.1566	0.1543	-0.0147	-0.0147	0.0357	0.0213	0.0213
1.6000	0.1429	0.1566	0.1893	-0.0143	0.0163	0.0558	0.0352	0.0238
1.6000	0.1302	0.1566	0.2166	-0.0051	0.0242	0.0509	0.0322	0.0240
1.6000	0.0787	0.1566	0.3330	-0.0059	0.0246	0.0518	0.0342	0.0212
1.6000	0.0273	0.1566	0.2562	0.0010	0.0185	0.0438	0.0278	0.0200
1.6000	-0.0242	0.1566	0.2960	0.0092	0.0252	0.0547	0.0364	0.0173
1.6000	-0.0757	0.1566	0.3045	0.0230	0.0303	0.0652	0.0413	0.0238
1.6000	-0.1271	0.1566	0.1590	0.0182	0.0299	0.0577	0.0450	0.0260
1.6000	-0.1398	0.1566	0.1375	0.0114	0.0344	0.0506	0.0476	0.0232
1.6000	-0.1534	0.1566	0.1419	-0.0050	-0.0050	0.0520	0.0262	0.0262
1.6000	-0.1574	0.1566	0.1684	-0.0029	-0.0029	0.0495	0.0304	0.0304
1.6000	-0.1676	0.1566	0.1561	-0.0010	-0.0010	0.0529	0.0307	0.0307
1.6000	-0.1896	0.1566	0.1445	-0.0058	-0.0058	0.0448	0.0323	0.0323
1.6000	-0.2133	0.1566	0.1089	-0.0097	-0.0097	0.0435	0.0257	0.0257
1.6000	-0.2625	0.1566	0.0835	-0.0019	-0.0019	0.0373	0.0245	0.0245
2.5900	0.1534	0.1566	0.2076	-0.0145	-0.0145	0.0418	0.0232	0.0232
2.5900	0.1574	0.1566	0.2009	-0.0175	-0.0175	0.0400	0.0228	0.0228
2.5900	0.1676	0.1566	0.2012	-0.0148	-0.0148	0.0388	0.0210	0.0210
2.5900	0.1896	0.1566	0.1906	-0.0153	-0.0153	0.0343	0.0213	0.0213
2.5900	0.2133	0.1566	0.1810	-0.0190	-0.0190	0.0339	0.0227	0.0227
2.5900	0.2625	0.1566	0.1455	-0.0106	-0.0106	0.0299	0.0242	0.0242
2.5900	0.1429	0.1566	0.2022	-0.0067	0.0143	0.0413	0.0315	0.0214
2.5900	0.1302	0.1566	0.2027	-0.0051	0.0239	0.0423	0.0312	0.0205
2.5900	0.0787	0.1566	0.2293	0.0031	0.0205	0.0380	0.0304	0.0187
2.5900	0.0273	0.1566	0.2480	0.0080	0.0256	0.0345	0.0307	0.0189
2.5900	-0.0242	0.1566	0.2466	0.0143	0.0221	0.0336	0.0288	0.0190
2.5900	-0.0757	0.1566	0.2252	0.0214	0.0235	0.0372	0.0349	0.0204
2.5900	-0.1271	0.1566	0.2141	0.0258	0.0271	0.0475	0.0345	0.0174
2.5900	-0.1398	0.1566	0.1901	0.0213	0.0259	0.0456	0.0375	0.0184
2.5900	-0.1534	0.1566	0.1814	-0.0055	-0.0055	0.0449	0.0252	0.0252
2.5900	-0.1574	0.1566	0.1833	-0.0116	-0.0116	0.0426	0.0238	0.0238
2.5900	-0.1676	0.1566	0.1687	-0.0058	-0.0058	0.0474	0.0242	0.0242
2.5900	-0.1896	0.1566	0.1271	-0.0070	-0.0070	0.0460	0.0220	0.0220
2.5900	-0.2133	0.1566	0.1411	0.0004	0.0004	0.0418	0.0225	0.0225
2.5900	-0.2625	0.1566	0.1196	-0.0179	-0.0179	0.0377	0.0235	0.0235
3.2500	0.1534	0.1566	0.1834	-0.0115	-0.0115	0.0326	0.0191	0.0191
3.2500	0.1574	0.1566	0.1803	-0.0157	-0.0157	0.0268	0.0203	0.0203
3.2500	0.1676	0.1566	0.1799	-0.0048	-0.0048	0.0288	0.0164	0.0164
3.2500	0.1896	0.1566	0.1815	-0.0107	-0.0107	0.0321	0.0170	0.0170
3.2500	0.2133	0.1566	0.1618	-0.0096	-0.0096	0.0200	0.0164	0.0164
3.2500	0.2625	0.1566	0.1487	-0.0118	-0.0118	0.0284	0.0160	0.0160
3.2500	0.1429	0.1566	0.1940	-0.0026	0.0080	0.0297	0.0255	0.0172
3.2500	0.1302	0.1566	0.2071	-0.0005	0.0059	0.0345	0.0241	0.0158

X m	Y m	Z m	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
3.2500	0.0787	0.1566	0.1911	0.0025	0.0109	0.0263	0.0257	0.0177
3.2500	0.0273	0.1566	0.2169	0.0009	0.0067	0.0283	0.0243	0.0180
3.2500	-0.0242	0.1566	0.2106	0.0104	0.0136	0.0305	0.0257	0.0145
3.2500	-0.0757	0.1566	0.2026	0.0081	0.0163	0.0305	0.0286	0.0148
3.2500	-0.1271	0.1566	0.1816	0.0150	0.0137	0.0376	0.0274	0.0169
3.2500	-0.1398	0.1566	0.1912	0.0049	0.0130	0.0298	0.0265	0.0147
3.2500	-0.1534	0.1566	0.1766	-0.0110	-0.0110	0.0295	0.0173	0.0173
3.2500	-0.1574	0.1566	0.1691	-0.0126	-0.0126	0.0318	0.0162	0.0162
3.2500	-0.1676	0.1566	0.1887	-0.0112	-0.0112	0.0259	0.0156	0.0156
3.2500	-0.1896	0.1566	0.1620	-0.0117	-0.0117	0.0327	0.0166	0.0166
3.2500	-0.2133	0.1566	0.1498	-0.0077	-0.0077	0.0350	0.0178	0.0178
3.2500	-0.2625	0.1566	0.1416	-0.0051	-0.0051	0.0301	0.0137	0.0137
4.1946	0.1534	0.1566	0.1753	-0.0063	-0.0063	0.0203	0.0141	0.0141
4.1946	0.1574	0.1566	0.1805	-0.0082	-0.0082	0.0200	0.0133	0.0133
4.1946	0.1676	0.1566	0.1731	-0.0112	-0.0112	0.0210	0.0127	0.0127
4.1946	0.1896	0.1566	0.1654	-0.0095	-0.0095	0.0232	0.0130	0.0130
4.1946	0.2133	0.1566	0.1577	-0.0047	-0.0047	0.0301	0.0157	0.0157
4.1946	0.2625	0.1566	0.1548	-0.0063	-0.0063	0.0154	0.0132	0.0132
4.1946	0.1429	0.1566	0.1716	0.0018	0.0101	0.0187	0.0182	0.0135
4.1946	0.1302	0.1566	0.1781	-0.0006	0.0098	0.0191	0.0166	0.0138
4.1946	0.0787	0.1566	0.1843	0.0014	0.0051	0.0196	0.0172	0.0148
4.1946	0.0273	0.1566	0.1825	0.0015	0.0116	0.0201	0.0177	0.0169
4.1946	-0.0242	0.1566	0.1838	0.0033	0.0094	0.0185	0.0169	0.0114
4.1946	-0.0757	0.1566	0.1810	0.0057	0.0083	0.0234	0.0181	0.0127
4.1946	-0.1271	0.1566	0.1780	0.0043	0.0090	0.0192	0.0186	0.0105
4.1946	-0.1398	0.1566	0.1693	0.0068	0.0111	0.0167	0.0170	0.0121
4.1946	-0.1534	0.1566	0.1663	-0.0141	-0.0141	0.0206	0.0127	0.0127
4.1946	-0.1574	0.1566	0.1741	-0.0153	-0.0153	0.0227	0.0136	0.0136
4.1946	-0.1676	0.1566	0.1791	-0.0137	-0.0137	0.0224	0.0114	0.0114
4.1946	-0.1896	0.1566	0.1657	-0.0118	-0.0118	0.0240	0.0126	0.0126
4.1946	-0.2133	0.1566	0.1670	-0.0127	-0.0127	0.0183	0.0125	0.0125
4.1946	-0.2625	0.1566	0.1429	-0.0110	-0.0110	0.0193	0.0144	0.0144
0.6700	0.3090	0.1616	-0.0549	0.0151	0.0151	0.0300	0.0249	0.0249
0.6700	-0.3090	0.1616	-0.0432	0.0183	0.0183	0.0532	0.0304	0.0304
0.9400	0.3090	0.1616	0.0093	0.0152	0.0152	0.0468	0.0374	0.0374
0.9400	-0.3090	0.1616	0.0201	0.0110	0.0110	0.0425	0.0280	0.0280
1.6000	0.3090	0.1616	0.1076	-0.0080	-0.0080	0.0295	0.0196	0.0196
1.6000	-0.3090	0.1616	0.0671	-0.0018	-0.0018	0.0263	0.0225	0.0225
2.5900	0.3090	0.1616	0.0823	-0.0018	-0.0018	0.0276	0.0174	0.0174
2.5900	-0.3090	0.1616	0.0531	-0.0072	-0.0072	0.0220	0.0225	0.0225
3.2500	0.3090	0.1616	0.1131	-0.0052	-0.0052	0.0196	0.0149	0.0149
3.2500	-0.3090	0.1616	0.0766	-0.0129	-0.0129	0.0312	0.0182	0.0182
4.1946	0.3090	0.1616	0.1128	-0.0035	-0.0035	0.0160	0.0126	0.0126
4.1946	-0.3090	0.1616	0.0928	-0.0064	-0.0064	0.0243	0.0091	0.0091
0.6700	0.3090	0.1821	-0.0794	-0.0016	-0.0016	0.0412	0.0248	0.0248
0.6700	-0.3090	0.1821	-0.0532	0.0089	0.0089	0.0472	0.0374	0.0374
0.9400	0.3090	0.1821	0.0415	-0.0335	-0.0335	0.0483	0.0408	0.0408
0.9400	-0.3090	0.1821	0.0198	0.0135	0.0135	0.0653	0.0270	0.0270
1.6000	0.3090	0.1821	0.1253	-0.0083	-0.0083	0.0333	0.0251	0.0251
1.6000	-0.3090	0.1821	0.0468	-0.0097	-0.0097	0.0368	0.0175	0.0175
2.5900	0.3090	0.1821	0.1331	-0.0064	-0.0064	0.0255	0.0151	0.0151
2.5900	-0.3090	0.1821	0.0845	0.0052	0.0052	0.0373	0.0238	0.0238
3.2500	0.3090	0.1821	0.1170	-0.0009	-0.0009	0.0329	0.0174	0.0174
3.2500	-0.3090	0.1821	0.1083	-0.0093	-0.0093	0.0368	0.0178	0.0178

X m	Y m	Z m	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
4.1946	0.3090	0.1821	0.1304	-0.0039	-0.0039	0.0230	0.0110	0.0110
4.1946	-0.3090	0.1821	0.1386	-0.0178	-0.0178	0.0190	0.0109	0.0109
0.6700	0.1534	0.1955	0.2392	-0.0308	-0.0308	0.0876	0.0360	0.0360
0.6700	0.1574	0.1955	0.2358	-0.0293	-0.0293	0.0700	0.0405	0.0405
0.6700	0.1676	0.1955	0.2192	-0.0337	-0.0337	0.0888	0.0498	0.0498
0.6700	0.1896	0.1955	0.1691	-0.0344	-0.0344	0.0889	0.0527	0.0527
0.6700	0.2133	0.1955	0.1265	-0.0227	-0.0227	0.0896	0.0513	0.0513
0.6700	0.2625	0.1955	-0.0448	-0.0141	-0.0141	0.0501	0.0389	0.0389
0.6700	0.3090	0.1955	-0.0778	0.0127	0.0127	0.0334	0.0268	0.0268
0.6700	0.1429	0.1955	0.1816	-0.0406	0.0313	0.0979	0.0437	0.0468
0.6700	0.1302	0.1955	0.1856	-0.0181	0.0206	0.0949	0.0508	0.0337
0.6700	0.0787	0.1955	0.2337	-0.0123	0.0313	0.1118	0.0325	0.0271
0.6700	0.0273	0.1955	0.3362	0.0021	0.0136	0.0800	0.0239	0.0251
0.6700	-0.0242	0.1955	0.2242	-0.0081	0.0334	0.0943	0.0288	0.0203
0.6700	-0.0757	0.1955	0.3922	-0.0043	0.0246	0.0560	0.0199	0.0227
0.6700	-0.1271	0.1955	0.1624	0.0008	0.0424	0.1149	0.0472	0.0307
0.6700	-0.1398	0.1955	0.1675	0.0054	0.0512	0.1065	0.0532	0.0315
0.6700	-0.1534	0.1955	0.1754	-0.0152	-0.0152	0.0664	0.0340	0.0340
0.6700	-0.1574	0.1955	0.1663	-0.0081	-0.0081	0.0768	0.0310	0.0310
0.6700	-0.1676	0.1955	0.1658	-0.0054	-0.0054	0.0657	0.0403	0.0403
0.6700	-0.1896	0.1955	0.1281	0.0010	0.0010	0.0737	0.0416	0.0416
0.6700	-0.2133	0.1955	0.0763	0.0074	0.0074	0.0749	0.0402	0.0402
0.6700	-0.2625	0.1955	0.0819	0.0273	0.0273	0.0760	0.0460	0.0460
0.6700	-0.3090	0.1955	-0.0624	0.0253	0.0253	0.0854	0.0305	0.0305
0.9400	0.1534	0.1955	0.1805	-0.0254	-0.0254	0.0571	0.0251	0.0251
0.9400	0.1574	0.1955	0.1960	-0.0261	-0.0261	0.0631	0.0262	0.0262
0.9400	0.1676	0.1955	0.1788	-0.0290	-0.0290	0.0692	0.0309	0.0309
0.9400	0.1896	0.1955	0.1585	-0.0245	-0.0245	0.0591	0.0335	0.0335
0.9400	0.2133	0.1955	0.1734	-0.0413	-0.0413	0.0578	0.0327	0.0327
0.9400	0.2625	0.1955	0.0791	-0.0480	-0.0480	0.0669	0.0433	0.0433
0.9400	0.3090	0.1955	0.0418	-0.0362	-0.0362	0.0430	0.0430	0.0430
0.9400	0.1429	0.1955	0.1059	-0.0146	0.0295	0.0763	0.0436	0.0280
0.9400	0.1302	0.1955	0.0935	-0.0146	0.0289	0.0828	0.0417	0.0269
0.9400	0.0787	0.1955	0.2601	-0.0183	0.0346	0.0942	0.0301	0.0186
0.9400	0.0273	0.1955	0.2370	0.0040	0.0204	0.0952	0.0265	0.0181
0.9400	-0.0242	0.1955	0.2882	0.0004	0.0441	0.1098	0.0313	0.0181
0.9400	-0.0757	0.1955	0.2964	0.0139	0.0400	0.0903	0.0371	0.0261
0.9400	-0.1271	0.1955	0.1097	0.0076	0.0359	0.0760	0.0405	0.0249
0.9400	-0.1398	0.1955	0.0783	0.0118	0.0406	0.0723	0.0477	0.0258
0.9400	-0.1534	0.1955	0.1099	-0.0070	-0.0070	0.0639	0.0339	0.0339
0.9400	-0.1574	0.1955	0.1279	-0.0123	-0.0123	0.0611	0.0328	0.0328
0.9400	-0.1676	0.1955	0.0743	-0.0104	-0.0104	0.0653	0.0356	0.0356
0.9400	-0.1896	0.1955	0.0851	-0.0114	-0.0114	0.0638	0.0340	0.0340
0.9400	-0.2133	0.1955	0.0958	0.0027	0.0027	0.0637	0.0388	0.0388
0.9400	-0.2625	0.1955	0.0700	0.0205	0.0205	0.0648	0.0329	0.0329
0.9400	-0.3090	0.1955	0.0121	0.0069	0.0069	0.0295	0.0109	0.0109
1.6000	0.1534	0.1955	0.2128	-0.0189	-0.0189	0.0487	0.0271	0.0271
1.6000	0.1574	0.1955	0.2142	-0.0169	-0.0169	0.0554	0.0277	0.0277
1.6000	0.1676	0.1955	0.2092	-0.0187	-0.0187	0.0513	0.0264	0.0264
1.6000	0.1896	0.1955	0.1784	-0.0155	-0.0155	0.0429	0.0261	0.0261
1.6000	0.2133	0.1955	0.1597	-0.0182	-0.0182	0.0414	0.0227	0.0227
1.6000	0.2625	0.1955	0.1457	-0.0153	-0.0153	0.0328	0.0238	0.0238
1.6000	0.3090	0.1955	0.1062	-0.0077	-0.0077	0.0391	0.0200	0.0200
1.6000	0.1429	0.1955	0.1341	-0.0172	0.0168	0.0933	0.0514	0.0220

X m	Y m	Z m	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
1.6000	0.1302	0.1955	0.1899	-0.0216	0.0266	0.0953	0.0473	0.0229
1.6000	0.0787	0.1955	0.2402	-0.0081	0.0175	0.0915	0.0336	0.0283
1.6000	0.0273	0.1955	0.2294	0.0038	0.0331	0.1125	0.0291	0.0392
1.6000	-0.0242	0.1955	0.2589	0.0066	0.0208	0.1195	0.0318	0.0200
1.6000	-0.0757	0.1955	0.2442	0.0229	0.0219	0.0947	0.0484	0.0240
1.6000	-0.1271	0.1955	0.1128	0.0058	0.0243	0.0798	0.0566	0.0246
1.6000	-0.1398	0.1955	0.1023	0.0193	0.0234	0.0832	0.0619	0.0273
1.6000	-0.1534	0.1955	0.1421	-0.0031	-0.0031	0.0647	0.0284	0.0284
1.6000	-0.1574	0.1955	0.1713	0.0003	0.0003	0.0540	0.0278	0.0278
1.6000	-0.1676	0.1955	0.1605	-0.0043	-0.0043	0.0563	0.0294	0.0294
1.6000	-0.1896	0.1955	0.1320	-0.0012	-0.0012	0.0587	0.0232	0.0232
1.6000	-0.2133	0.1955	0.1195	0.0015	0.0015	0.0501	0.0255	0.0255
1.6000	-0.2625	0.1955	0.0775	-0.0052	-0.0052	0.0416	0.0204	0.0204
1.6000	-0.3090	0.1955	0.0328	0.0117	0.0117	0.0360	0.0205	0.0205
2.5900	0.1534	0.1955	0.2343	-0.0164	-0.0164	0.0366	0.0197	0.0197
2.5900	0.1574	0.1955	0.2131	-0.0178	-0.0178	0.0411	0.0265	0.0265
2.5900	0.1676	0.1955	0.1858	-0.0125	-0.0125	0.0414	0.0203	0.0203
2.5900	0.1896	0.1955	0.1935	-0.0125	-0.0125	0.0378	0.0229	0.0229
2.5900	0.2133	0.1955	0.1717	-0.0119	-0.0119	0.0374	0.0203	0.0203
2.5900	0.2625	0.1955	0.1508	-0.0152	-0.0152	0.0287	0.0181	0.0181
2.5900	0.3090	0.1955	0.1140	-0.0092	-0.0092	0.0271	0.0153	0.0153
2.5900	0.1429	0.1955	0.1957	0.0004	0.0223	0.0372	0.0285	0.0213
2.5900	0.1302	0.1955	0.1903	-0.0028	0.0227	0.0424	0.0302	0.0225
2.5900	0.0787	0.1955	0.2192	0.0083	0.0163	0.0583	0.0309	0.0212
2.5900	0.0273	0.1955	0.2211	0.0080	0.0182	0.0450	0.0317	0.0185
2.5900	-0.0242	0.1955	0.2251	0.0119	0.0210	0.0492	0.0331	0.0201
2.5900	-0.0757	0.1955	0.2057	0.0089	0.0191	0.0525	0.0348	0.0206
2.5900	-0.1271	0.1955	0.1814	0.0116	0.0217	0.0590	0.0339	0.0212
2.5900	-0.1398	0.1955	0.1784	0.0077	0.0290	0.0512	0.0415	0.0207
2.5900	-0.1534	0.1955	0.2073	-0.0103	-0.0103	0.0463	0.0207	0.0207
2.5900	-0.1574	0.1955	0.1717	-0.0077	-0.0077	0.0484	0.0222	0.0222
2.5900	-0.1676	0.1955	0.1679	-0.0062	-0.0062	0.0519	0.0257	0.0257
2.5900	-0.1896	0.1955	0.1704	-0.0033	-0.0033	0.0470	0.0229	0.0229
2.5900	-0.2133	0.1955	0.1423	-0.0008	-0.0008	0.0509	0.0210	0.0210
2.5900	-0.2625	0.1955	0.0762	0.0015	0.0015	0.0431	0.0212	0.0212
2.5900	-0.3090	0.1955	0.0750	0.0011	0.0011	0.0329	0.0194	0.0194
3.2500	0.1534	0.1955	0.1681	-0.0129	-0.0129	0.0295	0.0169	0.0169
3.2500	0.1574	0.1955	0.1952	-0.0115	-0.0115	0.0441	0.0118	0.0118
3.2500	0.1676	0.1955	0.1831	-0.0112	-0.0112	0.0324	0.0154	0.0154
3.2500	0.1896	0.1955	0.1688	-0.0078	-0.0078	0.0311	0.0156	0.0156
3.2500	0.2133	0.1955	0.1803	-0.0093	-0.0093	0.0275	0.0156	0.0156
3.2500	0.2625	0.1955	0.1357	-0.0067	-0.0067	0.0297	0.0200	0.0200
3.2500	0.3090	0.1955	0.1600	-0.0124	-0.0124	0.0331	0.0190	0.0190
3.2500	0.1429	0.1955	0.1777	0.0021	0.0089	0.0306	0.0228	0.0160
3.2500	0.1302	0.1955	0.1903	-0.0090	0.0130	0.0328	0.0263	0.0156
3.2500	0.0787	0.1955	0.1903	0.0005	0.0055	0.0321	0.0229	0.0185
3.2500	0.0273	0.1955	0.2072	0.0013	0.0051	0.0339	0.0273	0.0149
3.2500	-0.0242	0.1955	0.2050	0.0093	0.0186	0.0356	0.0269	0.0195
3.2500	-0.0757	0.1955	0.1809	0.0018	0.0236	0.0581	0.0313	0.0174
3.2500	-0.1271	0.1955	0.1756	0.0071	0.0176	0.0345	0.0301	0.0152
3.2500	-0.1398	0.1955	0.1715	0.0065	0.0178	0.0334	0.0262	0.0134
3.2500	-0.1534	0.1955	0.1689	-0.0086	-0.0086	0.0323	0.0169	0.0169
3.2500	-0.1574	0.1955	0.1658	-0.0133	-0.0133	0.0268	0.0163	0.0163
3.2500	-0.1676	0.1955	0.1677	-0.0094	-0.0094	0.0255	0.0152	0.0152

X m	Y m	Z m	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
3.2500	-0.1896	0.1955	0.1625	-0.0069	-0.0069	0.0280	0.0160	0.0160
3.2500	-0.2133	0.1955	0.1526	-0.0074	-0.0074	0.0342	0.0162	0.0162
3.2500	-0.2625	0.1955	0.1331	-0.0058	-0.0058	0.0257	0.0156	0.0156
3.2500	-0.3090	0.1955	0.1141	-0.0061	-0.0061	0.0231	0.0172	0.0172
4.1946	0.1534	0.1955	0.1771	-0.0087	-0.0087	0.0224	0.0134	0.0134
4.1946	0.1574	0.1955	0.1783	-0.0071	-0.0071	0.0239	0.0123	0.0123
4.1946	0.1676	0.1955	0.1744	-0.0091	-0.0091	0.0237	0.0140	0.0140
4.1946	0.1896	0.1955	0.1656	-0.0077	-0.0077	0.0225	0.0117	0.0117
4.1946	0.2133	0.1955	0.1646	-0.0071	-0.0071	0.0255	0.0138	0.0138
4.1946	0.2625	0.1955	0.1524	-0.0060	-0.0060	0.0167	0.0124	0.0124
4.1946	0.3090	0.1955	0.1210	-0.0017	-0.0017	0.0179	0.0112	0.0112
4.1946	0.1429	0.1955	0.1737	0.0019	0.0063	0.0231	0.0162	0.0140
4.1946	0.1302	0.1955	0.1705	0.0019	0.0058	0.0220	0.0183	0.0142
4.1946	0.0787	0.1955	0.1846	0.0030	0.0041	0.0200	0.0198	0.0134
4.1946	0.0273	0.1955	0.1785	0.0014	0.0111	0.0192	0.0197	0.0126
4.1946	-0.0242	0.1955	0.1880	0.0030	0.0135	0.0204	0.0197	0.0130
4.1946	-0.0757	0.1955	0.1787	0.0033	0.0108	0.0203	0.0191	0.0103
4.1946	-0.1271	0.1955	0.1769	0.0025	0.0073	0.0196	0.0192	0.0137
4.1946	-0.1398	0.1955	0.1684	-0.0008	0.0070	0.0179	0.0173	0.0125
4.1946	-0.1534	0.1955	0.1717	-0.0158	-0.0158	0.0218	0.0112	0.0112
4.1946	-0.1574	0.1955	0.1624	-0.0135	-0.0135	0.0200	0.0124	0.0124
4.1946	-0.1676	0.1955	0.1677	-0.0146	-0.0146	0.0216	0.0126	0.0126
4.1946	-0.1896	0.1955	0.1583	-0.0134	-0.0134	0.0220	0.0114	0.0114
4.1946	-0.2133	0.1955	0.1653	-0.0104	-0.0104	0.0264	0.0138	0.0138
4.1946	-0.2625	0.1955	0.1442	-0.0125	-0.0125	0.0217	0.0133	0.0133
4.1946	-0.3090	0.1955	0.1406	-0.0152	-0.0152	0.0196	0.0139	0.0139
0.6700	0.3479	0.2007	-0.0866	0.0088	0.0088	0.0363	0.0299	0.0299
0.6700	-0.3479	0.2007	-0.0964	-0.0037	-0.0037	0.0372	0.0260	0.0260
0.9400	0.3479	0.2007	0.0148	-0.0218	-0.0218	0.0672	0.0404	0.0404
0.9400	-0.3479	0.2007	0.0053	0.0123	0.0123	0.0578	0.0305	0.0305
1.6000	0.3479	0.2007	0.0754	-0.0037	-0.0037	0.0221	0.0181	0.0181
1.6000	-0.3479	0.2007	0.0351	-0.0094	-0.0094	0.0248	0.0196	0.0196
2.5900	0.3479	0.2007	0.0748	0.0052	0.0052	0.0218	0.0146	0.0146
2.5900	-0.3479	0.2007	0.0223	-0.0218	-0.0218	0.0227	0.0259	0.0259
3.2500	0.3479	0.2007	0.0961	-0.0028	-0.0028	0.0296	0.0188	0.0188
3.2500	-0.3479	0.2007	0.0986	-0.0165	-0.0165	0.0244	0.0135	0.0135
4.1946	0.3479	0.2007	0.0910	0.0012	0.0012	0.0174	0.0101	0.0101
4.1946	-0.3479	0.2007	0.0878	-0.0155	-0.0155	0.0211	0.0127	0.0127

Table A.4 Flow field data for the wedge transition (Q= 0.0193 m^3/s)

X [m]	**Y [m]**	**Z [m]**	**U-Mean [m/s]**	**V-Mean [m/s]**	**W-Mean [m/s]**	**U-RMS [m/s]**	**V-RMS [m/s]**	**W-RMS [m/s]**
-0.1650	0.0953	0.0050	0.3443	-0.0149	0.0055	0.0605	0.0236	0.0236
-0.1650	0.0826	0.0050	0.4042	0.0006	0.0002	0.0395	0.0254	0.0209
-0.1650	0.0699	0.0050	0.3917	-0.0137	-0.0040	0.0749	0.0255	0.0211
-0.1650	0.0445	0.0050	0.3761	-0.0116	0.0019	0.0396	0.0269	0.0175
-0.1650	0.0191	0.0050	0.2762	-0.0037	0.0023	0.0770	0.0277	0.0189
-0.1650	-0.0064	0.0050	0.3911	0.0123	0.0212	0.0453	0.0290	0.0208
-0.1650	-0.0318	0.0050	0.1000	0.0303	0.0235	0.0643	0.0309	0.0334
-0.1650	-0.0572	0.0050	0.2439	0.0108	0.0396	0.0795	0.0316	0.0206
-0.1650	-0.0826	0.0050	0.3808	0.0073	0.0390	0.0658	0.0286	0.0205
-0.1650	-0.0953	0.0050	0.0004	0.0322	0.0351	0.0056	0.0259	0.0180
0.6700	0.1426	0.0050	-0.0049	-0.0528	-0.0021	0.0676	0.0567	0.0083
0.6700	0.1236	0.0050	0.0014	-0.0328	0.0230	0.0141	0.0836	0.0374
0.6700	0.0741	0.0050	0.0010	-0.0222	-0.0034	0.0142	0.0485	0.0178
0.6700	0.0247	0.0050	0.0620	0.0358	0.0007	0.0164	0.0562	0.0197
0.6700	-0.0247	0.0050	0.0362	0.0483	-0.0359	0.0631	0.0631	0.0229
0.6700	-0.0742	0.0050	0.0752	0.0574	-0.0361	0.0820	0.0678	0.0116
0.6700	-0.1236	0.0050	0.0730	0.0406	0.0032	0.0671	0.0519	0.0152
0.6700	-0.1426	0.0050	0.2232	0.0086	0.0057	0.0969	0.0733	0.0134
0.9400	0.1426	0.0050	0.0039	-0.0688	-0.0110	0.0283	0.0499	0.0300
0.9400	0.1236	0.0050	0.0209	-0.0515	0.0062	0.0772	0.0668	0.0356
0.9400	0.0741	0.0050	0.0082	-0.0510	-0.0001	0.0361	0.0646	0.0265
0.9400	0.0247	0.0050	0.0165	-0.0292	-0.0036	0.0611	0.0712	0.0255
0.9400	-0.0247	0.0050	0.1679	-0.0192	-0.0117	0.1291	0.0683	0.0386
0.9400	-0.0742	0.0050	0.2333	0.0088	-0.0190	0.1198	0.0760	0.0259
0.9400	-0.1236	0.0050	0.0986	0.0216	0.0065	0.1140	0.0755	0.0166
0.9400	-0.1426	0.0050	0.0654	-0.0059	-0.0083	0.1257	0.0420	0.0148
1.6000	0.1426	0.0050	-0.0419	0.0206	-0.0075	0.1141	0.0601	0.0287
1.6000	0.1236	0.0050	-0.0192	-0.0014	-0.0061	0.1218	0.0753	0.0417
1.6000	0.0741	0.0050	0.0177	-0.0104	0.0122	0.0553	0.0651	0.0435
1.6000	0.0247	0.0050	0.0178	-0.0071	0.0089	0.0632	0.0714	0.0258
1.6000	-0.0247	0.0050	0.0716	-0.0132	0.0247	0.1218	0.0765	0.0689
1.6000	-0.0742	0.0050	0.0149	0.0131	0.0155	0.0662	0.0679	0.0375
1.6000	-0.1236	0.0050	0.0282	0.0095	0.0186	0.0919	0.0703	0.0200
1.6000	-0.1426	0.0050	0.2548	0.0149	-0.0025	0.0877	0.0570	0.0267
2.5900	0.1426	0.0050	0.0119	0.0147	0.0057	0.0440	0.0455	0.0269
2.5900	0.1236	0.0050	0.0282	0.0084	0.0195	0.0690	0.0430	0.0311
2.5900	0.0741	0.0050	0.0786	0.0009	-0.0045	0.0824	0.0658	0.0469
2.5900	0.0247	0.0050	0.0797	0.0112	0.0127	0.0980	0.0621	0.0554
2.5900	-0.0247	0.0050	0.0375	-0.0040	0.0159	0.0791	0.0638	0.0224
2.5900	-0.0742	0.0050	0.0184	0.0095	0.0064	0.0627	0.0482	0.0263
2.5900	-0.1236	0.0050	0.0979	0.0131	0.0074	0.1148	0.0565	0.0347
2.5900	-0.1426	0.0050	0.1310	0.0231	0.0010	0.1065	0.0538	0.0250
3.2500	0.1426	0.0050	0.0234	-0.0092	-0.0073	0.0598	0.1046	0.0229
3.2500	0.1236	0.0050	0.0555	0.0049	-0.0097	0.0909	0.0546	0.0186
3.2500	0.0741	0.0050	0.0160	0.0128	-0.0145	0.0535	0.0409	0.0559
3.2500	0.0247	0.0050	0.0301	0.0052	-0.0101	0.0680	0.0394	0.0573
3.2500	-0.0247	0.0050	0.0652	0.0193	0.0072	0.0826	0.0388	0.0169
3.2500	-0.0742	0.0050	0.1365	0.0036	0.0078	0.0559	0.0669	0.0165
3.2500	-0.1236	0.0050	0.1325	0.0039	-0.0115	0.0404	0.0173	0.0197
3.2500	-0.1426	0.0050	0.1349	0.0014	-0.0272	0.0351	0.0125	0.0164
4.1940	0.1426	0.0050	0.0597	0.0061	-0.0079	0.0694	0.0096	0.0141
4.1940	0.1236	0.0050	0.0996	0.0002	-0.0060	0.0465	0.0089	0.0098

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
4.1940	0.0741	0.0050	0.0860	-0.0006	-0.0230	0.0814	0.0288	0.0482
4.1940	0.0247	0.0050	0.0385	-0.0101	-0.0207	0.0850	0.0920	0.0520
4.1940	-0.0247	0.0050	0.0440	0.0194	0.0071	0.0815	0.0348	0.0142
4.1940	-0.0742	0.0050	0.0236	0.0216	0.0001	0.0652	0.0254	0.0162
4.1940	-0.1236	0.0050	0.0424	0.0253	-0.0430	0.0807	0.0198	0.0125
4.1940	-0.1426	0.0050	0.1205	0.0024	-0.0410	0.0464	0.0531	0.0227
-0.0700	0.0892	0.0050	0.1337	-0.0080	0.0023	0.0252	0.0882	0.0158
-0.0700	0.0637	0.0050	0.1296	0.0038	-0.0019	0.0256	0.0828	0.0167
-0.0700	0.0382	0.0050	0.1230	0.0038	-0.0072	0.0272	0.0974	0.0184
-0.0700	0.0127	0.0050	0.2055	-0.0078	-0.0035	0.0265	0.0912	0.0174
-0.0700	-0.0127	0.0050	0.0919	-0.0133	-0.0044	0.0225	0.0836	0.0187
-0.0700	-0.0382	0.0050	0.1023	-0.0123	-0.0025	0.0216	0.0824	0.0186
-0.0700	-0.0637	0.0050	0.1075	-0.0086	0.0018	0.0219	0.0783	0.0180
-0.0700	-0.0891	0.0050	0.0979	-0.0102	-0.0013	0.0237	0.1104	0.0120
0.0940	0.0947	0.0050	0.2476	0.0213	0.0155	0.0696	0.0340	0.0110
0.0940	0.0677	0.0050	0.3531	-0.0171	0.0278	0.0715	0.0915	0.0193
0.0940	0.0406	0.0050	0.3259	0.0614	0.0255	0.0491	0.0376	0.0187
0.0940	0.0135	0.0050	0.3487	0.0428	0.0318	0.0545	0.0301	0.0127
0.0940	-0.0135	0.0050	0.3457	-0.0062	0.0348	0.1069	0.0976	0.0111
0.0940	-0.0406	0.0050	0.3952	0.0529	-0.0050	0.0471	0.0310	0.0259
0.0940	-0.0677	0.0050	0.2714	0.0200	-0.0093	0.1016	0.0988	0.0142
0.0940	-0.0948	0.0050	0.1913	-0.0070	0.0074	0.1001	0.0968	0.0277
0.2990	0.1275	0.0050	0.0919	-0.0607	-0.0607	0.0512	0.0183	0.0183
0.2990	0.1115	0.0050	0.0504	0.0038	-0.0189	0.0472	0.0281	0.0646
0.2990	0.0797	0.0050	0.1194	0.0319	-0.0149	0.0676	0.0359	0.0622
0.2990	0.0478	0.0050	0.1521	0.0034	-0.0246	0.1015	0.0832	0.0611
0.2990	0.0159	0.0050	0.3394	0.1045	-0.0195	0.0544	0.0451	0.0580
0.2990	-0.0159	0.0050	0.3479	0.0908	-0.0215	0.0516	0.1277	0.0620
0.2990	-0.0478	0.0050	0.3840	0.0535	0.0193	0.0510	0.1203	0.0388
0.2990	-0.0796	0.0050	0.3713	0.1063	-0.0116	0.0523	0.0372	0.0538
0.2990	-0.1115	0.0050	0.3148	-0.0416	-0.0115	0.0699	0.0792	0.0563
0.2990	-0.1259	0.0050	0.2447	0.0128	0.0128	0.0682	0.0452	0.0452
0.5300	0.1468	0.0050	0.0600	-0.0249	-0.0249	0.0508	0.0312	0.0312
0.5300	0.1305	0.0050	0.0893	-0.0429	0.0136	0.0566	0.0544	0.0262
0.5300	0.0932	0.0050	0.1109	-0.0178	0.0087	0.0708	0.0644	0.0339
0.5300	0.0559	0.0050	0.1209	-0.0507	0.0482	0.0769	0.1638	0.0417
0.5300	0.0187	0.0050	0.2335	0.0779	0.0011	0.1136	0.0556	0.0515
0.5300	-0.0186	0.0050	0.1772	0.0782	-0.0012	0.1161	0.1178	0.0567
0.5300	-0.0558	0.0050	0.1424	0.1128	0.0041	0.1159	0.0568	0.0549
0.5300	-0.0931	0.0050	0.3151	0.0905	-0.0160	0.0613	0.0444	0.0674
0.5300	-0.1304	0.0050	0.2589	0.0671	-0.0058	0.0631	0.0439	0.0666
0.5300	-0.1600	0.0050	0.2504	0.0155	0.0155	0.0596	0.0435	0.0435
0.6700	0.1534	0.0050	0.0308	-0.0216	-0.0216	0.0639	0.0305	0.0305
0.6700	-0.1534	0.0050	0.2086	0.0098	0.0098	0.0537	0.0436	0.0436
0.9400	0.1534	0.0050	0.0178	-0.0309	-0.0309	0.0563	0.0377	0.0377
0.9400	-0.1534	0.0050	0.2244	0.0117	0.0117	0.0678	0.0472	0.0472
1.6000	0.1534	0.0050	-0.0746	-0.0079	-0.0079	0.0917	0.0422	0.0422
1.6000	-0.1534	0.0050	0.1935	0.0159	0.0159	0.0697	0.0433	0.0433
2.5900	0.1534	0.0050	0.0370	0.0192	0.0192	0.0638	0.0334	0.0334
2.5900	-0.1534	0.0050	0.1406	0.0057	0.0057	0.0597	0.0315	0.0315
3.2500	0.1534	0.0050	0.0659	0.0107	0.0107	0.0370	0.0191	0.0191
3.2500	-0.1534	0.0050	0.0971	0.0061	0.0061	0.0377	0.0183	0.0183
4.1940	0.1534	0.0050	0.0714	0.0128	0.0128	0.0234	0.0151	0.0151
4.1940	-0.1534	0.0050	0.0954	0.0043	0.0043	0.0334	0.0120	0.0120

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
-0.1650	0.0953	0.0152	0.3673	-0.0013	0.0063	0.0380	0.0288	0.0261
-0.1650	0.0826	0.0152	0.4444	0.0022	-0.0011	0.0302	0.0262	0.0197
-0.1650	0.0699	0.0152	0.4704	-0.0035	-0.0035	0.0299	0.0234	0.0185
-0.1650	0.0445	0.0152	0.4156	-0.0008	0.0078	0.0351	0.0257	0.0152
-0.1650	0.0191	0.0152	0.4242	0.0003	0.0039	0.0338	0.0281	0.0175
-0.1650	-0.0064	0.0152	0.4743	0.0077	0.0282	0.0291	0.0256	0.0190
-0.1650	-0.0318	0.0152	0.4542	0.0125	0.0269	0.0390	0.0251	0.0317
-0.1650	-0.0572	0.0152	0.4462	0.0097	0.0398	0.0336	0.0264	0.0180
-0.1650	-0.0826	0.0152	0.4498	0.0047	0.0397	0.0249	0.0238	0.0190
-0.1650	-0.0953	0.0152	0.3417	0.0077	0.0373	0.0723	0.0233	0.0171
0.6700	0.1426	0.0152	0.0375	-0.0453	-0.0192	0.0651	0.0643	0.0324
0.6700	0.1236	0.0152	0.0013	-0.0137	0.0206	0.0135	0.0417	0.0379
0.6700	0.0741	0.0152	0.0058	-0.0156	-0.0037	0.0341	0.0596	0.0177
0.6700	0.0247	0.0152	0.0940	0.0365	0.0001	0.0762	0.0665	0.0193
0.6700	-0.0247	0.0152	0.0724	0.0469	-0.0362	0.0794	0.0598	0.0234
0.6700	-0.0742	0.0152	0.2794	0.0458	-0.0363	0.0988	0.0541	0.0127
0.6700	-0.1236	0.0152	0.2949	0.0374	0.0032	0.0829	0.0437	0.0152
0.6700	-0.1426	0.0152	0.1945	0.0395	0.0001	0.0957	0.0450	0.0111
0.9400	0.1426	0.0152	0.0052	-0.0482	-0.0149	0.0599	0.0505	0.0271
0.9400	0.1236	0.0152	0.0241	-0.0498	0.0059	0.0734	0.0658	0.0365
0.9400	0.0741	0.0152	0.0773	-0.0555	-0.0007	0.1017	0.0743	0.0260
0.9400	0.0247	0.0152	0.1381	-0.0194	-0.0039	0.0907	0.0685	0.0251
0.9400	-0.0247	0.0152	0.1748	-0.0171	-0.0116	0.1145	0.0799	0.0385
0.9400	-0.0742	0.0152	0.2700	0.0005	-0.0185	0.0919	0.0659	0.0265
0.9400	-0.1236	0.0152	0.2606	0.0062	0.0065	0.0974	0.0576	0.0169
0.9400	-0.1426	0.0152	0.2545	0.0008	-0.0104	0.0796	0.0577	0.0144
1.6000	0.1426	0.0152	-0.0044	-0.0314	0.0060	0.1505	0.0514	0.0300
1.6000	0.1236	0.0152	-0.0017	-0.0076	-0.0062	0.0425	0.0657	0.0421
1.6000	0.0741	0.0152	0.0258	-0.0578	0.0111	0.0708	0.0618	0.0429
1.6000	0.0247	0.0152	0.1057	-0.0351	0.0082	0.1170	0.0632	0.0269
1.6000	-0.0247	0.0152	0.0213	-0.0286	0.0240	0.0773	0.0659	0.0689
1.6000	-0.0742	0.0152	0.1396	-0.0110	0.0148	0.1116	0.0657	0.0375
1.6000	-0.1236	0.0152	0.2823	-0.0125	0.0182	0.0934	0.0525	0.0200
1.6000	-0.1426	0.0152	0.2783	0.0025	-0.0068	0.0977	0.0564	0.0296
2.5900	0.1426	0.0152	0.0662	0.0086	-0.0053	0.0740	0.0483	0.0310
2.5900	0.1236	0.0152	0.0715	-0.0053	0.0177	0.0817	0.0503	0.0315
2.5900	0.0741	0.0152	0.0999	0.0057	-0.0038	0.0745	0.0649	0.0461
2.5900	0.0247	0.0152	0.1018	0.0137	0.0121	0.0746	0.0734	0.0539
2.5900	-0.0247	0.0152	0.1282	-0.0143	0.0157	0.1112	0.0595	0.0229
2.5900	-0.0742	0.0152	0.1487	0.0174	0.0066	0.0917	0.0597	0.0263
2.5900	-0.1236	0.0152	0.1904	0.0132	0.0072	0.0976	0.0473	0.0348
2.5900	-0.1426	0.0152	0.1120	0.0126	-0.0041	0.1258	0.0448	0.0320
3.2500	0.1426	0.0152	0.1047	0.0075	-0.0088	0.0761	0.0340	0.0242
3.2500	0.1236	0.0152	0.1258	0.0178	-0.0092	0.0987	0.0310	0.0192
3.2500	0.0741	0.0152	0.0550	0.0041	-0.0137	0.0850	0.0384	0.0548
3.2500	0.0247	0.0152	0.1305	0.0139	-0.0102	0.0688	0.0481	0.0560
3.2500	-0.0247	0.0152	0.1085	0.0211	0.0072	0.0840	0.0370	0.0171
3.2500	-0.0742	0.0152	0.1618	0.0191	0.0078	0.0441	0.0589	0.0166
3.2500	-0.1236	0.0152	0.1705	-0.0139	-0.0122	0.0478	0.1135	0.0201
3.2500	-0.1426	0.0152	0.1602	0.0096	-0.0214	0.0376	0.0325	0.0196
4.1940	0.1426	0.0152	0.1243	0.0035	-0.0009	0.0519	0.0260	0.0131
4.1940	0.1236	0.0152	0.1081	0.0133	-0.0059	0.0627	0.0227	0.0107
4.1940	0.0741	0.0152	0.1009	-0.0008	-0.0219	0.0787	0.0239	0.0477
4.1940	0.0247	0.0152	0.1040	0.0061	-0.0206	0.0706	0.0231	0.0515

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
4.1940	-0.0247	0.0152	0.1056	0.0087	0.0070	0.1108	0.0334	0.0143
4.1940	-0.0742	0.0152	0.1273	0.0159	0.0003	0.0892	0.0256	0.0160
4.1940	-0.1236	0.0152	0.1413	0.0023	-0.0429	0.0670	0.0228	0.0130
4.1940	-0.1426	0.0152	0.1284	0.0094	-0.0374	0.0411	0.0256	0.0276
-0.0700	0.0892	0.0152	0.2169	-0.0052	0.0032	0.0247	0.1162	0.0174
-0.0700	0.0637	0.0152	0.2560	-0.0025	-0.0009	0.0196	0.0967	0.0162
-0.0700	0.0382	0.0152	0.3506	0.0026	-0.0080	0.0231	0.0737	0.0171
-0.0700	0.0127	0.0152	0.2721	-0.0057	-0.0056	0.0236	0.0955	0.0176
-0.0700	-0.0127	0.0152	0.2875	-0.0099	-0.0024	0.0215	0.0955	0.0143
-0.0700	-0.0382	0.0152	0.1533	-0.0080	-0.0017	0.0175	0.0726	0.0171
-0.0700	-0.0637	0.0152	0.2911	-0.0013	0.0020	0.0161	0.0822	0.0173
-0.0700	-0.0891	0.0152	0.2436	-0.0033	-0.0052	0.0201	0.0906	0.0410
0.0940	0.0947	0.0152	0.2961	0.0158	0.0183	0.0743	0.0295	0.0199
0.0940	0.0677	0.0152	0.4332	0.0382	0.0299	0.0340	0.0263	0.0196
0.0940	0.0406	0.0152	0.3811	0.0393	0.0266	0.0386	0.0278	0.0189
0.0940	0.0135	0.0152	0.4171	0.0310	0.0326	0.0427	0.0295	0.0098
0.0940	-0.0135	0.0152	0.4390	0.0392	0.0376	0.0389	0.0309	0.0116
0.0940	-0.0406	0.0152	0.4589	0.0298	-0.0020	0.0362	0.0291	0.0229
0.0940	-0.0677	0.0152	0.4434	0.0517	-0.0095	0.0344	0.0285	0.0108
0.0940	-0.0948	0.0152	0.2389	0.0152	-0.0097	0.0994	0.0672	0.0172
0.2990	0.1275	0.0152	0.0682	0.0683	0.0683	0.0405	0.0155	0.0155
0.2990	0.1315	0.0152	0.0789	-0.0414	-0.0414	0.0414	0.0136	0.0136
0.2990	0.1115	0.0152	0.0725	0.0295	-0.0206	0.0647	0.0518	0.0615
0.2990	0.0797	0.0152	0.1628	0.0253	-0.0091	0.0753	0.0511	0.0605
0.2990	0.0478	0.0152	0.3519	0.0741	-0.0151	0.0855	0.0516	0.0640
0.2990	0.0159	0.0152	0.4035	0.0855	-0.0246	0.0445	0.0386	0.0555
0.2990	-0.0159	0.0152	0.4200	0.0833	-0.0198	0.0505	0.0329	0.0615
0.2990	-0.0478	0.0152	0.4482	0.0944	-0.0128	0.0490	0.0312	0.0507
0.2990	-0.0796	0.0152	0.4467	0.0852	-0.0063	0.0469	0.0320	0.0538
0.2990	-0.1115	0.0152	0.3793	0.0838	-0.0153	0.0715	0.0478	0.0546
0.2990	-0.1259	0.0152	0.3776	0.0310	0.0310	0.0682	0.0438	0.0438
0.2990	-0.1299	0.0152	0.2153	0.0228	0.0228	0.0594	0.0481	0.0481
0.5300	0.1468	0.0152	0.0775	-0.0800	-0.0800	0.0475	0.0238	0.0238
0.5300	0.1508	0.0152	0.0516	-0.0178	-0.0178	0.0695	0.0259	0.0259
0.5300	0.1305	0.0152	0.0639	0.0690	0.0198	0.0571	0.0319	0.0223
0.5300	0.0932	0.0152	0.1203	-0.0192	0.0158	0.0679	0.0751	0.0318
0.5300	0.0559	0.0152	0.1640	0.0377	0.0146	0.1000	0.0747	0.0377
0.5300	0.0187	0.0152	0.2694	0.0539	0.0053	0.1338	0.0634	0.0484
0.5300	-0.0186	0.0152	0.2281	0.0644	0.0028	0.1014	0.0629	0.0531
0.5300	-0.0558	0.0152	0.3795	0.0967	0.0039	0.0549	0.0338	0.0549
0.5300	-0.0931	0.0152	0.3646	0.0839	-0.0196	0.0532	0.0289	0.0591
0.5300	-0.1304	0.0152	0.3133	0.0803	-0.0058	0.0802	0.0513	0.0655
0.5300	-0.1600	0.0152	0.2708	0.0328	0.0328	0.0649	0.0411	0.0411
0.5300	-0.1640	0.0152	0.3082	0.0304	0.0304	0.0668	0.0352	0.0352
0.6700	0.1534	0.0152	0.0169	-0.0279	-0.0279	0.0815	0.0339	0.0339
0.6700	0.1574	0.0152	0.0302	-0.0141	-0.0141	0.0314	0.0303	0.0303
0.6700	-0.1534	0.0152	0.2443	0.0289	0.0289	0.0623	0.0377	0.0377
0.6700	-0.1574	0.0152	0.2338	0.0229	0.0229	0.0579	0.0403	0.0403
0.9400	0.1534	0.0152	0.0355	-0.0147	-0.0147	0.0464	0.0355	0.0355
0.9400	0.1574	0.0152	0.0199	-0.0260	-0.0260	0.0737	0.0364	0.0364
0.9400	-0.1534	0.0152	0.2611	0.0069	0.0069	0.0525	0.0386	0.0386
0.9400	-0.1574	0.0152	0.2478	0.0120	0.0120	0.0489	0.0357	0.0357
1.6000	0.1534	0.0152	-0.0282	-0.0049	-0.0049	0.0527	0.0370	0.0370
1.6000	0.1574	0.0152	-0.0075	-0.0205	-0.0205	0.0769	0.0427	0.0427

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
1.6000	-0.1534	0.0152	0.2534	0.0084	0.0084	0.0548	0.0342	0.0342
1.6000	-0.1574	0.0152	0.2450	-0.0014	-0.0014	0.0652	0.0469	0.0469
2.5900	0.1534	0.0152	0.0693	0.0150	0.0150	0.0512	0.0369	0.0369
2.5900	0.1574	0.0152	0.0128	0.0146	0.0146	0.0516	0.0326	0.0326
2.5900	-0.1534	0.0152	0.1629	0.0064	0.0064	0.0720	0.0348	0.0348
2.5900	-0.1574	0.0152	0.1362	0.0223	0.0223	0.0461	0.0362	0.0362
3.2500	0.1534	0.0152	0.0852	0.0155	0.0155	0.0427	0.0207	0.0207
3.2500	0.1574	0.0152	0.0784	0.0091	0.0091	0.0406	0.0246	0.0246
3.2500	-0.1534	0.0152	0.1179	0.0076	0.0076	0.0256	0.0227	0.0227
3.2500	-0.1574	0.0152	0.1268	0.0071	0.0071	0.0327	0.0242	0.0242
4.1940	0.1534	0.0152	0.1097	0.0162	0.0162	0.0334	0.0169	0.0169
4.1940	0.1574	0.0152	0.1073	0.0107	0.0107	0.0304	0.0165	0.0165
4.1940	-0.1534	0.0152	0.1336	0.0077	0.0077	0.0261	0.0158	0.0158
4.1940	-0.1574	0.0152	0.1317	0.0081	0.0081	0.0377	0.0163	0.0163
0.2990	-0.1401	0.0202	0.1764	0.0142	0.0142	0.0586	0.0507	0.0507
0.5300	-0.1742	0.0202	0.2424	0.0209	0.0209	0.0901	0.0524	0.0524
-0.0700	0.0892	0.0372	0.4032	0.0014	-0.0042	0.0239	0.0677	0.0145
-0.0700	0.0637	0.0372	0.4413	-0.0010	-0.0048	0.0188	0.0891	0.0140
-0.0700	0.0382	0.0372	0.4654	-0.0055	-0.0068	0.0186	0.0543	0.0150
-0.0700	0.0127	0.0372	0.4781	-0.0011	-0.0037	0.0165	0.0699	0.0134
-0.0700	-0.0127	0.0372	0.4868	0.0013	0.0007	0.0145	0.0656	0.0136
-0.0700	-0.0382	0.0372	0.4866	0.0047	0.0003	0.0128	0.0517	0.0264
-0.0700	-0.0637	0.0372	0.4774	0.0070	-0.0047	0.0136	0.0473	0.0136
-0.0700	-0.0891	0.0372	0.4558	0.0039	-0.0002	0.0174	0.0593	0.0047
0.0940	0.0947	0.0372	0.3651	0.0255	0.0257	0.0624	0.0284	0.0245
0.0940	0.0677	0.0372	0.4813	0.0295	0.0310	0.0267	0.0193	0.0183
0.0940	0.0406	0.0372	0.4551	0.0184	0.0297	0.0327	0.0282	0.0188
0.0940	0.0135	0.0372	0.4810	0.0335	0.0301	0.0351	0.0243	0.0189
0.0940	-0.0135	0.0372	0.5119	0.0370	0.0360	0.0267	0.0211	0.0126
0.0940	-0.0406	0.0372	0.5224	0.0447	0.0019	0.0242	0.0172	0.0251
0.0940	-0.0677	0.0372	0.4783	0.0312	-0.0099	0.0224	0.0170	0.0143
0.0940	-0.0948	0.0372	0.4181	0.0478	-0.0123	0.0475	0.0433	0.0118
0.2990	0.1275	0.0372	0.0293	0.0220	0.0220	0.0495	0.0237	0.0237
0.2990	0.1315	0.0372	0.0667	0.0540	0.0540	0.0574	0.0203	0.0203
0.2990	0.1417	0.0372	-0.0209	-0.0148	-0.0148	0.0049	0.0030	0.0030
0.2990	0.1115	0.0372	0.0456	0.0666	-0.0130	0.0698	0.0334	0.0612
0.2990	0.0797	0.0372	0.2103	0.0144	-0.0094	0.1024	0.0656	0.0691
0.2990	0.0478	0.0372	0.4512	0.0645	-0.0268	0.0475	0.0281	0.0594
0.2990	0.0159	0.0372	0.4671	0.0776	0.0081	0.0355	0.0259	0.0645
0.2990	-0.0159	0.0372	0.4882	0.0762	0.0154	0.0390	0.0237	0.0590
0.2990	-0.0478	0.0372	0.5070	0.0791	-0.0209	0.0339	0.0216	0.0535
0.2990	-0.0796	0.0372	0.5028	0.0853	-0.0199	0.0297	0.0201	0.0537
0.2990	-0.1115	0.0372	0.4371	0.0812	0.0058	0.0629	0.0470	0.0600
0.2990	-0.1259	0.0372	0.3819	0.0383	0.0383	0.1019	0.0465	0.0465
0.2990	-0.1299	0.0372	0.3354	0.0461	0.0461	0.0758	0.0439	0.0439
0.2990	-0.1401	0.0372	0.3175	0.0472	0.0472	0.1013	0.0519	0.0519
0.5300	0.1468	0.0372	0.0515	0.0179	0.0179	0.0531	0.0265	0.0265
0.5300	0.1508	0.0372	0.0243	0.0016	0.0016	0.0713	0.0314	0.0314
0.5300	0.1610	0.0372	0.0379	0.0233	0.0233	0.0563	0.0327	0.0327
0.5300	0.1305	0.0372	0.0179	0.0839	0.0160	0.0470	0.0428	0.0267
0.5300	0.0932	0.0372	0.0442	0.0170	0.0090	0.0639	0.0452	0.0337
0.5300	0.0559	0.0372	0.1945	0.0268	0.0312	0.1046	0.0605	0.0422
0.5300	0.0187	0.0372	0.4008	0.0684	0.0041	0.0969	0.0628	0.0514
0.5300	-0.0186	0.0372	0.4693	0.0842	0.0037	0.0562	0.0375	0.0603

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
0.5300	-0.0558	0.0372	0.4385	0.0803	0.0071	0.0403	0.0330	0.0470
0.5300	-0.0931	0.0372	0.4359	0.0903	-0.0181	0.0400	0.0212	0.0603
0.5300	-0.1304	0.0372	0.4076	0.0918	-0.0102	0.0561	0.0318	0.0629
0.5300	-0.1600	0.0372	0.4034	0.0538	0.0538	0.0603	0.0295	0.0295
0.5300	-0.1640	0.0372	0.3816	0.0518	0.0518	0.0665	0.0358	0.0358
0.5300	-0.1742	0.0372	0.3443	0.0507	0.0507	0.0710	0.0419	0.0419
0.6700	0.1534	0.0372	0.0433	-0.0714	-0.0714	0.0441	0.0470	0.0470
0.6700	0.1574	0.0372	0.0032	-0.0617	-0.0617	0.0681	0.0343	0.0343
0.6700	0.1676	0.0372	0.0008	-0.0402	-0.0402	0.0546	0.0395	0.0395
0.6700	-0.1534	0.0372	0.3229	0.0454	0.0454	0.0436	0.0272	0.0272
0.6700	-0.1574	0.0372	0.2699	0.0466	0.0466	0.0665	0.0292	0.0292
0.6700	-0.1676	0.0372	0.2622	0.0481	0.0481	0.0614	0.0329	0.0329
0.9400	0.1534	0.0372	0.0179	-0.0236	-0.0236	0.0697	0.0384	0.0384
0.9400	0.1574	0.0372	-0.0156	-0.0161	-0.0161	0.0567	0.0399	0.0399
0.9400	0.1676	0.0372	-0.0138	-0.0180	-0.0180	0.0709	0.0297	0.0297
0.9400	-0.1534	0.0372	0.2857	0.0058	0.0058	0.0656	0.0330	0.0330
0.9400	-0.1574	0.0372	0.3071	0.0119	0.0119	0.0574	0.0299	0.0299
0.9400	-0.1676	0.0372	0.2829	0.0111	0.0111	0.0657	0.0320	0.0320
1.6000	0.1534	0.0372	-0.0289	-0.0282	-0.0282	0.0551	0.0424	0.0424
1.6000	0.1574	0.0372	-0.0387	-0.0182	-0.0182	0.0443	0.0416	0.0416
1.6000	0.1676	0.0372	-0.0548	-0.0210	-0.0210	0.0698	0.0443	0.0443
1.6000	-0.1534	0.0372	0.2810	-0.0131	-0.0131	0.0685	0.0380	0.0380
1.6000	-0.1574	0.0372	0.2796	-0.0050	-0.0050	0.0587	0.0371	0.0371
1.6000	-0.1676	0.0372	0.2708	-0.0051	-0.0051	0.0624	0.0371	0.0371
2.5900	0.1534	0.0372	0.0266	0.0152	0.0152	0.0378	0.0333	0.0333
2.5900	0.1574	0.0372	0.0304	0.0050	0.0050	0.0643	0.0396	0.0396
2.5900	0.1676	0.0372	0.0130	0.0014	0.0014	0.0484	0.0305	0.0305
2.5900	-0.1534	0.0372	0.1895	-0.0030	-0.0030	0.0593	0.0378	0.0378
2.5900	-0.1574	0.0372	0.1949	-0.0123	-0.0123	0.0681	0.0317	0.0317
2.5900	-0.1676	0.0372	0.1959	0.0092	0.0092	0.0820	0.0373	0.0373
3.2500	0.1534	0.0372	0.1330	0.0063	0.0063	0.0383	0.0214	0.0214
3.2500	0.1574	0.0372	0.1077	0.0116	0.0116	0.0473	0.0228	0.0228
3.2500	0.1676	0.0372	0.0649	0.0095	0.0095	0.0287	0.0239	0.0239
3.2500	-0.1534	0.0372	0.1054	0.0158	0.0158	0.0330	0.0240	0.0240
3.2500	-0.1574	0.0372	0.1595	0.0089	0.0089	0.0367	0.0227	0.0227
3.2500	-0.1676	0.0372	0.1110	0.0055	0.0055	0.0222	0.0202	0.0202
4.1940	0.1534	0.0372	0.1319	0.0130	0.0130	0.0401	0.0167	0.0167
4.1940	0.1574	0.0372	0.1197	0.0090	0.0090	0.0225	0.0161	0.0161
4.1940	0.1676	0.0372	0.0814	0.0109	0.0109	0.0271	0.0171	0.0171
4.1940	-0.1534	0.0372	0.1300	0.0011	0.0011	0.0230	0.0184	0.0184
4.1940	-0.1574	0.0372	0.1307	0.0041	0.0041	0.0289	0.0201	0.0201
4.1940	-0.1676	0.0372	0.1194	0.0075	0.0075	0.0207	0.0210	0.0210
-0.1650	0.0953	0.0372	0.4047	0.0049	0.0029	0.0373	0.0292	0.0260
-0.1650	0.0826	0.0372	0.4863	0.0073	0.0029	0.0246	0.0230	0.0120
-0.1650	0.0699	0.0372	0.4880	0.0045	-0.0019	0.0208	0.0183	0.0152
-0.1650	0.0445	0.0372	0.5078	0.0014	0.0082	0.0315	0.0232	0.0158
-0.1650	0.0191	0.0372	0.4815	0.0080	0.0059	0.0260	0.0210	0.0179
-0.1650	-0.0064	0.0372	0.5248	0.0055	0.0333	0.0173	0.0181	0.0186
-0.1650	-0.0318	0.0372	0.5134	0.0038	0.0332	0.0176	0.0146	0.0341
-0.1650	-0.0572	0.0372	0.4895	-0.0012	0.0406	0.0214	0.0162	0.0161
-0.1650	-0.0826	0.0372	0.5008	-0.0017	0.0407	0.0176	0.0166	0.0168
-0.1650	-0.0953	0.0372	0.4368	0.0044	0.0364	0.0301	0.0213	0.0144
0.6700	0.1426	0.0372	-0.0055	0.0248	-0.0050	0.0590	0.0709	0.0320
0.6700	0.1236	0.0372	-0.0033	-0.0067	0.0163	0.0490	0.0704	0.0296

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
0.6700	0.0741	0.0372	0.0619	0.0081	-0.0046	0.0886	0.0636	0.0170
0.6700	0.0247	0.0372	0.1136	0.0220	-0.0011	0.0744	0.0679	0.0186
0.6700	-0.0247	0.0372	0.2731	0.0253	-0.0368	0.0912	0.0605	0.0246
0.6700	-0.0742	0.0372	0.3204	0.0500	-0.0352	0.1035	0.0438	0.0140
0.6700	-0.1236	0.0372	0.3848	0.0465	0.0040	0.0411	0.0260	0.0185
0.6700	-0.1426	0.0372	0.3805	0.0399	0.0115	0.0796	0.0352	0.0175
0.9400	0.1426	0.0372	0.0025	-0.0041	-0.0152	0.0638	0.0487	0.0342
0.9400	0.1236	0.0372	0.0252	-0.0164	0.0102	0.0683	0.0713	0.0328
0.9400	0.0741	0.0372	0.0571	-0.0290	-0.0030	0.0781	0.0775	0.0236
0.9400	0.0247	0.0372	0.1393	-0.0265	-0.0046	0.1013	0.0756	0.0241
0.9400	-0.0247	0.0372	0.2518	-0.0035	-0.0113	0.0883	0.0705	0.0385
0.9400	-0.0742	0.0372	0.3280	-0.0045	-0.0178	0.0724	0.0636	0.0309
0.9400	-0.1236	0.0372	0.3096	-0.0111	0.0055	0.0684	0.0455	0.0172
0.9400	-0.1426	0.0372	0.3155	-0.0050	-0.0014	0.0677	0.0473	0.0145
1.6000	0.1426	0.0372	-0.0563	-0.0127	-0.0141	0.0933	0.0583	0.0298
1.6000	0.1236	0.0372	0.0025	-0.0381	-0.0172	0.0925	0.0802	0.0495
1.6000	0.0741	0.0372	0.0753	-0.0431	0.0088	0.1079	0.0657	0.0434
1.6000	0.0247	0.0372	0.1666	-0.0430	0.0069	0.0979	0.0745	0.0290
1.6000	-0.0247	0.0372	0.0444	-0.0365	0.0225	0.1086	0.0687	0.0689
1.6000	-0.0742	0.0372	0.2918	-0.0210	0.0162	0.1066	0.0626	0.0376
1.6000	-0.1236	0.0372	0.3298	-0.0044	0.0083	0.0778	0.0613	0.0337
1.6000	-0.1426	0.0372	0.3378	0.0023	0.0079	0.0650	0.0529	0.0260
2.5900	0.1426	0.0372	0.0847	-0.0176	0.0085	0.0874	0.0586	0.0318
2.5900	0.1236	0.0372	0.0509	-0.0079	0.0103	0.0626	0.0626	0.0308
2.5900	0.0741	0.0372	0.1303	-0.0138	-0.0039	0.0846	0.0677	0.0455
2.5900	0.0247	0.0372	0.1276	-0.0129	0.0107	0.1153	0.0657	0.0508
2.5900	-0.0247	0.0372	0.1461	-0.0043	0.0152	0.0898	0.0646	0.0239
2.5900	-0.0742	0.0372	0.1928	-0.0156	0.0028	0.0953	0.0491	0.0277
2.5900	-0.1236	0.0372	0.2240	-0.0003	0.0122	0.0670	0.0447	0.0430
2.5900	-0.1426	0.0372	0.2125	-0.0061	0.0079	0.1105	0.0484	0.0249
3.2500	0.1426	0.0372	0.1198	0.0010	-0.0023	0.0370	0.0290	0.0246
3.2500	0.1236	0.0372	0.1468	0.0036	-0.0120	0.0513	0.0406	0.0292
3.2500	0.0741	0.0372	0.1524	0.0034	-0.0157	0.0458	0.0344	0.0510
3.2500	0.0247	0.0372	0.1392	0.0176	-0.0104	0.0551	0.0405	0.0532
3.2500	-0.0247	0.0372	0.1306	0.0068	0.0070	0.0506	0.0362	0.0175
3.2500	-0.0742	0.0372	0.1701	-0.0024	0.0078	0.0479	0.0352	0.0179
3.2500	-0.1236	0.0372	0.1672	0.0121	-0.0162	0.0434	0.0301	0.0230
3.2500	-0.1426	0.0372	0.1573	0.0200	-0.0289	0.0374	0.0322	0.0156
4.1940	0.1426	0.0372	0.1034	0.0019	-0.0160	0.0918	0.0262	0.0164
4.1940	0.1236	0.0372	0.1283	0.0049	-0.0026	0.0383	0.0287	0.0149
4.1940	0.0741	0.0372	0.1234	0.0135	-0.0216	0.0406	0.0286	0.0423
4.1940	0.0247	0.0372	0.1425	0.0076	-0.0203	0.0455	0.0272	0.0502
4.1940	-0.0247	0.0372	0.1582	0.0091	0.0068	0.0302	0.0257	0.0145
4.1940	-0.0742	0.0372	0.1418	0.0110	0.0019	0.0827	0.0283	0.0148
4.1940	-0.1236	0.0372	0.1588	0.0113	-0.0407	0.0308	0.0278	0.0169
4.1940	-0.1426	0.0372	0.1522	0.0171	-0.0390	0.0278	0.0232	0.0161
0.2990	-0.1621	0.0422	0.1881	0.0177	0.0177	0.0925	0.0629	0.0629
0.5300	-0.1962	0.0422	0.2331	0.0244	0.0244	0.1071	0.0511	0.0511
-0.0700	0.0892	0.0609	0.4278	-0.0008	-0.0089	0.0216	0.0405	0.0154
-0.0700	0.0637	0.0609	0.4840	-0.0031	-0.0069	0.0129	0.0446	0.0119
-0.0700	0.0382	0.0609	0.4910	-0.0039	-0.0052	0.0123	0.0585	0.0100
-0.0700	0.0127	0.0609	0.5015	-0.0005	-0.0007	0.0114	0.0231	0.0115
-0.0700	-0.0127	0.0609	0.4962	0.0009	0.0010	0.0147	0.0191	0.0149
-0.0700	-0.0382	0.0609	0.4834	0.0021	0.0045	0.0158	0.0370	0.0162

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
-0.0700	-0.0637	0.0609	0.4702	0.0055	-0.0087	0.0167	0.0219	0.0177
-0.0700	-0.0891	0.0609	0.4555	0.0031	-0.0050	0.0177	0.0339	0.0184
0.0940	0.0947	0.0609	0.4085	0.0253	0.0223	0.0501	0.0312	0.0263
0.0940	0.0677	0.0609	0.5014	0.0293	0.0298	0.0219	0.0185	0.0148
0.0940	0.0406	0.0609	0.5077	0.0227	0.0321	0.0232	0.0158	0.0156
0.0940	0.0135	0.0609	0.5205	0.0315	0.0337	0.0198	0.0132	0.0178
0.0940	-0.0135	0.0609	0.5286	0.0355	-0.0153	0.0186	0.0151	0.0232
0.0940	-0.0406	0.0609	0.5314	0.0500	-0.0041	0.0216	0.0164	0.0260
0.0940	-0.0677	0.0609	0.4878	0.0536	-0.0090	0.0180	0.0164	0.0140
0.0940	-0.0948	0.0609	0.4184	0.0396	-0.0155	0.0510	0.0367	0.0104
0.2990	0.1275	0.0609	0.0226	0.0625	0.0625	0.0589	0.0328	0.0328
0.2990	0.1315	0.0609	0.0324	0.0136	0.0136	0.0528	0.0217	0.0217
0.2990	0.1417	0.0609	-0.0316	0.0876	0.0876	0.0418	0.0191	0.0191
0.2990	0.1637	0.0609	-0.0085	0.0210	0.0210	0.0218	0.0127	0.0127
0.2990	0.1115	0.0609	0.0511	0.0082	0.0090	0.0679	0.0548	0.0616
0.2990	0.0797	0.0609	0.2578	0.0169	0.0174	0.1026	0.0598	0.0538
0.2990	0.0478	0.0609	0.4845	0.0559	0.0158	0.0362	0.0289	0.0548
0.2990	0.0159	0.0609	0.5067	0.0717	0.0146	0.0269	0.0229	0.0564
0.2990	-0.0159	0.0609	0.5301	0.0735	0.0129	0.0255	0.0176	0.0624
0.2990	-0.0478	0.0609	0.5367	0.0801	0.0154	0.0223	0.0197	0.0506
0.2990	-0.0796	0.0609	0.5092	0.0922	0.0011	0.0235	0.0220	0.0554
0.2990	-0.1115	0.0609	0.4721	0.1149	0.0012	0.0424	0.0290	0.0559
0.2990	-0.1259	0.0609	0.4544	0.0405	0.0405	0.0699	0.0411	0.0411
0.2990	-0.1299	0.0609	0.3714	0.0429	0.0429	0.0938	0.0551	0.0551
0.2990	-0.1401	0.0609	0.2949	0.0452	0.0452	0.1096	0.0614	0.0614
0.2990	-0.1621	0.0609	0.2339	0.0318	0.0318	0.1009	0.0554	0.0554
0.5300	0.1468	0.0609	-0.0141	0.0431	0.0431	0.0528	0.0287	0.0287
0.5300	0.1508	0.0609	-0.0456	0.0152	0.0152	0.0425	0.0338	0.0338
0.5300	0.1610	0.0609	-0.0131	0.0243	0.0243	0.0533	0.0367	0.0367
0.5300	0.1830	0.0609	-0.0131	0.0065	0.0647	0.0469	0.0347	0.0347
0.5300	0.1305	0.0609	0.0168	-0.0410	0.0107	0.0506	0.0343	0.0356
0.5300	0.0932	0.0609	0.0540	0.0056	0.0084	0.0899	0.0635	0.0364
0.5300	0.0559	0.0609	0.2372	0.0259	0.0070	0.1146	0.0532	0.0470
0.5300	0.0187	0.0609	0.3956	0.0538	0.0085	0.1111	0.0648	0.0503
0.5300	-0.0186	0.0609	0.4946	0.0878	0.0042	0.0514	0.0340	0.0507
0.5300	-0.0558	0.0609	0.4766	0.0901	-0.0041	0.0302	0.0229	0.0593
0.5300	-0.0931	0.0609	0.4585	0.0951	-0.0105	0.0258	0.0200	0.0596
0.5300	-0.1304	0.0609	0.4486	0.1037	-0.0043	0.0258	0.0222	0.0587
0.5300	-0.1600	0.0609	0.4584	0.0469	0.0469	0.0537	0.0227	0.0227
0.5300	-0.1640	0.0609	0.4358	0.0534	0.0534	0.0664	0.0413	0.0413
0.5300	-0.1742	0.0609	0.4351	0.0653	0.0653	0.0586	0.0302	0.0302
0.5300	-0.1962	0.0609	0.2716	0.0628	0.0628	0.0830	0.0532	0.0532
0.6700	0.1534	0.0609	-0.0228	-0.0982	-0.0982	0.0412	0.0327	0.0327
0.6700	0.1574	0.0609	-0.0279	-0.0808	-0.0808	0.0446	0.0347	0.0347
0.6700	0.1676	0.0609	-0.0351	0.0826	0.0826	0.0503	0.0453	0.0453
0.6700	0.1896	0.0609	-0.0479	-0.0186	-0.0186	0.0537	0.0371	0.0371
0.6700	-0.1534	0.0609	0.3693	0.0184	0.0184	0.0373	0.0246	0.0246
0.6700	-0.1574	0.0609	0.3577	0.0457	0.0457	0.0397	0.0221	0.0221
0.6700	-0.1676	0.0609	0.3608	0.0478	0.0478	0.0435	0.0303	0.0303
0.6700	-0.1896	0.0609	0.2575	0.0392	0.0392	0.0700	0.0365	0.0365
0.9400	0.1534	0.0609	-0.0119	-0.0863	-0.0863	0.0558	0.0437	0.0437
0.9400	0.1574	0.0609	-0.0216	-0.0123	-0.0123	0.0667	0.0371	0.0371
0.9400	0.1676	0.0609	-0.0087	-0.0016	-0.0016	0.0465	0.0324	0.0324
0.9400	0.1896	0.0609	-0.0161	-0.0318	-0.0318	0.0565	0.0402	0.0402

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
0.9400	-0.1534	0.0609	0.3382	0.0189	0.0189	0.0551	0.0262	0.0262
0.9400	-0.1574	0.0609	0.3331	0.0223	0.0223	0.0486	0.0274	0.0274
0.9400	-0.1676	0.0609	0.3269	0.0204	0.0204	0.0425	0.0280	0.0280
0.9400	-0.1896	0.0609	0.2861	0.0198	0.0198	0.0551	0.0320	0.0320
1.6000	0.1534	0.0609	-0.0174	-0.0346	-0.0346	0.0738	0.0433	0.0433
1.6000	0.1574	0.0609	-0.0018	-0.0301	-0.0301	0.0664	0.0520	0.0520
1.6000	0.1676	0.0609	-0.0006	-0.0361	-0.0361	0.0655	0.0514	0.0514
1.6000	0.1896	0.0609	-0.0226	-0.0343	-0.0343	0.0791	0.0437	0.0437
1.6000	-0.1534	0.0609	0.3140	-0.0114	-0.0114	0.0620	0.0281	0.0281
1.6000	-0.1574	0.0609	0.2999	-0.0077	-0.0077	0.0744	0.0332	0.0332
1.6000	-0.1676	0.0609	0.3232	-0.0030	-0.0030	0.0487	0.0322	0.0322
1.6000	-0.1896	0.0609	0.2982	-0.0192	-0.0192	0.0548	0.0353	0.0353
2.5900	0.1534	0.0609	0.0580	-0.0038	-0.0038	0.0751	0.0401	0.0401
2.5900	0.1574	0.0609	0.0973	-0.0103	-0.0103	0.0499	0.0374	0.0374
2.5900	0.1676	0.0609	0.0426	0.0004	0.0004	0.0465	0.0378	0.0378
2.5900	0.1896	0.0609	0.0987	0.0049	0.0049	0.0585	0.0396	0.0396
2.5900	-0.1534	0.0609	0.1893	-0.0141	-0.0141	0.1144	0.0364	0.0364
2.5900	-0.1574	0.0609	0.1766	-0.0047	-0.0047	0.0839	0.0330	0.0330
2.5900	-0.1676	0.0609	0.1627	-0.0133	-0.0133	0.0635	0.0382	0.0382
2.5900	-0.1896	0.0609	0.2433	-0.0085	-0.0085	0.0700	0.0316	0.0316
3.2500	0.1534	0.0609	0.1054	0.0039	0.0039	0.0407	0.0235	0.0235
3.2500	0.1574	0.0609	0.0993	0.0054	0.0054	0.0337	0.0230	0.0230
3.2500	0.1676	0.0609	0.0888	0.0092	0.0092	0.0364	0.0221	0.0221
3.2500	0.1896	0.0609	0.1146	0.0128	0.0128	0.0480	0.0251	0.0251
3.2500	-0.1534	0.0609	0.1568	-0.0026	-0.0026	0.0361	0.0209	0.0209
3.2500	-0.1574	0.0609	0.1503	0.0100	0.0100	0.0318	0.0232	0.0232
3.2500	-0.1676	0.0609	0.1391	0.0015	0.0015	0.0332	0.0230	0.0230
3.2500	-0.1896	0.0609	0.1238	0.0116	0.0116	0.0274	0.0246	0.0246
4.1940	0.1534	0.0609	0.1288	0.0115	0.0115	0.0199	0.0162	0.0162
4.1940	0.1574	0.0609	0.1273	0.0068	0.0068	0.0189	0.0169	0.0169
4.1940	0.1676	0.0609	0.1072	0.0109	0.0109	0.0289	0.0178	0.0178
4.1940	0.1896	0.0609	0.1239	0.0106	0.0106	0.0279	0.0156	0.0156
4.1940	-0.1534	0.0609	0.1536	-0.0015	-0.0015	0.0325	0.0165	0.0165
4.1940	-0.1574	0.0609	0.1445	-0.0080	-0.0080	0.0218	0.0202	0.0202
4.1940	-0.1676	0.0609	0.1389	0.0076	0.0076	0.0188	0.0187	0.0187
4.1940	-0.1896	0.0609	0.1336	0.0027	0.0027	0.0218	0.0151	0.0151
-0.1650	0.0953	0.0609	0.4228	0.0074	0.0023	0.0347	0.0277	0.0215
-0.1650	0.0826	0.0609	0.4838	0.0055	-0.0013	0.0258	0.0211	0.0123
-0.1650	0.0699	0.0609	0.5101	0.0049	0.0030	0.0222	0.0166	0.0093
-0.1650	0.0445	0.0609	0.5265	0.0061	0.0099	0.0199	0.0159	0.0158
-0.1650	0.0191	0.0609	0.5398	0.0066	0.0121	0.0109	0.0142	0.0212
-0.1650	-0.0064	0.0609	0.5342	0.0043	0.0428	0.0135	0.0140	0.0207
-0.1650	-0.0318	0.0609	0.5232	0.0044	0.0339	0.0138	0.0163	0.0338
-0.1650	-0.0572	0.0609	0.4811	-0.0002	0.0468	0.0258	0.0180	0.0125
-0.1650	-0.0826	0.0609	0.5014	-0.0076	0.0390	0.0193	0.0198	0.0122
-0.1650	-0.0953	0.0609	0.4504	0.0018	0.0319	0.0322	0.0204	0.0169
0.6700	0.1426	0.0609	-0.0209	0.0172	-0.0021	0.0498	0.0527	0.0253
0.6700	0.1236	0.0609	-0.0217	0.0332	-0.0054	0.0853	0.0652	0.0522
0.6700	0.0741	0.0609	0.0331	-0.0008	-0.0055	0.0870	0.0651	0.0173
0.6700	0.0247	0.0609	0.1257	0.0403	-0.0032	0.0613	0.0578	0.0178
0.6700	-0.0247	0.0609	0.3177	0.0199	-0.0357	0.0881	0.0698	0.0269
0.6700	-0.0742	0.0609	0.3854	0.0484	-0.0392	0.0402	0.0253	0.0170
0.6700	-0.1236	0.0609	0.4090	0.0622	0.0042	0.0413	0.0296	0.0117
0.6700	-0.1426	0.0609	0.4249	0.0591	0.0069	0.0515	0.0352	0.0123

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
0.9400	0.1426	0.0609	-0.0360	0.0097	0.0031	0.0631	0.0683	0.0356
0.9400	0.1236	0.0609	-0.0232	-0.0011	-0.0061	0.0690	0.0662	0.0505
0.9400	0.0741	0.0609	0.0357	0.0089	-0.0023	0.0805	0.0898	0.0253
0.9400	0.0247	0.0609	0.1564	-0.0200	-0.0055	0.0937	0.0823	0.0231
0.9400	-0.0247	0.0609	0.2805	-0.0186	-0.0076	0.0935	0.0599	0.0386
0.9400	-0.0742	0.0609	0.3574	-0.0034	-0.0177	0.0615	0.0490	0.0289
0.9400	-0.1236	0.0609	0.3688	0.0066	0.0082	0.0567	0.0421	0.0183
0.9400	-0.1426	0.0609	0.3690	0.0000	-0.0089	0.0475	0.0327	0.0178
1.6000	0.1426	0.0609	-0.0183	-0.0127	-0.0167	0.0915	0.0661	0.0363
1.6000	0.1236	0.0609	0.0505	-0.0622	0.0067	0.0837	0.0876	0.0359
1.6000	0.0741	0.0609	0.0696	-0.0710	0.0062	0.1097	0.0842	0.0365
1.6000	0.0247	0.0609	0.1552	-0.0192	0.0084	0.0884	0.0959	0.0340
1.6000	-0.0247	0.0609	0.2271	-0.0232	0.0165	0.1136	0.0735	0.0364
1.6000	-0.0742	0.0609	0.3212	-0.0173	0.0120	0.0855	0.0604	0.0535
1.6000	-0.1236	0.0609	0.3758	-0.0023	0.0227	0.0649	0.0490	0.0213
1.6000	-0.1426	0.0609	0.3626	-0.0062	0.0081	0.0670	0.0489	0.0201
2.5900	0.1426	0.0609	0.1121	-0.0388	0.0085	0.0609	0.0612	0.0385
2.5900	0.1236	0.0609	0.0794	-0.0055	0.0121	0.0632	0.0593	0.0383
2.5900	0.0741	0.0609	0.1605	-0.0350	0.0038	0.0731	0.0624	0.0401
2.5900	0.0247	0.0609	0.1572	-0.0327	0.0121	0.1009	0.0612	0.0446
2.5900	-0.0247	0.0609	0.1985	-0.0238	0.0130	0.0746	0.0518	0.0265
2.5900	-0.0742	0.0609	0.2037	-0.0168	0.0128	0.0808	0.0464	0.0249
2.5900	-0.1236	0.0609	0.2331	-0.0139	-0.0017	0.0765	0.0448	0.0261
2.5900	-0.1426	0.0609	0.2434	-0.0069	0.0048	0.0692	0.0453	0.0242
3.2500	0.1426	0.0609	0.1283	-0.0193	-0.0106	0.0403	0.0400	0.0184
3.2500	0.1236	0.0609	0.1538	-0.0039	-0.0065	0.0394	0.0459	0.0136
3.2500	0.0741	0.0609	0.1524	-0.0066	-0.0056	0.0394	0.0430	0.0518
3.2500	0.0247	0.0609	0.1636	-0.0080	-0.0098	0.0407	0.0329	0.0484
3.2500	-0.0247	0.0609	0.1582	-0.0001	0.0040	0.0524	0.0327	0.0193
3.2500	-0.0742	0.0609	0.1655	0.0110	0.0087	0.0376	0.0375	0.0196
3.2500	-0.1236	0.0609	0.1908	0.0053	-0.0131	0.0455	0.0331	0.0220
3.2500	-0.1426	0.0609	0.1747	0.0043	-0.0329	0.0450	0.0289	0.0191
4.1940	0.1426	0.0609	0.1385	0.0094	-0.0072	0.0495	0.0229	0.0140
4.1940	0.1236	0.0609	0.1322	0.0073	-0.0112	0.0344	0.0209	0.0122
4.1940	0.0741	0.0609	0.1366	-0.0069	-0.0193	0.0291	0.0297	0.0457
4.1940	0.0247	0.0609	0.1553	0.0012	-0.0208	0.0348	0.0318	0.0497
4.1940	-0.0247	0.0609	0.1604	0.0013	0.0055	0.0325	0.0262	0.0157
4.1940	-0.0742	0.0609	0.1579	0.0094	0.0001	0.0381	0.0244	0.0163
4.1940	-0.1236	0.0609	0.1548	0.0090	-0.0428	0.0300	0.0254	0.0180
4.1940	-0.1426	0.0609	0.1485	0.0118	-0.0459	0.0299	0.0229	0.0211
0.2990	-0.1858	0.0659	0.1259	0.0275	0.0275	0.0968	0.0572	0.0572
0.5300	-0.2042	0.0659	0.2222	0.0557	0.0557	0.1028	0.0587	0.0587
0.0940	0.1134	0.0828	0.0235	0.0349	0.0349	0.0462	0.0483	0.0342
0.0940	0.1325	0.0828	-0.0623	0.0053	0.0053	0.0865	0.0653	0.0462
0.0940	-0.0988	0.0828	0.0429	0.0003	0.0003	0.0068	0.0064	0.0045
0.0940	-0.1179	0.0828	0.0491	0.0091	0.0091	0.0562	0.0320	0.0227
0.0940	0.1134	0.1019	0.0492	0.0456	0.0456	0.0457	0.0483	0.0342
0.0940	0.1325	0.1019	-0.0941	0.1009	0.1009	0.0958	0.0370	0.0261
0.0940	-0.0988	0.1019	0.0530	-0.0199	-0.0199	0.0227	0.0233	0.0165
0.0940	-0.1179	0.1019	0.0515	-0.0264	-0.0264	0.0229	0.0239	0.0169
-0.1650	0.0953	0.1101	0.4117	0.0092	-0.0135	0.0375	0.0267	0.0248
-0.1650	0.0826	0.1101	0.4809	0.0026	-0.0028	0.0272	0.0233	0.0167
-0.1650	0.0699	0.1101	0.4922	0.0027	0.0033	0.0237	0.0197	0.0088
-0.1650	0.0445	0.1101	0.5213	0.0020	0.0039	0.0173	0.0170	0.0178

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
-0.1650	0.0191	0.1101	0.5384	0.0042	0.0097	0.0126	0.0139	0.0246
-0.1650	-0.0064	0.1101	0.5276	0.0090	0.0435	0.0143	0.0161	0.0232
-0.1650	-0.0318	0.1101	0.5087	0.0131	0.0369	0.0240	0.0209	0.0304
-0.1650	-0.0572	0.1101	0.5132	0.0155	0.0457	0.0186	0.0220	0.0135
-0.1650	-0.0826	0.1101	0.4984	0.0148	0.0394	0.0675	0.0216	0.0106
-0.1650	-0.0953	0.1101	0.4233	0.0087	0.0307	0.0343	0.0230	0.0169
0.6700	0.1426	0.1101	-0.0635	0.0155	0.0105	0.0502	0.0511	0.0373
0.6700	0.1236	0.1101	-0.0593	0.0162	0.0121	0.0641	0.0626	0.0330
0.6700	0.0741	0.1101	0.0101	0.0164	-0.0053	0.0736	0.0759	0.0168
0.6700	0.0247	0.1101	0.1106	0.0231	-0.0046	0.0732	0.0699	0.0160
0.6700	-0.0247	0.1101	0.3604	0.0350	-0.0443	0.0876	0.0516	0.0254
0.6700	-0.0742	0.1101	0.4124	0.0560	-0.0396	0.0534	0.0269	0.0256
0.6700	-0.1236	0.1101	0.4107	0.0279	0.0016	0.0452	0.0321	0.0134
0.6700	-0.1426	0.1101	0.4136	0.0675	0.0069	0.0547	0.0401	0.0116
0.9400	0.1426	0.1101	-0.0693	0.0482	0.0138	0.0522	0.0539	0.0297
0.9400	0.1236	0.1101	-0.0569	0.0450	0.0123	0.0471	0.0601	0.0407
0.9400	0.0741	0.1101	-0.0049	0.0331	-0.0056	0.0728	0.0709	0.0219
0.9400	0.0247	0.1101	0.1363	-0.0196	-0.0061	0.1120	0.0806	0.0214
0.9400	-0.0247	0.1101	0.2686	-0.0046	-0.0156	0.0979	0.0679	0.0378
0.9400	-0.0742	0.1101	0.3745	0.0054	-0.0111	0.0654	0.0426	0.0279
0.9400	-0.1236	0.1101	0.3983	0.0165	0.0074	0.0374	0.0307	0.0200
0.9400	-0.1426	0.1101	0.3934	0.0200	0.0008	0.0341	0.0302	0.0195
1.6000	0.1426	0.1101	-0.0258	0.0194	-0.0062	0.0901	0.0859	0.0354
1.6000	0.1236	0.1101	0.0051	0.0007	-0.0121	0.0866	0.0768	0.0456
1.6000	0.0741	0.1101	0.1064	-0.0490	0.0019	0.0887	0.0953	0.0390
1.6000	0.0247	0.1101	0.1914	-0.0291	0.0007	0.0964	0.0918	0.0371
1.6000	-0.0247	0.1101	0.2457	-0.0397	0.0259	0.0894	0.0701	0.0484
1.6000	-0.0742	0.1101	0.3387	-0.0167	0.0032	0.0839	0.0621	0.0467
1.6000	-0.1236	0.1101	0.3840	-0.0053	0.0176	0.0718	0.0506	0.0222
1.6000	-0.1426	0.1101	0.4110	0.0171	-0.0003	0.0526	0.0426	0.0297
2.5900	0.1426	0.1101	0.0999	-0.0329	0.0103	0.0578	0.0532	0.0347
2.5900	0.1236	0.1101	0.1243	-0.0525	0.0072	0.0691	0.0706	0.0339
2.5900	0.0741	0.1101	0.1810	-0.0433	-0.0052	0.0717	0.0627	0.0405
2.5900	0.0247	0.1101	0.2020	-0.0306	0.0021	0.0648	0.0583	0.0424
2.5900	-0.0247	0.1101	0.2203	-0.0260	0.0144	0.0618	0.0473	0.0256
2.5900	-0.0742	0.1101	0.2364	-0.0215	0.0111	0.0623	0.0477	0.0243
2.5900	-0.1236	0.1101	0.2693	-0.0229	0.0086	0.0559	0.0445	0.0354
2.5900	-0.1426	0.1101	0.2723	-0.0133	0.0105	0.0634	0.0463	0.0276
3.2500	0.1426	0.1101	0.1416	-0.0193	0.0017	0.0383	0.0400	0.0183
3.2500	0.1236	0.1101	0.1572	-0.0059	0.0047	0.0414	0.0425	0.0197
3.2500	0.0741	0.1101	0.1678	-0.0123	-0.0058	0.0416	0.0438	0.0446
3.2500	0.0247	0.1101	0.1738	-0.0194	-0.0123	0.0425	0.0387	0.0481
3.2500	-0.0247	0.1101	0.1728	-0.0080	0.0114	0.0439	0.0333	0.0177
3.2500	-0.0742	0.1101	0.1902	-0.0012	0.0055	0.0411	0.0342	0.0136
3.2500	-0.1236	0.1101	0.2068	0.0021	-0.0188	0.0480	0.0281	0.0218
3.2500	-0.1426	0.1101	0.1976	0.0033	-0.0206	0.0433	0.0261	0.0219
4.1940	0.1426	0.1101	0.1451	-0.0046	-0.0018	0.0308	0.0256	0.0159
4.1940	0.1236	0.1101	0.1400	-0.0051	-0.0036	0.0307	0.0303	0.0212
4.1940	0.0741	0.1101	0.1392	-0.0032	-0.0074	0.0319	0.0284	0.0504
4.1940	0.0247	0.1101	0.1578	0.0022	-0.0177	0.0329	0.0231	0.0433
4.1940	-0.0247	0.1101	0.1657	0.0041	0.0079	0.0287	0.0315	0.0130
4.1940	-0.0742	0.1101	0.1667	0.0011	0.0041	0.0307	0.0274	0.0149
4.1940	-0.1236	0.1101	0.1626	0.0054	-0.0438	0.0435	0.0234	0.0109
4.1940	-0.1426	0.1101	0.1587	0.0028	-0.0541	0.0394	0.0269	0.0155

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
-0.0700	0.0892	0.1101	0.4179	0.0007	-0.0140	0.0222	0.0399	0.0185
-0.0700	0.0637	0.1101	0.4748	-0.0011	-0.0084	0.0161	0.0340	0.0144
-0.0700	0.0382	0.1101	0.4945	-0.0008	-0.0019	0.0128	0.0188	0.0118
-0.0700	0.0127	0.1101	0.5020	-0.0019	0.0018	0.0115	0.0165	0.0117
-0.0700	-0.0127	0.1101	0.5004	0.0008	-0.0032	0.0119	0.0125	0.0162
-0.0700	-0.0382	0.1101	0.4860	-0.0012	0.0059	0.0164	0.0280	0.0192
-0.0700	-0.0637	0.1101	0.4529	-0.0107	-0.0003	0.0212	0.0297	0.0244
-0.0700	-0.0891	0.1101	0.3999	-0.0088	-0.0009	0.0214	0.0557	0.0089
0.0940	0.0947	0.1101	0.4089	0.0290	0.0337	0.0531	0.0431	0.0265
0.0940	0.0677	0.1101	0.5069	0.0295	0.0272	0.0236	0.0180	0.0169
0.0940	0.0406	0.1101	0.5144	0.0323	0.0300	0.0186	0.0152	0.0138
0.0940	0.0135	0.1101	0.5313	0.0370	0.0360	0.0142	0.0152	0.0158
0.0940	-0.0135	0.1101	0.5286	0.0350	-0.0139	0.0195	0.0168	0.0242
0.0940	-0.0406	0.1101	0.5105	0.0328	-0.0099	0.0269	0.0226	0.0201
0.0940	-0.0677	0.1101	0.4464	0.0299	-0.0117	0.0290	0.0219	0.0187
0.0940	-0.0948	0.1101	0.3481	0.0302	-0.0166	0.0765	0.0508	0.0107
0.2990	0.1874	0.1101	-0.0288	0.0833	0.0833	0.0351	0.0166	0.0166
0.2990	0.1115	0.1101	0.0550	0.0084	0.0103	0.0866	0.0700	0.0576
0.2990	0.0797	0.1101	0.2563	0.0119	0.0016	0.1166	0.0635	0.0595
0.2990	0.0478	0.1101	0.4578	0.0612	0.0066	0.0635	0.0444	0.0570
0.2990	0.0159	0.1101	0.5164	0.0784	0.0076	0.0273	0.0255	0.0583
0.2990	-0.0159	0.1101	0.5394	0.0782	0.0090	0.0178	0.0175	0.0582
0.2990	-0.0478	0.1101	0.5334	0.0828	0.0059	0.0286	0.0242	0.0502
0.2990	-0.0796	0.1101	0.4979	0.0887	0.0145	0.0344	0.0378	0.0536
0.2990	-0.1115	0.1101	0.4244	0.0879	0.0036	0.0751	0.0569	0.0526
0.2990	-0.1299	0.1101	0.3944	0.0436	0.0436	0.0942	0.0557	0.0557
0.2990	-0.1621	0.1101	0.1610	0.0264	0.0264	0.0647	0.0559	0.0559
0.2990	-0.1858	0.1101	0.1057	0.0431	0.0431	0.0987	0.0686	0.0686
0.5300	0.1830	0.1101	-0.0781	0.0504	0.0504	0.0434	0.0508	0.0508
0.5300	0.2067	0.1101	-0.0682	0.0117	0.0117	0.0469	0.0269	0.0269
0.5300	0.1305	0.1101	-0.0622	0.0240	0.0106	0.0422	0.0323	0.0331
0.5300	0.0932	0.1101	0.0254	0.0163	0.0084	0.0952	0.0520	0.0382
0.5300	0.0559	0.1101	0.1779	0.0252	0.0586	0.1243	0.0704	0.0472
0.5300	0.0187	0.1101	0.4291	0.0565	0.0068	0.1002	0.0639	0.0525
0.5300	-0.0186	0.1101	0.4880	0.0862	0.0096	0.0602	0.0439	0.0487
0.5300	-0.0558	0.1101	0.4864	0.0982	0.0078	0.0275	0.0242	0.0585
0.5300	-0.0931	0.1101	0.4646	0.1063	-0.0058	0.0280	0.0257	0.0463
0.5300	-0.1304	0.1101	0.4255	0.1194	-0.0011	0.0502	0.0423	0.0577
0.5300	-0.1600	0.1101	0.4107	0.0378	0.0378	0.1474	0.0464	0.0464
0.5300	-0.1640	0.1101	0.4089	0.1010	0.1010	0.0510	0.0385	0.0385
0.5300	-0.1742	0.1101	0.4133	0.0521	0.0521	0.0753	0.0304	0.0304
0.5300	-0.1962	0.1101	0.3654	0.0869	0.0869	0.0775	0.0571	0.0571
0.5300	-0.2042	0.1101	0.2991	0.0819	0.0819	0.0855	0.0539	0.0539
0.6700	0.1534	0.1101	-0.0552	0.0145	0.0145	0.0450	0.0235	0.0235
0.6700	0.1574	0.1101	-0.0671	0.0143	0.0143	0.0494	0.0321	0.0321
0.6700	0.1676	0.1101	-0.0736	0.0111	0.0111	0.0544	0.0314	0.0314
0.6700	0.1896	0.1101	-0.0170	0.0650	0.0650	0.0398	0.0327	0.0327
0.6700	0.2133	0.1101	-0.0966	0.0460	0.0460	0.0734	0.0361	0.0361
0.6700	-0.1534	0.1101	0.3614	0.0227	0.0227	0.0400	0.0222	0.0222
0.6700	-0.1574	0.1101	0.3638	0.0356	0.0356	0.0563	0.0292	0.0292
0.6700	-0.1676	0.1101	0.3475	0.0462	0.0462	0.0512	0.0350	0.0350
0.6700	-0.1896	0.1101	0.3632	0.0466	0.0466	0.0583	0.0346	0.0346
0.6700	-0.2133	0.1101	0.3160	0.0468	0.0468	0.0588	0.0462	0.0462
0.9400	0.1534	0.1101	-0.0617	-0.0594	-0.0594	0.0567	0.0332	0.0332

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
0.9400	0.1574	0.1101	-0.0919	0.0016	0.0016	0.0451	0.0410	0.0410
0.9400	0.1676	0.1101	-0.0655	-0.0006	-0.0006	0.0405	0.0333	0.0333
0.9400	0.1896	0.1101	-0.0567	-0.0044	-0.0044	0.0677	0.0325	0.0325
0.9400	0.2133	0.1101	-0.0798	-0.0014	-0.0014	0.0474	0.0375	0.0375
0.9400	-0.1534	0.1101	0.3896	0.0269	0.0269	0.0275	0.0238	0.0238
0.9400	-0.1574	0.1101	0.3924	0.0291	0.0291	0.0284	0.0203	0.0203
0.9400	-0.1676	0.1101	0.3778	0.0298	0.0298	0.0290	0.0206	0.0206
0.9400	-0.1896	0.1101	0.3637	0.0404	0.0404	0.0398	0.0246	0.0246
0.9400	-0.2133	0.1101	0.3493	0.0275	0.0275	0.0425	0.0319	0.0319
1.6000	0.1534	0.1101	0.0197	-0.0366	-0.0366	0.0714	0.0515	0.0515
1.6000	0.1574	0.1101	-0.0354	-0.0100	-0.0100	0.0432	0.0463	0.0463
1.6000	0.1676	0.1101	-0.0376	-0.0136	-0.0136	0.0717	0.0550	0.0550
1.6000	0.1896	0.1101	-0.0419	-0.0141	-0.0141	0.0553	0.0442	0.0442
1.6000	0.2133	0.1101	-0.0281	-0.0128	-0.0128	0.0544	0.0388	0.0388
1.6000	-0.1534	0.1101	0.3718	-0.0042	-0.0042	0.0471	0.0234	0.0234
1.6000	-0.1574	0.1101	0.3629	-0.0096	-0.0096	0.0436	0.0272	0.0272
1.6000	-0.1676	0.1101	0.3562	-0.0022	-0.0022	0.0500	0.0240	0.0240
1.6000	-0.1896	0.1101	0.3461	-0.0015	-0.0015	0.0562	0.0288	0.0288
1.6000	-0.2133	0.1101	0.3459	-0.0008	-0.0008	0.0412	0.0326	0.0326
2.5900	0.1534	0.1101	0.0828	-0.0177	-0.0177	0.0541	0.0414	0.0414
2.5900	0.1574	0.1101	0.0874	-0.0216	-0.0216	0.0711	0.0431	0.0431
2.5900	0.1676	0.1101	0.1027	-0.0221	-0.0221	0.0522	0.0379	0.0379
2.5900	0.1896	0.1101	0.1474	-0.0068	-0.0068	0.0541	0.0366	0.0366
2.5900	0.2133	0.1101	0.0119	-0.0246	-0.0246	0.0524	0.0386	0.0386
2.5900	-0.1534	0.1101	0.2488	-0.0096	-0.0096	0.0460	0.0308	0.0308
2.5900	-0.1574	0.1101	0.2856	-0.0074	-0.0074	0.0434	0.0268	0.0268
2.5900	-0.1676	0.1101	0.2676	-0.0094	-0.0094	0.0421	0.0242	0.0242
2.5900	-0.1896	0.1101	0.2753	-0.0150	-0.0150	0.0436	0.0258	0.0258
2.5900	-0.2133	0.1101	0.2432	-0.0109	-0.0109	0.0500	0.0296	0.0296
3.2500	0.1534	0.1101	0.1146	-0.0029	-0.0029	0.0354	0.0292	0.0292
3.2500	0.1574	0.1101	0.1066	-0.0006	-0.0006	0.0290	0.0256	0.0256
3.2500	0.1676	0.1101	0.1189	0.0068	0.0068	0.0434	0.0248	0.0248
3.2500	0.1896	0.1101	0.1146	0.0025	0.0025	0.0350	0.0237	0.0237
3.2500	0.2133	0.1101	0.0873	-0.0013	-0.0013	0.0478	0.0226	0.0226
3.2500	-0.1534	0.1101	0.1537	0.0001	0.0001	0.0363	0.0224	0.0224
3.2500	-0.1574	0.1101	0.1609	0.0034	0.0034	0.0446	0.0236	0.0236
3.2500	-0.1676	0.1101	0.1782	-0.0035	-0.0035	0.0437	0.0252	0.0252
3.2500	-0.1896	0.1101	0.1459	0.0001	0.0001	0.0368	0.0200	0.0200
3.2500	-0.2133	0.1101	0.1534	0.0058	0.0058	0.0406	0.0215	0.0215
4.1940	0.1534	0.1101	0.1399	0.0069	0.0069	0.0297	0.0177	0.0177
4.1940	0.1574	0.1101	0.1298	0.0033	0.0033	0.0241	0.0162	0.0162
4.1940	0.1676	0.1101	0.1262	0.0035	0.0035	0.0237	0.0181	0.0181
4.1940	0.1896	0.1101	0.1227	0.0062	0.0062	0.0257	0.0184	0.0184
4.1940	0.2133	0.1101	0.1250	0.0060	0.0060	0.0291	0.0184	0.0184
4.1940	-0.1534	0.1101	0.1354	0.0024	0.0024	0.0294	0.0163	0.0163
4.1940	-0.1574	0.1101	0.1577	-0.0024	-0.0024	0.0278	0.0168	0.0168
4.1940	-0.1676	0.1101	0.1450	0.0020	0.0020	0.0264	0.0168	0.0168
4.1940	-0.1896	0.1101	0.1425	-0.0052	-0.0052	0.0230	0.0165	0.0165
4.1940	-0.2133	0.1101	0.1711	-0.0010	-0.0010	0.0224	0.0197	0.0197
0.2990	0.2366	0.1151	0.0030	0.0014	0.0014	0.0043	0.0021	0.0021
0.2990	-0.2350	0.1151	0.0256	0.0133	0.0133	0.0745	0.0549	0.0549
0.5300	-0.2534	0.1151	0.0891	0.0623	0.0623	0.1046	0.0657	0.0657
0.0940	0.1134	0.1210	0.0495	0.0537	0.0537	0.0405	0.0508	0.0359
0.0940	0.1325	0.1210	-0.0389	0.0819	0.0819	0.1247	0.1138	0.0805

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
0.0940	-0.0988	0.1210	0.0595	-0.0103	-0.0103	0.0256	0.0376	0.0266
0.0940	-0.1179	0.1210	0.0585	-0.0194	-0.0194	0.0206	0.0134	0.0094
0.0940	0.1134	0.1401	0.0446	0.0092	0.0092	0.0388	0.0455	0.0322
0.0940	0.1325	0.1401	-0.0895	-0.0111	-0.0111	0.0910	0.0517	0.0365
0.0940	-0.0988	0.1401	0.0691	-0.0169	-0.0169	0.0291	0.0222	0.0157
0.0940	-0.1179	0.1401	0.0930	0.0066	0.0066	0.0348	0.0022	0.0016
-0.0700	0.0892	0.1566	0.4254	0.0041	-0.0148	0.0221	0.0482	0.0205
-0.0700	0.0637	0.1566	0.4514	0.0082	-0.0087	0.0194	0.0669	0.0160
-0.0700	0.0382	0.1566	0.4701	0.0048	-0.0045	0.0155	0.0860	0.0127
-0.0700	0.0127	0.1566	0.4913	0.0024	0.0062	0.0137	0.0581	0.0122
-0.0700	-0.0127	0.1566	0.4924	0.0002	0.0060	0.0113	0.0644	0.0130
-0.0700	-0.0382	0.1566	0.4964	0.0045	0.0009	0.0121	0.0678	0.0158
-0.0700	-0.0637	0.1566	0.4892	0.0035	0.0066	0.0134	0.0745	0.0240
-0.0700	-0.0891	0.1566	0.4443	-0.0033	-0.0010	0.0195	0.0638	0.0110
0.0940	0.0947	0.1566	0.3963	0.0185	0.0345	0.0638	0.0292	0.0269
0.0940	0.0677	0.1566	0.4918	0.0295	0.0204	0.0373	0.0155	0.0189
0.0940	0.0406	0.1566	0.5093	0.0365	0.0272	0.0225	0.0174	0.0135
0.0940	0.0135	0.1566	0.5295	0.0339	0.0370	0.0194	0.0103	0.0135
0.0940	-0.0135	0.1566	0.5384	0.0346	-0.0087	0.0134	0.0154	0.0281
0.0940	-0.0406	0.1566	0.5315	0.0309	-0.0089	0.0163	0.0157	0.0193
0.0940	-0.0677	0.1566	0.4785	0.0348	-0.0081	0.0305	0.0218	0.0194
0.0940	-0.0948	0.1566	0.4103	0.0467	-0.0142	0.0706	0.0350	0.0105
0.2990	0.1874	0.1566	-0.0649	0.0255	0.0255	0.0334	0.0177	0.0177
0.2990	0.2366	0.1566	-0.0301	0.0634	0.0634	0.0271	0.0250	0.0250
0.2990	0.1115	0.1566	0.0286	0.0230	0.0006	0.0878	0.0294	0.0518
0.2990	0.0797	0.1566	0.1924	0.0324	0.0011	0.1074	0.0544	0.0452
0.2990	0.0478	0.1566	0.4069	0.0833	0.0052	0.0877	0.0505	0.0550
0.2990	0.0159	0.1566	0.4981	0.0871	0.0158	0.0525	0.0285	0.0554
0.2990	-0.0159	0.1566	0.5357	0.0872	0.0122	0.0281	0.0205	0.0559
0.2990	-0.0478	0.1566	0.5431	0.0897	0.0011	0.0316	0.0176	0.0553
0.2990	-0.0796	0.1566	0.5210	0.0794	0.0129	0.0393	0.0466	0.0489
0.2990	-0.1115	0.1566	0.4526	0.1089	0.0045	0.0757	0.0592	0.0471
0.2990	-0.1858	0.1566	0.0874	0.0131	0.0131	0.1062	0.0708	0.0708
0.2990	-0.2350	0.1566	0.0986	0.0241	0.0241	0.0930	0.0387	0.0387
0.5300	0.1830	0.1566	-0.0281	0.0574	0.0574	0.0306	0.0555	0.0555
0.5300	0.2067	0.1566	-0.1022	0.0224	0.0224	0.0416	0.0094	0.0094
0.5300	0.2559	0.1566	-0.1293	0.0259	0.0259	0.0388	0.0302	0.0302
0.5300	0.3024	0.1566	0.0001	-0.0122	-0.0122	0.0533	0.0018	0.0018
0.5300	0.1305	0.1566	-0.0179	0.0997	0.0143	0.0785	0.0805	0.0365
0.5300	0.0932	0.1566	0.0132	0.0170	0.0113	0.1067	0.0543	0.0404
0.5300	0.0559	0.1566	0.1708	0.0510	0.0204	0.1303	0.0721	0.0473
0.5300	0.0187	0.1566	0.3831	0.0663	0.0275	0.1055	0.0617	0.0514
0.5300	-0.0186	0.1566	0.4311	0.0798	0.0213	0.0939	0.0406	0.0513
0.5300	-0.0558	0.1566	0.4820	0.0977	-0.0030	0.0359	0.0262	0.0617
0.5300	-0.0931	0.1566	0.4795	0.1074	-0.0102	0.0232	0.0229	0.0381
0.5300	-0.1304	0.1566	0.4464	0.1174	-0.0027	0.0631	0.0655	0.0518
0.5300	-0.1640	0.1566	0.3397	0.0570	0.0570	0.0527	0.0475	0.0475
0.5300	-0.1742	0.1566	0.4147	0.0057	0.0057	0.0855	0.0780	0.0780
0.5300	-0.1962	0.1566	0.3054	0.0531	0.0531	0.0837	0.0625	0.0625
0.5300	-0.2042	0.1566	0.2458	0.0482	0.0482	0.0869	0.0611	0.0611
0.5300	-0.2534	0.1566	0.1008	0.0764	0.0764	0.0817	0.0627	0.0627
0.6700	0.1534	0.1566	-0.0637	-0.0010	-0.0010	0.0601	0.0374	0.0374
0.6700	0.1574	0.1566	-0.0789	0.0200	0.0200	0.0523	0.0563	0.0563
0.6700	0.1676	0.1566	-0.1003	0.0125	0.0125	0.0728	0.0380	0.0380

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
0.6700	0.1896	0.1566	-0.0904	0.0680	0.0680	0.0441	0.0254	0.0254
0.6700	0.2133	0.1566	-0.1099	-0.0294	-0.0294	0.0363	0.0311	0.0311
0.6700	0.2625	0.1566	-0.1248	0.0377	0.0377	0.0340	0.0319	0.0319
0.6700	-0.1534	0.1566	0.3825	0.0422	0.0422	0.0497	0.0262	0.0262
0.6700	-0.1574	0.1566	0.3816	0.0358	0.0358	0.0456	0.0238	0.0238
0.6700	-0.1676	0.1566	0.3672	0.0256	0.0256	0.0612	0.0370	0.0370
0.6700	-0.1896	0.1566	0.3486	0.0317	0.0317	0.0575	0.0389	0.0389
0.6700	-0.2133	0.1566	0.2899	0.0492	0.0492	0.0676	0.0465	0.0465
0.6700	-0.2625	0.1566	0.2347	0.0376	0.0376	0.0586	0.0488	0.0488
0.9400	0.1534	0.1566	-0.0548	0.0104	0.0104	0.0620	0.0384	0.0384
0.9400	0.1574	0.1566	-0.0833	-0.0189	-0.0189	0.0522	0.0433	0.0433
0.9400	0.1676	0.1566	-0.0833	0.0172	0.0172	0.0464	0.0282	0.0282
0.9400	0.1896	0.1566	-0.1156	-0.0012	-0.0012	0.0475	0.0321	0.0321
0.9400	0.2133	0.1566	-0.1096	0.0017	0.0017	0.0359	0.0342	0.0342
0.9400	0.2625	0.1566	-0.1339	0.0357	0.0357	0.0482	0.0288	0.0288
0.9400	-0.1534	0.1566	0.3851	0.0225	0.0225	0.0365	0.0263	0.0263
0.9400	-0.1574	0.1566	0.3757	0.0270	0.0270	0.0476	0.0228	0.0228
0.9400	-0.1676	0.1566	0.3807	0.0303	0.0303	0.0342	0.0258	0.0258
0.9400	-0.1896	0.1566	0.3731	0.0344	0.0344	0.0362	0.0302	0.0302
0.9400	-0.2133	0.1566	0.3464	0.0339	0.0339	0.0499	0.0318	0.0318
0.9400	-0.2625	0.1566	0.3215	0.0429	0.0429	0.0602	0.0406	0.0406
1.6000	0.1534	0.1566	-0.0049	-0.0349	-0.0349	0.0750	0.0562	0.0562
1.6000	0.1574	0.1566	-0.0427	-0.0228	-0.0228	0.0607	0.0515	0.0515
1.6000	0.1676	0.1566	-0.0435	-0.0082	-0.0082	0.0592	0.0463	0.0463
1.6000	0.1896	0.1566	-0.0764	-0.0044	-0.0044	0.0622	0.0429	0.0429
1.6000	0.2133	0.1566	-0.0115	-0.0252	-0.0252	0.0564	0.0436	0.0436
1.6000	0.2625	0.1566	-0.0690	-0.0146	-0.0146	0.0504	0.0343	0.0343
1.6000	-0.1534	0.1566	0.3679	0.0027	0.0027	0.0667	0.0295	0.0295
1.6000	-0.1574	0.1566	0.3653	-0.0005	-0.0005	0.0592	0.0265	0.0265
1.6000	-0.1676	0.1566	0.3522	-0.0008	-0.0008	0.0620	0.0332	0.0332
1.6000	-0.1896	0.1566	0.3543	0.0391	0.0391	0.0546	0.0297	0.0297
1.6000	-0.2133	0.1566	0.3628	0.0394	0.0394	0.0504	0.0248	0.0248
1.6000	-0.2625	0.1566	0.3120	0.0029	0.0029	0.0611	0.0348	0.0348
2.5900	0.1534	0.1566	0.0802	-0.0268	-0.0268	0.0596	0.0349	0.0349
2.5900	0.1574	0.1566	0.0907	-0.0235	-0.0235	0.0611	0.0359	0.0359
2.5900	0.1676	0.1566	0.0923	-0.0230	-0.0230	0.0554	0.0468	0.0468
2.5900	0.1896	0.1566	0.0683	-0.0149	-0.0149	0.0636	0.0430	0.0430
2.5900	0.2133	0.1566	0.0722	-0.0249	-0.0249	0.0528	0.0338	0.0338
2.5900	0.2625	0.1566	-0.0078	-0.0168	-0.0168	0.0572	0.0346	0.0346
2.5900	-0.1534	0.1566	0.2310	-0.0132	-0.0132	0.0737	0.0342	0.0342
2.5900	-0.1574	0.1566	0.2532	-0.0109	-0.0109	0.0603	0.0321	0.0321
2.5900	-0.1676	0.1566	0.2488	-0.0078	-0.0078	0.0427	0.0244	0.0244
2.5900	-0.1896	0.1566	0.2644	-0.0060	-0.0060	0.0468	0.0294	0.0294
2.5900	-0.2133	0.1566	0.2508	-0.0048	-0.0048	0.0445	0.0276	0.0276
2.5900	-0.2625	0.1566	0.2269	-0.0073	-0.0073	0.0477	0.0276	0.0276
3.2500	0.1534	0.1566	0.1242	-0.0035	-0.0035	0.0394	0.0312	0.0312
3.2500	0.1574	0.1566	0.1201	-0.0003	-0.0003	0.0479	0.0236	0.0236
3.2500	0.1676	0.1566	0.1143	0.0011	0.0011	0.0473	0.0218	0.0218
3.2500	0.1896	0.1566	0.1179	0.0001	0.0001	0.0407	0.0251	0.0251
3.2500	0.2133	0.1566	0.0841	-0.0012	-0.0012	0.0354	0.0271	0.0271
3.2500	0.2625	0.1566	0.1001	0.0029	0.0029	0.0438	0.0241	0.0241
3.2500	-0.1534	0.1566	0.1754	-0.0090	-0.0090	0.0585	0.0220	0.0220
3.2500	-0.1574	0.1566	0.1828	-0.0071	-0.0071	0.0371	0.0226	0.0226
3.2500	-0.1676	0.1566	0.1818	-0.0099	-0.0099	0.0402	0.0255	0.0255

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
3.2500	-0.1896	0.1566	0.1790	-0.0031	-0.0031	0.0411	0.0246	0.0246
3.2500	-0.2133	0.1566	0.1711	-0.0041	-0.0041	0.0463	0.0183	0.0183
3.2500	-0.2625	0.1566	0.1684	-0.0034	-0.0034	0.0338	0.0215	0.0215
4.1940	0.1534	0.1566	0.1385	0.0035	0.0035	0.0278	0.0135	0.0135
4.1940	0.1574	0.1566	0.1279	0.0036	0.0036	0.0254	0.0169	0.0169
4.1940	0.1676	0.1566	0.0118	0.0062	0.0062	0.0441	0.0127	0.0127
4.1940	0.1896	0.1566	0.1286	0.0026	0.0026	0.0251	0.0158	0.0158
4.1940	0.2133	0.1566	0.1372	0.0026	0.0026	0.0211	0.0157	0.0157
4.1940	0.2625	0.1566	0.1177	0.0061	0.0061	0.0343	0.0154	0.0154
4.1940	-0.1534	0.1566	0.1621	-0.0017	-0.0017	0.0318	0.0176	0.0176
4.1940	-0.1574	0.1566	0.1581	-0.0032	-0.0032	0.0382	0.0163	0.0163
4.1940	-0.1676	0.1566	0.1550	-0.0036	-0.0036	0.0335	0.0179	0.0179
4.1940	-0.1896	0.1566	0.1397	-0.0022	-0.0022	0.0279	0.0168	0.0168
4.1940	-0.2133	0.1566	0.1664	-0.0019	-0.0019	0.0299	0.0174	0.0174
4.1940	-0.2625	0.1566	0.1611	0.0033	0.0033	0.0378	0.0183	0.0183
-0.1650	0.0953	0.1566	0.4076	0.0024	-0.0107	0.0419	0.0280	0.0261
-0.1650	0.0826	0.1566	0.4529	-0.0033	-0.0085	0.0828	0.0240	0.0181
-0.1650	0.0699	0.1566	0.4860	-0.0045	0.0002	0.0344	0.0227	0.0114
-0.1650	0.0445	0.1566	0.5187	-0.0011	0.0023	0.0223	0.0186	0.0124
-0.1650	0.0191	0.1566	0.5338	0.0012	0.0009	0.0195	0.0158	0.0158
-0.1650	-0.0064	0.1566	0.5350	0.0047	0.0179	0.0187	0.0138	0.0327
-0.1650	-0.0318	0.1566	0.5288	0.0062	0.0129	0.0121	0.0164	0.0329
-0.1650	-0.0572	0.1566	0.5184	0.0095	0.0438	0.0329	0.0196	0.0177
-0.1650	-0.0826	0.1566	0.4553	0.0100	0.0416	0.0294	0.0242	0.0124
-0.1650	-0.0953	0.1566	0.4259	0.0047	0.0371	0.0788	0.0315	0.0119
0.6700	0.1426	0.1566	-0.0350	0.0141	0.0089	0.0670	0.0627	0.1335
0.6700	0.1236	0.1566	-0.0195	0.0025	0.0069	0.0795	0.0712	0.0612
0.6700	0.0741	0.1566	0.0425	0.0270	-0.0077	0.0977	0.0730	0.0158
0.6700	0.0247	0.1566	0.1123	0.0393	-0.0067	0.0697	0.0601	0.0151
0.6700	-0.0247	0.1566	0.3414	0.0405	-0.0336	0.0878	0.0435	0.0333
0.6700	-0.0742	0.1566	0.4076	0.0568	-0.0365	0.0374	0.0328	0.0250
0.6700	-0.1236	0.1566	0.4238	0.0273	0.0049	0.0470	0.0398	0.0177
0.6700	-0.1426	0.1566	0.4329	0.0372	0.0015	0.0598	0.0437	0.0125
0.9400	0.1426	0.1566	-0.0621	0.0375	0.0053	0.0534	0.0503	0.0384
0.9400	0.1236	0.1566	-0.0490	0.0410	0.0028	0.0604	0.0644	0.0466
0.9400	0.0741	0.1566	0.0008	0.0450	-0.0112	0.0753	0.0706	0.0182
0.9400	0.0247	0.1566	0.1240	-0.0036	-0.0105	0.0954	0.0794	0.0185
0.9400	-0.0247	0.1566	0.2562	-0.0127	-0.0102	0.0920	0.0617	0.0391
0.9400	-0.0742	0.1566	0.3486	0.0029	-0.0094	0.0789	0.0515	0.0360
0.9400	-0.1236	0.1566	0.3959	0.0160	0.0009	0.0476	0.0348	0.0206
0.9400	-0.1426	0.1566	0.3919	0.0164	0.0062	0.0522	0.0363	0.0220
1.6000	0.1426	0.1566	-0.0621	0.0109	0.0125	0.0901	0.0559	0.0347
1.6000	0.1236	0.1566	-0.0259	-0.0094	-0.0036	0.0787	0.0758	0.0506
1.6000	0.0741	0.1566	0.0200	0.0062	-0.0081	0.0890	0.0967	0.0335
1.6000	0.0247	0.1566	0.1392	-0.0204	-0.0079	0.0971	0.0881	0.0299
1.6000	-0.0247	0.1566	0.2282	-0.0341	0.0112	0.0971	0.0815	0.0475
1.6000	-0.0742	0.1566	0.2881	-0.0026	0.0038	0.0885	0.0705	0.0352
1.6000	-0.1236	0.1566	0.3673	0.0029	0.0183	0.0851	0.0554	0.0210
1.6000	-0.1426	0.1566	0.3593	0.0248	0.0143	0.0782	0.0495	0.0251
2.5900	0.1426	0.1566	0.0733	-0.0477	0.0008	0.0667	0.0643	0.0462
2.5900	0.1236	0.1566	0.1043	-0.0103	-0.0137	0.0623	0.0621	0.0266
2.5900	0.0741	0.1566	0.1292	-0.0317	0.0104	0.0749	0.0717	0.0362
2.5900	0.0247	0.1566	0.1712	-0.0298	0.0012	0.0753	0.0566	0.0379
2.5900	-0.0247	0.1566	0.2072	-0.0392	0.0163	0.0709	0.0501	0.0276

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
2.5900	-0.0742	0.1566	0.2391	-0.0194	0.0029	0.0663	0.0461	0.0289
2.5900	-0.1236	0.1566	0.2487	-0.0094	0.0016	0.0937	0.0549	0.0395
2.5900	-0.1426	0.1566	0.2633	-0.0070	0.0018	0.0913	0.0467	0.0305
3.2500	0.1426	0.1566	0.1323	-0.0005	0.0029	0.0419	0.0399	0.0225
3.2500	0.1236	0.1566	0.1416	0.0011	-0.0075	0.0585	0.0442	0.0320
3.2500	0.0741	0.1566	0.1510	-0.0111	-0.0023	0.0527	0.0375	0.0426
3.2500	0.0247	0.1566	0.1551	-0.0068	-0.0119	0.0513	0.0383	0.0354
3.2500	-0.0247	0.1566	0.1757	-0.0066	0.0047	0.0552	0.0284	0.0172
3.2500	-0.0742	0.1566	0.1935	-0.0027	0.0114	0.0535	0.0347	0.0180
3.2500	-0.1236	0.1566	0.2137	-0.0079	-0.0228	0.0606	0.0452	0.0259
3.2500	-0.1426	0.1566	0.1887	0.0035	-0.0202	0.0451	0.0340	0.0257
4.1940	0.1426	0.1566	0.1404	-0.0051	-0.0014	0.0403	0.0240	0.0141
4.1940	0.1236	0.1566	0.1362	-0.0009	-0.0032	0.0363	0.0297	0.0140
4.1940	0.0741	0.1566	0.1464	0.0022	-0.0003	0.0374	0.0249	0.0409
4.1940	0.0247	0.1566	0.1586	0.0032	-0.0195	0.0545	0.0309	0.0462
4.1940	-0.0247	0.1566	0.1704	0.0004	0.0058	0.0310	0.0243	0.0167
4.1940	-0.0742	0.1566	0.1712	-0.0004	-0.0017	0.0412	0.0230	0.0158
4.1940	-0.1236	0.1566	0.1659	0.0051	-0.0444	0.0276	0.0244	0.0141
4.1940	-0.1426	0.1566	0.1603	0.0039	-0.0458	0.0363	0.0239	0.0191
0.0940	0.1134	0.1592	0.0549	0.0178	0.0178	0.0470	0.0492	0.0348
0.0940	0.1325	0.1592	-0.1269	-0.0282	-0.0282	0.1157	0.1092	0.0773
0.0940	-0.0988	0.1592	0.0766	-0.0188	-0.0188	0.0344	0.0216	0.0153
0.0940	-0.1179	0.1592	0.0925	-0.0116	-0.0116	0.0399	0.0182	0.0129
0.5300	-0.2999	0.1611	0.0691	0.0788	0.0788	0.0935	0.0711	0.0711
0.0940	0.1134	0.1783	0.0496	0.0180	0.0180	0.0442	0.0369	0.0261
0.0940	0.1325	0.1783	-0.0982	-0.0193	-0.0193	0.0736	0.0597	0.0422
0.0940	-0.0988	0.1783	0.0879	-0.0142	-0.0142	0.0205	0.0141	0.0100
0.0940	-0.1179	0.1783	0.0954	-0.0090	-0.0090	0.0279	0.0156	0.0110
-0.1650	0.0953	0.1955	0.3992	-0.0133	-0.0087	0.0894	0.0251	0.0264
-0.1650	0.0826	0.1955	0.4375	-0.0116	-0.0008	0.0888	0.0268	0.0195
-0.1650	0.0699	0.1955	0.4736	-0.0099	0.0015	0.0626	0.0261	0.0108
-0.1650	0.0445	0.1955	0.5051	-0.0075	0.0005	0.0654	0.0196	0.0107
-0.1650	0.0191	0.1955	0.5044	-0.0059	0.0017	0.0573	0.0181	0.0101
-0.1650	-0.0064	0.1955	0.5083	-0.0145	0.0113	0.0685	0.0203	0.0195
-0.1650	-0.0318	0.1955	0.5156	-0.0167	0.0071	0.0811	0.0206	0.0345
-0.1650	-0.0572	0.1955	0.5207	-0.0170	0.0451	0.0680	0.0219	0.0200
-0.1650	-0.0826	0.1955	0.4463	-0.0134	0.0437	0.0430	0.0225	0.0126
-0.1650	-0.0953	0.1955	0.4069	-0.0256	0.0416	0.0403	0.0231	0.0127
0.6700	0.1426	0.1955	-0.0061	-0.0068	-0.0434	0.0587	0.1155	0.1190
0.6700	0.1236	0.1955	-0.0017	0.0120	-0.0401	0.0677	0.0668	0.0362
0.6700	0.0741	0.1955	0.0233	0.0067	-0.0095	0.0663	0.0847	0.0151
0.6700	0.0247	0.1955	0.1058	0.0489	-0.0110	0.0816	0.0646	0.0130
0.6700	-0.0247	0.1955	0.3086	0.0432	-0.0435	0.0894	0.0472	0.0320
0.6700	-0.0742	0.1955	0.3927	0.0366	-0.0415	0.0585	0.0346	0.0313
0.6700	-0.1236	0.1955	0.3867	0.0276	0.0050	0.1121	0.0463	0.0147
0.6700	-0.1426	0.1955	0.3602	0.0374	0.0074	0.1065	0.0491	0.0134
0.9400	0.1426	0.1955	-0.0194	0.0035	0.0028	0.0667	0.0812	0.0374
0.9400	0.1236	0.1955	0.0064	-0.0080	-0.0003	0.0689	0.0744	0.0547
0.9400	0.0741	0.1955	0.0405	-0.0275	-0.0108	0.0757	0.0827	0.0177
0.9400	0.0247	0.1955	0.1106	-0.0302	-0.0089	0.0989	0.0683	0.0177
0.9400	-0.0247	0.1955	0.1811	-0.0075	-0.0071	0.1489	0.0734	0.0380
0.9400	-0.0742	0.1955	0.2399	-0.0015	-0.0115	0.1717	0.0612	0.0403
0.9400	-0.1236	0.1955	0.3485	0.0088	0.0090	0.1260	0.0476	0.0219
0.9400	-0.1426	0.1955	0.3235	0.0174	0.0006	0.1326	0.0497	0.0187

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
1.6000	0.1426	0.1955	-0.0485	-0.0214	-0.0073	0.0965	0.0961	0.0474
1.6000	0.1236	0.1955	0.0188	-0.0146	-0.0133	0.0690	0.0932	0.0488
1.6000	0.0741	0.1955	0.0459	-0.0512	-0.0067	0.0816	0.0922	0.0311
1.6000	0.0247	0.1955	0.0868	-0.0288	0.0026	0.1036	0.0832	0.0521
1.6000	-0.0247	0.1955	0.1261	-0.0105	0.0108	0.1046	0.0824	0.0336
1.6000	-0.0742	0.1955	0.1992	-0.0105	0.0058	0.1512	0.0720	0.0367
1.6000	-0.1236	0.1955	0.2280	-0.0053	0.0031	0.1668	0.0751	0.0281
1.6000	-0.1426	0.1955	0.2639	0.0004	0.0203	0.1519	0.0642	0.0262
2.5900	0.1426	0.1955	0.0032	-0.0116	-0.0064	0.0606	0.0577	0.0631
2.5900	0.1236	0.1955	0.0486	-0.0133	-0.0115	0.0758	0.0514	0.0450
2.5900	0.0741	0.1955	0.0540	-0.0187	0.0061	0.0887	0.0593	0.0314
2.5900	0.0247	0.1955	0.0958	-0.0115	0.0033	0.0991	0.0630	0.0239
2.5900	-0.0247	0.1955	0.1215	-0.0168	0.0086	0.0960	0.0543	0.0330
2.5900	-0.0742	0.1955	0.1546	-0.0187	0.0131	0.1300	0.0468	0.0249
2.5900	-0.1236	0.1955	0.1441	-0.0131	0.0049	0.1403	0.0532	0.0373
2.5900	-0.1426	0.1955	0.1123	-0.0053	0.0133	0.1431	0.0501	0.0403
3.2500	0.1426	0.1955	0.1167	-0.0052	-0.0035	0.0947	0.0366	0.0202
3.2500	0.1236	0.1955	0.1224	-0.0074	-0.0002	0.0846	0.0609	0.0299
3.2500	0.0741	0.1955	0.1196	0.0039	0.0005	0.0809	0.0386	0.0349
3.2500	0.0247	0.1955	0.1400	0.0113	-0.0113	0.0793	0.0437	0.0336
3.2500	-0.0247	0.1955	0.1549	-0.0037	0.0049	0.0849	0.0407	0.0226
3.2500	-0.0742	0.1955	0.1008	0.0016	0.0070	0.1128	0.0375	0.0221
3.2500	-0.1236	0.1955	0.0986	0.0168	-0.0262	0.1102	0.0353	0.0304
3.2500	-0.1426	0.1955	0.1643	0.0060	-0.0234	0.0756	0.0385	0.0271
4.1940	0.1426	0.1955	0.1400	0.0005	-0.0046	0.0407	0.0323	0.0172
4.1940	0.1236	0.1955	0.1315	0.0072	-0.0064	0.0401	0.0238	0.0306
4.1940	0.0741	0.1955	0.1310	0.0101	-0.0093	0.0334	0.0290	0.0350
4.1940	0.0247	0.1955	0.1421	0.0161	-0.0182	0.0672	0.0285	0.0400
4.1940	-0.0247	0.1955	0.1468	0.0044	0.0048	0.0845	0.0227	0.0159
4.1940	-0.0742	0.1955	0.1634	0.0047	0.0070	0.0482	0.0321	0.0128
4.1940	-0.1236	0.1955	0.1660	0.0012	-0.0381	0.0541	0.0298	0.0292
4.1940	-0.1426	0.1955	0.1738	0.0106	-0.0423	0.0448	0.0292	0.0159
-0.0700	0.0892	0.1955	0.4223	0.0000	-0.0123	0.0293	0.1078	0.0204
-0.0700	0.0637	0.1955	0.4261	0.0056	-0.0113	0.0251	0.1017	0.0158
-0.0700	0.0382	0.1955	0.4707	0.0075	0.0002	0.0232	0.0923	0.0140
-0.0700	0.0127	0.1955	0.4725	0.0079	0.0030	0.0174	0.0917	0.0146
-0.0700	-0.0127	0.1955	0.4768	0.0074	0.0075	0.0172	0.0774	0.0136
-0.0700	-0.0382	0.1955	0.4756	0.0058	0.0018	0.0188	0.0926	0.0127
-0.0700	-0.0637	0.1955	0.4718	0.0027	-0.0014	0.0114	0.0932	0.0161
-0.0700	-0.0891	0.1955	0.4376	-0.0016	0.0008	0.0227	0.1000	0.0148
0.0940	0.0947	0.1955	0.3153	0.0306	0.0203	0.1307	0.0300	0.0257
0.0940	0.0677	0.1955	0.4518	0.0294	0.0219	0.1223	0.0216	0.0207
0.0940	0.0406	0.1955	0.4705	0.0378	0.0247	0.1346	0.0134	0.0147
0.0940	0.0135	0.1955	0.5264	0.0409	0.0332	0.0157	0.0143	0.0092
0.0940	-0.0135	0.1955	0.5285	0.0421	-0.0119	0.0602	0.0148	0.0257
0.0940	-0.0406	0.1955	0.5290	0.0479	-0.0116	0.0207	0.0140	0.0165
0.0940	-0.0677	0.1955	0.4919	0.0423	-0.0093	0.0601	0.0186	0.0189
0.0940	-0.0948	0.1955	0.3571	0.0641	-0.0139	0.1402	0.0311	0.0118
0.2990	0.1417	0.1955	0.0215	0.0646	0.0646	0.0385	0.0214	0.0214
0.2990	0.1637	0.1955	-0.0320	0.0102	0.0102	0.0365	0.0211	0.0211
0.2990	0.1637	0.1955	-0.0430	0.0116	0.0116	0.0430	0.0212	0.0212
0.2990	0.1874	0.1955	-0.0952	-0.0757	-0.0757	0.0330	0.0230	0.0230
0.2990	0.2366	0.1955	-0.0995	0.0513	0.0513	0.1597	0.0094	0.0094
0.2990	0.2731	0.1955	-0.0115	0.0158	0.0158	0.0343	0.0386	0.0386

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
0.2990	0.1115	0.1955	0.0371	0.0224	0.0031	0.0625	0.0545	0.0387
0.2990	0.0797	0.1955	0.2140	0.0318	0.0091	0.1143	0.0624	0.0414
0.2990	0.0478	0.1955	0.3892	0.0554	0.0120	0.1255	0.0503	0.0481
0.2990	0.0159	0.1955	0.4692	0.0880	0.0129	0.1086	0.0270	0.0441
0.2990	-0.0159	0.1955	0.5023	0.0882	0.0051	0.1104	0.0203	0.0484
0.2990	-0.0478	0.1955	0.4690	0.0989	0.0102	0.1689	0.0231	0.0435
0.2990	-0.0796	0.1955	0.5214	0.1009	0.0122	0.0744	0.0265	0.0427
0.2990	-0.1115	0.1955	0.4552	0.1074	0.0129	0.1017	0.0648	0.0416
0.2990	-0.1858	0.1955	0.0128	0.0137	0.0137	0.1094	0.0715	0.0715
0.2990	-0.2350	0.1955	0.0184	-0.0605	-0.0605	0.0604	0.0192	0.0192
0.2990	-0.2535	0.1955	0.0150	0.0158	0.0158	0.0343	0.0386	0.0386
0.5300	0.1610	0.1955	-0.0131	0.0243	0.0243	0.0533	0.0367	0.0367
0.5300	0.2067	0.1955	-0.0612	0.0376	0.0376	0.0576	0.0107	0.0107
0.5300	0.3024	0.1955	-0.1320	0.0216	0.0216	0.0479	0.0260	0.0260
0.5300	0.1305	0.1955	-0.0048	0.0637	0.0263	0.0737	0.0416	0.0334
0.5300	0.0932	0.1955	0.0315	0.0854	0.0249	0.0552	0.0643	0.0331
0.5300	0.0559	0.1955	0.1446	0.0418	0.0241	0.1071	0.0740	0.0428
0.5300	0.0187	0.1955	0.2857	0.0465	0.0240	0.1723	0.0624	0.0425
0.5300	-0.0186	0.1955	0.3910	0.0870	0.0261	0.1407	0.0407	0.0430
0.5300	-0.0558	0.1955	0.4627	0.1058	0.0013	0.0556	0.0330	0.0463
0.5300	-0.0931	0.1955	0.4653	0.1180	-0.0157	0.0571	0.0305	0.0392
0.5300	-0.1304	0.1955	0.4592	0.1342	-0.0100	0.0672	0.0367	0.0437
0.5300	-0.1600	0.1955	0.4728	0.0122	0.0122	0.0789	0.0585	0.0585
0.5300	-0.1640	0.1955	0.4796	0.0199	0.0199	0.0582	0.0534	0.0534
0.5300	-0.1742	0.1955	0.4201	0.0283	0.0283	0.0957	0.0838	0.0838
0.5300	-0.1962	0.1955	0.3287	0.0485	0.0485	0.1109	0.0389	0.0389
0.5300	-0.2042	0.1955	0.2350	0.0827	0.0827	0.1075	0.0259	0.0259
0.5300	-0.2534	0.1955	0.2066	0.0897	0.0897	0.0996	0.0523	0.0523
0.5300	-0.2999	0.1955	0.0587	0.0688	0.0688	0.0938	0.0641	0.0641
0.6700	0.1534	0.1955	-0.0661	-0.0489	-0.0489	0.1074	0.0397	0.0397
0.6700	0.1574	0.1955	-0.0482	-0.0325	-0.0325	0.1001	0.0197	0.0197
0.6700	0.1676	0.1955	-0.0685	-0.0225	-0.0225	0.0547	0.0019	0.0019
0.6700	0.1896	0.1955	-0.0765	0.0762	0.0762	0.0472	0.0258	0.0258
0.6700	0.2133	0.1955	-0.0769	0.0543	0.0543	0.0551	0.0268	0.0268
0.6700	0.2625	0.1955	-0.1284	0.0435	0.0435	0.0347	0.0249	0.0249
0.6700	0.3090	0.1955	-0.1093	0.0307	0.0307	0.0501	0.0258	0.0258
0.6700	-0.1534	0.1955	0.2990	0.0377	0.0377	0.1124	0.0186	0.0186
0.6700	-0.1574	0.1955	0.3933	0.0395	0.0395	0.0485	0.0290	0.0290
0.6700	-0.1676	0.1955	0.3739	0.0351	0.0351	0.0600	0.0404	0.0404
0.6700	-0.1896	0.1955	0.3591	0.0202	0.0202	0.0586	0.0419	0.0419
0.6700	-0.2133	0.1955	0.3115	0.0470	0.0470	0.0701	0.0563	0.0563
0.6700	-0.2625	0.1955	0.2526	0.0370	0.0370	0.0709	0.0519	0.0519
0.6700	-0.3090	0.1955	0.1458	0.0288	0.0288	0.0634	0.0501	0.0501
0.9400	0.1534	0.1955	-0.0663	0.0200	0.0200	0.0638	0.0310	0.0310
0.9400	0.1574	0.1955	-0.0411	0.0166	0.0166	0.0603	0.0423	0.0423
0.9400	0.1676	0.1955	-0.0632	0.0217	0.0217	0.0633	0.0442	0.0442
0.9400	0.1896	0.1955	-0.0709	-0.0063	-0.0063	0.0587	0.0377	0.0377
0.9400	0.2133	0.1955	-0.0942	0.0019	0.0019	0.0529	0.0360	0.0360
0.9400	0.2625	0.1955	-0.1053	-0.0499	-0.0499	0.0437	0.0318	0.0318
0.9400	0.3090	0.1955	-0.1250	-0.0037	-0.0037	0.0424	0.0264	0.0264
0.9400	-0.1534	0.1955	0.3767	0.0104	0.0104	0.0631	0.0288	0.0288
0.9400	-0.1574	0.1955	0.3818	0.0203	0.0203	0.0667	0.0278	0.0278
0.9400	-0.1676	0.1955	0.3750	0.0237	0.0237	0.0423	0.0211	0.0211
0.9400	-0.1896	0.1955	0.3704	0.0229	0.0229	0.0521	0.0366	0.0366

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
0.9400	-0.2133	0.1955	0.3644	0.0364	0.0364	0.0553	0.0324	0.0324
0.9400	-0.2625	0.1955	0.3288	0.0438	0.0438	0.0507	0.0390	0.0390
0.9400	-0.3090	0.1955	0.2720	0.0508	0.0508	0.0617	0.0459	0.0459
1.6000	0.1534	0.1955	-0.0503	0.0075	0.0075	0.0691	0.0408	0.0408
1.6000	0.1574	0.1955	-0.0255	-0.0056	-0.0056	0.0687	0.0466	0.0466
1.6000	0.1676	0.1955	-0.0305	-0.0240	-0.0240	0.0633	0.0450	0.0450
1.6000	0.1896	0.1955	-0.0684	-0.0152	-0.0152	0.0581	0.0450	0.0450
1.6000	0.2133	0.1955	-0.0438	-0.0218	-0.0218	0.0443	0.0426	0.0426
1.6000	0.2625	0.1955	-0.1070	-0.0234	-0.0234	0.0442	0.0388	0.0388
1.6000	0.3090	0.1955	-0.0901	-0.0121	-0.0121	0.0368	0.0465	0.0465
1.6000	-0.1534	0.1955	0.3196	-0.0034	-0.0034	0.0663	0.0450	0.0450
1.6000	-0.1574	0.1955	0.3225	-0.0061	-0.0061	0.0618	0.0346	0.0346
1.6000	-0.1676	0.1955	0.3309	-0.0027	-0.0027	0.0561	0.0367	0.0367
1.6000	-0.1896	0.1955	0.3456	0.0255	0.0255	0.0552	0.0329	0.0329
1.6000	-0.2133	0.1955	0.3424	0.0052	0.0052	0.0558	0.0333	0.0333
1.6000	-0.2625	0.1955	0.3135	0.0129	0.0129	0.0589	0.0310	0.0310
1.6000	-0.3090	0.1955	0.2749	-0.0010	-0.0010	0.0575	0.0323	0.0323
2.5900	0.1534	0.1955	0.0739	-0.0227	-0.0227	0.0651	0.0465	0.0465
2.5900	0.1574	0.1955	0.0717	-0.0061	-0.0061	0.0593	0.0382	0.0382
2.5900	0.1676	0.1955	0.0192	-0.0094	-0.0094	0.0625	0.0395	0.0395
2.5900	0.1896	0.1955	0.0096	-0.0112	-0.0112	0.0625	0.0399	0.0399
2.5900	0.2133	0.1955	0.0059	-0.0109	-0.0109	0.0482	0.0347	0.0347
2.5900	0.2625	0.1955	-0.0018	-0.0213	-0.0213	0.0427	0.0311	0.0311
2.5900	0.3090	0.1955	0.0010	-0.0162	-0.0162	0.0360	0.0311	0.0311
2.5900	-0.1534	0.1955	0.2672	-0.0061	-0.0061	0.0475	0.0251	0.0251
2.5900	-0.1574	0.1955	0.2280	-0.0040	-0.0040	0.0565	0.0299	0.0299
2.5900	-0.1676	0.1955	0.2593	-0.0088	-0.0088	0.0425	0.0232	0.0232
2.5900	-0.1896	0.1955	0.2375	-0.0075	-0.0075	0.0679	0.0284	0.0284
2.5900	-0.2133	0.1955	0.2441	-0.0026	-0.0026	0.0410	0.0253	0.0253
2.5900	-0.2625	0.1955	0.2591	0.0026	0.0026	0.0465	0.0234	0.0234
2.5900	-0.3090	0.1955	0.1813	-0.0048	-0.0048	0.0496	0.0279	0.0279
3.2500	0.1534	0.1955	0.1212	-0.0006	-0.0006	0.0387	0.0286	0.0286
3.2500	0.1574	0.1955	0.1142	-0.0053	-0.0053	0.0388	0.0282	0.0282
3.2500	0.1676	0.1955	0.1034	0.0061	0.0061	0.0371	0.0328	0.0328
3.2500	0.1896	0.1955	0.1132	0.0074	0.0074	0.0519	0.0244	0.0244
3.2500	0.2133	0.1955	0.1060	-0.0016	-0.0016	0.0411	0.0249	0.0249
3.2500	0.2625	0.1955	0.0984	0.0045	0.0045	0.0434	0.0226	0.0226
3.2500	0.3090	0.1955	0.0504	0.0018	0.0018	0.0275	0.0224	0.0224
3.2500	-0.1534	0.1955	0.1728	0.0005	0.0005	0.0358	0.0211	0.0211
3.2500	-0.1574	0.1955	0.1846	-0.0129	-0.0129	0.0544	0.0147	0.0147
3.2500	-0.1676	0.1955	0.1818	-0.0030	-0.0030	0.0497	0.0222	0.0222
3.2500	-0.1896	0.1955	0.1774	-0.0059	-0.0059	0.0360	0.0247	0.0247
3.2500	-0.2133	0.1955	0.1825	-0.0022	-0.0022	0.0443	0.0180	0.0180
3.2500	-0.2625	0.1955	0.1764	-0.0074	-0.0074	0.0369	0.0201	0.0201
3.2500	-0.3090	0.1955	0.1644	-0.0060	-0.0060	0.0430	0.0269	0.0269
4.1940	0.1534	0.1955	0.1302	-0.0002	-0.0002	0.0245	0.0168	0.0168
4.1940	0.1574	0.1955	0.1246	0.0064	0.0064	0.0332	0.0167	0.0167
4.1940	0.1676	0.1955	0.1243	0.0075	0.0075	0.0250	0.0175	0.0175
4.1940	0.1896	0.1955	0.1267	0.0058	0.0058	0.0269	0.0157	0.0157
4.1940	0.2133	0.1955	0.1249	0.0060	0.0060	0.0205	0.0167	0.0167
4.1940	0.2625	0.1955	0.1292	0.0055	0.0055	0.0249	0.0149	0.0149
4.1940	0.3090	0.1955	0.1309	0.0023	0.0023	0.0221	0.0170	0.0170
4.1940	-0.1534	0.1955	0.1522	0.0032	0.0032	0.0358	0.0182	0.0182
4.1940	-0.1574	0.1955	0.1528	0.0015	0.0015	0.0308	0.0142	0.0142

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
4.1940	-0.1676	0.1955	0.1574	-0.0008	-0.0008	0.0377	0.0134	0.0134
4.1940	-0.1896	0.1955	0.1516	-0.0026	-0.0026	0.0290	0.0170	0.0170
4.1940	-0.2133	0.1955	0.1621	0.0001	0.0001	0.0309	0.0162	0.0162
4.1940	-0.2625	0.1955	0.1662	0.0024	0.0024	0.0242	0.0137	0.0137
4.1940	-0.3090	0.1955	0.1261	-0.0050	-0.0050	0.0286	0.0157	0.0157
0.5300	0.3413	0.2005	-0.1312	0.0177	0.0177	0.0438	0.0188	0.0188
0.5300	0.3413	0.2150	-0.1162	0.0221	0.0221	0.0532	0.0209	0.0209

Table A.5 Flow field data for the modified wedge transition (Q= 0.0197 m^3/s)

X [m]	**Y [m]**	**Z [m]**	**U-Mean [m/s]**	**V-Mean [m/s]**	**W-Mean [m/s]**	**U-RMS [m/s]**	**V-RMS [m/s]**	**W-RMS [m/s]**
0.6700	0.1426	0.0050	0.0095	-0.0383	-0.0074	0.0505	0.0377	0.0236
0.6700	0.1236	0.0050	0.0223	-0.0644	-0.0205	0.0901	0.0628	0.0318
0.6700	0.0741	0.0050	0.0594	-0.0526	-0.0146	0.0804	0.0573	0.0366
0.6700	0.0247	0.0050	0.0740	-0.0307	-0.0041	0.1059	0.0672	0.0540
0.6700	-0.0247	0.0050	0.1998	-0.0118	-0.0064	0.1012	0.0699	0.0535
0.6700	-0.0742	0.0050	0.2206	-0.0062	-0.0142	0.1027	0.0681	0.0484
0.6700	-0.1426	0.0050	0.1599	0.0068	-0.0184	0.0939	0.0676	0.0280
0.9400	0.1426	0.0050	0.0312	-0.0439	0.0007	0.0475	0.0524	0.0186
0.9400	0.1236	0.0050	0.0395	-0.0438	-0.0015	0.0741	0.0550	0.0245
0.9400	0.0741	0.0050	0.0609	-0.0061	-0.0183	0.0987	0.0811	0.0539
0.9400	0.0247	0.0050	0.1194	0.0094	-0.0365	0.1053	0.0684	0.0501
0.9400	-0.0247	0.0050	0.0193	0.0400	-0.0457	0.0807	0.0596	0.0395
0.9400	-0.0742	0.0050	0.1854	0.0564	-0.0347	0.1115	0.0523	0.0295
0.9400	-0.1236	0.0050	0.2301	0.0391	-0.0495	0.0800	0.0476	0.0155
0.9400	-0.1426	0.0050	0.2219	0.0394	-0.0426	0.0750	0.0452	0.0215
1.6000	0.1426	0.0050	-0.0186	-0.0091	0.0165	0.0650	0.0647	0.0249
1.6000	0.1236	0.0050	0.0544	-0.0232	0.0143	0.0426	0.0698	0.0324
1.6000	0.0741	0.0050	0.0679	-0.0707	0.0057	0.0694	0.0672	0.0519
1.6000	0.0247	0.0050	0.0390	-0.0173	0.0251	0.0784	0.0671	0.0405
1.6000	-0.0247	0.0050	0.1662	0.0002	0.0093	0.0728	0.0059	0.0568
1.6000	-0.0742	0.0050	0.1242	-0.0165	0.0069	0.1279	0.0624	0.0329
1.6000	-0.1236	0.0050	0.0815	-0.0087	0.0106	0.1305	0.0633	0.0295
1.6000	-0.1426	0.0050	0.0514	-0.0027	-0.0003	0.1092	0.0573	0.0277
2.5900	0.1426	0.0050	0.0354	0.0154	0.0029	0.0783	0.0480	0.0298
2.5900	0.1236	0.0050	0.0461	0.0038	-0.0037	0.0500	0.0550	0.0323
2.5900	0.0741	0.0050	0.0541	-0.0099	0.0174	0.0758	0.0742	0.0383
2.5900	0.0247	0.0050	0.0633	-0.0156	0.0287	0.0843	0.0687	0.0460
2.5900	-0.0247	0.0050	0.0566	-0.0086	0.0135	0.0906	0.0595	0.0416
2.5900	-0.0742	0.0050	0.1731	0.0070	0.0045	0.0842	0.0440	0.0416
2.5900	-0.1236	0.0050	0.1642	0.0107	0.0031	0.1180	0.0465	0.0264
2.5900	-0.1426	0.0050	0.0841	-0.0025	-0.0086	0.1228	0.0468	0.0236
3.2500	0.1426	0.0050	0.1115	0.0089	-0.0042	0.0302	0.0300	0.0194
3.2500	0.1236	0.0050	0.0879	0.0149	0.0036	0.0897	0.0258	0.0233
3.2500	0.0741	0.0050	0.0809	-0.0002	0.0026	0.0754	0.0363	0.0286
3.2500	0.0247	0.0050	0.0637	0.0061	-0.0138	0.0773	0.0404	0.0278
3.2500	-0.0247	0.0050	0.0656	0.0136	0.0070	0.0766	0.0369	0.0187
3.2500	-0.0742	0.0050	0.0663	-0.0029	0.0075	0.0797	0.0439	0.0203
3.2500	-0.1236	0.0050	0.0799	0.0036	-0.0035	0.0964	0.0320	0.0250
3.2500	-0.1426	0.0050	0.1003	0.0050	-0.0039	0.0712	0.0246	0.0178
4.1940	0.1426	0.0050	0.1036	0.0054	-0.0032	0.0496	0.0166	0.0148
4.1940	0.1236	0.0050	0.0936	0.0021	-0.0010	0.0528	0.0060	0.0169
4.1940	0.0741	0.0050	0.0862	0.0072	-0.0031	0.0650	0.0249	0.0185
4.1940	0.0247	0.0050	0.0336	0.0065	-0.0057	0.0682	0.0229	0.0179
4.1940	-0.0247	0.0050	0.0687	0.0032	0.0079	0.0733	0.0216	-0.0020
4.1940	-0.0742	0.0050	0.0880	0.0087	0.0053	0.0810	0.0264	0.0186
4.1940	-0.1236	0.0050	0.0819	0.0109	-0.0029	0.0832	0.0261	0.0164
4.1940	-0.1426	0.0050	0.0901	-0.0045	0.0002	0.0856	0.0155	0.0119
-0.0700	0.0892	0.0050	0.0575	-0.0043	-0.0010	0.0731	0.0240	0.0196
-0.0700	0.0637	0.0050	0.0720	0.0087	-0.0025	0.1110	0.0250	0.0166
-0.0700	0.0382	0.0050	0.2844	0.0032	-0.0122	0.0928	0.0240	0.0188
-0.0700	0.0127	0.0050	0.1621	-0.0057	-0.0050	0.1320	0.0252	0.0180
-0.0700	-0.0127	0.0050	0.1555	-0.0061	-0.0034	0.0832	0.0244	0.0180

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
-0.0700	-0.0382	0.0050	0.2722	-0.0040	-0.0044	0.0875	0.0255	0.0184
-0.0700	-0.0637	0.0050	0.2436	-0.0012	0.0007	0.0962	0.0250	0.0182
-0.0700	-0.0891	0.0050	0.2781	0.0031	-0.0027	0.1048	0.0224	0.0226
0.0940	0.0947	0.0050	0.1798	0.0311	0.0241	0.1139	0.0411	0.0293
0.0940	0.0677	0.0050	0.3915	0.0375	0.0290	0.0904	0.0227	0.0452
0.0940	0.0406	0.0050	0.3597	0.0540	0.0351	0.0530	0.0326	0.0516
0.0940	0.0135	0.0050	0.3261	0.0318	0.0113	0.0976	0.0305	0.0560
0.0940	-0.0135	0.0050	0.2401	0.0220	0.0431	0.1001	0.0298	0.0496
0.0940	-0.0406	0.0050	0.2378	0.0256	0.0382	0.1085	0.0290	0.0457
0.0940	-0.0677	0.0050	0.3516	0.0314	0.0348	0.1183	0.0281	0.0523
0.0940	-0.0948	0.0050	0.3505	0.0337	0.0068	0.1016	0.0363	0.0326
0.2990	0.1275	0.0050	0.0521	-0.0139	-0.0139	0.0434	0.0228	0.0228
0.2990	0.1115	0.0050	0.0783	-0.0095	0.0385	0.0447	0.0287	0.0422
0.2990	0.0797	0.0050	0.1466	0.0069	0.0354	0.1107	0.0640	0.0411
0.2990	0.0478	0.0050	0.2648	0.0492	0.0069	0.1002	0.0403	0.0359
0.2990	0.0159	0.0050	0.3144	0.0244	0.0201	0.0538	0.0391	0.0364
0.2990	-0.0159	0.0050	0.2737	0.0435	0.0183	0.1004	0.0277	0.0415
0.2990	-0.0478	0.0050	0.3124	-0.0298	0.0012	0.0548	0.0200	0.0389
0.2990	-0.0796	0.0050	0.3117	0.0209	0.0187	0.0461	0.0370	0.0259
0.2990	-0.1115	0.0050	0.2398	0.0221	0.0162	0.0830	0.0616	0.0297
0.2990	-0.1285	0.0050	0.2402	0.0315	0.0315	0.0739	0.0756	0.0756
0.5300	0.1468	0.0050	0.0708	-0.0146	-0.0146	0.0605	0.0276	0.0276
0.5300	0.1305	0.0050	0.0639	-0.0215	0.0007	0.0857	0.0277	0.0188
0.5300	0.0932	0.0050	0.1104	-0.0150	-0.0023	0.0765	0.0609	0.0251
0.5300	0.0559	0.0050	0.1300	0.0379	-0.0165	0.1035	0.0648	0.0477
0.5300	0.0187	0.0050	0.1900	0.0947	-0.0233	0.1120	0.0767	0.0484
0.5300	-0.0186	0.0050	0.2297	0.0964	-0.0464	0.1003	0.0704	0.0382
0.5300	-0.0558	0.0050	0.2683	0.1460	-0.0503	0.0616	0.0482	0.0314
0.5300	-0.0931	0.0050	0.2601	0.0954	-0.0404	0.0528	0.0566	0.0191
0.5300	-0.1304	0.0050	0.2159	0.0589	0.0061	0.0864	0.0595	0.0736
0.5300	-0.1443	0.0050	0.1984	0.0123	0.0123	0.0758	0.0434	0.0434
0.6700	0.1534	0.0050	0.0129	-0.0115	-0.0115	0.0382	0.0285	0.0285
0.6700	-0.1534	0.0050	0.2504	0.0107	0.0107	0.0580	0.0405	0.0405
0.9400	0.1534	0.0050	0.0330	-0.0222	-0.0222	0.0531	0.0199	0.0199
0.9400	-0.1534	0.0050	0.2140	0.0071	0.0071	0.0580	0.0334	0.0334
1.6000	0.1534	0.0050	-0.0024	-0.0178	-0.0178	0.0927	0.0257	0.0257
1.6000	-0.1534	0.0050	0.1925	-0.0001	-0.0001	0.0751	0.0378	0.0378
2.5900	0.1534	0.0050	0.0370	0.0139	0.0139	0.0571	0.0269	0.0269
2.5900	-0.1534	0.0050	0.1452	0.0111	0.0111	0.0669	0.0286	0.0286
3.2500	0.1534	0.0050	0.0771	0.0099	0.0099	0.0310	0.0190	0.0190
3.2500	-0.1534	0.0050	0.1177	0.0101	0.0101	0.0457	0.0193	0.0193
4.1940	0.1534	0.0050	0.1027	0.0150	0.0150	0.0278	0.0157	0.0157
4.1940	-0.1534	0.0050	0.1129	0.0052	0.0034	0.0348	0.0145	0.0145
0.6700	0.1426	0.0152	0.0079	-0.0221	-0.0019	0.0810	0.0606	0.0256
0.6700	0.1236	0.0152	0.0233	-0.0326	-0.0194	0.0835	0.0610	0.0317
0.6700	0.0741	0.0152	0.0734	-0.0383	-0.0137	0.0644	0.0621	0.0374
0.6700	0.0247	0.0152	0.1331	-0.0285	-0.0038	0.0861	0.0697	0.0531
0.6700	-0.0247	0.0152	0.2225	-0.0087	-0.0069	0.0861	0.0670	0.0529
0.6700	-0.0742	0.0152	0.2258	0.0057	-0.0142	0.0925	0.0623	0.0479
0.6700	-0.1236	0.0152	0.2533	0.0129	-0.0238	0.0941	0.0591	0.0224
0.6700	-0.1426	0.0152	0.2639	0.0183	-0.0167	0.0861	0.0561	0.0313
0.9400	0.1426	0.0152	0.0233	-0.0193	-0.0009	0.0563	0.0333	0.0221
0.9400	0.1236	0.0152	0.0495	0.0087	-0.0023	0.0539	0.0550	0.0247
0.9400	0.0741	0.0152	0.0521	0.0040	-0.0179	0.0784	0.0657	0.0533

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
0.9400	0.0247	0.0152	0.1239	0.0076	-0.0350	0.1078	0.0685	0.0496
0.9400	-0.0247	0.0152	0.2025	0.0333	-0.0455	0.1458	0.0656	0.0392
0.9400	-0.0742	0.0152	0.2863	0.0410	-0.0358	0.1002	0.0513	0.0297
0.9400	-0.1236	0.0152	0.2672	0.0413	-0.0491	0.0656	0.0404	0.0155
0.9400	-0.1426	0.0152	0.2463	0.0360	-0.0326	0.1125	0.0381	0.0259
1.6000	0.1426	0.0152	-0.0004	-0.0369	-0.0082	0.0661	0.0614	0.0276
1.6000	0.1236	0.0152	0.0706	-0.0261	0.0130	0.0870	0.0757	0.0323
1.6000	0.0741	0.0152	0.0471	-0.0420	0.0059	0.0928	0.0770	0.0510
1.6000	0.0247	0.0152	0.0991	-0.0470	0.0239	0.0931	0.0746	0.0400
1.6000	-0.0247	0.0152	0.1813	-0.0415	0.0088	0.0839	0.0726	0.0555
1.6000	-0.0742	0.0152	0.2374	-0.0323	0.0062	0.0778	0.0559	0.0348
1.6000	-0.1236	0.0152	0.2210	-0.0214	0.0101	0.0952	0.0609	0.0298
1.6000	-0.1426	0.0152	0.2414	-0.0152	-0.0003	0.0852	0.0680	0.0283
2.5900	0.1426	0.0152	0.0429	-0.0131	-0.0029	0.0641	0.0439	0.0279
2.5900	0.1236	0.0152	0.0684	-0.0304	-0.0029	0.0782	0.0524	0.0320
2.5900	0.0741	0.0152	0.0772	-0.0226	0.0160	0.0846	0.0587	0.0380
2.5900	0.0247	0.0152	0.0609	-0.0396	0.0265	0.0943	0.0635	0.0450
2.5900	-0.0247	0.0152	0.0585	-0.0138	0.0125	0.0878	0.0618	0.0408
2.5900	-0.0742	0.0152	0.0675	-0.0115	0.0042	0.1099	0.0611	0.0407
2.5900	-0.1236	0.0152	0.1898	0.0140	0.0034	0.0800	0.0498	0.0266
2.5900	-0.1426	0.0152	0.2008	0.0045	-0.0202	0.1053	0.0515	0.0251
3.2500	0.1426	0.0152	0.1281	0.0081	-0.0057	0.0459	0.0300	0.0218
3.2500	0.1236	0.0152	0.1092	0.0049	0.0032	0.0468	0.0286	0.0232
3.2500	0.0741	0.0152	0.1119	0.0014	0.0017	0.0436	0.0307	0.0279
3.2500	0.0247	0.0152	0.1305	0.0023	-0.0135	0.0743	0.0373	0.0273
3.2500	-0.0247	0.0152	0.1088	-0.0106	0.0063	0.0822	0.0349	0.0188
3.2500	-0.0742	0.0152	0.1181	0.0107	0.0068	0.0768	0.0409	0.0201
3.2500	-0.1236	0.0152	0.1573	-0.0026	-0.0031	0.0409	0.0309	0.0247
3.2500	-0.1426	0.0152	0.1469	0.0180	-0.0114	0.0371	0.0248	0.0165
4.1940	0.1426	0.0152	0.1081	0.0042	-0.0085	0.0387	0.0259	0.0095
4.1940	0.1236	0.0152	0.1289	0.0089	-0.0013	0.0270	0.0248	0.0169
4.1940	0.0741	0.0152	0.1145	-0.0068	-0.0036	0.0358	0.0282	0.0182
4.1940	0.0247	0.0152	0.1276	0.0041	-0.0059	0.0964	0.0214	0.0177
4.1940	-0.0247	0.0152	0.0920	-0.0012	0.0071	0.0807	0.0242	-0.0001
4.1940	-0.0742	0.0152	0.1377	-0.0106	0.0048	0.0541	0.0301	0.0184
4.1940	-0.1236	0.0152	0.1228	0.0063	-0.0027	0.0612	0.0271	0.0164
4.1940	-0.1426	0.0152	0.1195	0.0049	0.0015	0.0792	0.0204	0.0112
-0.0700	0.0892	0.0152	0.2322	-0.0020	-0.0022	0.0806	0.0240	0.0201
-0.0700	0.0637	0.0152	0.4491	0.0008	-0.0023	0.1067	0.0208	0.0157
-0.0700	0.0382	0.0152	0.2563	0.0019	-0.0088	0.0839	0.0229	0.0184
-0.0700	0.0127	0.0152	0.3241	-0.0060	-0.0053	0.1002	0.0242	0.0181
-0.0700	-0.0127	0.0152	0.3944	-0.0023	-0.0013	0.0772	0.0207	0.0164
-0.0700	-0.0382	0.0152	0.4216	-0.0003	-0.0019	0.0754	0.0183	0.0157
-0.0700	-0.0637	0.0152	0.3660	-0.0009	-0.0013	0.0695	0.0177	0.0154
-0.0700	-0.0891	0.0152	0.2275	-0.0014	-0.0021	0.0770	0.0198	0.0248
0.0940	0.0947	0.0152	0.2654	0.0193	0.0230	0.0681	0.0369	0.0313
0.0940	0.0677	0.0152	0.4322	0.0341	0.0254	0.0287	0.0210	0.0454
0.0940	0.0406	0.0152	0.4008	0.0452	0.0218	0.0434	0.0269	0.0485
0.0940	0.0135	0.0152	0.3825	0.0299	0.0260	0.0526	0.0254	0.0481
0.0940	-0.0135	0.0152	0.3844	0.0261	0.0400	0.0335	0.0245	0.0395
0.0940	-0.0406	0.0152	0.3952	0.0330	0.0328	0.0317	0.0213	0.0550
0.0940	-0.0677	0.0152	0.4277	0.0326	0.0244	0.0338	0.0229	0.0489
0.0940	-0.0948	0.0152	0.3748	0.0353	0.0103	0.0516	0.0333	0.0293
0.2990	0.1275	0.0152	0.0560	-0.0029	-0.0029	0.0421	0.0280	0.0280

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
0.2990	0.1315	0.0152	0.0519	-0.0053	-0.0053	0.0291	0.0215	0.0215
0.2990	0.1115	0.0152	0.0581	0.0217	0.0305	0.0525	0.0409	0.0438
0.2990	0.0797	0.0152	0.1731	0.0288	0.0202	0.0848	0.0550	0.0364
0.2990	0.0478	0.0152	0.3461	0.0946	0.0061	0.0731	0.0453	0.0309
0.2990	0.0159	0.0152	0.3731	0.0414	0.0068	0.0405	0.0332	0.0348
0.2990	-0.0159	0.0152	0.3488	0.0414	0.0156	0.0486	0.0324	0.0344
0.2990	-0.0478	0.0152	0.3576	0.0388	0.0089	0.0460	0.0298	0.0259
0.2990	-0.0796	0.0152	0.3618	0.0057	0.0125	0.0399	0.0280	0.0255
0.2990	-0.1115	0.0152	0.3225	0.0749	0.0102	0.0618	0.0407	0.0250
0.2990	-0.1285	0.0152	0.2819	0.0459	0.0459	0.0917	0.0577	0.0577
0.2990	-0.1325	0.0152	0.2775	0.0613	0.0613	0.0874	0.0629	0.0629
0.5300	0.1468	0.0152	0.0530	-0.0049	-0.0049	0.0759	0.0305	0.0305
0.5300	0.1508	0.0152	0.0912	-0.0168	-0.0168	0.0550	0.0221	0.0221
0.5300	0.1305	0.0152	0.0727	-0.0241	-0.0009	0.0640	0.0365	0.0224
0.5300	0.0932	0.0152	0.0869	0.0231	0.0027	0.0721	0.0608	0.0259
0.5300	0.0559	0.0152	0.1507	0.0245	-0.0147	0.0904	0.0592	0.0585
0.5300	0.0187	0.0152	0.3012	0.0701	-0.0270	0.1074	0.0550	0.0439
0.5300	-0.0186	0.0152	0.3569	0.1060	-0.0422	0.0556	0.0505	0.0393
0.5300	-0.0558	0.0152	0.3260	0.1033	-0.0580	0.0514	0.0329	0.0357
0.5300	-0.0931	0.0152	0.3551	0.1057	-0.0404	0.0509	0.0423	0.0171
0.5300	-0.1304	0.0152	0.2981	0.0887	0.0071	0.0611	0.0419	0.0337
0.5300	-0.1443	0.0152	0.2944	0.0393	0.0393	0.0497	0.0313	0.0313
0.5300	-0.1483	0.0152	0.2604	0.0371	0.0371	0.0637	0.0401	0.0401
0.6700	0.1534	0.0152	-0.0067	-0.0283	-0.0283	0.0832	0.0268	0.0268
0.6700	0.1574	0.0152	0.0164	-0.0281	-0.0281	0.0363	0.0207	0.0207
0.6700	-0.1534	0.0152	0.2920	0.0373	0.0373	0.0603	0.0369	0.0369
0.6700	-0.1574	0.0152	0.2718	0.0488	0.0488	0.0642	0.0433	0.0433
0.9400	0.1534	0.0152	0.0325	-0.0207	-0.0207	0.0458	0.0239	0.0239
0.9400	0.1574	0.0152	0.0347	-0.0169	-0.0169	0.0649	0.0276	0.0276
0.9400	-0.1534	0.0152	0.2334	0.0227	0.0227	0.0563	0.0335	0.0335
0.9400	-0.1574	0.0152	0.2266	0.0186	0.0186	0.0469	0.0395	0.0395
1.6000	0.1534	0.0152	-0.0497	-0.0156	-0.0156	0.0489	0.0269	0.0269
1.6000	0.1574	0.0152	0.0192	-0.0265	-0.0265	0.0735	0.0238	0.0238
1.6000	-0.1534	0.0152	0.2613	-0.0107	-0.0107	0.0569	0.0382	0.0382
1.6000	-0.1574	0.0152	0.1371	0.0047	0.0047	0.0800	0.0410	0.0410
2.5900	0.1534	0.0152	0.0270	-0.0004	-0.0004	0.0779	0.0269	0.0269
2.5900	0.1574	0.0152	0.0467	0.0214	0.0214	0.0487	0.0289	0.0289
2.5900	-0.1534	0.0152	0.1446	0.0127	0.0127	0.0434	0.0354	0.0354
2.5900	-0.1574	0.0152	0.1600	0.0193	0.0193	0.0585	0.0284	0.0284
3.2500	0.1534	0.0152	0.0984	0.0121	0.0121	0.0336	0.0221	0.0221
3.2500	0.1574	0.0152	0.1130	0.0090	0.0090	0.0385	0.0234	0.0234
3.2500	-0.1534	0.0152	0.1295	0.0198	0.0198	0.0381	0.0200	0.0200
3.2500	-0.1574	0.0152	0.1252	0.0059	0.0059	0.0356	0.0222	0.0222
4.1940	0.1534	0.0152	0.1131	0.0114	0.0114	0.0287	0.0156	0.0156
4.1940	0.1574	0.0152	0.0722	0.0115	0.0115	0.0405	0.0140	0.0140
4.1940	-0.1534	0.0152	0.1279	-0.0040	-0.0061	0.0339	0.0171	0.0171
4.1940	-0.1574	0.0152	0.1301	0.0107	0.0086	0.0282	0.0136	0.0136
0.2990	-0.1427	0.0202	0.2242	0.0280	0.0280	0.0815	0.0777	0.0777
0.5300	-0.1585	0.0202	0.2155	0.0373	0.0373	0.0847	0.0526	0.0526
-0.0700	0.0892	0.0372	0.3873	-0.0044	-0.0040	0.0738	0.0224	0.0190
-0.0700	0.0637	0.0372	0.4744	-0.0044	-0.0037	0.0801	0.0190	0.0122
-0.0700	0.0382	0.0372	0.4412	-0.0057	-0.0050	0.0611	0.0201	0.0135
-0.0700	0.0127	0.0372	0.4493	-0.0025	-0.0040	0.0621	0.0175	0.0144
-0.0700	-0.0127	0.0372	0.4621	-0.0005	0.0008	0.0685	0.0135	0.0123

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
-0.0700	-0.0382	0.0372	0.4629	0.0032	0.0027	0.0420	0.0127	0.0130
-0.0700	-0.0637	0.0372	0.4560	0.0000	0.0008	0.0450	0.0132	0.0132
-0.0700	-0.0891	0.0372	0.3887	-0.0014	-0.0043	0.0619	0.0186	0.0247
0.0940	0.0947	0.0372	0.3364	0.0125	0.0259	0.0580	0.0280	0.0302
0.0940	0.0677	0.0372	0.4623	0.0286	0.0519	0.0235	0.0168	0.0492
0.0940	0.0406	0.0372	0.4481	0.0286	0.0601	0.0338	0.0208	0.0453
0.0940	0.0135	0.0372	0.4458	0.0256	-0.0011	0.0295	0.0205	0.0422
0.0940	-0.0135	0.0372	0.4295	0.0245	0.0323	0.0269	0.0169	0.0425
0.0940	-0.0406	0.0372	0.4416	0.0339	0.0317	0.0194	0.0170	0.0471
0.0940	-0.0677	0.0372	0.4720	0.0400	0.0370	0.0183	0.0152	0.0516
0.0940	-0.0948	0.0372	0.4307	0.0503	0.0347	0.0410	0.0274	0.0340
0.2990	0.1275	0.0372	0.0268	0.0248	0.0248	0.0511	0.0265	0.0265
0.2990	0.1315	0.0372	0.0397	0.0314	0.0314	0.0435	0.0243	0.0243
0.2990	0.1417	0.0372	0.0163	0.0199	0.0199	0.0312	0.0298	0.0298
0.2990	0.1115	0.0372	0.0392	0.0305	0.0262	0.0563	0.0321	0.0431
0.2990	0.0797	0.0372	0.2094	0.0216	0.0386	0.0915	0.0712	0.0431
0.2990	0.0478	0.0372	0.4081	0.0229	0.0050	0.0634	0.0374	0.0392
0.2990	0.0159	0.0372	0.4082	0.0347	0.0291	0.0329	0.0266	0.0335
0.2990	-0.0159	0.0372	0.4025	0.0340	0.0288	0.0358	0.0207	0.0333
0.2990	-0.0478	0.0372	0.4330	0.0392	0.0111	0.0278	0.0181	0.0234
0.2990	-0.0796	0.0372	0.4192	0.0242	0.0077	0.0304	0.0202	0.0259
0.2990	-0.1115	0.0372	0.3887	0.0452	0.0050	0.0535	0.0347	0.0247
0.2990	-0.1285	0.0372	0.3693	0.0577	0.0577	0.0840	0.0673	0.0673
0.2990	-0.1325	0.0372	0.3241	0.0690	0.0690	0.0862	0.0775	0.0775
0.2990	-0.1427	0.0372	0.2289	0.0606	0.0606	0.1137	0.0797	0.0797
0.5300	0.1468	0.0372	0.0257	0.0156	0.0156	0.0499	0.0312	0.0312
0.5300	0.1508	0.0372	0.0259	-0.0016	-0.0016	0.0467	0.0320	0.0320
0.5300	0.1610	0.0372	0.0143	0.0156	0.0156	0.0362	0.0271	0.0271
0.5300	0.1305	0.0372	0.0307	0.0216	0.0115	0.0567	0.0407	0.0210
0.5300	0.0932	0.0372	0.0881	0.0356	-0.0074	0.0850	0.0653	0.0252
0.5300	0.0559	0.0372	0.1905	0.0342	-0.0183	0.1108	0.0723	0.0465
0.5300	0.0187	0.0372	0.3457	0.0640	-0.0189	0.0934	0.0540	0.0473
0.5300	-0.0186	0.0372	0.4017	0.0857	-0.0414	0.0455	0.0382	0.0322
0.5300	-0.0558	0.0372	0.3978	0.0943	-0.0580	0.0516	0.0303	0.0357
0.5300	-0.0931	0.0372	0.4135	0.0965	-0.0431	0.0388	0.0234	0.0217
0.5300	-0.1304	0.0372	0.3705	0.0942	0.0230	0.0643	0.0467	0.0339
0.5300	-0.1443	0.0372	0.3325	0.0540	0.0540	0.0781	0.0295	0.0295
0.5300	-0.1483	0.0372	0.3205	0.0604	0.0604	0.0854	0.0378	0.0378
0.5300	-0.1585	0.0372	0.2882	0.0558	0.0558	0.0881	0.0518	0.0518
0.6700	0.1534	0.0372	-0.0057	-0.0370	-0.0370	0.0801	0.0261	0.0261
0.6700	0.1574	0.0372	-0.0169	-0.0188	-0.0188	0.0406	0.0317	0.0317
0.6700	0.1676	0.0372	-0.0007	-0.0042	-0.0042	0.0526	0.0316	0.0316
0.6700	-0.1534	0.0372	0.3158	0.0378	0.0378	0.0502	0.0270	0.0270
0.6700	-0.1574	0.0372	0.3154	0.0492	0.0492	0.0502	0.0374	0.0374
0.6700	-0.1676	0.0372	0.2987	-0.0307	-0.0307	0.0752	0.0333	0.0333
0.9400	0.1534	0.0372	0.0159	-0.0021	-0.0021	0.0278	0.0318	0.0318
0.9400	0.1574	0.0372	0.0575	-0.0190	-0.0190	0.0468	0.0262	0.0262
0.9400	0.1676	0.0372	0.0485	-0.0269	-0.0269	0.0439	0.0238	0.0238
0.9400	-0.1534	0.0372	0.3008	0.0408	0.0408	0.0502	0.0241	0.0241
0.9400	-0.1574	0.0372	0.2874	0.0453	0.0453	0.0602	0.0328	0.0328
0.9400	-0.1676	0.0372	0.2631	0.0373	0.0373	0.0563	0.0333	0.0333
1.6000	0.1534	0.0372	0.0123	-0.0104	-0.0104	0.0442	0.0312	0.0312
1.6000	0.1574	0.0372	0.0277	-0.0120	-0.0120	0.0801	0.0300	0.0300
1.6000	0.1676	0.0372	-0.0596	-0.0033	-0.0033	0.0614	0.0355	0.0355

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
1.6000	-0.1534	0.0372	0.3007	-0.0141	-0.0141	0.0567	0.0334	0.0334
1.6000	-0.1574	0.0372	0.2419	-0.0008	-0.0008	0.0594	0.0393	0.0393
1.6000	-0.1676	0.0372	0.3115	-0.0011	-0.0011	0.0434	0.0336	0.0336
2.5900	0.1534	0.0372	0.0346	-0.0036	-0.0036	0.0443	0.0303	0.0303
2.5900	0.1574	0.0372	0.0746	0.0027	0.0027	0.0504	0.0322	0.0322
2.5900	0.1676	0.0372	0.0413	0.0116	0.0116	0.0828	0.0312	0.0312
2.5900	-0.1534	0.0372	0.2075	0.0066	0.0066	0.0655	0.0278	0.0278
2.5900	-0.1574	0.0372	0.1822	-0.0093	-0.0093	0.0634	0.0378	0.0378
2.5900	-0.1676	0.0372	0.2369	-0.0035	-0.0035	0.0551	0.0303	0.0303
3.2500	0.1534	0.0372	0.1180	0.0101	0.0101	0.0350	0.0180	0.0180
3.2500	0.1574	0.0372	0.1236	0.0104	0.0104	0.0290	0.0205	0.0205
3.2500	0.1676	0.0372	0.0984	0.0093	0.0093	0.0286	0.0198	0.0198
3.2500	-0.1534	0.0372	0.1557	0.0099	0.0099	0.0499	0.0220	0.0220
3.2500	-0.1574	0.0372	0.1494	0.0095	0.0095	0.0293	0.0265	0.0265
3.2500	-0.1676	0.0372	0.1684	0.0084	0.0084	0.0535	0.0224	0.0224
4.1940	0.1534	0.0372	0.1198	0.0182	0.0182	0.0292	0.0234	0.0234
4.1940	0.1574	0.0372	0.1331	0.0138	0.0138	0.0245	0.0222	0.0222
4.1940	0.1676	0.0372	0.1042	0.0123	0.0123	0.0246	0.0144	0.0144
4.1940	-0.1534	0.0372	0.1261	0.0132	0.0111	0.0206	0.0204	0.0204
4.1940	-0.1574	0.0372	0.1452	0.0083	0.0059	0.0357	0.0146	0.0146
4.1940	-0.1676	0.0372	0.1561	0.0066	0.0040	0.0271	0.0187	0.0187
0.6700	0.1426	0.0372	-0.0191	0.0103	-0.0036	0.0774	0.0608	0.0278
0.6700	0.1236	0.0372	0.0113	-0.0124	-0.0169	0.0660	0.0697	0.0279
0.6700	0.0741	0.0372	0.0480	0.0048	-0.0194	0.0740	0.0879	0.0360
0.6700	0.0247	0.0372	0.1503	-0.0152	-0.0033	0.0928	0.0848	0.0512
0.6700	-0.0247	0.0372	0.2423	-0.0035	-0.0078	0.1007	0.0757	0.0518
0.6700	-0.0742	0.0372	0.2981	-0.0071	-0.0123	0.1073	0.0587	0.0446
0.6700	-0.1236	0.0372	0.3285	0.0027	-0.0194	0.0663	0.0544	0.0254
0.6700	-0.1426	0.0372	0.3392	-0.0006	-0.0169	0.0672	0.0380	0.0292
0.9400	0.1426	0.0372	-0.0015	0.0044	0.0113	0.0514	0.0450	0.0207
0.9400	0.1236	0.0372	0.0003	-0.0076	0.0026	0.0583	0.0646	0.0254
0.9400	0.0741	0.0372	0.0430	-0.0092	-0.0163	0.0836	0.0897	0.0470
0.9400	0.0247	0.0372	0.1582	0.0249	-0.0317	0.1074	0.0703	0.0486
0.9400	-0.0247	0.0372	0.3204	0.0317	-0.0450	0.0852	0.0570	0.0386
0.9400	-0.0742	0.0372	0.3487	0.0443	-0.0413	0.0534	0.0365	0.0288
0.9400	-0.1236	0.0372	0.3393	0.0581	-0.0464	0.0491	0.0263	0.0189
0.9400	-0.1426	0.0372	0.3233	0.0512	-0.0511	0.0652	0.0259	0.0277
1.6000	0.1426	0.0372	0.0227	-0.0397	0.0232	0.0702	0.0551	0.0231
1.6000	0.1236	0.0372	0.0946	-0.0301	0.0081	0.0651	0.0718	0.0314
1.6000	0.0741	0.0372	0.0677	-0.0381	0.0136	0.0867	0.0579	0.0446
1.6000	0.0247	0.0372	0.1626	-0.0552	0.0214	0.0860	0.0620	0.0391
1.6000	-0.0247	0.0372	0.1899	-0.0456	0.0078	0.0906	0.0625	0.0528
1.6000	-0.0742	0.0372	0.2531	-0.0477	0.0025	0.0817	0.0586	0.0416
1.6000	-0.1236	0.0372	0.2797	-0.0269	0.0087	0.0663	0.0502	0.0313
1.6000	-0.1426	0.0372	0.2797	-0.0330	0.0029	0.0655	0.0562	0.0326
2.5900	0.1426	0.0372	0.0849	-0.0274	0.0076	0.0761	0.0670	0.0330
2.5900	0.1236	0.0372	0.0888	-0.0298	-0.0018	0.0742	0.0573	0.0336
2.5900	0.0741	0.0372	0.1300	-0.0359	0.0150	0.0852	0.0502	0.0380
2.5900	0.0247	0.0372	0.1695	-0.0252	0.0217	0.0773	0.0648	0.0429
2.5900	-0.0247	0.0372	0.1720	-0.0213	0.0103	0.0878	0.0507	0.0392
2.5900	-0.0742	0.0372	0.2012	-0.0016	0.0016	0.0974	0.0496	0.0372
2.5900	-0.1236	0.0372	0.2155	0.0000	0.0029	0.0902	0.0443	0.0287
2.5900	-0.1426	0.0372	0.2456	0.0014	0.0026	0.0596	0.0380	0.0196
3.2500	0.1426	0.0372	0.1326	-0.0123	-0.0047	0.0411	0.0321	0.0158

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
3.2500	0.1236	0.0372	0.1355	-0.0074	0.0017	0.0313	0.0306	0.0234
3.2500	0.0741	0.0372	0.1244	-0.0142	-0.0044	0.0638	0.0355	0.0271
3.2500	0.0247	0.0372	0.1333	0.0106	-0.0128	0.0457	0.0363	0.0262
3.2500	-0.0247	0.0372	0.1353	-0.0146	0.0049	0.0603	0.0353	0.0189
3.2500	-0.0742	0.0372	0.1596	-0.0018	0.0043	0.0505	0.0357	0.0181
3.2500	-0.1236	0.0372	0.1562	-0.0015	-0.0045	0.0349	0.0300	0.0228
3.2500	-0.1426	0.0372	0.1658	-0.0077	0.0005	0.0358	0.0309	0.0181
4.1940	0.1426	0.0372	0.1168	0.0036	0.0004	0.0235	0.0203	0.0179
4.1940	0.1236	0.0372	0.1334	-0.0069	-0.0027	0.0292	0.0225	0.0151
4.1940	0.0741	0.0372	0.1402	-0.0215	-0.0066	0.0283	0.0265	0.0175
4.1940	0.0247	0.0372	0.1512	-0.0070	-0.0064	0.0240	0.0282	0.0172
4.1940	-0.0247	0.0372	0.1547	-0.0136	0.0053	0.0334	0.0240	0.0042
4.1940	-0.0742	0.0372	0.1463	0.0006	0.0048	0.0287	0.0243	0.0178
4.1940	-0.1236	0.0372	0.1543	-0.0045	-0.0057	0.0434	0.0244	0.0144
4.1940	-0.1426	0.0372	0.1402	-0.0005	-0.0028	0.0466	0.0187	0.0121
0.2990	0.1637	0.0422	-0.0091	0.0050	0.0050	0.0293	0.0352	0.0352
0.2990	-0.1647	0.0422	0.1620	0.0191	0.0191	0.1012	0.1035	0.1035
0.5300	-0.1805	0.0422	0.1792	0.0425	0.0425	0.1134	0.0589	0.0589
-0.0700	0.0892	0.0609	0.4407	-0.0038	-0.0094	0.0499	0.0201	0.0182
-0.0700	0.0637	0.0609	0.5119	-0.0067	-0.0070	0.0274	0.0140	0.0120
-0.0700	0.0382	0.0609	0.4692	-0.0062	-0.0041	0.0591	0.0117	0.0109
-0.0700	0.0127	0.0609	0.4768	-0.0030	-0.0012	0.0269	0.0124	0.0123
-0.0700	-0.0127	0.0609	0.4716	-0.0004	0.0036	0.0382	0.0134	0.0134
-0.0700	-0.0382	0.0609	0.4658	0.0036	0.0038	0.0357	0.0146	0.0149
-0.0700	-0.0637	0.0609	0.4544	0.0067	-0.0010	0.0348	0.0167	0.0167
-0.0700	-0.0891	0.0609	0.4149	0.0009	-0.0116	0.0586	0.0194	0.0215
0.0940	0.0947	0.0609	0.3507	0.0212	0.0178	0.0569	0.0328	0.0275
0.0940	0.0677	0.0609	0.4761	0.0256	0.0259	0.0220	0.0155	0.0616
0.0940	0.0406	0.0609	0.4927	0.0289	0.0260	0.0192	0.0181	0.0622
0.0940	0.0135	0.0609	0.4715	0.0222	-0.0064	0.0177	0.0143	0.0431
0.0940	-0.0135	0.0609	0.4476	0.0341	0.0301	0.0161	0.0145	0.0416
0.0940	-0.0406	0.0609	0.4415	0.0299	0.0215	0.0188	0.0153	0.0408
0.0940	-0.0677	0.0609	0.4681	0.0393	0.0160	0.0204	0.0172	0.0540
0.0940	-0.0948	0.0609	0.4431	0.0400	0.0284	0.0388	0.0290	0.0450
0.2990	0.1275	0.0609	0.0140	0.0032	0.0032	0.0527	0.0017	0.0017
0.2990	0.1315	0.0609	-0.0065	0.0186	0.0186	0.0564	0.0042	0.0042
0.2990	0.1417	0.0609	0.0133	0.0090	0.0090	0.0368	0.0325	0.0325
0.2990	0.1637	0.0609	0.0187	0.0685	0.0685	0.0246	0.0175	0.0175
0.2990	0.1115	0.0609	0.0172	0.0197	0.0339	0.0686	0.0383	0.0387
0.2990	0.0797	0.0609	0.2587	0.0228	0.0117	0.0917	0.0551	0.0482
0.2990	0.0478	0.0609	0.4388	0.0139	0.0020	0.0490	0.0303	0.0366
0.2990	0.0159	0.0609	0.4364	0.0325	0.0233	0.0302	0.0192	0.0372
0.2990	-0.0159	0.0609	0.4471	0.0350	0.0367	0.0255	0.0162	0.0316
0.2990	-0.0478	0.0609	0.4424	0.0425	0.0061	0.0190	0.0165	0.0259
0.2990	-0.0796	0.0609	0.4368	0.0243	0.0026	0.0215	0.0216	0.0299
0.2990	-0.1115	0.0609	0.4072	0.0371	0.0178	0.0532	0.0365	0.0222
0.2990	-0.1285	0.0609	0.4019	0.0513	0.0513	0.0833	0.0753	0.0753
0.2990	-0.1325	0.0609	0.3534	0.0740	0.0740	0.0988	0.0696	0.0696
0.2990	-0.1427	0.0609	0.2880	0.0669	0.0669	0.0994	0.0760	0.0760
0.2990	-0.1647	0.0609	0.1470	0.0647	0.0647	0.0779	0.0993	0.0993
0.5300	0.1468	0.0609	-0.0197	0.0094	0.0094	0.0501	0.0315	0.0315
0.5300	0.1508	0.0609	0.0212	0.0116	0.0116	0.0545	0.0246	0.0246
0.5300	0.1610	0.0609	-0.0034	0.0112	0.0112	0.0570	0.0288	0.0288
0.5300	0.1830	0.0609	-0.0559	0.0167	0.0167	0.0422	0.0231	0.0231

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
0.5300	0.1305	0.0609	-0.0094	0.0348	-0.0134	0.0711	0.0384	0.0197
0.5300	0.0932	0.0609	0.0548	0.0240	-0.0195	0.0856	0.0594	0.0270
0.5300	0.0559	0.0609	0.2080	0.0478	-0.0103	0.1001	0.0664	0.0433
0.5300	0.0187	0.0609	0.3648	0.0718	-0.0022	0.0923	0.0507	0.0401
0.5300	-0.0186	0.0609	0.4381	0.0762	-0.0414	0.0315	0.0250	0.0322
0.5300	-0.0558	0.0609	0.4448	0.0919	-0.0501	0.0304	0.0192	0.0157
0.5300	-0.0931	0.0609	0.4378	0.1069	-0.0330	0.0254	0.0178	0.0262
0.5300	-0.1304	0.0609	0.4124	0.1125	0.0413	0.0415	0.0340	0.0244
0.5300	-0.1443	0.0609	0.4031	0.0477	0.0477	0.0535	0.0260	0.0260
0.5300	-0.1483	0.0609	0.4015	0.0594	0.0594	0.0548	0.0253	0.0253
0.5300	-0.1585	0.0609	0.3714	0.0644	0.0644	0.0655	0.0335	0.0335
0.5300	-0.1805	0.0609	0.2643	0.0696	0.0696	0.0895	0.0501	0.0501
0.6700	0.1534	0.0609	-0.0091	-0.0361	-0.0361	0.0556	0.0308	0.0308
0.6700	0.1574	0.0609	-0.0154	-0.0110	-0.0110	0.0447	0.0263	0.0263
0.6700	0.1676	0.0609	-0.0724	-0.0450	-0.0450	0.0674	0.0323	0.0323
0.6700	0.1896	0.0609	-0.0633	-0.0090	-0.0090	0.0747	0.0352	0.0352
0.6700	-0.1534	0.0609	0.3666	0.0694	0.0694	0.0609	0.0244	0.0244
0.6700	-0.1574	0.0609	0.3661	0.0572	0.0572	0.0447	0.0308	0.0308
0.6700	-0.1676	0.0609	0.3709	0.0418	0.0418	0.0595	0.0271	0.0271
0.6700	-0.1896	0.0609	0.3221	0.0837	0.0837	0.0649	0.0309	0.0309
0.9400	0.1534	0.0609	-0.0347	0.0224	0.0224	0.0498	0.0288	0.0288
0.9400	0.1574	0.0609	0.0206	-0.0061	-0.0061	0.0833	0.0292	0.0292
0.9400	0.1676	0.0609	-0.0075	0.0636	0.0636	0.0394	0.0259	0.0259
0.9400	0.1896	0.0609	-0.0007	-0.0091	-0.0091	0.0310	0.0232	0.0232
0.9400	-0.1534	0.0609	0.3357	0.0518	0.0518	0.0433	0.0241	0.0241
0.9400	-0.1574	0.0609	0.3148	0.0526	0.0526	0.0468	0.0229	0.0229
0.9400	-0.1676	0.0609	0.2895	0.0449	0.0449	0.0699	0.0281	0.0281
0.9400	-0.1896	0.0609	0.2597	0.0369	0.0369	0.0660	0.0369	0.0369
1.6000	0.1534	0.0609	-0.0367	-0.0200	-0.0200	0.0445	0.0312	0.0312
1.6000	0.1574	0.0609	0.0029	-0.0172	-0.0172	0.0790	0.0350	0.0350
1.6000	0.1676	0.0609	-0.0289	-0.0109	-0.0109	0.0641	0.0339	0.0339
1.6000	0.1896	0.0609	-0.0542	-0.0235	-0.0235	0.0552	0.0329	0.0329
1.6000	-0.1534	0.0609	0.3268	-0.0105	-0.0105	0.0591	0.0359	0.0359
1.6000	-0.1574	0.0609	0.3046	-0.0152	-0.0152	0.0644	0.0339	0.0339
1.6000	-0.1676	0.0609	0.3154	-0.0031	-0.0031	0.0463	0.0318	0.0318
1.6000	-0.1896	0.0609	0.2654	-0.0144	-0.0144	0.0628	0.0423	0.0423
2.5900	0.1534	0.0609	0.0423	-0.0012	-0.0012	0.0533	0.0302	0.0302
2.5900	0.1574	0.0609	0.0766	-0.0115	-0.0115	0.0718	0.0292	0.0292
2.5900	0.1676	0.0609	0.0725	0.0202	0.0202	0.0454	0.0324	0.0324
2.5900	0.1896	0.0609	0.0675	0.0139	0.0139	0.0603	0.0324	0.0324
2.5900	-0.1534	0.0609	0.2318	-0.0059	-0.0059	0.0667	0.0331	0.0331
2.5900	-0.1574	0.0609	0.2017	-0.0192	-0.0192	0.0650	0.0385	0.0385
2.5900	-0.1676	0.0609	0.2393	-0.0017	-0.0017	0.0568	0.0353	0.0353
2.5900	-0.1896	0.0609	0.1879	-0.0010	-0.0010	0.0578	0.0315	0.0315
3.2500	0.1534	0.0609	0.1421	0.0065	0.0065	0.0310	0.0208	0.0208
3.2500	0.1574	0.0609	0.1169	0.0063	0.0063	0.0450	0.0246	0.0246
3.2500	0.1676	0.0609	0.1180	0.0143	0.0143	0.0211	0.0182	0.0182
3.2500	0.1896	0.0609	0.1251	0.0076	0.0076	0.0251	0.0187	0.0187
3.2500	-0.1534	0.0609	0.1742	0.0027	0.0027	0.0373	0.0202	0.0202
3.2500	-0.1574	0.0609	0.1778	0.0038	0.0038	0.0320	0.0176	0.0176
3.2500	-0.1676	0.0609	0.1541	0.0110	0.0110	0.0401	0.0235	0.0235
3.2500	-0.1896	0.0609	0.1435	0.0205	0.0205	0.0333	0.0284	0.0284
4.1940	0.1534	0.0609	0.1405	0.0108	0.0108	0.0350	0.0166	0.0166
4.1940	0.1574	0.0609	0.1455	0.0096	0.0096	0.0229	0.0212	0.0212

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
4.1940	0.1676	0.0609	0.1150	0.0158	0.0158	0.0192	0.0171	0.0171
4.1940	0.1896	0.0609	0.1071	0.0148	0.0148	0.0356	0.0148	0.0148
4.1940	-0.1534	0.0609	0.1487	0.0060	0.0036	0.0300	0.0204	0.0204
4.1940	-0.1574	0.0609	0.1577	0.0015	-0.0011	0.0227	0.0174	0.0174
4.1940	-0.1676	0.0609	0.1487	0.0048	0.0023	0.0250	0.0176	0.0176
4.1940	-0.1896	0.0609	0.1438	0.0033	0.0009	0.0303	0.0212	0.0212
0.6700	0.1426	0.0609	-0.0296	0.0010	-0.0248	0.0537	0.0427	0.0198
0.6700	0.1236	0.0609	-0.0173	0.0227	-0.0134	0.0507	0.0524	0.0331
0.6700	0.0741	0.0609	0.0411	-0.0055	-0.0022	0.0644	0.0615	0.0423
0.6700	0.0247	0.0609	0.1309	-0.0244	0.0039	0.0971	0.0810	0.0504
0.6700	-0.0247	0.0609	0.2102	-0.0154	-0.0053	0.1041	0.0692	0.0492
0.6700	-0.0742	0.0609	0.3537	-0.0063	-0.0156	0.0815	0.0570	0.0470
0.6700	-0.1236	0.0609	0.3908	0.0129	-0.0286	0.0551	0.0354	0.0175
0.6700	-0.1426	0.0609	0.3972	0.0165	-0.0251	0.0437	0.0290	0.0217
0.9400	0.1426	0.0609	-0.0269	0.0083	-0.0132	0.0558	0.0561	0.0194
0.9400	0.1236	0.0609	-0.0249	0.0289	-0.0073	0.0554	0.0525	0.0248
0.9400	0.0741	0.0609	0.0553	0.0047	-0.0145	0.0954	0.0845	0.0577
0.9400	0.0247	0.0609	0.1822	0.0153	-0.0230	0.1010	0.0741	0.0477
0.9400	-0.0247	0.0609	0.3321	0.0299	-0.0430	0.0790	0.0602	0.0364
0.9400	-0.0742	0.0609	0.3789	0.0524	-0.0400	0.0315	0.0293	0.0329
0.9400	-0.1236	0.0609	0.3592	0.0603	-0.0474	0.0459	0.0239	0.0144
0.9400	-0.1426	0.0609	0.3503	0.0530	-0.0470	0.0419	0.0290	0.0101
1.6000	0.1426	0.0609	-0.0074	-0.0153	0.0243	0.0613	0.0669	0.0269
1.6000	0.1236	0.0609	0.1172	-0.0337	0.0063	0.0782	0.0689	0.0333
1.6000	0.0741	0.0609	0.0740	-0.0337	-0.0025	0.0962	0.0837	0.0495
1.6000	0.0247	0.0609	0.1497	-0.0520	0.0216	0.0765	0.0846	0.0333
1.6000	-0.0247	0.0609	0.2395	-0.0427	0.0059	0.0737	0.0554	0.0474
1.6000	-0.0742	0.0609	0.2737	-0.0425	0.0002	0.0579	0.0642	0.0536
1.6000	-0.1236	0.0609	0.3050	-0.0378	0.0085	0.0555	0.0524	0.0272
1.6000	-0.1426	0.0609	0.3295	-0.0346	-0.0025	0.0565	0.0479	0.0261
2.5900	0.1426	0.0609	0.0929	-0.0284	0.0095	0.0748	0.0590	0.0319
2.5900	0.1236	0.0609	0.1114	-0.0321	0.0041	0.0646	0.0589	0.0295
2.5900	0.0741	0.0609	0.1517	-0.0384	0.0134	0.0666	0.0592	0.0343
2.5900	0.0247	0.0609	0.1853	-0.0316	0.0158	0.0649	0.0515	0.0387
2.5900	-0.0247	0.0609	0.2075	-0.0197	0.0053	0.0683	0.0501	0.0389
2.5900	-0.0742	0.0609	0.2175	-0.0192	0.0057	0.0924	0.0422	0.0376
2.5900	-0.1236	0.0609	0.2319	0.0060	0.0024	0.0813	0.0440	0.0299
2.5900	-0.1426	0.0609	0.2529	0.0069	-0.0014	0.0638	0.0409	0.0241
3.2500	0.1426	0.0609	0.1383	-0.0117	0.0018	0.0349	0.0305	0.0227
3.2500	0.1236	0.0609	0.1330	-0.0078	0.0025	0.0274	0.0317	0.0218
3.2500	0.0741	0.0609	0.1410	-0.0125	0.0037	0.0526	0.0317	0.0241
3.2500	0.0247	0.0609	0.1602	0.0002	-0.0143	0.0368	0.0383	0.0254
3.2500	-0.0247	0.0609	0.1500	-0.0089	0.0018	0.0418	0.0345	0.0178
3.2500	-0.0742	0.0609	0.1828	-0.0160	0.0030	0.0324	0.0334	0.0202
3.2500	-0.1236	0.0609	0.1616	-0.0079	-0.0003	0.0354	0.0288	0.0248
3.2500	-0.1426	0.0609	0.1509	-0.0006	0.0029	0.0386	0.0350	0.0203
4.1940	0.1426	0.0609	0.1293	-0.0039	0.0012	0.0288	0.0316	0.0205
4.1940	0.1236	0.0609	0.1548	-0.0125	-0.0023	0.0298	0.0255	0.0175
4.1940	0.0741	0.0609	0.1419	-0.0108	-0.0038	0.0310	0.0240	0.0170
4.1940	0.0247	0.0609	0.1533	-0.0090	-0.0084	0.0286	0.0239	0.0142
4.1940	-0.0247	0.0609	0.1525	-0.0123	0.0009	0.0254	0.0195	0.0148
4.1940	-0.0742	0.0609	0.1481	-0.0062	0.0014	0.0367	0.0237	0.0165
4.1940	-0.1236	0.0609	0.1548	-0.0150	0.0007	0.0323	0.0222	0.0179
4.1940	-0.1426	0.0609	0.1439	-0.0071	-0.0004	0.0306	0.0259	0.0115

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
0.2990	0.1874	0.0659	0.0338	0.0075	0.0075	0.0446	0.0445	0.0445
0.2990	-0.1884	0.0659	0.0009	-0.0002	-0.0002	0.0988	0.0024	0.0024
0.5300	-0.2042	0.0659	0.1705	0.0607	0.0607	0.1031	0.0553	0.0553
0.0940	0.1325	0.0828	0.0182	0.0019	0.0013	0.0739	0.0080	0.0057
0.0940	-0.0988	0.0828	0.0411	0.0351	0.0351	0.0429	0.0449	0.0449
0.0940	-0.1179	0.0828	0.0272	0.1303	0.1303	0.0935	0.0204	0.0204
0.0940	0.1134	0.1019	0.0141	-0.0283	-0.0200	0.0209	0.0210	0.0149
0.0940	0.1325	0.1019	0.0302	-0.0376	-0.0266	0.0292	0.0280	0.0198
0.0940	-0.0988	0.1019	0.0540	0.0459	0.0459	0.0507	0.0349	0.0349
0.0940	-0.1179	0.1019	0.0637	0.0456	0.0456	0.0774	0.0266	0.0266
0.6700	0.1426	0.1101	-0.0775	0.0459	-0.0183	0.0467	0.0483	0.0251
0.6700	0.1236	0.1101	-0.0638	0.0421	-0.0091	0.0423	0.0421	0.0333
0.6700	0.0741	0.1101	-0.0002	0.0393	-0.0065	0.0741	0.0655	0.0528
0.6700	0.0247	0.1101	0.1094	0.0080	-0.0109	0.0896	0.0695	0.0405
0.6700	-0.0247	0.1101	0.2347	0.0083	-0.0155	0.1004	0.0766	0.0484
0.6700	-0.0742	0.1101	0.3718	0.0096	-0.0169	0.0740	0.0496	0.0450
0.6700	-0.1236	0.1101	0.4216	0.0210	-0.0323	0.0388	0.0310	0.0248
0.6700	-0.1426	0.1101	0.4209	0.0243	-0.0287	0.0413	0.0343	0.0149
0.9400	0.1426	0.1101	-0.0628	0.0448	-0.0200	0.0468	0.0541	0.0234
0.9400	0.1236	0.1101	-0.0453	0.0285	-0.0192	0.0444	0.0546	0.0266
0.9400	0.0741	0.1101	0.0272	0.0018	-0.0181	0.0915	0.0819	0.0458
0.9400	0.0247	0.1101	0.1534	0.0149	-0.0266	0.0965	0.0722	0.0432
0.9400	-0.0247	0.1101	0.3384	0.0406	-0.0458	0.0769	0.0477	0.0377
0.9400	-0.0742	0.1101	0.3802	0.0546	-0.0404	0.0435	0.0333	0.0324
0.9400	-0.1236	0.1101	0.3515	0.0692	-0.0482	0.0570	0.0341	0.0124
0.9400	-0.1426	0.1101	0.3484	0.0755	-0.0479	0.0458	0.0328	0.0168
1.6000	0.1426	0.1101	-0.0256	-0.0188	0.0110	0.0607	0.0711	0.0302
1.6000	0.1236	0.1101	0.0896	-0.0582	0.0099	0.0553	0.0662	0.0316
1.6000	0.0741	0.1101	0.0817	-0.0453	0.0079	0.0821	0.0683	0.0455
1.6000	0.0247	0.1101	0.1455	-0.0446	0.0102	0.0878	0.0767	0.0441
1.6000	-0.0247	0.1101	0.2137	-0.0562	0.0056	0.0698	0.0654	0.0480
1.6000	-0.0742	0.1101	0.2700	-0.0470	0.0053	0.0845	0.0684	0.0426
1.6000	-0.1236	0.1101	0.3511	-0.0296	0.0033	0.0629	0.0488	0.0374
1.6000	-0.1426	0.1101	0.3538	-0.0318	0.0030	0.0529	0.0468	0.0328
2.5900	0.1426	0.1101	0.0823	-0.0230	0.0046	0.0587	0.0642	0.0313
2.5900	0.1236	0.1101	0.1275	-0.0429	0.0003	0.0486	0.0580	0.0297
2.5900	0.0741	0.1101	0.1337	-0.0299	-0.0064	0.0540	0.0601	0.0396
2.5900	0.0247	0.1101	0.1736	-0.0361	0.0054	0.0687	0.0600	0.0423
2.5900	-0.0247	0.1101	0.2135	-0.0091	0.0085	0.0579	0.0498	0.0308
2.5900	-0.0742	0.1101	0.2354	-0.0091	0.0012	0.0457	0.0358	0.0327
2.5900	-0.1236	0.1101	0.2609	0.0004	0.0046	0.0739	0.0448	0.0237
2.5900	-0.1426	0.1101	0.2540	0.0048	0.0049	0.0481	0.0405	0.0303
3.2500	0.1426	0.1101	0.1461	-0.0166	-0.0031	0.0331	0.0432	0.0180
3.2500	0.1236	0.1101	0.1492	-0.0154	0.0002	0.0313	0.0341	0.0228
3.2500	0.0741	0.1101	0.1596	-0.0154	-0.0088	0.0385	0.0295	0.0208
3.2500	0.0247	0.1101	0.1505	-0.0064	-0.0047	0.0316	0.0380	0.0215
3.2500	-0.0247	0.1101	0.1698	-0.0124	0.0020	0.0420	0.0345	0.0207
3.2500	-0.0742	0.1101	0.1838	-0.0187	0.0003	0.0396	0.0306	0.0194
3.2500	-0.1236	0.1101	0.1790	-0.0155	0.0032	0.0463	0.0244	0.0210
3.2500	-0.1426	0.1101	0.1746	-0.0167	0.0037	0.0397	0.0334	0.0190
4.1940	0.1426	0.1101	0.1344	-0.0182	-0.0011	0.0320	0.0190	0.0142
4.1940	0.1236	0.1101	0.1446	-0.0224	-0.0039	0.0248	0.0270	0.0187
4.1940	0.0741	0.1101	0.1487	-0.0175	-0.0072	0.0327	0.0295	0.0165
4.1940	0.0247	0.1101	0.1501	-0.0109	-0.0054	0.0364	0.0287	0.0188

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
4.1940	-0.0247	0.1101	0.1585	-0.0046	0.0007	0.0506	0.0227	0.0152
4.1940	-0.0742	0.1101	0.1447	-0.0017	0.0018	0.0579	0.0240	0.0162
4.1940	-0.1236	0.1101	0.1457	-0.0044	0.0018	0.0218	0.0215	0.0180
4.1940	-0.1426	0.1101	0.1493	-0.0128	0.0037	0.0454	0.0203	0.0211
-0.0700	0.0892	0.1101	0.4328	-0.0009	-0.0110	0.0398	0.0225	0.0200
-0.0700	0.0637	0.1101	0.5072	-0.0024	-0.0099	0.0267	0.0150	0.0152
-0.0700	0.0382	0.1101	0.4715	-0.0025	-0.0037	0.0162	0.0124	0.0104
-0.0700	0.0127	0.1101	0.4818	-0.0036	0.0017	0.0113	0.0118	0.0092
-0.0700	-0.0127	0.1101	0.4742	-0.0025	0.0075	0.0336	0.0154	0.0155
-0.0700	-0.0382	0.1101	0.4595	-0.0066	0.0077	0.0215	0.0188	0.0186
-0.0700	-0.0637	0.1101	0.4244	-0.0090	-0.0007	0.0365	0.0248	0.0215
-0.0700	-0.0891	0.1101	0.4075	-0.0096	-0.0058	0.0352	0.0200	0.0240
0.0940	0.0947	0.1101	0.3476	0.0144	0.0133	0.0624	0.0300	0.0343
0.0940	0.0677	0.1101	0.4635	0.0275	0.0241	0.0263	0.0160	0.0590
0.0940	0.0406	0.1101	0.4962	0.0296	0.0255	0.0183	0.0134	0.0562
0.0940	0.0135	0.1101	0.4748	0.0267	0.0065	0.0134	0.0111	0.0413
0.0940	-0.0135	0.1101	0.4446	0.0268	0.0277	0.0168	0.0145	0.0417
0.0940	-0.0406	0.1101	0.4397	0.0264	0.0402	0.0252	0.0220	0.0472
0.0940	-0.0677	0.1101	0.4438	0.0273	-0.0033	0.0279	0.0245	0.0381
0.0940	-0.0948	0.1101	0.3870	0.0383	0.0217	0.0564	0.0298	0.0400
0.2990	0.1637	0.1101	-0.0660	0.0701	0.0701	0.0022	0.0123	0.0123
0.2990	0.1874	0.1101	-0.0384	0.0938	0.0938	0.0280	0.0271	0.0271
0.2990	0.1115	0.1101	0.0385	0.0123	0.0251	0.0756	0.0460	0.0369
0.2990	0.0797	0.1101	0.2581	0.0257	0.0168	0.1151	0.0616	0.0402
0.2990	0.0478	0.1101	0.4182	0.0357	0.0281	0.0678	0.0394	0.0361
0.2990	0.0159	0.1101	0.4570	0.0175	0.0344	0.0238	0.0209	0.0360
0.2990	-0.0159	0.1101	0.4548	0.0394	0.0321	0.0176	0.0127	0.0328
0.2990	-0.0478	0.1101	0.4432	0.0491	0.0141	0.0219	0.0244	0.0214
0.2990	-0.0796	0.1101	0.4249	0.0246	0.0257	0.0286	0.0315	0.0232
0.2990	-0.1115	0.1101	0.3448	0.0570	0.0215	0.0711	0.0656	0.0198
0.2990	-0.1325	0.1101	0.3712	-0.0001	-0.0001	0.1082	0.0204	0.0204
0.2990	-0.1427	0.1101	0.3250	0.0612	0.0612	0.1123	0.0592	0.0592
0.2990	-0.1647	0.1101	0.1944	0.0617	0.0617	0.0618	0.0784	0.0784
0.2990	-0.1884	0.1101	0.1940	0.0506	0.0506	0.0834	0.0504	0.0504
0.2990	-0.2376	0.1101	0.0404	0.0582	0.0582	0.0803	0.0310	0.0310
0.5300	0.1468	0.1101	-0.0672	0.0096	0.0096	0.1211	0.0329	0.0329
0.5300	0.1508	0.1101	-0.0756	0.0126	0.0126	0.0279	0.0489	0.0489
0.5300	0.1610	0.1101	-0.0491	0.0115	0.0115	0.0566	0.0284	0.0284
0.5300	0.1830	0.1101	-0.0453	0.0081	0.0081	0.0599	0.0220	0.0220
0.5300	0.2067	0.1101	-0.0799	0.0213	0.0213	0.0366	0.0281	0.0281
0.5300	0.1305	0.1101	-0.0585	0.0463	-0.0203	0.0631	0.0383	0.0238
0.5300	0.0932	0.1101	0.0383	0.0176	-0.0163	0.0951	0.0551	0.0269
0.5300	0.0559	0.1101	0.1967	0.0137	-0.0098	0.1001	0.0687	0.0436
0.5300	0.0187	0.1101	0.3468	0.0737	-0.0022	0.1181	0.0539	0.0401
0.5300	-0.0186	0.1101	0.4435	0.0971	-0.0351	0.0427	0.0334	0.0298
0.5300	-0.0558	0.1101	0.4521	0.1019	-0.0497	0.0255	0.0231	0.0157
0.5300	-0.0931	0.1101	0.4351	0.1141	-0.0517	0.0349	0.0295	0.0280
0.5300	-0.1304	0.1101	0.3817	0.1167	0.0524	0.0674	0.0714	0.0244
0.5300	-0.1443	0.1101	0.3963	0.0392	0.0392	0.0439	0.0364	0.0364
0.5300	-0.1483	0.1101	0.3545	0.0437	0.0437	0.0862	0.0717	0.0717
0.5300	-0.1585	0.1101	0.3572	0.0693	0.0693	0.0817	0.0341	0.0341
0.5300	-0.1805	0.1101	0.3177	0.0702	0.0702	0.0864	0.0523	0.0523
0.5300	-0.2042	0.1101	0.2657	0.0770	0.0770	0.0823	0.0514	0.0514
0.6700	0.1534	0.1101	-0.0855	0.0410	0.0410	0.0382	0.0231	0.0231

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
0.6700	0.1574	0.1101	-0.0952	0.0288	0.0288	0.0454	0.0264	0.0264
0.6700	0.1676	0.1101	-0.0873	-0.0680	-0.0680	0.0585	0.0295	0.0295
0.6700	0.1896	0.1101	-0.0772	-0.0586	-0.0586	0.0500	0.0256	0.0256
0.6700	0.2133	0.1101	-0.1116	-0.0068	-0.0068	0.0379	0.0291	0.0291
0.6700	-0.1534	0.1101	0.4307	0.0234	0.0234	0.0362	0.0202	0.0202
0.6700	-0.1574	0.1101	0.4174	0.0425	0.0425	0.0367	0.0222	0.0222
0.6700	-0.1676	0.1101	0.4154	0.0307	0.0307	0.0349	0.0241	0.0241
0.6700	-0.1896	0.1101	0.3974	0.0512	0.0512	0.0398	0.0237	0.0237
0.6700	-0.2133	0.1101	0.3713	0.0297	0.0297	0.0429	0.0304	0.0304
0.9400	0.1534	0.1101	-0.0442	0.0032	0.0032	0.0643	0.0314	0.0314
0.9400	0.1574	0.1101	-0.0640	0.0068	0.0068	0.0414	0.0243	0.0243
0.9400	0.1676	0.1101	-0.0561	0.0267	0.0267	0.0383	0.0272	0.0272
0.9400	0.1896	0.1101	-0.0332	-0.0111	-0.0111	0.0594	0.0283	0.0283
0.9400	0.2133	0.1101	-0.0673	0.0025	0.0025	0.0441	0.0283	0.0283
0.9400	-0.1534	0.1101	0.3620	0.0493	0.0493	0.0279	0.0231	0.0231
0.9400	-0.1574	0.1101	0.3483	0.0525	0.0525	0.0378	0.0334	0.0334
0.9400	-0.1676	0.1101	0.3332	0.0529	0.0529	0.0474	0.0354	0.0354
0.9400	-0.1896	0.1101	0.3248	0.0598	0.0598	0.0483	0.0358	0.0358
0.9400	-0.2133	0.1101	0.3167	0.0724	0.0724	0.0476	0.0361	0.0361
1.6000	0.1534	0.1101	-0.0495	-0.0065	-0.0065	0.0502	0.0329	0.0329
1.6000	0.1574	0.1101	-0.0362	-0.0059	-0.0059	0.0614	0.0354	0.0354
1.6000	0.1676	0.1101	-0.0607	-0.0036	-0.0036	0.0675	0.0311	0.0311
1.6000	0.1896	0.1101	-0.0533	0.0017	0.0017	0.0408	0.0290	0.0290
1.6000	0.2133	0.1101	-0.0420	-0.0042	-0.0042	0.0415	0.0284	0.0284
1.6000	-0.1534	0.1101	0.3497	-0.0050	-0.0050	0.0550	0.0301	0.0301
1.6000	-0.1574	0.1101	0.3693	0.0025	0.0025	0.0438	0.0256	0.0256
1.6000	-0.1676	0.1101	0.3620	-0.0022	-0.0022	0.0497	0.0281	0.0281
1.6000	-0.1896	0.1101	0.3445	0.0043	0.0043	0.0484	0.0267	0.0267
1.6000	-0.2133	0.1101	0.3411	-0.0009	-0.0009	0.0595	0.0314	0.0314
2.5900	0.1534	0.1101	0.0775	-0.0012	-0.0012	0.0658	0.0295	0.0295
2.5900	0.1574	0.1101	0.0799	-0.0020	-0.0020	0.0548	0.0301	0.0301
2.5900	0.1676	0.1101	0.0634	-0.0026	-0.0026	0.0697	0.0281	0.0281
2.5900	0.1896	0.1101	0.0872	-0.0033	-0.0033	0.0549	0.0275	0.0275
2.5900	0.2133	0.1101	0.0142	-0.0164	-0.0164	0.0542	0.0292	0.0292
2.5900	-0.1534	0.1101	0.2654	-0.0075	-0.0075	0.0576	0.0306	0.0306
2.5900	-0.1574	0.1101	0.2739	-0.0106	-0.0106	0.0434	0.0276	0.0276
2.5900	-0.1676	0.1101	0.2577	-0.0183	-0.0183	0.0624	0.0321	0.0321
2.5900	-0.1896	0.1101	0.2498	-0.0040	-0.0040	0.0624	0.0306	0.0306
2.5900	-0.2133	0.1101	0.2334	-0.0029	-0.0029	0.0734	0.0307	0.0307
3.2500	0.1534	0.1101	0.1439	0.0021	0.0021	0.0331	0.0240	0.0240
3.2500	0.1574	0.1101	0.1395	0.0052	0.0052	0.0280	0.0249	0.0249
3.2500	0.1676	0.1101	0.1425	0.0006	0.0006	0.0334	0.0219	0.0219
3.2500	0.1896	0.1101	0.1422	-0.0014	-0.0014	0.0348	0.0200	0.0200
3.2500	0.2133	0.1101	0.1262	-0.0011	-0.0011	0.0326	0.0218	0.0218
3.2500	-0.1534	0.1101	0.1701	-0.0083	-0.0083	0.0411	0.0218	0.0218
3.2500	-0.1574	0.1101	0.1802	0.0025	0.0025	0.0414	0.0176	0.0176
3.2500	-0.1676	0.1101	0.1908	-0.0009	-0.0009	0.0429	0.0201	0.0201
3.2500	-0.1896	0.1101	0.1620	0.0064	0.0064	0.0539	0.0230	0.0230
3.2500	-0.2133	0.1101	0.1550	0.0089	0.0089	0.0330	0.0208	0.0208
4.1940	0.1534	0.1101	0.1327	0.0073	0.0073	0.0233	0.0170	0.0170
4.1940	0.1574	0.1101	0.1546	0.0087	0.0087	0.0237	0.0190	0.0190
4.1940	0.1676	0.1101	0.1182	0.0008	0.0008	0.0341	0.0193	0.0193
4.1940	0.1896	0.1101	0.1316	0.0095	0.0095	0.0314	0.0211	0.0211
4.1940	0.2133	0.1101	0.1404	0.0102	0.0102	0.0190	0.0160	0.0160

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
4.1940	-0.1534	0.1101	0.1507	0.0021	-0.0004	0.0292	0.0157	0.0157
4.1940	-0.1574	0.1101	0.1495	0.0034	0.0010	0.0340	0.0226	0.0226
4.1940	-0.1676	0.1101	0.1397	0.0044	0.0021	0.0315	0.0169	0.0169
4.1940	-0.1896	0.1101	0.1375	0.0012	-0.0010	0.0219	0.0183	0.0183
4.1940	-0.2133	0.1101	0.1538	0.0065	0.0040	0.0282	0.0168	0.0168
0.2990	0.2366	0.1151	-0.0696	0.0241	0.0241	0.0353	0.0149	0.0149
0.2990	-0.2376	0.1151	0.0487	0.0606	0.0606	0.0680	0.0578	0.0578
0.5300	-0.2534	0.1151	0.1016	0.0669	0.0669	0.1078	0.0611	0.0611
0.0940	0.1134	0.1210	0.0178	-0.0239	-0.0169	0.0211	0.0212	0.0150
0.0940	0.1325	0.1210	0.0473	-0.0322	-0.0228	0.0245	0.0081	0.0057
0.0940	-0.0988	0.1210	0.0911	0.0455	0.0455	0.0647	0.0451	0.0451
0.0940	-0.1179	0.1210	0.0428	0.0217	0.0217	0.0998	0.0518	0.0518
0.0940	0.1134	0.1401	0.0111	-0.0112	-0.0080	0.0225	0.0209	0.0148
0.0940	0.1325	0.1401	0.0481	-0.0289	-0.0204	0.0332	0.0099	0.0070
0.0940	-0.0988	0.1401	0.0974	0.0389	0.0389	0.0479	0.0378	0.0378
0.0940	-0.1179	0.1401	0.0086	0.0247	0.0247	0.1008	0.0306	0.0306
-0.0700	0.0892	0.1566	0.4069	0.0007	-0.0159	0.0606	0.0223	0.0225
-0.0700	0.0637	0.1566	0.4744	0.0046	-0.0152	0.0714	0.0196	0.0148
-0.0700	0.0382	0.1566	0.4754	-0.0012	-0.0055	0.0147	0.0129	0.0126
-0.0700	0.0127	0.1566	0.4797	-0.0004	0.0016	0.0287	0.0107	0.0120
-0.0700	-0.0127	0.1566	0.4847	-0.0023	0.0048	0.0240	0.0112	0.0100
-0.0700	-0.0382	0.1566	0.4818	-0.0012	0.0052	0.0220	0.0132	0.0155
-0.0700	-0.0637	0.1566	0.4567	0.0008	0.0039	0.0691	0.0169	0.0196
-0.0700	-0.0891	0.1566	0.3987	-0.0039	-0.0016	0.0599	0.0218	0.0274
0.0940	0.0947	0.1566	0.3280	0.0142	0.0390	0.0698	0.0310	0.0353
0.0940	0.0677	0.1566	0.4345	0.0322	0.0326	0.0738	0.0214	0.0510
0.0940	0.0406	0.1566	0.4774	0.0385	0.0495	0.0266	0.0161	0.0655
0.0940	0.0135	0.1566	0.4704	0.0330	-0.0021	0.0121	0.0124	0.0438
0.0940	-0.0135	0.1566	0.4476	0.0352	0.0372	0.0189	0.0098	0.0499
0.0940	-0.0406	0.1566	0.4627	0.0365	0.0508	0.0185	0.0137	0.0491
0.0940	-0.0677	0.1566	0.4906	0.0413	0.0049	0.0246	0.0192	0.0386
0.0940	-0.0948	0.1566	0.4175	0.0398	0.0129	0.0683	0.0348	0.0406
0.2990	0.1637	0.1566	-0.0699	0.0010	0.0010	0.0657	0.0100	0.0100
0.2990	0.1115	0.1566	0.0395	-0.0075	0.0150	0.0711	0.0738	0.0444
0.2990	0.0797	0.1566	0.2049	0.0368	0.0079	0.1185	0.0764	0.0423
0.2990	0.0478	0.1566	0.3914	0.0367	0.0225	0.0671	0.0433	0.0358
0.2990	0.0159	0.1566	0.4477	0.0036	0.0257	0.0329	0.0214	0.0410
0.2990	-0.0159	0.1566	0.4574	0.0390	0.0341	0.0205	0.0601	0.0371
0.2990	-0.0478	0.1566	0.4553	0.0418	0.0123	0.0193	0.0208	0.0252
0.2990	-0.0796	0.1566	0.4505	0.0294	0.0246	0.0334	0.0273	0.0238
0.2990	-0.1115	0.1566	0.3635	0.0408	0.0227	0.0949	0.0720	0.0215
0.2990	-0.1647	0.1566	0.1740	0.0417	0.0417	0.0796	0.0744	0.0744
0.2990	-0.1884	0.1566	0.2808	0.0548	0.0548	0.0815	0.0991	0.0991
0.5300	0.1830	0.1566	-0.0306	0.0157	0.0157	0.0611	0.0441	0.0441
0.5300	0.2067	0.1566	-0.0555	0.0075	0.0075	0.0633	0.0299	0.0299
0.5300	0.2559	0.1566	-0.1299	0.0241	0.0241	0.0353	0.0244	0.0244
0.5300	0.1305	0.1566	-0.0127	0.0461	-0.0142	0.0611	0.0446	0.0291
0.5300	0.0932	0.1566	0.0537	0.0333	-0.0107	0.0913	0.0602	0.0284
0.5300	0.0559	0.1566	0.1870	0.0239	-0.0098	0.1082	0.0645	0.0484
0.5300	0.0187	0.1566	0.3433	0.0740	-0.0463	0.0979	0.0532	0.0600
0.5300	-0.0186	0.1566	0.4028	0.0991	-0.0362	0.0696	0.0438	0.0301
0.5300	-0.0558	0.1566	0.4507	0.1080	-0.0469	0.0314	0.0217	0.0192
0.5300	-0.0931	0.1566	0.4459	0.1223	-0.0476	0.0387	0.0387	0.0102
0.5300	-0.1304	0.1566	0.3847	0.1459	0.0499	0.0858	0.0497	0.0234

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
0.5300	-0.1443	0.1566	0.4087	0.0376	0.0376	0.0651	0.0474	0.0474
0.5300	-0.1483	0.1566	0.3699	0.0528	0.0528	0.0880	0.0342	0.0342
0.5300	-0.1585	0.1566	0.3527	0.0448	0.0448	0.0934	0.0594	0.0594
0.5300	-0.1805	0.1566	0.2764	0.0520	0.0520	0.0807	0.0623	0.0623
0.5300	-0.2042	0.1566	0.2248	0.0716	0.0716	0.0976	0.0617	0.0617
0.5300	-0.2534	0.1566	0.1155	0.0617	0.0617	0.0946	0.0707	0.0707
0.6700	0.1534	0.1566	-0.0811	-0.0156	-0.0156	0.0442	0.0264	0.0264
0.6700	0.1574	0.1566	-0.0710	0.0674	0.0674	0.0428	0.0237	0.0237
0.6700	0.1676	0.1566	-0.0681	0.0200	0.0200	0.0515	0.0277	0.0277
0.6700	0.1896	0.1566	-0.1064	0.0110	0.0110	0.0377	0.0244	0.0244
0.6700	0.2133	0.1566	-0.0983	0.0398	0.0398	0.0503	0.0249	0.0249
0.6700	0.2625	0.1566	-0.1331	0.0080	0.0080	0.0346	0.0280	0.0280
0.6700	-0.1534	0.1566	0.4184	0.0178	0.0178	0.0491	0.0281	0.0281
0.6700	-0.1574	0.1566	0.4216	0.0247	0.0247	0.0643	0.0298	0.0298
0.6700	-0.1676	0.1566	0.4153	0.0535	0.0535	0.0415	0.0244	0.0244
0.6700	-0.1896	0.1566	0.4270	0.0426	0.0426	0.0366	0.0257	0.0257
0.6700	-0.2133	0.1566	0.3769	0.0366	0.0366	0.0528	0.0313	0.0313
0.6700	-0.2625	0.1566	0.3491	0.0433	0.0433	0.0673	0.0339	0.0339
0.9400	0.1534	0.1566	-0.0746	0.0236	0.0236	0.0549	0.0172	0.0172
0.9400	0.1574	0.1566	-0.0729	0.0193	0.0193	0.0420	0.0301	0.0301
0.9400	0.1676	0.1566	-0.0708	0.0310	0.0310	0.0434	0.0266	0.0266
0.9400	0.1896	0.1566	-0.0811	0.0350	0.0350	0.0455	0.0272	0.0272
0.9400	0.2133	0.1566	-0.1131	0.0128	0.0128	0.0446	0.0298	0.0298
0.9400	0.2625	0.1566	-0.0936	0.0152	0.0152	0.0320	0.0214	0.0214
0.9400	-0.1534	0.1566	0.3604	0.0456	0.0456	0.0539	0.0262	0.0262
0.9400	-0.1574	0.1566	0.3485	0.0476	0.0476	0.0484	0.0314	0.0314
0.9400	-0.1676	0.1566	0.3451	0.0452	0.0452	0.0627	0.0363	0.0363
0.9400	-0.1896	0.1566	0.3031	0.0549	0.0549	0.0587	0.0439	0.0439
0.9400	-0.2133	0.1566	0.2864	0.0517	0.0517	0.0613	0.0447	0.0447
0.9400	-0.2625	0.1566	0.1911	0.0670	0.0670	0.0704	0.0553	0.0553
1.6000	0.1534	0.1566	-0.0287	-0.0045	-0.0045	0.0727	0.0329	0.0329
1.6000	0.1574	0.1566	-0.0067	-0.0083	-0.0083	0.0660	0.0319	0.0319
1.6000	0.1676	0.1566	-0.0446	-0.0101	-0.0101	0.0666	0.0364	0.0364
1.6000	0.1896	0.1566	-0.0551	-0.0079	-0.0079	0.0520	0.0312	0.0312
1.6000	0.2133	0.1566	-0.0611	-0.0291	-0.0291	0.0590	0.0319	0.0319
1.6000	0.2625	0.1566	-0.0172	-0.0178	-0.0178	0.0308	0.0231	0.0231
1.6000	-0.1534	0.1566	0.3290	0.0020	0.0020	0.0607	0.0278	0.0278
1.6000	-0.1574	0.1566	0.3457	-0.0066	-0.0066	0.0580	0.0183	0.0183
1.6000	-0.1676	0.1566	0.3514	0.0019	0.0019	0.0492	0.0308	0.0308
1.6000	-0.1896	0.1566	0.3611	0.0104	0.0104	0.0445	0.0257	0.0257
1.6000	-0.2133	0.1566	0.3625	0.0289	0.0289	0.0491	0.0283	0.0283
1.6000	-0.2625	0.1566	0.3446	0.0073	0.0073	0.0603	0.0307	0.0307
2.5900	0.1534	0.1566	0.0661	-0.0010	-0.0010	0.0580	0.0265	0.0265
2.5900	0.1574	0.1566	0.0808	-0.0005	-0.0005	0.0507	0.0279	0.0279
2.5900	0.1676	0.1566	0.0811	-0.0047	-0.0047	0.0613	0.0260	0.0260
2.5900	0.1896	0.1566	0.0812	-0.0177	-0.0177	0.0651	0.0239	0.0239
2.5900	0.2133	0.1566	0.0685	-0.0024	-0.0024	0.0656	0.0306	0.0306
2.5900	0.2625	0.1566	0.0111	-0.0105	-0.0105	0.0377	0.0304	0.0304
2.5900	-0.1534	0.1566	0.3024	-0.0102	-0.0102	0.0508	0.0289	0.0289
2.5900	-0.1574	0.1566	0.2634	-0.0099	-0.0099	0.0539	0.0294	0.0294
2.5900	-0.1676	0.1566	0.2757	-0.0022	-0.0022	0.0511	0.0272	0.0272
2.5900	-0.1896	0.1566	0.2851	-0.0123	-0.0123	0.0478	0.0288	0.0288
2.5900	-0.2133	0.1566	0.3022	-0.0246	-0.0246	0.0372	0.0253	0.0253
2.5900	-0.2625	0.1566	0.2155	-0.0099	-0.0099	0.0515	0.0275	0.0275

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
3.2500	0.1534	0.1566	0.1321	-0.0048	-0.0048	0.0336	0.0228	0.0228
3.2500	0.1574	0.1566	0.1337	-0.0024	-0.0024	0.0381	0.0215	0.0215
3.2500	0.1676	0.1566	0.1417	-0.0074	-0.0074	0.0291	0.0237	0.0237
3.2500	0.1896	0.1566	0.1185	-0.0026	-0.0026	0.0381	0.0233	0.0233
3.2500	0.2133	0.1566	0.1126	0.0014	0.0014	0.0314	0.0199	0.0199
3.2500	0.2625	0.1566	0.1176	-0.0077	-0.0077	0.0218	0.0183	0.0183
3.2500	-0.1534	0.1566	0.1902	0.0054	0.0054	0.0316	0.0190	0.0190
3.2500	-0.1574	0.1566	0.1927	0.0057	0.0057	0.0540	0.0177	0.0177
3.2500	-0.1676	0.1566	0.1688	0.0015	0.0015	0.1107	0.0235	0.0235
3.2500	-0.1896	0.1566	0.1818	0.0039	0.0039	0.0332	0.0175	0.0175
3.2500	-0.2133	0.1566	0.1630	0.0007	0.0007	0.0291	0.0201	0.0201
3.2500	-0.2625	0.1566	0.1520	0.0145	0.0145	0.0371	0.0245	0.0245
4.1940	0.1534	0.1566	0.1518	0.0025	0.0025	0.0234	0.0187	0.0187
4.1940	0.1574	0.1566	0.1518	0.0060	0.0060	0.0369	0.0187	0.0187
4.1940	0.1676	0.1566	0.1529	0.0064	0.0064	0.0257	0.0161	0.0161
4.1940	0.1896	0.1566	0.1249	0.0029	0.0029	0.0269	0.0177	0.0177
4.1940	0.2133	0.1566	0.1337	0.0020	0.0020	0.0330	0.0172	0.0172
4.1940	0.2625	0.1566	0.1262	0.0053	0.0053	0.0278	0.0206	0.0206
4.1940	-0.1534	0.1566	0.1629	0.0013	-0.0013	0.0317	0.0172	0.0172
4.1940	-0.1574	0.1566	0.1777	-0.0017	-0.0047	0.0287	0.0140	0.0140
4.1940	-0.1676	0.1566	0.1618	0.0016	-0.0010	0.0261	0.0169	0.0169
4.1940	-0.1896	0.1566	0.1397	0.0022	-0.0001	0.0249	0.0165	0.0165
4.1940	-0.2133	0.1566	0.1795	0.0004	-0.0025	0.0344	0.0176	0.0176
4.1940	-0.2625	0.1566	0.1380	0.0016	-0.0006	0.0396	0.0168	0.0168
0.6700	0.1426	0.1566	-0.0724	0.0131	-0.0100	0.0506	0.0519	0.0289
0.6700	0.1236	0.1566	-0.0486	0.0360	-0.0115	0.0574	0.0713	0.0317
0.6700	0.0741	0.1566	-0.0058	0.0205	0.0109	0.0656	0.0951	0.0392
0.6700	0.0247	0.1566	0.0955	0.0027	-0.0030	0.0879	0.0724	0.0457
0.6700	-0.0247	0.1566	0.2365	-0.0173	-0.0143	0.0954	0.0654	0.0502
0.6700	-0.0742	0.1566	0.3559	0.0085	-0.0153	0.0672	0.0513	0.0406
0.6700	-0.1236	0.1566	0.4106	0.0180	-0.0242	0.0503	0.0407	0.0192
0.6700	-0.1426	0.1566	0.4254	0.0278	-0.0283	0.0446	0.0315	0.0187
0.9400	0.1426	0.1566	-0.0657	0.0490	-0.0140	0.0487	0.0399	0.0287
0.9400	0.1236	0.1566	-0.0410	0.0048	-0.0160	0.0572	0.0893	0.0264
0.9400	0.0741	0.1566	0.0590	-0.0128	-0.0101	0.0961	0.0753	0.0427
0.9400	0.0247	0.1566	0.1466	0.0252	-0.0186	0.1052	0.0680	0.0466
0.9400	-0.0247	0.1566	0.3059	0.0407	-0.0417	0.0912	0.0476	0.0388
0.9400	-0.0742	0.1566	0.3724	0.0634	-0.0497	0.0519	0.0336	0.0310
0.9400	-0.1236	0.1566	0.3557	0.0810	-0.0453	0.0408	0.0286	0.0157
0.9400	-0.1426	0.1566	0.3534	0.0802	-0.0532	0.0591	0.0393	0.0248
1.6000	0.1426	0.1566	-0.0182	-0.0093	-0.0086	0.0703	0.0837	0.0322
1.6000	0.1236	0.1566	0.0871	-0.0562	-0.0100	0.0653	0.0858	0.0322
1.6000	0.0741	0.1566	0.0550	-0.0382	0.0129	0.0821	0.0921	0.0436
1.6000	0.0247	0.1566	0.1296	-0.0434	0.0023	0.0793	0.0779	0.0332
1.6000	-0.0247	0.1566	0.2002	-0.0384	0.0023	0.0797	0.0760	0.0366
1.6000	-0.0742	0.1566	0.3021	-0.0331	0.0015	0.0733	0.0634	0.0303
1.6000	-0.1236	0.1566	0.3312	-0.0327	0.0059	0.0643	0.0489	0.0364
1.6000	-0.1426	0.1566	0.3170	-0.0165	0.0017	0.0591	0.0507	0.0363
2.5900	0.1426	0.1566	0.0672	-0.0402	0.0036	0.0607	0.0582	0.0296
2.5900	0.1236	0.1566	0.1014	0.0031	0.0061	0.0708	0.0571	0.0185
2.5900	0.0741	0.1566	0.1271	-0.0182	-0.0020	0.0812	0.0717	0.0303
2.5900	0.0247	0.1566	0.1627	-0.0283	-0.0003	0.0850	0.0594	0.0237
2.5900	-0.0247	0.1566	0.1704	-0.0119	-0.0039	0.0681	0.0543	0.0320
2.5900	-0.0742	0.1566	0.2040	0.0028	-0.0036	0.0737	0.0515	0.0306

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
2.5900	-0.1236	0.1566	0.2358	-0.0002	0.0219	0.0862	0.0466	0.0279
2.5900	-0.1426	0.1566	0.2303	-0.0024	0.0077	0.1026	0.0369	0.0217
3.2500	0.1426	0.1566	0.1340	-0.0156	-0.0008	0.0382	0.0389	0.0214
3.2500	0.1236	0.1566	0.1423	-0.0108	-0.0040	0.0407	0.0304	0.0206
3.2500	0.0741	0.1566	0.1483	-0.0043	-0.0119	0.0589	0.0330	0.0186
3.2500	0.0247	0.1566	0.1608	-0.0086	-0.0144	0.0310	0.0342	0.0223
3.2500	-0.0247	0.1566	0.1784	-0.0155	-0.0021	0.0426	0.0341	0.0212
3.2500	-0.0742	0.1566	0.1809	-0.0083	-0.0017	0.0375	0.0338	0.0177
3.2500	-0.1236	0.1566	0.1740	-0.0069	0.0054	0.0496	0.0323	0.0201
3.2500	-0.1426	0.1566	0.1898	-0.0165	0.0055	0.0396	0.0271	0.0180
4.1940	0.1426	0.1566	0.1554	-0.0177	-0.0001	0.0359	0.0243	0.0162
4.1940	0.1236	0.1566	0.1415	-0.0114	-0.0050	0.0264	0.0283	0.0164
4.1940	0.0741	0.1566	0.1416	-0.0137	-0.0111	0.0233	0.0293	0.0130
4.1940	0.0247	0.1566	0.1463	-0.0139	-0.0088	0.0407	0.0229	0.0152
4.1940	-0.0247	0.1566	0.1594	-0.0198	0.0021	0.0296	0.0210	0.0130
4.1940	-0.0742	0.1566	0.1531	-0.0190	-0.0024	0.0418	0.0267	0.0160
4.1940	-0.1236	0.1566	0.1588	-0.0047	0.0010	0.0325	0.0236	0.0138
4.1940	-0.1426	0.1566	0.1580	-0.0100	0.0010	0.0263	0.0241	0.0154
0.0940	0.1134	0.1592	0.0120	-0.0344	-0.0243	0.0197	0.1350	0.0955
0.0940	0.1325	0.1592	-0.0435	0.0671	0.0475	0.0803	0.0941	0.0665
0.0940	-0.0988	0.1592	0.0992	0.0357	0.0357	0.0574	0.0310	0.0310
0.0940	-0.1179	0.1592	0.0656	-0.0046	-0.0046	0.1120	0.0089	0.0089
0.2990	-0.2835	0.1611	-0.1511	0.0373	0.0373	0.0528	0.0811	0.0811
0.5300	-0.2999	0.1611	0.0017	0.0667	0.0667	0.0775	0.0565	0.0565
0.0940	0.1134	0.1783	0.0093	-0.0350	-0.0248	0.0053	0.1383	0.0978
0.0940	0.1325	0.1783	-0.0463	-0.0100	-0.0071	0.0340	0.0262	0.0185
0.0940	-0.0988	0.1783	0.1356	0.0376	0.0376	0.0638	0.0226	0.0226
0.0940	-0.1179	0.1783	0.0918	-0.0193	-0.0193	0.0736	0.0422	0.0422
0.6700	0.1426	0.1955	-0.0310	0.0284	-0.0192	0.0641	0.0524	0.0303
0.6700	0.1236	0.1955	-0.0061	0.0027	0.0036	0.0616	0.0580	0.0267
0.6700	0.0741	0.1955	0.0369	-0.0041	-0.0053	0.0792	0.0732	0.0546
0.6700	0.0247	0.1955	0.1013	0.0143	0.0056	0.0844	0.0708	0.0353
0.6700	-0.0247	0.1955	0.2194	-0.0097	-0.0114	0.1053	0.0688	0.0406
0.6700	-0.0742	0.1955	0.3390	0.0040	-0.0141	0.0920	0.0497	0.0378
0.6700	-0.1236	0.1955	0.3908	0.0168	-0.0288	0.0700	0.0451	0.0230
0.6700	-0.1426	0.1955	0.3833	0.0268	-0.0248	0.0984	0.0446	0.0236
0.9400	0.1426	0.1955	-0.0037	-0.0020	-0.0112	0.0584	0.0721	0.0324
0.9400	0.1236	0.1955	0.0056	-0.0232	-0.0105	0.0529	0.0544	0.0279
0.9400	0.0741	0.1955	0.0550	-0.0045	-0.0097	0.0773	0.0835	0.0430
0.9400	0.0247	0.1955	0.1607	0.0059	-0.0022	0.1060	0.0775	0.0395
0.9400	-0.0247	0.1955	0.2489	0.0351	-0.0409	0.1049	0.0626	0.0318
0.9400	-0.0742	0.1955	0.3439	0.0654	-0.0573	0.0970	0.0290	0.0352
0.9400	-0.1236	0.1955	0.3450	0.0770	-0.0399	0.0761	0.0328	0.0189
0.9400	-0.1426	0.1955	0.3342	0.0800	-0.0424	0.0966	0.0388	0.0231
1.6000	0.1426	0.1955	-0.0134	-0.0060	-0.0134	0.0796	0.0715	0.0321
1.6000	0.1236	0.1955	0.0884	-0.0089	-0.0084	0.0691	0.0892	0.0313
1.6000	0.0741	0.1955	0.0396	-0.0418	0.0087	0.0676	0.0791	0.0307
1.6000	0.0247	0.1955	0.1062	-0.0365	0.0072	0.0950	0.0731	0.0303
1.6000	-0.0247	0.1955	0.1633	-0.0366	-0.0001	0.0984	0.0694	0.0323
1.6000	-0.0742	0.1955	0.2419	-0.0435	-0.0128	0.1104	0.0603	0.0914
1.6000	-0.1236	0.1955	0.2439	-0.0318	-0.0006	0.1224	0.0608	0.0330
1.6000	-0.1426	0.1955	0.2609	-0.0336	0.0039	0.1264	0.0591	0.0372
2.5900	0.1426	0.1955	0.0759	-0.0332	0.0091	0.0700	0.0684	0.0358
2.5900	0.1236	0.1955	0.0997	-0.0078	0.0130	0.0482	0.0628	0.0320

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
2.5900	0.0741	0.1955	0.1191	0.0140	-0.0051	0.0652	0.0792	0.0338
2.5900	0.0247	0.1955	0.1237	0.0002	-0.0150	0.0693	0.0664	0.0308
2.5900	-0.0247	0.1955	0.1642	-0.0073	-0.0054	0.1024	0.0563	0.0274
2.5900	-0.0742	0.1955	0.1733	-0.0183	0.0002	0.1117	0.0525	0.0226
2.5900	-0.1236	0.1955	0.1828	-0.0060	-0.0021	0.1031	0.0458	0.0347
2.5900	-0.1426	0.1955	0.1981	-0.0092	0.0004	0.1193	0.0418	0.0244
3.2500	0.1426	0.1955	0.1242	-0.0067	0.0001	0.0483	0.0325	0.0215
3.2500	0.1236	0.1955	0.1282	-0.0061	-0.0025	0.0420	0.0337	0.0213
3.2500	0.0741	0.1955	0.1333	-0.0078	-0.0143	0.0515	0.0366	0.0155
3.2500	0.0247	0.1955	0.1657	-0.0079	-0.0063	0.0572	0.0427	0.0178
3.2500	-0.0247	0.1955	0.1695	-0.0080	-0.0069	0.0645	0.0340	0.0184
3.2500	-0.0742	0.1955	0.1733	-0.0098	-0.0092	0.0694	0.0336	0.0155
3.2500	-0.1236	0.1955	0.1427	-0.0088	0.0019	0.0893	0.0334	0.0188
3.2500	-0.1426	0.1955	0.1584	-0.0157	-0.0008	0.0751	0.0309	0.0197
4.1940	0.1426	0.1955	0.1499	-0.0032	-0.0017	0.0239	0.0234	0.0160
4.1940	0.1236	0.1955	0.1584	-0.0076	-0.0076	0.0455	0.0324	0.0156
4.1940	0.0741	0.1955	0.1457	-0.0062	-0.0122	0.0473	0.0264	0.0140
4.1940	0.0247	0.1955	0.1495	-0.0071	-0.0104	0.0381	0.0263	0.0114
4.1940	-0.0247	0.1955	0.1432	-0.0080	-0.0121	0.0598	0.0294	0.0460
4.1940	-0.0742	0.1955	0.1492	-0.0070	-0.0024	0.0621	0.0256	0.0123
4.1940	-0.1236	0.1955	0.1502	-0.0125	-0.0007	0.0477	0.0269	0.0163
4.1940	-0.1426	0.1955	0.1469	-0.0098	-0.0017	0.0824	0.0284	0.0145
-0.0700	0.0892	0.1955	0.3972	0.0016	-0.0136	0.0805	0.0250	0.0217
-0.0700	0.0637	0.1955	0.4783	0.0066	-0.0104	0.0924	0.0219	0.0170
-0.0700	0.0382	0.1955	0.4788	0.0050	-0.0060	0.1113	0.0119	0.0163
-0.0700	0.0127	0.1955	0.4733	0.0072	0.0083	0.1106	0.0121	0.0167
-0.0700	-0.0127	0.1955	0.4803	0.0050	0.0086	0.0940	0.0122	0.0129
-0.0700	-0.0382	0.1955	0.4784	0.0051	-0.0002	0.0825	0.0105	0.0128
-0.0700	-0.0637	0.1955	0.4445	0.0027	-0.0029	0.1001	0.0197	0.0126
-0.0700	-0.0891	0.1955	0.3849	-0.0021	-0.0025	0.0846	0.0215	0.0180
0.0940	0.0947	0.1955	0.2427	0.0144	0.0366	0.1602	0.0321	0.0381
0.0940	0.0677	0.1955	0.2345	0.0193	-0.0074	0.1088	0.0247	0.0437
0.0940	0.0406	0.1955	0.4425	0.0393	0.0241	0.1112	0.0170	0.0555
0.0940	0.0135	0.1955	0.4473	0.0445	0.0104	0.0611	0.0142	0.0360
0.0940	-0.0135	0.1955	0.4391	0.0419	0.0010	0.0393	0.0133	0.0423
0.0940	-0.0406	0.1955	0.4689	0.0466	0.0383	0.0261	0.0142	0.0496
0.0940	-0.0677	0.1955	0.4914	0.0427	0.0098	0.0734	0.0153	0.0356
0.0940	-0.0948	0.1955	0.3374	0.0342	0.0062	0.1083	0.0327	0.0359
0.2990	0.1315	0.1955	0.0342	0.0411	0.0411	0.0689	0.0032	0.0032
0.2990	0.2366	0.1955	-0.0100	0.0224	0.0224	0.0343	0.0545	0.0545
0.2990	0.1115	0.1955	0.0276	0.0092	0.0077	0.0644	0.0578	0.0411
0.2990	0.0797	0.1955	0.1815	0.0249	0.0032	0.1393	0.0559	0.0341
0.2990	0.0478	0.1955	0.3552	0.0453	0.0186	0.1149	0.0305	0.0350
0.2990	0.0159	0.1955	0.4299	0.0345	0.0201	0.0799	0.0253	0.0383
0.2990	-0.0159	0.1955	0.4429	0.0374	0.0202	0.0558	0.0153	0.0374
0.2990	-0.0478	0.1955	0.4524	0.0380	0.0186	0.0476	0.0219	0.0258
0.2990	-0.0796	0.1955	0.4478	0.0299	0.0193	0.0527	0.0354	0.0270
0.2990	-0.1115	0.1955	0.3855	0.0447	0.0251	0.1019	0.0679	0.0244
0.2990	-0.1647	0.1955	0.1857	0.0473	0.0473	0.0919	0.0727	0.0727
0.2990	-0.1884	0.1955	0.2318	-0.0087	-0.0087	0.0705	0.0794	0.0944
0.2990	-0.2376	0.1955	-0.0694	0.0706	0.0706	0.0786	0.0678	0.0678
0.5300	0.2067	0.1955	-0.0881	0.0043	0.0043	0.0284	0.0166	0.0166
0.5300	0.2559	0.1955	-0.0899	0.0162	0.0162	0.0579	0.0087	0.0087
0.5300	0.1305	0.1955	0.0160	-0.0748	-0.0114	0.0669	0.1246	0.0328

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
0.5300	0.0932	0.1955	0.0476	0.0295	-0.0108	0.0772	0.0645	0.0310
0.5300	0.0559	0.1955	0.1558	0.0219	-0.0371	0.0932	0.0638	0.0508
0.5300	0.0187	0.1955	0.3024	0.0544	-0.0460	0.1048	0.0593	0.0726
0.5300	-0.0186	0.1955	0.3722	0.1055	-0.0418	0.1037	0.0453	0.0292
0.5300	-0.0558	0.1955	0.4237	0.1147	-0.0480	0.0857	0.0268	0.0146
0.5300	-0.0931	0.1955	0.4326	0.1170	-0.0484	0.0986	0.0411	0.0170
0.5300	-0.1304	0.1955	0.3995	0.1388	0.0461	0.1114	0.0667	0.0265
0.5300	-0.1443	0.1955	0.4230	0.0254	0.0254	0.0675	0.0508	0.0508
0.5300	-0.1483	0.1955	0.4171	0.0370	0.0370	0.0645	0.0354	0.0354
0.5300	-0.1585	0.1955	0.3522	0.0609	0.0609	0.1105	0.0462	0.0462
0.5300	-0.1805	0.1955	0.2389	0.0490	0.0490	0.1009	0.0690	0.0690
0.5300	-0.2042	0.1955	0.1894	0.0704	0.0704	0.1005	0.0705	0.0705
0.5300	-0.2534	0.1955	0.0768	0.0479	0.0479	0.0943	0.0716	0.0716
0.5300	-0.2999	0.1955	0.0325	0.0339	0.0339	0.0783	0.0619	0.0619
0.6700	0.1534	0.1955	-0.0580	0.0177	0.0177	0.0614	0.0442	0.0442
0.6700	0.1574	0.1955	-0.0681	0.0615	0.0615	0.0569	0.0294	0.0294
0.6700	0.1676	0.1955	-0.0751	-0.0260	-0.0260	0.0511	0.0268	0.0268
0.6700	0.1896	0.1955	-0.1060	0.0134	0.0134	0.0397	0.0249	0.0249
0.6700	0.2133	0.1955	-0.0933	0.0417	0.0417	0.0388	0.0277	0.0277
0.6700	0.2625	0.1955	-0.1356	0.0206	0.0206	0.0374	0.0237	0.0237
0.6700	0.3090	0.1955	-0.0927	-0.0068	-0.0068	0.0272	0.0252	0.0252
0.6700	-0.1534	0.1955	0.4110	0.0237	0.0237	0.0509	0.0221	0.0221
0.6700	-0.1574	0.1955	0.4142	0.0176	0.0176	0.0605	0.0268	0.0268
0.6700	-0.1676	0.1955	0.4089	0.0252	0.0252	0.0470	0.0290	0.0290
0.6700	-0.1896	0.1955	0.4060	0.0192	0.0192	0.0534	0.0284	0.0284
0.6700	-0.2133	0.1955	0.3894	0.0261	0.0261	0.0561	0.0396	0.0396
0.6700	-0.2625	0.1955	0.3726	0.0475	0.0475	0.0507	0.0389	0.0389
0.6700	-0.3090	0.1955	0.2980	0.0437	0.0437	0.0574	0.0408	0.0408
0.9400	0.1534	0.1955	-0.0823	0.0091	0.0091	0.0501	0.0378	0.0378
0.9400	0.1574	0.1955	-0.0427	-0.0008	-0.0008	0.0465	0.0421	0.0421
0.9400	0.1676	0.1955	-0.0698	0.0112	0.0112	0.0539	0.0256	0.0256
0.9400	0.1896	0.1955	-0.0731	0.0199	0.0199	0.0440	0.0292	0.0292
0.9400	0.2133	0.1955	-0.0524	0.0201	0.0201	0.0535	0.0228	0.0228
0.9400	0.2625	0.1955	-0.0717	0.0067	0.0067	0.0457	0.0237	0.0237
0.9400	0.3090	0.1955	-0.1490	0.0074	0.0074	0.0346	0.0215	0.0215
0.9400	-0.1534	0.1955	0.3611	0.0366	0.0366	0.0636	0.0318	0.0318
0.9400	-0.1574	0.1955	0.3659	0.0440	0.0440	0.0365	0.0185	0.0185
0.9400	-0.1676	0.1955	0.3491	0.0401	0.0401	0.0732	0.0395	0.0395
0.9400	-0.1896	0.1955	0.3348	0.0532	0.0532	0.0576	0.0397	0.0397
0.9400	-0.2133	0.1955	0.2953	0.0470	0.0470	0.0682	0.0478	0.0478
0.9400	-0.2625	0.1955	0.2129	0.0655	0.0655	0.0663	0.0579	0.0579
0.9400	-0.3090	0.1955	0.1739	0.0665	0.0665	0.0685	0.0567	0.0567
1.6000	0.1534	0.1955	-0.0483	0.0026	0.0026	0.0662	0.0333	0.0333
1.6000	0.1574	0.1955	-0.0138	-0.0066	-0.0066	0.0688	0.0351	0.0351
1.6000	0.1676	0.1955	-0.0496	-0.0085	-0.0085	0.0577	0.0306	0.0306
1.6000	0.1896	0.1955	-0.0621	-0.0138	-0.0138	0.0493	0.0256	0.0256
1.6000	0.2133	0.1955	-0.0921	-0.0142	-0.0142	0.0424	0.0284	0.0284
1.6000	0.2625	0.1955	-0.0296	-0.0059	-0.0059	0.0342	0.0221	0.0221
1.6000	0.3090	0.1955	-0.0737	-0.0128	-0.0128	0.0596	0.0240	0.0240
1.6000	-0.1534	0.1955	0.2833	-0.0288	-0.0288	0.0618	0.0339	0.0339
1.6000	-0.1574	0.1955	0.3102	-0.0157	-0.0157	0.0729	0.0324	0.0324
1.6000	-0.1676	0.1955	0.3220	-0.0011	-0.0011	0.0684	0.0356	0.0356
1.6000	-0.1896	0.1955	0.3265	0.0015	0.0015	0.0632	0.0342	0.0342
1.6000	-0.2133	0.1955	0.3423	0.0109	0.0109	0.0525	0.0312	0.0312

X [m]	Y [m]	Z [m]	U-Mean [m/s]	V-Mean [m/s]	W-Mean [m/s]	U-RMS [m/s]	V-RMS [m/s]	W-RMS [m/s]
1.6000	-0.2625	0.1955	0.3450	0.0160	0.0160	0.0497	0.0307	0.0307
1.6000	-0.3090	0.1955	0.3137	0.0025	0.0025	0.0600	0.0327	0.0327
2.5900	0.1534	0.1955	0.0891	-0.0252	-0.0252	0.1026	0.0109	0.0109
2.5900	0.1574	0.1955	0.0692	-0.0297	-0.0297	0.1087	0.0113	0.0113
2.5900	0.1676	0.1955	0.0692	0.0215	0.0215	0.0708	0.0358	0.0358
2.5900	0.1896	0.1955	0.0693	-0.0029	-0.0029	0.0591	0.0337	0.0337
2.5900	0.2133	0.1955	0.0821	-0.0008	-0.0008	0.0507	0.0186	0.0186
2.5900	0.2625	0.1955	0.0272	-0.0120	-0.0120	0.0497	0.0267	0.0267
2.5900	0.3090	0.1955	-0.0001	-0.0025	-0.0025	0.0261	0.0194	0.0194
2.5900	-0.1534	0.1955	0.2520	-0.0070	-0.0070	0.0496	0.0307	0.0307
2.5900	-0.1574	0.1955	0.2696	-0.0101	-0.0101	0.0459	0.0302	0.0302
2.5900	-0.1676	0.1955	0.2533	-0.0170	-0.0170	0.0563	0.0283	0.0283
2.5900	-0.1896	0.1955	0.2566	-0.0040	-0.0040	0.0464	0.0303	0.0303
2.5900	-0.2133	0.1955	0.2638	-0.0034	-0.0034	0.0383	0.0258	0.0258
2.5900	-0.2625	0.1955	0.2245	-0.0088	-0.0088	0.0672	0.0329	0.0329
2.5900	-0.3090	0.1955	0.2311	-0.0052	-0.0052	0.0692	0.0250	0.0250
3.2500	0.1534	0.1955	0.1333	-0.0028	-0.0028	0.0490	0.0229	0.0229
3.2500	0.1574	0.1955	0.1269	0.0024	0.0024	0.0378	0.0218	0.0218
3.2500	0.1676	0.1955	0.1292	-0.0020	-0.0020	0.0436	0.0190	0.0190
3.2500	0.1896	0.1955	0.1330	-0.0011	-0.0011	0.0350	0.0215	0.0215
3.2500	0.2133	0.1955	0.1096	-0.0036	-0.0036	0.0361	0.0225	0.0225
3.2500	0.2625	0.1955	0.1196	-0.0105	-0.0105	0.0299	0.0230	0.0230
3.2500	0.3090	0.1955	0.1002	0.0027	0.0027	0.0270	0.0181	0.0181
3.2500	-0.1534	0.1955	0.1747	0.0029	0.0029	0.0418	0.0211	0.0211
3.2500	-0.1574	0.1955	0.1675	0.0016	0.0016	0.0323	0.0150	0.0150
3.2500	-0.1676	0.1955	0.1559	0.0043	0.0043	0.0412	0.0152	0.0152
3.2500	-0.1896	0.1955	0.1584	0.0097	0.0097	0.0431	0.0153	0.0153
3.2500	-0.2133	0.1955	0.1675	0.0070	0.0070	0.0470	0.0175	0.0175
3.2500	-0.2625	0.1955	0.1383	0.0021	0.0021	0.0364	0.0208	0.0208
3.2500	-0.3090	0.1955	0.1378	0.0137	0.0137	0.0353	0.0217	0.0217
4.1940	0.1534	0.1955	0.1645	0.0022	0.0022	0.0347	0.0166	0.0166
4.1940	0.1574	0.1955	0.1427	-0.0010	-0.0010	0.0246	0.0187	0.0187
4.1940	0.1676	0.1955	0.1493	0.0039	0.0039	0.0278	0.0206	0.0206
4.1940	0.1896	0.1955	0.1331	0.0055	0.0055	0.0235	0.0155	0.0155
4.1940	0.2133	0.1955	0.1697	0.0004	0.0004	0.0314	0.0182	0.0182
4.1940	0.2625	0.1955	0.1444	0.0053	0.0053	0.0198	0.0146	0.0146
4.1940	0.3090	0.1955	0.1254	0.0010	0.0010	0.0298	0.0175	0.0175
4.1940	-0.1534	0.1955	0.1651	0.0012	-0.0015	0.0326	0.0169	0.0169
4.1940	-0.1574	0.1955	0.1651	-0.0009	-0.0036	0.0300	0.0143	0.0143
4.1940	-0.1676	0.1955	0.1700	-0.0042	-0.0070	0.0324	0.0179	0.0179
4.1940	-0.1896	0.1955	0.1644	0.0027	0.0000	0.0386	0.0160	0.0160
4.1940	-0.2133	0.1955	0.1552	0.0039	0.0013	0.0289	0.0171	0.0171
4.1940	-0.2625	0.1955	0.1709	0.0025	-0.0002	0.0225	0.0135	0.0135
4.1940	-0.3090	0.1955	0.1521	0.0035	0.0010	0.0352	0.0169	0.0169
0.0940	0.1325	0.2014	-0.0371	-0.0144	-0.0102	0.0202	0.0055	0.0039