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**COMBUSTION AND HEAT TRANSFER STUDIES UTILIZING ADVANCED
DIAGNOSTICS: COMBUSTION DATA SETS**

D. R. Ballal, S. P. Heneghan, W. J. Schmoll, F. Takahashi, and M. D. Vangsness
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November 1992

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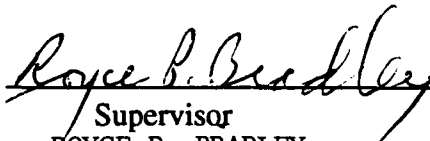
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13. ABSTRACT (Maximum 200 words) A long-term goal of the Air Force is to develop near-stoichiometric gas turbine combustors that will burn broad-specification fuels, and have low maintenance and high durability. Towards meeting this goal, this program had two principal objectives: (1) to design and conduct experiments that will establish a fundamental understanding of lean blowout (LBO), swirling flames, kinetically controlled combustion, and turbine blade cooling, and (2) to provide data sets for evaluating and refining computer models of gas turbine combustor. In this final report, we present the Combustion Data Sets that may be used by modelers in the industry and other laboratories for evaluating and refining computer models of gas turbine combustor. These data sets are for three different technical tasks; (1) Step Combustor Task, (2) Bluff Body Combustor Task, and (3) Swirl Combustor Task. More exhaustive information is available in the individual papers listed in this report. All the data sets were prepared using Microsoft Excel V.4.0 for IBM PC-Compatible computers and are available on computer diskettes.				
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PREFACE

This final report was submitted by the University of Dayton Research Institute (UDRI) under Contract No. F33615-87-C-2767, sponsored by the U.S. Air Force Wright Laboratory, Aero Propulsion and Power Directorate, Wright-Patterson Air Force Base OH. Dr. W. M. Roquemore of WL/POSF was the Air Force Technical Monitor; Dr. D. R. Ballal of the Applied Physics Division, UDRI, was the Principal Investigator; and Dr. E. H. Gerber, Head of the Applied Physics Division, UDRI, was the Project Supervisor of this research program. This report covers work performed during the period September 11, 1987 through September 30, 1992.

The Principal Investigator wishes to express his gratitude and appreciation to Dr. W. M. Roquemore, for his encouragement and support; to Ms. Ruth Rodak, UDRI, for technical editing; and to Ms. W. Barnes, UDRI, for report preparation.

1. INTRODUCTION

A long-term goal of the Air Force is to develop near-stoichiometric gas turbine combustors that will burn broad-specification fuels, and have low maintenance and high durability. Towards meeting this goal, this program had two principal objectives: (1) to design and conduct experiments that will establish a fundamental understanding of lean blowout (LBO), swirling flames, kinetically controlled combustion, and turbine blade cooling, and (2) to provide data sets for evaluating and refining computer models of gas turbine combustor.

In this final report, we present the Combustion Data Sets that may be used by modelers in the industry and other laboratories for evaluating and refining computer models of gas turbine combustor. These data sets are for three different technical tasks; (1) Step Combustor Task, (2) Bluff Body Combustor Task, and (3) Swirl Combustor Task. More exhaustive information is available in the individual papers listed in this report. All the data sets were prepared using Microsoft Excel V.4.0 for IBM PC-Compatible computers and are available on computer diskettes.

These data sets were obtained in the Fundamental Combustion Laboratory located in Building 490, Test Cell 153, of the Fuels and Lubrication Division (WL/POSF). This test facility is equipped with a turbulent flame burner located under an exhaust hood, a three-component LDA system for velocity measurements and a CARS system for temperature measurements. This setup, which was common to all the tests, was used to supply fuel and air to (1) a step combustor, (2) a bluff body combustor, and (3) a swirl combustor. Numerous tests were performed to measure lean blowout, back-pressure effects, flame stability, local flame extinction, flame-vortex interaction, velocity and temperature profiles, and turbulence quantities of interest to modelers. Section 2 lists the relevant publications and reports, Section 3 describes the facilities and test conditions, and Section 4 presents selected data sets.

2. LIST OF RELEVANT PUBLICATIONS

2.1 Publications

- [1] G. J. Sturgess, A. L. Lesmerises, S. P. Heneghan, M. D. Vangsness, and D. R. Ballal, "Isothermal Flowfields in a Research Combustor For Lean Blowout Studies," Paper No. 91-GT-37, *ASME, Journal of Engineering for Gas Turbines and Power*, 1991.
- [2] G. J. Sturgess, A. L. Lesmerises, S. P. Heneghan, M. D. Vangsness, and D. R. Ballal, "Lean Blowout in a Research Combustor at Simulated Low Pressures, " Paper No. 91-GT-359, *ASME, Journal of Engineering for Gas Turbines and Power*, 1991.
- [3] G. J. Sturgess, S. P. Heneghan, M. D. Vangsness, D. L. Shouse, A. L. Lesmerises, and D. R. Ballal, "Effects of Back Pressure in a Lean-Blowout Research Combustor," Accepted for *ASME, Journal of Engineering for Gas Turbines and Power*, 1992.
- [4] G. J. Sturgess, A. L. Lesmerises, S. P. Heneghan, M. D. Vangsness, and D. R. Ballal, "Flame Stability and Lean Blowout in a Research Combustor," *Proceedings of the Tenth International Symposium on Air Breathing Engines*, Nottingham, U. K., pp. 372-384, September 1991.
- [5] J. C. Pan, W. J. Schmoll, and D. R. Ballal, "Turbulent Combustion Properties Behind a Conical Stabilizer," Paper No. 90-GT-51, *ASME, Journal of Engineering for Gas Turbines and Power*, 1991.
- [6] J. C. Pan, M. D. Vangsness, and D. R. Ballal, " Aerodynamics of Bluff-Body Stabilized Confined Turbulent Premixed Flames," Paper No. 91-GT-218, *ASME, Journal of Engineering for Gas Turbines and Power*, 1991.
- [7] J. C. Pan, M. D. Vangsness, S. P. Heneghan, and D. R. Ballal, "Scalar Measurements in Bluff-Body Stabilized Flames Using CARS Diagnostics," Paper No. 91-GT-302, *ASME, Journal of Engineering for Gas Turbines and Power*, 1991.
- [8] J. C. Pan and D. R. Ballal, "Chemistry and Turbulence Effects in Bluff-Body Stabilized Flames," AIAA Paper No. 92-0771, Submitted to *AIAA Journal of Propulsion and Power*.
- [9] F. Takahashi, W. J. Schmoll, and M. D. Vangsness, "Effects of Swirl on the Stability and Turbulent Structure of Jet Diffusion Flames," Paper No. AIAA 90-0036, 28th Aerospace Sciences Meeting, January, 1990, Reno NV.
- [10] F. Takahashi and W. J. Schmoll, "Lifting Criteria of Jet Diffusion Flames," *Twenty-Third Symposium (Int.) on Combustion*, The Combustion Institute, Pittsburgh PA, pp. 677-683, 1991.

[11] F. Takahashi, M. D. Vangsness, and V. M. Belovich, "Conditional LDV Measurements in Swirling and Non-Swirling Coaxial Turbulent Air Jets for Model Validation," Paper No. AIAA-92-0580, AIAA 30th Aerospace Sciences Meeting, Reno Nevada, January 6-9, 1992.

[12] F. Takahashi and L. P. Goss, "Near-Field Turbulent Structures and the Local Extinction of Jet Diffusion Flames," *Twenty-Fourth Symposium (Int.) on Combustion*, The Combustion Institute, Pittsburgh PA, 1992.

[13] D. R. Ballal, S. P. Heneghan, W. J. Schmoll, F. Takahashi, and M. D. Vangsness, "Combustion and Heat Transfer Studies Utilizing Advanced Diagnostics: Combustion Studies" Report WL-TR-92-2110, Wright Laboratory, Wright-Patterson Air Force Base OH, November, 1992.

2.2 UDRI Reports

[1] J. C. Pan, "Laser Diagnostic Studies of Confined Turbulent Premixed Flames Stabilized by Conical Bluff Bodies: Vol. I: Theory and Experiments," UDR-TR-91-101, Ph. D. Dissertation, University of Dayton, Dayton, OH July 1991.

[2] J. C. Pan, M. D. Vangsness, S. P. Heneghan, W. J. Schmoll, and D. R. Ballal, "Laser Diagnostic Studies of Confined Turbulent Premixed Flames Stabilized by Conical Bluff Bodies: Vol. II: Data Set," UDR-TR-91-102, University of Dayton, Dayton OH, July 1991.

[3] F. Takahashi and M. D. Vangsness, "LDV Measurements in Swirling and Non-Swirling Coaxial Turbulent Air Jets: Report 1: No Swirl, 100 m/s," UDR-TR-91-160, University of Dayton, Dayton OH, April 1991.

[4] F. Takahashi and M. D. Vangsness, "LDV Measurements in Swirling and Non-Swirling Coaxial Turbulent Air Jets: Report 2: No Swirl, 25 m/s," UDR-TR-91-161, University of Dayton, Dayton OH, May 1991.

[5] F. Takahashi, M. D. Vangsness, and V. M. Belovich, "LDV Measurements in Swirling and Non-Swirling Coaxial Turbulent Air Jets: Report 3: 30-degree Swirl, 100 m/s," UDR-TR-91-162, University of Dayton, Dayton OH, July 1991.

[6] F. Takahashi, M. D. Vangsness, and V. M. Belovich, "LDV Measurements in Swirling and Non-Swirling Coaxial Turbulent Air Jets: Report 4: 30-degree Swirl, 100 m/s," UDR-TR-91-163, 30-degree Swirl, 25 m/s," University of Dayton, Dayton OH, August 1991.

3. DESCRIPTION OF TEST FACILITY

The Fundamental Combustion Laboratory is located in Building 490, Test Cell 153, of the Fuels and Lubrication Division (WL/POSF). This test facility is equipped with a turbulent flame burner located under an exhaust hood. On one side of the burner is an optics table on which a three-component LDA system is assembled; on the other side is another optical table which bears the CARS system. A breadboard optics table and a U-channel support structure are used to bind the two large optics tables. This smaller table has a square cutout through which the burner working section protrudes. The optical integration of LDA with the CARS system can be performed on this breadboard table.

The turbulent flame burner is mounted on a three-axis traversing platform and is connected to a high-pressure (110 psia) airflow delivery system. An intricate piping network is designed to supply large quantities of gaseous fuels such as propane, methane, hydrogen, and/or inert gases such as nitrogen, carbon dioxide, argon, and helium to the burner. Both the airflow and the fuel flow are accurately monitored. An exhaust hood routes the products of combustion out of the test cell. Finally, this test facility is well equipped with fire and laser safety features, utilities, and climate control systems. A powerful and dedicated MODCOMP/MODAC computer and many data acquisition computers are used to operate the facility, and to record and analyze data.

3.1 Step Combustor

Figure 1 shows a schematic diagram of the step combustor. This research combustor consists of a 29-mm i.d. central fuel jet of gaseous propane surrounded by a 40-mm i.d. coaxial air jet located in a 150-mm-diameter (nominal) circular cross section. This arrangement creates a reactive shear layer, similar to that of a practical combustor, in which combustion is initiated. A perforated conical baffle inserted five diameters upstream of the fuel tube serves to acoustically isolate the fuel supply from the combustion process. The duct is closed at its forward end to yield a 55-mm-wide, backward-facing step. This step provides two inside-out recirculation zones that stabilize the flame. Also, the duct, which has an overall length of 735 mm, is restricted at its discharge end by an orifice plate of 45 percent exit blockage ratio. This simulates the back pressure provided by an array of radial air jets at the end of the primary zone. The step combustor is mounted vertically on a turbulent flame burner described above. The combination of combustor and its extension chimney yields (L/D) ratios of 3.17, 4.9, and 6.5, respectively.

3.1.1 Test Conditions. Air was supplied to the combustor in the 510-Kg/hr-to-4,900-Kg/hr range at atmospheric pressure. The combustion laboratory provides gaseous propane and methane fuels up to 20 Kg/hr. Ignition of the combustor was satisfactorily accomplished in the recirculation zone with a small propane torch igniter attached to the side-plate fitting. Upon successful ignition, the torch igniter was removed and the fitting was capped.

3.2 Bluff Body Combustor

Figure 2 shows the test rig employed for these experiments. Several stainless-steel conical flame stabilizers were manufactured including two base diameters, 4.44 cm and 3.18 cm and corresponding to 25 and 13 percent blockage ratios, respectively; and four apex angles, $\theta = 30, 45, 60, \text{ and } 90$ degrees. Each stabilizer was mounted coaxially inside a 8-cm-x-8-cm-x-28.4-cm test section with rounded corners and four 5.64-cm-x-25.4-cm cut-outs for quartz windows. This test section was mounted on a vertical combustion tunnel described above. Different turbulence grids could be inserted 5.8 cm upstream of the base of the conical bluff body. Measurements of turbulence quantities, temperature, and mean wall-static pressure were performed downstream of the confined conical flame stabilizer, using a two-component LDA, CARS system, and precision micromanometer, respectively.

3.2.1 Test Conditions. Premixed methane-air flames were studied in our experiments. The mean annular velocities were 10, 15, and 20 m/s which covered a range of Reynolds number from $Re_d = 3 \times 10^4$ to 6×10^4 . Four different equivalence ratios, 0.56, 0.65, 0.8, 0.9, were tested, corresponding to adiabatic flame temperatures of 1590 K, 1755 K, 1990 K, and 2130 K, respectively. The inlet turbulence intensity level was varied from 2 percent to 22 percent by using different grids.

3.3 Swirl Combustor

Figure 3 shows the schematic of a swirl combustor. This combustor uses an arrangement of coannular swirling air and central fuel jets confined by a coflowing, nonswirling airflow with a uniform velocity distribution. In this combustor, a turbulent swirling jet diffusion flame is stabilized at the mouth of the central fuel tube. The central fuel tube (9.45-mm i.d., 0.2 mm lip thickness, and 806-mm length) is made of stainless steel. It is placed concentrically at the center of the outer annular air tube (26.92-mm i.d., 769-mm length). Three fuel tubes with lip thicknesses of 0.2, 1.2, and 2.4 mm were used. Both the tubes are centered inside a vertical combustion chimney (150 mm x 150 mm x 483 mm) with 85-mm-radius rounded corners. The chimney has quartz windows (76 x 457 mm) on all sides to permit visual observation and laser diagnostics. A helical swirler unit is placed in the annular air tube, 96 mm upstream of the tube exit to ensure that disturbances caused by its vanes vanish. Four swirlers (26.9 mm long) with various vane helix angles (15, 30, 45, and 60 degrees) and one straight vane section with a zero helix angle were designed.

3.3.1 Test Conditions. All tests were performed at room temperature and atmospheric pressure. The fuel jet, air jet, and the external coflowing stream velocities were up to 30 m/s, 10 m/s, and 0.5 m/s, respectively. The flame stability limits were measured as follows. For a fixed annular- and coflowing-air flow rates, the fuel flow rate was increased gradually until the flame *attached* to the burner-rim, *lifted* above the burner, or simply extinguished (*blowoff*). Now, at the *lift* condition, fuel flow was: (1) decreased until the flame re-attached to the burner-rim (*dropback*), or (2) increased until the lifted flame extinguished (*blowout*).

A three-component LDA, CARS, and Mie scattering systems were used for a variety of conditioned and unconditioned measurements of mean and turbulent quantities. For a set of values of jet, annulus, and external velocity, measurements extending up to 34 jet diameters were made at a large number of radial locations up to ± 3.2 jet diameters.

3.4 Error Analyses

3.4.1 LDA Precision and Accuracy: In processing the LDA Doppler burst signal, typically a total of 2^5 cycles/burst are requested and the spurious data are filtered by using the 3σ test. The error in rms velocity was less than 3 percent and uncertainty in mean velocity was less than 1 percent at a 95 percent confidence limit. However, in recirculatory and reactive flows, the velocity statistical biasing was worst. We found that the mean values can be overestimated up to 7 percent and the rms values underestimated up to 5 percent for turbulence intensity levels above 20 percent. The flow rates calculated from integrating the velocity profiles were 3 percent or less than the measured flow rates. This difference is partly attributed to the plus-or-minus 1 percent measurement accuracy of the mass flow controller. To eliminate velocity biasing due to nonuniform seeding, a conditional data sampling technique was used by seeding particles into only the fuel jet or the annular coflowing air. This type of technique allowed us to track the convection and diffusion of one (seeded) fluid into another (unseeded) fluid.

3.4.2 CARS Precision and Accuracy

Usually, 500 samples were taken for each CARS measurement to ensure that the error in the rms temperature was less than 10 K, while 1500 samples were taken in the flame region where the rms values were expected to be large. Overall, we estimated the CARS mean temperature measurement accuracy to be within 50 K, while the precision was well within 20 K. Unlike the LDA, CARS temperature measurements are time-averaged, without density biasing effects. We also discovered that once system parameters are optimized and the dye laser is tuned, the CARS system can run for long periods of time. For example, we obtained repeatability to within ± 20 K for a mean flame temperature of 1500 K after four days of operation.

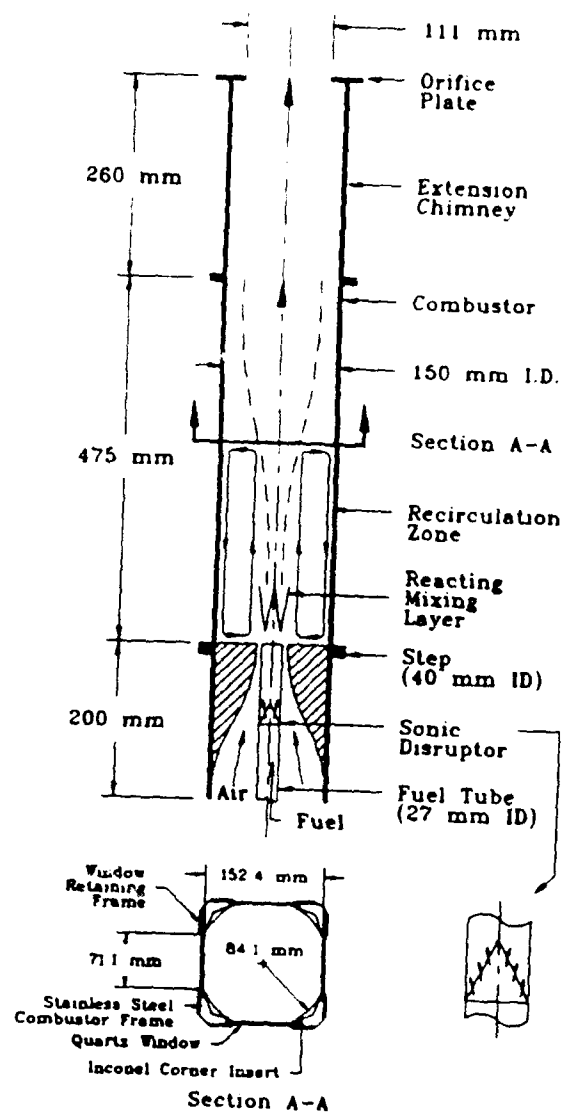


Figure 1. Schematic diagram of a step combustor

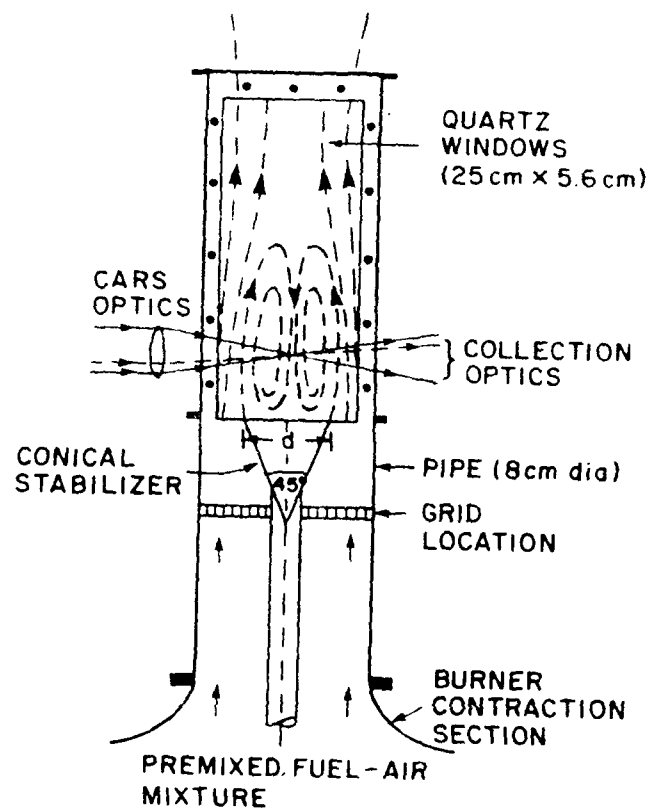


Figure 2. Schematic diagram of a bluff body combustor

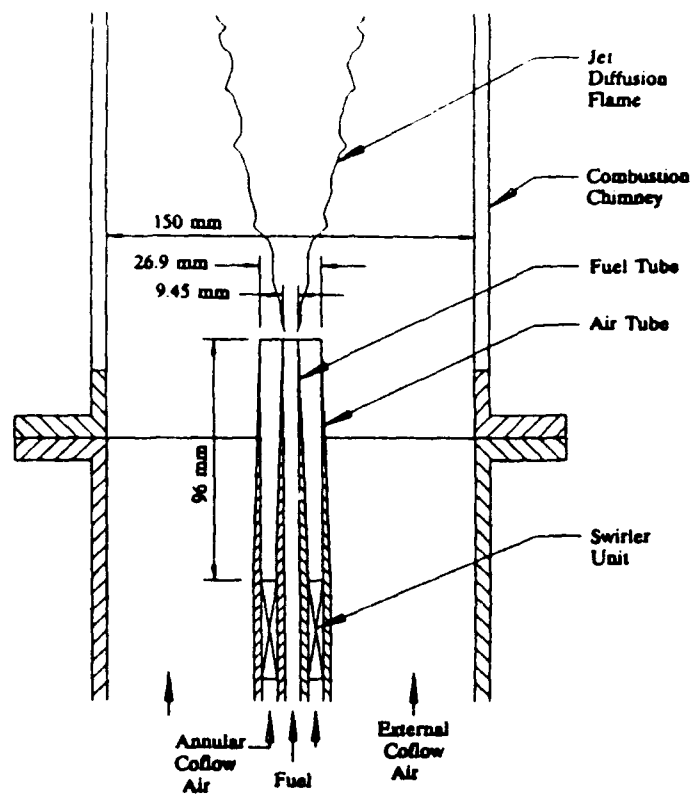


Figure 3. Schematic diagram of a swirl combustor

4.1 STEP COMBUSTOR DATA SET

INDEX TO DATA SET TABLES

Restriction	Chimney	Fuel (F)	Air (A)	Nitrogen (N)	Data Type	Table #
3", 4", 5", none, 4TH	none	18-94	30-130	0	LBO	1
3", 5", none, 4TH	long	20-80	30-130	0	LBO	2
none	long	54-145	100-280	0	LBO	3
3"	long	54-145	100-280	0	LBO	4
4TH, none	long	51-256	100-450	0	LBO	5
5", 4TH, 5TH, none	long	150-225	275-410	0	LBO	6
3", 4", 3TH	long	140-225	240-225	0	LBO	7
5", 4TH, 5TH, none	short	160-225	272-410	0	LBO	8
4TH	short	136-245	250-400	250-400	Dilute LBO	9
none	short	100-240	200-400	0-300	Dilute LBO	10
4TH	short	109-176	175-300	0	LBO	11
4TH	short	169-253	300-400	0-400	Dilute LBO	12
none, 5TH	long	0-225	100-400	0	Pressure	13
4TH	long	0-225	100-400	0	Pressure	14
3", 3TH,	long	0-225	100-400	0	Pressure	15
none	short	0-225	100-400	0	Pressure	15
5", 4TH, 5TH,	short	0-225	100-400	0	Pressure	16
none	short	0	100-200	0-236	Pressure	17
none	short	100-180	100-175	0	Pressure	17
4"	short	0	100-200	0-236	Pressure	18
4"	short	100-180	100-200	0	Pressure	18
none, 4"	short	100-180	100-150	0	Wall Temp.	19
4"	short	150-420	225	0	Pressure and Wall Temp	20
4"	short	208-310	225	800-1000	Pressure and Wall Temp	21
4"	short	220-280	225	1200-1320	Pressure and Wall Temp	22
5"	short	208-280	225	1000-1200	Pressure and Wall Temp	23
5"	short	160-389	225	400-800	Pressure and Wall Temp	24
5"	short	150-420	225	0	Pressure and Wall Temp	25
5"	short	116-208	115-185	0	Pressure and Wall Temp	26
5"	short	166-236	185-205	0	Pressure and Wall Temp	27
none	none	70	100	0	CARS	28
none	none	140	100	0	CARS	30
5"	none	2	200	0	CARS	31
4"	short	150, 330	90	0	CARS	32
4"	short	92, 175	120	0	CARS	33
4"	short				LDA	34
none	short				LDA	35
No window section, fuel tube symmetry check only					LDA	36
4"	short				LDA	37
No window section, fuel tube symmetry check only					LDA	38
none	short				LDA	39
none	short				LDA	40

Table 1

[illegible]

Table 2

Restriction			Restriction			Restriction		
chimney length			chimney length			chimney length		
flow regulator			flow regulator			flow regulator		
F	A	Φ	F	A	Φ	F	A	Φ
73	127	0.56	41	73	0.55	35	65	0.53
36	53	0.67	60	110	0.53	19	30	0.62
35	53	0.65	55	95	0.57	18.7	30	0.61
41	65	0.62	44	86	0.50	30.4	50	0.60
37	65	0.56	35	65	0.53	31.1	50	0.61
37	65	0.56	18.8	30	0.61	80	130	0.60
37	65	0.56	18.4	30	0.60	80.8	130	0.61
48	80	0.59	31	50	0.61	61	100	0.60
46	80	0.56	30.8	50	0.60			
45	80	0.55	81	130	0.61	Restriction		none
58	95	0.60	77.8	130	0.59	chimney length		long
57	95	0.59	78.5	130	0.59	flow regulator		2.00
54	95	0.56				F	A	Φ
65	110	0.58				19.2	30	0.63
65	110	0.58				19	30	0.62
67	110	0.60				30.5	50	0.60
73	125	0.57				30	50	0.59
72	125	0.56				52.5	90	0.57
18.8	30	0.61				52.4	90	0.57
18.7	30	0.61				73	130	0.55
74	130	0.56				78	130	0.59
75.5	130	0.57				79.2	130	0.60

Fuel vs. Air (meter readings)

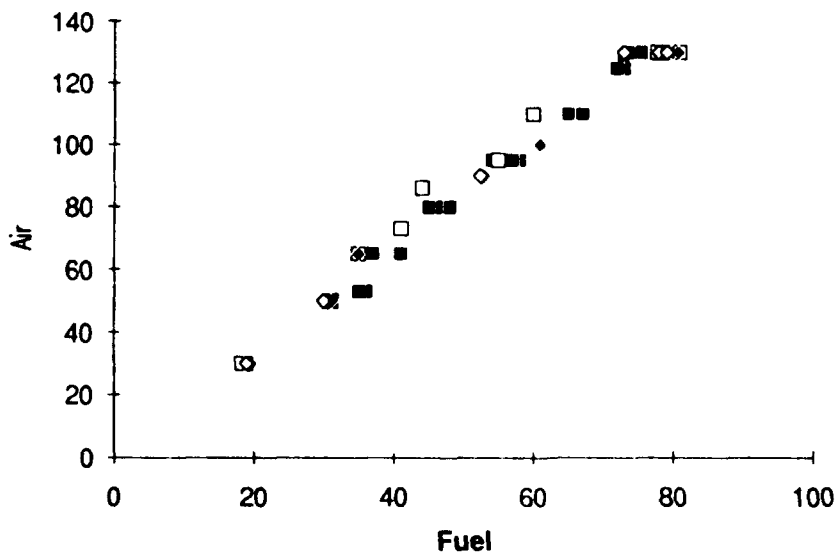


Table 3

Restriction			Restriction		
chimney length			chimney length		
flow regulator			flow regulator		
F	A	Φ	F	A	Φ
73	120	0.60	54	100	0.53
92	150	0.60	74	140	0.52
96	150	0.63	93	180	0.51
95	150	0.62	102	200	0.50
95	150	0.62	116	220	0.52
97	160	0.59	127	240	0.52
96	160	0.59	136	260	0.51
83	130	0.63	145	280	0.51
117	200	0.57			
117	200	0.57			
119	200	0.58			
120	210	0.56			
122	210	0.57			
127	225	0.55			
105	180	0.57			
106	180	0.58			

Fuel vs. Air (meter readings)

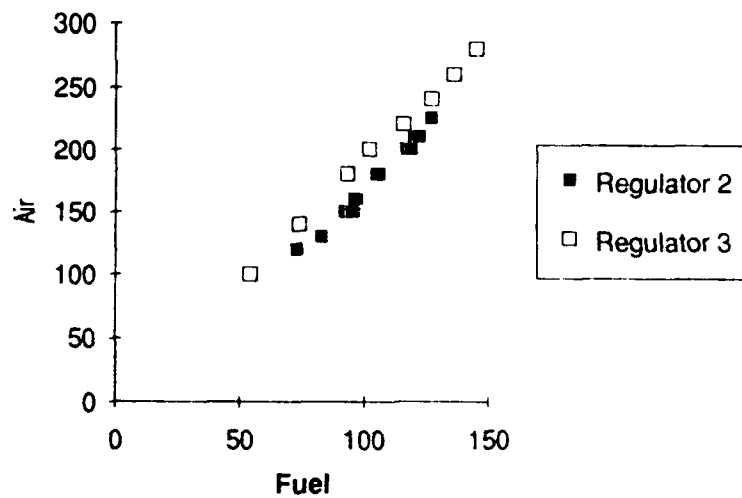


Table 4

Restriction			Restriction		
chimney length			chimney length		
flow regulator			flow regulator		
F	A	Φ	F	A	Φ
54	100	0.53	59	100	0.58
74	140	0.52	67	120	0.55
93	180	0.51	74	140	0.52
102	200	0.50	85	160	0.52
116	220	0.52	94	180	0.51
127	240	0.52	106	200	0.52
136	260	0.51	117	220	0.52
145	280	0.51	130	240	0.53
			138	260	0.52

Fuel vs. Air (meter readings)

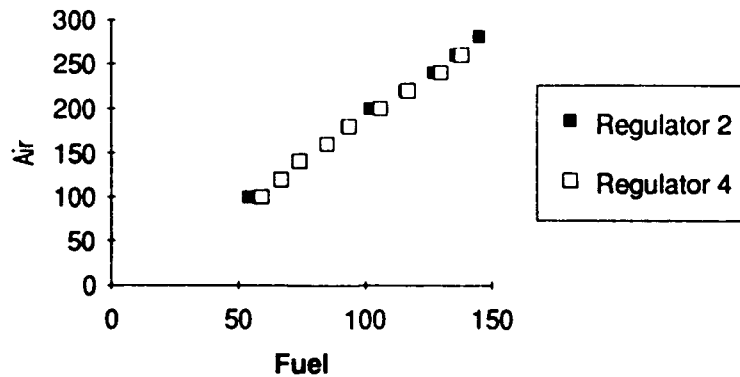


Table 5

Restriction			4th	Restriction			none
chimney length			long	chimney length			long
flow regulator			4	flow regulator			3
F	A	Φ		F	A	Φ	
51	100	0.50		60	100	0.59	
78	150	0.51		85	150	0.56	
106	200	0.52		111	200	0.54	
135	250	0.53		137	250	0.54	
155	300	0.51		165	300	0.54	
172	330	0.51		190	350	0.53	
				220	400	0.54	
				256	450	0.56	

Fuel vs. Air (meter readings)

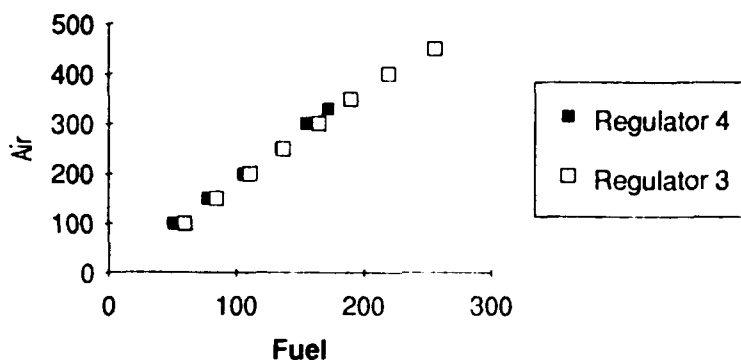


Table 6

Restriction		none	Restriction		5TH
chimney length		long	chimney length		long
flow regulator		4	flow regulator		3
F	A	Φ	F	A	Φ
201	360	0.55	200	360	0.54
165	290	0.56	225	390	0.57
232	400	0.57	225	395	0.56
194	350	0.54	150	275	0.53
161	300	0.53	200	360	0.54
183	325	0.55	168	300	0.55
199	350	0.56	208	370	0.55
216	375	0.56	166	300	0.54
222	390	0.56	150	275	0.53
183	325	0.55	225	390	0.57
199	350	0.56			
216	375	0.56			
222	390	0.56			
225	391	0.56			
Restriction		5"	Restriction		4TH
chimney length		long	chimney length		long
flow regulator		4	flow regulator		4
F	A	Φ	F	A	Φ
150	272	0.54	150	275	0.53
175	315	0.54	170	310	0.54
200	360	0.54	200	350	0.56
223	410	0.53	165	300	0.54
225	400	0.55	225	403	0.55
209	382	0.54	150	285	0.52

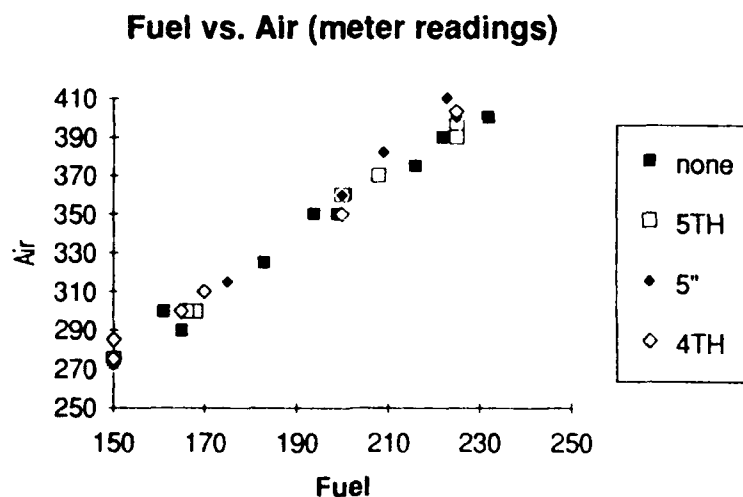


Table 7

Restriction			Restriction		
chimney length			chimney length		
sonic disruptor			sonic disruptor		
flow regulator			flow regulator		
F	A	Φ	F	A	Φ
140	240	0.57	190	350	0.53
225	420	0.53	160	300	0.52
200	365	0.54	200	370	0.53
205	378	0.53	140	255	0.54
			175	330	0.52
			213	390	0.54
Restriction			Restriction		
chimney length			chimney length		
sonic disruptor			sonic disruptor		
flow regulator			flow regulator		
F	A	Φ	F	A	Φ
195	360	0.53			
160	300	0.52			
146	275	0.52			
150	275	0.53			
197	365	0.53			
150	275	0.53			
220	390	0.55			
225	410	0.54			

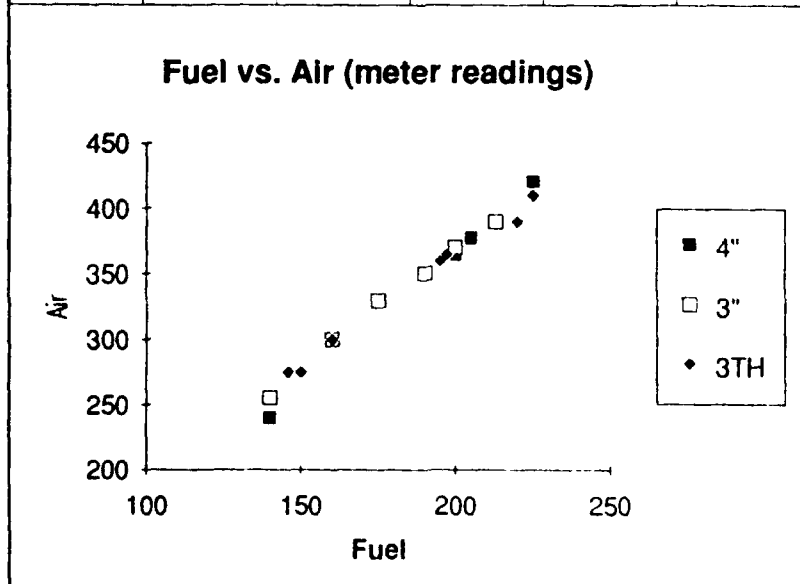


Table 8

Restriction			none	Restriction			5TH
chimney length			short	chimney length			short
flow regulator			4	flow regulator			4
F	A	Φ		F	A	Φ	
225	390	0.57		150	275	0.53	
225	391	0.56		200	360	0.54	
201	360	0.55		168	300	0.55	
165	290	0.56		208	370	0.55	
232	400	0.57		166	300	0.54	
194	350	0.54		150	275	0.53	
161	300	0.53		225	390	0.57	
183	325	0.55		225	395	0.56	
199	350	0.56					
216	375	0.56					
222	390	0.56					
Restriction			5"	Restriction			4TH
chimney length			short	chimney length			short
flow regulator			4	flow regulator			4
F	A	Φ		F	A	Φ	
150	272	0.54		150	275	0.53	
175	315	0.54		170	310	0.54	
200	360	0.54		200	350	0.56	
223	410	0.53		165	300	0.54	
225	400	0.55		225	403	0.55	
209	382	0.54		150	285	0.52	

Fuel vs. Air (meter readings)

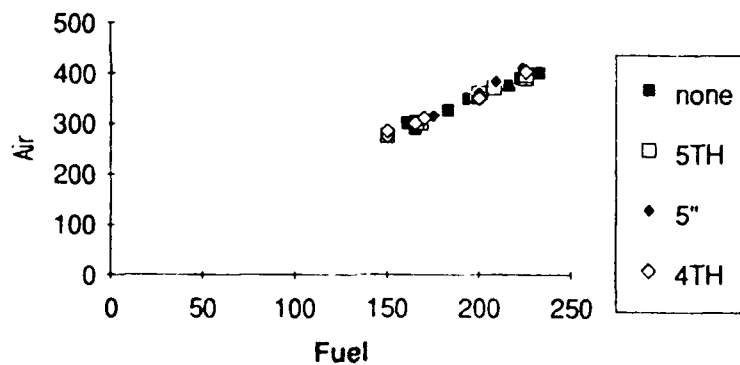


Table 9

Restriction	4TH	Restriction	4TH		
chimney length	short	chimney length	short		
Fuel regulator	3	Fuel regulator	3		
Nitrogen Regulator	2+4	Nitrogen Regulator	2+4		
A	N2(SLPM)	F	A	N2(SLPM)	F
250	250	153	300	375	190
250	250	154	300	375	191
250	375	162	300	300	185
250	375	163	300	300	187
250	300	157	300	275	187
250	325	160	300	325	190
250	325	161	300	350	191
250	350	162	300	375	192
250	275	157	300	0	165
250	0	136			
A	N2(SLPM)	F	A	N2(SLPM)	F
350	350	215	400	300	240
350	400	218	400	0	220
350	0	190	400	400	245

Fuel vs. N2 and Air: Diluted LBO

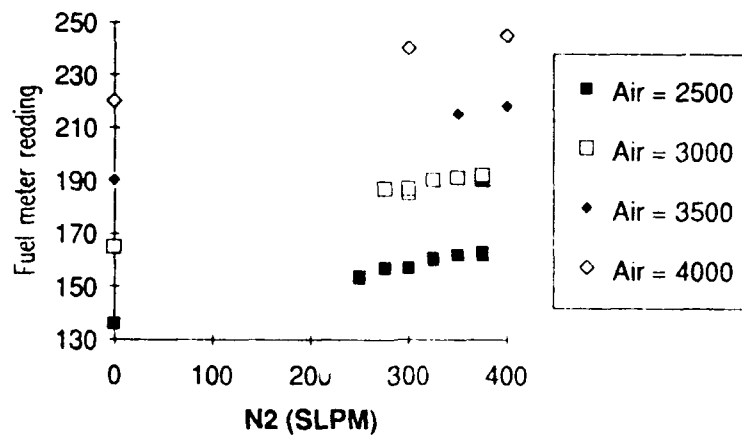


Table 10

Restriction		none	Restriction		none
chimney length		short	chimney length		short
Fuel regulator		3	Fuel regulator		3
Nitrogen Regulator		2+4	Nitrogen Regulator		2+4
A	N2(SLPM)	F	A	N2(SLPM)	F
200	0	106	350	0	190
200	100	117	350	100	207
200	200	125	350	200	215
200	300	136	350	250	216
250	0	136	350	300	220
250	100	150	400	0	220
250	200	159	400	100	231
250	200	157	400	200	238
300	0	165			
300	100	176			
300	200	182			
300	250	186			
300					

Fuel vs. N2 and Air: Diluted LBO

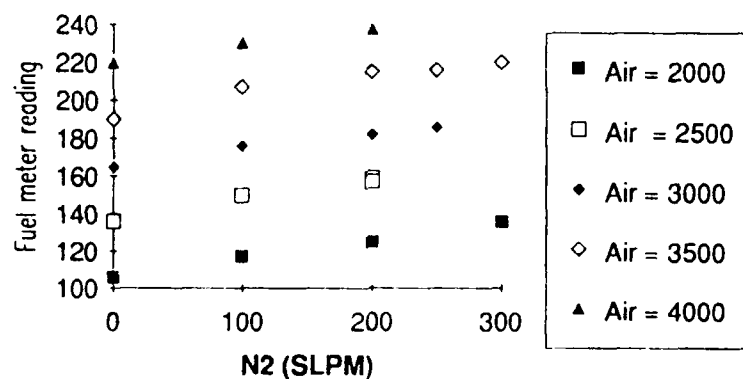


Table 11

Restriction	4TH	Restriction	none
chimney length	short	chimney length	short
Fuel regulator	4	Fuel regulator	4
450 Burner		450- burner	
Bottle propane		Fuel Farm Propane	
A	F	A	F
200	109	180	113
300	164	175	115
200	111	200	117
300	167	300	176
		200	124

Comparison of 2 propane sources

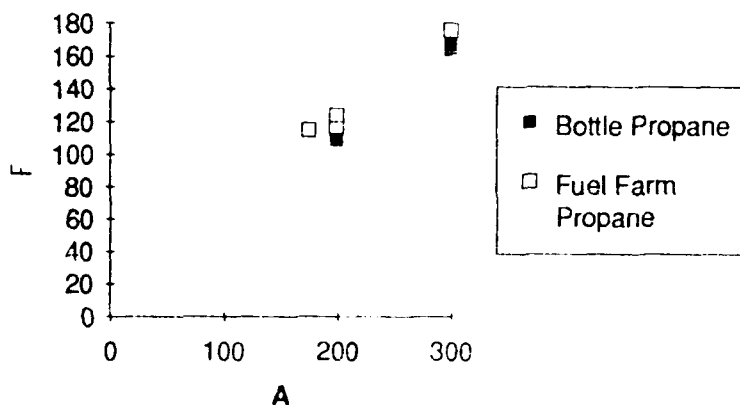


Table 12

Restriction			4TH		
chimney length			short		
Fuel regulator			4		
N2 Regulator			2+3		
490 Burner			450 Burner		
3 metal plates			3 metal plates		
A	N2	F	A	N2	F
300	0	169	300	0	172
300	0	168	300	100	178
300	0	167	300	200	183
300	0	168	300	300	191
300	0	169	300	400	198
300	0	170	400	0	229
300	100	174	400	100	235
300	100	175	400	200	240
300	200	180	400	300	245
300	300	186	400	400	250
300	400	191	Restriction		4TH
400	0	224	chimney length		short
400	0	225	Fuel regulator		4
400	0	223	N2 Regulator		2+3
400	100	230	450 burner		
400	200	236	windows		
400	300	240	A	N2	F
400	400	247	300	0	173
4000			300	100	177
			300	200	183
			300	300	190
			300	400	196
			400	0	228
			400	100	235
			400	200	241
			400	300	246
			400	400	253

450 and 490 Burners metal vs. glass walls

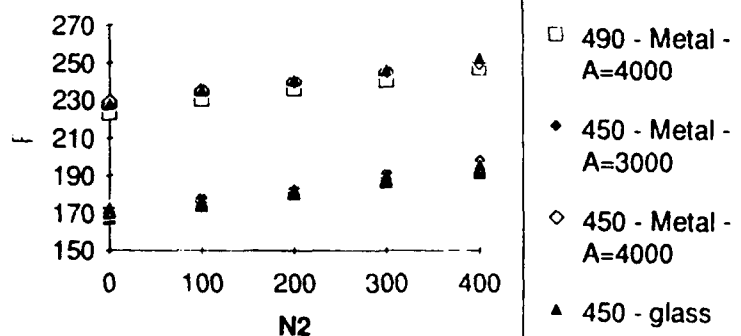


Table 13

Restriction		none		
Chimney length		long		
F	A	P1-P3	P1-P4	P1-P5
0	100	0.01	0.02	0.01
0	200	0.03	0.05	0.03
0	300	0.06	0.08	0.07
0	400	0.08	0.13	0.1
100	100	0	0	0
100	150	0	0.01	0.01
150	200	0.02	0.02	0.03
150	250	0.02	0.03	0.05
200	250	0.02	0.02	-0.01
200	300	0.03	0.04	0.07
200	350	0.03	0.06	0.1
225	350	0.03	0.05	0.1
225	375	0.04	0.07	0.11
225	400			0.12
Restriction		5TH		
Chimney length		long		
F	A	P1-P3	P1-P4	P1-P5
0	100	0.01	0.01	0.01
0	200	0.03	0.03	0.03
0	300	0.05	0.08	0.06
0	400	0.04	0.13	0.09
100	100	0	0.01	-0.01
100	150	0.01	0.02	0.02
150	200	0.01	0.05	0.05
150	250	0.02	0.04	0.05
200	250			
200	300	0.02	0	0.07
200	350	0.04	0.06	0.1
225	350		0.06	0.1
225	375			
225	400			

Table 14

Restriction		4TH		
Chimney length		long		
F	A	P1-P3	P1-P4	P1-P5
0	100		0.01	0.01
0	200		0.04	0.03
0	300		0.09	0.07
0	400		0.13	0.09
100	100	0.005	0.005	-0.01
100	150	0.01	0.01	0.01
150	225	0.015	0.025	0.04
150	250	0.02	0.03	0.05
200	300	0.03	0.04	0.07
200	325	0.03	0.05	0.08
200	350	0.04	0.05	0.09
225	325	0.01	0.06	0.08
225	350	0.03	0.06	0.09
225	375	0.04	0.07	0.11
Restriction		4TH		
Chimney length		long		
F	A	P1-P3	P1-P4	P1-P5
100	100	0	0	-0.02
100	150	0.01	0.01	-0.01
150	225	0.02	0.01	0.04
150	250	0.02	0.035	0.05
200	350	0.03	0.06	0.09
200	325	0.03	0.05	0.08
225	375	0.04		0.11
Restriction		4TH		
Chimney length		long		
F	A	P1-P3	P1-P4	P1-P5
0	100	0.01	0.02	0.01
0	200	0.03	0.05	0.03
0	300	0.06	0.1	0.06
0	400	0.1	0.13	0.09
100	100	-0.01	0	0
100	150	0.01	0.01	0.01
150	200	0.03	0.02	0.01
150	250	0.05	0.035	0.02
200	300	0.07	0.045	0.02
200	350	0.09	0.06	0.04
225	400	0.11		

Table 15

Restriction		3		
Chimney length		long		
F	A	P1-P3	P1-P4	P1-P5
0	100	0.01	0.02	0.01
0	200	0.03	0.05	0.03
0	300	0.07	0.1	0.07
0	400	0.09	0.13	0.11
100	100	0	0	-0.01
100	150	0.01	0.01	0.015
150	200	0.01	0.02	0.03
150	250	0.025	0.03	0.05
200	300	0.025	0.04	0.07
200	350	0.04	0.055	0.04
Restriction		3TH		
Chimney length		short		
F	A	P1-P3	P1-P4	P1-P5
0	100	0.01	0.015	0.005
0	200	0.03	0.04	0.02
0	300	0.07	0.09	0.05
0	400	0.1	0.13	0.09
100	100	-0.06	-0.005	-0.03
100	150	0.02	0.015	0
150	250	0.05	0.04	0.01
150	275	0.06	0.05	0.025
200	350	0.095	0.06	0.025
225	400			0.02
Restriction		none		
Chimney length		short		
F	A	P1-P3	P1-P4	P1-P5
0	100	0.01	0.02	0.01
0	200	0.03	0.05	0.03
0	300	0.07	0.08	0.06
0	400	0.1	0.13	0.08
100	100	0	0	0
100	150	0.01	0.01	0
150	200	0.03	0.02	0.02
150	250	0.05	0.03	0.02
200	250	-0.01		0.02
200	300	0.07	0.04	0.03
200	350	0.1	0.06	0.03
225	350	0.1	0.06	0.04
225	375	0.11	0.07	0.04

Table 16

Restriction		5TH		
Chimney length		short		
F	A	P1-P3	P1-P4	P1-P5
0	100	0.01	0.01	0.01
0	200	0.03	0.03	0.03
0	300	0.05	0.08	0.06
0	400	0.09	0.13	0.09
100	100	0	0.01	-0.01
100	150	0.01	0.02	0.02
150	225	0.01	0.05	0.05
150	250	0.02	0.04	0.05
200	300	0.02	0	0.07
200	350	0.04	0.06	0.1
225	350		0.06	0.1
Restriction		5		
Chimney length		short		
F	A	P1-P3	P1-P4	P1-P5
0	100	0.01	0.01	
0	200	0.03	0.04	
0	300	0.07	0.09	
0	400	0.09	0.13	
100	100	-0.01	0.005	0.005
100	150	0.01	0.01	0.01
200	300	0.07	0.04	0.03
200	325	0.08	0.05	0.03
200	350	0.09	0.05	0.04
150	225	0.04	0.025	0.015
150	250	0.05	0.035	0.02
225	300	0.08	0.06	0.015
225	325	0.09	0.06	0.03
225	350	0.11	0.07	0.04
Restriction		4TH		
Chimney length		short		
F	A	P1-P3	P1-P4	P1-P5
100	100	0.02	0	0
100	150	0.01	0.01	0.01
150	225	0.04	0.01	0.02
150	250	0.05	0.035	0.02
200	325	0.09	0.06	0.03
200	350	0.08	0.05	0.03
225	375	0.11		0.04

Table 17

P&W BURNER WITH SHORT EXTENTION AND NO RESTRICTION										
PRESSURE MASUREMENTS, COLD FLOW, @20 C, 29.31 in.Hg										
A	'FUEL'	Patm-Pbase	P1	P2	P3	P4	P5	P6	P7	P8
1000	0	0.11	-0.01	-0.01	-0.02	-0.01	-0.02	0.09	0.09	0.1
2000	0	0.5	0.1	0.05	0.05	0.03	0.03	0.45	0.47	0.47
3000	0	1	0.27	0.2	0.23	0.13	0.2	1.1	XXX	XXX
4000	0	XXX	0.53	0.42	0.42	0.33	0.39	XXX	XXX	XXX
1000	180	0.08	-0.05	-0.05	-0.06	-0.08	-0.05	0.06	0.06	0.06
1250	180	0.13	-0.05	-0.06	-0.06	-0.08	-0.06	0.1	0.11	0.12
1500	180	0.19	-0.05	-0.07	-0.07	-0.07	-0.07	0.16	0.18	0.18
1800	180	0.3	-0.04	-0.07	-0.07	-0.07	-0.07	0.27	0.28	0.28
2000	180	0.41	-0.04	-0.07	-0.07	-0.06	-0.08	0.33	0.36	0.36
1750	136	0.3	-0.04	-0.05	-0.05	-0.06	-0.06	0.25	0.27	0.27
1750	166	0.29	-0.05	-0.07	-0.07	-0.07	-0.07	0.24	0.26	0.25
1750	180	0.28	-0.06	-0.07	-0.07	-0.08	-0.08	0.23	0.25	0.26
1750	208	0.27	-0.06	-0.07	-0.08	-0.08	-0.07	0.23	0.25	0.25
1750	236	0.27	-0.06	-0.08	-0.08	-0.09	-0.08	0.23	0.24	0.25
1750	50	0.34	0	-0.01	-0.02	-0.03	-0.02	0.28	0.3	0.3
1750	60	0.33	0	-0.02	-0.02	-0.03	-0.03	0.28	0.3	0.29
1750	65	0.33	-0.01	-0.02	-0.02	-0.03	-0.03	0.28	0.29	0.29
1750	75	0.32	-0.02	-0.03	-0.02	-0.04	-0.04	0.27	0.28	0.29
1750	85	0.32	-0.02	-0.03	-0.03	-0.04	-0.05	0.26	0.28	0.29
1000	65	0.09	-0.03	-0.03	-0.03	-0.04	-0.03	0.07	0.07	0.07
1250	65	0.15	-0.03	-0.03	-0.04	-0.04	-0.04	0.12	0.13	0.13
1500	65	0.223	-0.02	-0.03	-0.03	-0.04	-0.04	0.2	0.2	0.2
1800	65	0.35	-0.01	-0.02	-0.02	-0.04	-0.03	0.3	0.29	0.31
2000	65	0.45	0.01	-0.01	-0.01	-0.03	-0.02	0.39	0.38	0.39
P&W BURNER WITH SHORT EXTENTION AND NO RESTRICTION										
PRESSURE MASUREMENTS, PROPANE COMBUSTION, 29.51 in.Hg, AIR @24 C										
AIR	FUEL	Patm - Pbase	P1	P2	P3	P4	P5	P6	P7	P8
1000	65	0.04	-0.07	-0.07	-0.07	-0.07	-0.05	0.02	0.03	0.04
1250	65	0.09	-0.07	-0.06	-0.07	-0.07	-0.06	0.06	0.07	0.08
1500	65	0.12	-0.09	-0.09	-0.09	-0.09	-0.08	0.07	0.09	0.11
1800	65	0.17	-0.11	-0.12	-0.11	-0.11	-0.12	0.11	0.13	0.16
1750	50	0.15	-0.12	-0.13	-0.12	-0.12	-0.11	0.1	0.12	0.15
1750	60	0.16	-0.11	-0.13	-0.11	-0.12	-0.12	0.11	0.12	0.15
1750	65	0.15	-0.14	-0.1	-0.11	-0.11	-0.11	0.11	0.13	0.16
1750	75	0.15	-0.11	-0.1	-0.1	-0.1	-0.1	0.1	0.13	0.15
1750	85	0.15	-0.11	-0.11	-0.11	-0.11	-0.1	0.09	0.11	0.15
1500	75	0.12	-0.09	-0.08	-0.08	-0.09	-0.07	0.07	0.09	0.11
1500	65	0.12	-0.09	-0.09	-0.09	-0.09	-0.1	0.07	0.09	0.11
1500	42	0.11	-0.1	-0.09	-0.1	-0.09	-0.08	0.09	0.11	0.12

Table 18

P&W BURNER WITH SHORT EXTENTION AND 4" ORIFICE										
PRESSURE MASUREMENTS, 'FUEL' IS AIR, 28.01 in.Hg, AIR @20 C										
AIR	'FUEL'	Patm - Pbase	P1	P2	P3	P4	P5	P6	P7	P8
1000	0	0.09	0	-0.01	-0.01	-0.01	-0.01	0.09	0.1	0.1
2000	0	0.43	0.07	0.06	0.05	0.04	0.06	0.45	0.46	0.49
3000	0	1.1	0.24	0.2	0.2	0.17	0.2	XXX	XXX	XXX
4000	0	XXX	0.47	0.41	0.37	0.32	0.42	XXX	XXX	XXX
1000	180	0.07	-0.05	-0.06	-0.06	-0.06	-0.05	0.06	0.07	0.08
1250	180	0.12	-0.05	-0.06	-0.06	-0.07	-0.05	0.11	0.12	0.14
1500	180	0.18	-0.05	-0.06	-0.07	-0.07	-0.06	0.17	0.18	0.21
1800	180	0.27	-0.05	-0.06	-0.07	-0.08	-0.07	0.25	0.29	0.31
2000	180	0.34	-0.05	-0.06	-0.07	-0.08	-0.07	0.33	0.35	0.39
1750	136	0.24	-0.04	-0.05	-0.05	-0.05	-0.05	0.26	0.27	0.29
1750	166	0.24	-0.05	-0.06	-0.06	-0.07	-0.06	0.25	0.26	0.27
1750	180	0.24	-0.05	-0.06	-0.07	-0.07	-0.07	0.25	0.26	0.26
1750	208	0.22	-0.06	-0.07	-0.08	-0.08	-0.07	0.25	0.27	0.26
1750	236	0.22	-0.06	-0.08	-0.08	-0.08	-0.08	0.24	0.26	0.26
P&W BURNER WITH EXTENTION AND 4" ORIFICE										
PRESSURE MASUREMENTS, PROPANE COMBUSTION, 29.05 in.Hg, AIR @20 C										
AIR	FUEL	Pa-Pb	P1	P2	P3	P4	P5	P6	P7	P8
1000	65	0.01	-0.06	-0.06	-0.07	-0.08	-0.06	-0.02	-0.02	0.03
1250	65	0	-0.06							
1500	75	0.02	-0.09	-0.08	-0.08	-0.08	-0.08	-0.08	0.11	0.12
1750	85	0.04	-0.12	-0.11	-0.1	-0.11	-0.11	0.1	0.13	^^^
1500	65	0.03	-0.09							
1750	75	0.07	-0.12							
1750	65	0.06	-0.11	-0.1	-0.1	-0.1	-0.1	0.125	0.15	0.16
1800	65	0.1	-0.11							
1750	60	0.08	-0.11							
2000	65	0.06	-0.43	-0.4	-0.45	-0.35	-0.45	-0.05	-0.05	-0.02
1750	50	0.02	-0.08	-0.09	-0.09	-0.09	-0.1	0.14	0.16	0.18
1500	42	0.02	-0.09	-0.08	-0.08	-0.08	-0.08	0.1	0.12	0.13

Table 19

P&W BURNER WITH SHORT EXTENSION AND 4" ORIFICE									
TEMPERATURE DATA									
FUEL	AIR	T 1	T 2	T 3	T 4	T 5	T 6	T 7	T 8
42	1500	433	512	547	616	700	750	728	702
50	1750	443	526	560	628	711	781	755	737
60	1750	452	542	580	654	744	832	813	800
65	1000	379	472	514	619	695	692	672	659
65	1250	386	486	533	633	732	758	736	720
65	1500	386	488	527	623	737	802	784	769
65	1500	457	550	588	670	765	802	784	769
65	1750	455	545	584	659	754	840	820	802
65	1800	446	540	579	661	750	851	832	815
65	2000	435	530	570	650	740			
75	1500	448	540	579	662	756	782	762	747
75	1750	473	567	604	684	777	830	813	792
85	1750	464	558	596	678	771	807	787	769
P&W BURNER WITH SHORT EXTENSION AND NO RESTRICTION									
TEMPERATURE DATA									
FUEL	AIR	T 1	T 2	T 3	T 4	T 5	T 6	T 7	T 8
42	1500	409	505	546	620	704	789	759	733
50	1750	407	505	546	618	698	789	768	745
60	1750	418	524	568	648	739	838	817	793
65	1000	374	435	483	591	671	680	657	638
65	1250	365	476	520	617	715	758	746	710
65	1500	388	500	554	650	750	802	780	756
65	1500	430	537	579	662	757	762	740	720
65	1750	423	534	580	663	758	824	822	805
65	1800	395	511	559	650	750	850	825	808
65	2000								
75	1500	428	532	572	654	747	802	780	756
75	1750	430	549	594	679	773	825	800	779
85	1750	430	546	590	677	769	803	779	760

Table 20

P & W burner with short extension and assorted orifice plates																		
pressures are all measured as P # - P atmosphere										N2 lpm at 21 C.								
Air flow at 2250 slpm through Sierra #3 meter for all conditions All air and fuel at 68 F to 72 F																		
Pressures										Temperatures C								
4" restriction 9-5-91																		
No additional N2; b.p. 29.20																		
fuel slpm	55	75	100	125	150					55	75	100	125	150				
port # 0	0.08	0.45	0.18	0.12	0.15													
1	0.00	0.00	0.00	0.00	0.00					368	424	475	487	459				
2	0.00	-0.05	-0.01	0.00	0.00					442	510	562	550	526				
3	-0.01	-0.05	-0.01	-0.01	0.00					473	552	595	577	551				
4	-0.01	-0.05	-0.01	-0.02	0.00					504	596	629	607	580				
5	-0.01	-0.10	-0.01	-0.02	0.00					522	627	654	632	601				
6	-0.01	-0.10	-0.01	-0.02	0.00					560	684	707	687	653				
7	-0.01	-0.10	0.00	0.02	0.05					599	734	762	735	703				
8	0.03	-0.05	0.01	0.02	0.05					630	770	801	757	727				
9	0.07	0.00	0.13	0.05	0.05													
10	0.14	0.10	0.13	0.08	0.10					677	797	831	767	737				
11	0.30	0.20	0.23	0.17	0.20					685	793	821	760	735				
12	0.35	0.25	0.28	0.22	0.25					661	768	799	739	718				
4" restriction 9-11-91										b.p. 29.24								
		no N2				N2=400 lpm						no N2			N2=400 lpm			
fuel slpm	150.1	150	139.9	119.8	100	80	60.1					150.1	150	140	120	100	80	60.1
port # 0	0	-0.15	-0.05	0	0.12	0.15	-0.08											
1	-0.15	-0.27	-0.2	-0.12	-0.07	-0.02	-0.15					403	396	417	441	465	447	410
2	-0.15	-0.27	-0.2	-0.13	-0.08	-0.03	-0.15					491	487	503	527	552	525	479
3	-0.17	-0.27	-0.21	-0.13	-0.08	-0.03	-0.16					527	522	536	559	584	556	506
4	-0.19	-0.27	-0.21	-0.13	-0.08	-0.03	-0.16					561	553	566	590	616	586	531
5	-0.17	-0.27	-0.21	-0.13	-0.08	-0.03	-0.17					586	573	585	610	635	603	543
6	-0.17	-0.27	-0.2	-0.15	-0.09	-0.04	-0.17					639	614	626	654	676	642	572
7	-0.15	-0.25	-0.2									687	658	671	703	723	684	600
8	-0.13	-0.22	-0.2	-0.14	-0.08	-0.05	-0.15					710	686	702	739	765	723	619
9	-0.13	-0.2	-0.15	-0.1	0	0.02	-0.07											
10	-0.1	-0.15	-0.12	-0.05	0.05	0.1	0.03					722	711	728	766	809	772	650
11	0.05	-0.07	-0.1	0.2	0.27	0.35	0.27					723	711	731	768	805	778	673
12	0.05	-0.07	-0.08	0.17	0.23	0.2	0.17					710	696	717	746	778	756	653

Table 21

P & W burner with short extention and assorted orifice plates								
pressures are all measured as P # - P atmosphere					N2 lpm			
Air flow at 2250 slpm through Sierra #3 meter for all conditions								
Pressures								
N2 lpm at 21 C.								
Air flow at 2250 slpm through Sierra #3 meter for all conditions								
All air and fuel at 68 F to 72 F								
4" restriction , 9-11-91								
Pressures					Temperatures C			
N2=800 lpm								
fuel slpm	130	110.2	90	70	130	110	90	70
port # 0	-0.25	-0.07	0.02	-0.09				
1	-0.37	-0.19	-0.13	-0.17	417	412	389	417
2	-0.37	-0.19	-0.13	-0.17	511	506	492	490
3	-0.38	-0.20	-0.14	-0.17	540	540	531	517
4	-0.39	-0.20	-0.14	-0.17	566	570	567	543
5	-0.38	-0.20	-0.15	-0.18	581	590	592	555
6	-0.38	-0.20	-0.15	-0.18	615	628	635	588
7					655	675	683	618
8	-0.36	-0.19	-0.13	-0.19	679	709	720	639
9	-0.30	-0.11	-0.05	-0.07				
10	-0.22	-0.02	0.05	0.05	676	734	757	671
11	0.08	0.28	0.34	0.40	576	726	765	695
12	0.06	0.20	0.25	0.18	546	709	741	676
b.p.	29.27	29.27	29.27	29.24				
4" restriction 9-11-91								
N2=1000 lpm b.p. 29.27								
fuel slpm	310	278	250	208	310	278	250	208
port # 0	-0.20	-0.07	-0.03	-0.07				
1	-0.31	-0.20	-0.18	-0.18	419	437	445	361
2	-0.31	-0.20	-0.18	-0.18	514	525	530	455
3	-0.32	-0.21	-0.19	-0.19	545	555	559	493
4	-0.33	-0.21	-0.19	-0.19	571	581	588	526
5	-0.33	-0.22	-0.20	-0.20	587	599	606	548
6	-0.33	-0.22	-0.20	-0.20	623	636	641	584
7					671	686	688	631
8	-0.30	-0.20	-0.16	-0.17	690	712	716	648
9	-0.22	-0.11	-0.08	-0.05				
10	-0.16	0.00	0.05	0.07	687	732	746	681
11	0.22	0.35	0.42	0.43	613	715	743	707
12	0.15	0.27	0.25	0.17	590	697	720	687

Table 22

N2 lpm at 21 C.						
Air flow at 2250 slpm through Sierra #3 meter for all conditions						
All air and fuel at 68 F to 72 F						
Pressures				Temperatures C		
4" restriction 9-12-91						
N2=1200 lpm b.p. 29.27						
fuel slpm	278	250	222	278	250	222
port # 0	-0.20	-0.11	-0.10			
1	-0.31	-0.21	-0.20	516	436	428
2	-0.31	-0.22	-0.21	516	525	506
3	-0.32	-0.22	-0.21	549	556	536
4	-0.32	-0.23	-0.22	577	584	565
5	-0.32	-0.23	-0.23	594	600	581
6	-0.32	-0.23	-0.23	629	636	615
7				681	685	660
8	-0.30	-0.21	-0.19	693	701	673
9	-0.22	-0.10	-0.07			
10	-0.07	0.06	0.10	689	715	696
11	0.37	0.48	0.50	642	713	717
12	0.15	0.53	0.55	628	697	700
4" restriction 9-12-91						
N2=1320 lpm b.p. 29.27						
fuel slpm	250			250		
port # 0	-0.15					
1	-0.23			438		
2	-0.24			521		
3	-0.25			552		
4	-0.25			580		
5	-0.25			594		
6	-0.26			628		
7				671		
8	-0.23			683		
9	-0.11					
10	0.05			687		
11	0.51			687		
12	0.58			678		

Table 23

N2 lpm at 21 C.						
Air flow at 2250 slpm through Sierra #3 meter for all conditions						
All air and fuel at 68 F to 72 F						
Pressures				Temperatures C		
3" restriction , 9-13-91						
N2=1200 lpm, b.p. 29.126						
fuel slpm	225	250	278	222	250	278
port # 0	0.86	0.7	0.63			
1	0.65	0.61	0.39	476	465	461
2	0.63	0.57	0.35	531	533	529
3	0.6	0.57	0.34	549	556	553
4	0.58	0.57	0.34	572	581	578
5	0.56	0.55	0.32	585	597	594
6	0.54	0.52	0.3	619	634	632
7				664	685	680
8	0.55	0.51	0.3	677	701	692
9	0.72	0.67	0.45			
10	0.85	0.8	0.55	699	717	681
11	1.27	1.24	1	720	715	625
12	1.38	1.37	1.15	705	699	611
3" restriction , 9-13-91						
N2=1000 lpm, b.p. 29.126						
fuel slpm	208	250	278	208	250	278
port # 0	0.76	0.83	0.80			
1	0.55	0.59	0.55	476	486	465
2	0.53	0.55	0.52	526	544	528
3	0.53	0.55	0.52	542	561	549
4	0.52	0.53	0.50	565	586	575
5	0.50	0.51	0.48	578	603	594
6	0.48	0.50	0.47	612	641	634
7				656	692	688
8	0.50	0.50	0.47	671	715	712
9	0.65	0.65	0.58			
10	0.77	0.74	0.69	703	746	734
11	1.12	1.12	1.07	719	745	722
12	1.22	1.24	1.18	700	725	705

Table 24

P & W burner with short extention and assorted orifice plates											
pressures are all measured as P # - P atmosphere						N2 lpm at 21 C.					
Air flow at 2250 slpm through Sierra #3 meter for all conditions All air and fuel at 68 F to											
Pressures						Temperatures C					
3" restriction , 9-13-91						Temperatures C					
N2=800 lpm, b.p. 29.126											
fuel slpm	194	250	306				194	250	306		
port # 0	0.72	0.77	0.64								
1	0.51	0.54	0.40				476	496	467		
2	0.50	0.53	0.38				524	551	523		
3	0.49	0.51	0.38				539	568	544		
4	0.47	0.50	0.37				563	594	569		
5	0.45	0.49	0.36				576	610	586		
6	0.43	0.47	0.36				610	650	626		
7							656	702	678		
8	0.46	0.49	0.37				675	729	701		
9	0.59	0.60	0.47								
10	0.68	0.70	0.52				713	767	728		
11	0.98	1.00	0.89				724	765	714		
12	1.08	1.11	1.00				702	742	700		
3" restriction 9-13-91											
N2=400 lpm, b.p. 29.126											
fuel slpm	167	222	278	333	389	417	167	222	278	333	389
port # 0	0.56	0.73	0.62	0.53	0.35	0.30					
1	0.40	0.51	0.47	0.30	0.16	0.09	468	491	486	464	382
2	0.39	0.50	0.45	0.28	0.16	0.09	515	544	543	520	459
3	0.37	0.50	0.44	0.27	0.15	0.08	530	563	564	543	494
4	0.36	0.48	0.52	0.27	0.15	0.08	554	592	592	570	529
5	0.34	0.47	0.41	0.26	0.15	0.07	568	610	612	589	554
6	0.33	0.45	0.40	0.26	0.14	0.06	601	651	657	633	600
7							645	706	716	688	653
8	0.34	0.45	0.40	0.28	0.16		664	738	746	711	675
9	0.44	0.57	0.47	0.38	0.23		659				
10	0.52	0.65	0.54	0.42	0.27		702	786	771	736	699
11	0.75	0.86	0.77	0.68	0.52		704	797	773	738	696
12	0.85	0.95	0.87	0.77	0.62		682	775	751	723	685

Table 25

P & W burner with short extention and assorted orifice plates										
pressures are all measured as P # - P atmosphere										
N2 lpm at 21 C.										
Air flow at 2250 slpm through Sierra #3 meter for all conditions										
All air and fuel at 68 F to 72 F										
Pressures						Temperatures C				
3" restriction 9-3-91										
No additional N2										
fuel slp	55	75	100	125	150	55	75	100	125	150
port #	0.40	0.80	0.65	0.60	0.35	386	410	458	460	431
1	0.25	0.60	0.40	0.30	0.15	448	483	540	540	498
2	0.25	0.55	0.40	0.30	0.15	473	520	572	571	527
3	0.25	0.55	0.40	0.35	0.15	500	556	607	605	560
4	0.20	0.50	0.40	0.35	0.10	512	576	629	626	583
5	0.20	0.50	0.35	0.35	0.10	554	632	691	687	642
6	0.20	0.45	0.35	0.30	0.10	594	687	753	750	697
7	0.20	0.50	0.40	0.30	0.10	620	728	795	784	721
8	0.25	0.50	0.45	0.35	0.15	640	752	816	796	725
9	0.25	0.60	0.45	0.40	0.20	665	776	833	808	733
10	0.30	0.60	0.50	0.45	0.30	677	785	823	798	733
11	0.55	0.70	0.65	0.60	0.45	653	762	801	776	719
12	0.60	0.75	0.70	0.65	0.50					
b.p.	29.19	29.27	29.27	29.27	29.19	mdv 9-18-91				

Table 26

Step combustor with short extention and 3" restriction , 9-13-91						
P - Patm, Air flow Sierra # 3				b.p. 29.126		
Air=1150 slpm, Fuel 65 slpm,				Air=1400 slpm, Fuel 65 slpm,		
Port #	P - P atm	Temp. C		Port #	P - P atm	Temp. C
0	0.13			0	0.22	
1	0.06	340		1	0.18	386
2	0.06	412		2	0.17	465
3	0.05	449		3	0.17	505
4	0.05	495		4	0.16	548
5	0.06	540		5	0.16	583
6	0.06	617		6	0.16	648
7		682		7		712
8	0.07	693		8	0.15	733
9	0.09			9	0.16	
10	0.1	691		10	0.16	746
11		671		11		731
12	0.16	653		12	0.25	709
Air=1650 slpm, Fuel 42 slpm,				Air=1650 slpm, Fuel 65 slpm,		
Port #	P - P atm	Temp. C		Port #	P - P atm	Temp. C
0	0.25			0	0.27	
1	0.16	387		1	0.19	412
2	0.15	449		2	0.18	481
3	0.15	480		3	0.18	516
4	0.14	514		4	0.17	558
5	0.14	537		5	0.17	589
6	0.13	581		6	0.17	646
7		633		7		712
8	0.14	660		8	0.19	745
9	0.16			9	0.23	
10	0.2	698		10	0.25	780
11		694		11		770
12	0.32	671		12	0.37	748
Air = 1650 slpm, Fuel = 75 slpm,				Air = 1850 slpm, Fuel = 50 slpm		
Port #	P - P atm	Temp. C		Port #	P - P atm	Temp. C
0	0.3			0	0.29	
1	0.18	448		1	0.21	437
2	0.17	511		2	0.2	494
3	0.17	541		3	0.2	519
4	0.16	578		4	0.19	549
5	0.16	606		5	0.19	569
6	0.16	665		6	0.19	611
7		733		7		664
8	0.16	756		8	0.2	691
9	0.2			9	0.24	
10	0.23	773		10	0.27	730
11	0.31	752		11	0.32	725
12	0.34	733		12	0.4	704

Table 27

Air = 1850 slpm, Fuel = 60 slpm,			Air = 1850 slpm, Fuel = 65 slpm		
Port #	P - P atm	Temp. C	Port #	P - P atm	Temp. C
0	0.35		0	0.42	
1	0.23	433	1	0.26	454
2	0.21	492	2	0.25	520
3	0.2	521	3	0.25	548
4	0.2	555	4	0.24	584
5	0.2	578	5	0.24	612
6	0.2	627	6	0.24	673
7		689	7		737
8	0.24	723	8	0.25	757
9	0.3		9	0.3	
10	0.33	765	10	0.34	769
11	0.42	774	11	0.45	753
12	0.48	756	12	0.49	733
Air = 1850 slpm, Fuel = 75 slpm,			Air = 1850 slpm, Fuel = 85 slpm		
Port #	P - P atm	Temp. C	Port #	P - P atm	Temp. C
0	0.4		0	0.38	
1	0.26	445	1	0.23	456
2	0.25	513	2	0.22	526
3	0.25	545	3	0.21	556
4	0.24	584	4	0.21	591
5	0.24	611	5	0.2	619
6	0.23	666	6	0.2	678
7		732	7		744
8	0.24	764	8	0.21	765
9	0.27		9	0.25	
10	0.31	797	10	0.28	778
11	0.42	792	11	0.36	764
12	0.47	771	12	0.41	742
Air = 1900 slpm, Fuel = 65 slpm,			Air = 2050 slpm, Fuel = 65 slpm		
Port #	P - P atm	Temp. C	Port #	P - P atm	Temp. C
0	0.45		0	0.53	
1	0.3	446	1	0.35	447
2	0.28	506	2	0.34	507
3	0.27	534	3	0.34	535
4	0.27	570	4	0.33	569
5	0.26	595	5	0.32	593
6	0.26	645	6	0.32	642
7		708	7		703
8	0.25	743	8	0.32	737
9	0.3		9	0.38	
10	0.34	784	10	0.41	779
11	0.42	792	11	0.5	785
12	0.51	772	12	0.59	765

Table 28

F=70		window section only no chimney			
A=100		open		62%Blockage	
Y	Z	Mean T	TRMS	Mean T	TRMS
0	80	295	75		
0	100	309	75	397	108
0	120	334	110	374	125
0	140	369	144	404	158
0	160	391	158	434	163
0	180	435	191	463	200
0	200	467	198	509	217
0	220	551	227	506	206
0	220	562	230		
0	230	607	237		
0	240	633	229	584	232
0	250	675	259		
0	260	730	254	594	219
0	270	768	262		
0	280	759	245	652	234
0	290	802	264		
0	300	832	255	694	228
0	310	863	250		
15	100	725	238	660	220
15	110	670	244		
15	120	660	233	638	226
15	130	665	235		
15	140	672	235	678	225
15	150	699	238		
15	160	707	236	660	240
15	170	703	238		
15	180	720	234	657	245
15	190	723	231		
15	200	721	218	672	227
15	210	756	252		
15	220	741	236	685	240
15	230	727	245		
15	240	804	242	750	224
15	250	796	253		
15	260	788	219	780	225
15	270	825	214		
15	280	841	222	771	241
15	290	837	235		
15	300	854	243	811	232

Table 29

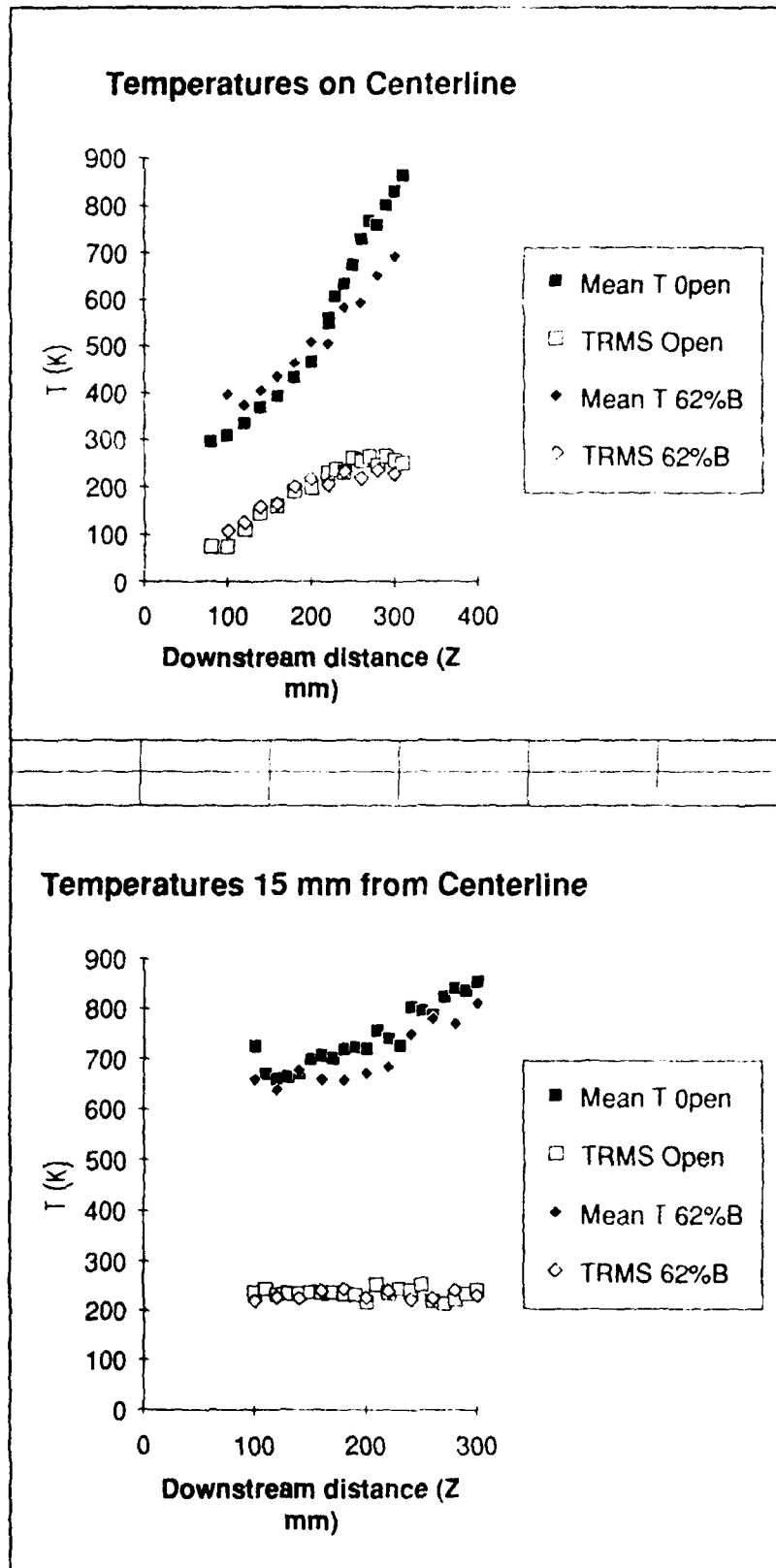


Table 30

F=140 A=100		window section only no chimney			
		open		62%Blockage	
Y	Z	Mean T	TRMS	Mean T	TRMS
26	5			1263	182
25	5			1255	174
24	5			1250	178
23	5			1246	173
22	5	1199	214	1260	184
21	5	1180	229	1229	158
20	5	1114	206	1193	157
19	5	471	180	501	148
18	5	460	332	414	110
17	5	406	197	400	132
16	5	410	195		
15	5	446	214		
14	5	595	350		

Radial Temperatures at z=5mm

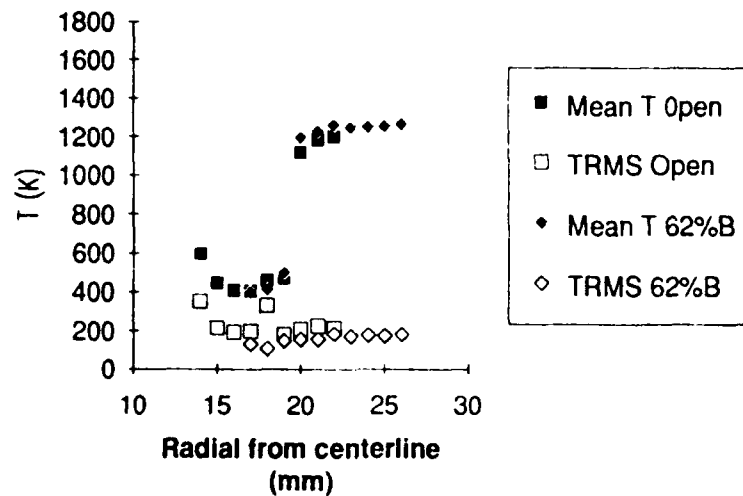
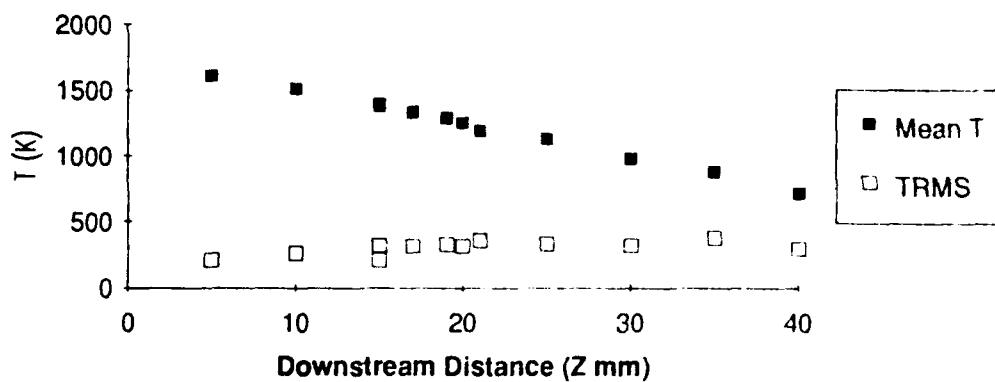


Table 31

F=2		no chimney					
A=200		62%Blockage					
Y	Z	Mean T	TRMS	Y	Z	Mean T	TRMS
20	5	344	45	6	10	1535	241
15	5	320	42	4	10	1488	246
14	5	1200	180	2	10	1515	248
13	5	1599	218	0	10	1513	260
12	5	1594	228	0	15	1384	322
11	5	1627	214	0	15	1404	213
10	5	1611	240	0	15	1400	208
8	5	1595	231	2	15	1405	308
6	5	1599	219	4	15	1437	297
4	5	1620	208	6	15	1463	261
2	5	1560	219	0	17	1331	316
0	5	1611	211	0	19	1292	330
14	10	476	261	0	20	1254	313
13	10	1493	223	0	21	1191	360
12	10	1549	227	0	25	1132	334
11	10	1577	236	0	30	983	320
10	10	1565	223	0	35	881	371
8	10	1533	235	0	40	717	294

Centerline Temperatures



Radial Temperatures at Various Z

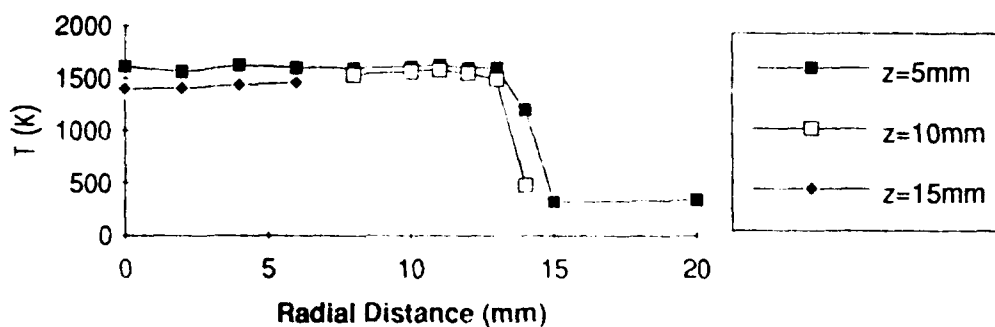


Table 32

P&W w/ short extention, 4" restriction F=150, A=90 Fuel = 54 slpm, Air = 2100 slpm, equiv = 0.61				P&W w/ short extention, 4" restriction , F=330, A=90 Fuel = 118 slpm, Air = 2100 slpm, equiv = 1.34			
Y	Z	Temp (K)	Trms	Y	Z	Tavg(K)	Trms
-26	5	1232	138	-26	5	1481	143
-24	5	1303	123	-24	5	1456	143
-22	5	1302	126	-22	5	1458	138
-21	5	1307	116	-21	5	1458	146
-20	5	1221	132	-20	5	1371	133
-19.5	5	625	284	-19.5	5	1128	109
-19	5	318	91	-19	5	765	287
-17	5	312	90	-17	5	326	110
-15	5	303	79				
-14	5	319	106				
0	15	572	239				
0	30	530	151				
0	50	475	126				
0	75	468	122				
0	100	476	135				
0	150	542	163				
0	200	713	294				
0	250	950	403				

Mean Temperatures vs. Radial Distance at 5 mm
downstream

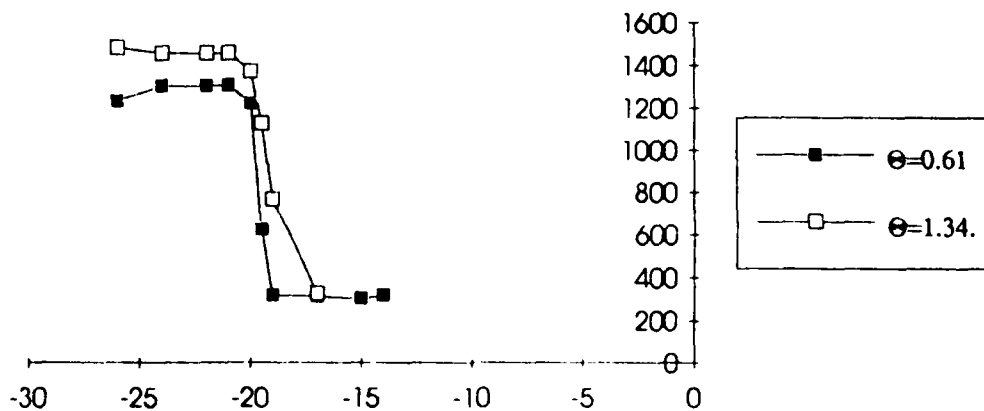


Table 33

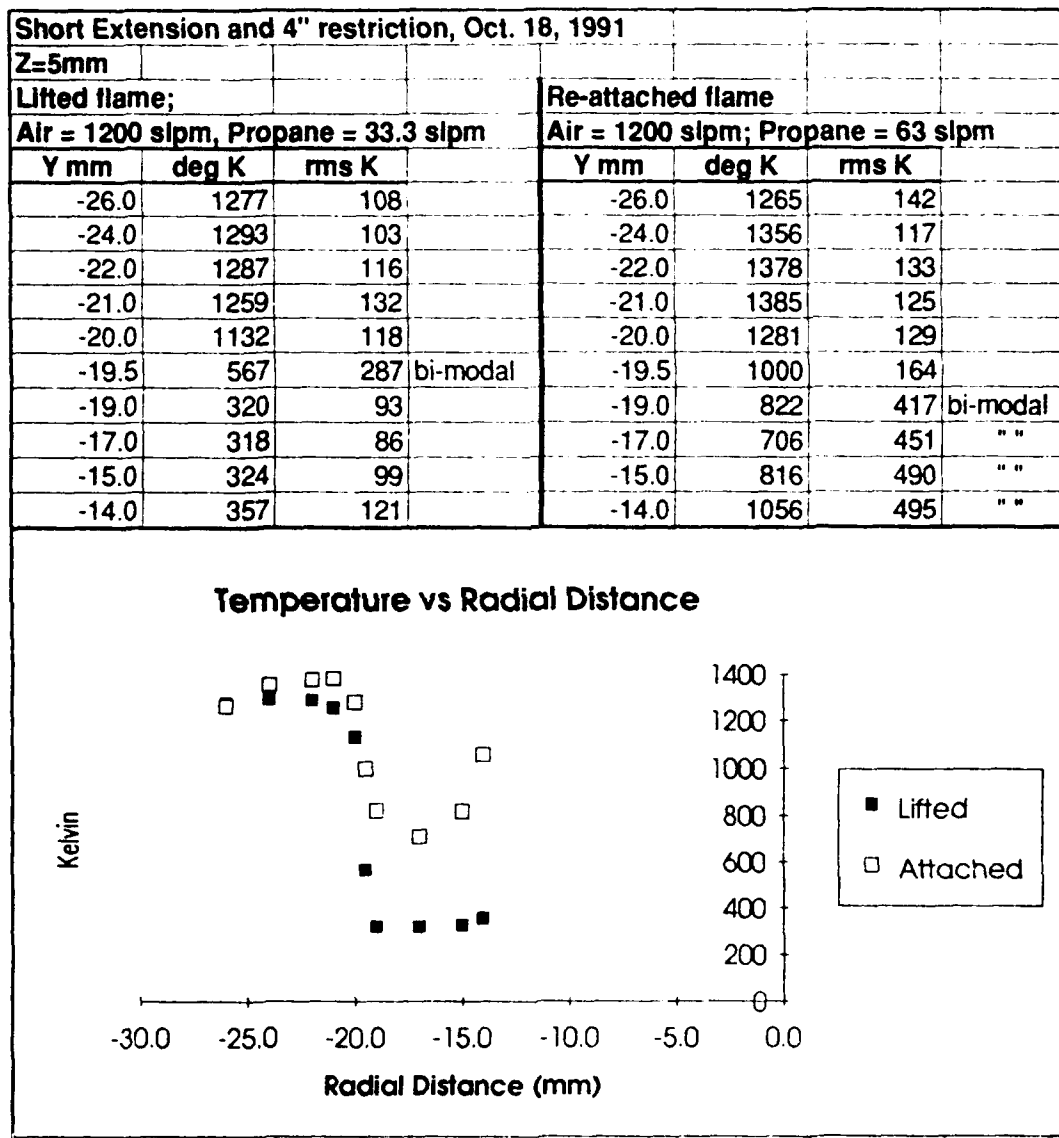


Table 34

SHORT EXTENSION AND 4" RESTRICTION						
LDA COLD FLOW, SEED FUEL TUBE						
Z mm	Y mm	U m/s	U rms	W m/s	W rms	
4	-14	10.1	2.7	-1.7	2.3	
4	-12	9.5	2.5	-2.1	1.5	
4	-10	9.4	2.5	2.2	1.7	
4	-8	9.4	2.8	-2.4	2.3	
4	-6	8.9	2.8	-2	2.4	
4	-4	8.9	3.1	-1.7	2.8	
4	-2	8.7	3.2	-1	3.2	
4	0	8.7	3.3	-0.1	3.5	
4	2	8.6	3.3	0.8	3.4	
4	4	8.8	3.1	1.7	3.3	
4	6	9.2	3.1	2.6	3.2	
4	8	9.6	3	2.7	2.8	
4	10	10.1	3	2.8	2.4	
4	12	10.1	2.9	2.5	2	
10	-15	81	9.7	-3.3	8.1	
10	-10	11	3.7	-2.3	2.9	
10	-5	9.9	4.2	-2	4.4	
10	0	8.4	4.4	0.52	5.1	
10	5	9.2	4.3	2.6	5.1	
10	10	10.8	3.9	2.9	3.6	
10	15	43.1	18.4	6.7	10.7	
50	-15	51.3	15.2	6.8	8.1	
50	-10	76.1	12.8	2.7	9.2	
50	-5	52.6	12.3	3.9	11.1	
50	0	40.6	8.6	2.1	1.1	
50	5	48.4	11	0.4	10.1	
50	10	73	13.1	0.28	9.5	
50	15	68.1	14.9	40	7.7	
50	20	24.7	11.8	0.36	8.2	
125	-15	45.8	15.8	5.9	9.1	
125	-10	65.8	11.8	-1.2	8.6	
125	-5	69.6	9.1	-0.48	7.2	
125	0	71.3	8.5	0.8	6.9	
125	5	73.3	9.6	2.1	7.6	
125	10	70.4	13.1	3.8	9.2	
125	15	56.4	14.5	7.7	9	
125	20	38.8	14.5	3.1	11.4	
250	-15	36	14.8	5.3	8.6	
250	-10	45.5	13.4	-2.4	9.6	
250	-5	48.7	13.2	0.67	9.7	
250	0	49.7	13.2	1.3	9.6	
250	5	48.5	13.3	1.9	9.8	
250	10	45.5	12.9	2.7	10.2	
250	15	42.8	14.8	7.2	9.3	
250	20	35.3	13.1	3.5	10.3	
300	-15	30.3	14.2	4.2	7.9	
300	-10	38.6	12.1	-0.4	8.9	
300	-5	40	12	0.66	9.2	
300	0	40	12.2	0.87	9.2	
300	5	40.2	12.1	1.5	9.2	
300	10	37.1	12.3	2.2	9.4	
300	15	34.9	14.2	6.4	8.933	
300	20	32.8	11.6	3.1	9.4	

Table 35

SHORT EXTENSION, NO EXIT BLOCKAGE					
LDA, COLD FLOW, SEEDED FUEL TUBE					
Z mm	Y mm	U m/s	U rms	W m/s	W rms
4	-14	11	3.1	-1.6	2.2
4	-12	10.8	3.1	-2.4	1.9
4	-10	10.6	3.2	-2.6	2.6
4	-8	10.3	3.4	-2.6	2.8
4	-6	10	3.6	-2.4	3.4
4	-4	9.7	3.8	-1.8	3.8
4	-2	9.4	3.7	-0.9	4
4	0	9.2	3.7	0.4	4
4	2	9.6	3.6	1.6	3.8
4	4	9.8	3.5	2.2	3.5
4	6	10.1	3.4	2.9	3.2
4	8	10.5	3.2	3	2.8
4	10	10.6	3	2.9	2.4
4	12	10.7	2.7	2.5	1.7
4	14	10.4	3.1	2.1	2
10	-15	83.2	13.1	0.5	8.3
10	-10	10.4	4.8	-2.9	4.2
10	-5	9.7	5.3	-1.8	5.7
10	0	8.2	5	0.6	6.7
10	5	9.6	4.5	3	6
10	10	11.8	4.2	2.7	4
10	15	75.8	12.3	8.3	8.7
50	-15	54.2	14.7	5.2	9
50	-10	74.2	12.5	3.8	9
50	-5	49.8	12	3.1	10.9
50	0	39.3	8.5	0.7	10.1
50	5	49	11	-0.02	9.7
50	10	72.7	11.8	0.5	8.5
50	15	55.6	15.2	-1.4	8.9
50	20	20.4	10.7	0.04	7.7
125	-15	49.2	14	0.6	9.7
125	-10	64.3	10.7	-0.8	8
125	-5	67.3	8.5	-0.5	6.8
125	0	67.2	7.8	0.8	6.5
125	5	66.8	8.9	2.1	6.9
125	10	63.8	11.3	3.6	8.4
125	15	50.2	15.1	3.5	10.4
125	15.01	54.4	14.5	7.4	9
125	20	33.9	13.8	2.7	10.8
250	-15	40.3	12.7	-0.2	9.5
250	-10	44.8	13	0.2	9.5
250	-5	48	12.8	0.8	9.4
250	0	49.6	12.7	1.6	9.2
250	5	48.7	12.7	2.2	9.3
250	10	45.1	12.9	2.7	9.5
250	15	39.2	13	3	9.9
250	20	34.6	12.7	3	10.1
300	-15	35.6	11.4	-0.7	8.8
300	-10	38.4	11.6	-0.3	8.9
300	-5	40.3	12.1	0.4	8.8
300	0	40.7	11.7	1.1	8.9
300	5	40.5	11.8	1.6	8.9
300	10	38.5	11.6	2.2	9
300	15	35.1	11.7	2.5	9.1
300	20	33.2	11.6	3.4	9.3

Table 36

LDA SYMETRY SCANS WITH SEEDED FUEL TUBE ONLY					
X mm	Y mm	U m/s	U rms	V m/s	V rms
-16	0	3	1.4	-0.4	0.9
-15	0	5.1	1.2	-0.6	0.9
-14	0	5.8	1.1	-0.7	0.9
-12	0	6.5	1	-0.6	0.8
-10	0	7.2	0.9	0.6	0.7
-8	0	7.2	0.8	0.5	0.7
-6	0	7.1	0.9	0.4	0.8
-4	0	7	0.9	0.2	0.8
-2	0	7	0.9	0.1	0.8
0	0	7	0.9	-0.1	0.8
2	0	7	0.9	-0.2	0.8
4	0	7.1	0.9	0.3	0.9
6	0	7.1	0.9	0.5	0.8
8	0	6.9	0.9	0.3	1
10	0	6.7	1	0.5	1
12	0	5.7	1	0.6	0.9
14	0	3.9	1.3	-0.4	0.8
15	0	1.7	1	0.14	0.9
0	-15	2.9	1.1	-0.5	0.8
0	-14	5.6	1.3	-0.1	0.7
0	-12	6.7	1	-0.1	0.7
0	-10	7.1	1	-0.1	0.8
0	-8	7.2	0.9	-0.1	0.8
0	-6	7.3	1	-0.1	0.9
0	-4	7.1	1	-0.1	0.9
0	-2	7.3	1	-0.1	0.9
0	0	7.4	1	-0.07	0.9
0	2	7.3	1	-0.1	0.9
0	4	7.4	1	-0.04	0.9
0	6	7.5	0.9	-0.02	0.8
0	8	7	1	-0.03	0.8
0	10	6.6	1	-0.03	0.8
0	12	6.3	1.1	-0.06	0.7
0	14	5.4	1.2	1	0.6
0	15	3	1.1	0.5	0.9

Table 37

SHORT EXTENSION, NO EXIT BLOCKAGE						
LDA, COLD FLOW, SEEDED ANNULUS						
Z mm	X mm	U m/s	U rms	V m/s	V rms	
4	-20	46.1	37.3	0.2	4.5	
4	-18	96.3	0.7	-0.6	0.4	
4	-16	97.3	63	-1.5	0.5	
4	-15	88.1	16.1	-1.1	2.6	
4	15	55.3	27.5	-0.1	4.6	
4	16	86.8	17	-0.1	2.4	
4	18	96.8	0.8	-0.2	0.4	
4	20	93.1	7.8	-0.5	0.8	
10	-20	39.2	20	2.5	8.9	
10	-18	92.3	3.4	0.6	3.5	
10	-16	96.1	2.6	-1.1	1.3	
10	-15	89.9	11.3	0.6	5.8	
10	15	73.9	17.7	3.8	8.8	
10	16	94	7.1	1.2	4.3	
10	18	95.4	2.4	-0.1	1.1	
10	20	70.7	19	2.4	8.6	
50	-20	31	13.1	2.6	9.9	
50	-18	42.4	13.8	3.6	10.1	
50	-16	52.6	14.6	3.4	10.5	
50	-15	60	14.7	4.2	10.6	
50	15	66	15	3.8	9.8	
50	16	59.2	15	3.3	10.4	
50	18	48	14.2	3.8	10.3	
50	20	34.5	13.7	3.2	10	
50	25	12.2	9.6	0.75	7.1	
125	-50	5.1	5.1	-0.2	5	
125	-30	21.8	11.3	0.9	8.9	
125	-25	29.9	12.6	1.4	10	
125	-20	42	13.8	2.2	10.7	
125	-16	56	12.8	2.5	9.1	
125	-15	58.8	12.1	2.3	9.6	
125	-15	56.4	12.5	1.9	10.3	
125	15	60	12	2.7	9.5	
125	15	57.4	13	2	10.1	
125	16	58	12.3	2.3	9.7	
125	20	44.2	13.6	2.4	10.6	
125	25	32.2	13	1.8	10.6	
125	30	23.2	12.2	1.1	9.6	
250	-30	31.8	11.7	1.5	9.3	
250	-25	37.4	12.5	1.7	9.4	
250	-20	41.3	12.6	1.8	10.2	
250	-15	46.5	12.7	1.6	9.7	
250	15	46.8	12.5	1.5	9.8	
250	20	42.5	12.6	2	9.7	
250	25	37.6	12.5	1.7	10.1	
250	30	33.2	11.9	1.6	9.9	
250	50	19.1	9.5	0.8	8.4	

Table 38

SHORT EXTENSION AND 4" RESTRICTION					
LDA COLD FLOW, SEEDED ANNULUS,					
Z mm	Y mm	U m/s	U rms	W m/s	W rms
4	-15	98.4	1.7	3.7	1.1
4	15	7.2	5.9	2.4	4.5
4	20	96.6	2.8	-2.2	2.2
4	25	0.7	2.6	-2.4	2.6
4	30	0.93	4.3	-1.1	3.3
10	-15.01	98.1	3.2	9.1	3.2
10	15.01	57.9	11.5	4.6	8.6
10	20	83.7	14.2	3.6	7
10	25	-0.4	3.4	-2.6	2.7
10	30	-5.4	3.3	-1.5	3.2
50	-15.01	53.2	14.4	4.7	9.3
50	15.01	60.5	15.4	-1.6	9.1
50	20	23.2	13.7	3.1	8.1
50	25	2.1	6.1	-3.3	4.7
50	30	-1.4	4.1	-1.1	3.1
125	-15.01	50.6	14.7	0.05	10.2
125	15.01	55.9	16.6	3.8	11.5
125	20	37.2	16.8	6.6	10.2
125	25	21.3	14.2	4.6	9.3
125	30	10.7	10.3	2.5	7.9
250	-15.01	40.4	12.9	-0.24	9.4
250	15.01	40.4	12.8	2.8	10.1
250	20	36	15.1	7.4	9.4
250	25	29.4	14.9	6.6	9.8
250	30	23.9	13.5	5.9	9.2
300	-15.01	36.2	11.8	-0.5	8.8
300	15.01	36.1	12	2.5	9.5
300	20	31	13.8	5.9	8.8
300	25	27	13.7	5.9	8.6
300	30	22.9	12.9	6	8.4

Table 39

SHORT EXTENSION, NO EXIT BLOCKAGE					
LDA, COLD FLOW, SEEDED ANNULUS					
Z mm	Y mm	U m/s	U rms	W m/s	W RMS
4	-15	86.3	10.4	8.1	7.1
4	15	71.3	18.4	2.3	6.4
4	20	27.1	21.1	2.8	7.4
4	25	-1	2.4	-1.2	3.7
4	30	-0.05	2.4	-0.5	3.7
10	-15.01	93.7	7	13	7
10	15.01	83.3	11.9	4.1	8.8
10	20	33.9	19.3	4	9.4
10	25	-0.33	3.3	-2.3	2.7
10	30	-0.37	3.4	-1.4	3
50	-15.01	58.2	14.4	6.7	8.1
50	15.01	60.8	15.3	4.6	8.2
50	20	16.8	11.6	2	7.5
50	25	0.8	5.5	-0.5	4.4
50	30	-1.25	4	-0.9	3.3
125	20	34	16.1	5.9	9.9
125	25	19.8	13.4	4.3	9.3
125	30	9.4	10.2	2	7.4
250	-15.01	36.6	14.9	5	8.4
250	15.01	40.8	14.7	7	9
250	20	35	14.8	6.6	9.2
250	25	28.5	14.5	6	9.4
250	30	22.2	13.4	5.6	9.3
300	-15.01	30.3	14	4.2	8
300	15.01	34	14.1	6.3	8.5
300	20	30.4	13.6	6.2	8.8
300	25	26	13.6	6	8.7
300	30	22.1	12.9	5.6	8.6

Table 40

LDA SYMETRY SCANS WITH SEEDD ANNULUS ONLY					
X mm	Y mm	U m/s	U rms	V m/s	V rms
0	-20	1.9	0.6	1.4	0.6
0	-19	78	19	3.7	2
0	-18	98.5	0.6	5.1	0.9
0	-17	99.4	0.7	5.6	1
0	-16	100.4	0.7	6.1	1.1
0	-15	101.6	0.9	6.7	1.3
0	-14	61.9	32	6.4	6.7
0	-13	13.4	8.2	-1.5	6
0	13	11.5	8.8	1.8	0.7
0	14	59.6	21	-0.8	5
0	15	100.8	1.2	-5.1	1.9
0	16	99.9	0.8	-0.5	1.3
0	17	99.1	0.7	-4.6	1.1
0	18	98.4	0.7	-4.4	1
0	19	91.9	5.3	-3.8	1.2
0	20	2	0.6	-0.9	0.6
-20	0	97.3	3.8	2.4	0.4
-19	0	99.5	0.6	-0.2	0.4
-18	0	100.5	0.6	-0.4	0.5
-17	0	101.2	0.9	0.6	0.6
-16	0	94.2	20		
-15	0	20.6	17.9	-0.1	9
-14	0	12.3	8.7	-3.5	9.7
14	0	55.4	38	1	7.6
15	0	100.6	6.1	0.9	1.5
16	0	101.4	0.8	0.6	0.7
17	0	100.4	1	0.5	0.3
18	0	99.4	1	0.3	0.5
19	0	96.8	5.8	0.3	0.5

4.2 BLUFF BODY COMBUSTOR SELECTED DATA SETS

Table 1. Data Files and Test Conditions

Filename	Conical Bluff-Body			U_a (m/s)	ϕ	Turb. Grid	I	Figure
	d(mm)	θ	BR					
LDA Data:								
LB3C5.CSV	44.45	30°	24%	15	0.		2%	10
LB365.CSV	"	"	"	"	0.65		2%	11
LB4C1.CSV	44.45	45°	24%	10	0.		2%	12
LB461.CSV	"	"	"	"	0.65		2%	13
LB481.CSV	"	"	"	"	0.8		2%	14
LB4C5.CSV	44.45	45°	24%	15	0.		2%	15
LB4C53.CSV	"	"	"	"	0.	G3	22%	16
LB4C57.CSV	"	"	"	"	0.	G7	17%	17
LB455.CSV	"	"	"	"	0.56		2%	18
LB465.CSV	"	"	"	"	0.65		2%	19
LB4653.CSV	"	"	"	"	0.65	G3	22%	20
LB4657.CSV	"	"	"	"	0.65	G7	17%	21
LB485.CSV	"	"	"	"	0.8		2%	22
LB495.CSV	"	"	"	"	0.9		2%	23
LB4C2.CSV	44.45	45°	24%	20	0.		2%	24
LB462.CSV	"	"	"	"	0.65		2%	25
LB9C5.CSV	44.45	90°	24%	15	0.		2%	26
LB965.CSV	"	"	"	"	0.65		2%	27
SB3C5.CSV	31.75	30°	13%	15	0.		2%	28
SB365.CSV	"	"	"	"	0.65		2%	29
SB4C5.CSV	31.75	45°	13%	15	0.		2%	30
SB465.CSV	"	"	"	"	0.65		2%	31
SB6C5.CSV	31.75	60°	13%	15	0.		2%	32
SB665.CSV	"	"	"	"	0.65		2%	33
CARS Data:								
LBT455.CSV	44.45	45°	24%	15	0.56		2%	53
LBT465.CSV	"	"	"	"	0.65		2%	54
LBT4653.CSV	"	"	"	"	0.65	G3	22%	55
LBT4657.CSV	"	"	"	"	0.65	G7	17%	56
LBT485.CSV	"	"	"	"	0.8		2%	57
LBT495.CSV	"	"	"	"	0.9		2%	--
LBT462.CSV	44.45	45°	24%	20	0.65		2%	58
SBT465.CSV	31.75	45°	13%	15	0.65		2%	59
Pressure Data:								
BBDP.CSV	Δp of wall static pressure (reference point at $x/d = 0$).							
BBCP.CSV	pressure coefficient C_p						34(b)-40(b)	
BBDPDX.CSV	axial pressure gradient along combustor wall, dp/dx .						34(c)-40(c)	

Filename: LB3C5.CSV
Date: 2/28/1990

Bluff Body : d = 44.45 mm, $\theta = 30$
Ua = 15 (m/s) BR = 25%

Fuel : none
 $\phi = 0$
Fuel Flow = 0 slpm
Air Flow = 4206 slpm

r(mm)	x	r/d	x/d	U(m/s)	u'	V	V'	uv/u'v'	Su	Ku	Sv	Kv	U/Ua	u'/Ua	V/Ua	V'/Ua	uv/Ua^2	u^2/Ua^2	v^2/Ua^2	q/Ua^2	Type ID
0.000	177.800	0.00	4.00	10.047	1.482	0.329	1.873	-0.053	0.018	-0.100	-0.293	-0.220	0.66980	0.09880	0.02193	0.12487	-0.00065	0.00976	0.01559	0.02047	3167B2
0.000	155.600	0.00	3.50	9.576	1.612	0.605	2.120	0.023	-0.007	0.017	-0.288	-0.114	0.63840	0.10747	0.04033	0.14133	0.00035	0.01155	0.01998	0.02575	3168B2
8.905	133.410	-0.20	3.00	9.492	1.901	0.874	1.921	0.316	-0.327	-0.194	-0.441	0.231	0.63280	0.12673	0.05827	0.12807	0.00513	0.01606	0.01640	0.02443	3169B2
4.505	133.395	0.10	3.00	9.194	1.767	0.890	2.140	0.271	0.207	-0.137	-0.403	0.101	0.61293	0.11780	0.05933	0.14267	0.00455	0.01388	0.02035	0.02729	3170B2
0.005	133.395	0.00	3.00	9.054	1.722	0.781	2.365	0.062	0.116	-0.027	-0.360	-0.163	0.60360	0.11480	0.05207	0.15767	0.00112	0.01318	0.02486	0.03145	3171B2
4.495	133.395	0.10	3.00	9.005	1.869	0.761	2.581	-0.196	0.043	-0.135	-0.286	-0.453	0.60033	0.12460	0.05073	0.17207	-0.00420	0.01553	0.02961	0.03737	3172B2
8.905	133.395	0.20	3.00	9.405	2.207	0.229	2.782	-0.381	0.106	-0.398	0.049	-0.719	0.62700	0.14713	0.01527	0.18547	-0.01040	0.02165	0.03440	0.04522	3173B2
13.305	133.395	0.30	3.00	9.927	2.340	-0.258	2.649	-0.483	-0.184	-0.571	0.416	-0.503	0.66180	0.15600	-0.01720	0.17660	-0.01331	0.02434	0.03119	0.04336	3174B2
17.805	133.395	0.40	3.00	10.698	2.424	0.581	2.363	-0.522	-0.531	-0.447	0.710	-0.042	0.71320	0.16160	-0.03873	0.15753	-0.01329	0.02611	0.02482	0.03787	3175B2
22.210	133.395	0.50	3.00	11.590	2.107	-0.778	1.984	-0.497	-0.963	0.482	0.945	0.943	0.77267	0.14047	-0.05187	0.13227	-0.00923	0.01973	0.01749	0.02736	3176B2
24.500	133.395	0.55	3.00	11.944	1.922	-0.920	1.701	-0.452	-1.052	0.847	0.845	1.353	0.79627	0.12813	-0.06133	0.11340	-0.00657	0.01642	0.01286	0.02107	3177B2
0.000	111.100	0.00	2.50	8.075	1.928	1.252	2.734	0.116	-0.108	-0.039	-0.426	-0.117	0.53833	0.12853	0.08347	0.18227	0.00272	0.01652	0.03322	0.04148	3178B2
0.000	102.200	0.00	2.30	7.474	2.008	1.319	3.025	0.143	-0.120	-0.078	-0.401	-0.162	0.49827	0.13387	0.06793	0.20167	0.00386	0.01792	0.04067	0.04963	3179B2
8.900	88.905	0.20	2.00	7.493	2.301	1.967	2.769	0.453	-0.313	-0.318	-0.682	0.204	0.49953	0.15340	0.13113	0.18460	0.01283	0.02353	0.03408	0.04584	3180B2
4.495	88.905	0.10	2.00	6.677	2.251	2.004	3.111	0.346	-0.121	-0.170	-0.465	-0.160	0.44513	0.15007	0.13360	0.20740	0.01077	0.02252	0.04301	0.05427	3181B2
0.000	88.905	0.00	2.00	5.992	2.097	1.708	3.236	0.172	0.075	-0.090	-0.378	-0.173	0.39947	0.13980	0.11387	0.21573	0.00519	0.01954	0.04654	0.05631	3182B2
4.500	88.905	0.10	2.00	6.048	2.151	1.570	3.634	-0.086	0.061	-0.179	-0.328	-0.484	0.40320	0.14340	0.10467	0.24227	-0.00299	0.02056	0.05869	0.06897	3183B2
8.900	88.905	0.20	2.00	6.226	2.638	0.658	3.859	-0.417	0.198	-0.331	-0.057	-0.824	0.41507	0.17587	0.04387	0.25727	-0.01887	0.03093	0.06619	0.08165	3184B2
13.305	88.900	0.30	2.00	7.658	3.045	-0.813	3.596	-0.529	-0.071	-0.644	0.489	-0.466	0.51053	0.20300	-0.05420	0.23973	-0.02574	0.04121	0.05747	0.07808	3185B2
17.805	88.900	0.40	2.00	9.496	3.160	-1.283	2.908	-0.574	-0.633	-0.471	0.894	0.451	0.63307	0.21067	-0.08553	0.19387	-0.02344	0.04438	0.03758	0.05977	3186B2
22.200	88.900	0.50	2.00	11.560	2.460	1.587	2.054	-0.446	-1.281	1.446	0.868	1.583	0.77067	0.16400	-0.10580	0.13693	-0.01002	0.02690	0.01875	0.03220	3187B2
24.490	88.900	0.55	2.00	12.351	1.897	-1.603	1.703	-0.393	-1.497	2.939	0.870	2.034	0.82340	0.12647	-0.10687	0.11353	-0.00564	0.01599	0.01289	0.02089	3188B2
8.910	75.600	-0.20	1.70	5.575	2.627	2.383	3.291	0.514	-0.113	-0.314	0.662	0.123	0.37167	0.17513	0.15887	0.21940	0.01975	0.03067	0.04814	0.06347	3189B2
4.500	75.600	-0.10	1.70	4.815	2.508	2.478	3.671	0.355	-0.136	-0.096	-0.598	-0.024	0.32100	0.16720	0.16520	0.24473	0.01453	0.02796	0.05989	0.07387	3190B2
0.010	75.600	0.00	1.70	4.374	2.361	2.302	3.828	0.130	0.153	-0.068	-0.478	-0.277	0.29160	0.15740	0.15347	0.25520	0.00522	0.02477	0.06513	0.07751	3191B2
2.205	75.600	0.05	1.70	3.822	2.557	2.098	4.136	0.032	-0.189	-0.013	-0.463	-0.456	0.25480	0.17047	0.13987	0.27573	0.00150	0.02906	0.07603	0.09056	3192B2
4.500	75.600	0.10	1.70	3.669	2.407	1.788	4.199	-0.064	-0.139	0.183	-0.374	-0.635	0.24460	0.16047	0.11920	0.27993	-0.00287	0.02575	0.07836	0.09124	3193B2
6.710	75.600	0.15	1.70	3.737	2.563	1.342	4.268	-0.211	-0.066	0.080	-0.283	-0.692	0.24913	0.17087	0.09347	0.28453	-0.01026	0.02920	0.08096	0.09556	3194B2
8.890	75.600	0.20	1.70	4.331	2.840	0.579	4.426	-0.350	-0.033	0.073	-0.047	-0.842	0.28873	0.18933	0.03860	0.29507	-0.01955	0.03585	0.08706	0.10499	3195B2
11.090	75.600	0.25	1.70	4.818	3.107	0.002	4.422	-0.452	0.069	-0.272	0.140	-0.870	0.32120	0.20713	0.00013	0.29480	-0.02760	0.04290	0.08691	0.10836	3196B2

r(mm)	x	r/d	x/d	U(m/s)	u'	V	V'	uv/u'v'	Su	Ku	Sv	Kv	U/Ua	u'/Ua	V/Ua	v'/Ua	uv/Ua^2	u^2/Ua^2	v^2/Ua^2	q/Ua^2	Tape ID
13 300	75 600	0.30	1.70	5.817	3.414	-0.923	4.204	-0.578	-0.129	-0.566	0.466	-0.644	0.38780	0.22760	-0.06153	0.28027	-0.03687	0.05180	0.07855	0.10445	3197B2
15 600	75 600	0.35	1.70	6.645	3.645	-1.141	3.774	-0.598	-0.193	-0.602	0.567	-0.443	0.44300	0.24300	-0.07607	0.25160	-0.03656	0.05905	0.06330	0.09283	3198B2
17 800	75 600	0.40	1.70	8.578	3.472	-1.905	3.249	-0.600	-0.593	-0.371	0.910	0.496	0.57187	0.23147	-0.12700	0.21660	-0.03008	0.05358	0.04692	0.07370	3199B2
20 005	75 600	0.45	1.70	9.862	3.303	-1.927	2.714	-0.583	-0.900	0.017	0.989	1.009	0.65747	0.22020	-0.12847	0.18093	-0.02323	0.04849	0.03274	0.05598	3200B2
22 195	75 600	0.50	1.70	11.396	2.514	-2.076	1.991	-0.382	-1.199	1.278	0.788	1.513	0.75973	0.16760	-0.13840	0.13273	-0.00850	0.02809	0.01762	0.03166	3201B2
24 500	75 600	0.55	1.70	12.482	1.781	-1.950	1.610	-0.252	-1.160	2.316	0.492	1.688	0.83213	0.11873	-0.13000	0.10733	-0.00321	0.01410	0.01152	0.01857	3202B2
22 205	66 700	-0.50	1.50	11.186	1.646	2.107	1.376	0.359	-1.110	1.929	-0.605	1.122	0.74573	0.10973	0.14047	0.09173	0.00361	0.01204	0.00842	0.01444	3203B2
17 790	66 700	-0.40	1.50	8.433	2.662	2.659	2.079	0.499	-0.561	-0.225	-0.674	0.634	0.56220	0.17747	0.17727	0.13860	0.01227	0.03149	0.01921	0.03496	3204B2
13 310	66 700	-0.30	1.50	5.882	2.833	3.289	2.703	0.535	-0.449	0.123	-0.815	0.856	0.39213	0.18887	0.21927	0.18020	0.01821	0.03567	0.03247	0.05031	3205B2
8 895	66 700	-0.20	1.50	3.985	2.886	3.393	3.364	0.455	-0.387	0.070	-0.814	0.340	0.26567	0.19240	0.22620	0.22427	0.01963	0.03702	0.05030	0.06290	3206B2
4 490	66 700	-0.10	1.50	2.399	2.914	2.737	4.060	0.296	-0.270	-0.096	-0.632	-0.263	0.15993	0.19427	0.18247	0.27067	0.01556	0.03774	0.07326	0.09213	3207B2
0 000	66 700	0.00	1.50	1.323	2.876	2.232	4.225	0.199	-0.101	-0.393	-0.422	-0.458	0.08820	0.19173	0.14880	0.28167	0.01075	0.03676	0.07934	0.09772	3208B2
2 195	66 700	0.05	1.50	1.077	2.817	2.036	4.320	0.098	-0.066	-0.367	-0.346	-0.583	0.07180	0.18780	0.13573	0.28800	0.00530	0.03527	0.08294	0.10058	3209B2
4 510	66 700	0.10	1.50	1.030	2.916	1.700	4.480	0.021	-0.024	-0.408	-0.325	-0.664	0.06867	0.19440	0.11333	0.29867	0.00122	0.03779	0.08920	0.10810	3210B2
6 710	66 700	0.15	1.50	1.314	2.911	1.216	4.288	-0.165	-0.012	-0.390	-0.221	-0.655	0.08760	0.19407	0.08107	0.28587	-0.00915	0.03766	0.08172	0.10555	3211B2
8 900	66 700	0.20	1.50	1.440	3.183	1.106	4.380	-0.222	0.045	-0.437	-0.224	-0.805	0.09600	0.21220	0.07373	0.29200	-0.01376	0.04503	0.08526	0.10778	3212B2
11 100	66 700	0.25	1.50	2.026	3.307	0.338	4.415	-0.390	0.196	-0.317	-0.063	-0.825	0.13507	0.22047	0.02253	0.29433	-0.02531	0.04861	0.08663	0.11093	3213B2
13 295	66 700	0.30	1.50	2.739	3.695	-0.355	4.394	-0.528	0.096	-0.487	0.077	-0.923	0.18260	0.24637	-0.02367	0.29293	-0.03810	0.06068	0.08581	0.11515	3214B2
15 595	66 700	0.35	1.50	4.689	3.878	-1.161	4.240	-0.568	-0.170	-0.544	0.443	-0.635	0.31260	0.25853	-0.07740	0.28267	-0.04151	0.06684	0.07990	0.11332	3215B2
17 795	66 700	0.40	1.50	6.555	3.849	-1.814	3.487	-0.586	-0.447	-0.312	0.579	-0.226	0.43700	0.25660	-0.12093	0.23247	-0.03496	0.06584	0.05404	0.08596	3216B2
20 000	66 700	0.45	1.50	8.599	3.738	-2.063	3.145	-0.585	-0.647	-0.242	0.933	0.759	0.57327	0.24920	-0.13753	0.20967	0.03057	0.06210	0.04396	0.07501	3217B2
22 195	66 700	0.50	1.50	10.906	2.967	-2.396	2.212	-0.485	-1.112	0.857	0.866	1.364	0.72707	0.19780	-0.15973	0.14747	-0.01415	0.03912	0.02175	0.04131	3218B2
24 500	66 700	0.55	1.50	12.726	1.766	-2.213	1.468	-0.268	-1.157	2.145	0.408	1.040	0.84840	0.11773	-0.14753	0.09787	-0.00309	0.01386	0.00958	0.01551	3219B2
8 900	53 295	-0.20	1.20	-0.851	3.377	2.597	3.879	0.480	0.099	-0.577	-0.470	-0.349	-0.05673	0.22513	0.17313	0.25860	0.02795	0.05069	0.06687	0.09222	3220B2
4 500	53 295	-0.10	1.20	-2.752	2.943	2.029	3.940	0.341	0.344	-0.220	-0.280	-0.449	-0.18347	0.19620	0.13527	0.26267	0.01757	0.03849	0.06899	0.08924	3221B2
0 010	53 295	0.00	1.20	-3.440	2.653	1.654	3.808	0.188	0.368	-0.014	-0.236	-0.481	-0.22933	0.17687	0.11027	0.25387	0.00844	0.03128	0.06445	0.08509	3222B2
2 195	53 295	0.05	1.20	-3.666	2.462	1.458	3.753	0.133	0.297	-0.041	-0.128	-0.446	-0.24440	0.16413	0.09720	0.25020	0.00546	0.02694	0.06260	0.07507	3223B2
4 490	53 295	0.10	1.20	-3.769	2.571	1.280	3.756	0.038	0.310	0.026	-0.222	-0.423	-0.25127	0.17140	0.08533	0.25040	0.00160	0.02938	0.06270	0.07739	3224B2
6 695	53 295	0.15	1.20	-3.732	2.538	1.146	3.750	-0.047	0.439	0.034	-0.185	-0.427	-0.24880	0.16920	0.07640	0.25000	-0.00199	0.02863	0.06250	0.07681	3225B2
8 900	53 295	0.20	1.20	-3.312	2.772	1.168	3.869	-0.163	0.517	0.175	-0.274	-0.446	-0.22080	0.18480	0.07787	0.25793	-0.00777	0.03415	0.06653	0.08361	3226B2
11 105	53 295	0.25	1.20	-2.960	3.025	0.705	4.030	-0.330	0.612	0.127	-0.282	-0.589	-0.19733	0.20167	0.04700	0.26867	-0.01788	0.04067	0.07218	0.09252	3227B2
13 300	53 295	0.30	1.20	-1.496	3.516	-0.093	4.192	-0.431	0.384	-0.410	0.006	-0.620	-0.09973	0.23440	-0.00620	0.27947	-0.02823	0.05494	0.07810	0.10557	3228B2
15 600	53 295	0.35	1.20	0.601	4.240	-0.912	4.274	-0.516	0.074	-0.696	0.274	-0.699	0.04007	0.28267	-0.06080	0.28493	-0.04156	0.07990	0.08119	0.12114	3229B2
17 810	53 295	0.40	1.20	3.279	4.524	-1.677	3.965	-0.574	-0.338	-0.503	0.533	-0.346	0.21860	0.30160	-0.11180	0.26433	-0.04576	0.09096	0.06987	0.11535	3230B2
19 995	53 295	0.45	1.20	6.394	4.067	-2.272	3.358	-0.555	-0.531	-0.032	0.615	0.052	0.42627	0.27113	-0.15147	0.22387	-0.03369	0.07351	0.05012	0.08587	3231B2
22 195	53 295	0.50	1.20	9.392	3.512	-2.599	2.794	-0.533	-0.756	0.210	0.895	0.768	0.62613	0.23413	-0.17327	0.18627	-0.02324	0.05482	0.03470	0.06210	3232B2
24 510	53 295	0.55	1.20	12.872	2.043	-2.599	1.717	-0.355	-1.166	1.697	0.592	0.964	0.85813	0.13620	-0.17327	0.11447	-0.00553	0.01855	0.01310	0.02238	3233B2

r (mm)	x	r/d	x/d	U (m/s)	u'	V	V'	uv/u'v'	Su	Ku	Sv	Kv	U/Ua	u'/Ua	V/Ua	V'/Ua	uv/Ua^2	u^2/Ua^2	v^2/Ua^2	q/Ua^2	Tape ID
-8.895	44.485	-0.20	1.00	-4.010	2.974	1.449	3.407	0.399	0.319	-0.225	-0.125	-0.362	-0.26733	0.19827	0.09660	0.22713	0.01797	0.03931	0.05159	0.07124	3234B2
-4.490	44.485	-0.10	1.00	-4.914	2.397	1.091	3.245	0.249	0.149	-0.025	-0.146	-0.449	-0.32760	0.15980	0.07273	0.21633	0.00861	0.02554	0.04680	0.05957	3235B2
0.010	44.485	0.00	1.00	-5.462	2.165	0.911	3.002	0.155	0.145	-0.121	-0.045	-0.250	-0.36413	0.14433	0.06073	0.20013	0.00448	0.02083	0.04005	0.05047	3236B2
2.210	44.485	0.05	1.00	-5.563	2.158	1.014	3.095	0.091	0.159	-0.076	-0.125	-0.298	-0.37087	0.14387	0.06760	0.20633	0.00270	0.02070	0.04257	0.05292	3237B2
4.495	44.485	0.10	1.00	-5.589	2.123	1.234	2.973	0.085	0.182	-0.124	0.215	-0.221	-0.37260	0.14153	0.08227	0.19820	0.00238	0.02003	0.03928	0.04930	3238B2
6.695	44.485	0.15	1.00	-5.771	2.112	0.990	3.115	-0.081	0.261	0.112	-0.151	-0.235	-0.38473	0.14080	0.06600	0.20767	0.00237	0.01982	0.04313	0.05304	3239B2
8.905	44.490	0.20	1.00	-5.276	2.321	1.253	3.310	-0.107	0.255	0.039	0.250	-0.228	-0.35173	0.15473	0.08353	0.22067	0.00365	0.02394	0.04869	0.06066	3240B2
11.090	44.505	0.25	1.00	-5.237	2.428	0.893	3.353	-0.267	0.473	0.308	-0.241	-0.311	-0.34913	0.16187	0.05953	0.22353	0.00966	0.02620	0.04997	0.06307	3241B2
13.290	44.505	0.30	1.00	-4.325	2.921	0.687	3.685	-0.313	0.547	0.245	0.141	0.398	-0.28833	0.19473	0.04580	0.24567	0.01497	0.03792	0.06035	0.07931	3242B2
15.590	44.505	0.35	1.00	-2.679	3.755	0.021	3.857	-0.488	0.529	0.288	-0.104	-0.596	-0.17860	0.25033	0.00140	0.25713	-0.03141	0.06267	0.06612	0.09745	3243B2
17.800	44.505	0.40	1.00	0.261	4.638	-0.948	3.970	-0.559	0.038	-0.851	0.155	-0.590	0.01740	0.30920	-0.06320	0.26467	-0.04575	0.09560	0.07005	0.11785	3244B2
19.990	44.505	0.45	1.00	4.100	4.423	-1.626	3.671	-0.550	-0.457	-0.186	0.488	-0.240	0.27333	0.29487	0.10840	0.24473	-0.03969	0.08695	0.05989	0.10337	3245B2
22.200	44.505	0.50	1.00	8.191	3.654	2.057	3.097	-0.526	-0.448	0.211	0.510	0.075	0.54607	0.24360	-0.13713	0.20647	-0.02646	0.05934	0.04263	0.07230	3246B2
24.505	44.505	0.55	1.00	11.703	3.026	-1.952	2.495	-0.513	0.795	0.205	0.713	0.507	0.78020	0.20173	-0.13013	0.16633	-0.01721	0.04070	0.02767	0.04801	3247B2
-8.910	35.605	-0.20	0.80	-4.965	2.625	0.409	2.907	0.304	0.305	0.140	0.003	-0.199	-0.33100	0.17500	0.02727	0.19380	0.01031	0.03063	0.03756	0.05287	3248B2
-4.495	35.605	-0.10	0.80	-5.669	2.365	0.700	2.741	0.296	0.150	-0.172	-0.006	-0.292	-0.37793	0.15767	0.04667	0.18273	0.00853	0.02486	0.03339	0.04582	3249B2
0.005	35.605	0.00	0.80	-6.129	2.137	0.647	2.706	0.112	0.154	-0.012	-0.103	-0.358	-0.40860	0.14247	0.04313	0.18040	0.00288	0.02030	0.03254	0.04269	3250B2
2.195	35.605	0.05	0.80	-6.339	2.017	0.986	2.508	0.145	0.131	0.026	-0.062	-0.304	-0.42260	0.13447	0.06573	0.16720	0.00326	0.01808	0.02796	0.03706	3251B2
4.505	35.605	0.10	0.80	-6.402	2.031	1.138	2.727	0.080	0.155	-0.146	-0.066	-0.306	-0.42680	0.13540	0.07587	0.18180	0.00197	0.01833	0.03305	0.04222	3252B2
6.705	35.605	0.15	0.80	-6.394	2.131	1.037	2.648	-0.052	0.256	0.001	-0.032	-0.203	-0.42627	0.14207	0.06913	0.17653	-0.00130	0.02018	0.03116	0.04126	3253B2
8.905	35.605	0.20	0.80	-6.267	2.119	1.179	2.763	-0.139	0.145	-0.109	-0.171	-0.261	-0.41780	0.14127	0.07860	0.18420	-0.00362	0.01996	0.03393	0.04391	3254B2
11.105	35.605	0.25	0.80	6.037	2.301	1.338	2.786	-0.150	0.322	0.062	-0.105	-0.280	-0.40247	0.15340	0.08920	0.18573	-0.00427	0.02353	0.03450	0.04626	3255B2
13.295	35.605	0.30	0.80	5.490	2.581	1.152	3.041	-0.262	0.362	0.205	-0.248	-0.319	-0.36600	0.17207	0.07680	0.20273	-0.00914	0.02961	0.04110	0.05590	3256B2
15.600	35.605	0.35	0.80	-4.313	3.210	0.999	3.226	-0.395	0.689	0.265	-0.178	-0.386	-0.28753	0.21400	0.06660	0.21507	-0.01818	0.04580	0.04625	0.06915	3257B2
17.800	35.605	0.40	0.80	-1.916	4.092	0.296	3.423	-0.456	0.322	-0.751	-0.024	-0.360	-0.12773	0.27280	0.01973	0.22820	-0.02839	0.07442	0.05208	0.08929	3258B2
19.990	35.605	0.45	0.80	2.051	4.340	-0.285	3.580	0.503	0.364	-0.448	0.051	-0.293	0.13673	0.28933	-0.01900	0.23867	-0.03473	0.06371	0.05696	0.09882	3259B2
22.200	35.605	0.50	0.80	6.247	3.857	-0.726	3.309	-0.553	-0.420	0.217	0.214	-0.164	0.41647	0.25713	-0.04840	0.22060	-0.03137	0.06612	0.04866	0.08172	3260B2
24.500	35.605	0.55	0.80	10.383	3.516	-0.772	2.861	-0.561	-0.485	-0.122	0.384	-0.140	0.69220	0.23440	-0.05147	0.19073	-0.02508	0.05494	0.03638	0.06385	3261B2
-22.195	26.710	-0.50	0.60	7.680	2.898	0.974	2.431	0.573	0.024	-0.125	-0.090	-0.316	0.51200	0.19320	0.06493	0.16207	0.01794	0.03733	0.02627	0.04493	3262B2
-17.790	26.695	-0.40	0.60	-0.486	3.388	1.080	2.612	0.360	0.129	-0.735	0.199	-0.035	-0.03240	0.22587	-0.07200	0.17413	0.01416	0.05102	0.03032	0.05583	3263B2
-13.300	26.695	-0.30	0.60	-3.170	3.084	1.197	2.321	0.297	0.369	-0.234	0.064	0.099	-0.21133	0.20560	0.07980	0.15473	0.00945	0.04227	0.02394	0.04508	3264B2
-8.905	26.695	-0.20	0.60	-4.513	2.478	-0.533	2.508	0.230	0.263	0.164	0.130	-0.219	-0.30087	0.16520	-0.03553	0.16720	0.00635	0.02729	0.02796	0.04160	3265B2

r(mm)	x	r/d	x/d	U(m/s)	u'	V	v'	uv/u'v'	Su	Ku	Sv	Kv	U/Ua	u'/Ua	V/Ua	v'/Ua	uv/Ua^2	u^2/Ua^2	v^2/Ua^2	q/Ua^2	Type ID
-4 500	26 695	0.10	0.60	-5.330	2.255	-0.371	2.317	0.214	0.178	-0.114	0.211	-0.123	-0.35533	0.15033	-0.02473	0.15447	0.00497	0.02260	0.02386	0.03516	3266B2
0 000	26 695	0.00	0.60	-5.632	2.135	0.663	2.390	0.171	0.094	-0.120	-0.056	-0.353	-0.37547	0.14233	0.04420	0.15933	0.00388	0.02026	0.02539	0.03552	3267B2
2 195	26 695	0.05	0.60	-5.814	2.130	0.680	2.267	0.162	0.144	-0.146	-0.076	-0.253	-0.38760	0.14200	0.04533	0.15113	0.00348	0.02016	0.02284	0.03292	3268B2
4 505	26 695	0.10	0.60	-6.016	2.045	1.007	2.139	0.057	0.234	-0.118	-0.066	-0.224	-0.40107	0.13633	0.06713	0.14260	0.00111	0.01859	0.02033	0.02963	3269B2
6 700	26 695	0.15	0.60	-6.048	2.160	1.172	2.288	-0.020	0.198	-0.147	-0.035	-0.112	-0.40320	0.14400	0.07813	0.15253	-0.00044	0.02074	0.02327	0.03363	3270B2
8 905	26 695	0.20	0.60	-5.813	2.175	1.513	2.300	-0.041	0.158	-0.156	-0.098	-0.148	-0.38753	0.14500	0.10087	0.15333	-0.00091	0.02103	0.02351	0.03402	3271B2
11 100	26 695	0.25	0.60	-5.540	2.200	1.669	2.350	-0.089	0.077	-0.032	-0.157	-0.300	-0.36933	0.14667	0.11127	0.15667	0.00205	0.02151	0.02454	0.03530	3272B2
13 310	26 695	0.30	0.60	-5.157	2.311	1.725	2.377	-0.123	0.311	0.130	-0.155	-0.293	-0.34380	0.15407	0.11500	0.15847	-0.00300	0.02374	0.02511	0.03698	3273B2
15 600	26 695	0.35	0.60	-4.357	2.899	1.778	2.613	-0.243	0.548	0.283	-0.141	-0.374	-0.29047	0.19327	0.11853	0.17420	-0.00818	0.03735	0.03035	0.04902	3274B2
17 795	26 695	0.40	0.60	-3.123	3.353	1.761	2.810	-0.265	0.543	-0.177	-0.145	-0.304	-0.20820	0.22353	0.11740	0.18733	-0.01110	0.04997	0.03509	0.06008	3275B2
20 005	26 695	0.45	0.60	0.123	3.888	1.061	2.991	-0.393	-0.091	-0.809	-0.167	-0.333	0.00820	0.25920	0.07073	0.19940	-0.02031	0.06718	0.03976	0.07335	3276B2
22 205	26 695	0.50	0.60	4.665	3.424	0.532	2.879	-0.494	0.433	0.466	-0.078	-0.186	0.31100	0.22827	0.03547	0.19193	-0.02164	0.05211	0.03684	0.06289	3277B2
24 500	26 695	0.55	0.60	9.579	3.313	0.369	2.639	-0.514	-0.220	-0.246	0.086	-0.179	0.63860	0.22087	0.02460	0.17593	0.01997	0.04878	0.03095	0.05534	3278B2
-8 910	13 290	-0.20	0.30	-2.486	2.423	-1.008	1.858	0.129	0.202	-0.396	0.157	-0.096	-0.16573	0.16153	-0.06720	0.12387	0.00258	0.02609	0.01534	0.02839	3279B2
-4 490	13 290	-0.10	0.30	-3.295	2.168	-0.556	1.767	0.027	0.255	-0.055	0.139	-0.053	-0.21967	0.14453	-0.03707	0.11780	0.00046	0.02089	0.01388	0.02432	3280B2
0 010	13 290	0.00	0.30	-3.347	2.293	-0.149	1.776	0.003	0.278	-0.035	-0.037	-0.211	-0.22313	0.15287	-0.00993	0.11840	0.00005	0.02337	0.01402	0.02570	3281B2
2 195	13 300	0.05	0.30	-3.625	2.209	0.210	1.853	-0.007	0.265	0.127	0.069	-0.131	-0.24167	0.14727	0.01400	0.12353	-0.00013	0.02169	0.01526	0.02610	3282B2
4 505	13 300	0.10	0.30	-3.861	2.071	0.452	1.741	-0.056	0.232	0.089	-0.024	-0.272	-0.25740	0.13807	0.03013	0.11607	0.00090	0.01906	0.01347	0.02300	3283B2
6 700	13 300	0.15	0.30	-3.776	2.121	0.688	1.903	-0.063	0.183	-0.171	-0.028	-0.144	-0.25173	0.14140	0.04587	0.12687	-0.00113	0.01999	0.01610	0.02609	3284B2
8 890	13 300	0.20	0.30	-3.544	2.181	0.990	1.834	-0.050	0.347	0.069	-0.031	-0.270	-0.23627	0.14540	0.06600	0.12227	0.00089	0.02114	0.01495	0.02552	3285B2
11 105	13 300	0.25	0.30	-3.345	2.172	1.202	1.870	-0.130	0.329	-0.034	-0.063	-0.182	-0.22300	0.14480	0.08013	0.12467	0.00235	0.02097	0.01554	0.02603	3286B2
13 300	13 300	0.30	0.30	-2.927	2.113	1.303	1.719	-0.110	0.246	-0.147	-0.126	-0.122	-0.19513	0.14087	0.08687	0.11460	-0.00178	0.01984	0.01313	0.02305	3287B2
15 600	13 300	0.35	0.30	-2.645	2.282	1.477	1.742	-0.135	0.347	-0.021	-0.027	-0.139	-0.17633	0.15213	0.09847	0.11613	0.00239	0.02314	0.01349	0.02506	3288B2
17 800	13 300	0.40	0.30	-1.892	2.538	1.452	1.748	-0.132	0.182	-0.450	0.011	-0.268	-0.12613	0.16920	0.09680	0.11653	0.00260	0.02863	0.01358	0.02789	3289B2
19 995	13 300	0.45	0.30	-1.085	2.881	1.339	1.647	-0.177	0.007	-0.870	0.135	-0.058	-0.07233	0.19207	0.08927	0.10980	-0.00373	0.03689	0.01206	0.03050	3290B2
22 195	13 300	0.50	0.30	1.793	2.812	0.823	2.163	-0.395	-0.371	-0.019	-0.301	0.313	0.11953	0.18747	0.05487	0.14420	-0.01068	0.03514	0.02079	0.03837	3291B2
24 500	13 300	0.55	0.30	10.906	3.213	1.140	2.575	-0.525	-0.396	-0.321	0.148	-0.399	0.72707	0.21420	0.07600	0.17167	-0.01930	0.04588	0.02947	0.05241	3292B2
-8 905	4 495	-0.20	0.10	-0.781	1.799	-1.722	1.488	-0.124	-0.228	-0.391	0.218	0.146	-0.05207	0.11993	-0.11480	0.09920	-0.00148	0.01438	0.00984	0.01703	3293B2
-4 500	4 510	-0.10	0.10	-1.130	1.929	-1.497	1.569	-0.183	-0.076	-0.554	0.122	0.029	-0.07533	0.12860	-0.09980	0.10460	-0.00246	0.01654	0.01094	0.01921	3294B2
0 010	4 510	0.00	0.10	-1.496	2.002	-0.736	1.656	-0.096	-0.081	-0.471	0.116	-0.055	-0.09973	0.13347	-0.04907	0.11040	-0.00141	0.01781	0.01219	0.02109	3295B2
2 205	4 500	0.05	0.10	-1.487	1.945	-0.792	1.653	-0.172	0.037	-0.370	0.108	-0.148	-0.09913	0.12967	-0.05280	0.11020	-0.00246	0.01681	0.01214	0.02055	3296B2
4 505	4 500	0.10	0.10	-1.565	1.990	-0.355	1.726	-0.106	0.025	-0.392	0.150	-0.349	-0.10433	0.13267	-0.02367	0.11507	-0.00162	0.01760	0.01324	0.02204	3297B2
6 690	4 500	0.15	0.10	-1.682	1.984	-0.040	1.792	-0.063	0.099	-0.341	0.127	-0.369	-0.11213	0.13227	-0.00267	0.11947	-0.00100	0.01749	0.01427	0.02302	3298B2
8 895	4 500	0.20	0.10	-1.495	1.935	0.195	1.729	-0.075	-0.010	-0.273	0.086	-0.426	-0.09967	0.12900	0.01300	0.11527	-0.00112	0.01664	0.01329	0.02161	3299B2
11 095	4 500	0.25	0.10	-1.459	1.920	0.446	1.697	0.031	0.128	-0.486	0.026	-0.317	-0.09727	0.12800	0.02973	0.11313	0.00045	0.01638	0.01280	0.02099	3300B2
13 300	4 500	0.30	0.10	-1.301	1.915	0.618	1.654	0.008	0.032	-0.439	0.068	-0.332	-0.08673	0.12767	0.04120	0.11027	0.00011	0.01630	0.01216	0.02031	3301B2
15 590	4 500	0.35	0.10	-1.045	1.871	0.795	1.627	0.102	-0.072	-0.431	0.103	-0.381	-0.06967	0.12473	0.05300	0.10847	0.00138	0.01556	0.01177	0.01954	3302B2

r(mm)	x	r/d	x/d	U(m/s)	u'	V	V'	uv/u'v'	Su	Ku	Sv	Kv	U/Ua	u'/Ua	V/Ua	v'/Ua	uv/Ua^2	u^2/Ua^2	v^2/Ua^2	q/Ua^2	Tape ID
17.810	4.500	0.40	0.10	-0.839	1.840	0.848	1.415	0.180	-0.104	-0.541	-0.029	-0.371	-0.05593	0.12267	0.06653	0.03433	0.00208	0.01505	0.00890	0.01642	3303B2
20.005	4.500	0.45	0.10	-0.314	1.873	0.920	1.257	0.156	-0.321	-0.615	0.077	0.004	-0.02093	0.12487	0.06133	0.08380	0.00163	0.01559	0.00702	0.01482	3304B2
22.195	4.500	0.50	0.10	0.251	2.035	0.776	1.054	0.004	-0.363	-0.387	0.055	0.212	0.01673	0.13567	0.05167	0.07027	-0.00004	0.01841	0.00494	0.01414	3305B2
24.500	4.500	0.55	0.10	14.855	0.745	1.995	0.544	-0.073	-0.446	0.180	0.168	0.207	0.99033	0.04967	0.13300	0.03627	0.00013	0.00247	0.00132	0.00255	3306B2
23.000	0.000	0.52	0.00	13.960	1.030	2.751	0.337	0.349	-0.695	0.219	-0.373	0.274	0.93067	0.06867	0.18340	0.02247	0.00054	0.00472	0.00050	0.00286	3308B2
24.505	0.005	0.55	0.00	14.605	0.576	2.563	0.540	-0.198	-0.530	0.305	0.499	0.230	0.97367	0.03810	0.17087	0.03600	0.00227	0.00147	0.00130	0.00203	3307B2

Filename: LB365.CSV
Date: 4/4/1990

Bluff Body: d = 44.45 mm,
Ua = 15 (m/s)

θ = 30
BR = 25%

Fuel: CH4
φ = 0.55

Fuel Flow = 244 slpm
Air Flow = 3962 slpm

r(mm)	x	r/d	x/d	U(m/s)	u'	V	V'	Ruv	Su	Ku	Sv	Kv	U/Ua	u'/Ua	V/Ua	V'/Ua	uv/Ua^2	u^2/Ua^2	v^2/Ua^2	q/Ua^2	Type ID
0.000	177.800	0.00	4.00	17.816	0.943	0.613	1.206	0.212	0.028	-0.290	-0.179	0.138	1.18773	0.06287	0.04087	0.08040	0.00107	0.00395	0.00646	0.00844	3606B2
0.005	155.605	0.00	3.50	14.230	0.973	0.737	1.361	0.251	0.036	-0.292	-0.112	0.271	0.94867	0.06487	0.04913	0.09073	0.00148	0.00421	0.00823	0.01034	3605B2
-0.015	133.400	0.00	3.00	10.327	1.059	0.913	1.531	0.213	0.003	-0.337	-0.186	0.256	0.68847	0.07060	0.06087	0.10207	0.00153	0.00498	0.01042	0.01291	3604B2
-0.010	111.105	0.00	2.50	5.937	1.115	1.190	1.781	0.244	0.037	-0.217	-0.088	0.364	0.39580	0.07433	0.07933	0.11873	0.00215	0.00553	0.01410	0.01686	3603B2
-0.010	102.205	0.00	2.30	3.895	1.180	1.486	1.977	0.156	0.093	-0.301	-0.208	0.270	0.25967	0.07867	0.09907	0.13190	0.00162	0.00619	0.01737	0.02047	3602B2
8.900	88.905	-0.20	2.00	2.538	1.733	2.613	1.865	0.403	-0.156	-0.094	0.021	0.324	0.16920	0.11553	0.17420	0.12433	0.00579	0.01335	0.01546	0.02213	3598B2
4.500	88.905	-0.10	2.00	1.204	1.581	2.883	1.950	0.154	-0.024	-0.388	0.039	0.240	0.08027	0.10540	0.19220	0.13000	0.00211	0.01111	0.01690	0.02245	3589B2
0.005	88.905	0.00	2.00	0.197	1.425	2.217	2.334	0.185	0.077	-0.135	-0.436	0.359	0.01313	0.09500	0.14780	0.15560	0.00273	0.00903	0.02421	0.02872	3590B2
2.200	88.905	0.05	2.00	0.136	1.367	0.954	2.948	-0.080	0.137	-0.259	-0.520	-0.214	0.00907	0.09113	0.06360	0.19653	-0.00143	0.00831	0.03863	0.04278	3591B2
4.510	88.905	0.10	2.00	0.331	1.643	-0.588	3.141	-0.406	0.248	-0.457	-0.024	-0.758	0.02207	0.10953	-0.03920	0.20940	-0.00931	0.01200	0.04385	0.04985	3592B2
6.705	88.905	0.15	2.00	1.342	2.005	-1.693	2.873	-0.570	0.047	-0.536	0.216	-0.433	0.08947	0.13367	-0.11287	0.19153	-0.01459	0.01787	0.03669	0.04562	3593B2
8.890	88.900	0.20	2.00	2.525	2.159	-2.189	2.531	-0.602	-0.212	-0.264	0.386	-0.020	0.16833	0.14393	-0.14593	0.16873	-0.01462	0.02072	0.02847	0.03883	3594B2
11.100	88.900	0.25	2.00	3.627	2.295	-2.304	2.328	0.612	-0.430	-0.034	0.478	0.376	0.24180	0.15300	-0.15360	0.15520	-0.01453	0.02341	0.02409	0.03579	3595B2
13.290	88.900	0.30	2.00	5.288	2.175	-2.392	1.960	0.606	-0.446	0.324	0.470	0.870	0.35253	0.14500	-0.15947	0.13067	-0.01148	0.02103	0.01707	0.02759	3596B2
15.605	88.900	0.35	2.00	7.317	1.974	-2.334	1.362	-0.536	-0.495	0.257	0.335	1.335	0.48780	0.13160	-0.15560	0.09080	-0.00640	0.01732	0.00824	0.01690	3597B2
17.795	88.900	0.40	2.00	9.486	1.655	-2.115	0.870	-0.466	-0.521	0.608	0.072	1.244	0.63240	0.11033	-0.14100	0.05800	-0.00298	0.01217	0.00336	0.00945	3598B2
19.995	88.900	0.45	2.00	11.747	1.189	-1.835	0.728	-0.222	0.353	0.436	0.054	1.077	0.78313	0.07920	-0.12233	0.04853	0.00085	0.00627	0.00236	0.00549	3599B2
22.205	88.900	0.50	2.00	13.539	0.967	-1.196	0.462	-0.017	-0.274	-0.090	0.053	0.202	0.90260	0.06447	-0.07973	0.03080	-0.00003	0.00416	0.00095	0.00303	3600B2
24.505	88.900	0.55	2.00	14.852	0.688	-0.508	0.352	-0.221	-0.412	0.029	0.192	0.222	0.99013	0.04453	-0.03387	0.02347	-0.00023	0.00198	0.00055	0.00154	3601B2
0.000	75.605	0.00	1.70	-3.917	1.256	1.394	2.351	0.237	0.321	-0.061	-0.158	-0.060	-0.26113	0.08373	0.09293	0.15673	0.00311	0.00701	0.02457	0.02807	3579B2
4.500	75.605	0.10	1.70	-3.912	1.359	-0.015	2.455	-0.274	0.536	0.223	-0.197	0.026	-0.26080	0.09060	-0.00100	0.16367	0.00406	0.00821	0.02679	0.03089	3580B2
8.905	75.605	0.20	1.70	-2.423	2.420	-0.877	2.635	-0.569	0.686	-0.156	-0.178	-0.301	-0.16153	0.16133	-0.05847	0.17567	-0.01613	0.02603	0.03086	0.04387	3581B2
13.295	75.605	0.30	1.70	2.151	2.960	-2.096	2.196	-0.646	-0.502	-0.356	0.385	0.190	0.14340	0.19733	-0.13973	0.14640	-0.01866	0.03894	0.02143	0.04090	3582B2
15.605	75.605	0.35	1.70	5.299	2.375	-2.466	1.719	-0.565	-0.603	0.606	0.536	1.247	0.35327	0.15833	-0.16440	0.11460	-0.01025	0.02507	0.01313	0.02567	3583B2
17.805	75.605	0.40	1.70	7.947	2.020	-2.336	1.166	-0.461	-0.521	0.397	0.227	1.278	0.52980	0.13467	-0.15573	0.07773	-0.00483	0.01814	0.00604	0.01511	3584B2
20.000	75.605	0.45	1.70	10.734	1.586	-2.057	0.765	-0.321	-0.521	0.445	0.199	0.974	0.71560	0.10573	-0.13713	0.05100	-0.00173	0.01118	0.00260	0.00819	3585B2
22.205	75.605	0.50	1.70	13.221	1.106	-1.387	0.540	-0.041	-0.545	0.360	0.139	0.432	0.88140	0.07373	-0.09247	0.03600	-0.00011	0.00544	0.00130	0.00401	3586B2
24.500	75.605	0.55	1.70	14.884	0.696	-0.579	0.403	-0.252	-0.337	-0.122	0.139	0.258	0.99227	0.04640	-0.03860	0.02687	-0.00031	0.00215	0.00072	0.00180	3587B2
-0.005	66.705	0.00	1.50	-5.439	1.291	0.946	2.061	0.177	0.268	-0.140	-0.132	-0.134	-0.36260	0.08607	0.06307	0.13740	0.00209	0.00741	0.01888	0.02258	3570B2
4.500	66.705	0.10	1.50	-5.336	1.410	-0.208	2.144	-0.271	0.462	0.000	-0.126	-0.044	-0.35573	0.09400	-0.01387	0.14293	-0.00364	0.00884	0.02043	0.02485	3571B2
8.895	66.700	0.20	1.50	-4.603	1.984	-0.362	2.204	-0.476	0.643	0.284	-0.254	-0.107	-0.30687	0.13227	-0.02413	0.14693	-0.00925	0.01749	0.02159	0.03034	3572B2
13.300	66.700	0.30	1.50	-1.376	3.502	-0.614	2.523	-0.642	0.229	-0.960	0.042	-0.453	-0.09173	0.23347	-0.04093	0.16820	-0.02521	0.05451	0.02829	0.05554	3573B2
15.610	66.700	0.35	1.50	2.503	3.275	-1.535	2.092	-0.663	-0.531	-0.211	0.447	0.342	0.16687	0.21833	-0.10233	0.13947	-0.02019	0.04767	0.01945	0.04329	3574B2

r(mm)	x	r/d	x/d	U(m/s)	u'	V	V'	Ruv	Su	Ku	Sv	Kv	U/Ua	u'/Ua	V/Ua	V'/Ua	uv/Ua^2	u^2/Ua^2	v^2/Ua^2	q/Ua^2	Tap ID
17 795	66 700	0 40	1 50	6 354	2 310	-1 957	1 438	-0 555	-0 540	0 498	0 416	1 113	0 42360	0 15400	-0 13047	0 09587	-0 00819	0 02372	0 00919	0 02105	3575B2
19 990	66 695	0 45	1 50	9 813	1 900	-1 937	0 937	-0 482	-0 598	0 319	0 380	0 812	0 65420	0 12667	-0 12913	0 06247	-0 00381	0 01604	0 00390	0 01192	3576B2
22 205	66 700	0 50	1 50	12 980	1 180	-1 405	0 595	-0 198	-0 554	0 434	0 173	0 391	0 86533	0 07857	-0 09367	0 03967	-0 00062	0 00619	0 00157	0 00467	3577B2
24 500	66 700	0 55	1 50	14 910	0 733	-0 583	0 422	-0 321	-0 360	-0 102	0 108	0 295	0 99400	0 04887	-0 03887	0 02813	-0 00044	0 00239	0 00079	0 00199	3578B2
0 005	53 305	0 00	1 20	-6 009	1 551	0 208	1 732	0 102	0 193	-0 296	-0 084	-0 267	-0 40060	0 10340	0 01387	0 11547	0 00122	0 01069	0 01333	0 01868	3562B2
4 505	53 300	0 10	1 20	5 903	1 651	0 244	1 760	-0 188	0 309	-0 123	0 005	-0 156	-0 39353	0 11007	0 01627	0 11733	-0 00243	0 01211	0 01377	0 01982	3563B2
8 905	53 295	0 20	1 20	-5 038	1 962	0 512	1 695	-0 395	0 430	0 123	-0 111	-0 101	-0 33587	0 13080	0 03413	0 11300	-0 00584	0 01711	0 01277	0 02132	3564B2
13 295	53 295	0 30	1 20	-3 442	2 771	0 699	1 888	-0 522	0 563	-0 194	-0 254	-0 127	-0 22947	0 18473	0 04660	0 12587	-0 01214	0 03413	0 01584	0 03291	3565B2
17 805	53 295	0 40	1 20	2 953	2 923	-0 565	1 544	-0 647	-0 715	0 214	0 554	0 759	0 19687	0 19487	-0 03767	0 10293	0 01298	0 03797	0 01060	0 02958	3566B2
20 000	53 295	0 45	1 20	7 193	2 109	-1 100	1 029	-0 622	-0 319	0 055	0 299	0 552	0 47953	0 14060	-0 07333	0 06860	-0 00600	0 01977	0 00471	0 01459	3567B2
22 205	53 295	0 50	1 20	11 841	1 411	-1 075	0 654	-0 454	-0 548	0 290	0 184	0 122	0 78940	0 09407	-0 07167	0 04360	0 00186	0 00885	0 00190	0 00633	3568B2
24 500	53 295	0 55	1 20	14 793	0 785	-0 418	0 485	-0 399	-0 285	-0 051	0 246	0 323	0 98620	0 05233	-0 02787	0 03233	-0 00068	0 00274	0 00105	0 00241	3569B2
-0 010	44 505	0 00	1 00	5 292	1 687	0 198	1 557	0 090	0 264	-0 103	-0 055	-0 250	-0 35280	0 11247	0 01320	0 10380	0 00105	0 01265	0 01077	0 01710	3554B2
4 505	44 505	0 10	1 00	5 236	1 809	0 507	1 576	-0 200	0 290	-0 172	-0 064	-0 275	-0 34907	0 12060	0 03380	0 10507	-0 00253	0 01454	0 01104	0 01831	3555B2
8 900	44 505	0 20	1 00	4 351	2 053	0 812	1 580	-0 300	0 467	0 147	-0 082	-0 225	-0 29007	0 13687	0 05413	0 10533	-0 00432	0 01873	0 01110	0 02046	3556B2
13 295	44 505	0 30	1 00	3 320	2 301	1 072	1 561	-0 388	0 370	-0 180	0 011	-0 194	-0 22133	0 15340	0 07147	0 10407	-0 00619	0 02353	0 01083	0 02260	3557B2
17 805	44 505	0 40	1 00	0 278	2 938	0 309	1 456	-0 585	-0 283	-0 812	0 400	0 130	0 01853	0 19587	0 02060	0 09707	-0 01112	0 03836	0 00942	0 02860	3558B2
19 990	44 505	0 45	1 00	4 707	2 216	-0 541	1 002	-0 621	-0 274	0 449	0 182	0 440	0 31380	0 14773	-0 03607	0 06680	-0 00613	0 02183	0 00446	0 01537	3559B2
22 190	44 505	0 50	1 00	10 393	1 592	-0 834	0 696	-0 545	-0 324	-0 097	0 008	0 165	0 69287	0 10613	-0 05560	0 04640	-0 00268	0 01126	0 00215	0 00779	3560B2
24 490	44 505	0 55	1 00	14 525	0 844	0 311	0 547	-0 408	-0 319	0 009	0 151	0 410	0 96833	0 05627	-0 02073	0 03647	-0 00084	0 00317	0 00133	0 00291	3561B2
8 900	35 605	-0 20	0 80	2 824	2 022	-0 180	1 425	0 403	0 187	-0 445	-0 160	-0 260	-0 18827	0 13480	-0 01200	0 09500	0 00516	0 01817	0 00903	0 01811	3540B2
-4 500	35 605	-0 10	0 80	-3 634	1 966	-0 048	1 355	0 311	0 243	-0 183	-0 105	-0 314	-0 24227	0 13107	-0 00320	0 09033	0 00368	0 01718	0 00816	0 01675	3541B2
0 005	35 605	0 00	0 80	-4 068	1 797	0 247	1 395	0 082	0 144	-0 242	-0 035	-0 320	-0 27120	0 11980	0 01647	0 09300	0 00091	0 01435	0 00865	0 01583	3542B2
2 200	35 605	0 05	0 80	-4 041	1 750	0 494	1 428	-0 011	0 261	-0 094	0 048	-0 406	-0 26940	0 11667	0 03293	0 09520	-0 00012	0 01361	0 00906	0 01587	3543B2
4 505	35 605	0 10	0 80	-3 807	1 792	0 624	1 432	-0 102	0 266	-0 115	-0 132	-0 332	-0 25380	0 11947	0 04160	0 09547	-0 00116	0 01427	0 00911	0 01625	3544B2
6 705	35 605	0 15	0 80	-3 504	1 895	0 648	1 394	-0 223	0 301	-0 247	0 019	-0 266	-0 23360	0 12633	0 04320	0 09293	-0 00262	0 01596	0 00864	0 01662	3545B2
8 890	35 605	0 20	0 80	3 231	1 917	0 865	1 454	-0 212	0 231	-0 254	-0 045	-0 144	-0 21540	0 12780	0 05767	0 09693	-0 00263	0 01533	0 00940	0 01756	3546B2
11 095	35 605	0 25	0 80	-2 886	2 036	0 978	1 382	-0 307	0 167	-0 353	0 065	-0 157	-0 19240	0 13573	0 05520	0 09213	-0 00384	0 01842	0 00849	0 01770	3547B2
13 300	35 605	0 30	0 80	-2 260	2 086	0 842	1 302	-0 315	0 072	-0 436	0 064	-0 271	-0 15067	0 13907	0 05613	0 08680	-0 00380	0 01934	0 00753	0 01720	3548B2
15 595	35 605	0 35	0 80	-1 999	2 143	0 768	1 208	-0 347	0 086	-0 669	0 163	-0 203	-0 13327	0 14287	0 05120	0 08053	-0 00399	0 02041	0 00649	0 01669	3549B2
17 795	35 605	0 40	0 80	-1 250	2 368	0 568	1 034	-0 416	0 081	-0 823	0 417	0 097	-0 08333	0 15787	0 03787	0 06893	-0 00453	0 02492	0 00475	0 01721	3550B2
19 990	35 605	0 45	0 80	2 303	2 036	-0 094	0 824	-0 569	-0 399	0 543	0 081	0 619	0 15353	0 13573	-0 00627	0 05493	-0 00424	0 01842	0 00302	0 01223	3551B2
22 205	35 605	0 50	0 80	8 708	1 937	-0 655	0 823	-0 602	-0 121	-0 385	-0 090	0 158	0 58053	0 12913	-0 04367	0 05487	-0 00427	0 01668	0 00301	0 01135	3552B2
24 510	35 595	0 55	0 80	14 308	0 955	-0 203	0 634	-0 386	-0 334	0 035	0 205	0 323	0 95387	0 06367	-0 01353	0 04227	-0 00104	0 00405	0 00179	0 00381	3553B2

r(mm)	x	r/d	x/d	U(m/s)	u'	v	v'	Ruv	Su	Ku	Sv	Kv	U/Ua	u'/Ua	V/Ua	v'/Ua	uv/Ua^2	u^2/Ua^2	v^2/Ua^2	q/Ua^2	Type ID
-0.010	26.705	0.00	0.60	-2.675	1.805	0.259	1.212	0.069	-0.055	-0.506	-0.004	-0.113	-0.17833	0.12033	0.01727	0.08080	0.00067	0.01448	0.00653	0.01377	3532B2
4.510	26.705	0.10	0.60	-2.542	1.856	0.552	1.192	0.071	-0.082	-0.488	0.007	-0.110	-0.16947	0.12373	0.03680	0.07947	-0.00070	0.01531	0.00631	0.01397	3533B2
8.905	26.705	0.20	0.60	-2.113	1.703	0.687	1.198	-0.248	0.057	-0.446	0.068	-0.265	-0.14087	0.11353	0.04580	0.07987	0.00225	0.01289	0.00638	0.01282	3534B2
13.295	26.705	0.30	0.60	-1.587	1.771	0.621	1.047	-0.265	-0.077	-0.577	0.223	-0.042	-0.10580	0.11807	0.04140	0.06980	-0.00218	0.01394	0.00487	0.01184	3535B2
17.805	26.705	0.40	0.60	-1.607	1.857	0.487	0.742	-0.252	-0.038	-0.620	0.501	0.194	-0.10713	0.12380	0.03247	0.04947	-0.00154	0.01533	0.00245	0.01011	3536B2
20.000	26.705	0.45	0.60	-0.076	1.850	0.274	0.582	0.349	-0.452	0.312	0.354	0.457	-0.00507	0.12333	0.01827	0.03880	0.00167	0.01521	0.00151	0.00911	3537B2
22.200	26.705	0.50	0.60	6.210	1.883	-0.343	0.794	0.562	0.387	-0.280	-0.374	0.471	0.41400	0.12553	-0.02287	0.05293	-0.00373	0.01576	0.00280	0.01068	3538B2
24.490	26.705	0.55	0.60	13.964	0.976	-0.017	0.644	-0.371	0.299	-0.052	0.074	0.508	0.93093	0.06507	-0.00113	0.04293	-0.00104	0.00423	0.00184	0.00396	3539B2
0.000	13.300	0.00	0.30	-1.128	1.356	0.173	0.912	-0.021	-0.508	-0.081	0.114	0.130	-0.07520	0.09040	0.01153	0.06080	-0.00012	0.00817	0.00370	0.00778	3524B2
4.510	13.300	0.10	0.30	-1.230	1.430	0.425	0.922	-0.028	0.368	0.173	0.068	0.058	-0.08200	0.09533	0.02833	0.06147	-0.00016	0.00909	0.00378	0.00832	3525B2
8.905	13.300	0.20	0.30	-0.909	1.285	0.465	0.894	0.042	-0.433	-0.176	0.065	-0.053	-0.06060	0.08567	0.03100	0.05960	0.00021	0.00734	0.00355	0.00722	3526B2
13.295	13.300	0.30	0.30	-0.846	1.282	0.355	0.757	0.127	0.194	-0.270	0.208	0.169	-0.05640	0.08547	0.02367	0.05047	0.00055	0.00730	0.00255	0.00620	3527B2
17.805	13.300	0.40	0.30	-1.088	1.399	0.341	0.516	0.105	0.118	-0.500	0.372	0.388	-0.07253	0.09327	0.02273	0.03440	0.00034	0.00870	0.00118	0.00553	3528B2
19.990	13.300	0.45	0.30	-0.696	1.434	0.332	0.331	0.066	-0.145	-0.296	0.332	0.389	-0.04640	0.09560	0.02213	0.02207	0.00014	0.00914	0.00049	0.00506	3529B2
22.190	13.300	0.50	0.30	2.584	0.746	0.206	0.455	-0.140	0.274	0.168	0.310	0.470	0.17227	0.04973	0.01373	0.03033	0.00021	0.00247	0.00092	0.00216	3530B2
24.500	13.300	0.55	0.30	14.617	0.997	0.762	0.611	-0.170	-0.186	-0.041	-0.009	0.013	0.97447	0.06647	0.05080	0.04073	-0.00046	0.00442	0.00166	0.00387	3531B2
-8.905	4.495	0.20	0.10	-0.428	0.844	0.113	0.929	-0.159	-0.431	-0.075	-0.172	-0.028	-0.02853	0.06627	0.00753	0.06193	0.00055	0.00317	0.00384	0.00542	3510B2
4.490	4.495	0.10	0.10	0.352	0.866	0.292	1.016	-0.060	-0.430	0.009	-0.131	-0.086	-0.02347	0.05773	0.01947	0.06773	-0.00023	0.00333	0.00459	0.00625	3511B2
0.010	4.495	0.00	0.10	-0.352	0.895	0.509	1.070	0.022	-0.495	-0.073	-0.086	-0.175	-0.02347	0.05967	0.03393	0.07133	0.00009	0.00356	0.00509	0.00687	3512B2
2.190	4.495	0.05	0.10	-0.338	0.891	0.712	1.107	0.070	0.548	0.031	-0.056	-0.249	-0.02253	0.05940	0.04747	0.07380	0.00031	0.00353	0.00545	0.00721	3513B2
4.505	4.495	0.10	0.10	-0.285	0.810	0.569	1.028	0.079	0.463	0.011	0.061	0.254	-0.01900	0.05400	0.03793	0.06853	0.00029	0.00292	0.00470	0.00615	3514B2
6.705	4.495	0.15	0.10	-0.249	0.844	0.903	1.033	0.126	0.528	0.084	0.048	-0.214	-0.01660	0.05627	0.06020	0.06887	0.00049	0.00317	0.00474	0.00633	3515B2
8.900	4.495	0.20	0.10	-0.241	0.816	0.940	1.068	0.195	0.528	0.132	0.068	-0.337	-0.01607	0.05440	0.06267	0.07120	0.00076	0.00296	0.00507	0.00655	3516B2
11.100	4.495	0.25	0.10	-0.185	0.772	0.912	0.945	0.249	-0.546	0.111	0.042	-0.407	-0.01233	0.05147	0.06080	0.06300	0.00081	0.00265	0.00397	0.00529	3517B2
13.305	4.500	0.30	0.10	-0.154	0.777	0.948	0.897	0.431	-0.399	0.013	0.156	-0.425	-0.01027	0.05180	0.06320	0.06300	0.00134	0.00268	0.00358	0.00492	3518B2
15.605	4.500	0.35	0.10	-0.261	0.805	0.841	0.756	0.549	-0.387	0.012	0.201	-0.397	-0.01740	0.05367	0.06607	0.05040	0.00148	0.00288	0.00254	0.00398	3519B2
17.195	4.500	0.40	0.10	-0.372	0.821	0.757	0.645	0.644	-0.287	-0.196	0.245	-0.206	-0.02480	0.05473	0.05047	0.04300	0.00152	0.00300	0.00185	0.00335	3520B2
19.990	4.500	0.45	0.10	-0.399	0.876	0.704	0.370	0.648	-0.275	-0.214	0.628	-0.041	-0.02260	0.05840	0.04693	0.02467	0.00093	0.00341	0.00061	0.00231	3521B2
22.200	4.495	0.50	0.10	1.417	0.382	0.440	0.244	0.012	0.134	0.015	0.296	0.306	0.09447	0.02547	0.02933	0.01627	0.00000	0.00065	0.00026	0.00059	3522B2
24.490	4.500	0.55	0.10	14.888	0.878	1.803	0.723	-0.062	-0.286	-0.426	0.001	-0.026	0.99253	0.06853	0.12020	0.04820	-0.00017	0.00343	0.00232	0.00404	3523B2
23.010	0.005	0.52	0.00	14.378	1.044	2.974	0.471	0.220	0.426	-0.290	-0.239	0.104	0.96853	0.06960	0.19827	0.03140	0.00048	0.00484	0.00099	0.00341	3451B2
24.500	0.005	0.55	0.00	14.541	0.865	2.554	0.774	-0.037	-0.525	-0.019	0.349	0.056	0.96940	0.05767	0.17027	0.05160	0.00011	0.00333	0.00266	0.00433	3490B2

Filename: LB401 CSV
Date: 4/5/1990

Bluff Body: d = 44.45 mm.
Ua = 10 (m/s)

θ = 45
BR = 25%

Fuel: none
o = 0

Fuel Flow = 0 slpm
Air Flow = 2804 slpm

r(mm)	x	r/d	x/d	U(m/s)	u'	V	V'	uv/uv'	Su	Ku	Sv	Kv	U/Ua	U'/Ua	V/Ua	V'/Ua	uv/Ua^2	u^2/Ua^2	v^2/Ua^2	q/Ua^2	Tape ID
0.000	177.800	0.00	4.00	6.301	1.015	0.444	1.353	-0.072	0.078	0.057	-0.183	0.380	0.63010	0.10150	0.04440	0.13530	-0.00099	0.01030	0.01831	0.02346	441482
0.005	155.600	0.00	3.50	6.150	1.085	0.507	1.499	-0.034	0.053	-0.001	0.245	0.318	0.61500	0.10850	0.05070	0.14990	-0.00055	0.01177	0.02247	0.02836	441582
0.005	133.395	0.00	3.00	5.760	1.156	0.601	1.723	0.016	0.124	0.037	0.294	0.301	0.57600	0.11560	0.06010	0.17230	0.00032	0.01336	0.02969	0.03637	441682
0.005	111.095	0.00	2.50	5.106	1.272	0.904	2.034	0.027	0.086	0.032	-0.314	0.185	0.51060	0.12720	0.09040	0.20340	0.00070	0.01618	0.04137	0.04946	441782
0.005	102.205	0.00	2.30	4.749	1.356	0.959	2.173	0.013	-0.013	0.119	-0.263	0.334	0.47490	0.13560	0.09590	0.21730	0.00038	0.01839	0.04722	0.05641	441882
0.010	88.895	0.00	2.00	3.955	1.437	1.043	2.479	-0.027	0.121	-0.001	-0.298	0.352	0.39550	0.14370	0.10430	0.24790	0.00096	0.02065	0.06145	0.07178	441982
0.010	75.595	0.00	1.70	2.653	1.679	1.518	2.903	0.007	-0.152	0.083	-0.456	0.331	0.26530	0.16790	0.15180	0.29030	0.00034	0.02819	0.08427	0.09937	442052
-8.910	66.695	-0.20	1.50	2.664	1.940	2.798	2.243	0.355	-0.401	0.134	-0.873	0.888	0.26640	0.19400	0.27980	0.22430	0.01545	0.03764	0.05031	0.06913	442182
-4.505	66.695	0.10	1.50	1.254	1.980	2.045	2.724	0.259	-0.132	-0.271	-0.574	-0.047	0.12540	0.19800	0.20450	0.27240	0.01397	0.03920	0.07420	0.09380	442282
0.005	66.695	0.00	1.50	0.895	1.926	1.458	2.998	0.049	-0.177	-0.378	-0.437	0.230	0.08950	0.19260	0.14580	0.25980	0.00283	0.03709	0.08988	0.10843	442352
2.200	66.695	0.05	1.50	0.914	2.089	1.236	3.008	-0.015	-0.108	-0.352	-0.379	0.313	0.09140	0.20690	0.12360	0.30080	0.00094	0.04354	0.09048	0.11230	442432
4.490	66.695	0.10	1.50	0.825	2.076	1.155	3.167	-0.42	-0.051	-0.343	-0.454	0.418	0.08250	0.20760	0.11550	0.31670	0.00934	0.04310	0.10030	0.12185	442532
6.700	66.695	0.15	1.50	1.021	2.153	0.966	3.198	-0.274	0.006	-0.416	-0.324	0.509	0.10210	0.21530	0.09660	0.31380	0.01851	0.04635	0.09847	0.12165	442632
8.915	66.700	0.20	1.50	1.293	2.235	0.415	3.256	-0.394	0.009	-0.350	-0.176	0.807	0.12930	0.22350	0.09150	0.32560	-0.02867	0.04995	0.10602	0.13099	442732
11.100	66.700	0.25	1.50	1.865	2.356	-0.070	3.192	-0.518	-0.091	-0.446	0.038	0.908	0.18650	0.23560	0.06700	0.31920	-0.03896	0.05551	0.10189	0.12964	442832
13.295	66.700	0.30	1.50	2.278	2.539	0.425	3.095	-0.556	-0.082	-0.616	0.254	0.752	0.22780	0.25390	-0.04290	0.30950	-0.04369	0.06447	0.09579	0.12802	442932
15.600	66.700	0.35	1.50	3.612	2.445	-1.110	2.800	-0.611	-0.376	-0.422	0.565	-0.289	0.36120	0.24450	-0.11100	0.28000	-0.04183	0.05978	0.07840	0.10829	443032
17.800	66.700	0.40	1.50	4.742	2.392	-1.325	2.450	-0.647	-0.691	0.048	0.825	0.207	0.47420	0.23920	-0.13250	0.24500	-0.03792	0.05722	0.06003	0.08863	443132
20.005	66.700	0.45	1.50	6.045	2.045	-1.643	1.817	-0.571	-0.920	0.658	0.970	0.1057	0.60450	0.20450	-0.16430	0.18170	0.02122	0.04182	0.03301	0.05393	443232
22.195	66.700	0.50	1.50	7.154	1.620	-1.649	1.383	-0.466	-1.080	1.251	0.903	1.895	0.71540	0.15200	-0.16490	0.13830	-0.01044	0.02624	0.01913	0.03225	443332
24.505	66.700	0.55	1.50	8.065	1.305	-1.434	1.064	-0.412	-1.163	1.918	0.867	2.023	0.80650	0.13050	-0.14340	0.10840	-0.00583	0.01703	0.01175	0.02027	443432
-8.900	53.295	-0.20	1.20	-0.926	2.379	2.098	2.774	0.510	0.158	-0.469	-0.320	0.171	-0.09260	0.23790	0.20980	0.27740	0.03366	0.05660	0.07695	0.10525	443582
-4.495	53.295	0.10	1.20	-2.146	2.037	1.371	2.765	0.368	0.328	-0.089	-0.180	-0.302	-0.21460	0.20370	0.13710	0.27650	0.02073	0.04149	0.07645	0.09720	443682
0.005	53.300	0.00	1.20	-2.570	1.836	0.949	2.689	0.181	0.266	-0.153	-0.175	-0.113	-0.25700	0.18360	0.09490	0.26890	0.00894	0.03371	0.07231	0.08916	443782
2.205	53.300	0.05	1.20	-2.660	1.744	0.820	2.675	0.142	0.309	-0.007	-0.156	0.008	-0.26600	0.17440	0.08200	0.26750	0.00662	0.03042	0.07156	0.08576	443882
4.510	53.300	0.10	1.20	-2.641	1.794	0.857	2.585	0.032	0.413	0.091	-0.128	-0.088	0.26410	0.17940	0.08570	0.25850	0.00148	0.03218	0.06682	0.08291	443982
6.705	53.295	0.15	1.20	-2.500	1.898	0.796	2.686	-0.052	0.456	0.078	-0.290	-0.080	0.25000	0.18980	0.07960	0.26860	-0.00265	0.03602	0.07215	0.09016	444082
8.895	53.295	0.20	1.20	2.225	2.058	0.687	2.796	0.207	0.514	-0.038	0.323	0.073	0.22250	0.20580	0.06870	0.27960	-0.01191	0.04235	0.07818	0.09935	444182
11.090	53.295	0.25	1.20	1.429	2.405	0.247	3.108	-0.407	0.460	-0.237	-0.204	-0.494	0.14290	0.24050	0.02470	0.31080	-0.03042	0.05784	0.09660	0.12552	444282
13.295	53.295	0.30	1.20	-0.368	2.800	0.230	3.198	-0.528	0.278	-0.642	-0.039	-0.711	0.03680	0.28000	-0.02300	0.31980	-0.04728	0.07840	0.10227	0.14147	444382
15.600	53.300	0.35	1.20	1.230	3.120	0.918	3.194	-0.638	-0.161	-0.857	0.301	-0.722	0.12300	0.31200	-0.09180	0.31940	-0.06358	0.09734	0.10202	0.15069	444482
17.800	53.300	0.40	1.20	2.936	2.975	-1.316	2.798	-0.648	-0.551	-0.301	0.553	0.259	0.29360	0.29750	0.13160	0.27980	-0.05394	0.08851	0.07829	0.12244	444582
19.995	53.300	0.45	1.20	5.123	2.367	-1.893	2.116	-0.614	0.790	0.545	0.752	0.457	0.51230	0.23670	0.18930	0.21160	0.03075	0.05603	0.04477	0.07279	444682

r(mm)	x	r/d	x/d	U(m/s)	u'	v	v'	uv/u'v'	Su	Ku	Sv	Kv	U/Ua	u'/Ua	V/Ua	v'/Ua	uv/Ua^2	u^2/Ua^2	v^2/Ua^2	q/Ua^2	Tape ID
22 195	53 300	0 50	1 20	6 819	1 897	1 939	1 629	-0 522	0 861	0 601	0 728	0 787	0 68190	0 18970	0 19390	0 16290	0 01613	0 03599	0 02654	0 04453	4447B2
24 505	53 300	0 55	1 20	8 239	1 496	-1 616	1 337	-0 451	0 939	1 024	0 732	0 914	0 82390	0 14960	-0 16160	0 13370	-0 00902	0 02238	0 01788	0 02907	4448B2
8 900	44 495	0 20	1 00	3 310	1 924	0 750	2 452	0 431	0 367	0 008	0 021	0 120	0 33100	0 19240	0 07500	0 24520	0 02033	0 03702	0 06012	0 07863	4449B2
-4 495	44 495	-0 10	1 00	-4 044	1 612	0 526	2 312	0 265	0 183	-0 031	0 043	0 082	-0 40440	0 16120	0 05260	0 23120	0 00988	0 02599	0 05345	0 06845	4450B2
0 000	44 495	0 00	1 00	4 183	1 503	0 571	2 153	0 163	0 175	0 014	0 009	0 011	0 41830	0 15030	0 05710	0 21530	0 00527	0 02259	0 04635	0 05765	4451B2
2 200	44 495	0 05	1 00	4 179	1 450	0 422	2 192	0 071	0 128	0 022	0 006	-0 013	-0 41790	0 14500	0 04220	0 21920	0 00226	0 02103	0 04805	0 05856	4452B2
4 505	44 495	0 10	1 00	4 122	1 486	0 435	2 156	-0 008	0 210	-0 071	-0 054	-0 074	-0 41220	0 14860	0 04350	0 21560	0 00026	0 02208	0 04648	0 05752	4453B2
6 700	44 495	0 15	1 00	4 051	1 580	0 624	2 247	0 017	0 218	0 112	-0 088	-0 001	0 40510	0 15800	0 06240	0 22470	0 00060	0 02496	0 05049	0 06291	4454B2
8 905	44 495	0 20	1 00	3 748	1 729	0 512	2 417	-0 151	0 346	0 168	-0 093	0 045	-0 37480	0 17290	0 05120	0 24170	0 00631	0 02989	0 05842	0 07337	4455B2
11 090	44 495	0 25	1 00	3 592	1 872	0 695	2 369	-0 227	0 498	0 293	-0 235	0 068	-0 35920	0 18720	0 06950	0 23690	0 01007	0 03504	0 05612	0 07364	4456B2
13 295	44 495	0 30	1 00	2 781	2 337	0 410	2 620	-0 344	0 648	0 220	-0 205	-0 141	0 27810	0 23370	0 04100	0 26200	-0 02106	0 05462	0 06864	0 09595	4457B2
15 610	44 495	0 35	1 00	1 338	2 894	0 002	2 797	-0 535	0 393	-0 606	-0 187	-0 377	0 13380	0 28940	0 00020	0 27970	0 04331	0 08375	0 07823	0 12011	4458B2
17 810	44 495	0 40	1 00	0 788	3 330	-0 510	2 844	-0 632	0 102	-0 805	0 055	0 472	0 07880	0 33300	-0 05100	0 28440	0 05985	0 11089	0 08088	0 13633	4459B2
19 985	44 495	0 45	1 00	3 988	2 750	-1 503	2 417	-0 622	0 652	0 295	0 470	-0 033	0 39880	0 27500	0 15030	0 24170	0 04134	0 07563	0 05842	0 09623	4460B2
22 200	44 500	0 50	1 00	6 166	2 146	-1 685	1 935	-0 542	-0 541	0 234	0 446	-0 026	0 61660	0 21460	0 16850	0 19350	-0 02251	0 04605	0 03744	0 06047	4461B2
24 505	44 500	0 55	1 00	8 299	1 733	-1 597	1 515	-0 496	-0 871	0 654	0 607	0 316	0 82990	0 17330	-0 15970	0 15150	-0 01302	0 03003	0 02295	0 03797	4462B2
8 900	35 600	-0 20	0 80	-4 379	1 673	-0 042	2 034	0 315	0 334	0 057	0 099	0 049	-0 43790	0 16730	0 00420	0 20340	0 01072	0 02799	0 04137	0 05537	4463B2
4 495	35 600	0 10	0 80	-4 495	1 551	0 094	1 932	0 218	0 158	0 064	0 073	0 172	-0 44950	0 15610	0 00940	0 19320	0 00657	0 02437	0 03733	0 04951	4464B2
0 005	35 600	0 00	0 80	4 830	1 415	0 337	1 782	0 141	0 141	0 153	0 065	-0 086	0 48300	0 14150	0 03370	0 17820	0 00356	0 02002	0 03176	0 04177	4465B2
2 195	35 600	0 05	0 80	4 827	1 442	0 447	1 839	0 097	0 128	-0 060	-0 054	-0 140	-0 48270	0 14420	0 04470	0 18350	0 00257	0 02079	0 03322	0 04422	4466B2
4 505	35 600	0 10	0 80	-4 851	1 406	0 661	1 782	-0 002	0 091	-0 122	-0 063	-0 176	0 48510	0 14060	0 06610	0 17820	-0 00005	0 01977	0 03176	0 04164	4467B2
6 690	35 600	0 15	0 80	4 717	1 460	0 682	1 888	-0 081	0 174	-0 011	-0 066	-0 046	-0 47170	0 14600	0 06820	0 18880	-0 00223	0 02132	0 03565	0 04630	4468B2
8 905	35 600	0 20	0 80	4 639	1 594	0 965	1 967	-0 111	0 160	-0 095	0 053	0 230	-0 46390	0 15940	0 09650	0 19670	0 00348	0 02541	0 03869	0 05140	4469B2
11 100	35 600	0 25	0 80	4 318	1 686	0 985	2 075	-0 147	0 260	0 015	-0 111	-0 027	-0 43180	0 16860	0 09850	0 20750	-0 00514	0 02843	0 04306	0 05727	4470B2
13 305	35 600	0 30	0 80	-3 965	1 864	0 927	2 066	-0 240	0 416	0 257	-0 084	-0 082	-0 39650	0 18640	0 09270	0 20660	0 00924	0 02843	0 04374	0 06006	4471B2
15 610	35 600	0 35	0 80	-2 618	2 447	0 778	2 325	-0 380	0 423	-0 031	-0 285	-0 021	-0 26180	0 24470	0 07780	0 23250	0 02162	0 05988	0 05406	0 08400	4472B2
17 805	35 595	0 40	0 80	-0 804	2 977	0 437	2 464	-0 534	0 166	-0 721	-0 139	-0 222	-0 08040	0 29770	0 04370	0 24640	-0 03917	0 08863	0 06071	0 10503	4473B2
19 995	35 595	0 45	0 80	2 358	3 080	-0 407	2 498	-0 595	-0 490	0 168	0 108	-0 169	0 23580	0 30800	-0 04070	0 24980	0 04578	0 09486	0 06240	0 10983	4474B2
22 200	35 595	0 50	0 80	5 253	2 449	-0 850	2 173	-0 579	-0 568	0 533	0 265	-0 073	0 52530	0 24490	-0 08500	0 21730	-0 03081	0 05998	0 04722	0 07721	4475B2
24 505	35 595	0 55	0 80	7 969	2 090	-0 930	1 776	-0 531	-0 590	0 073	0 450	-0 072	0 79690	0 20900	-0 09300	0 17760	0 01971	0 04368	0 03154	0 05338	4476B2
8 905	26 695	-0 20	0 60	-4 070	1 635	-0 557	1 707	0 303	0 236	0 014	0 048	0 238	-0 40700	0 16350	-0 05570	0 17070	0 00846	0 02673	0 02914	0 04250	4477B2
4 500	26 695	-0 10	0 60	-4 337	1 513	-0 141	1 670	0 246	0 179	-0 134	0 017	-0 060	-0 43370	0 15130	0 01410	0 16700	0 00622	0 02289	0 02789	0 03933	4478B2

r(mm)	x	r/d	x/d	U(m/s)	L'	V	v'	uv/u'	Su	Ku	Sv	Kv	U/Ua	u'/Ua	V/Ua	v'/Ua	uv/Ua^2	u^2/Ua^2	v^2/Ua^2	q/Ua^2	Type ID
0 010	26 695	0 00	0 60	4 630	1 453	0 252	1 594	0 109	0 243	-0 004	0 042	-0 066	-0 46300	0 14530	0 02520	0 15940	0 00252	0 02111	0 02541	0 03596	4479B2
2 200	26 695	0 05	0 60	4 614	1 513	0 510	1 571	0 059	0 123	-0 142	-0 038	-0 152	-0 46140	0 15130	0 05100	0 15710	0 00140	0 02289	0 02468	0 03613	4480B2
4 505	26 695	0 10	0 60	4 605	1 471	0 650	1 572	0 012	0 097	-0 019	0 014	-0 181	-0 46050	0 14710	0 06500	0 15720	0 00028	0 02164	0 02471	0 03553	4481B2
6 700	26 700	0 15	0 60	4 459	1 465	0 903	1 604	-0 039	0 179	-0 084	-0 047	-0 158	-0 44590	0 14650	0 09030	0 16040	0 00092	0 02146	0 02573	0 03646	4482B2
8 895	26 700	0 20	0 60	4 375	1 562	1 134	1 665	-0 073	0 177	0 032	-0 081	-0 143	-0 43750	0 15620	0 11340	0 16650	-0 00190	0 02440	0 02772	0 03992	4483B2
11 095	26 700	0 25	0 60	4 126	1 643	1 311	1 693	0 113	0 295	0 053	-0 069	-0 238	-0 41260	0 16430	0 13110	0 16930	0 00314	0 02699	0 02866	0 04216	4484B2
13 300	26 700	0 30	0 60	3 363	1 915	1 253	1 723	-0 200	0 312	-0 014	-0 047	-0 213	-0 33630	0 19150	0 12530	0 17230	-0 00660	0 03667	0 02969	0 04802	4485B2
15 610	26 700	0 35	0 60	2 752	2 280	1 454	1 774	-0 257	0 509	0 069	0 002	-0 218	-0 27520	0 22800	0 14540	0 17740	-0 01039	0 05198	0 03147	0 05746	4486B2
17 800	26 700	0 40	0 60	1 462	2 485	1 263	1 804	-0 297	0 177	-0 637	-0 016	-0 116	-0 14620	0 24850	0 12630	0 18040	-0 01331	0 06175	0 03254	0 06342	4487B2
19 995	26 700	0 45	0 60	0 880	2 694	0 811	1 994	-0 481	-0 417	-0 455	-0 035	-0 130	0 08800	0 26940	0 08110	0 19940	-0 02584	0 07258	0 03976	0 07605	4488B2
22 200	26 700	0 50	0 60	3 913	2 406	0 101	2 022	-0 550	-0 435	0 293	-0 132	0 015	0 39130	0 24060	0 01010	0 20220	-0 02676	0 05789	0 04088	0 06983	4489B2
24 495	26 700	0 55	0 60	7 547	2 198	-0 301	1 848	-0 549	-0 526	0 049	0 354	-0 116	0 75470	0 21980	0 03010	0 18480	-0 02230	0 04831	0 03415	0 06831	4490B2
-8 905	13 295	-0 20	0 30	-2 349	1 743	-0 508	1 304	0 178	0 254	-0 045	0 040	-0 158	-0 23490	0 17430	-0 05080	0 13040	0 00405	0 03038	0 01700	0 03219	4491B2
-4 490	13 295	-0 10	0 30	-2 703	1 724	-0 174	1 198	0 149	0 293	-0 158	0 047	-0 072	-0 27030	0 17240	-0 01740	0 11980	0 00308	0 02972	0 01435	0 02921	4492B2
0 010	13 300	0 00	0 30	-2 983	1 545	0 187	1 241	0 108	0 237	-0 011	0 051	-0 107	-0 29830	0 15450	0 01870	0 12410	0 00207	0 02387	0 01540	0 02734	4493B2
2 200	13 300	0 05	0 30	-2 941	1 594	0 312	1 177	-0 018	0 255	-0 089	0 007	-0 158	-0 29410	0 15940	0 03120	0 11770	-0 00034	0 02541	0 01385	0 02656	4494B2
4 495	13 300	0 10	0 30	-2 874	1 612	0 570	1 181	0 017	0 300	0 050	-0 008	0 021	-0 28740	0 16120	0 05700	0 11810	0 00032	0 02599	0 01395	0 02694	4495B2
6 710	13 295	0 15	0 30	-2 646	1 610	0 745	1 212	0 001	0 317	-0 085	0 034	-0 157	-0 26460	0 16100	0 07450	0 12120	0 00002	0 02592	0 01469	0 02765	4496B2
8 885	13 295	0 20	0 30	-2 276	1 755	0 922	1 223	-0 112	0 329	-0 356	0 017	-0 174	-0 22760	0 17550	0 09220	0 12230	-0 00240	0 03080	0 01496	0 03036	4497B2
11 105	13 295	0 25	0 30	-2 146	1 754	1 053	1 220	-0 132	0 284	-0 377	0 022	-0 135	-0 21460	0 17540	0 10530	0 12200	-0 00282	0 03077	0 01488	0 03027	4498B2
13 235	13 295	0 30	0 30	-1 798	1 741	1 288	1 230	-0 158	0 101	-0 457	0 110	-0 135	-0 17980	0 17410	0 12880	0 12300	-0 00338	0 03031	0 01513	0 03028	4499B2
15 600	13 295	0 35	0 30	-1 459	1 781	1 237	1 203	-0 155	0 130	0 566	0 067	-0 197	-0 14590	0 17810	0 12370	0 12030	-0 00332	0 03172	0 01447	0 03033	4500B2
17 805	13 295	0 40	0 30	-0 840	1 876	1 187	1 126	-0 165	-0 075	-0 679	0 051	-0 101	-0 08400	0 18760	0 11870	0 11260	-0 00349	0 03519	0 01268	0 03028	4501B2
20 005	13 295	0 45	0 30	-0 248	1 979	1 081	1 109	-0 239	-0 258	-0 699	0 226	0 064	-0 02480	0 19790	0 10810	0 11090	-0 00525	0 03916	0 01230	0 03188	4502B2
22 205	13 295	0 50	0 30	1 800	1 936	0 718	1 573	-0 456	-0 249	0 193	-0 378	0 534	0 18000	0 19360	0 07180	0 15730	-0 01389	0 03748	0 02474	0 04348	4503B2
24 495	13 300	0 55	0 30	8 352	1 865	0 685	1 707	-0 530	-0 624	0 298	0 337	-0 067	0 83520	0 18650	0 06850	0 17070	-0 01687	0 03478	0 02914	0 04653	4504B2
-8 900	4 495	-0 20	0 10	-0 808	1 381	-0 650	1 104	-0 046	-0 200	-0 459	-0 021	-0 140	-0 08080	0 13810	-0 06500	0 11040	-0 00070	0 01907	0 01219	0 02172	4505B2
-4 505	4 495	-0 10	0 10	-1 074	1 447	-0 289	1 153	0 049	-0 011	-0 531	0 039	-0 131	-0 10740	0 14470	-0 02890	0 11530	0 00082	0 02094	0 01329	0 02376	4506B2
0 000	4 495	0 00	0 10	-1 164	1 400	0 088	1 150	0 023	-0 071	-0 426	-0 052	-0 194	-0 11640	0 14000	0 00880	0 11500	0 00037	0 01960	0 01323	0 02303	4507B2
2 190	4 495	0 05	0 10	-0 954	1 353	0 246	1 142	0 033	-0 194	-0 438	0 054	-0 203	-0 09540	0 13530	0 02460	0 11420	0 00051	0 01831	0 01304	0 02219	4508B2
4 495	4 495	0 10	0 10	-0 973	1 319	0 515	1 092	0 008	-0 176	-0 424	0 065	-0 078	-0 09730	0 13190	0 05150	0 10920	-0 00012	0 01740	0 01192	0 02062	4509B2
6 695	4 495	0 15	0 10	-0 784	1 338	0 592	1 101	-0 022	-0 151	-0 471	-0 005	-0 125	-0 07840	0 13380	0 05920	0 11010	-0 00032	0 01790	0 01212	0 02107	4510B2
8 905	4 495	0 20	0 10	-0 833	1 309	0 849	1 132	0 079	-0 171	-0 430	0 009	-0 174	-0 08330	0 13090	0 08490	0 11320	0 00117	0 01713	0 01281	0 02138	4511B2
11 100	4 495	0 25	0 10	-0 661	1 314	0 950	1 121	0 040	-0 251	-0 291	0 117	-0 065	-0 06610	0 13140	0 09500	0 11210	0 00059	0 01727	0 01257	0 02120	4512B2
13 305	4 495	0 30	0 10	-0 488	1 321	0 974	1 070	0 134	-0 262	-0 354	-0 094	-0 079	0 04880	0 13210	0 09740	0 10700	0 00189	0 01745	0 01145	0 02017	4513B2
15 600	4 495	0 35	0 10	-0 221	1 232	1 061	0 964	0 091	-0 390	0 156	0 075	-0 125	0 02210	0 12320	0 10610	0 09640	0 00108	0 01518	0 00929	0 01698	4514B2

r(mm)	x	r/d	x/d	U(m/s)	u'	V	V'	uv/u'v'	Su	Ku	Sv	Kv	U/Ua	u'/Ua	V/Ua	V'/Ua	uv/Ua^2	u'^2/Ua^2	v'^2/Ua^2	q/Ua^2	Tape ID
17 810	4 495	0.40	0.10	-0.048	1.177	1.070	0.945	0.117	-0.389	-0.168	0.150	-0.113	-0.00480	0.11770	0.10700	0.09450	0.00130	0.01385	0.00893	0.01586	4515B2
20 005	4 495	0.45	0.10	0.254	1.136	0.881	0.794	0.163	-0.378	-0.036	0.242	-0.027	0.02540	0.11360	0.08810	0.07940	0.00147	0.01290	0.00630	0.01276	4516B2
22 200	4 495	0.50	0.10	0.549	1.287	0.708	0.786	0.054	-0.518	0.095	0.073	0.450	0.05490	0.12870	0.07080	0.07860	0.00055	0.01656	0.00618	0.01446	4517B2
24 505	4 495	0.55	0.10	10.070	0.395	1.659	0.347	-0.104	-0.500	0.433	0.203	0.427	1.00700	0.03950	0.16590	0.03470	-0.00014	0.00156	0.00120	0.00198	4518B2
24 505	0.000	0.55	0.00	9.775	0.272	2.109	0.250	-0.326	-0.376	0.496	0.700	1.009	0.97750	0.02720	0.21090	0.02500	-0.00022	0.00074	0.00063	0.00099	4519B2

Filename: LB461 CSV
Date: 4/5/1990

Bluff Body: d = 44.45 mm, $\theta = 45^\circ$
 $U_\infty = 10$ (m/s) BR = 25%

Fuel: CH4
 $\phi = 0.65$ Fuel Flow = 162.6 slpm
Air Flow = 2641 slpm

r(mm)	x	r/d	x/d	U(m/s)	u'	V	V'	uv/u'v'	Su	Ku	Sv	Kv	U/Ua	u'/Ua	V/Ua	v'/Ua	uv/Ua ²	u ² /Ua ²	v ² /Ua ²	q/Ua ²	Tape ID
0.005	177.805	0.00	4.00	17.704	0.638	1.228	0.634	0.182	-0.017	-0.120	0.014	-0.201	1.77040	0.06380	0.12280	0.06340	0.00074	0.00407	0.00402	0.00605	4314B2
0.015	155.595	0.00	3.50	14.500	0.670	1.008	0.663	0.229	-0.045	-0.115	0.010	0.030	1.45000	0.06700	0.10080	0.06630	0.00102	0.00449	0.00440	0.00664	4315B2
0.005	133.395	0.00	3.00	11.234	0.737	0.906	0.756	0.194	0.133	0.159	0.082	0.068	1.12340	0.07370	0.09060	0.07560	0.00108	0.00543	0.00572	0.00843	4316B2
0.005	111.095	0.00	2.50	7.520	0.675	0.996	0.871	0.259	-0.067	-0.221	-0.091	0.096	0.75200	0.06750	0.09960	0.08710	0.00152	0.00456	0.00759	0.00986	4317B2
0.005	102.200	0.00	2.30	6.031	0.687	1.028	0.947	0.257	0.037	-0.160	-0.009	0.229	0.60310	0.06870	0.10280	0.09470	0.00167	0.00472	0.00897	0.01133	4318B2
0.005	88.895	0.00	2.00	3.465	0.754	1.192	1.097	0.226	0.058	-0.312	-0.148	0.181	0.34650	0.07540	0.11920	0.10970	0.00187	0.00569	0.01203	0.01488	4319B2
0.005	75.600	0.00	1.70	0.408	0.855	1.890	1.242	0.236	-0.010	0.344	-0.328	0.437	0.04080	0.08550	0.18900	0.12420	0.00251	0.00731	0.01543	0.01908	4320B2
4.510	75.595	0.10	1.70	0.223	0.901	1.770	2.013	-0.129	0.205	-0.130	-0.549	0.080	0.02230	0.09010	0.17700	0.20130	-0.00234	0.00812	0.04052	0.04458	4321B2
8.905	75.595	0.20	1.70	0.732	1.330	0.491	2.531	-0.398	0.188	-0.273	-0.279	-0.651	0.07320	0.13300	0.04910	0.25310	-0.01340	0.01769	0.06406	0.07290	4322B2
13.310	75.595	0.30	1.70	2.272	1.847	-0.747	2.123	-0.659	0.250	-0.558	0.298	-0.314	0.22720	0.18470	-0.07470	0.21230	-0.02584	0.03411	0.04507	0.06213	4323B2
17.805	75.595	0.40	1.70	5.262	1.812	1.307	1.216	-0.694	-0.984	0.743	0.801	1.888	0.52620	0.18120	-0.13070	0.12160	-0.01529	0.03283	0.01479	0.03120	4324B2
22.205	75.595	0.50	1.70	9.137	0.681	-1.170	0.460	-0.112	-0.350	0.925	0.270	1.257	0.91370	0.06810	-0.11700	0.04600	-0.00035	0.00464	0.00212	0.00443	4325B2
24.510	75.595	0.55	1.70	10.307	0.380	-0.542	0.249	-0.005	-0.409	0.145	-0.219	0.569	1.03070	0.03800	-0.05420	0.02490	0.00000	0.00144	0.00062	0.00134	4326B2
0.000	66.695	0.00	1.50	-1.497	0.878	1.883	1.307	0.330	0.228	-0.271	-0.294	0.065	-0.14970	0.08780	0.18830	0.13070	0.00379	0.00771	0.01708	0.02094	4327B2
2.200	66.695	0.03	1.50	-1.588	0.831	1.951	1.520	0.232	0.169	-0.154	-0.427	0.411	-0.15880	0.08310	0.19510	0.15200	0.00293	0.00691	0.02310	0.02656	4328B2
4.500	66.700	0.10	1.50	-1.852	0.877	1.628	1.840	0.133	0.257	-0.040	-0.502	0.187	-0.18520	0.08770	0.16280	0.18400	0.00215	0.00769	0.03386	0.03770	4329B2
6.700	66.700	0.15	1.50	-1.619	1.163	1.325	1.938	0.036	0.249	0.222	-0.428	0.006	-0.16190	0.11630	0.13250	0.19380	0.00081	0.01353	0.03756	0.04432	4330B2
8.905	66.700	0.20	1.50	-1.548	1.123	1.201	2.085	-0.044	0.511	0.257	-0.411	-0.105	-0.15480	0.11230	0.12010	0.20850	-0.00103	0.01261	0.04347	0.04978	4331B2
11.100	66.700	0.25	1.50	-1.153	1.458	0.553	2.083	0.260	0.692	0.012	0.276	-0.298	-0.11530	0.14580	0.05530	0.20830	0.00790	0.02126	0.04339	0.05402	4332B2
13.295	66.700	0.30	1.50	-0.599	1.920	0.162	2.130	-0.541	0.525	-0.501	-0.132	-0.379	-0.05990	0.19200	0.01620	0.21300	-0.02212	0.03686	0.04537	0.06380	4333B2
15.610	66.695	0.35	1.50	1.491	2.404	-0.753	1.995	-0.713	-0.195	-0.966	0.455	-0.170	0.14910	0.24040	-0.07530	0.19950	-0.03420	0.05779	0.03980	0.06870	4334B2
17.800	66.700	0.40	1.50	3.440	2.389	-1.066	1.681	-0.753	-0.826	-0.056	0.852	0.753	0.34400	0.23890	-0.10660	0.16810	-0.03024	0.05707	0.02826	0.06679	4335B2
20.005	66.700	0.45	1.50	6.380	1.263	-1.512	0.755	-0.438	-0.869	1.368	-0.049	2.206	0.63800	0.12630	-0.15120	0.07550	-0.00418	0.01595	0.00570	0.01368	4336B2
22.195	66.700	0.50	1.50	8.591	0.765	1.257	0.602	-0.259	-0.502	1.099	0.014	0.982	0.85910	0.07650	-0.12570	0.06020	-0.00119	0.00585	0.00362	0.00655	4337B2
24.500	66.700	0.55	1.50	10.268	0.449	-0.592	0.302	-0.013	-0.276	0.320	-0.291	0.664	1.02680	0.04490	-0.05920	0.03020	-0.00002	0.00202	0.00091	0.00192	4338B2
0.010	53.295	0.00	1.20	-3.422	0.893	1.569	1.237	0.296	0.171	-0.346	-0.299	-0.036	-0.34220	0.08930	0.15690	0.12370	0.00327	0.00797	0.01530	0.01929	4339B2
0.000	44.500	0.00	1.00	-3.731	0.935	1.133	1.028	0.209	0.207	-0.220	-0.156	-0.148	-0.37310	0.09350	0.11330	0.10280	0.00201	0.00874	0.01057	0.01494	4340B2
0.000	35.595	0.00	0.80	-3.272	1.031	1.014	0.863	0.050	0.172	-0.171	-0.039	-0.412	-0.32720	0.10310	0.10140	0.08630	0.00044	0.01063	0.00745	0.01276	4341B2
0.000	26.700	0.00	0.60	-2.401	1.153	0.784	0.769	-0.053	0.088	-0.382	-0.009	-0.312	0.24010	0.11530	0.07840	0.07690	-0.00047	0.01329	0.00591	0.01256	4342B2
2.200	26.700	0.05	0.60	-2.341	1.163	0.883	0.839	-0.050	0.106	-0.357	-0.014	-0.393	-0.23410	0.11630	0.08830	0.08390	-0.00049	0.01353	0.00704	0.01380	4343B2
4.495	26.700	0.10	0.60	-2.211	1.180	0.940	0.849	-0.095	0.109	-0.399	0.016	-0.419	-0.22110	0.11800	0.09400	0.08490	0.00095	0.01392	0.00721	0.01417	4344B2
6.690	26.695	0.15	0.60	-2.087	1.155	1.001	0.860	-0.125	0.020	-0.434	0.101	-0.413	0.20870	0.11550	0.10010	0.08600	-0.00124	0.01334	0.00740	0.01407	4345B2
8.900	26.695	0.20	0.60	-2.151	1.095	1.025	0.842	-0.124	0.070	-0.414	0.001	-0.299	-0.21510	0.10950	0.10250	0.08420	-0.00114	0.01199	0.00709	0.01308	4346B2

r(mm)	x	r/d	x/d	U(m/s)	u'	V	V'	uv/u'v'	Su	Ku	Sv	Kv	U/Ua	u/Ua	V/Ua	v/Ua	uv/Ua^2	u^2/Ua^2	v^2/Ua^2	q/Ua^2	Tape ID
11 095	26 695	0.25	0.60	-2.135	1.076	0.910	0.842	-0.143	0.116	-0.281	0.030	-0.353	-0.21350	0.10760	0.09100	0.08420	-0.00130	0.01158	0.00709	0.01288	4347B2
13 295	26 695	0.30	0.60	-2.360	1.057	0.958	0.776	-0.141	0.081	-0.348	0.077	-0.360	-0.23600	0.10570	0.09580	0.07760	-0.00116	0.01117	0.00602	0.01161	4348B2
15 610	26 695	0.35	0.60	-2.590	1.013	0.796	0.712	-0.093	0.131	-0.308	0.167	-0.246	-0.25900	0.10130	0.07960	0.07120	-0.00067	0.01026	0.00507	0.01020	4349B2
17 800	26 695	0.40	0.60	-2.771	1.028	0.578	0.592	-0.057	0.162	-0.074	0.323	0.035	-0.27710	0.10280	0.05780	0.05920	-0.00035	0.01057	0.00350	0.00879	4350B2
20 000	26 695	0.45	0.60	-1.966	1.070	0.322	0.466	-0.097	0.262	-0.033	0.396	0.325	-0.19660	0.10700	0.03220	0.04660	-0.00048	0.01145	0.00217	0.00790	4351B2
22 195	26 695	0.50	0.60	2.908	0.822	-0.101	0.288	-0.364	-0.177	0.015	0.091	0.300	0.29080	0.08220	-0.01010	0.02880	-0.00086	0.00676	0.00083	0.00421	4352B2
24 490	26 695	0.55	0.60	9.071	0.615	-0.104	0.288	-0.413	0.045	-0.242	0.105	0.393	0.90710	0.06150	-0.01040	0.02880	-0.00073	0.00378	0.00083	0.00272	4353B2
-0.005	13.300	0.00	0.30	-1.144	1.086	0.211	0.610	-0.189	-0.334	-0.356	0.012	-0.024	-0.11440	0.10860	0.02110	0.06100	-0.00125	0.01179	0.00372	0.00962	4354B2
-0.010	4.500	0.00	0.10	-0.267	0.612	-0.702	0.672	-0.413	-0.460	-0.117	0.026	-0.431	-0.02670	0.06120	-0.07020	0.06720	-0.00170	0.00375	0.00452	0.00639	4355B2
4.510	4.495	0.10	0.10	-0.301	0.619	-0.586	0.656	-0.361	-0.508	-0.158	0.054	-0.127	-0.03010	0.06190	-0.05860	0.06560	-0.00147	0.00383	0.00430	0.00622	4356B2
8.905	4.495	0.20	0.10	-0.428	0.573	-0.405	0.633	-0.229	-0.410	-0.167	0.072	-0.120	-0.04280	0.05730	-0.04050	0.06330	-0.00083	0.00328	0.00401	0.00565	4357B2
13.310	4.495	0.30	0.10	-0.731	0.506	-0.188	0.516	0.130	-0.342	-0.032	0.128	-0.013	-0.07310	0.05060	-0.01880	0.05160	0.00034	0.00256	0.00266	0.00394	4358B2
17.795	4.495	0.40	0.10	-1.227	0.581	0.178	0.319	0.614	-0.007	-0.178	0.342	0.166	-0.12270	0.05810	0.01780	0.03190	0.00114	0.00338	0.00102	0.00271	4359B2
20.000	4.495	0.45	0.10	-1.176	0.494	0.379	0.174	0.508	0.132	-0.066	0.301	0.187	-0.11760	0.04940	0.03790	0.01740	0.00044	0.00244	0.00030	0.00152	4360B2
22.180	4.495	0.50	0.10	0.903	0.247	0.413	0.170	0.015	0.017	-0.070	0.307	0.167	0.09030	0.02470	0.04130	0.01700	0.00001	0.00061	0.00029	0.00059	4361B2
24.500	4.495	0.55	0.10	10.834	0.432	1.789	0.412	0.197	-0.679	0.524	0.098	0.779	1.08340	0.04320	0.17890	0.04120	0.00035	0.00187	0.00170	0.00263	4362B2
24.500	0.000	0.55	0.00	10.241	0.341	2.256	0.372	-0.128	-0.721	1.234	0.477	0.813	1.02410	0.03410	0.22560	0.03720	-0.00016	0.00116	0.00138	0.00197	4363B2

Filename: LB481 CSV Bluff Body : d = 44.45 mm, $\theta = 45^\circ$ Fuel : CH4 Fuel Flow = 197.5 slpm
 Date: 4/5/1990 Ua = 10 (m/s) BR = 25% $\phi = 0.8$ Air Flow = 2606 slpm

r(mm)	x	r/d	x/d	U(m/s)	u'	v	v'	uv/u'v'	Su	Ku	Sv	Kv	U/Ua	u'/Ua	V/Ua	v'/Ua	uv/Ua^2	u^2/Ua^2	v^2/Ua^2	q/Ua^2	Tape ID
0.000	177.805	0.00	4.00	30.850	0.900	0.683	0.804	0.164	0.064	-0.135	-0.320	-0.037	3.08500	0.09000	0.06830	0.08040	0.00119	0.00810	0.00646	0.01051	4364B2
0.005	155.595	0.00	3.50	26.441	0.841	0.652	0.872	0.122	0.081	-0.124	-0.374	0.149	2.64410	0.08410	0.06520	0.08720	0.00089	0.00707	0.00760	0.01114	4365B2
0.010	133.395	0.00	3.00	21.749	0.762	0.480	0.916	0.016	0.094	0.052	-0.305	-0.204	2.17490	0.07620	0.04800	0.09160	0.00011	0.00581	0.00839	0.01129	4366B2
0.005	111.095	0.00	2.50	16.556	0.620	0.668	0.921	0.079	0.047	-0.137	-0.252	0.158	1.65560	0.06200	0.06680	0.09210	0.00045	0.00384	0.00848	0.01040	4367B2
0.005	102.205	0.00	2.30	14.553	0.720	0.695	0.998	0.040	-0.005	0.741	-0.293	0.313	1.45530	0.07200	0.06950	0.09980	0.00029	0.00518	0.00996	0.01255	4368B2
0.005	88.900	0.00	2.00	11.045	0.573	0.702	1.082	0.121	0.003	-0.145	-0.242	0.332	1.10450	0.05730	0.07020	0.10820	0.00075	0.00328	0.01171	0.01335	4369B2
0.005	75.595	0.00	1.70	7.444	0.569	0.840	1.218	0.180	0.168	0.146	-0.108	0.507	0.74440	0.05690	0.08400	0.12180	0.00125	0.00324	0.01484	0.01645	4370B2
0.005	66.700	0.00	1.50	4.732	0.623	0.921	1.486	0.182	0.149	-0.014	-0.059	0.443	0.47320	0.06230	0.09210	0.14860	0.00168	0.00388	0.02208	0.02402	4371B2
4.510	66.695	0.10	1.50	4.993	0.884	-0.863	1.749	-0.600	0.243	-0.218	0.127	0.307	0.49930	0.08840	-0.08630	0.17490	-0.00928	0.00781	0.03059	0.03450	4372B2
8.895	66.700	0.20	1.50	5.545	1.282	-0.637	2.256	-0.719	-0.252	-0.486	1.100	1.016	0.55450	0.12820	-0.06370	0.22560	-0.02079	0.01644	0.05090	0.05911	4374B2
13.295	66.700	0.30	1.50	7.784	1.100	-1.691	0.962	-0.634	-1.247	1.755	1.192	4.761	0.77840	0.11000	-0.16910	0.09620	-0.00671	0.01210	0.00925	0.01530	4375B2
17.800	66.700	0.40	1.50	9.638	0.673	-1.890	0.562	-0.500	-0.891	2.350	0.799	4.031	0.96380	0.06730	-0.18900	0.05620	-0.00189	0.00453	0.00316	0.00542	4376B2
22.205	66.700	0.50	1.50	10.842	0.467	-1.988	0.307	-0.014	0.076	0.168	-0.198	0.817	1.08420	0.04670	-0.19880	0.03070	-0.00002	0.00218	0.00094	0.00203	4377B2
24.505	66.700	0.55	1.50	10.983	0.365	-1.369	0.545	-0.282	-0.021	0.034	0.258	-1.207	1.09830	0.03650	-0.13690	0.05450	-0.00056	0.00133	0.00297	0.00364	4378B2
0.010	53.300	0.00	1.20	0.219	0.686	1.909	1.721	0.259	0.093	-0.040	-0.271	0.379	-0.02190	0.06860	0.19090	0.17210	0.00306	0.00471	0.02962	0.03197	4373B2
2.200	53.300	0.05	1.20	-0.337	0.673	2.795	1.663	0.187	0.208	-0.013	-0.369	0.303	-0.03370	0.06730	0.27950	0.16630	0.00209	0.00453	0.02765	0.02992	4379B2
4.500	53.300	0.10	1.20	-0.405	0.829	2.321	2.498	-0.251	0.442	0.228	-0.755	0.392	-0.04050	0.08290	0.23210	0.24980	0.00520	0.00687	0.06240	0.06584	4380B2
6.705	53.300	0.15	1.20	-0.268	0.905	3.041	2.316	0.209	0.350	0.252	-0.748	0.402	-0.02680	0.09050	0.30410	0.23160	0.00438	0.00819	0.05364	0.05773	4381B2
8.900	53.295	0.20	1.20	0.264	1.509	1.736	3.034	-0.658	0.694	-0.124	-0.458	-0.755	0.02640	0.15090	0.17360	0.30340	0.03013	0.02277	0.09205	0.10344	4382B2
11.100	53.295	0.25	1.20	1.454	2.066	0.201	3.038	-0.792	0.114	-0.954	0.260	1.100	0.14540	0.20660	0.02010	0.30360	-0.04971	0.04268	0.09229	0.11354	4383B2
13.290	53.295	0.30	1.20	3.544	2.052	-1.499	2.159	-0.830	0.930	0.267	1.367	1.326	0.35440	0.20520	-0.14990	0.21590	-0.03677	0.04211	0.04661	0.06767	4384B2
15.605	53.295	0.35	1.20	5.789	1.288	-2.301	0.910	-0.612	-1.182	2.173	0.960	3.560	0.57890	0.12880	-0.23010	0.09100	0.00717	0.01659	0.00829	0.01658	4385B2
17.805	53.295	0.40	1.20	7.202	1.337	-2.096	1.074	-0.677	-1.400	2.208	1.003	2.173	0.72020	0.13370	-0.20960	0.10740	-0.00972	0.01788	0.01153	0.02047	4386B2
19.995	53.295	0.45	1.20	8.804	0.834	-2.186	0.786	-0.460	0.855	1.725	0.318	1.275	0.88040	0.08340	-0.21860	0.07860	0.00302	0.00696	0.00618	0.00966	4387B2
22.195	53.295	0.50	1.20	9.813	0.636	-1.972	0.426	-0.201	0.250	0.407	0.340	2.235	0.98130	0.06360	-0.19720	0.04260	-0.00054	0.00404	0.00181	0.00384	4388B2
24.505	53.295	0.55	1.20	10.533	0.455	-1.612	0.415	0.134	0.414	0.789	1.115	0.953	1.05330	0.04550	-0.16120	0.04150	0.00025	0.00207	0.00172	0.00276	4389B2
0.000	44.495	0.00	1.00	-3.161	0.658	2.283	1.350	0.420	0.186	-0.117	-0.320	-0.107	-0.31610	0.06580	0.22830	0.13500	0.00373	0.00433	0.01823	0.02039	4390B2
-0.010	35.595	0.00	0.80	-4.703	0.804	2.197	1.163	0.404	0.118	-0.231	-0.350	-0.063	-0.47030	0.08040	0.21970	0.11630	0.00378	0.00646	0.01353	0.01676	4391B2
-0.010	26.695	0.00	0.60	-4.810	0.901	1.947	0.973	0.295	0.204	-0.200	-0.503	0.009	-0.48100	0.09010	0.19470	0.09730	0.00259	0.00812	0.00947	0.01353	4392B2
2.200	26.700	0.05	0.60	-4.870	0.859	2.241	1.018	0.211	0.252	-0.128	-0.476	-0.118	-0.48700	0.08590	0.22410	0.10180	0.00185	0.00738	0.01036	0.01405	4393B2
4.495	26.700	0.10	0.60	-4.624	0.972	2.374	1.138	0.004	0.377	-0.092	-0.337	-0.277	-0.46240	0.09720	0.23740	0.11380	0.00004	0.00945	0.01295	0.01767	4394B2
6.705	26.695	0.15	0.60	-4.537	0.899	2.808	1.036	0.113	0.425	-0.068	-0.449	0.004	-0.45370	0.08990	0.28080	0.10360	0.00105	0.00808	0.01073	0.01477	4395B2
8.890	26.695	0.20	0.60	-4.324	1.016	2.850	1.126	0.060	0.464	0.124	-0.392	-0.142	-0.43240	0.10160	0.28500	0.11260	0.00069	0.01032	0.01268	0.01784	4396B2

r(mm)	x	r/d	x/d	U(m/s)	u'	V	V'	uv/u'v'	Su	Ku	Sv	Kv	U/Ua	u/Ua	V/Ua	v/Ua	uv/Ua^2	u^2/Ua^2	v^2/Ua^2	q/Ua^2	Type ID
11.110	26.700	0.25	0.60	-4.130	1.073	2.752	1.167	-0.018	0.385	-0.084	-0.422	-0.212	-0.41300	0.10730	0.27520	0.11670	-0.00023	0.01151	0.01362	0.01938	4397B2
13.290	26.695	0.30	0.60	-3.873	1.144	2.592	1.147	-0.098	0.331	0.052	-0.349	-0.200	-0.38730	0.11440	0.25920	0.11470	-0.00129	0.01309	0.01316	0.01970	4398B2
15.600	26.700	0.35	0.60	-3.414	1.152	2.277	1.264	-0.163	0.289	0.031	-0.271	-0.294	-0.34140	0.11520	0.22770	0.12640	-0.00237	0.01327	0.01598	0.02261	4399B2
17.790	26.700	0.40	0.60	-2.298	1.530	1.818	1.507	-0.178	0.650	0.493	-0.006	-0.491	-0.22980	0.15300	0.18180	0.15070	0.00410	0.02341	0.02271	0.03441	4400B2
20.005	26.700	0.45	0.60	2.221	1.892	0.321	1.412	-0.510	-0.559	-0.398	0.502	0.281	0.22210	0.18920	0.03210	0.14120	-0.01362	0.03580	0.01994	0.03784	4401B2
22.210	26.700	0.50	0.60	7.268	1.034	-0.741	0.792	-0.487	-0.455	0.129	0.183	0.313	0.72680	0.10340	0.07410	0.07920	-0.00399	0.01069	0.00627	0.01162	4402B2
24.500	26.700	0.55	0.60	10.696	0.577	-1.021	0.380	0.016	0.123	0.077	0.338	-0.152	1.06960	0.05770	-0.10210	0.03800	0.00004	0.00333	0.00144	0.00311	4403B2
-0.015	13.295	0.00	0.30	-3.207	1.169	1.305	0.782	0.124	0.318	-0.315	-0.195	-0.399	-0.32070	0.11690	0.13050	0.07820	0.00113	0.01367	0.00612	0.01295	4404B2
0.005	4.495	0.00	0.10	-1.380	0.840	-0.080	0.734	-0.318	0.004	-0.281	-0.351	0.025	-0.13800	0.08400	-0.00800	0.07340	-0.00196	0.00706	0.00539	0.00892	4405B2
4.495	4.500	0.10	0.10	-1.573	0.805	0.261	0.733	-0.274	0.167	-0.328	-0.167	0.022	-0.15730	0.08050	0.02610	0.07330	-0.00162	0.00648	0.00537	0.00861	4406B2
8.905	4.495	0.20	0.10	-1.490	0.777	0.397	0.733	-0.221	0.334	-0.281	-0.052	-0.205	-0.14900	0.07770	0.03970	0.07330	-0.00126	0.00604	0.00537	0.00839	4407B2
13.300	4.495	0.30	0.10	-1.452	0.711	0.459	0.691	-0.083	0.216	-0.220	0.185	-0.055	-0.14520	0.07110	0.04590	0.06910	-0.00041	0.00506	0.00477	0.00730	4408B2
17.790	4.500	0.40	0.10	-0.900	0.800	0.591	0.538	0.506	-0.007	-0.395	0.570	-0.158	-0.09000	0.08000	0.05910	0.05380	0.00218	0.00640	0.00289	0.00609	4409B2
20.000	4.505	0.45	0.10	-1.752	0.639	0.473	0.252	0.417	0.419	-0.169	0.487	0.234	-0.17520	0.06390	0.04730	0.02520	0.00067	0.00408	0.00064	0.00268	4413B2
22.200	4.500	0.50	0.10	1.512	0.377	0.287	0.209	-0.181	0.004	0.162	0.076	0.131	0.15120	0.03770	0.02870	0.02090	-0.00014	0.00142	0.00044	0.00115	4412B2
24.505	4.500	0.55	0.10	10.851	0.365	1.826	0.331	-0.056	-0.754	0.714	0.192	0.744	1.08510	0.03650	0.18260	0.03310	-0.00007	0.00133	0.00110	0.00176	4410B2
24.505	0.000	0.55	0.00	10.240	0.267	2.363	0.298	-0.109	-0.257	0.468	0.343	0.343	1.02400	0.02670	0.23630	0.02980	-0.00009	0.00071	0.00089	0.00124	4411B2

Filename: LB4C5.CSV
Date: 4/4/1990

Bluff Body: d = 44.45 mm, $\theta = 45^\circ$
Ua = 15 (m/s) BR = 25%

Fuel: none
 $\phi = 0$
Fuel Flow = 0 slpm
Air Flow = 4206 slpm

r(mm)	x	r/d	x/d	U(m/s)	u'	V	V'	uv/u'v'	Su	Ku	Sv	Kv	U/Ua	u'/Ua	V/Ua	v'/Ua	uv/Ua^2	u^2/Ua^2	v^2/Ua^2	q/Ua^2	Tape ID
-0.005	177.805	0.00	4.00	9.724	1.548	0.105	2.260	-0.073	-0.046	-0.029	-0.027	-0.675	0.64827	0.10320	0.00700	0.15067	-0.00114	0.01065	0.02270	0.02803	3831B2
0.000	155.595	0.00	3.50	9.275	1.692	0.104	2.581	-0.071	-0.047	-0.116	-0.008	-0.636	0.61833	0.11280	0.00693	0.17207	-0.00138	0.01272	0.02961	0.03597	3832B2
-8.920	133.405	-0.20	3.00	8.731	1.977	0.445	2.705	0.260	-0.086	-0.300	-0.401	-0.377	0.58207	0.13180	0.02967	0.18033	0.00618	0.01737	0.03252	0.04121	3833B2
-4.500	133.405	-0.10	3.00	8.599	1.876	0.203	2.889	0.124	-0.039	-0.142	-0.214	-0.627	0.57327	0.12507	0.01353	0.19260	0.00299	0.01564	0.03709	0.04492	3834B2
0.005	133.405	0.00	3.00	8.580	1.815	0.289	2.921	-0.065	-0.123	-0.071	0.112	-0.669	0.57200	0.12100	0.01927	0.19473	-0.00153	0.01464	0.03792	0.04524	3835B2
4.505	133.405	0.10	3.00	8.741	1.921	0.081	2.987	-0.240	-0.100	-0.197	0.147	-0.768	0.58273	0.12807	0.00540	0.19913	-0.00612	0.01640	0.03965	0.04785	3836B2
8.910	133.405	0.20	3.00	9.175	2.122	-0.241	2.868	-0.442	-0.169	-0.371	0.415	0.536	0.61167	0.14147	-0.01607	0.19120	-0.01196	0.02001	0.03656	0.04556	3837B2
13.290	133.405	0.30	3.00	9.646	2.261	-0.229	2.679	-0.497	-0.295	-0.471	0.536	-0.355	0.64307	0.15073	-0.01527	0.17860	-0.01338	0.02272	0.03190	0.04326	3838B2
17.805	133.405	0.40	3.00	9.499	2.527	0.521	2.784	-0.485	-0.010	-0.592	0.195	-0.366	0.63327	0.16847	0.03473	0.18560	-0.01516	0.02838	0.03445	0.04864	3839B2
22.200	133.405	0.50	3.00	10.116	2.798	0.556	2.697	-0.524	-0.049	-0.673	0.254	-0.383	0.67440	0.18653	0.03707	0.17980	-0.01757	0.03479	0.03233	0.04973	3840B2
24.500	133.405	0.55	3.00	11.127	2.863	0.197	2.514	-0.542	-0.396	-0.710	0.444	-0.175	0.74180	0.19087	0.01313	0.16760	-0.01734	0.03643	0.02809	0.04630	3841B2
0.000	111.100	0.00	2.50	7.464	1.998	0.261	3.528	-0.059	-0.020	-0.112	-0.063	-0.750	0.49760	0.13320	0.01740	0.23520	-0.00185	0.01774	0.05532	0.06419	3842B2
-0.005	102.205	0.00	2.30	6.880	2.073	0.527	3.851	-0.091	-0.073	-0.030	-0.112	-0.741	0.45867	0.13820	0.03513	0.25673	-0.00323	0.01910	0.06591	0.07546	3843B2
8.915	88.895	0.20	2.00	5.737	2.675	1.712	3.526	0.370	-0.146	-0.251	-0.463	-0.233	0.38247	0.17833	0.11413	0.23507	0.01551	0.03180	0.05526	0.07116	3844B2
4.500	88.895	0.10	2.00	5.561	2.369	1.330	4.155	0.148	-0.103	-0.042	-0.413	-0.509	0.37073	0.15793	0.08867	0.27700	0.00647	0.02494	0.07673	0.08920	3845B2
0.005	88.895	0.00	2.00	5.477	2.390	0.293	4.279	-0.103	-0.083	-0.120	-0.076	-0.734	0.36513	0.15933	0.01953	0.28527	-0.00468	0.02539	0.08138	0.09407	3846B2
4.500	88.895	0.10	2.00	5.455	2.432	-0.011	4.219	-0.290	-0.083	-0.218	0.124	-0.656	0.36367	0.16213	0.00073	0.28127	-0.01322	0.02629	0.07911	0.09225	3847B2
8.900	88.895	0.20	2.00	6.501	2.629	1.022	3.944	-0.492	-0.200	-0.391	0.573	-0.467	0.43340	0.17527	-0.06813	0.26293	-0.02267	0.03072	0.06913	0.08449	3848B2
13.295	88.895	0.30	2.00	7.715	2.873	-1.382	3.399	-0.591	-0.391	-0.524	0.831	0.077	0.51433	0.19153	0.09213	0.22660	-0.02565	0.03669	0.05135	0.06969	3849B2
17.800	88.895	0.40	2.00	9.365	2.780	-1.689	2.576	-0.630	-0.914	0.144	1.070	1.149	0.62433	0.18533	-0.11260	0.17173	-0.02005	0.03435	0.02949	0.04667	3850B2
22.200	88.895	0.50	2.00	11.055	2.439	-1.475	2.096	-0.526	-1.031	0.774	1.042	1.852	0.73700	0.16260	-0.09833	0.13973	-0.01195	0.02644	0.01953	0.03274	3851B2
24.495	88.895	0.55	2.00	11.972	2.208	-1.290	1.932	-0.502	-1.279	1.835	0.915	1.976	0.79813	0.14720	-0.08600	0.12880	-0.00952	0.02167	0.01659	0.02742	3852B2
8.910	75.600	-0.20	1.70	4.318	2.873	2.818	4.231	0.374	-0.260	-0.081	-0.860	0.328	0.28787	0.19153	0.18787	0.28207	0.02021	0.03669	0.07956	0.09790	3853B2
-4.490	75.600	-0.10	1.70	3.129	2.892	1.937	4.651	0.169	-0.232	-0.014	-0.553	-0.461	0.20860	0.19280	0.12913	0.31007	0.01010	0.03717	0.09614	0.11473	3854B2
0.005	75.600	0.00	1.70	2.507	2.897	0.929	4.884	-0.014	0.173	-0.208	-0.194	-0.766	0.16713	0.19313	0.06193	0.32560	-0.00088	0.03730	0.10602	0.12467	3855B2
2.205	75.600	0.05	1.70	2.797	2.929	0.629	5.043	-0.131	-0.179	-0.062	0.096	-0.857	0.18647	0.19527	0.04193	0.33620	-0.00860	0.03813	0.11303	0.13209	3856B2
4.500	75.600	0.10	1.70	3.169	3.016	0.095	5.100	-0.297	-0.222	-0.047	0.078	-0.911	0.21127	0.20107	0.00633	0.34000	-0.02030	0.04043	0.11560	0.13581	3857B2
6.710	75.600	0.15	1.70	3.102	3.145	-0.648	4.512	-0.416	-0.193	-0.158	0.172	-0.810	0.20680	0.20967	0.04320	0.30080	-0.02624	0.04396	0.09048	0.11246	3858B2
8.895	75.600	0.20	1.70	3.360	3.109	-1.066	3.975	-0.462	-0.087	-0.126	0.218	-0.563	0.22400	0.20727	-0.07107	0.26500	-0.02538	0.04296	0.07023	0.09170	3859B2
11.100	75.600	0.25	1.70	4.784	3.251	-1.634	3.942	-0.572	-0.159	0.443	0.595	-0.293	0.31893	0.21673	0.10893	0.26280	-0.03258	0.04697	0.06906	0.09255	3860B2

r(mm)	x	r/d	x/d	U(m/s)	U'	V	V'	uv/U'	Su	Ku	Sv	Kv	U/Ua	u/Ua	V/Ua	v/Ua	uv/Ua	u ² /Ua ²	v ² /Ua ²	q/Ua ²	Tape ID
13.305	75.600	0.30	1.70	5.004	3.414	1.852	3.697	-0.600	-0.285	-0.344	0.551	-0.233	0.33360	0.22760	-0.12347	0.24647	-0.03366	0.05180	0.06075	0.08665	3861B2
15.600	75.600	0.35	1.70	7.053	3.306	2.197	3.197	-0.624	-0.582	-0.194	0.856	0.281	0.47020	0.22040	-0.14647	0.21313	-0.02931	0.04858	0.04543	0.06971	3862B2
17.795	75.600	0.40	1.70	8.158	3.249	2.134	2.942	-0.637	-0.730	-0.057	0.899	0.666	0.54387	0.21660	-0.14227	0.19613	-0.02706	0.04692	0.03847	0.06193	3863B2
19.995	75.600	0.45	1.70	10.280	2.414	2.623	1.948	0.516	-1.137	1.198	0.958	1.954	0.68533	0.16093	-0.17487	0.12987	-0.01078	0.02590	0.01687	0.02982	3864B2
22.195	75.600	0.50	1.70	11.471	2.070	2.322	1.733	-0.466	-1.230	1.789	0.930	2.036	0.76473	0.13800	-0.15480	0.11553	-0.00743	0.01904	0.01335	0.02287	3865B2
24.505	75.600	0.55	1.70	12.310	1.897	1.904	1.598	-0.424	-1.448	2.729	0.870	2.024	0.82067	0.12647	-0.12693	0.10653	-0.00571	0.01599	0.01135	0.01935	3866B2
17.795	66.695	-0.40	1.50	7.383	2.874	3.627	2.621	0.439	-0.701	0.301	-0.896	1.338	0.49220	0.19160	0.24180	0.17473	0.01470	0.03671	0.03053	0.04889	3867B2
13.295	66.695	-0.30	1.50	4.385	3.255	3.625	3.535	0.467	-0.554	0.046	-0.915	0.756	0.29233	0.21700	0.24167	0.23567	0.02388	0.04709	0.05554	0.07908	3868B2
8.890	66.695	-0.20	1.50	1.763	3.493	2.969	4.457	0.404	-0.221	-0.467	-0.765	0.041	0.11753	0.23287	0.19793	0.29713	0.02795	0.05423	0.08829	0.11540	3869B2
4.495	66.695	-0.10	1.50	0.107	3.353	1.787	4.839	0.200	-0.002	-0.353	-0.416	-0.473	0.00713	0.22353	0.11913	0.32260	0.01442	0.04997	0.10407	0.12905	3870B2
0.000	66.695	0.00	1.50	-0.262	3.052	1.285	4.933	0.052	0.080	-0.537	-0.244	-0.659	-0.01747	0.20347	0.08567	0.32887	0.00348	0.04140	0.10815	0.12885	3871B2
2.190	66.695	0.05	1.50	-0.092	3.245	1.264	5.220	-0.113	0.054	-0.321	-0.285	-0.676	-0.00613	0.21633	0.08427	0.34800	-0.00851	0.04680	0.12110	0.14450	3872B2
4.490	66.695	0.10	1.50	0.165	3.386	0.875	5.071	-0.187	0.100	-0.550	-0.248	-0.714	-0.01100	0.22573	0.05833	0.33807	-0.01427	0.05096	0.11429	0.13977	3873B2
6.690	66.695	0.15	1.50	0.479	3.509	-0.197	4.998	-0.318	0.027	-0.478	0.049	-0.753	0.03193	0.23393	-0.01313	0.33320	-0.02479	0.05472	0.11102	0.13838	3874B2
8.900	66.695	0.20	1.50	1.616	3.535	-0.670	4.930	-0.461	0.063	-0.452	0.232	-0.829	0.10773	0.23567	-0.04467	0.32867	-0.03571	0.05554	0.10802	0.13579	3875B2
11.105	66.695	0.25	1.50	2.582	3.809	-1.417	4.629	-0.573	-0.148	-0.561	0.428	-0.695	0.17213	0.25393	-0.09447	0.30860	-0.04490	0.06448	0.09523	0.12748	3876B2
13.300	66.695	0.30	1.50	4.423	3.779	-2.152	4.290	-0.629	-0.403	-0.442	0.688	-0.317	0.29487	0.25193	-0.14347	0.28600	-0.04532	0.06347	0.08180	0.11353	3877B2
15.590	66.695	0.35	1.50	6.028	3.671	-2.757	3.654	-0.637	-0.619	-0.049	1.041	0.622	0.40187	0.24473	-0.18380	0.24360	-0.03798	0.05989	0.05934	0.08929	3878B2
17.795	66.695	0.40	1.50	7.408	3.428	-2.480	3.468	-0.639	-0.726	0.028	0.924	0.460	0.49387	0.22853	-0.16533	0.23120	-0.03376	0.06223	0.05345	0.07957	3879B2
19.995	66.695	0.45	1.50	9.364	3.015	2.639	2.696	-0.611	-0.935	0.613	1.090	1.278	0.62427	0.20100	-0.17593	0.17973	-0.02207	0.04040	0.03230	0.05250	3880B2
22.210	66.695	0.50	1.50	11.326	2.225	2.849	1.837	-0.466	-1.146	1.541	0.860	1.554	0.75507	0.14833	-0.18993	0.12247	-0.00847	0.02200	0.01500	0.02600	3881B2
24.505	66.695	0.55	1.50	12.761	1.667	2.357	1.463	-0.400	-1.197	2.187	0.828	1.699	0.85073	0.11113	-0.15713	0.09753	-0.00434	0.01235	0.00951	0.01569	3882B2
8.905	53.305	-0.20	1.20	-3.245	3.331	1.985	4.351	0.485	0.249	-0.330	-0.236	-0.419	-0.21633	0.22207	0.13233	0.29007	0.03124	0.04931	0.08414	0.10880	3883B2
4.490	53.305	-0.10	1.20	-4.560	2.703	1.105	4.031	0.265	0.341	0.000	-0.053	-0.236	-0.30400	0.18020	0.07367	0.26873	0.01283	0.03247	0.07222	0.08845	3884B2
0.000	53.305	0.00	1.20	-4.839	2.501	0.577	3.890	0.145	0.266	0.051	0.050	-0.193	-0.32260	0.16673	0.03847	0.25933	0.00627	0.02780	0.06725	0.08115	3885B2
2.200	53.305	0.05	1.20	-4.996	2.550	0.660	4.033	0.002	0.347	0.115	-0.127	-0.252	-0.33307	0.17000	0.04400	0.26887	0.00009	0.02890	0.07229	0.08674	3886B2
4.500	53.305	0.10	1.20	-4.436	2.569	0.357	4.196	-0.093	0.323	0.082	-0.150	-0.365	-0.29573	0.17127	0.02380	0.27973	-0.00446	0.02933	0.07825	0.09292	3887B2
6.695	53.305	0.15	1.20	-4.420	2.811	0.225	4.187	-0.162	0.337	0.045	-0.106	-0.323	-0.29467	0.18740	0.01500	0.27913	-0.00847	0.03512	0.07792	0.09547	3888B2
8.905	53.305	0.20	1.20	-3.824	3.258	-0.171	4.199	-0.306	0.402	0.015	-0.189	-0.230	-0.25493	0.21720	-0.01140	0.27993	-0.01861	0.04718	0.07836	0.10195	3889B2
11.105	53.305	0.25	1.20	-2.570	3.770	-0.126	4.549	-0.444	0.404	-0.237	-0.147	-0.578	-0.17133	0.25133	-0.00840	0.30327	-0.03384	0.06317	0.09197	0.12355	3890B2
13.295	53.305	0.30	1.20	-1.173	4.485	-0.934	4.529	-0.534	0.204	-0.760	0.042	-0.645	-0.07820	0.29900	-0.06227	0.30193	-0.04821	0.08940	0.09116	0.13586	3891B2
15.590	53.305	0.35	1.20	1.526	4.703	1.742	4.510	-0.649	-0.177	-0.911	0.364	-0.639	0.10173	0.31353	-0.11613	0.30067	-0.06118	0.09830	0.09040	0.13955	3892B2
17.815	53.305	0.40	1.20	4.695	4.531	2.109	4.168	-0.681	-0.592	-0.195	0.559	-0.323	0.31300	0.30207	-0.14060	0.27787	-0.05716	0.09124	0.07721	0.12283	3893B2
20.005	53.305	0.45	1.20	8.436	3.286	-3.379	2.907	-0.606	-0.775	0.441	0.950	0.810	0.56240	0.21907	-0.22527	0.19380	-0.02573	0.04799	0.03756	0.06155	3894B2
22.190	53.305	0.50	1.20	10.508	2.904	-2.870	2.565	-0.550	-0.844	0.543	0.742	0.544	0.70053	0.19360	-0.19133	0.17100	-0.01821	0.03748	0.02924	0.04798	3895B2
24.495	53.305	0.55	1.20	13.094	1.941	-2.841	1.723	-0.419	-0.924	1.212	0.683	0.977	0.87293	0.12940	-0.18940	0.11487	-0.00623	0.01674	0.01319	0.02157	3896B2

r(mm)	x	r/d	x/d	U(m/s)	u'	V	v'	uv/u'v'	Su	Ku	Sv	Kv	U/Ua	u'/Ua	V/Ua	v'/Ua	uv/Ua ²	u ² /Ua ²	v ² /Ua ²	q/Ua ²	Tap ID
0.000	26.695	0.00	0.60	-6.148	2.274	0.203	2.489	0.061	0.154	-0.159	-0.033	-0.151	-0.0987	0.15160	0.01353	0.16593	0.00153	0.02298	0.02753	0.03903	3929B2
2.195	26.695	0.05	0.60	-6.159	2.371	0.596	2.674	0.002	0.160	0.021	-0.059	-0.256	-0.41060	0.15807	0.03973	0.17827	0.00006	0.02499	0.03178	0.04427	3930B2
4.505	26.695	0.10	0.60	-5.704	2.521	0.762	2.547	-0.132	0.224	-0.112	0.044	-0.308	-0.38027	0.16807	0.05080	0.16980	-0.00377	0.02825	0.02883	0.04296	3931B2
6.705	26.695	0.15	0.60	-5.921	2.390	1.298	2.513	-0.039	0.154	-0.083	-0.049	-0.166	-0.39473	0.15933	0.06553	0.16753	-0.00104	0.02539	0.02807	0.04076	3932B2
8.900	26.695	0.20	0.60	-5.418	2.553	1.418	2.579	-0.131	0.241	0.055	-0.073	-0.221	-0.36120	0.17020	0.09453	0.17193	-0.00383	0.02897	0.02956	0.04405	3933B2
11.095	26.695	0.25	0.60	-4.473	2.827	1.353	2.606	-0.172	0.195	-0.081	-0.105	-0.268	-0.29820	0.18847	0.09020	0.17373	-0.00563	0.03552	0.03018	0.04794	3934B2
13.305	26.695	0.30	0.60	-4.150	2.945	1.772	2.497	-0.217	0.136	-0.125	-0.102	-0.121	-0.27667	0.19633	0.11813	0.16647	-0.00709	0.03855	0.02771	0.04698	3935B2
15.595	26.695	0.35	0.60	-3.700	3.308	2.352	2.518	-0.257	0.377	-0.332	-0.132	-0.235	-0.24667	0.22053	0.15680	0.16787	-0.00951	0.04863	0.02818	0.05250	3936B2
17.790	26.695	0.40	0.60	-1.354	3.604	1.787	2.377	-0.325	0.088	-0.664	0.115	-0.124	-0.09027	0.24027	0.1913	0.15847	-0.01237	0.05773	0.02511	0.05398	3937B2
20.000	26.695	0.45	0.60	1.393	3.741	1.266	2.824	-0.481	-0.382	-0.330	-0.134	0.236	0.09287	0.24940	0.08440	0.18827	-0.02258	0.06220	0.03544	0.06654	3938B2
22.200	26.695	0.50	0.60	5.818	3.207	0.124	2.743	-0.527	-0.132	0.079	-0.155	-0.030	0.38787	0.21380	0.00827	0.18287	-0.02060	0.04571	0.03344	0.06630	3939B2
24.500	26.695	0.55	0.60	11.911	3.086	-0.592	2.471	-0.538	-0.543	-0.122	0.440	-0.095	0.79407	0.20573	-0.03947	0.16473	-0.01823	0.04233	0.02714	0.04830	3940B2
-8.910	13.300	-0.20	0.30	-3.165	2.606	-0.490	1.901	0.176	0.263	-0.463	-0.050	-0.216	-0.21100	0.17373	-0.03267	0.12673	0.00388	0.03018	0.01606	0.03115	3941B2
-4.500	13.300	-0.10	0.30	-3.671	2.390	-0.348	1.874	0.121	0.196	-0.174	0.053	-0.160	-0.24473	0.15933	-0.02320	0.12493	0.00241	0.02539	0.01561	0.02830	3942B2
0.000	13.300	0.00	0.30	-3.772	2.416	0.255	1.794	0.091	0.272	-0.167	0.009	0.004	-0.25147	0.16107	0.01700	0.11960	0.00175	0.02594	0.01430	0.02728	3943B2
2.190	13.300	0.05	0.30	-3.889	2.448	0.539	1.819	-0.002	0.314	-0.184	-0.076	-0.093	-0.25927	0.16320	0.03593	0.12127	-0.00004	0.02663	0.01471	0.02802	3944B2
4.500	13.300	0.10	0.30	-3.532	2.543	0.869	1.792	0.025	0.180	-0.370	0.045	-0.133	-0.23547	0.16953	0.05793	0.11947	0.00051	0.02874	0.01427	0.02864	3945B2
6.695	13.300	0.15	0.30	-3.069	2.456	1.066	1.839	-0.020	0.140	-0.385	0.050	-0.222	-0.20460	0.16373	0.07107	0.12260	-0.00040	0.02681	0.01503	0.02844	3946B2
8.900	13.300	0.20	0.30	-2.437	2.420	1.174	1.796	-0.065	-0.123	-0.490	0.060	-0.171	-0.16247	0.16133	0.07827	0.11973	-0.00126	0.02603	0.01434	0.02735	3947B2
11.095	13.300	0.25	0.30	-2.484	2.574	1.355	1.768	-0.094	0.029	-0.572	0.027	-0.146	-0.16560	0.17160	0.09033	0.11787	-0.00190	0.02945	0.01389	0.02862	3948B2
13.310	13.300	0.30	0.30	-2.299	2.444	1.536	1.731	-0.128	0.106	-0.498	0.073	-0.184	-0.15327	0.16293	0.10240	0.11540	-0.00241	0.02655	0.01332	0.02659	3949B2
15.595	13.295	0.35	0.30	-1.615	2.563	1.540	1.639	-0.177	-0.042	-0.653	0.104	-0.174	-0.10767	0.17087	0.10267	0.10927	-0.00330	0.02920	0.01194	0.02654	3950B2
17.805	13.295	0.40	0.30	-1.064	2.652	1.658	1.594	-0.197	-0.088	-0.703	0.189	-0.042	-0.07093	0.17893	0.11053	0.10627	-0.00370	0.03126	0.01129	0.02692	3951B2
19.995	13.295	0.45	0.30	-0.526	2.849	1.438	1.465	-0.241	-0.216	-0.722	0.266	0.047	-0.03507	0.18993	0.09587	0.09767	0.00447	0.03607	0.00954	0.02758	3952B2
22.200	13.295	0.50	0.30	2.490	2.997	0.850	2.340	-0.499	-0.160	-0.164	-0.453	0.299	0.16500	0.19980	0.05667	0.15600	-0.01555	0.03992	0.02434	0.04430	3953B2
24.510	13.295	0.55	0.30	13.555	2.512	0.624	2.126	-0.508	-0.847	0.655	0.572	0.327	0.90367	0.16747	0.04160	0.14173	-0.01206	0.02805	0.02009	0.03411	3954B2
-8.895	4.500	-0.20	0.10	-0.993	1.924	-0.716	1.729	-0.021	-0.307	-0.287	-0.058	-0.181	-0.06620	0.12827	-0.04773	0.11527	-0.00031	0.01645	0.01329	0.02151	3955B2
-4.500	4.500	-0.10	0.10	-1.284	2.013	-0.096	1.805	0.027	-0.157	-0.439	-0.086	-0.210	-0.08560	0.13420	-0.00640	0.12033	0.00044	0.01801	0.01448	0.02348	3956B2
0.000	4.500	0.00	0.10	-1.355	2.044	0.409	1.794	0.056	-0.125	-0.502	-0.051	-0.164	-0.09033	0.13627	0.02727	0.11960	0.00091	0.01857	0.01430	0.02359	3957B2
2.195	4.500	0.05	0.10	-1.161	1.861	0.600	1.742	0.029	-0.216	-0.383	-0.032	-0.194	-0.07740	0.12407	0.04000	0.11613	0.00042	0.01539	0.01349	0.02118	3958B2
4.500	4.500	0.10	0.10	-1.168	1.966	0.934	1.695	0.021	-0.171	-0.515	-0.100	-0.181	-0.07787	0.13107	0.06227	0.11300	0.00031	0.01718	0.01277	0.02136	3959B2
6.690	4.500	0.15	0.10	-1.172	1.955	1.220	1.705	0.024	-0.171	-0.401	-0.094	-0.095	-0.07813	0.13033	0.08133	0.11367	0.00036	0.01699	0.01292	0.02141	3960B2
8.905	4.500	0.20	0.10	-0.865	1.831	1.196	1.682	0.061	-0.315	-0.214	-0.008	-0.085	-0.05767	0.12207	0.07973	0.11213	0.00083	0.01490	0.01257	0.02002	3961B2
11.110	4.500	0.25	0.10	-0.875	1.879	1.465	1.609	0.031	-0.334	-0.253	0.000	-0.055	-0.05833	0.12527	0.09767	0.10727	0.00042	0.01569	0.01151	0.01935	3962B2
13.290	4.500	0.30	0.10	-0.617	1.828	1.645	1.571	0.117	-0.303	-0.295	-0.032	-0.233	-0.04113	0.12187	0.10967	0.10473	0.00149	0.01485	0.01097	0.01839	3963B2
15.605	4.500	0.35	0.10	-0.334	1.729	1.664	1.467	0.161	-0.344	-0.101	0.019	-0.106	-0.02227	0.11527	0.11093	0.09780	0.00181	0.01329	0.00956	0.01621	3964B2

r(mm)	x	r/d	x/d	U(m/s)	u'	V	v'	uv/u'v'	Su	Ku	Sv	Kv	U/Ua	u'/Ua	V/Ua	v'/Ua	uv/Ua^2	u'^2/Ua^2	v'^2/Ua^2	q/Ua^2	Tape ID
17 805	4 500	0.40	0.10	0.032	1.648	1.753	1.357	0.168	-0.455	0.023	0.112	0.033	0.00213	0.10987	0.11687	0.09047	0.00167	0.01207	0.00818	0.01422	3965B2
19 395	4 500	0.45	0.10	0.359	1.607	1.434	1.173	0.264	-0.460	0.088	0.197	0.115	0.02393	0.10713	0.09560	0.07820	0.00221	0.01148	0.00612	0.01185	3966B2
22 200	4 500	0.50	0.10	0.534	1.916	1.096	1.173	0.008	-0.482	0.048	-0.096	0.494	0.03560	0.12773	0.07307	0.07820	0.00008	0.01632	0.00612	0.01427	3967B2
24 500	4 500	0.55	0.10	15.446	0.530	2.226	0.524	-0.182	-0.787	1.105	0.263	0.742	1.02973	0.03533	0.14840	0.03493	-0.00022	0.00125	0.00122	0.00184	3968B2
23 000	0 000	0.52	0.00	14.204	0.722	3.966	0.553	0.082	-0.970	0.853	-0.046	0.817	0.94693	0.04813	0.26440	0.03687	-0.00015	0.00232	0.00136	0.00252	3970B2
24 500	0 000	0.55	0.00	14.532	0.377	2.962	0.396	0.211	-0.261	1.021	0.161	1.139	0.97547	0.02513	0.19747	0.02640	0.00014	0.00063	0.00070	0.00101	3969B2

Filename: LB4C53.CSV Bluff Body : d = 44.45 mm, $\theta = 45$ Fuel : none Fuel Flow = 0 slpm Turbulence Grid: G3
 Date: 2/28/1990 $U_a = 15$ (m/s) BR = 25% $\phi = 0$ Air Flow = 4206 slpm

r(mm)	x	r/d	x/d	U(m/s)	u'	v	v'	uv'/v'	Su	Ku	Sv	Kv	U/Ua	u/Ua	V/Ua	v/Ua	uv/Ua ²	u ² /Ua ²	v ² /Ua ²	q/Ua ²	Tape ID
0.000	177.800	0.00	4.00	9.313	1.499	0.185	1.829	0.004	0.099	-0.271	-0.105	-0.257	0.62087	0.09993	0.01233	0.12193	0.00005	0.00999	0.01487	0.01986	3329B2
0.000	155.600	0.00	3.50	8.774	1.621	0.382	1.914	0.029	0.046	-0.298	-0.215	-0.069	0.58493	0.10807	0.02547	0.12760	0.00040	0.01168	0.01628	0.02212	3330B2
8.900	133.400	-0.20	3.00	8.942	1.818	0.721	1.926	0.347	0.090	-0.330	-0.192	-0.128	0.59613	0.12120	0.04807	0.12840	0.00540	0.01469	0.01649	0.02383	3331B2
-4.495	133.400	-0.10	3.00	8.520	1.787	0.738	2.026	0.232	0.157	-0.270	-0.175	-0.069	0.55800	0.11913	0.04920	0.13507	0.00373	0.01419	0.01824	0.02534	3332B2
-0.005	133.400	0.00	3.00	8.236	1.758	0.592	2.066	0.085	0.114	-0.302	-0.102	0.023	0.54907	0.11720	0.03947	0.13773	0.00137	0.01374	0.01897	0.02584	3333B2
4.495	133.400	0.10	3.00	8.262	1.855	0.369	2.249	-0.164	0.187	-0.302	-0.112	-0.225	0.55080	0.12367	0.02460	0.14993	-0.00304	0.01529	0.02248	0.03013	3334B2
8.895	133.400	0.20	3.00	8.637	1.997	0.037	2.347	-0.308	0.135	-0.349	0.003	-0.490	0.57580	0.13313	0.00247	0.15647	-0.00642	0.01772	0.02448	0.03334	3335B2
13.310	133.400	0.30	3.00	9.257	2.111	-0.287	2.219	-0.403	-0.041	-0.418	0.227	-0.381	0.61713	0.14073	-0.01913	0.14793	-0.00839	0.01981	0.02188	0.03179	3336B2
17.810	133.400	0.40	3.00	9.690	2.170	-0.287	2.115	-0.431	-0.176	-0.529	0.404	-0.103	0.64600	0.14467	-0.01913	0.14100	-0.00879	0.02093	0.01988	0.03035	3337B2
22.210	133.400	0.50	3.00	10.474	2.144	-0.332	2.017	-0.412	-0.412	-0.208	0.441	0.095	0.69827	0.14293	-0.02213	0.13447	-0.00792	0.02043	0.01808	0.02830	3338B2
24.500	133.400	0.55	3.00	10.795	2.150	-0.288	1.850	-0.431	-0.540	-0.151	0.454	0.412	0.71967	0.14333	-0.01920	0.12333	-0.00762	0.02054	0.01521	0.02548	3339B2
0.000	111.100	0.00	2.50	7.237	1.858	0.765	2.370	0.089	0.177	-0.257	-0.170	-0.024	0.48247	0.12387	0.05100	0.15800	0.00174	0.01534	0.02496	0.03264	3340B2
0.000	102.200	0.00	2.30	6.751	1.942	0.511	2.519	0.061	0.193	-0.209	-0.123	-0.132	0.45007	0.12947	0.03407	0.16793	0.00133	0.01676	0.02820	0.03658	3341B2
-8.900	88.895	-0.20	2.00	7.049	2.141	1.116	2.382	0.385	0.131	-0.367	-0.032	-0.235	0.45993	0.14273	0.07440	0.15880	0.00873	0.02037	0.02522	0.03540	3342B2
-4.500	88.895	-0.10	2.00	6.396	2.007	1.250	2.512	0.254	0.157	-0.235	-0.124	-0.218	0.42640	0.13380	0.08333	0.16747	0.00569	0.01790	0.02805	0.03700	3343B2
0.005	88.895	0.00	2.00	5.944	1.964	1.017	2.752	0.106	0.268	-0.088	-0.209	-0.187	0.39627	0.13093	0.06780	0.18347	0.00255	0.01714	0.03366	0.04223	3344B2
4.500	88.895	0.10	2.00	5.904	2.033	0.735	2.802	-0.147	0.259	-0.214	-0.196	-0.119	0.39360	0.13553	0.04900	0.18680	-0.00372	0.01837	0.03489	0.04408	3345B2
8.900	88.895	0.20	2.00	6.444	2.261	0.227	3.095	-0.371	0.251	-0.210	-0.181	-0.575	0.42960	0.15073	0.01513	0.20633	-0.01154	0.02272	0.04257	0.05393	3346B2
13.300	88.895	0.30	2.00	7.347	2.625	-0.349	3.137	-0.495	0.032	-0.482	0.169	-0.725	0.48980	0.17500	-0.02327	0.20913	-0.01812	0.03063	0.04374	0.05905	3347B2
17.795	88.895	0.40	2.00	8.726	2.903	-0.818	2.809	-0.535	-0.257	-0.682	0.510	-0.247	0.58173	0.19353	-0.05453	0.18727	-0.01939	0.03746	0.03507	0.05380	3348B2
22.205	88.890	0.50	2.00	10.499	2.777	-1.011	2.324	-0.489	-0.714	0.009	0.761	0.595	0.69993	0.18513	-0.06740	0.15493	-0.01403	0.03427	0.02400	0.04114	3349B2
24.510	88.890	0.55	2.00	11.316	2.571	-0.972	2.081	-0.476	-0.998	0.569	0.782	1.093	0.75440	0.17140	-0.06480	0.13873	-0.01132	0.02938	0.01925	0.03394	3350B2
-8.910	75.605	-0.20	1.70	6.328	2.341	1.762	2.753	0.405	0.130	-0.198	-0.216	-0.178	0.42187	0.15607	0.11747	0.18353	0.01160	0.02436	0.03368	0.04586	3351B2
-4.500	75.605	-0.10	1.70	4.998	2.191	1.297	2.801	0.279	0.169	-0.231	-0.172	-0.173	0.33320	0.14607	0.08647	0.18673	0.00761	0.02134	0.03487	0.04554	3352B2
0.005	75.605	0.00	1.70	4.730	2.043	1.332	2.944	0.072	0.091	-0.108	-0.206	-0.166	0.31533	0.13620	0.08880	0.19627	0.00192	0.01855	0.03852	0.04780	3353B2
2.195	75.605	0.05	1.70	4.663	2.008	1.386	3.019	0.007	0.125	-0.147	-0.273	-0.287	0.31087	0.13387	0.09240	0.20127	0.00019	0.01792	0.04051	0.04947	3354B2
4.505	75.600	0.10	1.70	4.785	2.149	0.857	3.278	-0.131	0.218	-0.113	-0.298	-0.268	0.31900	0.14327	0.05713	0.21853	-0.00410	0.02053	0.04776	0.05802	3355B2
6.705	75.605	0.15	1.70	4.833	2.227	0.660	3.433	-0.258	0.323	-0.026	-0.267	-0.426	0.32220	0.14847	0.04400	0.22887	-0.00877	0.02204	0.05238	0.06340	3356B2
8.900	75.605	0.20	1.70	5.078	2.430	0.323	3.547	-0.400	0.218	-0.113	-0.069	-0.727	0.33853	0.16200	0.02153	0.23647	0.01532	0.02624	0.05592	0.06904	3357B2
11.100	75.600	0.25	1.70	5.832	2.711	-0.235	3.457	-0.430	0.195	-0.266	0.051	-0.629	0.38880	0.18073	-0.01567	0.23047	0.01791	0.03266	0.05311	0.06945	3358B2

r(mm)	x	r/d	x/d	U(m/s)	u'	V	V'	uv/u'v'	Su	Ku	Sv	Kv	U/Ua	u'/Ua	V/Ua	v'/Ua	uv/Ua ²	u ² /Ua ²	v ² /Ua ²	q/Ua ²	Tape ID
13.300	75.600	0.30	1.70	6.470	2.956	-0.692	3.565	-0.542	0.133	-0.516	0.270	-0.702	0.43133	0.19707	-0.04613	0.23767	-0.02539	0.03884	0.05649	0.07590	3359B2
15.595	75.600	0.35	1.70	7.234	3.062	-0.928	3.327	-0.561	-0.017	-0.695	0.424	-0.458	0.48227	0.20413	-0.06187	0.22180	-0.02540	0.04167	0.04920	0.07003	3360B2
17.790	75.600	0.40	1.70	8.106	3.171	-1.242	3.066	-0.585	-0.281	-0.522	0.615	-0.194	0.54040	0.21140	-0.08280	0.20440	-0.02528	0.04469	0.04178	0.06412	3361B2
19.990	75.605	0.45	1.70	9.178	3.244	-1.273	2.891	-0.565	-0.554	-0.378	0.735	0.204	0.61187	0.21627	-0.08487	0.19273	-0.02355	0.04677	0.03715	0.06053	3362B2
22.205	75.600	0.50	1.70	10.442	2.999	-1.378	2.393	-0.469	-0.744	0.000	0.755	0.635	0.69613	0.19993	-0.09187	0.15953	-0.01496	0.03997	0.02545	0.04544	3363B2
24.500	75.600	0.55	1.70	11.736	2.453	-1.474	1.937	-0.391	-1.124	1.007	0.623	1.171	0.78240	0.16353	-0.09827	0.12913	-0.00826	0.02674	0.01668	0.03005	3364B2
22.195	66.695	-0.50	1.50	10.959	2.443	1.654	1.796	0.412	-0.581	-0.122	-0.337	0.061	0.73060	0.16287	0.11027	0.11973	0.00803	0.02653	0.01434	0.02760	3365B2
17.790	66.695	-0.40	1.50	8.942	2.575	1.897	2.243	0.469	0.225	-0.365	-0.337	-0.007	0.59613	0.17167	0.12647	0.14953	0.01204	0.02947	0.02236	0.03709	3366B2
13.290	66.695	0.30	1.50	6.752	2.689	2.029	2.697	0.472	0.001	-0.321	-0.329	-0.058	0.45013	0.17927	0.13527	0.17990	0.01521	0.03214	0.03233	0.04840	3367B2
8.905	66.695	0.20	1.50	5.103	2.377	1.808	2.919	0.358	0.005	-0.182	-0.164	-0.243	0.34020	0.15847	0.12053	0.19460	0.01104	0.02511	0.03787	0.05043	3368B2
4.495	66.695	0.10	1.50	4.210	2.280	1.780	3.112	0.279	0.038	-0.045	-0.301	-0.325	0.28067	0.15200	0.11867	0.2747	0.00880	0.02310	0.04304	0.05459	3369B2
0.005	66.695	0.00	1.50	3.390	2.090	1.544	3.137	0.059	-0.045	0.017	-0.425	-0.106	0.22600	0.13933	0.10293	0.20913	0.00172	0.01941	0.04374	0.05344	3370B2
2.205	66.695	0.05	1.50	3.323	2.191	1.156	3.354	-0.021	0.055	0.069	0.291	-0.258	0.22153	0.14607	0.07707	0.22360	-0.00069	0.02134	0.05000	0.06066	3371B2
4.500	66.695	0.10	1.50	3.341	2.173	1.191	3.363	-0.130	0.074	-0.045	-0.351	-0.370	0.22273	0.14487	0.07940	0.22420	-0.00422	0.02099	0.05027	0.06076	3372B2
6.710	66.695	0.15	1.50	3.591	2.371	0.637	3.769	-0.256	0.042	-0.135	-0.267	-0.584	0.23940	0.15807	0.04647	0.25127	0.01017	0.02499	0.06313	0.07563	3373B2
8.900	66.695	0.20	1.50	3.775	2.621	0.271	3.713	-0.387	0.159	-0.116	-0.132	-0.750	0.25167	0.17473	0.01807	0.24753	-0.01674	0.03053	0.06127	0.07654	3374B2
11.095	66.695	0.25	1.50	4.438	2.859	-0.207	3.868	-0.515	0.112	-0.187	0.007	-0.858	0.29587	0.19060	-0.01380	0.25787	-0.02531	0.03633	0.06650	0.08466	3375B2
13.235	66.695	0.30	1.50	5.157	3.098	0.478	3.826	-0.514	0.130	-0.375	0.109	-0.810	0.34380	0.20653	0.03187	0.25507	-0.02708	0.04266	0.06506	0.08639	3376B2
15.595	66.695	0.35	1.50	6.355	3.255	-1.282	3.634	-0.582	-0.061	-0.469	0.406	-0.532	0.42367	0.21170	-0.08547	0.24227	-0.03060	0.04709	0.05869	0.08224	3377B2
17.810	66.695	0.40	1.50	7.336	3.472	-1.374	3.392	-0.598	0.209	-0.594	0.549	-0.301	0.48907	0.23147	-0.09160	0.22613	-0.03130	0.05358	0.05114	0.07792	3378B2
20.000	66.695	0.45	1.50	8.910	3.451	-1.644	2.946	-0.551	-0.510	-0.313	0.770	0.246	0.59400	0.23007	-0.10960	0.19640	-0.02490	0.05293	0.03857	0.06504	3379B2
22.205	66.695	0.50	1.50	10.443	3.047	-1.771	2.431	-0.481	-0.797	0.053	0.808	0.852	0.69620	0.20313	-0.11807	0.16207	-0.01134	0.04126	0.03627	0.04690	3380B2
24.500	66.695	0.55	1.50	11.769	2.631	-1.638	2.023	-0.443	-1.167	1.082	0.723	1.204	0.78460	0.17540	0.10920	0.13487	-0.01048	0.03077	0.01819	0.03357	3381B2
8.900	53.295	-0.20	1.20	2.785	2.784	2.414	3.334	0.419	-0.195	-0.191	-0.469	-0.253	0.18567	0.18560	0.16093	0.22227	0.01728	0.03445	0.04940	0.06663	3382B2
4.510	53.295	-0.10	1.20	1.062	2.753	1.955	3.445	0.310	-0.015	-0.474	-0.310	-0.529	0.07080	0.18353	0.13033	0.22967	0.01307	0.03368	0.05275	0.06959	3383B2
0.010	53.295	0.00	1.20	0.361	2.685	1.783	3.564	0.171	0.064	-0.496	-0.297	-0.466	0.02407	0.17900	0.11887	0.23760	0.00727	0.03204	0.05645	0.07247	3384B2
2.195	53.295	0.05	1.20	-0.125	2.534	1.853	3.418	0.126	0.127	-0.471	-0.373	-0.432	-0.00833	0.16893	0.12353	0.22787	0.00485	0.02854	0.05192	0.06619	3385B2
4.495	53.295	0.10	1.20	-0.125	2.628	1.382	3.622	-0.055	0.237	-0.384	-0.372	-0.519	-0.00833	0.17520	0.09213	0.24147	-0.00233	0.03070	0.05831	0.07365	3386B2
6.700	53.295	0.15	1.20	0.181	2.816	0.939	3.756	-0.172	0.220	-0.402	-0.378	-0.470	0.01207	0.18773	0.06260	0.25040	-0.00809	0.03524	0.06270	0.08032	3387B2
8.905	53.295	0.20	1.20	0.176	2.953	0.937	3.846	-0.265	0.225	-0.309	-0.311	-0.609	0.01173	0.15687	0.06247	0.25640	-0.01338	0.03876	0.06574	0.08512	3388B2
11.100	53.295	0.25	1.20	1.355	3.298	0.172	4.345	-0.441	0.153	-0.481	-0.147	-0.887	0.09033	0.21987	0.01147	0.28967	-0.02809	0.04834	0.08391	0.10808	3389B2
13.310	53.295	0.30	1.20	2.159	3.509	-0.567	4.236	-0.498	0.070	-0.509	0.032	-0.827	0.14393	0.23393	-0.03780	0.28240	-0.03290	0.05472	0.07975	0.10711	3390B2
15.600	53.295	0.35	1.20	3.687	3.918	-1.261	4.179	-0.566	-0.123	-0.570	0.326	-0.851	0.24580	0.26120	-0.08407	0.27860	-0.04119	0.06823	0.07762	0.11173	3391B2
17.800	53.295	0.40	1.20	5.924	3.915	-1.871	3.748	-0.591	-0.312	-0.268	0.584	-0.347	0.39493	0.26100	-0.12473	0.24987	-0.03854	0.06812	0.06243	0.09649	3392B2
19.995	53.295	0.45	1.20	7.798	3.881	-2.073	3.333	-0.607	-0.543	-0.177	0.772	0.158	0.51987	0.25873	0.13820	0.22220	-0.03490	0.06694	0.04937	0.08284	3393B2
22.210	53.295	0.50	1.20	9.886	3.546	-2.238	2.830	-0.548	-0.726	-0.011	0.895	0.716	0.65907	0.23640	-0.14920	0.18967	-0.02444	0.05588	0.03560	0.06354	3394B2
24.500	53.295	0.55	1.20	12.148	2.538	-2.118	2.207	-0.429	-0.856	0.617	0.574	0.765	0.80987	0.16920	-0.14120	0.14713	-0.01068	0.02863	0.02165	0.03596	3395B2

r(mm)	x	r/d	x/d	U(m/s)	u'	V	V'	uv/u'V'	Su	Ku	Sv	Kv	U/Ua	u'/Ua	V/Ua	v'/Ua	uv/Ua^2	u^2/Ua^2	v^2/Ua^2	q/Ua^2	Tape ID
-8 905	44 520	-0.20	1.00	0.132	3.096	2.552	3.498	0.442	0.040	-0.601	-0.473	-0.266	0.00880	0.20640	0.17013	0.23320	0.02127	0.04260	0.05438	0.07568	3396B2
-4 490	44 500	-0.10	1.00	-1.729	2.673	1.961	3.479	0.362	0.259	-0.340	-0.162	-0.597	-0.11527	0.17820	0.13073	0.23193	0.01496	0.03176	0.05379	0.06967	3397B2
0 010	44 500	0.00	1.00	-2.615	2.432	1.674	3.298	0.220	0.365	-0.073	-0.096	-0.552	-0.17433	0.16213	0.11160	0.21987	0.00784	0.02629	0.04834	0.06148	3398B2
2 205	44 500	0.05	1.00	-2.835	2.304	1.905	3.158	0.184	0.408	-0.009	-0.278	-0.265	-0.18900	0.15360	0.12700	0.21053	0.00595	0.02359	0.04432	0.05612	3399B2
4 495	44 500	0.10	1.00	-2.841	2.226	1.520	3.219	0.021	0.301	0.025	-0.362	-0.183	-0.18940	0.14840	0.10133	0.21460	0.00067	0.02202	0.04605	0.05706	3400B2
6 700	44 500	0.15	1.00	-2.826	2.403	1.440	3.376	-0.046	0.495	0.161	-0.408	-0.252	-0.18840	0.16020	0.09600	0.22507	-0.00166	0.02566	0.05066	0.06349	3401B2
8 905	44 500	0.20	1.00	-2.824	2.562	1.662	3.473	-0.173	0.400	0.103	-0.352	-0.247	-0.18827	0.17080	0.07080	0.23153	-0.00684	0.02917	0.05361	0.06819	3402B2
11 100	44 500	0.25	1.00	-2.163	2.910	1.031	3.887	-0.295	0.595	0.013	-0.430	-0.473	-0.14420	0.19400	0.06873	0.25913	-0.01483	0.03764	0.06715	0.08597	3403B2
13 300	44 500	0.30	1.00	-0.838	3.598	0.153	4.163	-0.466	0.476	-0.426	-0.229	-0.723	0.05587	0.23987	0.01020	0.27753	-0.03102	0.05754	0.07702	0.10579	3404B2
15 600	44 500	0.35	1.00	0.899	4.179	-0.753	4.316	-0.547	0.185	-0.758	0.038	-0.848	0.05993	0.27860	-0.05020	0.28773	-0.04385	0.07762	0.08279	0.12160	3405B2
17 790	44 500	0.40	1.00	3.638	4.449	-1.640	4.180	-0.583	-0.266	-0.512	0.433	-0.599	0.24253	0.29660	-0.10933	0.27867	-0.04819	0.08797	0.07766	0.12164	3406B2
19 995	44 500	0.45	1.00	6.116	4.184	-1.982	3.745	-0.580	-0.345	-0.181	0.568	-0.163	0.40773	0.27893	-0.13213	0.24967	-0.04039	0.07780	0.06233	0.10124	3407B2
22 205	44 500	0.50	1.00	8.914	3.824	-2.368	3.138	-0.531	-0.607	0.098	0.718	0.432	0.59427	0.25493	-0.15787	0.20920	-0.02832	0.06499	0.04376	0.07626	3408B2
24 500	44 500	0.55	1.00	11.653	3.152	2.225	2.450	-0.468	-0.856	0.401	0.729	0.720	0.77687	0.21013	-0.14833	0.16400	-0.01613	0.04416	0.02690	0.04897	3409B2
-8 905	35 600	-0.20	0.80	-3.146	2.787	1.666	3.304	0.475	0.418	-0.159	-0.107	-0.592	-0.20973	0.18580	0.11107	0.22027	0.01944	0.03452	0.04852	0.06578	3410B2
-4 490	35 600	-0.10	0.80	-4.244	2.258	1.481	3.058	0.342	0.362	0.107	-0.141	-0.401	-0.28293	0.15053	0.09873	0.20387	0.01050	0.02266	0.04156	0.05289	3411B2
0 000	35 600	0.00	0.80	-4.980	2.044	1.362	2.840	0.149	0.196	-0.017	-0.089	-0.285	-0.33200	0.13627	0.09080	0.18933	0.00384	0.01857	0.03585	0.04513	3412B2
2 200	35 600	0.05	0.80	-5.087	1.964	1.334	2.768	0.135	0.185	0.012	-0.048	-0.280	-0.33913	0.13093	0.08893	0.18453	0.00326	0.01714	0.03405	0.04262	3413B2
4 495	35 600	0.10	0.80	-5.106	1.904	1.610	2.798	0.088	0.179	0.008	-0.196	-0.190	-0.34040	0.12693	0.10733	0.18653	0.00208	0.01611	0.03479	0.04285	3414B2
6 705	35 600	0.15	0.80	5.153	1.912	1.677	2.840	0.051	0.221	0.007	-0.227	-0.224	-0.34353	0.12747	0.11180	0.18933	0.00123	0.01625	0.03585	0.04397	3415B2
8 895	35 600	0.20	0.80	-5.115	2.121	1.326	2.990	0.089	0.320	0.142	-0.337	-0.153	-0.34100	0.14140	0.08840	0.19933	-0.00251	0.01999	0.03973	0.04973	3416B2
11 105	35 600	0.25	0.80	-4.723	2.367	1.347	3.256	-0.199	0.583	0.498	-0.417	-0.226	-0.31487	0.15780	0.08980	0.21707	-0.00682	0.02490	0.04712	0.05957	3417B2
13 310	35 600	0.30	0.80	-4.141	2.877	0.735	3.556	0.389	0.701	0.416	-0.385	-0.290	-0.27607	0.19180	0.04900	0.23707	-0.01769	0.03679	0.05620	0.07459	3418B2
15 600	35 600	0.35	0.80	-2.257	3.917	0.061	4.082	-0.518	0.525	-0.392	-0.210	-0.703	-0.15047	0.26113	0.00407	0.27213	-0.03681	0.06819	0.07406	0.10815	3419B2
17 810	35 600	0.40	0.80	0.760	4.673	-0.946	4.319	-0.587	0.065	-0.864	0.144	-0.783	0.05067	0.31153	-0.06307	0.28793	-0.05265	0.09705	0.08291	0.13143	3420B2
19 995	35 600	0.45	0.80	4.036	4.774	-1.510	3.999	-0.598	-0.380	-0.597	0.384	-0.454	0.26907	0.31827	-0.10067	0.26660	-0.05074	0.10129	0.07108	0.12172	3421B2
22 205	35 600	0.50	0.80	7.259	4.419	-1.710	3.493	-0.595	-0.525	-0.049	0.551	-0.103	0.48393	0.29460	-0.11400	0.23287	-0.04082	0.08679	0.05423	0.09762	3422B2
24 490	35 600	0.55	0.80	11.189	3.649	-1.850	2.781	-0.516	-0.554	-0.134	0.636	0.298	0.74593	0.24327	-0.12333	0.18540	-0.02327	0.05918	0.03437	0.06396	3423B2
-22 205	26 705	-0.50	0.60	9.750	3.089	2.219	2.407	0.463	-0.130	-0.201	-0.265	-0.180	0.65000	0.20593	0.14793	0.16047	0.01530	0.04241	0.02575	0.04695	3424B2
-17 800	26 705	-0.40	0.60	3.160	3.469	1.987	2.996	0.506	-0.621	0.244	-0.332	-0.053	0.21067	0.23127	0.13247	0.19973	0.02337	0.05348	0.03989	0.06664	3425B2
-13 295	26 705	-0.30	0.60	-2.991	3.236	0.947	3.133	0.489	0.365	-0.392	-0.026	-0.446	-0.19940	0.21573	0.06313	0.20887	0.02203	0.04654	0.04363	0.06690	3426B2
-8 895	26 705	-0.20	0.60	-5.049	2.334	0.806	2.716	0.380	0.269	-0.038	0.027	-0.263	-0.33660	0.15560	0.05373	0.18107	0.01071	0.02421	0.03279	0.04489	3427B2
-4 490	26 705	-0.10	0.60	-5.761	2.115	0.894	2.562	0.301	0.151	-0.076	-0.033	-0.346	-0.38407	0.14100	0.05960	0.17080	0.00725	0.01988	0.02917	0.03911	3428B2

r(mm)	x	r/d	x/d	U(m/s)	u'	V	V'	uv/u'	Su	Ku	Sv	Kv	U/Ua	u'/Ua	V/Ua	V'/Ua	uv/Ua	u^2/Ua^2	v^2/Ua^2	q/Ua^2	Tape ID
0.005	26.705	0.00	0.60	-6.189	1.928	1.293	2.414	0.188	0.180	-0.231	-0.089	-0.185	-0.41260	0.12853	0.08520	0.15093	0.00389	0.01652	0.02590	0.03416	3429B2
2.205	26.705	0.05	0.60	-6.130	1.939	1.314	2.369	0.122	0.158	-0.119	-0.044	-0.258	-0.40867	0.12927	0.08760	0.15793	0.00249	0.01671	0.02494	0.03330	3430B2
4.510	26.705	0.10	0.60	-6.246	1.944	1.549	2.403	0.063	0.161	-0.183	-0.179	-0.142	-0.41640	0.12960	0.10327	0.16020	0.00131	0.01680	0.02566	0.03406	3431B2
6.700	26.705	0.15	0.60	-6.287	1.888	1.747	2.441	0.086	0.077	-0.111	-0.160	-0.133	-0.41913	0.12587	0.11647	0.16273	0.00176	0.01584	0.02648	0.03440	3432B2
8.900	26.705	0.20	0.60	-6.260	1.942	1.808	2.500	0.007	0.192	-0.095	-0.248	-0.032	-0.41733	0.12947	0.12053	0.16667	0.00015	0.01676	0.02778	0.03616	3433B2
11.100	26.705	0.25	0.60	-6.155	2.133	1.681	2.636	-0.092	0.274	0.055	-0.345	-0.074	-0.41033	0.14220	0.11207	0.17573	-0.00230	0.02022	0.03088	0.04099	3434B2
13.300	26.705	0.30	0.60	-5.827	2.284	1.587	2.833	-0.184	0.461	0.336	-0.364	-0.037	-0.38847	0.15227	0.10580	0.18887	-0.00529	0.02319	0.03567	0.04726	3435B2
15.600	26.705	0.35	0.60	-4.610	3.018	1.283	3.352	-0.320	0.744	0.531	-0.420	-0.198	-0.30733	0.20120	0.08553	0.22347	-0.01439	0.04048	0.04994	0.07018	3436B2
17.800	26.705	0.40	0.60	-2.164	4.331	0.392	3.920	-0.485	0.491	0.558	-0.236	-0.598	-0.14427	0.28873	0.02613	0.26133	0.03660	0.08337	0.06830	0.10998	3437B2
20.000	26.705	0.45	0.60	1.890	4.893	-0.280	3.950	-0.537	-0.169	0.815	0.046	-0.610	0.12600	0.32620	-0.01867	0.26333	-0.04613	0.10641	0.06934	0.12255	3438B2
22.205	26.705	0.50	0.60	6.325	4.273	0.724	3.466	0.543	0.525	0.243	0.304	-0.249	0.42167	0.28487	0.04827	0.23107	-0.03574	0.08115	0.05339	0.09397	3439B2
24.505	26.705	0.55	0.60	11.026	3.741	-1.023	2.937	-0.533	-0.483	-0.038	0.402	-0.093	0.73507	0.24940	-0.06820	0.19580	-0.02603	0.06220	0.03834	0.06944	3440B2
-8.910	13.315	-0.20	0.30	-4.555	2.114	-0.858	2.051	0.178	0.116	-0.032	-0.011	-0.307	-0.30367	0.14093	-0.05720	0.13673	0.00343	0.01986	0.01870	0.02863	3441B2
-4.505	13.315	-0.10	0.30	-5.169	1.922	-0.036	1.913	0.189	0.102	-0.154	-0.040	-0.212	-0.34460	0.12813	-0.00240	0.12753	0.00309	0.01642	0.01626	0.02447	3442B2
0.010	13.300	0.00	0.30	-5.306	1.951	0.642	1.949	0.152	0.073	-0.181	0.015	-0.145	-0.35373	0.13007	0.04280	0.12993	0.00257	0.01692	0.01688	0.02534	3443B2
2.200	13.300	0.05	0.30	-5.296	2.022	0.890	1.900	0.129	0.091	-0.130	-0.055	-0.219	-0.35307	0.13480	0.06933	0.12667	0.00220	0.01817	0.01604	0.02513	3444B2
4.495	13.300	0.10	0.30	-5.330	1.924	1.184	1.893	0.105	0.168	-0.141	-0.012	-0.204	-0.35533	0.12827	0.07893	0.12620	0.00170	0.01645	0.01593	0.02415	3445B2
6.705	13.300	0.15	0.30	-5.479	1.902	1.520	1.895	0.080	0.074	-0.167	0.001	-0.198	-0.36527	0.12680	0.10133	0.12633	0.00128	0.01608	0.01596	0.02400	3446B2
8.890	13.300	0.20	0.30	-5.095	1.977	1.820	1.952	0.042	0.201	-0.023	-0.163	-0.169	-0.33967	0.13180	0.12133	0.13013	0.00072	0.01737	0.01693	0.02562	3447B2
11.100	13.300	0.25	0.30	-5.006	1.940	2.072	1.970	-0.023	0.207	-0.095	-0.202	-0.156	-0.33373	0.12933	0.13813	0.13133	-0.00039	0.01673	0.01725	0.02561	3448B2
13.290	13.300	0.30	0.30	-4.731	2.098	2.339	2.011	-0.017	0.342	0.251	-0.140	-0.162	-0.31540	0.13987	0.15593	0.13407	0.00032	0.01956	0.01797	0.02776	3449B2
15.595	13.300	0.35	0.30	-4.060	2.394	2.439	2.230	-0.043	0.510	0.316	-0.231	0.001	-0.27067	0.15960	0.16260	0.14867	-0.00102	0.02547	0.02210	0.03484	3450B2
17.800	13.300	0.40	0.30	-2.755	2.998	2.454	2.332	-0.116	0.452	-0.142	-0.215	0.108	-0.18367	0.19987	0.16360	0.15547	-0.00360	0.03995	0.02417	0.04414	3451B2
19.990	13.300	0.45	0.30	-0.554	3.590	1.927	2.641	-0.245	0.087	-0.711	-0.347	0.014	-0.03693	0.23933	0.12847	0.17607	-0.01032	0.05728	0.03100	0.05964	3452B2
22.195	13.300	0.50	0.30	4.434	3.497	0.960	2.954	-0.514	-0.175	0.159	-0.212	-0.195	0.29560	0.23313	0.06400	0.19693	-0.02360	0.05435	0.03878	0.06596	3453B2
24.510	13.295	0.55	0.30	10.660	3.713	0.939	2.767	-0.529	-0.201	-0.372	0.201	-0.228	0.71067	0.24753	0.06260	0.18447	-0.02416	0.06127	0.03403	0.06466	3454B2
-8.895	4.495	-0.20	0.10	-1.825	2.049	-2.189	1.560	0.176	0.087	-0.457	0.214	0.010	-0.12167	0.13660	-0.14593	0.10400	-0.00250	0.01866	0.01082	0.02015	3455B2
-4.505	4.495	-0.10	0.10	-2.330	2.108	-1.556	1.634	-0.214	0.269	-0.254	0.185	-0.053	-0.15533	0.14053	-0.10373	0.10893	-0.00328	0.01975	0.01187	0.02174	3456B2
0.010	4.495	0.00	0.10	-2.578	2.005	-0.669	1.686	-0.145	0.241	-0.192	0.120	-0.140	-0.17187	0.13367	-0.04460	0.11240	-0.00218	0.01787	0.01263	0.02157	3457B2
2.210	4.495	0.05	0.10	-2.599	2.041	-0.379	1.746	-0.154	0.321	-0.136	0.097	-0.210	-0.17327	0.13607	-0.02527	0.11640	-0.00244	0.01851	0.01355	0.02281	3458B2
4.495	4.495	0.10	0.10	-2.571	2.026	0.070	1.718	-0.165	0.438	-0.024	0.094	-0.252	-0.17140	0.13507	0.00467	0.11453	0.00255	0.01824	0.01312	0.02224	3459B2
6.705	4.495	0.15	0.10	-2.671	2.099	0.611	1.760	-0.079	0.380	-0.027	0.014	-0.313	-0.17807	0.13993	0.04073	0.11733	0.00130	0.01958	0.01377	0.02356	3460B2
8.890	4.495	0.20	0.10	-2.611	2.073	1.136	1.759	-0.018	0.456	-0.006	0.007	-0.357	-0.17407	0.13820	0.07573	0.11727	0.00029	0.01910	0.01375	0.02330	3461B2
11.100	4.495	0.25	0.10	-2.323	2.011	1.475	1.915	0.011	0.311	-0.103	-0.112	-0.268	-0.15487	0.13407	0.09833	0.12767	0.00019	0.01797	0.01630	0.02529	3462B2
13.290	4.495	0.30	0.10	-2.204	2.010	1.571	1.729	0.030	0.318	-0.113	-0.078	-0.241	-0.14693	0.13400	0.10473	0.11527	0.00046	0.01796	0.01329	0.02226	3463B2
15.600	4.495	0.35	0.10	-1.650	2.104	1.988	1.716	0.106	0.217	0.308	0.177	0.141	-0.11000	0.14027	0.13253	0.11440	0.00170	0.01967	0.01309	0.02292	3464B2

r(mm)	x	r/d	x/d	U(m/s)	u'	V	V'	uv/u'v'	Su	Ku	Sv	Kv	U/Ua	u'/Ua	V/Ua	v'/Ua	uv/Ua^2	u^2/Ua^2	v^2/Ua^2	q/Ua^2	Tape ID
17 790	4 495	0.40	0.10	-1.344	2.124	2.037	1.641	0.092	0.188	-0.531	-0.145	-0.153	-0.08960	0.14160	0.13580	0.10940	0.00143	0.02005	0.01197	0.02199	3465B2
20 005	4 495	0.45	0.10	-0.787	2.313	1.945	1.536	0.138	-0.052	-0.643	-0.043	0.021	-0.05247	0.15420	0.12967	0.10240	0.00218	0.02378	0.01049	0.02237	3466B2
22 195	4 495	0.50	0.10	2.347	2.640	1.226	2.516	-0.387	-0.093	0.411	-0.595	0.273	0.15647	0.17600	0.08173	0.16773	-0.01142	0.03098	0.02813	0.04362	3467B2
24 500	4 495	0.55	0.10	12.580	3.051	1.417	2.408	-0.380	-0.519	-0.063	0.270	-0.064	0.83867	0.20340	0.09447	0.16053	-0.01241	0.04137	0.02577	0.04646	3468B2
23 000	0.000	0.52	0.00	11.142	2.562	2.435	1.833	-0.040	-0.085	-0.278	-0.025	-0.060	0.74280	0.17080	0.16233	0.12220	-0.00083	0.02917	0.01493	0.02952	3470B2
24 500	0.000	0.55	0.00	12.352	2.750	1.402	2.254	-0.362	-0.253	-0.431	0.293	0.134	0.82347	0.18333	0.09347	0.15027	0.00997	0.03361	0.02258	0.03939	3469B2

Filename: LB4C57 CSV Bluff Body: d = 44.45 mm $\theta = 45^\circ$ Fuel: none Fuel Flow = 0 s/m Air Flow = 4206 s/m Turbulence Grid: G7
 Date: 4/4/1940 Ua = 15 (m/s) BR = 25% $\phi = 0$

r(mm)	x	r/J	x/d	U(m/s)	u'	V	V'	uv/u'v'	Su	Ku	Sv	Kv	U/Ua	u'/Ua	V/Ua	v'/Ua	uv/Ua	u^2/Ua^2	v^2/Ua^2	q/Ua^2	Type ID
0.010	177.800	0.00	4.00	10.908	1.548	0.072	1.886	-0.022	0.038	-0.208	0.092	-0.346	0.72720	0.10320	-0.00480	0.12573	-0.00029	0.01065	0.01581	0.02113	367382
0.000	155.600	0.00	3.50	10.556	1.737	-0.052	2.155	-0.023	0.024	-0.172	0.094	-0.359	0.70373	0.11580	-0.00347	0.14367	-0.00038	0.01341	0.02064	0.02734	367482
-8.905	133.405	-0.20	3.00	10.106	2.028	0.004	2.669	0.157	0.001	-0.196	-0.206	-0.510	0.67373	0.13520	0.00027	0.17793	0.00378	0.01828	0.03166	0.04080	367582
-4.505	133.405	-0.10	3.00	10.028	1.895	0.095	2.571	0.073	0.001	-0.146	-0.019	-0.458	0.66853	0.12633	0.00633	0.17140	0.00158	0.01596	0.02938	0.03736	367682
0.005	133.405	0.00	3.00	9.796	1.924	-0.315	2.390	0.066	0.090	-0.096	0.095	-0.257	0.65307	0.12827	-0.02100	0.15933	-0.00135	0.01645	0.02539	0.03361	367782
4.515	133.405	0.10	3.00	10.352	1.846	-0.386	2.370	-0.215	0.002	-0.271	0.238	-0.237	0.69013	0.12307	-0.02573	0.15900	-0.00418	0.01515	0.02496	0.03254	367882
8.910	133.405	0.20	3.00	10.722	1.865	-0.424	2.270	-0.267	0.015	-0.262	0.309	-0.159	0.71480	0.12433	0.02827	0.15133	-0.00502	0.01546	0.02290	0.03063	367982
13.290	133.405	0.30	3.00	11.203	1.932	-0.722	1.964	-0.371	0.230	-0.197	0.470	0.081	0.74587	0.12880	-0.04813	0.13093	-0.00626	0.01659	0.01714	0.02544	368082
17.805	133.405	0.40	3.00	12.130	1.899	-1.018	1.737	-0.404	0.210	0.022	0.265	0.480	0.81200	0.12660	-0.06787	0.11580	-0.00592	0.01603	0.01341	0.02142	368182
22.205	133.405	0.50	3.00	12.705	1.671	-0.563	1.283	-0.328	-0.496	0.231	0.372	0.456	0.84700	0.11140	-0.03753	0.08553	-0.00313	0.01241	0.00732	0.01352	368282
24.495	133.405	0.55	3.00	13.021	1.573	-0.459	1.236	-0.311	-0.604	0.438	0.336	0.758	0.86807	0.10487	-0.03060	0.08240	-0.00269	0.01100	0.00679	0.01229	368382
-0.005	111.095	0.00	2.50	9.295	2.081	-0.135	2.988	-0.035	0.104	-0.191	0.032	-0.428	0.61967	0.13873	-0.00900	0.19920	-0.00097	0.01325	0.03968	0.04930	368482
-0.010	102.200	0.00	2.30	9.027	2.185	-0.343	3.330	-0.097	0.119	-0.249	0.133	-0.454	0.60180	0.14567	-0.02287	0.22200	-0.00314	0.02122	0.04928	0.05989	368582
8.910	88.900	0.20	2.00	8.285	2.450	0.630	3.824	0.241	-0.022	-0.190	-0.286	-0.495	0.55233	0.16333	0.04200	0.25493	0.01004	0.02568	0.06499	0.07833	368682
4.510	88.900	0.10	2.00	8.118	2.368	0.074	3.950	0.094	0.074	0.133	-0.041	-0.711	0.54120	0.15787	0.00493	0.26333	0.00391	0.02492	0.06934	0.08181	368782
-0.005	88.895	0.00	2.00	8.204	2.298	-0.802	3.701	-0.138	0.040	-0.268	0.195	-0.399	0.54593	0.15320	-0.05347	0.24673	-0.00522	0.02347	0.06088	0.07261	368882
4.495	88.900	0.10	2.00	3.559	2.316	-1.342	3.303	-0.279	0.010	-0.170	0.396	-0.246	0.57127	0.15440	-0.08947	0.22020	-0.00949	0.02384	0.04849	0.06041	368982
8.900	88.895	0.20	2.00	9.485	2.454	-1.796	3.036	-0.429	0.095	-0.230	0.568	0.092	0.63233	0.16360	-0.11973	0.20240	-0.01421	0.02676	0.04097	0.05435	369082
13.295	88.895	0.30	2.00	10.479	2.429	-1.825	2.439	-0.450	-0.259	-0.145	0.574	0.447	0.69860	0.16193	-0.12167	0.16260	-0.01185	0.02622	0.02644	0.03955	369182
17.810	88.895	0.40	2.00	13.794	3.674	-3.518	3.632	-0.802	0.895	1.008	-0.976	1.230	0.91960	0.24493	-0.23453	0.24213	-0.04756	0.05999	0.05863	0.08862	369282
22.205	88.895	0.50	2.00	12.906	1.783	-1.122	1.470	-0.306	-0.463	0.429	0.359	0.746	0.86040	0.11887	-0.07480	0.09800	-0.00356	0.01413	0.00960	0.01367	369382
24.510	88.895	0.55	2.00	13.321	1.580	-1.050	1.258	-0.260	-0.436	0.407	0.201	0.779	0.88807	0.10533	-0.07000	0.08387	-0.00230	0.01110	0.00703	0.01258	369482
8.895	75.600	-0.20	1.70	7.052	2.689	1.121	4.294	0.255	-0.046	-0.214	-0.345	-0.510	0.47013	0.17927	0.07473	0.28627	0.01309	0.03214	0.08195	0.09802	369582
-4.490	75.600	-0.10	1.70	6.571	2.457	0.266	4.465	0.089	0.010	-0.032	-0.010	-0.645	0.43807	0.16380	0.01773	0.29767	0.00434	0.02683	0.08861	0.10202	369682
0.010	75.600	0.00	1.70	6.654	2.454	0.673	4.394	-0.151	0.031	-0.012	0.245	0.524	0.44360	0.16360	0.04487	0.29293	0.00724	0.02675	0.08581	0.09919	369782
2.195	75.500	0.05	1.70	6.982	2.497	-1.318	4.077	-0.300	0.001	-0.103	0.344	-0.340	0.46547	0.16647	-0.08787	0.27180	-0.01357	0.02771	0.07388	0.08773	369882
4.505	75.600	0.10	1.70	7.247	2.473	-1.471	3.955	-0.334	-0.014	-0.079	0.578	-0.133	0.48313	0.16487	-0.09807	0.26367	-0.01452	0.02718	0.06952	0.08311	369982
6.700	75.600	0.15	1.70	7.604	2.544	-1.767	3.826	-0.382	-0.067	-0.132	0.567	-0.053	0.50693	0.16960	-0.11780	0.25507	0.01653	0.02875	0.06506	0.07944	370082
8.895	75.600	0.20	1.70	8.502	2.588	-2.476	3.228	-0.452	0.151	-0.185	0.617	0.204	0.56680	0.17253	-0.16507	0.21520	-0.01678	0.02977	0.04631	0.06119	370182
11.120	75.600	0.25	1.70	8.893	2.623	-2.370	2.902	-0.488	-0.177	-0.185	0.534	0.184	0.59287	0.17487	-0.15800	0.19347	-0.01551	0.03058	0.03743	0.05272	370282

r (mm)	x	r/d	x/d	U (m/s)	u'	V	V'	uv/u'v'	Su	Ku	Sv	Kv	U/Ua	u'/Ua	V/Ua	V'/Ua	uv/Ua^2	u^2/Ua^2	v^2/Ua^2	q/Ua^2	Type ID
13.295	75.600	0.30	1.70	9.650	2.563	-2.302	2.541	-0.477	-0.245	-0.204	0.572	0.293	0.64333	0.17087	-0.15347	0.16940	-0.01381	0.02920	0.02870	0.04329	3703B2
15.600	75.600	0.35	1.70	10.587	2.424	-2.381	2.293	-0.457	-0.350	-0.084	0.514	0.527	0.70580	0.16160	-0.15873	0.15287	-0.01129	0.02611	0.02337	0.03643	3704B2
17.805	75.600	0.40	1.70	12.096	2.477	-2.686	2.231	-0.544	-0.033	0.437	-0.076	0.870	0.80640	0.16513	-0.17907	0.14873	-0.01336	0.02727	0.02212	0.03576	3705B2
19.990	75.600	0.45	1.70	12.226	2.088	-1.899	1.749	-0.369	0.455	0.234	0.476	0.733	0.81507	0.13920	-0.12660	0.11660	-0.00599	0.01938	0.01360	0.02328	3706B2
22.200	75.600	0.50	1.70	12.864	1.827	-1.716	1.490	-0.320	-0.470	0.515	0.395	0.691	0.85760	0.12180	-0.11440	0.09933	-0.00387	0.01484	0.00987	0.01728	3707B2
24.495	75.600	0.55	1.70	13.468	1.573	-1.424	1.287	-0.325	-0.413	0.360	0.174	0.554	0.89787	0.10487	-0.09493	0.08580	-0.00292	0.01100	0.00736	0.01286	3708B2
-17.805	66.695	-0.40	1.50	9.279	3.304	2.827	3.361	0.402	-0.380	-0.165	-0.611	0.269	0.61860	0.22027	0.18847	0.22407	0.01984	0.04852	0.05021	0.07446	3709B2
-13.295	66.695	-0.30	1.50	7.465	3.170	2.869	3.859	0.390	-0.216	-0.302	-0.678	0.088	0.49767	0.21133	0.19127	0.25727	0.02120	0.04466	0.06619	0.08852	3710B2
-8.905	66.695	-0.20	1.50	5.626	3.025	1.860	4.642	0.270	-0.062	-0.061	-0.403	-0.481	0.37507	0.20167	0.12400	0.30947	0.01685	0.04067	0.09577	0.11610	3711B2
-4.510	66.695	-0.10	1.50	5.229	2.624	0.863	4.931	0.061	-0.079	-0.073	-0.103	-0.670	0.34860	0.17493	0.05753	0.32873	0.00351	0.03060	0.10807	0.12337	3712B2
0.005	66.695	0.00	1.50	5.388	2.650	-0.799	4.795	-0.193	-0.140	0.032	0.188	-0.574	0.35920	0.17667	-0.05327	0.31967	-0.01090	0.03121	0.10219	0.11779	3713B2
2.200	66.695	0.05	1.50	5.519	2.562	-1.540	4.691	-0.289	-0.132	-0.056	0.399	-0.339	0.36793	0.17080	-0.10267	0.31273	-0.01544	0.02917	0.09780	0.11239	3714B2
4.500	66.695	0.10	1.50	6.018	2.635	-2.296	4.221	-0.362	-0.071	0.031	0.548	-0.123	0.40120	0.17567	-0.15307	0.28140	-0.01789	0.03086	0.07919	0.09462	3715B2
6.700	66.695	0.15	1.50	6.621	2.715	-2.589	3.846	-0.430	-0.092	-0.099	0.495	0.008	0.44140	0.18100	-0.17260	0.25640	-0.01996	0.03276	0.06574	0.08212	3716B2
8.895	66.695	0.20	1.50	7.567	2.756	-3.162	3.561	-0.468	-0.159	-0.139	0.696	0.362	0.50447	0.18373	-0.21080	0.23740	-0.02041	0.03376	0.05636	0.07324	3717B2
11.095	66.695	0.25	1.50	8.101	2.748	-3.190	3.043	-0.484	-0.178	-0.180	0.601	0.379	0.54007	0.18320	-0.21267	0.20287	-0.01724	0.03356	0.04115	0.05794	3718B2
13.300	66.695	0.30	1.50	9.190	2.671	-3.303	2.646	-0.475	-0.232	-0.289	0.614	0.485	0.61267	0.17807	-0.22020	0.17640	-0.01492	0.03171	0.03112	0.04697	3719B2
15.600	66.695	0.35	1.50	10.285	2.512	-3.061	2.335	-0.466	-0.327	-0.092	0.653	0.472	0.68567	0.16747	-0.20407	0.15567	-0.01215	0.02805	0.02423	0.03825	3720B2
17.805	66.695	0.40	1.50	13.627	4.055	-5.139	3.974	-0.827	0.758	0.571	-0.964	0.800	0.90847	0.27033	-0.30426	0.26493	-0.05923	0.07308	0.07019	0.10673	3721B2
20.010	66.695	0.45	1.50	12.168	2.187	-2.440	1.814	-0.415	-0.485	0.140	0.448	0.503	0.81120	0.14580	-0.16267	0.12093	-0.00732	0.02126	0.01462	0.02525	3722B2
22.200	66.695	0.50	1.50	12.983	1.917	-2.026	1.502	-0.327	-0.487	0.446	0.299	0.369	0.86553	0.12780	-0.13507	0.10013	-0.00418	0.01633	0.01003	0.01819	3723B2
24.495	66.695	0.55	1.50	13.679	1.647	-1.649	1.266	-0.230	-0.229	0.223	0.250	0.381	0.91193	0.10980	-0.10993	0.08440	-0.00213	0.01206	0.00712	0.01315	3724B2
-8.900	53.300	-0.20	1.20	1.804	3.372	1.816	5.101	0.271	-0.052	-0.248	-0.220	-0.538	0.12027	0.22480	0.12107	0.34007	0.02072	0.05054	0.11565	0.14091	3725B2
-4.500	53.300	-0.10	1.20	0.755	3.264	0.441	5.554	0.002	-0.123	0.347	-0.078	-0.758	0.05033	0.21760	0.02940	0.37027	0.00016	0.04735	0.13710	0.16077	3726B2
-0.010	53.300	0.00	1.20	1.282	3.230	-0.946	5.607	-0.205	-0.146	-0.398	0.159	-0.791	0.08547	0.21533	-0.06307	0.37380	-0.01650	0.04637	0.13973	0.16291	3727B2
2.190	53.300	0.05	1.20	1.750	3.155	-2.206	5.120	-0.333	-0.213	-0.274	0.305	-0.557	0.11667	0.21033	-0.14707	0.34133	-0.02391	0.04424	0.11651	0.13863	3728B2
4.505	53.300	0.10	1.20	2.552	3.302	-3.014	4.792	-0.384	-0.280	-0.221	0.465	-0.251	0.17013	0.22013	-0.20093	0.31947	-0.02700	0.04846	0.10206	0.12629	3729B2
6.700	53.300	0.15	1.20	3.855	3.253	-3.971	4.357	-0.415	-0.364	0.209	0.660	0.100	0.25700	0.21687	-0.26473	0.29047	-0.02614	0.04703	0.08437	0.10789	3730B2
8.900	53.300	0.20	1.20	5.027	3.066	-4.327	3.761	-0.436	-0.354	0.177	0.653	0.431	0.33513	0.20440	-0.28847	0.25073	-0.02234	0.04178	0.06287	0.08376	3731B2
11.110	53.300	0.25	1.20	6.136	2.997	-4.663	3.265	-0.449	-0.361	0.326	0.617	0.652	0.40907	0.19980	-0.31087	0.21767	-0.01953	0.03992	0.04738	0.06734	3732B2
13.300	53.300	0.30	1.20	7.174	2.970	-4.524	2.831	-0.436	-0.242	-0.039	0.509	0.537	0.47827	0.19800	-0.30160	0.18873	-0.01629	0.03920	0.03562	0.05522	3733B2
15.595	53.300	0.35	1.20	8.860	2.852	-4.369	2.486	-0.458	-0.365	-0.110	0.423	0.226	0.59067	0.19013	-0.29127	0.16573	-0.01443	0.03615	0.02747	0.04554	3734B2
17.810	53.300	0.40	1.20	10.690	2.561	-4.303	2.162	-0.466	-0.298	0.076	0.372	0.423	0.71267	0.17073	-0.28687	0.14413	-0.01147	0.02915	0.02077	0.03535	3735B2
20.000	53.300	0.45	1.20	11.875	2.369	-3.492	1.852	-0.373	-0.476	0.152	0.447	0.285	0.79167	0.15793	-0.23280	0.12347	-0.00727	0.02494	0.01524	0.02772	3736B2
22.200	53.300	0.50	1.20	13.208	2.055	-2.926	1.638	-0.351	-0.505	0.289	0.430	0.517	0.88053	0.13700	-0.19507	0.10920	-0.00525	0.01877	0.01192	0.02131	3737B2
24.500	53.300	0.55	1.20	14.290	1.689	-2.459	1.357	-0.218	-0.255	0.154	0.297	0.326	0.95267	0.11260	-0.16393	0.09047	-0.00222	0.01268	0.00818	0.01452	3738B2

r (mm)	x	r/d	x/d	U (m/s)	u'	V	V'	uv/u'	U/Ua	u'/Ua	V/Ua	v'/Ua	uv/Ua^2	u^2/Ua^2	v^2/Ua^2	q/Ua^2	Tape ID
8 915	44 495	0.20	1.00	-1.907	3.444	1.379	5.140	0.270	-0.596	0.22960	0.09193	0.34267	0.02124	0.05272	0.11742	0.14378	3739B2
4 510	44 495	0.10	1.00	-2.822	3.152	-0.169	5.117	0.028	-0.585	0.21013	-0.01127	0.34113	0.00201	0.04416	0.11637	0.13845	3740B2
0.005	44 495	0.00	1.00	-2.563	3.180	-1.080	5.113	-0.143	-0.556	0.21200	-0.07200	0.34087	-0.01033	0.04494	0.11619	0.13866	3741B2
2 200	44 495	0.05	1.00	2.076	3.282	-2.295	4.975	-0.294	-0.462	0.21880	-0.15300	0.33167	-0.02134	0.04787	0.11000	0.13394	3742B2
4 505	44 495	0.10	1.00	232	3.558	-2.871	4.723	-0.355	0.392	0.23720	0.19140	0.31487	0.02651	0.05626	0.09914	0.12727	3743B2
6 705	44 495	0.15	1.00	-0.087	3.761	3.961	4.414	-0.397	0.183	0.25073	-0.26407	0.29427	-0.02929	0.06287	0.08659	0.11803	3744B2
8 900	44 495	0.20	1.00	1.158	3.670	4.173	4.151	-0.430	0.071	0.24467	-0.27820	0.27673	-0.02911	0.05986	0.07658	0.10651	3745B2
11 100	44 495	0.25	1.00	3.376	3.550	4.699	3.776	0.427	0.558	0.23667	-0.31327	0.25173	0.02544	0.05601	0.06337	0.09138	3746B2
13 300	44 495	0.30	1.00	5.152	3.367	5.022	3.235	-0.406	0.260	0.22447	-0.33480	0.21567	0.01965	0.05039	0.04651	0.07170	3747B2
15 605	44 495	0.35	1.00	6.721	3.041	4.699	2.889	-0.440	0.241	0.20273	-0.31327	0.19260	-0.01718	0.04110	0.03709	0.05765	3748B2
17 805	44 495	0.40	1.00	9.768	3.268	-5.273	3.016	-0.572	1.364	0.21787	-0.35153	0.20107	-0.02506	0.04747	0.04043	0.06416	3749B2
19 900	44 495	0.45	1.00	11.268	2.650	-4.165	2.133	-0.395	0.532	0.21767	-0.27767	0.14220	-0.00992	0.03121	0.02022	0.03583	3750B2
22 200	44 495	0.50	1.00	13.209	2.251	3.673	1.763	-0.344	0.458	0.15007	-0.24487	0.11753	-0.00607	0.02252	0.01381	0.02507	3751B2
24 500	44 495	0.55	1.00	14.603	1.863	-2.967	1.495	-0.239	0.221	0.12420	-0.19780	0.09967	-0.00296	0.01543	0.00993	0.01765	3752B2
8 900	35 600	0.20	0.80	5.430	2.824	-0.185	4.246	0.213	0.084	0.18827	-0.01233	0.28307	0.01135	0.03544	0.08013	0.09795	3753B2
4 510	35 600	0.10	0.80	5.728	2.586	-0.900	3.863	0.009	0.108	0.17240	-0.06000	0.25753	-0.00040	0.02972	0.06632	0.08118	3754B2
0 010	35 600	0.00	0.80	5.188	2.697	-1.646	3.896	-0.136	0.078	0.17980	-0.10973	0.25973	-0.00635	0.03233	0.06746	0.08363	3755B2
2 210	35 600	0.05	0.80	4.860	2.851	-1.798	3.898	-0.224	0.167	0.19007	-0.11987	0.25987	0.01106	0.03613	0.06753	0.08559	3756B2
4 505	35 600	0.10	0.80	4.246	3.043	2.430	3.842	-0.286	0.193	0.20287	-0.16200	0.25613	-0.01486	0.04115	0.06560	0.08618	3757B2
6 705	35 600	0.15	0.80	3.475	3.238	2.906	3.590	-0.327	0.061	0.21587	-0.19373	0.23933	-0.01689	0.04660	0.05728	0.08058	3758B2
8 890	35 600	0.20	0.80	2.516	3.642	2.963	3.974	-0.388	0.052	0.24280	-0.19753	0.26493	-0.02496	0.05895	0.07019	0.09957	3759B2
11 110	35 600	0.25	0.80	1.421	3.862	-3.235	3.763	0.408	0.091	0.25747	0.21567	0.25087	-0.02635	0.06629	0.06293	0.09608	3760B2
13 300	35 600	0.30	0.80	0.921	3.783	-3.561	3.498	-0.465	0.130	0.25220	-0.23740	0.23320	-0.02735	0.06360	0.05438	0.08618	3761B2
15 605	35 600	0.35	0.80	4.463	3.747	-4.306	3.381	-0.458	0.269	0.24980	-0.28707	0.22540	-0.02579	0.06240	0.05081	0.08201	3762B2
17 805	35 600	0.40	0.80	7.744	3.102	4.758	2.922	-0.419	0.338	0.20680	-0.31720	0.19480	-0.01688	0.04277	0.03795	0.06933	3763B2
20 010	35 600	0.45	0.80	10.356	3.015	-4.242	2.585	-0.474	0.485	0.20100	-0.28280	0.17233	-0.01642	0.04040	0.02970	0.04990	3764B2
22 200	35 600	0.50	0.80	12.646	2.763	-3.610	2.284	-0.451	0.350	0.18420	-0.24067	0.15227	-0.01265	0.03393	0.02319	0.04015	3765B2
24 500	35 600	0.55	0.80	15.161	2.058	-3.265	1.703	-0.211	0.401	0.13720	-0.21767	0.11353	-0.00329	0.01882	0.01289	0.02230	3766B2
17 800	26 695	0.40	0.60	-3.290	4.490	-0.562	4.517	0.489	0.259	0.29933	0.03747	0.30113	0.04408	0.08960	0.09068	0.13548	3767B2
13 295	26 695	0.30	0.60	-6.431	2.817	-1.606	3.470	0.216	0.295	0.18780	-0.10707	0.23133	0.00938	0.03527	0.05352	0.07115	3768B2
8 910	26 695	0.20	0.60	6.976	2.459	-1.423	3.199	0.050	0.133	0.16393	0.09487	0.21327	0.00175	0.02687	0.04548	0.05992	3769B2
4 495	26 695	0.10	0.60	-6.861	2.465	-1.520	3.121	-0.085	0.122	0.16433	-0.10133	0.20807	-0.00291	0.02701	0.04329	0.05679	3770B2
0 000	26 695	0.00	0.60	-6.216	2.512	-1.221	2.985	-0.122	0.091	0.16747	-0.08140	0.19900	-0.00407	0.02805	0.03960	0.05362	3771B2
2 200	26 695	0.05	0.60	-6.341	2.595	-1.112	3.008	-0.131	0.057	0.17300	-0.07413	0.20053	-0.00454	0.02993	0.04021	0.05518	3772B2
4 505	26 695	0.10	0.60	-5.748	2.674	-1.161	2.970	-0.174	0.019	0.17827	-0.07740	0.19800	0.00514	0.03178	0.03920	0.05609	3773B2

r(mm)	x	r/d	x/d	U(m/s)	u'	V	V'	uv/u'v'	Su	Ku	Sv	Kv	U/Ua	u'/Ua	V/Ua	v'/Ua	uv/Ua^2	u^2/Ua^2	v^2/Ua^2	q/Ua^2	Tape ID
6 690	26 695	0 15	0 60	-5 328	2 821	-1 064	2 927	-0 185	0 063	-0 158	-0 039	-0 038	-0 35520	0 18807	-0 07093	0 19513	-0 00679	0 03537	0 03908	0 05576	3774B2
8 910	26 695	0 20	0 60	-4 559	3 054	-0 878	2 893	-0 178	0 099	-0 236	-0 029	-0 056	-0 30393	0 20360	-0 05953	0 19287	-0 00699	0 04145	0 03720	0 05792	3775B2
11 105	26 695	0 25	0 60	-3 547	3 189	-0 648	2 966	-0 192	0 014	-0 342	-0 008	-0 106	-0 23647	0 21260	-0 04320	0 19773	-0 00807	0 04520	0 03910	0 06170	3776B2
13 300	26 695	0 30	0 60	-1 996	3 562	-0 967	3 171	-0 269	-0 001	-0 543	-0 106	0 049	-0 13307	0 23747	-0 06447	0 21140	-0 01350	0 05639	0 04469	0 07289	3777B2
15 600	26 695	0 35	0 60	0 573	4 010	-1 204	3 581	-0 399	-0 311	-0 474	-0 118	-0 148	0 08820	0 26733	-0 08027	0 23873	-0 02546	0 07147	0 05699	0 09273	3778B2
17 790	26 695	0 40	0 60	5 388	3 636	-2 968	3 770	-0 552	-0 116	0 539	-0 166	0 004	0 35920	0 24240	-0 19787	0 25133	-0 03363	0 06876	0 06317	0 09255	3779B2
19 995	26 700	0 45	0 60	7 822	3 107	-2 630	3 074	-0 490	-0 130	0 008	0 073	-0 247	0 52147	0 20713	0 17533	0 20493	-0 02080	0 04290	0 06345	0 06345	3780B2
22 190	26 700	0 50	0 60	11 290	3 245	-2 627	2 808	-0 529	-0 143	-0 322	0 242	-0 296	0 75267	0 21633	-0 17513	0 18720	-0 02142	0 04680	0 03504	0 05844	3781B2
24 510	26 700	0 55	0 60	15 342	2 569	-2 279	2 077	-0 367	-0 384	0 087	0 394	0 139	1 02280	0 17127	-0 15193	0 13847	-0 00870	0 02933	0 01917	0 03384	3782B2
-8 905	13 300	-0 20	0 30	-4 968	2 618	-1 245	2 343	0 017	0 087	0 001	-0 041	-0 315	-0 33120	0 17453	-0 08300	0 15620	0 00046	0 03046	0 02440	0 03963	3783B2
-4 500	13 300	-0 10	0 30	-5 187	2 569	-0 513	2 279	0 008	0 098	-0 023	-0 018	-0 310	-0 34580	0 17127	-0 03420	0 15193	0 00021	0 02933	0 02308	0 03775	3784B2
-0 005	13 300	0 00	0 30	-4 837	2 565	0 065	2 317	-0 052	0 047	0 184	0 091	-0 114	-0 32247	0 17100	0 00433	0 15447	-0 00137	0 02924	0 02386	0 03848	3785B2
2 195	13 300	0 05	0 30	-4 333	2 725	0 431	2 343	-0 078	0 070	-0 156	0 029	-0 092	-0 28887	0 18167	0 02873	0 15620	-0 00221	0 03300	0 02440	0 04090	3786B2
4 490	13 300	0 10	0 30	-3 609	2 713	0 598	2 314	-0 094	-0 056	-0 242	0 180	-0 046	-0 24060	0 18087	0 03987	0 15427	-0 00262	0 03271	0 02380	0 04015	3787B2
6 695	13 300	0 15	0 30	-3 186	2 805	0 999	2 229	-0 089	-0 097	-0 237	0 044	-0 216	-0 21240	0 18700	0 06660	0 14860	-0 00247	0 03497	0 02208	0 03957	3788B2
8 905	13 300	0 20	0 30	-2 460	2 819	1 009	2 247	-0 110	-0 125	-0 337	0 134	0 008	-0 16400	0 18793	0 06727	0 14980	-0 00310	0 03532	0 02244	0 04010	3789B2
11 105	13 300	0 25	0 30	-1 570	2 696	1 114	2 134	-0 094	-0 178	-0 291	0 188	-0 044	-0 10467	0 17973	0 07427	0 14227	-0 00240	0 03230	0 02024	0 03639	3790B2
13 310	13 300	0 30	0 30	-0 920	2 907	1 416	2 097	-0 158	-0 387	-0 281	0 186	-0 043	-0 06133	0 19380	0 09440	0 13980	-0 00428	0 03756	0 01954	0 03832	3791B2
15 610	13 300	0 35	0 30	0 051	2 841	1 566	1 959	-0 218	-0 444	-0 241	0 221	0 020	-0 00340	0 18940	0 10440	0 13060	-0 00539	0 03587	0 01706	0 03499	3792B2
17 795	13 300	0 40	0 30	1 624	2 677	1 187	1 990	-0 319	-0 473	-0 015	0 092	0 329	0 10827	0 17847	0 07913	0 13267	-0 00755	0 03185	0 01760	0 03353	3793B2
20 000	13 300	0 45	0 30	2 605	2 325	1 071	1 866	0 312	-0 667	0 522	-0 015	0 735	0 17367	0 15500	0 07140	0 12440	-0 00602	0 02403	0 01548	0 02749	3794B2
22 210	13 300	0 50	0 30	7 015	3 174	-0 057	2 965	0 574	0 271	0 090	-0 283	-0 311	0 46767	0 21160	0 00380	0 19767	-0 02401	0 04477	0 03907	0 06146	3795B2
24 495	13 300	0 55	0 30	15 137	3 068	0 027	2 392	-0 377	-0 378	0 048	0 326	-0 030	1 00913	0 20453	-0 00180	0 15947	-0 01230	0 04183	0 02543	0 04535	3796B2
8 910	4 495	0 20	0 10	-1 348	2 109	0 072	1 776	0 115	-0 177	-0 218	-0 085	-0 084	-0 08987	0 14060	0 00480	0 11840	0 00191	0 01977	0 01402	0 02390	3797B2
-4 495	4 495	-0 10	0 10	-1 957	2 348	1 070	1 915	0 163	-0 049	-0 306	-0 160	-0 232	-0 13047	0 15653	0 07133	0 12767	0 00326	0 02450	0 01630	0 02855	3798B2
0 000	4 495	0 00	0 10	-1 481	2 274	1 771	1 900	0 128	-0 135	-0 251	-0 048	-0 111	-0 09873	0 15160	0 11807	0 12667	0 00246	0 02298	0 01604	0 02754	3799B2
2 210	4 495	0 05	0 10	-1 441	2 305	2 331	1 756	0 106	-0 159	-0 329	-0 094	-0 074	-0 09607	0 15367	0 15540	0 11707	0 00191	0 02361	0 01370	0 02551	3800B2
4 490	4 495	0 10	0 10	-1 241	2 280	2 675	1 772	0 079	-0 084	-0 373	-0 130	-0 100	-0 08273	0 15200	0 17833	0 11813	0 00142	0 02310	0 01396	0 02551	3801B2
6 700	4 495	0 15	0 10	1 050	2 243	2 907	1 759	0 155	-0 164	-0 337	-0 141	-0 127	-0 07000	0 14953	0 19380	0 11727	0 00272	0 02236	0 01375	0 02493	3802B2
8 910	4 495	0 20	0 10	-0 669	2 176	3 065	1 715	0 109	-0 249	-0 282	-0 079	-0 119	-0 04460	0 14507	0 20433	0 11433	0 00181	0 02104	0 01307	0 02359	3803B2
11 095	4 495	0 25	0 10	-0 288	2 000	2 996	1 625	0 070	-0 308	-0 266	-0 020	-0 219	-0 01920	0 13333	0 19973	0 10833	0 00101	0 01778	0 01174	0 02063	3804B2
13 305	4 495	0 30	0 10	0 033	1 949	2 916	1 554	0 095	-0 366	-0 019	-0 006	0 014	0 00220	0 12993	0 19440	0 10360	0 00128	0 01688	0 01073	0 01917	3805B2
15 605	4 495	0 35	0 10	0 626	1 718	2 937	1 470	0 102	-0 444	0 057	0 026	-0 005	0 04173	0 11453	0 19580	0 09800	0 00114	0 01312	0 00960	0 01616	3806B2
17 790	4 495	0 40	0 10	1 610	1 922	1 947	1 885	-0 346	0 261	0 759	-0 555	0 496	0 10733	0 12813	0 12980	0 12567	-0 00557	0 01642	0 01579	0 02400	3807B2
20 000	4 495	0 45	0 10	1 379	1 439	2 301	1 271	0 118	-0 423	0 352	0 141	0 075	0 09193	0 09593	0 15340	0 08473	0 00096	0 00920	0 00718	0 01178	3808B2
22 200	4 495	0 50	0 10	3 873	2 921	0 747	2 911	-0 618	0 554	0 386	-0 634	-0 103	0 25820	0 19473	0 04980	0 19407	0 02335	0 03792	0 03766	0 05662	3809B2
24 500	4 495	0 55	0 10	16 685	2 441	1 852	2 157	-0 051	-0 143	-0 171	0 102	-0 156	1 11233	0 16273	0 12347	0 14380	0 00119	0 02648	0 02068	0 03392	3810B2

r(mm)	x	r/d	x/d	U(m/s)	u'	V	V'	uv/u'v'	Su	Ku	Sv	Kv	U/Ua	u'/Ua	V/Ua	v'/Ua	uv/Ua^2	u^2/Ua^2	v^2/Ua^2	q/Ua^2	Tape ID
22.995	-0.005	0.52	0.00	15.439	2.632	3.683	2.092	0.011	-0.019	-0.320	-0.060	-0.083	1.02927	0.17547	0.24553	0.13947	0.00027	0.03079	0.01945	0.03485	3812B2
24.500	-0.005	0.55	0.00	15.960	2.582	2.285	2.312	-0.190	-0.125	-0.263	0.118	-0.228	1.05733	0.17213	0.15233	0.15413	-0.00504	0.02963	0.02376	0.03857	3811B2

Filename: LBT455 CSV

Bluff Body : d = 44.45 mm,

 $\theta = 45$ Fuel : CH₄

Fuel Flow = 212 slpm

Ua = 15 (m/s)

BR = 25%

 $\phi = 0.56$

Air Flow = 3980 slpm

Turb. Grid : none

Tad = 1591 K

T0 = 295 K

r(mm)	x	r/d	x/d	C	Ct	T(K)	Trms	S	K	Tmin	Tmax	NData	Date	Data ID
0.00	88.90	0.00	2.00	0.9653	0.0455	1546	59	-0.45	2.22	1194	1715	500	3/22/90	548BT
2.20	88.90	0.05	2.00	0.9753	0.0571	1559	74	-4.06	48.65	628	1767	500	3/22/90	549BT
4.50	88.90	0.10	2.00	0.9761	0.0455	1560	59	-0.16	0.55	1309	1732	500	3/22/90	550BT
6.70	88.90	0.15	2.00	0.9653	0.0478	1546	62	-0.88	6.38	1077	1740	500	3/22/90	551BT
8.90	88.90	0.20	2.00	0.9591	0.0556	1538	72	-4.68	59.08	585	1706	500	3/22/90	552BT
11.10	88.90	0.25	2.00	0.9591	0.0656	1538	85	-6.09	78.01	339	1714	500	3/22/90	553BT
13.30	88.90	0.30	2.00	0.9514	0.0748	1528	97	-4.53	36.87	498	1735	500	3/22/90	554BT
15.60	88.90	0.35	2.00	0.9383	0.1080	1511	140	-3.88	19.09	445	1690	500	3/22/90	555BT
17.80	88.90	0.40	2.00	0.9159	0.1574	1482	204	-3.00	10.04	403	1769	500	3/22/90	556BT
20.00	88.90	0.45	2.00	0.8387	0.2160	1382	280	-2.08	3.88	250	1709	499	3/22/90	557BT
22.20	88.90	0.50	2.00	0.7184	0.3179	1226	412	-1.05	-0.32	250	1675	499	3/22/90	558BT
0.00	35.60	0.00	0.80	0.9529	0.0455	1530	59	-0.32	0.94	1294	1732	500	3/22/90	537BT
2.20	35.60	0.05	0.80	0.9483	0.0509	1524	66	-0.65	2.48	1208	1710	500	3/22/90	538BT
4.50	35.60	0.10	0.80	0.9529	0.0424	1530	55	-0.24	0.78	1298	1705	500	3/22/90	539BT
6.70	35.60	0.15	0.80	0.9475	0.0478	1523	62	-0.79	3.85	1104	1693	500	3/22/90	540BT
8.90	35.60	0.20	0.80	0.9591	0.0494	1538	64	-2.04	16.72	924	1685	500	3/22/90	541BT
11.10	35.60	0.25	0.80	0.9606	0.0509	1540	66	-2.12	19.11	877	1710	500	3/22/90	542BT
13.30	35.60	0.30	0.80	0.9599	0.0448	1539	58	-0.44	1.47	1226	1700	500	3/22/90	543BT
15.60	35.60	0.35	0.80	0.9375	0.0610	1510	79	-8.18	128.79	250	1683	500	3/22/90	544BT
17.80	35.60	0.40	0.80	0.9267	0.0478	1496	62	-0.36	1.11	1190	1655	500	3/22/90	545BT
20.00	35.60	0.45	0.80	0.9190	0.0625	1486	81	-6.23	86.88	314	1652	500	3/22/90	546BT
22.20	35.60	0.50	0.80	0.9097	0.0988	1474	128	-5.21	36.37	324	1682	500	3/22/90	547BT
0.00	4.50	0.00	0.10	0.9298	0.0625	1500	81	-1.23	2.68	1089	1664	500	3/22/90	526BT
2.20	4.50	0.05	0.10	0.9375	0.0579	1510	75	-1.24	3.39	1124	1713	500	3/22/90	527BT
4.50	4.50	0.10	0.10	0.9321	0.0610	1503	79	-1.37	3.50	1132	1696	500	3/22/90	528BT
6.70	4.50	0.15	0.10	0.9275	0.0648	1497	84	-1.81	6.51	988	1649	500	3/22/90	529BT
8.90	4.50	0.20	0.10	0.9298	0.0625	1500	81	-1.26	3.43	1091	1689	500	3/22/90	530BT
11.10	4.50	0.25	0.10	0.9336	0.0594	1505	77	-1.29	3.82	1109	1662	500	3/22/90	531BT
13.30	4.50	0.30	0.10	0.9336	0.0594	1505	77	-1.35	4.21	1108	1709	500	3/22/90	532BT
15.60	4.50	0.35	0.10	0.9205	0.0586	1488	76	-1.15	2.21	1181	1674	500	3/22/90	533BT
17.80	4.50	0.40	0.10	0.9267	0.0602	1496	78	-0.80	1.25	1189	1679	500	3/22/90	534BT
20.00	4.50	0.45	0.10	0.9198	0.0602	1487	78	-1.04	2.69	1057	1653	500	3/22/90	535BT
22.20	4.50	0.50	0.10	0.9090	0.0671	1473	87	-1.32	3.32	963	1695	500	3/22/90	536BT
0.00	177.80	0.00	4.00	0.9869	0.1119	1574	145	-5.59	40.20	295	1764	500	3/22/90	510BT
0.00	155.60	0.00	3.50	0.9946	0.0710	1584	92	-3.06	18.59	868	1791	500	3/22/90	511BT
0.00	133.40	0.00	3.00	0.9915	0.0633	1580	82	-2.95	17.67	942	1761	500	3/22/90	512BT
0.00	111.10	0.00	2.50	0.9992	0.0532	1590	69	-2.18	17.25	939	1786	500	3/22/90	513BT
0.00	102.20	0.00	2.30	0.9799	0.0571	1565	74	-2.39	19.40	883	1745	500	3/22/90	514BT
0.00	88.90	0.00	2.00	0.9668	0.0517	1548	67	0.10	1.32	1271	1832	500	3/22/90	515BT
0.00	75.60	0.00	1.70	0.9738	0.0471	1557	61	0.03	0.26	1348	1747	500	3/22/90	516BT
0.00	66.70	0.00	1.50	0.9753	0.0509	1559	66	-2.01	19.70	889	1724	500	3/22/90	517BT
0.00	53.30	0.00	1.20	0.9807	0.0610	1566	79	-5.10	57.80	571	1741	500	3/22/90	518BT
0.00	44.00	0.00	0.99	0.9769	0.0540	1561	70	-2.03	16.12	903	1734	500	3/22/90	519BT
0.00	35.60	0.00	0.80	0.9676	0.0455	1549	59	-0.05	-0.04	1350	1726	500	3/22/90	520BT
0.00	26.70	0.00	0.60	0.9568	0.0455	1535	59	-0.04	-0.09	1351	1687	500	3/22/90	521BT
0.00	13.30	0.00	0.30	0.9429	0.0448	1517	58	-0.30	0.23	1332	1666	500	3/22/90	522BT
0.00	4.50	0.00	0.10	0.9329	0.0586	1504	76	1.16	3.42	1078	1682	500	3/22/90	523BT

r(mm)	x	r/d	x/d	C	Ct	T(K)	T _{rms}	S	K	T _{min}	T _{max}	NData	Date	Data ID
22.20	102.20	0.50	2.30	0.7199	0.3048	1205	295	1.13	0.05	250	1684	499	3/22/90	559BT
22.20	88.90	0.50	2.00	0.7269	0.3002	1237	389	1.18	0.05	250	1685	497	3/22/90	560BT
22.20	75.60	0.50	1.70	0.7785	0.2554	1304	331	1.38	0.95	294	1680	498	3/22/90	561BT
22.20	66.70	0.50	1.50	0.8102	0.2330	1345	302	1.94	3.13	255	1694	499	3/22/90	562BT
22.20	53.30	0.50	1.20	0.8557	0.1883	1404	244	2.31	5.35	250	1675	499	3/22/90	563BT
22.20	44.50	0.50	1.00	0.9213	0.1250	1489	162	3.45	15.14	460	1698	499	3/22/90	564BT
22.20	35.60	0.50	0.80	0.9213	0.0918	1489	119	4.19	25.42	493	1655	500	3/22/90	565BT
22.20	26.70	0.50	0.60	0.9452	0.0486	1520	63	-1.00	4.77	1085	1685	500	3/22/90	567BT
22.20	13.30	0.50	0.30	0.9390	0.0502	1512	65	-0.32	0.81	1230	1730	500	3/22/90	568BT
22.20	4.50	0.50	0.10	0.9159	0.0633	1482	82	-1.33	3.26	1071	1676	500	3/22/90	569BT

LBT465 XLS - 1

Filename: LBT465.CSV

Bluff Body : d = 44.45 mm,

 $\theta = 45$

Fuel : CH4

Fuel Flow = 3962 slpm

Ua = 15 (m/s)

BR = 25%

 $\phi = 0.65$

Air Flow = 244 slpm

Turb. Grid : none

Tad = 1755 K

T0 = 295 K

r(mm)	x	r/d	x/d	C	Ct	T(K)	Trms	S	K	Tmin	Tmax	NData	Date	Data ID
0.00	88.90	0.00	2.00	0.9589	0.0445	1695	65	0.01	-0.21	1523	1892	500	3/9/90	317BT
2.20	88.90	0.05	2.00	0.9582	0.0459	1694	67	-0.18	-0.26	1490	1848	498	3/9/90	318BT
4.50	88.90	0.10	2.00	0.9610	0.0438	1698	64	-0.08	0.20	1488	1888	494	3/9/90	319BT
6.70	88.90	0.15	2.00	0.9664	0.0445	1706	65	-0.08	-0.26	1512	1892	495	3/9/90	320BT
8.90	88.90	0.20	2.00	0.9603	0.0425	1697	62	-0.14	-0.13	1485	1869	499	3/9/90	321BT
11.10	88.90	0.25	2.00	0.9644	0.0432	1703	63	-0.18	0.26	1476	1876	497	3/9/90	322BT
13.30	88.90	0.30	2.00	0.9493	0.0473	1681	69	-1.22	9.10	1095	1844	499	3/9/90	323BT
15.60	88.90	0.35	2.00	0.9568	0.0438	1692	64	-0.11	0.42	1414	1856	497	3/9/90	324BT
17.80	88.90	0.40	2.00	0.9562	0.0438	1691	64	-0.21	-0.16	1506	1859	493	3/9/90	325BT
20.00	88.90	0.45	2.00	0.9562	0.0534	1691	78	-2.12	17.83	945	1888	493	3/9/90	326BT
22.20	88.90	0.50	2.00	0.9541	0.0610	1688	89	-2.11	11.44	1087	1869	490	3/9/90	327BT
0.00	75.60	0.00	1.70	0.9781	0.0438	1723	64	-0.17	0.21	1501	1893	498	3/19/90	366BT
4.50	75.60	0.10	1.70	0.9788	0.0432	1724	63	0.20	-0.45	1581	1893	494	3/19/90	367BT
8.90	75.60	0.20	1.70	0.9719	0.0459	1714	67	-0.13	-0.05	1508	1896	498	3/19/90	368BT
13.30	75.60	0.30	1.70	0.9767	0.0438	1721	64	-0.03	-0.17	1508	1894	496	3/19/90	369BT
15.60	75.60	0.35	1.70	0.9808	0.0425	1727	62	0.05	-0.30	1547	1893	498	3/19/90	370BT
17.80	75.60	0.40	1.70	0.9822	0.0459	1729	67	-0.10	-0.07	1474	1892	495	3/19/90	371BT
20.00	75.60	0.45	1.70	0.9815	0.0473	1728	69	-0.12	-0.40	1515	1892	498	3/19/90	372BT
22.20	75.60	0.50	1.70	0.9863	0.0719	1735	105	-6.51	78.76	310	1898	492	3/19/90	373BT
0.00	66.70	0.00	1.50	0.9486	0.0507	1680	74	0.18	-0.16	1476	1890	499	3/26/90	398BT
4.50	66.70	0.10	1.50	0.9507	0.0466	1683	68	-0.16	0.00	1463	1862	497	3/26/90	399BT
8.90	66.70	0.20	1.50	0.9575	0.0466	1693	68	-0.03	0.22	1459	1891	499	3/26/90	400BT
13.30	66.70	0.30	1.50	0.9562	0.0514	1691	75	-0.22	0.69	1415	1896	496	3/26/90	401BT
15.60	66.70	0.35	1.50	0.9418	0.0527	1670	77	-1.05	6.75	1075	1870	499	3/26/90	402BT
17.80	66.70	0.40	1.50	0.9514	0.0479	1684	70	-0.02	0.38	1451	1895	460	3/26/90	403BT
20.00	66.70	0.45	1.50	0.9459	0.0500	1676	73	-0.12	0.09	1457	1886	497	3/26/90	404BT
22.20	66.70	0.50	1.50	0.9384	0.0575	1665	84	-0.74	3.09	1152	1891	497	3/26/90	405BT
0.00	53.30	0.00	1.20	0.9712	0.0452	1713	66	-0.14	-0.09	1502	1879	496	3/19/90	358BT
4.50	53.30	0.10	1.20	0.9699	0.0445	1711	65	0.05	-0.08	1519	1882	497	3/19/90	359BT
8.90	53.30	0.20	1.20	0.9733	0.0459	1716	67	0.04	-0.20	1495	1897	500	3/19/90	360BT
13.30	53.30	0.30	1.20	0.9842	0.0432	1732	63	-0.10	-0.21	1519	1896	494	3/19/90	361BT
15.60	53.30	0.35	1.20	0.9842	0.0466	1732	68	-0.03	-0.27	1545	1900	496	3/19/90	362BT
17.80	53.30	0.40	1.20	0.9781	0.0479	1723	70	-0.29	1.06	1348	1890	495	3/19/90	363BT
20.00	53.30	0.45	1.20	0.9781	0.0479	1723	70	-0.22	-0.11	1514	1897	500	3/19/90	364BT
22.20	53.30	0.50	1.20	0.9747	0.0527	1718	77	-1.69	12.45	1036	1894	500	3/19/90	365BT
0.00	35.60	0.00	0.80	0.9432	0.0432	1672	63	0.00	-0.08	1496	1851	500	3/9/90	305BT
2.20	35.60	0.05	0.80	0.9445	0.0418	1674	61	-0.11	0.34	1456	1877	500	3/9/90	306BT
4.50	35.60	0.10	0.80	0.9500	0.0425	1682	62	-0.22	0.24	1454	1860	499	3/9/90	307BT
6.70	35.60	0.15	0.80	0.9514	0.0445	1684	65	0.11	0.09	1478	1896	500	3/9/90	308BT
8.90	35.60	0.20	0.80	0.9479	0.0438	1679	64	0.01	-0.08	1472	1857	496	3/9/90	309BT
11.10	35.60	0.25	0.80	0.9527	0.0445	1686	65	-0.03	0.29	1458	1875	499	3/9/90	310BT
13.30	35.60	0.30	0.80	0.9534	0.0418	1687	61	0.10	0.22	1505	1892	499	3/9/90	311BT
15.60	35.60	0.35	0.80	0.9507	0.0438	1683	64	0.01	-0.33	1519	1857	500	3/9/90	312BT
17.80	35.60	0.40	0.80	0.9548	0.0425	1689	62	-0.14	0.00	1498	1864	500	3/9/90	313BT
20.00	35.60	0.45	0.80	0.9548	0.0514	1689	75	-4.95	64.93	680	1857	500	3/9/90	315BT
22.20	35.60	0.50	0.80	0.9568	0.0438	1692	64	0.03	0.14	1471	1891	498	3/9/90	316BT

r(mm)	x	r/d	x/d	C	Ct	T(K)	Trms	S	K	Tmin	Tmax	NData	Date	Data ID
0.00	26.70	0.00	0.60	0.9507	0.0466	1683	68	0.01	-0.06	1488	1872	500	3/19/90	350BT
4.50	26.70	0.10	0.60	0.9651	0.0452	1704	66	-0.12	0.05	1494	1893	499	3/19/90	351BT
8.90	26.70	0.20	0.60	0.9671	0.0466	1707	68	-0.08	-0.30	1520	1888	500	3/19/90	352BT
13.30	26.70	0.30	0.60	0.9692	0.0432	1710	63	-0.28	-0.05	1480	1860	499	3/19/90	353BT
15.60	26.70	0.35	0.60	0.9699	0.0425	1711	62	0.06	0.09	1534	1890	500	3/19/90	354BT
17.80	26.70	0.40	0.60	0.9740	0.0438	1717	64	-0.19	-0.12	1501	1873	500	3/19/90	355BT
20.00	26.70	0.45	0.60	0.9774	0.0438	1722	64	0.05	0.01	1499	1899	498	3/19/90	356BT
22.20	26.70	0.50	0.60	0.9795	0.0466	1725	68	-0.12	-0.34	1545	1894	499	3/19/90	357BT
0.00	13.30	0.00	0.30	0.9425	0.0452	1671	66	-0.16	0.21	1419	1847	500	3/19/90	342BT
4.50	13.30	0.10	0.30	0.9466	0.0438	1677	64	0.04	0.02	1467	1873	500	3/19/90	343BT
8.90	13.30	0.20	0.30	0.9500	0.0459	1682	67	-0.01	-0.21	1465	1874	500	3/19/90	344BT
13.30	13.30	0.30	0.30	0.9541	0.0466	1688	68	0.13	-0.09	1484	1884	499	3/19/90	345BT
15.60	13.30	0.35	0.30	0.9575	0.0425	1693	62	-0.16	0.00	1497	1870	500	3/19/90	346BT
17.80	13.30	0.40	0.30	0.9603	0.0459	1697	67	0.00	-0.07	1518	1876	500	3/19/90	347BT
20.00	13.30	0.45	0.30	0.9685	0.0425	1709	62	0.05	-0.15	1531	1887	500	3/19/90	348BT
22.20	13.30	0.50	0.30	0.9740	0.0493	1717	72	-0.31	0.21	1450	1899	500	3/19/90	349BT
0.00	4.50	0.00	0.10	0.8808	0.0534	1581	78	-0.56	0.79	1301	1758	500	3/9/90	294BT
2.20	4.50	0.05	0.10	0.8897	0.0514	1594	75	-0.69	1.89	1227	1846	500	3/9/90	295BT
4.50	4.50	0.10	0.10	0.9062	0.0514	1618	75	-0.62	1.55	1232	1791	500	3/9/90	296BT
6.70	4.50	0.15	0.10	0.9110	0.0486	1625	71	-0.51	1.02	1327	1809	500	3/9/90	297BT
8.90	4.50	0.20	0.10	0.9110	0.0466	1625	68	-0.24	0.39	1409	1853	500	3/9/90	298BT
11.10	4.50	0.25	0.10	0.9178	0.0438	1635	64	-0.20	0.54	1384	1829	500	3/9/90	299BT
13.30	4.50	0.30	0.10	0.9192	0.0438	1637	64	-0.29	0.88	1318	1805	500	3/9/90	300BT
15.60	4.50	0.35	0.10	0.9247	0.0438	1645	64	-0.26	0.84	1371	1840	500	3/9/90	301BT
17.80	4.50	0.40	0.10	0.9205	0.0452	1639	66	-0.63	3.49	1195	1823	500	3/9/90	302BT
20.00	4.50	0.45	0.10	0.9205	0.0466	1639	68	-0.04	0.75	1380	1863	500	3/9/90	303BT
22.20	4.50	0.50	0.10	0.9247	0.0493	1645	72	-0.29	0.31	1409	1849	500	3/9/90	304BT
0.00	177.80	0.00	4.00	0.9534	0.0493	1687	72	-0.06	-0.01	1432	1873	497	3/21/90	384BT
0.00	155.60	0.00	3.50	0.9548	0.0473	1689	69	-0.01	-0.22	1486	1881	500	3/21/90	385BT
0.00	133.40	0.00	3.00	0.9582	0.0500	1694	73	0.15	0.13	1503	1895	499	3/21/90	386BT
0.00	111.10	0.00	2.50	0.9596	0.0466	1696	68	-0.03	-0.26	1520	1888	500	3/21/90	387BT
0.00	102.20	0.00	2.30	0.9582	0.0452	1694	66	0.06	-0.09	1499	1870	500	3/21/90	388BT
0.00	88.90	0.00	2.00	0.9349	0.0432	1660	63	-0.03	0.88	1398	1880	500	3/21/90	389BT
0.00	75.60	0.00	1.70	0.9452	0.0418	1675	61	0.11	-0.01	1463	1872	498	3/21/90	390BT
0.00	66.70	0.00	1.50	0.9459	0.0438	1676	64	-0.14	0.06	1451	1848	500	3/21/90	391BT
0.00	53.30	0.00	1.20	0.9418	0.0445	1670	65	0.12	0.08	1469	1864	500	3/21/90	392BT
0.00	44.50	0.00	1.00	0.9363	0.0425	1662	62	-0.10	-0.34	1507	1823	500	3/21/90	393BT
0.00	35.60	0.00	0.80	0.9185	0.0404	1636	59	-0.12	0.25	1401	1809	500	3/21/90	394BT
0.00	26.70	0.00	0.60	0.9158	0.0452	1632	66	-0.07	0.17	1416	1856	500	3/21/90	395BT
0.00	13.30	0.00	0.30	0.8932	0.0452	1599	66	-0.19	-0.07	1378	1766	500	3/21/90	396BT
0.00	4.50	0.00	0.10	0.8801	0.0589	1580	86	-0.91	1.92	1178	1796	500	3/21/90	397BT
22.20	102.20	0.50	2.30	0.9890	0.0719	1739	105	-5.47	60.01	383	1898	488	3/19/90	374BT
22.20	88.90	0.50	2.00	0.9774	0.0610	1722	89	-6.55	95.17	409	1890	496	3/19/90	375BT
22.20	75.60	0.50	1.70	0.9699	0.0932	1711	136	-6.40	57.69	308	1890	494	3/19/90	376BT
22.20	66.70	0.50	1.50	0.9575	0.0767	1693	112	-6.57	72.49	373	1896	490	3/19/90	377BT
22.20	53.30	0.50	1.20	0.9274	0.0473	1649	69	0.04	-0.25	1462	1835	494	3/19/90	378BT
22.20	44.50	0.50	1.00	0.9562	0.0493	1691	72	-0.24	0.32	1447	1892	496	3/19/90	379BT
22.20	35.60	0.50	0.80	0.9589	0.0425	1695	62	0.25	0.26	1533	1892	496	3/19/90	380BT
22.20	26.70	0.50	0.60	0.9534	0.0473	1687	69	0.08	-0.23	1486	1883	495	3/19/90	381BT
22.20	13.30	0.50	0.30	0.9370	0.0473	1663	69	0.02	0.01	1454	1841	498	3/19/90	382BT
22.20	4.50	0.50	0.10	0.9205	0.0445	1639	65	-0.22	0.26	1395	1834	499	3/19/90	383BT

Filename: LBT4653.CSV

Bluff Body : d = 44.45 mm,

 $\theta = 45$ Fuel : CH₄

Fuel Flow = 3962 slpm

U_a = 15 (m/s)

BR = 25%

 $\phi = 0.65$

Air Flow = 244 slpm

Turb. Grid : G3

Tad = 1755 K

T0 = 295 K

r(mm)	x	r/d	x/d	C	Ct	T(K)	Trms	S	K	Tmin	Tmax	NData	Date	Data ID
0.00	53.30	0.00	1.20	0.9829	0.0747	1730	109	-3.09	28.60	538	1956	500	3/26/90	619BT
2.20	53.30	0.05	1.20	0.9822	0.0897	1729	131	-4.28	40.13	394	2074	499	3/26/90	620BT
4.50	53.30	0.10	1.20	0.9767	0.0959	1721	140	-4.85	39.57	341	2052	500	3/26/90	621BT
6.70	53.30	0.15	1.20	0.9753	0.0815	1719	119	-4.99	49.27	367	1966	500	3/26/90	622BT
8.90	53.30	0.20	1.20	0.9678	0.1082	1708	158	-4.72	35.34	293	1989	500	3/26/90	623BT
11.10	53.30	0.25	1.20	0.9664	0.1370	1706	200	-4.05	21.60	250	2094	497	3/26/90	624BT
13.30	53.30	0.30	1.20	0.9205	0.1993	1639	291	-3.12	10.17	289	2035	500	3/26/90	625BT
15.60	53.30	0.35	1.20	0.8521	0.2637	1539	385	-1.97	3.00	250	2009	499	3/26/90	626BT
17.80	53.30	0.40	1.20	0.7555	0.3356	1398	490	-1.19	-0.05	250	1942	500	3/26/90	627BT
20.00	53.30	0.45	1.20	0.6144	0.3932	1192	574	-0.56	-1.40	250	1887	499	3/26/90	628BT
22.20	53.30	0.50	1.20	0.4740	0.4144	987	605	0.02	-1.76	250	1867	500	3/26/90	629BT
0.00	44.50	0.00	1.00	0.9836	0.0630	1731	92	-3.12	34.04	685	1994	500	3/26/90	608BT
2.20	44.50	0.05	1.00	0.9822	0.0664	1729	97	-3.41	24.05	928	1981	499	3/26/90	609BT
4.50	44.50	0.10	1.00	0.9870	0.0603	1736	88	-1.68	9.89	1102	1996	500	3/26/90	610BT
6.70	44.50	0.15	1.00	0.9808	0.0603	1727	88	-1.54	10.39	1038	1968	499	3/26/90	611BT
8.90	44.50	0.20	1.00	0.9863	0.0644	1735	94	-0.88	3.82	1212	2003	499	3/26/90	612BT
11.10	44.50	0.25	1.00	0.9795	0.0979	1725	143	-4.56	35.88	334	2014	499	3/26/90	613BT
13.30	44.50	0.30	1.00	0.9555	0.1240	1690	181	-3.69	20.40	362	1983	497	3/26/90	614BT
15.60	44.50	0.35	1.00	0.8911	0.2226	1596	325	-2.34	5.14	281	2102	500	3/26/90	615BT
17.80	44.50	0.40	1.00	0.8048	0.3027	1470	442	-1.61	1.33	250	1960	500	3/26/90	616BT
20.00	44.50	0.45	1.00	0.6719	0.3603	1276	526	-0.77	-0.99	250	1936	499	3/26/90	617BT
22.20	44.50	0.50	1.00	0.4897	0.4123	1010	602	-0.07	-1.74	250	1881	500	3/26/90	618BT
0.00	26.70	0.00	0.60	0.9966	0.0514	1750	75	0.11	-0.15	1535	1978	500	3/26/90	595BT
2.20	26.70	0.05	0.60	1.0034	0.0500	1760	73	0.01	0.73	1453	2060	500	3/26/90	596BT
4.50	26.70	0.10	0.60	1.0041	0.0500	1761	73	0.15	0.15	1552	2007	500	3/26/90	597BT
6.70	26.70	0.15	0.60	1.0089	0.0534	1768	78	0.02	0.09	1531	2021	500	3/26/90	598BT
8.90	26.70	0.20	0.60	0.9979	0.0644	1752	94	-0.62	1.66	1266	2007	499	3/26/90	599BT
11.10	26.70	0.25	0.60	1.0034	0.0562	1760	82	-0.17	1.26	1424	2064	500	3/26/90	600BT
13.30	26.70	0.30	0.60	0.9911	0.0555	1742	81	0.02	0.14	1490	1987	500	3/26/90	601BT
15.60	26.70	0.35	0.60	0.9644	0.1062	1703	155	-4.87	35.95	293	1949	500	3/26/90	602BT
17.80	26.70	0.40	0.60	0.9123	0.1849	1627	270	-3.27	11.93	250	1950	500	3/26/90	603BT
20.00	26.70	0.45	0.60	0.8267	0.2918	1502	426	-1.89	2.38	250	1935	499	3/26/90	604BT
22.20	26.70	0.50	0.60	0.5699	0.4253	1127	621	-0.39	-1.60	250	2030	500	3/26/90	605BT
0.00	4.50	0.00	0.10	0.9973	0.0493	1751	72	-0.10	0.05	1505	1973	500	3/26/90	584BT
2.20	4.50	0.05	0.10	0.9993	0.0500	1754	73	0.06	0.14	1563	2022	500	3/26/90	585BT
4.50	4.50	0.10	0.10	0.9966	0.0507	1750	74	0.05	1.59	1419	2049	500	3/26/90	586BT
6.70	4.50	0.15	0.10	0.9842	0.0555	1732	81	-0.04	0.07	1430	1971	500	3/26/90	587BT
8.90	4.50	0.20	0.10	0.9897	0.0507	1740	74	-0.01	0.24	1475	1963	500	3/26/90	588BT
11.10	4.50	0.25	0.10	0.9815	0.0521	1728	76	-0.44	1.01	1404	1947	500	3/26/90	589BT
13.30	4.50	0.30	0.10	0.9767	0.0500	1721	73	-0.35	1.26	1354	1959	500	3/26/90	590BT
15.60	4.50	0.35	0.10	0.9897	0.0541	1740	79	-0.63	1.64	1320	1931	500	3/26/90	591BT
17.80	4.50	0.40	0.10	0.9966	0.0596	1750	87	-0.77	2.87	1255	1985	500	3/26/90	592BT
20.00	4.50	0.45	0.10	0.9836	0.0610	1731	89	-0.90	2.00	1359	1950	500	3/26/90	593BT
22.20	4.50	0.50	0.10	0.8699	0.2014	1565	294	-2.82	8.10	250	1910	500	3/26/90	594BT

r(mm)	x	r/d	x/d	C	Cl	T(K)	Trms	S	K	Tmin	Tmax	NData	Date	Data ID
0.00	177.80	0.00	4.00	0.3719	0.1527	1714	223	-4.28	21.95	250	2094	500	3/26/90	570BT
0.00	155.60	0.00	3.50	0.9452	0.1753	1675	256	-3.73	15.33	250	1986	500	3/26/90	571BT
0.00	133.40	0.00	3.00	0.9438	0.1884	1673	275	-3.76	14.89	250	2034	500	3/26/90	572BT
0.00	111.10	0.00	2.50	0.9500	0.1555	1682	227	-4.12	20.07	250	2017	500	3/26/90	573BT
0.00	102.20	0.00	2.30	0.9500	0.1493	1682	218	-3.82	17.63	250	1965	499	3/26/90	574BT
0.00	88.90	0.00	2.00	0.9562	0.1103	1691	161	-4.22	25.01	311	1946	499	3/26/90	575BT
0.00	75.60	0.00	1.70	0.9562	0.1541	1691	225	-4.67	24.55	250	1983	500	3/26/90	576BT
0.00	66.70	0.00	1.50	0.9753	0.1486	1719	217	-4.73	21.75	252	2005	500	3/26/90	577BT
0.00	53.30	0.00	1.20	0.9952	0.0925	1748	135	-6.11	58.18	291	1975	500	3/26/90	578BT
0.00	44.50	0.00	1.00	0.9993	0.0719	1754	105	-4.31	42.77	597	2016	500	3/26/90	579BT
0.00	35.60	0.00	0.80	1.0034	0.0541	1760	79	0.07	0.26	1477	2010	500	3/26/90	580BT
0.00	26.70	0.00	0.60	1.0034	0.0500	1760	73	0.16	1.34	1485	2145	500	3/26/90	581BT
0.00	13.30	0.00	0.30	0.9986	0.1179	1753	70	0.18	0.48	1509	2014	500	3/26/90	582BT
0.00	4.50	0.00	0.10	0.9918	0.0514	1743	75	0.03	0.48	1519	2031	500	3/26/90	583BT
22.20	102.20	0.50	2.30	0.6658	0.3753	1267	548	-0.83	-0.98	250	1916	498	3/26/90	630BT
22.20	88.90	0.50	2.00	0.6048	0.3979	1178	581	-0.55	-1.46	250	1875	498	3/26/90	631BT
22.20	75.60	0.50	1.70	0.5349	0.3966	1076	579	-0.14	-1.74	250	1883	499	3/26/90	632BT
22.20	66.70	0.50	1.50	0.5274	0.3932	1065	574	-0.17	-1.69	250	1848	499	3/26/90	633BT
22.20	53.30	0.50	1.20	0.4925	0.4027	1014	588	-0.02	-1.76	250	1935	499	3/26/90	634BT
22.20	44.50	0.50	1.00	0.4870	0.4103	1006	599	0.00	-1.79	250	1880	500	3/26/90	635BT
22.20	35.60	0.50	0.80	0.5068	0.4007	1035	585	-0.01	-1.76	250	1843	498	3/26/90	636BT
22.20	26.70	0.50	0.60	0.5781	0.3884	1139	567	-0.30	-1.62	250	1892	496	3/26/90	637BT
22.20	13.30	0.50	0.30	0.7212	0.3308	1348	483	-1.16	-0.17	250	1883	499	3/26/90	638BT
22.20	4.50	0.50	0.10	0.8795	0.1726	1579	252	-3.11	10.87	292	1885	499	3/26/90	639BT

Filename: LBT4657.CSV

Bluff Body : d = 44.45 mm,

 $\theta = 45$

Fuel : CH4

Fuel Flow = 244 slpm

Ua = 15 (m/s)

BR = 25%

 $\phi = 0.65$

Air Flow = 3962 slpm

Turb. Grid : G7

Tad = 1755 K

T0 = 295 K

r(mm)	x	r/d	x/d	C	Ct	T(K)	Tms	S	K	Tmin	Tmax	NData	Date	Data ID
0.00	53.30	0.00	1.20	0.9356	0.0863	1661	126	-5.32	45.05	301	1882	498	3/30/90	688BT
2.20	53.30	0.05	1.20	0.9274	0.0979	1649	143	-5.08	39.63	281	1923	499	3/30/90	689BT
4.50	53.30	0.10	1.20	0.9349	0.0897	1660	131	-4.02	26.41	512	1935	497	3/30/90	690BT
6.70	53.30	0.15	1.20	0.9377	0.0795	1664	116	-4.10	31.16	495	1865	500	3/30/90	691BT
8.90	53.30	0.20	1.20	0.9438	0.1068	1673	156	-5.23	35.85	390	1899	498	3/30/90	692BT
11.10	53.30	0.25	1.20	0.9438	0.1171	1673	171	-4.73	27.21	410	1919	498	3/30/90	693BT
13.30	53.30	0.30	1.20	0.9486	0.0788	1680	115	-5.37	52.56	430	1953	498	3/30/90	694BT
15.60	53.30	0.35	1.20	0.9164	0.1466	1633	214	-3.82	16.33	325	1908	498	3/30/90	695BT
17.80	53.30	0.40	1.20	0.8479	0.2356	1533	344	-2.33	4.61	300	1860	497	3/30/90	696BT
20.00	53.30	0.45	1.20	0.7397	0.3205	1375	468	-1.29	0.19	250	1874	498	3/30/90	697BT
22.20	53.30	0.50	1.20	0.5418	0.3932	1086	574	-0.29	-1.68	250	1817	500	3/30/90	698BT
0.00	44.50	0.00	1.00	0.9493	0.0500	1681	73	-0.29	1.27	1296	1890	495	3/30/90	675BT
2.20	44.50	0.05	1.00	0.9507	0.0493	1683	72	-0.50	2.87	1292	1969	500	3/30/90	676BT
4.50	44.50	0.10	1.00	0.9500	0.0616	1682	90	-3.84	45.34	570	1929	499	3/30/90	677BT
6.70	44.50	0.15	1.00	0.9459	0.0897	1676	131	-6.01	51.98	358	1927	500	3/30/90	678BT
8.90	44.50	0.20	1.00	0.9527	0.0589	1686	86	-1.95	15.55	877	1914	496	3/30/90	679BT
11.10	44.50	0.25	1.00	0.9466	0.0548	1677	80	-0.76	6.18	1070	1903	500	3/30/90	680BT
13.30	44.50	0.30	1.00	0.9377	0.0719	1664	105	-6.26	71.97	331	1966	500	3/30/90	681BT
15.60	44.50	0.35	1.00	0.9288	0.1130	1651	165	-5.01	32.96	294	1945	500	3/30/90	682BT
17.80	44.50	0.40	1.00	0.9096	0.1336	1623	195	-3.99	19.92	276	1855	499	3/30/90	683BT
20.00	44.50	0.45	1.00	0.8349	0.2356	1514	344	-2.33	4.73	250	1855	497	3/30/90	684BT
22.20	44.50	0.50	1.00	0.6164	0.3705	1195	541	-0.62	-1.24	250	1865	499	3/30/90	685BT
0.00	26.70	0.00	0.60	0.9507	0.0493	1683	72	-0.16	0.41	1382	1941	500	3/30/90	664BT
2.20	26.70	0.05	0.60	0.9521	0.0425	1685	62	-0.08	0.08	1486	1884	500	3/30/90	665BT
4.50	26.70	0.10	0.60	0.9493	0.0452	1681	66	0.09	-0.09	1502	1864	500	3/30/90	666BT
6.70	26.70	0.15	0.60	0.9521	0.0459	1685	67	0.03	-0.24	1482	1871	499	3/30/90	667BT
8.90	26.70	0.20	0.60	0.9514	0.0459	1684	67	0.12	-0.04	1491	1888	498	3/30/90	668BT
11.10	26.70	0.25	0.60	0.9562	0.0473	1691	69	-0.11	0.16	1448	1882	499	3/30/90	669BT
13.30	26.70	0.30	0.60	0.9568	0.0452	1692	66	-0.11	-0.01	1468	1870	498	3/30/90	670BT
15.60	26.70	0.35	0.60	0.9548	0.0438	1689	64	0.10	0.10	1514	1928	500	3/30/90	671BT
17.80	26.70	0.40	0.60	0.9452	0.0507	1675	74	-0.71	3.78	1188	1874	499	3/30/90	672BT
20.00	26.70	0.45	0.60	0.9247	0.1171	1645	171	-5.17	34.45	250	1884	500	3/30/90	673BT
22.20	26.70	0.50	0.60	0.7966	0.2699	1458	394	-1.85	2.26	250	1916	500	3/30/90	674BT
0.00	4.50	0.00	0.10	0.9425	0.0479	1671	70	-0.41	0.64	1426	1861	500	3/30/90	653BT
2.20	4.50	0.05	0.10	0.9342	0.0534	1659	78	-0.60	1.32	1344	1884	500	3/30/90	654BT
4.50	4.50	0.10	0.10	0.9308	0.0541	1654	79	-0.97	4.03	1133	1866	500	3/30/90	655BT
6.70	4.50	0.15	0.10	0.9384	0.0514	1665	75	-0.47	1.69	1322	1888	500	3/30/90	656BT
8.90	4.50	0.20	0.10	0.9281	0.0568	1650	83	-0.94	2.08	1293	1844	500	3/30/90	657BT
11.10	4.50	0.25	0.10	0.9164	0.0589	1633	86	-0.98	1.86	1259	1856	500	3/30/90	658BT
13.30	4.50	0.30	0.10	0.9123	0.0623	1627	91	-1.01	2.33	1167	1847	500	3/30/90	659BT
15.60	4.50	0.35	0.10	0.9055	0.0637	1617	93	-0.78	1.13	1215	1853	500	3/30/90	660BT
17.80	4.50	0.40	0.10	0.8979	0.0644	1606	94	-0.92	1.77	1200	1829	500	3/30/90	661BT
20.00	4.50	0.45	0.10	0.8932	0.0733	1599	107	-1.25	3.03	1034	1814	500	3/30/90	662BT
22.20	4.50	0.50	0.10	0.8952	0.0699	1602	102	-0.59	0.26	1213	1849	500	3/30/90	663BT

r(mm)	x	r/d	x/d	C	Ct	I _g (K)	T _{max}	S	K	T _{min}	T _{max}	NData	Date	Data ID
0.00	177.80	0.00	4.00	0.9075	0.1664	1620	244	-2.38	5.18	250	2030	499	3/30/90	640BT
0.00	155.60	0.00	3.50	0.8678	0.2034	1562	297	-2.38	5.18	250	2015	500	3/30/90	641BT
0.00	133.40	0.00	3.00	0.8479	0.2301	1533	336	-2.38	5.18	250	1937	499	3/30/90	642BT
0.00	111.10	0.00	2.50	0.8548	0.2253	1543	329	-2.67	6.77	250	1881	499	3/30/90	643BT
0.00	102.20	0.00	2.30	0.8596	0.2130	1550	311	-2.70	7.07	250	1939	499	3/30/90	644BT
0.00	88.90	0.00	2.00	0.8616	0.2000	1553	292	-3.08	9.85	250	1951	497	3/30/90	645BT
0.00	75.60	0.00	1.70	0.8781	0.1774	1577	259	-3.25	11.67	250	1939	498	3/30/90	646BT
0.00	66.70	0.00	1.50	0.9000	0.1610	1609	235	-3.83	16.65	250	1898	497	3/30/90	647BT
0.00	53.30	0.00	1.20	0.9233	0.1000	1643	146	-4.18	27.58	273	1909	500	3/30/90	648BT
0.00	44.50	0.00	1.00	0.9370	0.0596	1663	87	-1.96	16.03	830	1853	499	3/30/90	649BT
0.00	35.60	0.00	0.80	0.9445	0.0493	1674	72	0.14	-0.18	1465	1879	500	3/30/90	650BT
0.00	26.70	0.00	0.60	0.9493	0.0500	1681	73	0.01	0.14	1405	1910	500	3/30/90	651BT
0.00	13.30	0.00	0.30	0.9445	0.0466	1674	68	0.07	0.23	1465	1929	500	3/30/90	652BT
0.00	4.50	0.00	0.10	0.9425	0.0479	1671	70	-0.41	0.64	1426	1861	500	3/30/90	653BT
22.20	102.20	0.50	2.30	0.5596	0.4233	1112	618	-0.39	-1.69	250	1882	500	3/30/90	699BT
22.20	88.90	0.50	2.00	0.5329	0.4082	1073	596	-0.29	-1.69	250	1818	500	3/30/90	700BT
22.20	75.60	0.50	1.70	0.4658	0.4130	975	603	-0.03	-1.80	250	1858	499	3/30/90	701BT
22.20	66.70	0.50	1.50	0.4753	0.4130	989	603	-0.07	-1.80	250	1857	500	3/30/90	702BT
22.20	53.30	0.50	1.20	0.5493	0.3925	1097	573	-0.34	-1.63	250	1860	499	3/30/90	703BT
22.20	44.50	0.50	1.00	0.6260	0.3637	1209	531	-0.75	1.16	250	1769	495	3/30/90	704BT
22.20	35.60	0.50	0.80	0.7295	0.3068	1360	448	-1.26	0.09	267	1813	500	3/30/90	705BT
22.20	26.70	0.50	0.60	0.7842	0.2616	1440	382	-1.69	1.70	250	1836	496	3/30/90	706BT
22.20	13.30	0.50	0.30	0.8897	0.1377	1594	201	-4.02	19.18	250	1836	500	3/30/90	707BT
22.20	4.50	0.50	0.10	0.8932	0.0692	1599	101	-0.88	1.83	1046	1850	500	3/30/90	708BT

LBT485.XLS - 1

Filename: LBT485.CSV

Bluff Body : d = 44.45 mm,

 $\theta = 45$ Fuel : CH₄

Fuel Flow = 296.2 slpm

U_a = 15 (m/s)

BR = 25%

 $\phi = 0.8$

Air Flow = 3909 slpm

Turb. Grid : none

Tad = 1996 K

T0 = 295 K

r(mm)	x	r/d	x/d	C	C1	T(K)	Trms	S	K	Tmin	Tmax	NData	Date	Data ID
0.00	66.70	0.00	1.50	0.9536	0.0488	1917	83	0.26	0.18	1709	2199	494	3/9/90	427BT
2.20	66.70	0.05	1.50	0.9536	0.0506	1917	86	0.30	0.04	1711	2195	488	3/9/90	429BT
4.50	66.70	0.10	1.50	0.9606	0.0529	1929	90	0.01	-0.25	1689	2182	489	3/9/90	430BT
6.70	66.70	0.15	1.50	0.9647	0.0494	1936	84	0.19	0.11	1707	2212	497	3/9/90	431BT
8.90	66.70	0.20	1.50	0.9624	0.0482	1932	82	0.21	-0.07	1696	2169	495	3/9/90	432BT
11.10	66.70	0.25	1.50	0.9630	0.0494	1933	84	0.26	-0.29	1732	2220	496	3/9/90	433BT
13.30	66.70	0.30	1.50	0.9618	0.0470	1931	80	0.15	-0.10	1724	2177	494	3/9/90	434BT
15.60	66.70	0.35	1.50	0.9683	0.0494	1942	84	-0.06	-0.14	1696	2184	499	3/9/90	435BT
17.80	66.70	0.40	1.50	0.9665	0.0523	1939	89	0.08	-0.07	1640	2222	495	3/9/90	436BT
20.00	66.70	0.45	1.50	0.9688	0.0494	1943	84	0.19	0.12	1671	2214	492	3/9/90	437BT
22.20	66.70	0.50	1.50	0.9806	0.0535	1963	91	0.03	0.20	1680	2219	492	3/9/90	438BT
0.00	53.30	0.00	1.20	0.9230	0.0576	1865	98	-0.48	0.82	1459	2119	492	3/23/90	450BT
2.20	53.30	0.05	1.20	0.9453	0.0494	1903	84	-0.17	0.61	1566	2155	491	3/23/90	451BT
4.50	53.30	0.10	1.20	0.9483	0.0511	1908	87	-0.24	0.84	1512	2179	494	3/23/90	452BT
6.70	53.30	0.15	1.20	0.9518	0.0517	1914	88	-0.18	0.84	1573	2202	493	3/23/90	453BT
8.90	53.30	0.20	1.20	0.9512	0.0482	1913	82	-0.23	0.10	1593	2103	488	3/23/90	454BT
11.10	53.30	0.25	1.20	0.9494	0.0506	1910	86	0.18	0.99	1645	2344	483	3/23/90	455BT
13.30	53.30	0.30	1.20	0.9577	0.0500	1924	85	0.15	0.68	1654	2255	488	3/23/90	456BT
15.60	53.30	0.35	1.20	0.9588	0.0570	1926	97	-0.04	0.53	1578	2294	491	3/23/90	457BT
17.80	53.30	0.40	1.20	0.9641	0.0617	1935	105	0.07	0.48	1579	2248	496	3/23/90	458BT
20.00	53.30	0.45	1.20	0.9577	0.0553	1924	94	-0.09	0.71	1556	2278	488	3/23/90	459BT
22.20	53.30	0.50	1.20	0.9583	0.0553	1925	94	0.16	0.28	1602	2234	496	3/23/90	460BT
0.00	35.60	0.00	0.80	0.9447	0.0494	1902	84	0.11	0.73	1617	2296	499	3/9/90	417BT
2.20	35.60	0.05	0.80	0.9459	0.0476	1904	81	0.06	-0.29	1704	2148	499	3/9/90	418BT
4.50	35.60	0.10	0.80	0.9447	0.0441	1902	75	0.23	-0.02	1700	2147	498	3/9/90	419BT
6.70	35.60	0.15	0.80	0.9489	0.0488	1909	83	0.10	-0.43	1701	2125	497	3/9/90	420BT
8.90	35.60	0.20	0.80	0.9483	0.0476	1908	81	0.16	-0.26	1683	2149	494	3/9/90	421BT
11.10	35.60	0.25	0.80	0.9412	0.0482	1896	82	0.15	-0.30	1654	2131	498	3/9/90	422BT
13.30	35.60	0.30	0.80	0.9459	0.0476	1904	81	0.19	0.43	1629	2203	496	3/9/90	423BT
15.60	35.60	0.35	0.80	0.9483	0.0488	1908	83	-0.07	0.13	1670	2218	492	3/9/90	424BT
17.80	35.60	0.40	0.80	0.9512	0.0482	1913	82	0.19	0.14	1655	2184	498	3/9/90	425BT
20.00	35.60	0.45	0.80	0.9436	0.0517	1900	88	0.01	0.01	1639	2195	492	3/9/90	426BT
0.00	26.70	0.00	0.60	0.9148	0.0488	1851	83	-0.04	0.47	1593	2171	500	3/23/90	439BT
2.20	26.70	0.05	0.60	0.9165	0.0488	1854	83	0.38	2.64	1545	2379	497	3/23/90	440BT
4.50	26.70	0.10	0.60	0.9171	0.0476	1855	81	0.25	1.30	1601	2281	500	3/23/90	441BT
6.70	26.70	0.15	0.60	0.9177	0.0447	1856	76	0.08	-0.06	1629	2100	500	3/23/90	442BT
8.90	26.70	0.20	0.60	0.9171	0.0453	1855	77	-0.05	-0.15	1628	2078	498	3/23/90	443BT
11.10	26.70	0.25	0.60	0.9142	0.0482	1850	82	-0.03	0.26	1563	2108	500	3/23/90	444BT
13.30	26.70	0.30	0.60	0.9242	0.0412	1867	70	-0.08	0.13	1663	2086	500	3/23/90	445BT
15.60	26.70	0.35	0.60	0.9230	0.0547	1865	93	-0.36	0.81	1559	2188	499	3/23/90	446BT
17.80	26.70	0.40	0.60	0.9236	0.0441	1866	75	-0.02	-0.03	1630	2090	496	3/23/90	447BT
20.00	26.70	0.45	0.60	0.9295	0.0506	1876	86	-0.40	0.78	1458	2090	497	3/23/90	448BT
22.20	26.70	0.50	0.60	0.9377	0.0453	1890	77	-0.02	0.75	1537	2139	492	3/23/90	449BT

r(mm)	x	r/d	x/d	C	Ct	T(K)	Trms	S	K	Tmin	Tmax	NData	Date	Data ID
0.00	4.50	0.00	0.10	0.8601	0.0570	1758	97	0.36	0.18	1395	2034	500	3/26/90	406BT
2.20	4.50	0.05	0.10	0.8507	0.0600	1742	102	-0.55	0.78	1344	2005	500	3/26/90	407BT
4.50	4.50	0.10	0.10	0.8689	0.0517	1773	88	-0.23	0.32	1426	2010	499	3/26/90	408BT
6.70	4.50	0.15	0.10	0.8660	0.0488	1768	83	0.17	0.71	1417	2017	497	3/26/90	409BT
8.90	4.50	0.20	0.10	0.8748	0.0517	1783	88	-0.43	0.81	1402	2021	496	3/26/90	410BT
11.10	4.50	0.25	0.10	0.8848	0.0488	1800	83	0.22	0.46	1541	2097	491	3/26/90	411BT
13.30	4.50	0.30	0.10	0.8812	0.0488	1794	83	0.05	0.13	1516	2035	488	3/26/90	412BT
15.60	4.50	0.35	0.10	0.8836	0.0506	1798	86	0.00	-0.10	1544	2052	492	3/26/90	413BT
17.80	4.50	0.40	0.10	0.8812	0.0482	1794	82	0.25	0.08	1500	2062	490	3/26/90	414BT
20.00	4.50	0.45	0.10	0.8836	0.0482	1798	82	0.07	-0.44	1587	2045	492	3/26/90	415BT
22.20	4.50	0.50	0.10	0.8983	0.0511	1823	87	0.20	0.01	1532	2082	494	3/26/90	416BT
0.00	177.80	0.00	4.00	0.9665	0.0617	1939	105	0.07	1.37	1542	2390	495	3/23/90	461BT
0.00	155.60	0.00	3.50	0.9600	0.0658	1928	112	-0.21	0.25	1536	2254	497	3/23/90	462BT
0.00	133.40	0.00	3.00	0.9565	0.0670	1922	114	-0.44	1.53	1380	2256	492	3/23/90	463BT
0.00	111.10	0.00	2.50	0.9612	0.0664	1930	113	0.19	0.86	1590	2331	495	3/23/90	464BT
0.00	102.30	0.00	2.30	0.9624	0.0664	1932	113	-0.27	0.45	1521	2243	496	3/23/90	465BT
0.00	88.90	0.00	2.00	0.9500	0.0576	1911	98	-0.17	0.67	1508	2244	495	3/23/90	466BT
0.00	75.60	0.00	1.70	0.9506	0.0647	1912	110	-0.31	0.70	1508	2256	492	3/23/90	467BT
0.00	66.70	0.00	1.50	0.9571	0.0611	1923	104	-0.59	0.84	1508	2180	490	3/23/90	468BT
0.00	53.30	0.00	1.20	0.9424	0.0564	1898	96	0.21	0.38	1627	2221	457	3/23/90	469BT
0.00	44.50	0.00	1.00	0.9347	0.0623	1885	106	-0.29	1.16	1434	2205	484	3/23/90	470BT
0.00	35.60	0.00	0.80	0.9412	0.0570	1896	98	-0.52	1.05	1561	2207	486	3/23/90	471BT
0.00	26.70	0.00	0.60	0.9095	0.0600	1842	102	-0.39	1.07	1463	2188	497	3/23/90	472BT
0.00	13.30	0.00	0.30	0.8742	0.0547	1782	93	0.33	0.57	1409	2022	498	3/23/90	473BT
0.00	4.50	0.00	0.10	0.8607	0.0623	1759	106	0.50	0.26	1391	2006	499	3/23/90	474BT
22.20	102.20	0.50	2.30	0.9553	0.0617	1920	105	-2.71	27.95	770	2179	495	3/23/90	475BT
22.20	88.90	0.50	2.00	0.9536	0.0564	1917	96	-0.35	1.62	1425	2201	490	3/23/90	476BT
22.20	75.60	0.50	1.70	0.9536	0.0541	1917	92	-0.35	0.68	1557	2231	494	3/23/90	477BT
22.20	66.70	0.50	1.50	0.9559	0.0535	1921	91	-0.15	0.07	1642	2183	490	3/23/90	478BT
22.20	53.30	0.50	1.20	0.9465	0.0500	1905	85	0.02	0.48	1621	2181	489	3/23/90	479BT
22.20	44.50	0.50	1.00	0.9471	0.0553	1906	94	-0.20	0.24	1579	2175	495	3/23/90	480BT
22.20	35.60	0.50	0.80	0.9447	0.0541	1902	92	0.10	0.57	1508	2181	490	3/23/90	481BT
22.20	26.70	0.50	0.60	0.9489	0.0547	1909	93	0.04	0.97	1528	2270	496	3/23/90	482BT
22.20	13.30	0.50	0.30	0.9224	0.0523	1864	89	0.15	0.45	1567	2178	495	3/23/90	483BT
22.20	4.50	0.50	0.10	0.9142	0.0541	1850	92	0.15	1.14	1476	2148	495	3/23/90	484BT

LBT495.XLS - 1

Filename: LBT495.CSV

Bluff Body : d = 44.45 mm,

 $\theta = 45$ Fuel : CH₄

Fuel Flow = 330.3 slpm

U_a = 15 (m/s)

BR = 25%

 $\phi = 0.9$

Air Flow = 3875 slpm

Turb. Grid : none

Tad = 2134 K

T0 = 295 K

r(mm)	x	r/d	x/d	C	Ci	T(K)	Trms	S	K	Tmin	Tmax	NData	Date	Data ID
0.00	177.80	0.00	4.00	0.9391	0.0484	2022	89	0.11	-0.02	1754	2298	491	3/30/90	485BT
0.00	155.60	0.00	3.50	0.9266	0.0511	1999	94	0.16	-0.34	1740	2292	490	3/30/90	486BT
0.00	133.40	0.00	3.00	0.9222	0.0533	1991	98	0.30	0.28	1711	2375	493	3/30/90	487BT
0.00	111.10	0.00	2.50	0.9239	0.0527	1994	97	0.28	-0.14	1756	2314	493	3/30/90	488BT
0.00	102.20	0.00	2.30	0.9190	0.0566	1985	104	0.12	0.11	1682	2313	490	3/30/90	489BT
0.00	88.90	0.00	2.00	0.9173	0.0560	1982	103	0.50	0.88	1724	2394	493	3/30/90	490BT
0.00	75.60	0.00	1.70	0.9163	0.0576	1980	106	0.17	0.17	1689	2355	489	3/30/90	491BT
0.00	66.70	0.00	1.50	0.9304	0.0489	2006	90	0.10	-0.31	1755	2239	494	3/30/90	492BT
0.00	53.30	0.00	1.20	0.9271	0.0495	2000	91	0.03	-0.13	1732	2281	487	3/30/90	493BT
0.00	44.50	0.00	1.00	0.9141	0.0500	1976	92	0.32	0.26	1728	2319	492	3/30/90	494BT
0.00	35.60	0.00	0.80	0.9054	0.0500	1960	92	-0.09	0.27	1619	2268	495	3/30/90	495BT
0.00	26.70	0.00	0.60	0.8961	0.0500	1943	92	0.09	0.31	1673	2291	494	3/30/90	496BT
0.00	13.30	0.00	0.30	0.8581	0.0479	1873	88	0.12	0.12	1622	2162	500	3/30/90	497BT
0.00	4.50	0.00	0.10	0.8543	0.0533	1866	98	-0.48	1.75	1403	2166	498	3/30/90	498BT
22.20	102.20	0.50	2.30	0.8467	0.2055	1852	378	-3.34	10.61	250	2248	496	3/30/90	499BT
22.20	88.90	0.50	2.00	0.8608	0.1680	1878	309	-4.10	17.81	250	2312	498	3/30/90	500BT
22.20	75.60	0.50	1.70	0.8733	0.1305	1901	240	-4.69	26.81	250	2244	496	3/30/90	502BT
22.20	66.70	0.50	1.50	0.8869	0.1066	1926	196	-5.56	42.29	250	2229	496	3/30/90	503BT
22.20	53.30	0.50	1.20	0.9054	0.0816	1960	150	-5.64	54.03	386	2226	498	3/30/90	504BT
22.20	44.50	0.50	1.00	0.8989	0.0663	1948	122	-4.38	54.75	368	2229	494	3/30/90	505BT
22.20	35.60	0.50	0.80	0.8853	0.0756	1923	139	-4.83	47.75	250	2196	494	3/30/90	506BT
22.20	26.70	0.50	0.60	0.8733	0.0544	1901	100	-1.71	12.71	1109	2212	494	3/30/90	507BT
22.20	13.30	0.50	0.30	0.8646	0.0495	1885	91	-0.03	-0.20	1610	2147	500	3/30/90	508BT
22.20	4.50	0.50	0.10	0.7950	0.0750	1757	138	-0.81	0.83	1224	2038	500	3/30/90	509BT

Filename: LBT462.CSV

Bluff Body : d = 44.45 mm,

H = 45

Fuel : CH₄

Fuel Flow = 5282 slpm

U_a = 20 (m/s)

BR = 25%

φ = 0.65

Air Flow = 325 slpm

Turb. Grid : none

T_{ad} = 1755 KT₀ = 295 K

r(mm)	x	r/d	x/d	C	Ct	T(K)	T _{ms}	S	K	T _{min}	T _{max}	NData	Date	Data ID
0.00	88.90	0.00	2.00	0.9644	0.0486	1703	71	-0.43	2.64	1315	1893	250	1/12/90	27BT
2.20	88.90	0.05	2.00	0.9678	0.0541	1708	79	-3.52	33.23	942	1901	250	1/12/90	28BT
4.50	88.90	0.10	2.00	0.9753	0.0651	1719	95	-6.03	67.80	628	1906	250	1/12/90	29BT
6.70	88.90	0.15	2.00	0.9842	0.0438	1732	64	-0.40	0.18	1514	1891	250	1/12/90	30BT
8.90	88.90	0.20	2.00	0.9658	0.1089	1705	159	-6.05	45.30	341	1943	250	1/12/90	31BT
11.10	88.90	0.25	2.00	0.9534	0.0801	1687	117	-6.40	68.26	346	1889	250	1/12/90	32BT
13.30	88.90	0.30	2.00	0.9596	0.0603	1696	88	2.72	19.88	950	1907	249	1/12/90	33BT
15.60	88.90	0.35	2.00	0.9500	0.1288	1682	188	-6.22	42.88	262	1936	250	1/12/90	34BT
17.80	88.90	0.40	2.00	0.9459	0.1123	1676	164	-4.41	23.91	504	1875	248	1/12/90	35BT
20.00	88.90	0.45	2.00	0.9267	0.1466	1648	214	-4.40	22.81	261	1872	250	1/12/90	36BT
22.20	88.90	0.50	2.00	0.7979	0.2801	1460	409	-2.01	2.78	250	1805	247	1/12/90	37BT
-13.30	75.60	-0.30	1.70	0.9671	0.0616	1707	90	2.35	14.83	1048	1900	250	1/12/90	38BT
-8.90	75.60	-0.20	1.70	0.9699	0.0788	1711	115	-7.23	85.07	312	1930	249	1/12/90	39BT
-4.50	75.60	-0.10	1.70	0.9705	0.0507	1712	74	-0.18	0.57	1437	1914	249	1/12/90	40BT
0.00	75.60	0.00	1.70	0.9616	0.0555	1699	81	-0.46	1.31	1334	1914	250	1/12/90	41BT
2.20	75.60	0.05	1.70	0.9603	0.0486	1697	71	-0.25	0.68	1385	1853	248	1/12/90	42BT
4.50	75.60	0.10	1.70	0.9637	0.0466	1702	68	0.18	0.21	1503	1899	249	1/12/90	43BT
6.70	75.60	0.15	1.70	0.9616	0.0562	1699	82	-0.89	4.72	1201	1922	248	1/12/90	44BT
8.90	75.60	0.20	1.70	0.9521	0.0479	1685	70	0.33	0.68	1449	1881	250	1/12/90	45BT
11.10	75.60	0.25	1.70	0.9616	0.0596	1699	87	-2.23	14.22	1034	1886	247	1/12/90	46BT
13.30	75.60	0.30	1.70	0.9795	0.0507	1725	74	-0.16	-0.47	1528	1879	249	1/12/90	47BT
15.60	75.60	0.35	1.70	0.9774	0.0466	1722	68	-0.17	0.40	1472	1901	248	1/12/90	48BT
17.80	75.60	0.40	1.70	0.9500	0.0678	1682	99	-3.46	26.75	820	1920	250	1/12/90	49BT
20.00	75.60	0.45	1.70	0.9267	0.1192	1648	174	-4.82	30.64	277	1892	247	1/12/90	50BT
22.20	75.60	0.50	1.70	0.8719	0.1979	1568	289	-3.21	10.79	250	1849	249	1/12/90	51BT
0.00	66.70	0.00	1.50	0.9425	0.0507	1671	74	-0.05	-0.17	1458	1852	247	1/12/90	52BT
11.10	66.70	0.25	1.50	0.9445	0.0637	1674	93	-2.41	17.53	939	1911	249	1/12/90	53BT
13.30	66.70	0.30	1.50	0.9390	0.0568	1666	83	-2.40	19.15	962	1860	249	1/12/90	54BT
15.60	66.70	0.35	1.50	0.9507	0.0541	1683	79	-0.24	0.35	1414	1920	246	1/12/90	55BT
17.80	66.70	0.40	1.50	0.9555	0.0623	1690	91	-2.01	11.91	1045	1917	250	1/12/90	56BT
20.00	66.70	0.45	1.50	0.9240	0.1527	1644	223	-4.58	23.32	250	1904	248	1/12/90	57BT
22.20	66.70	0.50	1.50	0.8849	0.1870	1587	273	-3.30	11.76	250	1865	250	1/12/90	58BT
0.00	53.30	0.00	1.20	0.9541	0.0507	1688	74	0.01	0.28	1478	1943	249	1/12/90	59BT
11.10	53.30	0.25	1.20	0.9521	0.0500	1685	73	0.02	-0.18	1498	1876	248	1/12/90	60BT
13.30	53.30	0.30	1.20	0.9466	0.0527	1677	77	0.22	0.40	1480	1950	248	1/12/90	61BT
15.60	53.30	0.35	1.20	0.9555	0.0521	1690	76	-0.01	0.01	1499	1914	247	1/12/90	62BT
17.80	53.30	0.40	1.20	0.9678	0.0486	1708	71	-0.07	0.03	1515	1949	245	1/12/90	63BT
20.00	53.30	0.45	1.20	0.9479	0.0712	1679	104	-2.56	12.55	1049	1905	245	1/12/90	64BT
22.20	53.30	0.50	1.20	0.9295	0.1253	1652	183	-4.90	31.08	250	1853	244	1/12/90	65BT
0.00	44.50	0.00	1.00	0.9363	0.0466	1662	68	-0.14	0.57	1417	1855	249	1/12/90	73BT
11.10	44.50	0.25	1.00	0.9390	0.0534	1666	78	-0.05	-0.12	1417	1870	245	1/12/90	74BT
13.30	44.50	0.30	1.00	0.9329	0.0507	1657	74	0.11	0.11	1429	1865	246	1/12/90	75BT
15.60	44.50	0.35	1.00	0.9397	0.0521	1667	76	0.05	-0.36	1436	1882	246	1/12/90	76BT
17.80	44.50	0.40	1.00	0.9247	0.0500	1645	73	0.01	-0.37	1462	1842	246	1/12/90	77BT
20.00	44.50	0.45	1.00	0.9178	0.0781	1635	114	-7.14	84.70	250	1858	247	1/12/90	78BT
22.20	44.50	0.50	1.00	0.9158	0.0877	1632	128	3.51	18.83	702	1833	245	1/12/90	79BT

r(mm)	x	r/d	x/d	C	Ct	T(K)	T _{rms}	S	K	T _{min}	T _{max}	NData	Date	Data ID
-13.30	35.60	-0.30	0.80	0.9247	0.0445	1645	65	0.13	0.20	1491	1864	248	1/12/90	80BT
-8.90	35.60	-0.20	0.80	0.9363	0.0493	1662	72	-0.22	0.00	1450	1839	250	1/12/90	81BT
-4.50	35.60	-0.10	0.80	0.9438	0.0438	1673	64	-0.26	-0.41	1496	1824	250	1/12/90	82BT
0.00	35.60	0.00	0.80	0.9438	0.0479	1673	70	0.08	-0.35	1493	1869	250	1/12/90	83BT
2.20	35.60	0.05	0.80	0.9315	0.0473	1655	69	0.13	-0.22	1461	1872	250	1/12/90	84BT
4.50	35.60	0.10	0.80	0.9315	0.0466	1655	68	-0.09	-0.03	1442	1852	250	1/12/90	85BT
6.70	35.60	0.15	0.80	0.9349	0.0425	1660	62	-0.07	-0.21	1512	1818	250	1/12/90	86BT
8.90	35.60	0.20	0.80	0.9384	0.0473	1665	69	-0.04	0.04	1468	1850	250	1/12/90	87BT
11.10	35.60	0.25	0.80	0.9308	0.0445	1654	65	0.21	-0.16	1497	1840	250	1/12/90	88BT
13.30	35.60	0.30	0.80	0.9226	0.0432	1642	63	-0.26	0.08	1456	1816	250	1/12/90	89BT
15.60	35.60	0.35	0.80	0.9178	0.0438	1635	64	-0.18	-0.14	1456	1807	250	1/12/90	90BT
17.80	35.60	0.40	0.80	0.9192	0.0486	1637	71	-0.98	5.26	1189	1806	248	1/12/90	91BT
20.00	35.60	0.45	0.80	0.9267	0.0445	1648	65	-0.06	0.86	1449	1872	250	1/12/90	92BT
22.20	35.60	0.50	0.80	0.9123	0.0582	1627	85	-2.86	16.97	1022	1808	250	1/12/90	93BT
0.00	26.70	0.00	0.60	0.9247	0.0486	1645	71	0.17	-0.21	1480	1831	250	1/12/90	94BT
11.10	26.70	0.25	0.60	0.9260	0.0452	1647	66	0.18	0.35	1465	1880	250	1/12/90	95BT
13.30	26.70	0.30	0.60	0.9322	0.0466	1656	68	0.22	0.38	1461	1882	250	1/12/90	96BT
15.60	26.70	0.35	0.60	0.9342	0.0452	1659	66	-0.04	-0.15	1491	1871	250	1/12/90	97BT
17.80	26.70	0.40	0.60	0.9349	0.0432	1660	63	0.15	-0.02	1502	1845	250	1/12/90	98BT
20.00	26.70	0.45	0.60	0.9589	0.0486	1695	71	0.15	-0.31	1528	1886	250	1/12/90	99BT
22.20	26.70	0.50	0.60	0.9500	0.0507	1682	74	-0.41	2.05	1319	1866	249	1/12/90	100BT
0.00	13.30	0.00	0.30	0.9199	0.0486	1638	71	-0.07	-0.34	1455	1838	250	1/12/90	101BT
11.10	13.30	0.25	0.30	0.9144	0.0473	1630	69	0.12	0.91	1386	1879	250	1/12/90	102BT
13.30	13.30	0.30	0.30	0.9151	0.0486	1631	71	0.15	0.19	1419	1864	250	1/12/90	103BT
15.60	13.30	0.35	0.30	0.9240	0.0500	1644	73	-0.17	-0.09	1424	1815	250	1/12/90	104BT
17.80	13.30	0.40	0.30	0.9233	0.0452	1643	66	-0.24	-0.41	1444	1780	250	1/12/90	105BT
20.00	13.30	0.45	0.30	0.9397	0.0479	1667	70	-0.08	-0.13	1468	1844	250	1/12/90	106BT
22.20	13.30	0.50	0.30	0.9377	0.0473	1664	69	-0.25	0.21	1410	1868	250	1/12/90	107BT
-4.50	4.50	-0.10	0.10	0.8911	0.0658	1596	96	-1.00	2.02	1201	1781	250	1/12/90	108BT
0.00	4.50	0.00	0.10	0.9027	0.0603	1613	88	-0.84	1.72	1274	1821	250	1/12/90	109BT
2.20	4.50	0.05	0.10	0.9062	0.0603	1618	88	-0.71	2.07	1185	1851	250	1/12/90	110BT
4.50	4.50	0.10	0.10	0.9192	0.0562	1637	82	-0.93	3.06	1237	1891	249	1/12/90	111BT
6.70	4.50	0.15	0.10	0.9123	0.0575	1627	84	-0.71	1.20	1318	1830	250	1/12/90	112BT
8.90	4.50	0.20	0.10	0.9048	0.0664	1616	97	-1.31	3.67	1143	1818	250	1/12/90	113BT
11.10	4.50	0.25	0.10	0.9048	0.0616	1616	90	-0.83	1.39	1272	1796	249	1/12/90	114BT
13.30	4.50	0.30	0.10	0.9068	0.0630	1619	92	-0.85	1.54	1229	1848	250	1/12/90	115BT
15.60	4.50	0.35	0.10	0.9116	0.0610	1626	89	-1.01	1.79	1282	1804	249	1/12/90	116BT
17.80	4.50	0.40	0.10	0.9034	0.0623	1614	91	-0.74	1.00	1265	1822	250	1/12/90	117BT
20.00	4.50	0.45	0.10	0.9021	0.0610	1612	89	-0.45	0.77	1286	1826	250	1/12/90	118BT
22.20	4.50	0.50	0.10	0.8973	0.0651	1605	95	-0.90	1.73	1175	1852	250	1/12/90	119BT
17.80	2.20	0.40	0.05	0.8671	0.0986	1561	144	-0.14	-0.85	1130	1917	1500	1/5/90	25BT
20.00	2.20	0.45	0.05	0.8363	0.0781	1516	114	0.00	-0.69	1224	1796	1500	1/5/90	26BT

r(mm)	x	r/d	x/d	C	Ct	T(K)	Trms	S	K	Tmin	Tmax	NData	Date	Data ID
0.00	88.90	0.00	2.00	0.9445	0.0527	1674	77	-0.02	0.26	1458	1925	250	2/6/90	137BT
0.00	75.60	0.00	1.70	0.9260	0.0500	1647	73	0.01	-0.41	1450	1834	249	2/6/90	136BT
0.00	66.70	0.00	1.50	0.9363	0.0466	1662	68	-0.14	-0.03	1430	1825	248	2/6/90	135BT
0.00	53.30	0.00	1.20	0.9370	0.0445	1663	65	-0.02	-0.19	1452	1822	250	2/6/90	134BT
0.00	44.50	0.00	1.00	0.9288	0.0473	1651	69	0.01	0.19	1452	1866	243	2/6/90	133BT
0.00	35.60	0.00	0.80	0.9370	0.0459	1663	67	-0.19	0.48	1460	1864	242	2/6/90	132BT
0.00	26.70	0.00	0.60	0.9171	0.0479	1634	70	0.09	-0.08	1455	1849	247	2/6/90	131BT
0.00	13.30	0.00	0.30	0.9089	0.0425	1622	62	-0.07	0.06	1419	1790	248	2/6/90	130BT
0.00	4.50	0.00	0.10	0.8870	0.0582	1590	85	-1.01	2.32	1190	1758	249	2/6/90	129BT
13.30	88.90	0.30	2.00	0.9479	0.0575	1679	84	0.10	-0.06	1423	1914	497	2/9/90	164BT
13.30	75.60	0.30	1.70	0.9562	0.0548	1691	80	0.01	0.11	1449	1943	488	2/9/90	163BT
13.30	66.70	0.30	1.50	0.9473	0.0582	1678	85	-0.31	3.21	1121	1932	499	2/9/90	162BT
13.30	53.30	0.30	1.20	0.9438	0.0555	1673	81	0.11	-0.23	1456	1905	491	2/9/90	161BT
13.30	44.50	0.30	1.00	0.9466	0.0521	1677	76	0.09	-0.15	1464	1902	498	2/9/90	160BT
13.30	35.60	0.30	0.80	0.9281	0.0514	1650	75	0.11	0.10	1442	1873	489	2/9/90	159BT
13.30	26.70	0.30	0.60	0.9192	0.0548	1637	80	-0.11	-0.20	1400	1851	492	2/9/90	158BT
13.30	13.30	0.30	0.30	0.9068	0.0582	1619	85	-0.28	0.77	1263	1854	488	2/9/90	157BT
13.30	4.50	0.30	0.10	0.9000	0.0699	1609	102	-0.50	0.84	1218	1870	493	2/9/90	156BT
22.20	88.90	0.50	2.00	0.9068	0.1630	1619	238	-2.35	6.31	358	1935	998	2/6/90	146BT
22.20	75.60	0.50	1.70	0.8993	0.1541	1608	225	-2.50	7.09	462	1906	1000	2/6/90	145BT
22.20	66.70	0.50	1.50	0.9043	0.1260	1616	184	-2.81	10.35	510	1920	1000	2/6/90	144BT
22.20	53.30	0.50	1.20	0.8952	0.1185	1602	173	-3.26	14.49	330	1900	996	2/6/90	143BT
22.20	44.50	0.50	1.00	0.9000	0.0959	1609	140	-4.13	26.41	389	1893	995	2/6/90	142BT
22.20	35.60	0.50	0.80	0.8993	0.0829	1608	121	-4.04	27.03	375	1805	994	2/6/90	141BT
22.20	26.70	0.50	0.60	0.9116	0.0705	1626	103	-3.98	33.35	406	1881	990	2/6/90	140BT
22.20	13.30	0.50	0.30	0.9048	0.0459	1616	67	-0.06	0.16	1384	1832	993	2/6/90	139BT
22.20	4.50	0.50	0.10	0.8397	0.0658	1521	96	-0.45	0.51	1110	1810	980	2/6/90	138BT

Filename: SBT465.CSV

Bluff Body : d = 31.75 mm,

 $\theta = 45$ Fuel : CH₄

Fuel Flow = 4606 slpm

U_a = 15 (m/s)

BR = 13%

 $\phi = 0.65$

Air Flow = 283.5 slpm

Turb. Grid : none

Tad = 1755 K

T0 = 295 K

r(mm)	x	r/d	x/d	C	Ct	T(K)	Tms	S	K	Tmin	Tmax	NData	Date	Data ID
0.00	63.50	0.00	2.00	0.9390	0.0637	1666	93	-3.83	42.11	551	1849	488	2/15/90	253BT
1.60	63.50	0.05	2.00	0.9404	0.0534	1668	78	0.07	0.24	1447	1917	492	2/15/90	254BT
3.20	63.50	0.10	2.00	0.9370	0.0507	1663	74	-0.08	-0.04	1442	1918	494	2/15/90	255BT
6.40	63.50	0.20	2.00	0.9699	0.0616	1711	90	-3.01	33.31	688	1930	488	2/15/90	256BT
9.50	63.50	0.30	2.00	0.9644	0.0589	1703	86	-2.70	27.19	767	1907	487	2/15/90	257BT
11.10	63.50	0.35	2.00	0.9733	0.0541	1716	79	-0.43	2.24	1247	1948	482	2/15/90	258BT
12.70	63.50	0.40	2.00	0.9829	0.0541	1730	79	-0.23	1.32	1325	1948	490	2/15/90	259BT
14.30	63.50	0.45	2.00	0.9788	0.0541	1724	79	-0.38	2.37	1238	1930	482	2/15/90	260BT
15.90	63.50	0.50	2.00	0.9699	0.0781	1711	114	-3.17	20.42	723	1909	482	2/15/90	261BT
17.50	63.50	0.55	2.00	0.9295	0.1651	1652	241	-3.07	10.03	457	1939	489	2/15/90	262BT
19.00	63.50	0.60	2.00	0.7925	0.2801	1452	409	-1.41	0.63	348	1903	494	2/15/90	263BT
20.60	63.50	0.65	2.00	0.4356	0.3493	931	510	0.43	-1.52	305	1841	499	2/15/90	264BT
22.20	63.50	0.70	2.00	0.1062	0.2308	450	337	2.13	3.32	250	1575	250	2/13/90	201BT
0.00	54.00	0.00	1.70	0.9712	0.0500	1713	73	0.13	-0.17	1527	1937	491	2/15/90	241BT
1.60	54.00	0.05	1.70	0.9664	0.0493	1706	72	0.03	-0.24	1493	1902	490	2/15/90	242BT
3.20	54.00	0.10	1.70	0.9623	0.0486	1700	71	-0.11	-0.07	1490	1891	488	2/15/90	243BT
6.40	54.00	0.20	1.70	0.9459	0.0514	1676	75	0.03	0.14	1417	1936	494	2/15/90	244BT
9.50	54.00	0.30	1.70	0.9445	0.0527	1674	77	-0.13	0.33	1374	1891	485	2/15/90	245BT
11.10	54.00	0.35	1.70	0.9452	0.0562	1675	82	-0.07	-0.35	1449	1908	486	2/15/90	246BT
12.70	54.00	0.40	1.70	0.9384	0.0589	1665	86	-3.94	47.87	590	1872	487	2/15/90	247BT
14.30	54.00	0.45	1.70	0.9390	0.0616	1666	90	-1.66	12.07	946	1915	487	2/15/90	248BT
15.90	54.00	0.50	1.70	0.9384	0.0815	1665	119	-4.92	39.91	509	1895	491	2/15/90	249BT
17.50	54.00	0.55	1.70	0.9075	0.1493	1620	218	-3.43	13.35	419	1892	491	2/15/90	250BT
19.00	54.00	0.60	1.70	0.7596	0.2678	1404	391	-1.26	0.16	382	1893	498	2/15/90	251BT
20.60	54.00	0.65	1.70	0.4370	0.3021	933	441	0.51	-1.27	365	1851	494	2/15/90	252BT
22.20	54.00	0.70	1.70	0.1055	0.2021	449	295	2.51	5.48	250	1731	250	2/13/90	200BT
0.00	47.60	0.00	1.50	0.9658	0.0479	1705	70	0.04	0.00	1491	1924	494	2/15/90	230BT
3.20	47.60	0.10	1.50	0.9562	0.0521	1691	76	0.13	-0.16	1494	1919	491	2/15/90	231BT
6.40	47.60	0.20	1.50	0.9562	0.0555	1691	81	0.02	-0.13	1478	1908	495	2/15/90	232BT
9.50	47.60	0.30	1.50	0.9637	0.0534	1702	78	-0.06	0.04	1425	1918	488	2/15/90	233BT
11.10	47.60	0.35	1.50	0.9644	0.0541	1703	79	0.04	0.34	1450	1938	495	2/15/90	234BT
12.70	47.60	0.40	1.50	0.9658	0.0568	1705	83	-0.01	0.11	1446	1944	489	2/15/90	235BT
14.30	47.60	0.45	1.50	0.9637	0.0603	1702	98	-0.90	5.40	1049	1904	493	2/15/90	236BT
15.90	47.60	0.50	1.50	0.9651	0.0610	1704	89	-2.45	24.41	759	1929	490	2/15/90	237BT
17.50	47.60	0.55	1.50	0.9384	0.0966	1665	141	-4.08	29.34	286	1913	490	2/15/90	238BT
19.00	47.60	0.60	1.50	0.7719	0.2630	1422	384	-1.44	0.83	341	1880	491	2/15/90	239BT
20.60	47.60	0.65	1.50	0.3849	0.3274	857	478	0.60	-1.28	283	1771	500	2/15/90	240BT
12.70	38.10	0.40	1.20	0.9555	0.0527	1690	77	0.04	0.03	1478	1929	491	2/15/90	225BT
14.30	38.10	0.45	1.20	0.9562	0.0541	1691	79	0.03	0.32	1377	1929	492	2/15/90	226BT
15.90	38.10	0.50	1.20	0.9589	0.0527	1695	77	0.10	-0.04	1486	1946	489	2/15/90	227BT
17.50	38.10	0.55	1.20	0.9473	0.0836	1678	122	-3.19	19.99	639	1897	485	2/15/90	228BT
19.00	38.10	0.60	1.20	0.7863	0.2432	1443	355	-1.43	0.88	381	1856	492	2/15/90	229BT
14.30	31.80	0.45	1.00	0.9158	0.0596	1632	87	0.10	0.11	1379	1918	489	2/15/90	221BT
17.50	31.80	0.55	1.00	0.9411	0.0884	1669	129	-4.54	33.73	475	1920	493	2/15/90	222BT
19.00	31.80	0.60	1.00	0.7178	0.2500	1343	365	-1.08	0.03	370	1834	495	2/15/90	223BT
20.60	31.80	0.65	1.00	0.1664	0.2322	538	339	1.76	2.19	250	1689	500	2/15/90	224BT

r(mm)	x	r/d	x/d	C	Ct	T(K)	Tma	S	K	Tmin	Tmax	NData	Date	Data ID
0.00	25.40	0.00	0.80	0.9075	0.0507	1620	74	0.11	-0.14	1437	1815	250	2/13/90	177BT
3.20	25.40	0.10	0.80	0.9021	0.0541	1612	79	-0.09	0.14	1377	1822	247	2/13/90	178BT
6.40	25.40	0.20	0.80	0.9096	0.0486	1623	71	0.17	0.44	1449	1888	246	2/13/90	179BT
9.50	25.40	0.30	0.80	0.9082	0.0514	1621	75	0.08	-0.12	1433	1844	249	2/13/90	180BT
11.10	25.40	0.35	0.80	0.9082	0.0534	1621	78	0.31	0.44	1429	1855	245	2/13/90	181BT
12.70	25.40	0.40	0.80	0.9089	0.0479	1622	70	0.08	0.17	1416	1881	245	2/13/90	182BT
14.30	25.40	0.45	0.80	0.9144	0.0507	1630	74	-0.19	0.55	1358	1821	247	2/13/90	183BT
15.90	25.40	0.50	0.80	0.9137	0.0555	1629	81	0.02	-0.10	1394	1853	246	2/13/90	184BT
17.50	25.40	0.55	0.80	0.9041	0.0822	1615	120	-4.23	33.61	487	1808	240	2/13/90	185BT
19.00	25.40	0.60	0.80	0.6233	0.2842	1205	415	-1.09	-0.02	250	1711	250	2/13/90	186BT
20.60	25.40	0.65	0.80	0.1041	0.1849	447	270	2.04	3.15	250	1567	250	2/13/90	187BT
22.20	25.40	0.70	0.80	0.0288	0.0363	337	53	0.93	1.58	250	583	250	2/13/90	188BT
14.30	19.00	0.45	0.60	0.9212	0.0486	1640	71	-0.07	-0.02	1404	1839	489	2/15/90	214BT
15.90	19.00	0.50	0.60	0.9336	0.0493	1653	72	-0.02	0.15	1446	1891	483	2/15/90	215BT
17.50	19.00	0.55	0.60	0.9021	0.0932	1612	136	-3.13	15.04	686	1866	488	2/15/90	216BT
19.00	19.00	0.60	0.60	0.4034	0.2884	874	421	-0.21	-1.15	366	1683	319	2/15/90	217BT
20.60	19.00	0.65	0.60	0.0075	0.0637	306	93	5.41	39.21	250	1280	500	2/15/90	218BT
14.30	9.50	0.45	0.30	0.9171	0.0521	1634	76	-0.24	-0.11	1365	1828	490	2/15/90	211BT
15.90	9.50	0.50	0.30	0.9144	0.0500	1630	73	-0.02	0.16	1371	1831	490	2/15/90	212BT
17.50	9.50	0.55	0.30	0.7582	0.1267	1402	185	-1.36	2.26	619	1705	482	2/15/90	213BT
0.00	3.20	0.00	0.10	0.8644	0.0671	1557	98	-0.70	1.05	1209	1770	244	2/13/90	165BT
3.20	3.20	0.10	0.10	0.8815	0.0644	1582	94	-0.59	1.82	1191	1842	247	2/13/90	166BT
6.40	3.20	0.20	0.10	0.8952	0.0548	1602	80	-0.87	2.19	1259	1783	247	2/13/90	167BT
9.50	3.20	0.30	0.10	0.8938	0.0555	1600	81	-0.29	0.48	1326	1799	244	2/13/90	168BT
11.10	3.20	0.35	0.10	0.8966	0.0527	1604	77	-0.19	-0.02	1367	1786	247	2/13/90	169BT
12.70	3.20	0.40	0.10	0.8993	0.0568	1608	83	-0.40	0.39	1334	1839	249	2/13/90	170BT
14.30	3.20	0.45	0.10	0.8822	0.0582	1583	85	-0.54	1.39	1197	1781	247	2/13/90	171BT
15.90	3.20	0.50	0.10	0.8719	0.0555	1568	81	-0.23	0.04	1330	1758	248	2/13/90	172BT
17.50	3.20	0.55	0.10	0.0274	0.0295	335	43	0.93	1.45	250	510	250	2/13/90	173BT
19.00	3.20	0.60	0.10	0.0233	0.0281	329	41	0.87	1.26	250	501	250	2/13/90	174BT
20.60	3.20	0.65	0.10	0.0288	0.0281	337	41	0.55	0.80	251	508	250	2/13/90	175BT
22.20	3.20	0.70	0.10	0.0342	0.0301	345	44	0.55	0.16	250	484	250	2/13/90	176BT
0.00	127.00	0.00	4.00	0.9295	0.0445	1652	65	0.12	0.09	1438	1836	498	3/30/90	270BT
0.00	111.10	0.00	3.50	0.9349	0.0425	1660	62	0.06	0.00	1492	1862	497	3/30/90	271BT
0.00	95.30	0.00	3.00	0.9301	0.0438	1653	64	0.16	-0.11	1496	1869	500	3/30/90	272BT
0.00	79.40	0.00	2.50	0.9281	0.0445	1650	65	-0.09	-0.19	1453	1842	500	3/30/90	273BT
0.00	73.00	0.00	2.30	0.9411	0.0445	1669	65	0.12	0.06	1440	1860	496	3/30/90	274BT
0.00	63.50	0.00	2.00	0.9349	0.0438	1660	64	0.05	-0.16	1488	1834	495	3/30/90	275BT
0.00	54.00	0.00	1.70	0.9295	0.0445	1652	65	-0.13	0.21	1440	1849	499	3/30/90	276BT
0.00	47.60	0.00	1.50	0.9274	0.0438	1649	64	-0.09	0.06	1464	1870	500	3/30/90	277BT
0.00	38.10	0.00	1.20	0.9144	0.0452	1630	66	0.00	-0.12	1462	1826	499	3/30/90	278BT
0.00	31.80	0.00	1.00	0.9075	0.0445	1620	65	-0.02	-0.06	1429	1805	500	3/30/90	279BT
0.00	25.40	0.00	0.80	0.9041	0.0466	1615	68	0.18	-0.25	1429	1800	500	3/30/90	280BT
0.00	19.00	0.00	0.60	0.8932	0.0438	1599	64	-0.24	1.14	1263	1780	498	3/30/90	281BT
0.00	9.50	0.00	0.30	0.8884	0.0445	1592	65	-0.18	0.21	1334	1767	500	3/30/90	282BT
0.00	3.20	0.00	0.10	0.8740	0.0623	1571	91	-1.18	2.91	1144	1771	500	3/30/90	283BT

r(mm)	x	r/d	x/d	C	Ct	T(K)	Tms	S	K	Tmin	Tmax	NData	Date	Data ID
15.90	73.00	0.50	2.30	0.9021	0.0877	1612	128	-4.80	34.04	351	1828	492	3/30/90	284BT
15.90	63.50	0.50	2.00	0.9281	0.0644	1650	94	-4.51	39.82	698	1855	496	3/30/90	285BT
15.90	54.00	0.50	1.70	0.9253	0.0534	1646	78	-2.71	23.76	860	1856	498	3/30/90	286BT
15.90	47.60	0.50	1.50	0.9233	0.0466	1643	68	-0.12	0.17	1435	1841	496	3/30/90	287BT
15.90	38.10	0.50	1.20	0.9205	0.0486	1639	71	-0.71	5.91	1112	1905	498	3/30/90	288BT
15.90	31.80	0.50	1.00	0.9158	0.0438	1632	64	0.01	-0.36	1442	1809	497	3/30/90	289BT
15.90	25.40	0.50	0.80	0.9027	0.0438	1613	64	0.12	0.25	1428	1817	499	3/30/90	290BT
15.90	19.00	0.50	0.60	0.9041	0.0432	1615	63	-0.26	0.36	1374	1781	498	3/30/90	291BT
15.90	9.50	0.50	0.30	0.9123	0.0425	1627	62	0.08	0.28	1438	1823	499	3/30/90	292BT
15.90	3.20	0.50	0.10	0.8822	0.0589	1583	86	-0.83	2.21	1129	1807	500	3/30/90	293BT
16.71	3.20	0.526	0.10	0.5308	0.1062	1070	155	-0.51	0.20	508	1442	1488	2/15/90	265BT
16.90	3.20	0.532	0.10	0.1199	0.1021	470	149	0.92	0.47	250	1021	1419	2/15/90	266BT
19.40	25.40	0.61	0.80	0.5151	0.2808	1047	410	-0.01	-1.49	273	1756	1467	2/15/90	267BT
19.00	47.60	0.60	1.50	0.7836	0.2322	1439	339	-1.43	0.85	345	1888	1472	2/15/90	268BT
20.60	47.60	0.65	1.50	0.3411	0.3267	793	477	0.55	-1.32	250	1748	1471	2/15/90	269BT

*** Wall Static Pressure: dp (psi) (reference point: x/d = 0) ***

Flame: CH₄+Air Premixed

a) Bluff Body: $d = 44.45 \text{ mm}$

[illegible]

b) Bluff Body: $d = 31.75 \text{ mm}$

[illegible]

a) Bluff Body: $d = 44.45 \text{ mm}$

[illegible]

b) Bluff Body: $d = 31.75$ mm

θ	30	30	30	45	45	45	60	60	60	30	30	30	45	45	45	60	60	60
ϕ	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	Cold	Cold	Cold	Cold	Cold	Cold	Cold	Cold	Cold
$U_a(m/s)$	10	15	18	10	15	18	10	15	18	10	15	18	10	15	18	10	15	18
$P_g (psf)$	1.690	2.262	3.380	1.638	2.210	3.484	1.950	2.678	3.640	0.000	-0.052	-0.078	0.000	-0.026	-0.078	0.000	-0.052	-0.260

*** Wall Pressure Coefficient: C_p ***

Flame: CH₄+Air Premixed

a) Bluff Body: $d = 44.45 \text{ mm}$

Grid θ	30				45				G3				G7				45				G3				45				90				90			
	0.65	0.65	0.65	0.65	0.65	0.55	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65						
Ua(m/s)	10	15	20	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	360	375	390	405	420	435					
x/d	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	15.0	15.5					
0.5	1.274	1.176	1.078	2.156	1.002	1.525	0.436	1.002	1.438	1.394	1.470	1.862	1.655	1.568	0.980	1.045	1.005	1.274	1.220	0.348	0.091	1.225	1.568	1.525	1.455	1.455	1.455	1.455	1.455	1.455	1.455					
0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
0.5	-0.784	-0.697	-0.735	0.980	-1.045	-0.958	-0.436	-0.871	-0.958	-1.002	-0.956	-1.862	-1.742	-1.740	-0.588	-0.566	-0.637	0.784	-0.915	-0.131	-0.436	-0.858	-1.960	-1.960	-1.965	-1.965	-1.965	-1.965	-1.965	-1.965	-1.965	-1.965				
1.0	-0.882	-0.871	-0.858	-1.176	-1.263	-1.176	-0.348	-0.784	-1.176	-1.220	-1.127	-2.156	-2.091	-2.132	-0.098	-0.218	-0.221	0.392	-0.566	0.566	0.261	-0.564	-1.862	-1.917	-1.887	-1.887	-1.887	-1.887	-1.887	-1.887	-1.887	-1.887				
1.5	-0.784	-0.828	-0.809	-0.882	-1.176	-1.133	-0.392	-0.697	-1.133	-1.220	-1.078	-2.058	-2.091	-2.107	0.490	0.566	0.515	0.392	0.305	1.002	0.784	0.294	-0.588	-0.653	-0.662	-0.662	-0.662	-0.662	-0.662	-0.662	-0.662	-0.662				
2.0	-0.784	-0.697	-0.686	-0.980	-0.958	-1.002	-0.871	-0.915	-1.220	-1.525	-0.931	-1.960	-1.917	-1.911	0.784	0.828	0.833	0.686	0.741	1.176	1.002	0.735	0.098	0.044	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000				
2.5	0.980	0.697	-0.662	-1.274	-0.784	-1.133	-0.525	-1.481	-1.612	-2.178	-0.882	-2.352	-1.830	-1.764	0.882	0.915	0.956	0.882	0.871	1.263	1.045	0.858	0.294	0.305	0.294	0.294	0.294	0.294	0.294	0.294	0.294	0.294				
3.0	-1.372	0.871	-0.784	-1.764	-0.784	-1.133	-2.396	-2.222	-2.178	-3.006	-0.956	-2.352	-1.873	-1.789	0.980	0.915	0.980	0.982	0.915	1.263	1.045	0.882	0.392	0.392	0.368	0.368	0.368	0.368	0.368	0.368	0.368	0.368				
3.5	-1.764	-1.176	-1.005	-2.352	-0.871	-1.394	-3.354	-3.136	-2.875	-4.138	-1.103	-2.940	-2.047	-1.887	0.980	0.958	0.980	0.980	0.958	1.307	1.045	0.907	0.392	0.436	0.441	0.441	0.441	0.441	0.441	0.441	0.441	0.441				
4.0	-2.450	1.525	-1.348	-3.136	-1.002	-1.786	-5.140	-4.225	-3.920	-5.358	-1.372	-3.626	-2.309	-2.107	0.980	0.958	0.980	0.980	0.958	1.307	1.045	0.931	0.450	0.450	0.441	0.441	0.441	0.441	0.441	0.441	0.441	0.441				
4.5	-2.940	-1.873	-1.593	-3.822	-1.133	-1.917	-6.011	-5.358	-4.705	-6.621	-1.568	-4.411	-2.570	-2.303	0.980	1.002	1.005	0.980	1.002	1.307	1.045	0.980	0.450	0.450	0.479	0.490	0.490	0.490	0.490	0.490	0.490	0.490				

b) Bluff Body: $d = 31.75 \text{ mm}$

Ua(m.s)	30		30		45		45		60		60		75		75		90		90		105		105		120		120		135		135		150		150		165		165		180		180		195		195		210		210		225		225		240		240		255		255		270		270		285		285		300		300		315		315		330		330		345		345		360		360		375		375		390		390		405		405		420		420		435		435		450		450		465		465		480		480		495		495		510		510		525		525		540		540		555		555		570		570		585		585		600		600		615		615		630		630		645		645		660		660		675		675		690		690		705		705		720		720		735		735		750		750		765		765		780		780		795		795		810		810		825		825		840		840		855		855		870		870		885		885		900		900		915		915		930		930		945		945		960		960		975		975		990		990		1005		1005		1020		1020		1035		1035		1050		1050		1065		1065		1080		1080		1095		1095		1110		1110		1125		1125		1140		1140		1155		1155		1170		1170		1185		1185		1200		1200		1215		1215		1230		1230		1245		1245		1260		1260		1275		1275		1290		1290		1305		1305		1320		1320		1335		1335		1350		1350		1365		1365		1380		1380		1395		1395		1410		1410		1425		1425		1440		1440		1455		1455		1470		1470		1485		1485		1500		1500		1515		1515		1530		1530		1545		1545		1560		1560		1575		1575		1590		1590		1605		1605		1620		1620		1635		1635		1650		1650		1665		1665		1680		1680		1695		1695		1710		1710		1725		1725		1740		1740		1755		1755		1770		1770		1785		1785		1800		1800		1815		1815		1830		1830		1845		1845		1860		1860		1875		1875		1890		1890		1905		1905		1920		1920		1935		1935		1950		1950		1965		1965		1980		1980		1995		1995		2010		2010		2025		2025		2040		2040		2055		2055		2070		2070		2085		2085		2100		2100		2115		2115		2130		2130		2145		2145		2160		2160		2175		2175		2190		2190		2205		2205		2220		2220		2235		2235		2250		2250		2265		2265		2280		2280		2295		2295		2310		2310		2325		2325		2340		2340		2355		2355		2370		2370		2385		2385		2400		2400		2415		2415		2430		2430		2445		2445		2460		2460		2475		2475		2490		2490		2505		2505		2520		2520		2535		2535		2550		2550		2565		2565		2580		2580		2595		2595		2610		2610		2625		2625		2640		2640		2655		2655		2670		2670		2685		2685		2700		2700		2715		2715		2730		2730		2745		2745		2760		2760		2775		2775		2790		2790		2805		2805		2820		2820		2835		2835		2850		2850		2865		2865		2880		2880		2895		2895		2910		2910		2925		2925		2940		2940		2955		2955		2970		2970		2985		2985		3000		3000		3015		3015		3030		3030		3045		3045		3060		3060		3075		3075		3090		3090		3105		3105		3120		3120		3135		3135		3150		3150		3165		3165		3180		3180		3195		3195		3210		3210		3225		3225		3240		3240		3255		3255		3270		3270		3285		3285		3300		3300		3315		3315		3330		3330		3345		3345		3360		3360		3375		3375		3390		3390		3405		3405		3420		3420		3435		3435		3450		3450		3465		3465		3480		3480		3495		3495		3510		3510		3525		3525		3540		3540		3555		3555		3570		3570		3585		3585		3600		3600		3615		3615		3630		3630		3645		3645		3660		3660		3675		3675		3690		3690		3705		3705		3720		3720		3735		3735		3750		3750		3765		3765		3780		3780		3795		3795		3810		3810		3825		3825		3840		3840		3855		3855		3870		3870		3885		3885		3900		3900		3915		3915		3930		3930		3945		3945		3960		3960		3975		3975		3990		3990		4005		4005		4020		4020		4035		4035		4050		4050		4065		4065		4080		4080		4095		4095		4110		4110		4125		4125		4140		4140		4155		4155		4170		4170		4185		4185		4200		4200		4215		4215		4230		4230		4245		4245		4260		4260		4275		4275		4290		4290		4305		4305		4320		4320		4335		4335		4350		4350		4365		4365		4380		4380		4395		4395		4410		4410		4425		4425		4440		4440		4455		4455		4470		4470		4485		4485		4500		4500		4515		4515		4530		4530		4545		4545		4560		4560		4575		4575		4590		4590		4605		4605		4620		4620		4635		4635		4650		4650		4665		4665		4680		4680		4695		4695		4710		4710		4725		4725		4740		4740		4755		4755		4770		4770		4785		4785		4800		4800		4815		4815		4830		4830		4845		4845		4860		4860		4875		4875		4890		4890		4905		4905		4920		4920		4935		4935		4950		4950		4965		4965		4980		4980		4995		4995		5010		5010		5025		5025		5040		5040		5055		5055		5070		5070		5085		5085		5100		5100		5115		5115		5130		5130		5145		5145		5160		5160		5175		5175		5190		5190		5205		5205		5220		5220		5235		5235		5250		5250		5265		5265		5280		5280		5295		5295		5310		5310		5325		5325		5340		5340		5355		5355		5370		5370		5385		5385		5400		5400		5415		5415		5430		5430		5445		5445		5460		5460		5475		5475		5490		5490		5505		5505		5520		5520		5535		5535		5550		5550		5565		5565		5580		5580		5595		5595		5610		5610		5625		5625		5640		5640		5655		5655		5670		5670		5685		5685		5700		5700		5715		5715		5730		5730		5745		5745		5760		5760		5775		5775		5790		5790		5805		5805		5820		5820		5835		5835		5850		5850		5865		5865		5880		5880		5895		5895		5910		5910		5925		5925		5940		5940		5955		5955		5970		5970		5985		5985		6000		6000		6015		6015		6030		6030		6045		6045		6060		6060		6075		6075		6090		6090		6105		6105		6120		6120		6135		6135		6150		6150		6165		6165		6180		6180		6195		6195		6210		6210		6225		6225		6240		6240		6255		6255		6270		6270		6285		6285		6300		6300		6315		6315		6330		6330		6345		6345		6360		6360		6375		6375		6390		6390		6405		6405		6420		6420		6435		64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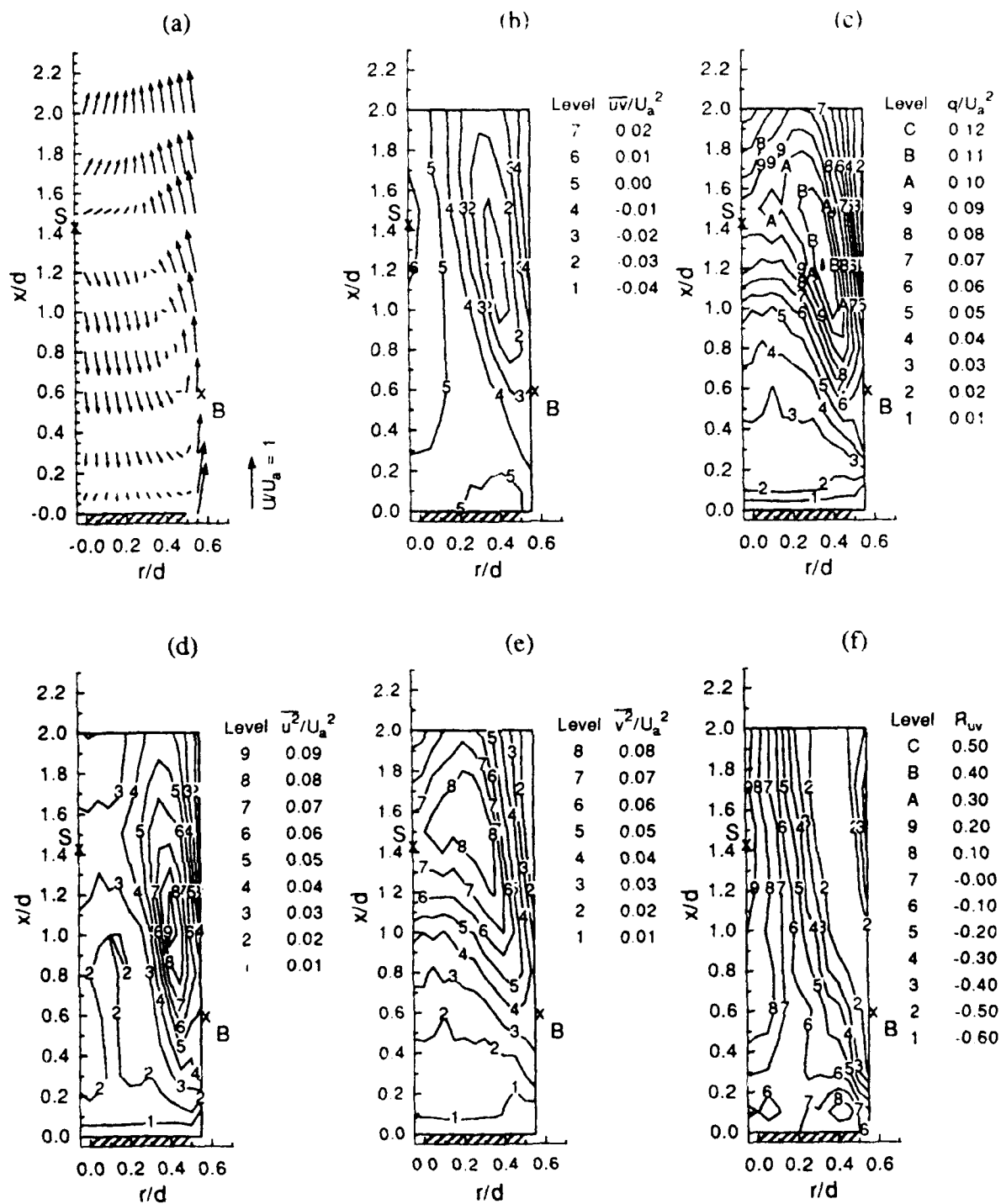


Figure 10 Mean flow structure and contours of turbulence properties in the near wake ($BR = 24\%$, $\theta = 30^\circ$, $U_a = 15$ m/s, cold): (a) mean velocity, (b) Reynolds shear stress, (c) TKE, (d) and (e) Reynolds normal stresses, (f) correlation coefficient.

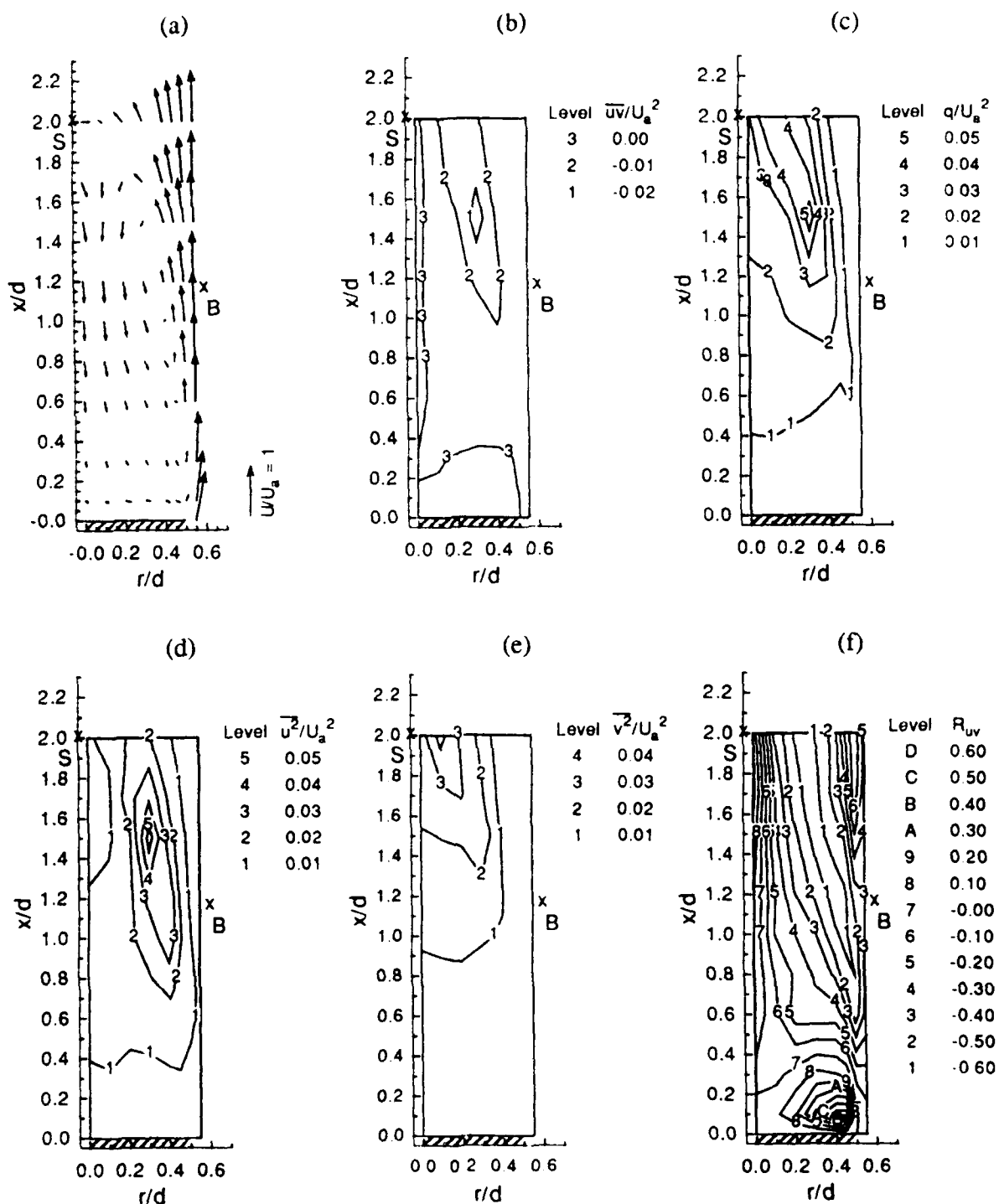


Figure 11 Mean flow structure and contours of turbulence properties in the near wake ($BR = 24\%$, $\theta = 30^\circ$, $U_a = 15$ m/s, $\phi = 0.65$): (a) mean velocity, (b) Reynolds shear stress, (c) TKE, (d) and (e) Reynolds normal stresses, (f) correlation coefficient.

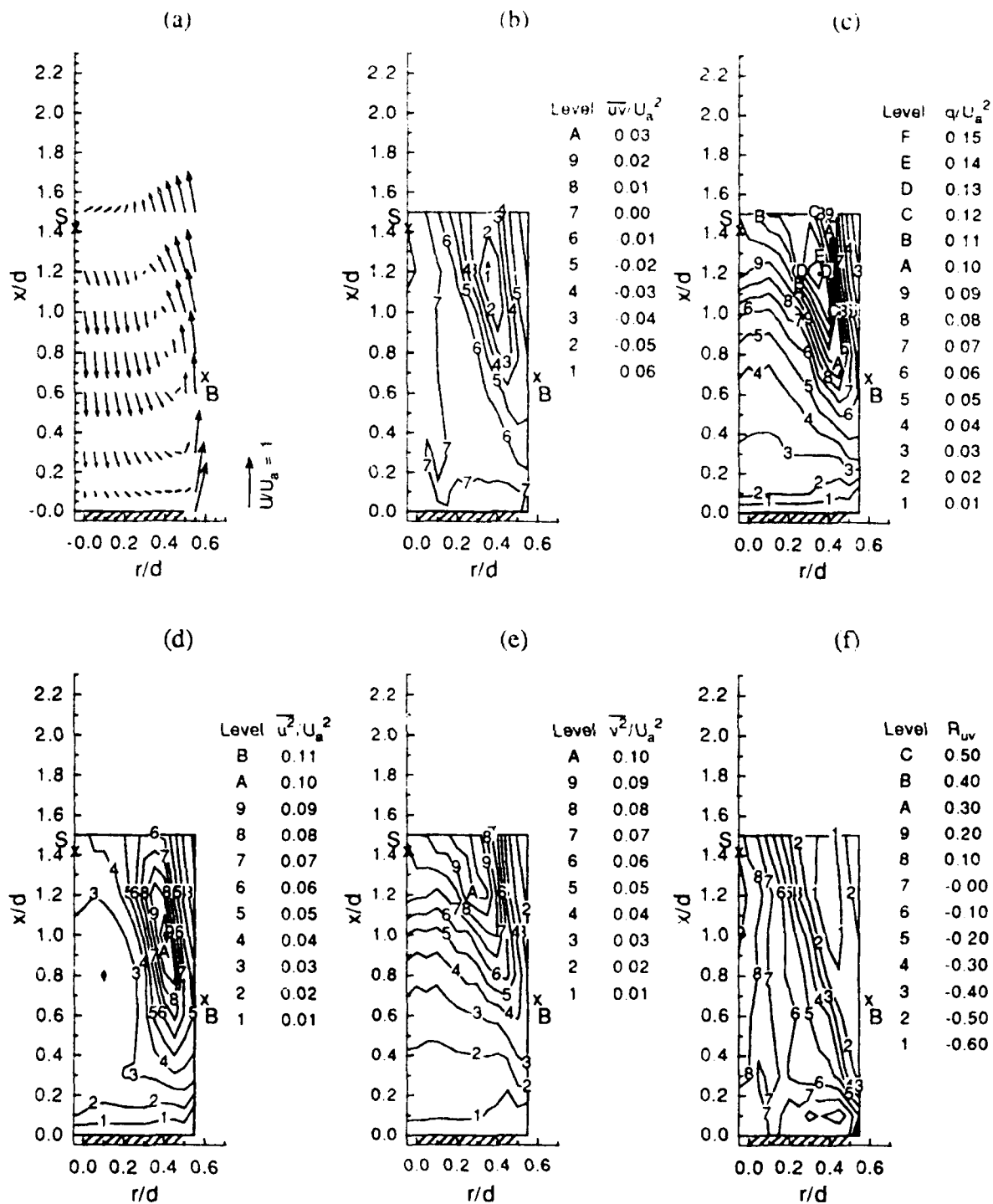


Figure 12 Mean flow structure and contours of turbulence properties in the near wake ($BR = 24\%$, $\theta = 45^\circ$, $U_a = 10$ m/s, cold): (a) mean velocity, (b) Reynolds shear stress, (c) TKE, (d) and (e) Reynolds normal stresses, (f) correlation coefficient.

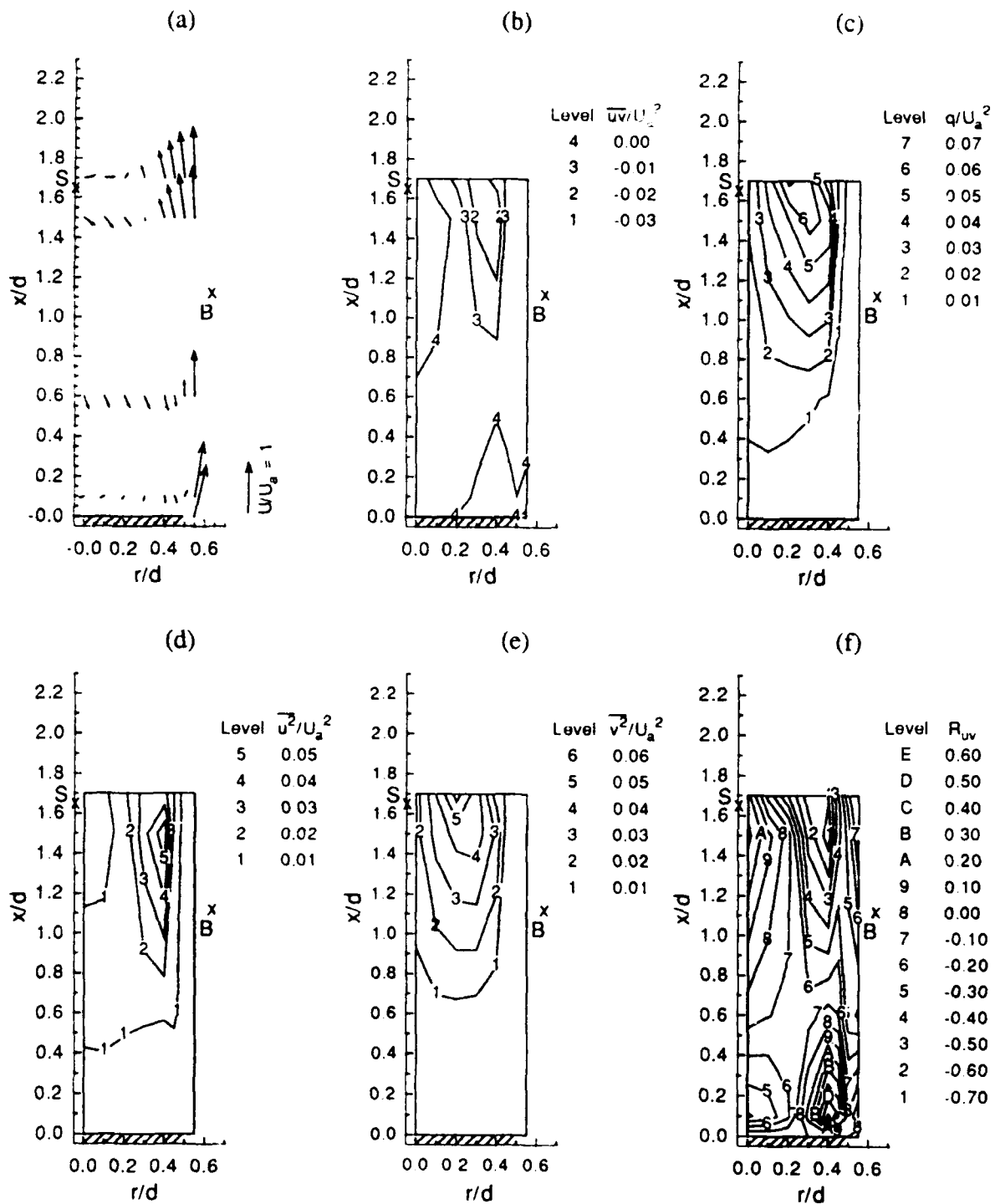


Figure 13 Mean flow structure and contours of turbulence properties in the near wake ($BR = 24\%$, $\theta = 45^\circ$, $U_a = 10$ m/s, $\phi = 0.65$): (a) mean velocity, (b) Reynolds shear stress, (c) TKE, (d) and (e) Reynolds normal stresses, (f) correlation coefficient.

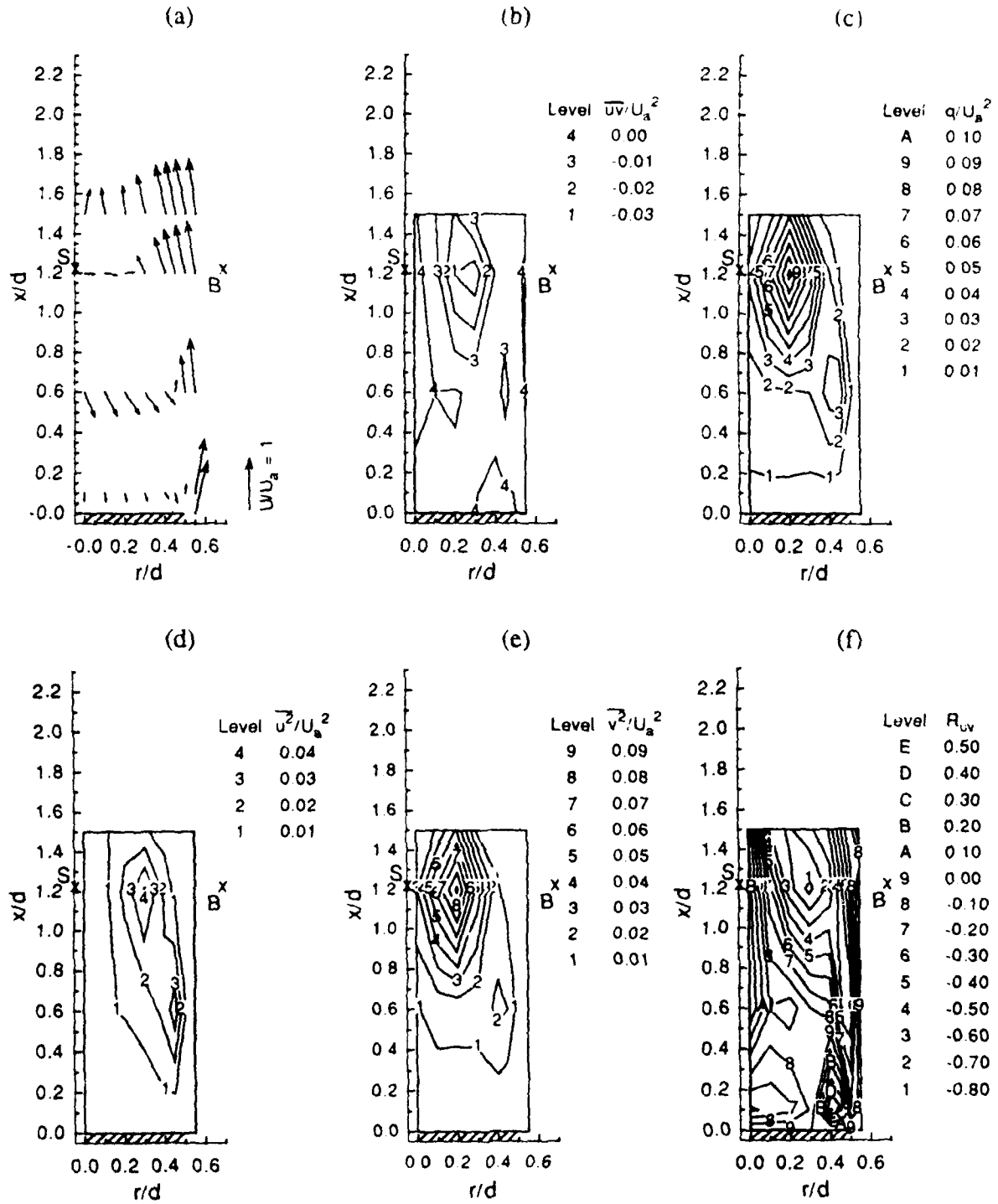


Figure 14 Mean flow structure and contours of turbulence properties in the near wake ($BR = 24\%$, $\theta = 45^\circ$, $U_a = 10$ m/s, $\phi = 0.8$): (a) mean velocity, (b) Reynolds shear stress, (c) TKE, (d) and (e) Reynolds normal stresses, (f) correlation coefficient.

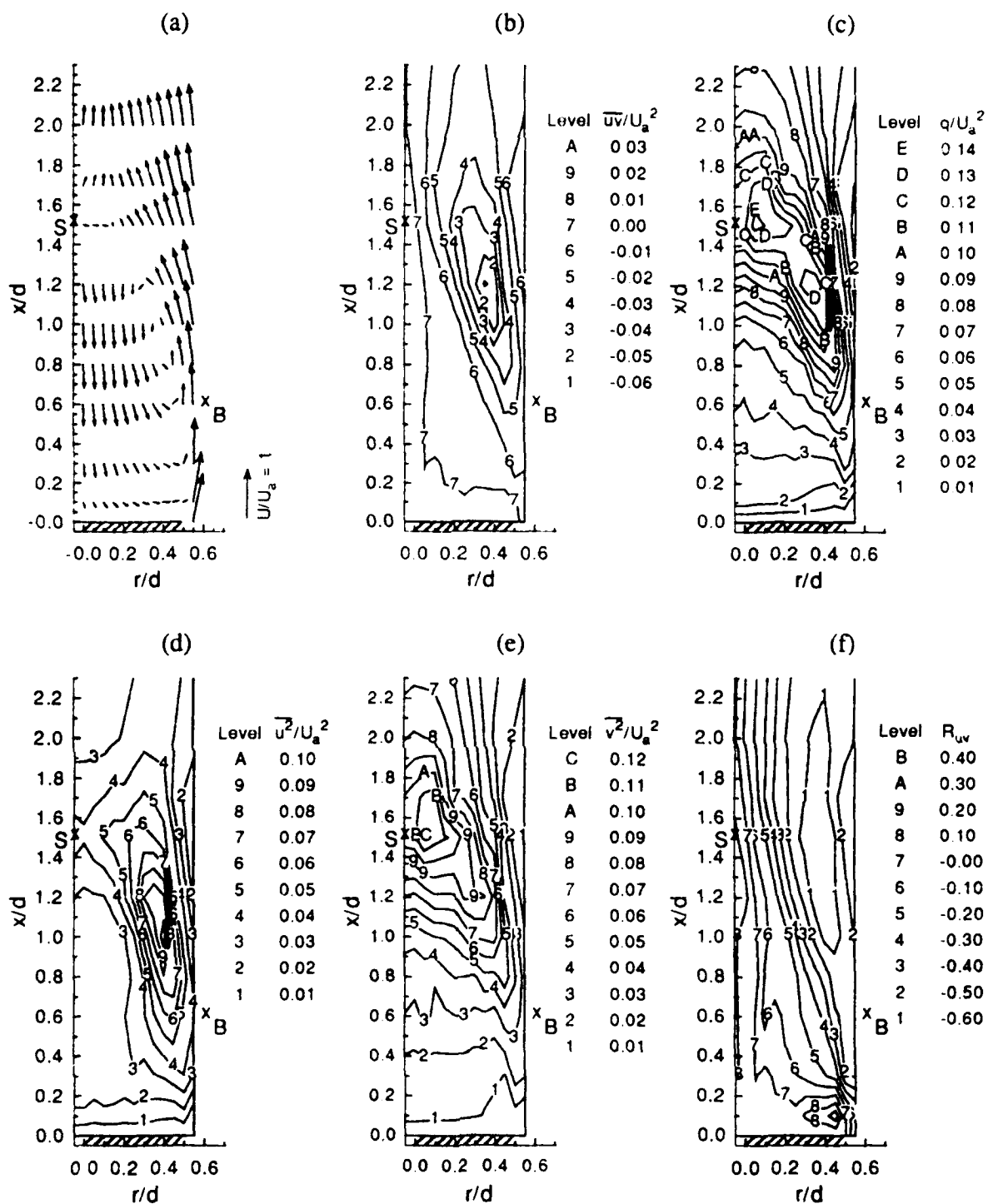


Figure 15 Mean flow structure and contours of turbulence properties in the near wake ($BR = 24\%$, $\theta = 45^\circ$, $U_a = 15$ m/s, cold): (a) mean velocity, (b) Reynolds shear stress, (c) TKE, (d) and (e) Reynolds normal stresses, (f) correlation coefficient.

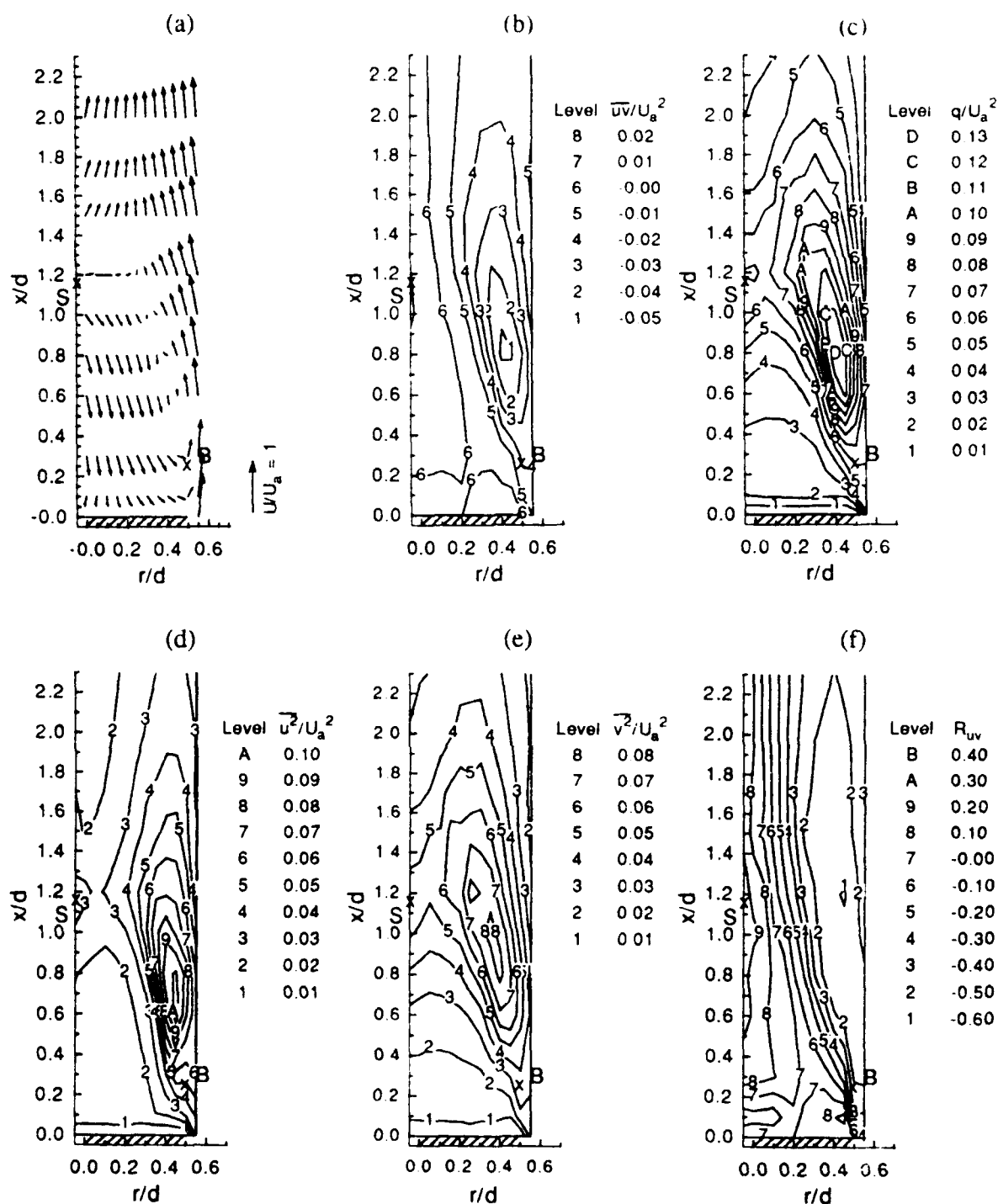


Figure 16 Mean flow structure and contours of turbulence properties in the near wake ($BR = 24\%$, $\theta = 45^\circ$, $U_a = 15$ m/s, cold, $I = 22\%$): (a) mean velocity, (b) Reynolds shear stress, (c) TKE, (d) and (e) Reynolds normal stresses, (f) correlation coefficient.

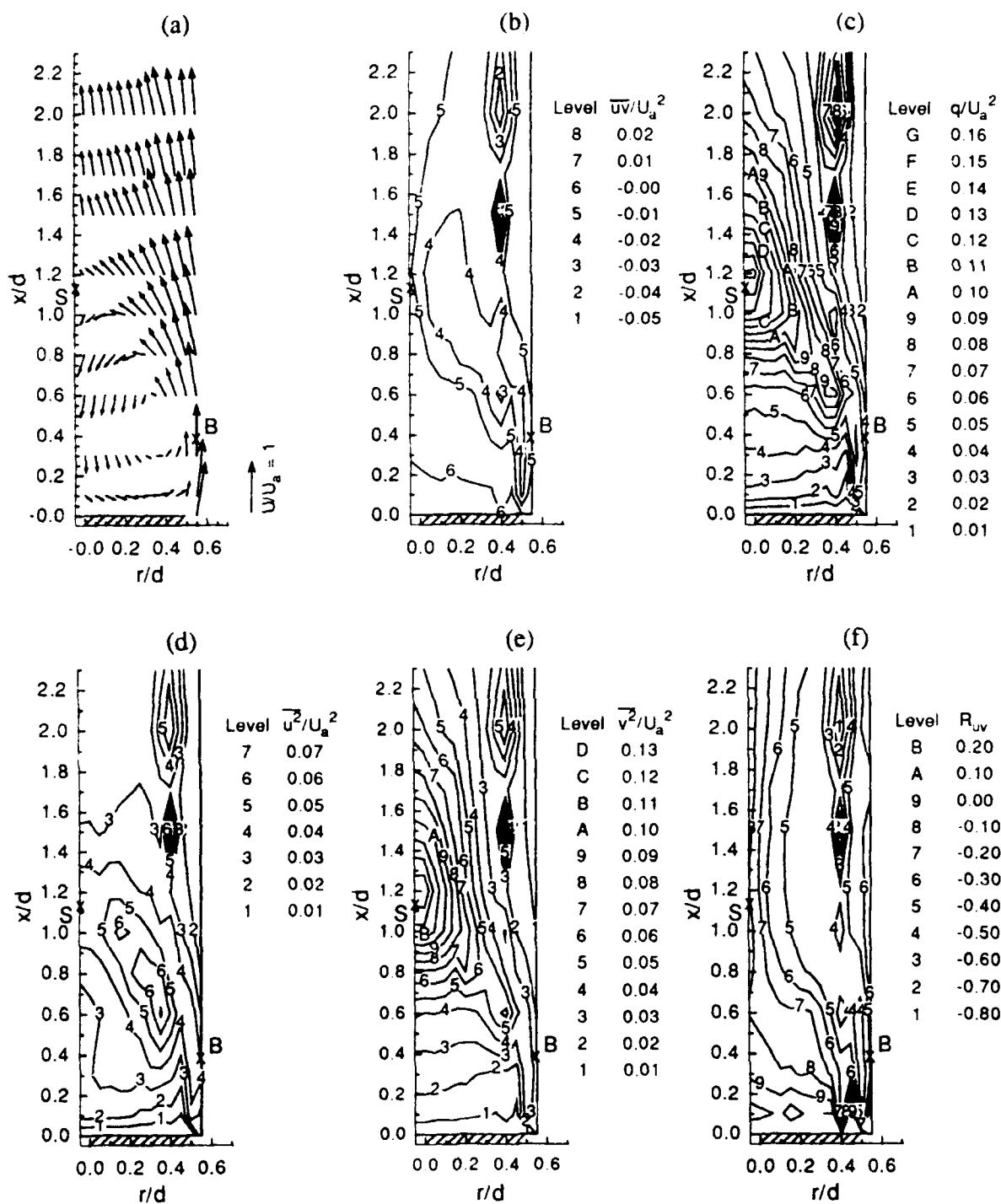


Figure 17 Mean flow structure and contours of turbulence properties in the near wake ($BR = 24\%$, $\theta = 45^\circ$, $U_a = 15$ m/s, cold, $I = 17\%$): (a) mean velocity, (b) Reynolds shear stress, (c) TKE, (d) and (e) Reynolds normal stresses, (f) correlation coefficient.

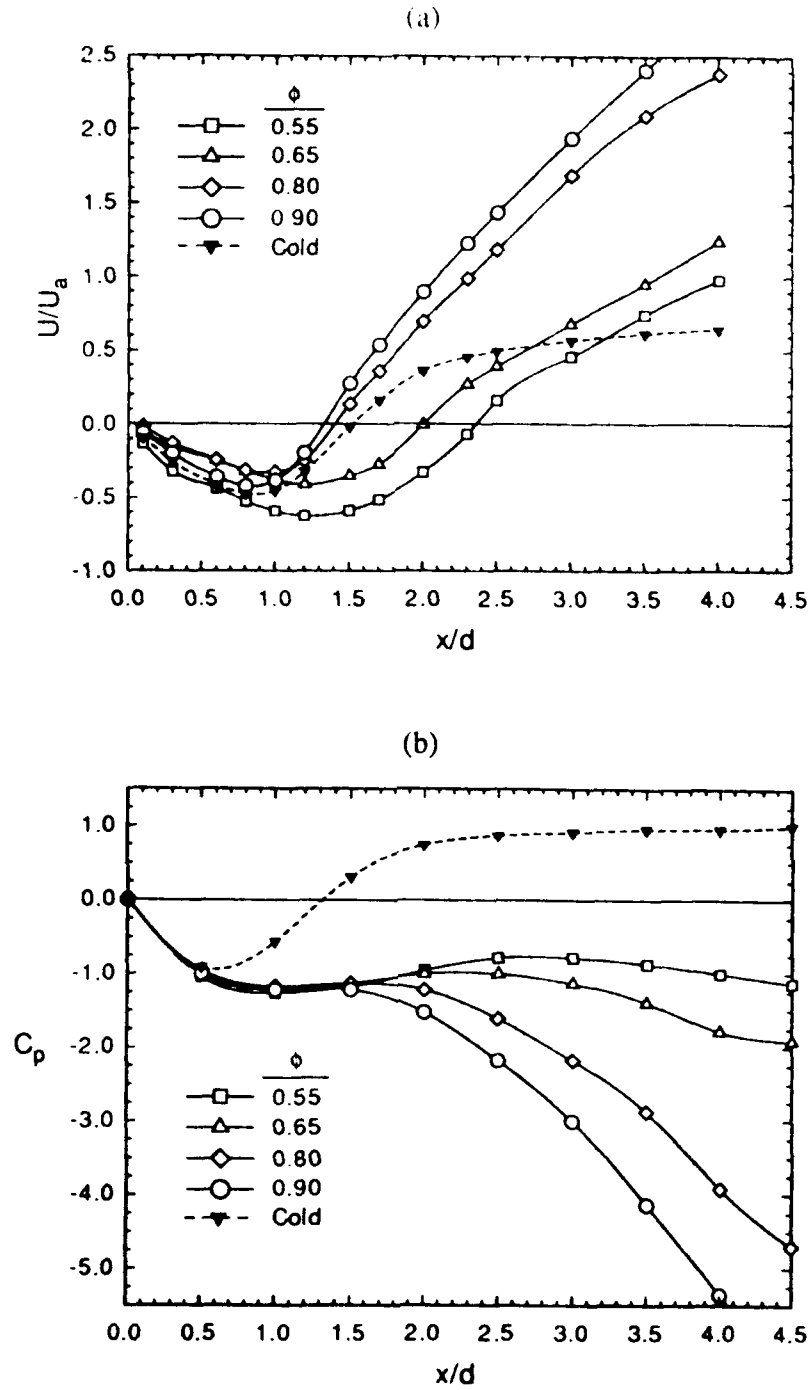


Figure 34 Axial profiles showing equivalence ratio effect on mean flowfield ($BR = 24\%$, $\theta = 45^\circ$, $U_a = 15$ m/s): (a) centerline mean velocity, (b) pressure coefficient, (c) axial pressure gradient.

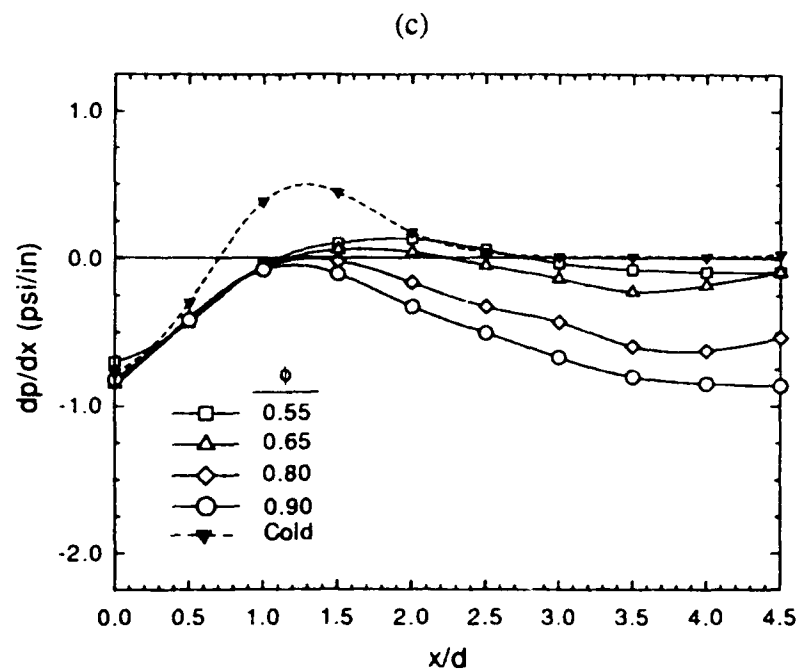


Figure 34 (continued) Axial profiles showing equivalence ratio effect on mean flowfield ($BR = 24\%$, $\theta = 45^\circ$, $U_a = 15$ m/s): (a) centerline mean velocity, (b) pressure coefficient, (c) axial pressure gradient.

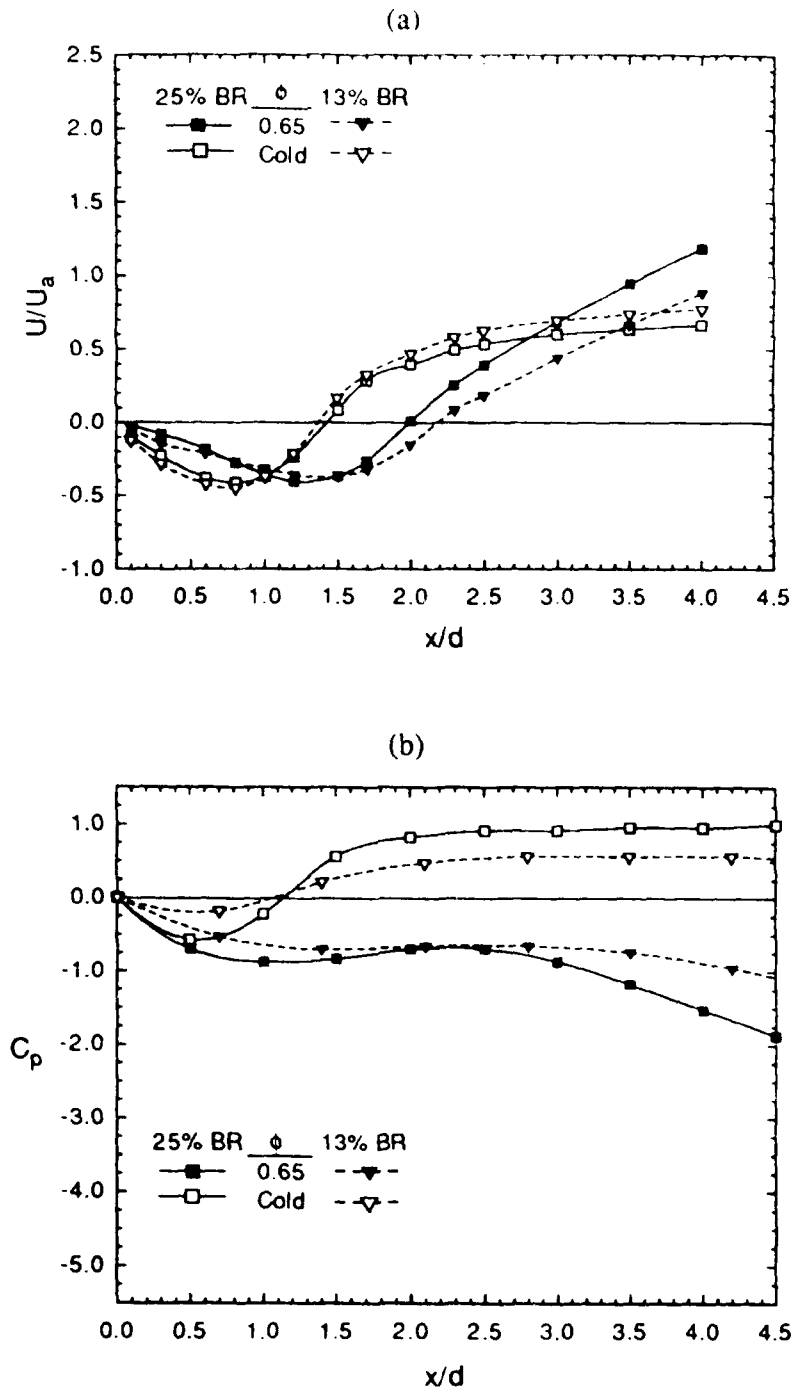


Figure 35 Axial profiles showing blockage ratio effect on mean flowfield ($\theta = 30^\circ$, $U_a = 15$ m/s): (a) centerline mean velocity (length scale normalized by d), (b) pressure coefficient, (c) axial pressure gradient, (d) centerline mean velocity (length scale normalized by L_T).

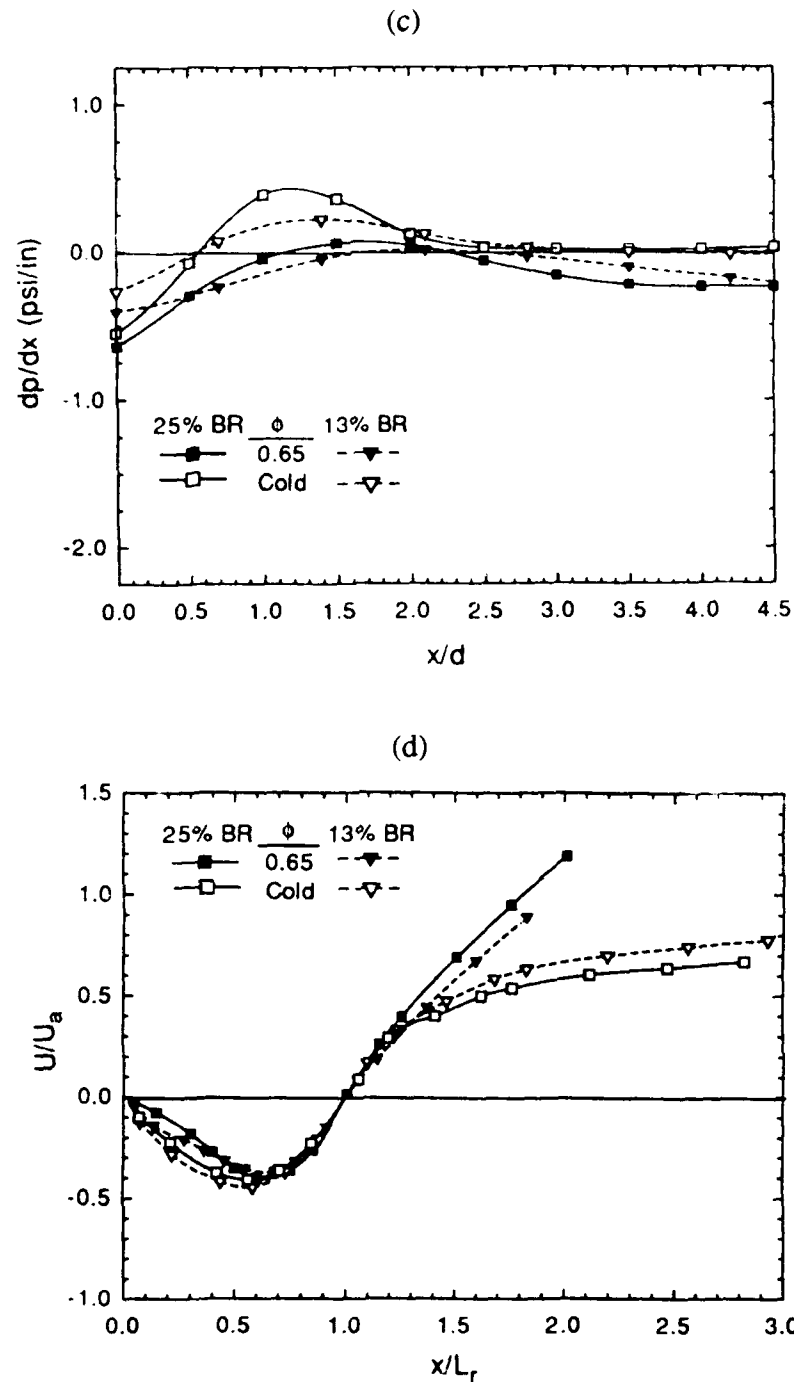


Figure 35 (continued) Axial profiles showing blockage ratio effect on mean flowfield ($\theta = 30^\circ$, $U_a = 15$ m/s): (a) centerline mean velocity (length scale normalized by d), (b) pressure coefficient, (c) axial pressure gradient, (d) centerline mean velocity (length scale normalized by L_r).

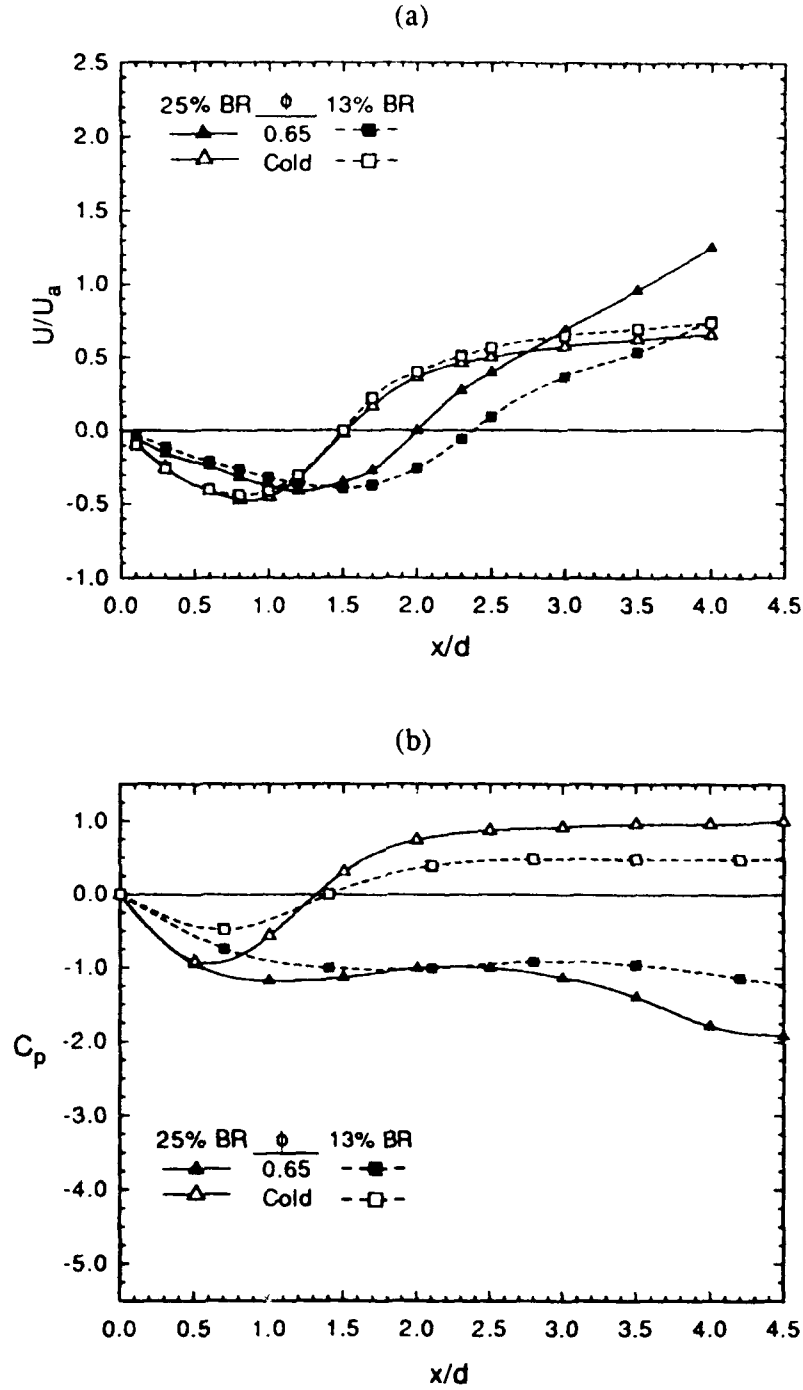


Figure 36 Axial profiles showing blockage ratio effect on mean flowfield ($\theta = 45^\circ$, $U_a = 15$ m/s): (a) centerline mean velocity (length scale normalized by d), (b) pressure coefficient, (c) axial pressure gradient, (d) centerline mean velocity (length scale normalized by L_T).

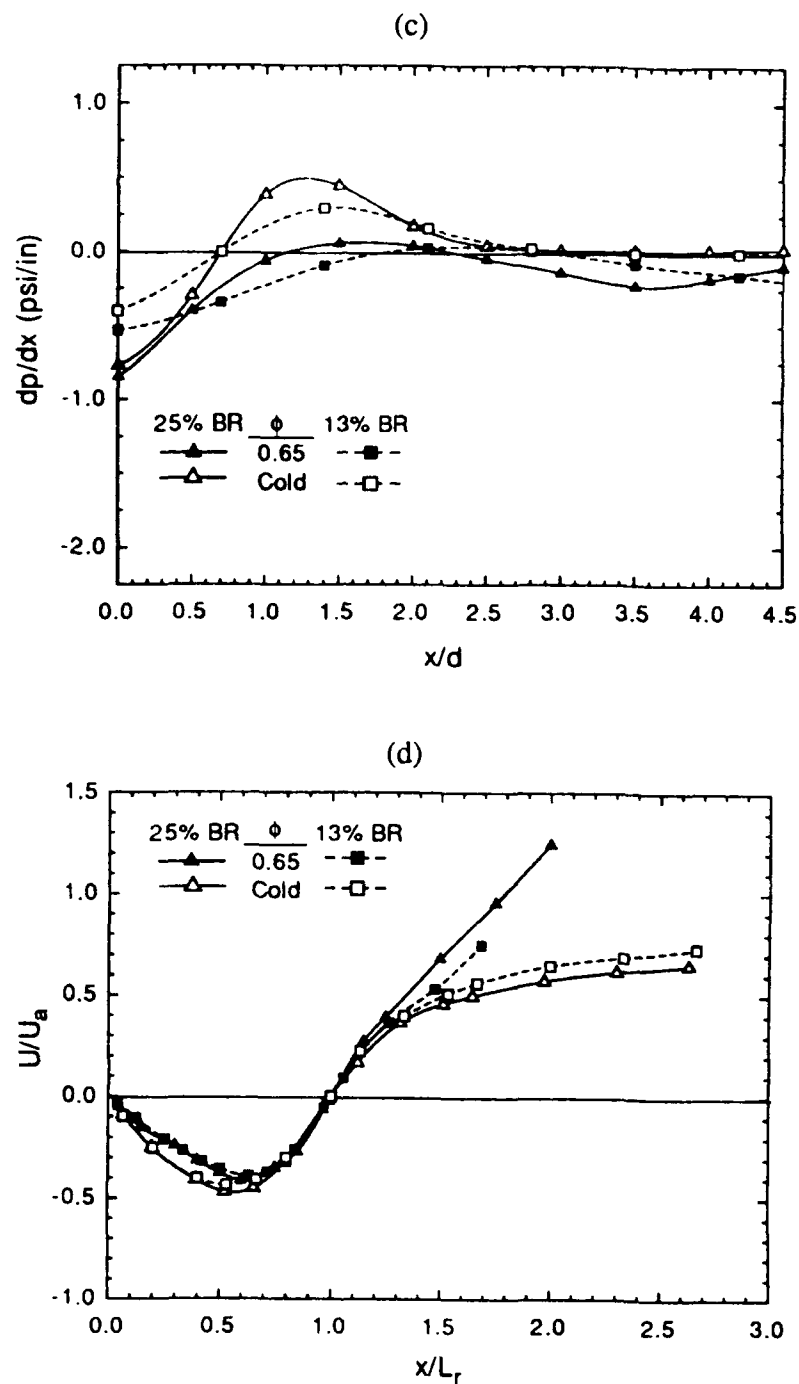


Figure 36 (continued) Axial profiles showing blockage ratio effect on mean flowfield ($\theta = 45^\circ$, $U_a = 15$ m/s): (a) centerline mean velocity (length scale normalized by d), (b) pressure coefficient, (c) axial pressure gradient, (d) centerline mean velocity (length scale normalized by L_r).

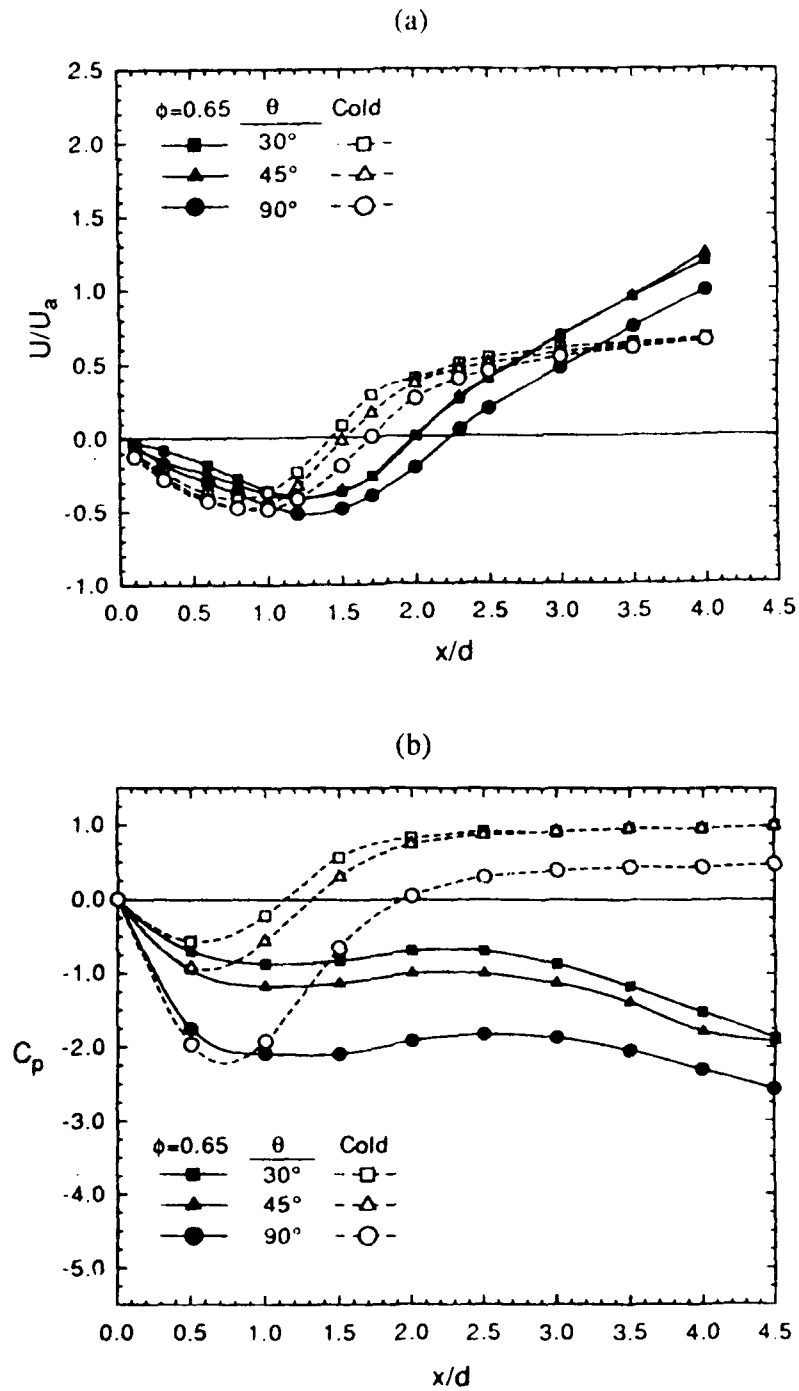


Figure 37 Axial profiles showing cone angle effect on mean flowfield ($BR = 24\%$, $U_a = 15$ m/s): (a) centerline mean velocity, (b) pressure coefficient, (c) axial pressure gradient.

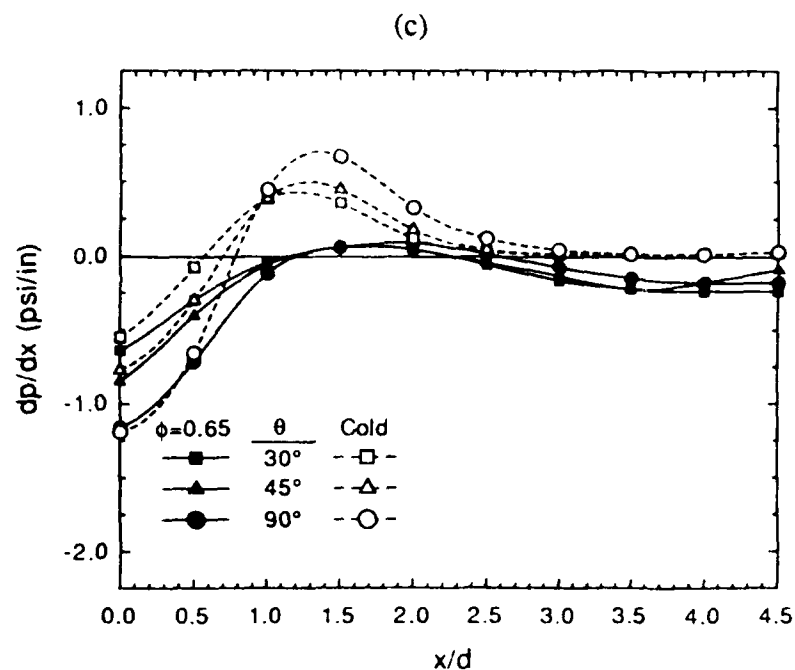


Figure 37 (continued) Axial profiles showing cone angle effect on mean flowfield ($BR = 24\%$, $U_a = 15$ m/s): (a) centerline mean velocity, (b) pressure coefficient, (c) axial pressure gradient.

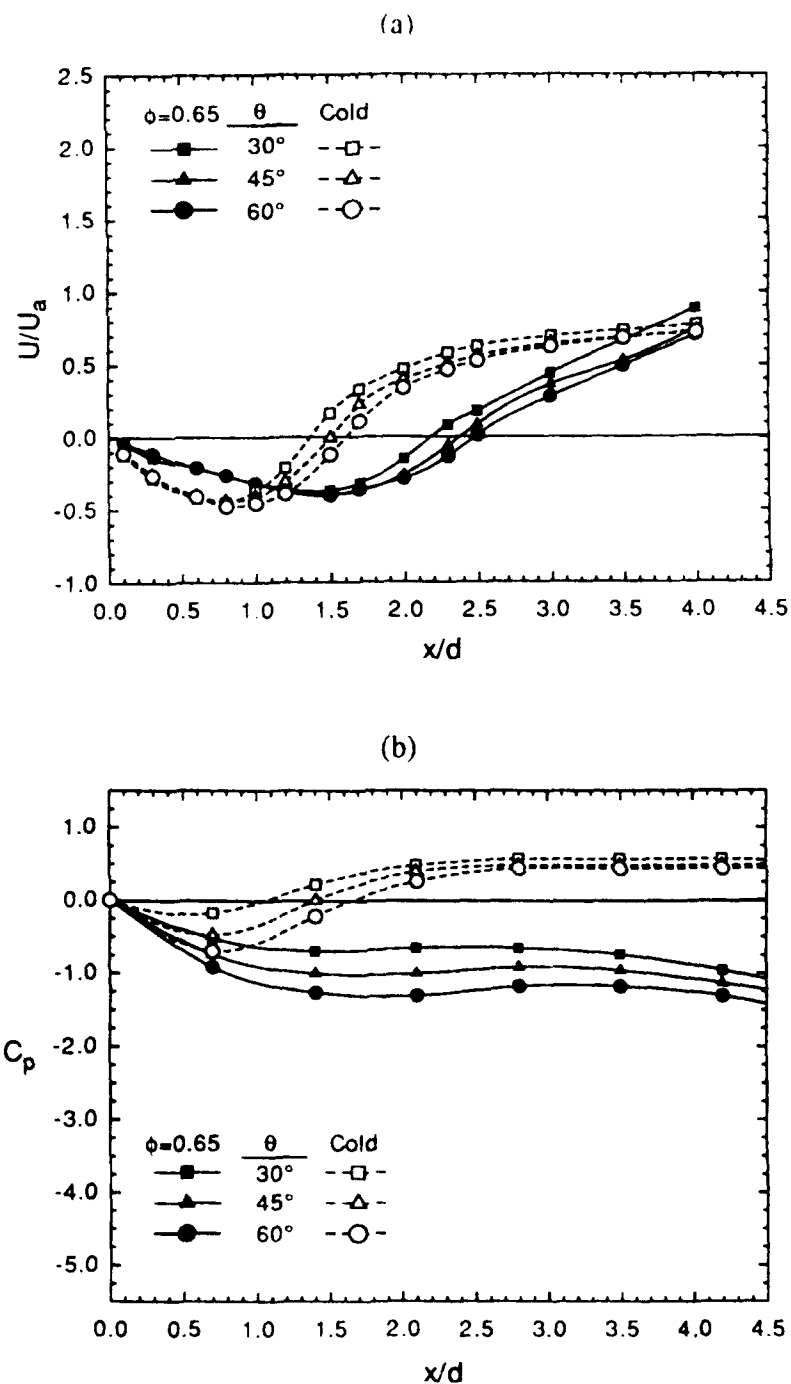


Figure 38 Axial profiles showing cone angle effect on mean flowfield ($BR = 13\%$, $U_a = 15$ m/s): (a) centerline mean velocity, (b) pressure coefficient, (c) axial pressure gradient.

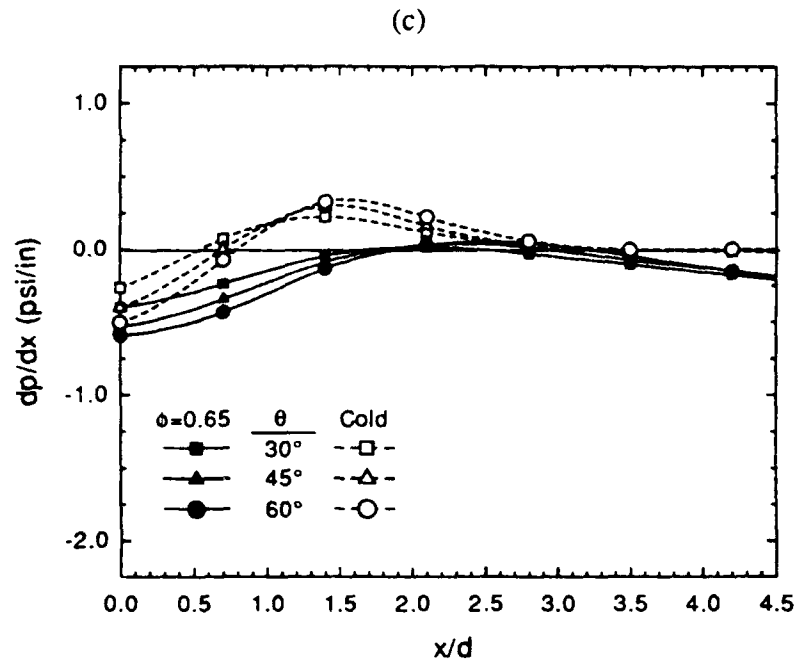


Figure 38 (continued) Axial profiles showing cone angle effect on mean flowfield ($BR = 13\%$, $U_a = 15$ m/s): (a) centerline mean velocity, (b) pressure coefficient, (c) axial pressure gradient.

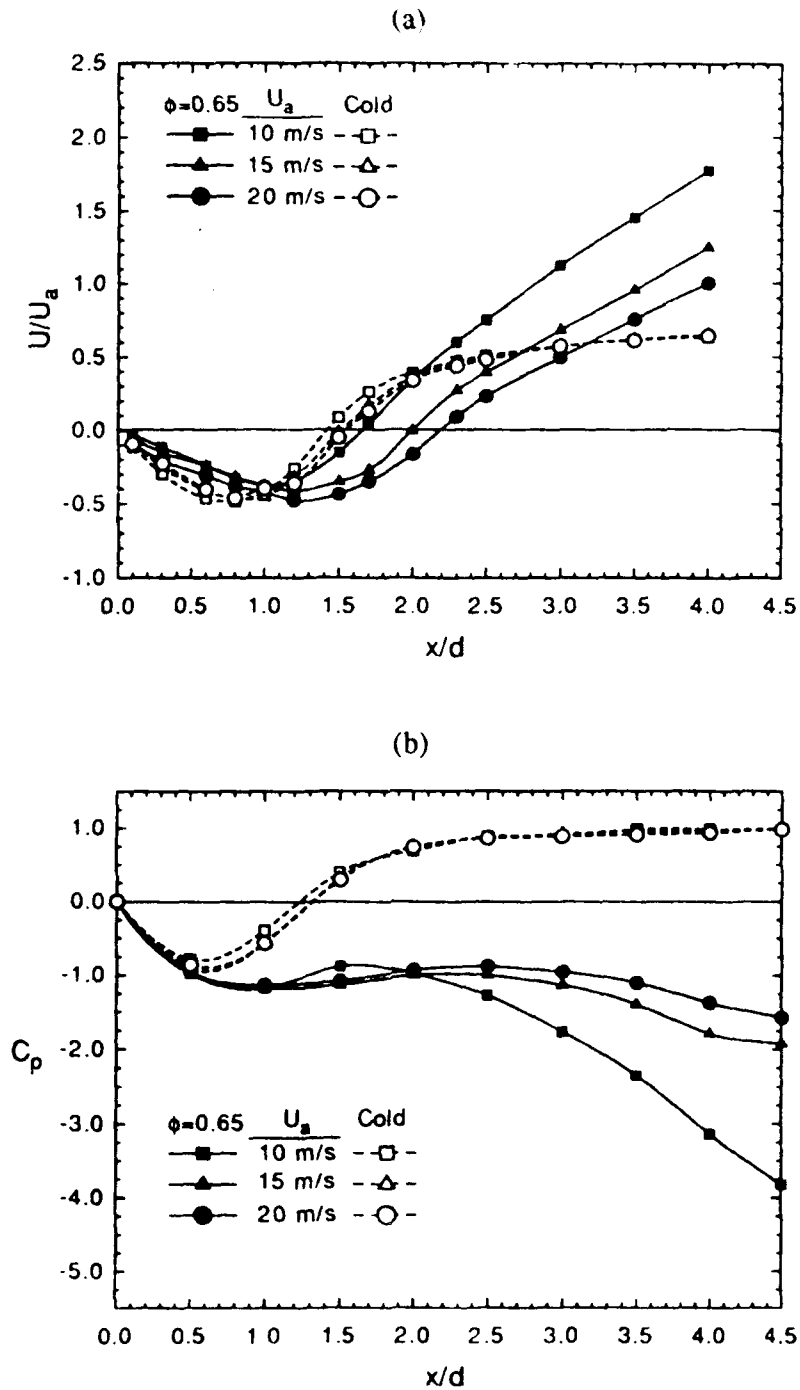


Figure 39 Axial profiles showing approach velocity effect on mean flowfield ($BR = 24\%$, $\theta = 45^\circ$): (a) centerline mean velocity, (b) pressure coefficient, (c) axial pressure gradient.

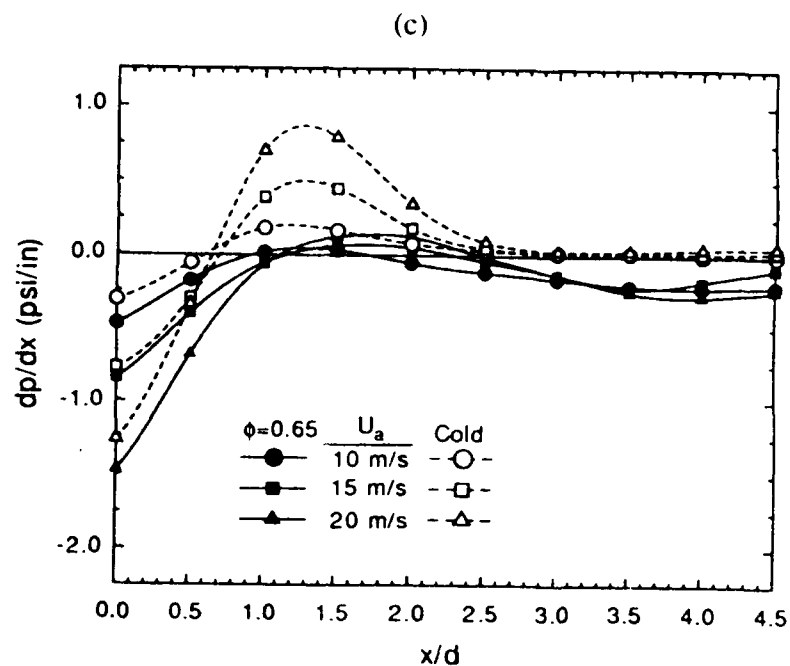


Figure 39 (continued) Axial profiles showing approach velocity effect on mean flowfield ($BR = 24\%$, $\theta = 45^\circ$): (a) centerline mean velocity, (b) pressure coefficient, (c) axial pressure gradient.

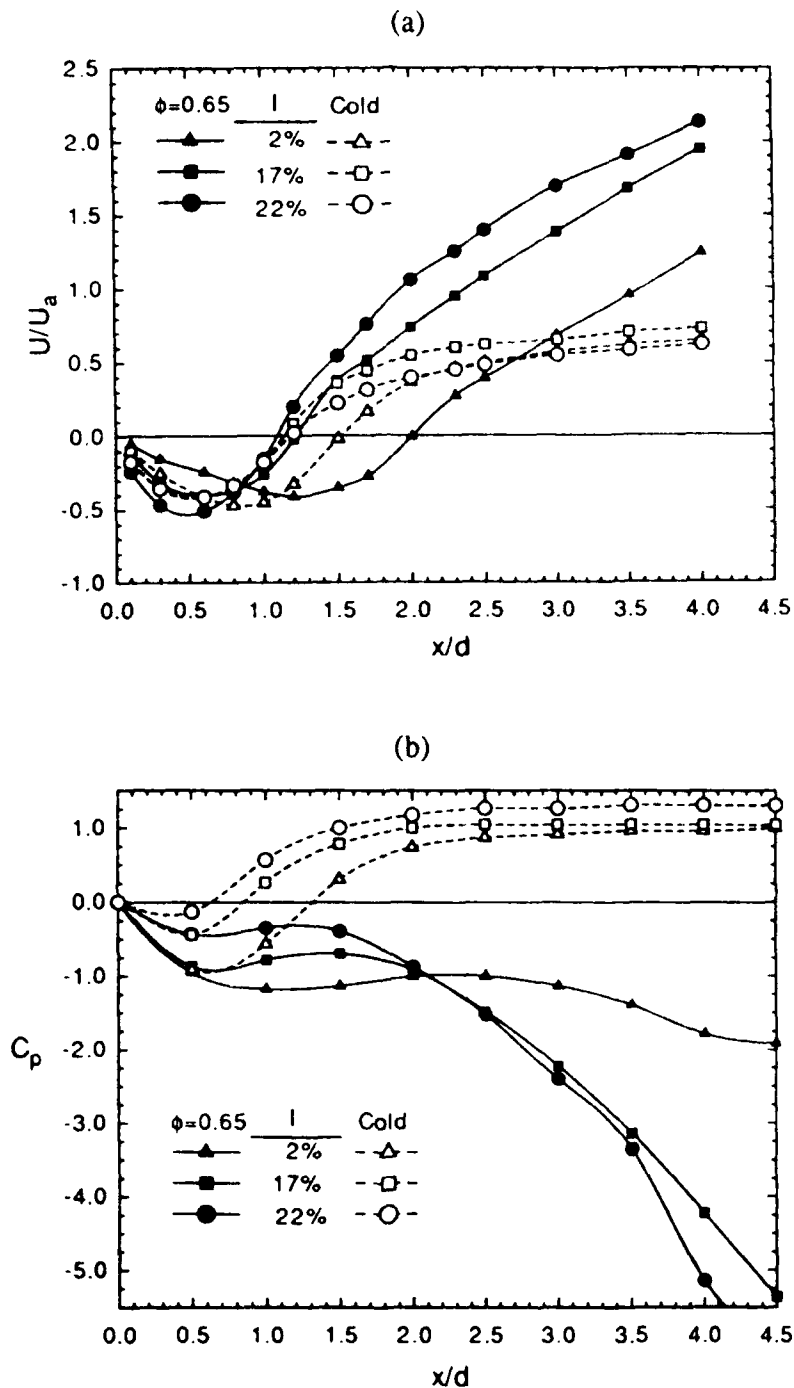


Figure 40 Axial profiles showing approach turbulence intensity effect on mean flowfield ($BR = 24\%$, $\theta = 45^\circ$, $U_a = 15$ m/s): (a) centerline mean velocity, (b) pressure coefficient, (c) axial pressure gradient.

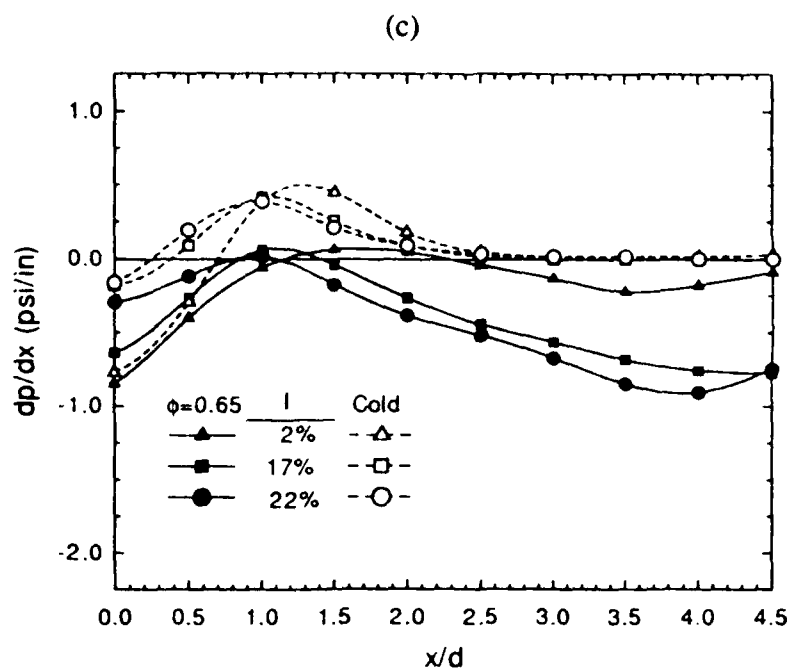


Figure 40 (continued) Axial profiles showing approach turbulence intensity effect on mean flowfield ($BR = 24\%$, $\theta = 45^\circ$, $U_a = 15$ m/s): (a) centerline mean velocity, (b) pressure coefficient, (c) axial pressure gradient.

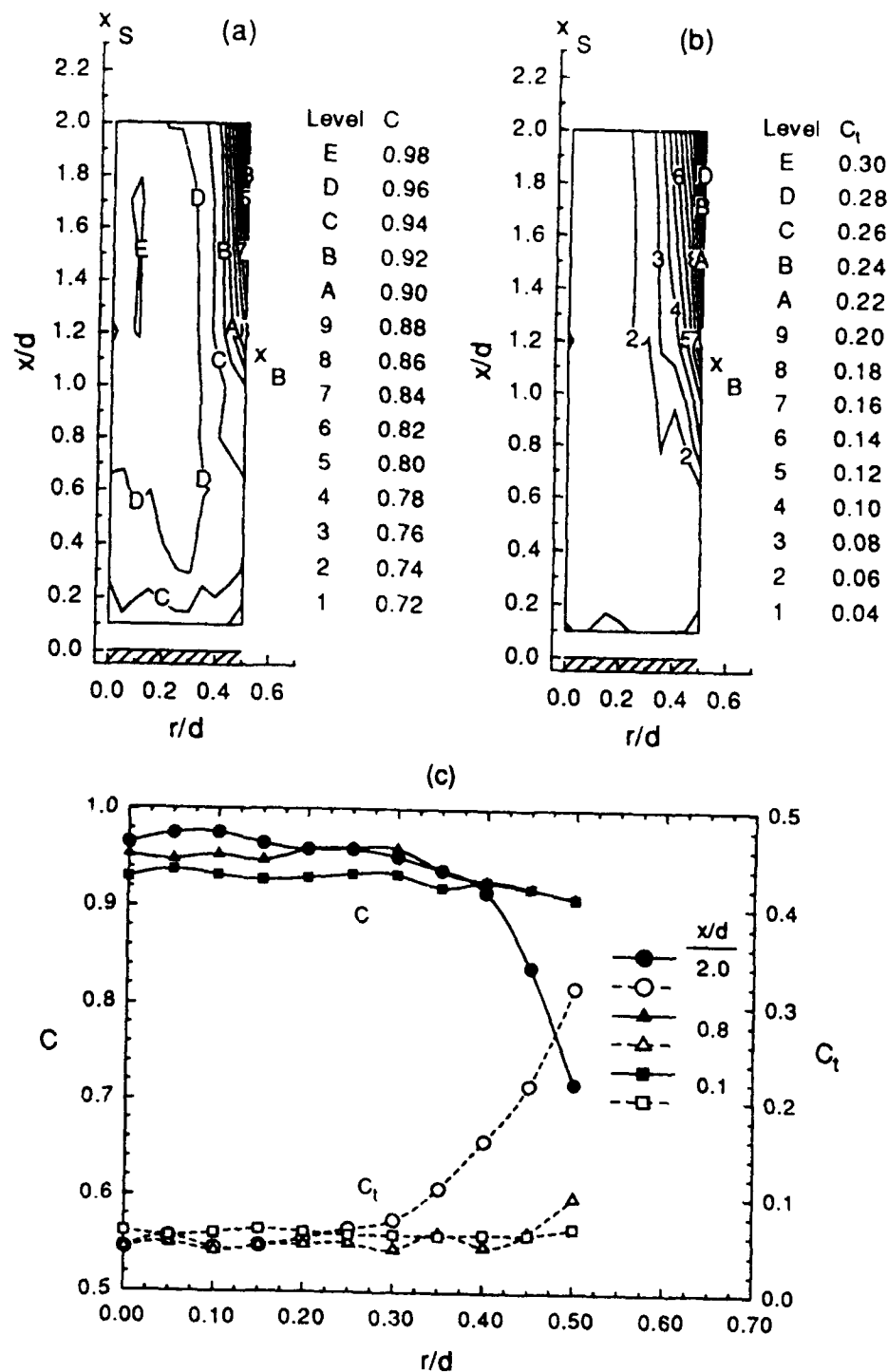


Figure 53 Temperature field behind a conical bluff body ($BR = 24\%$, $\theta = 45^\circ$, $U_a = 15$ m/s, $\phi = 0.56$, $T_{ad} = 1591$ K): (a) isothermal contours of C , (b) isothermal contours of C_t , and (c) radial profiles of C and C_t .

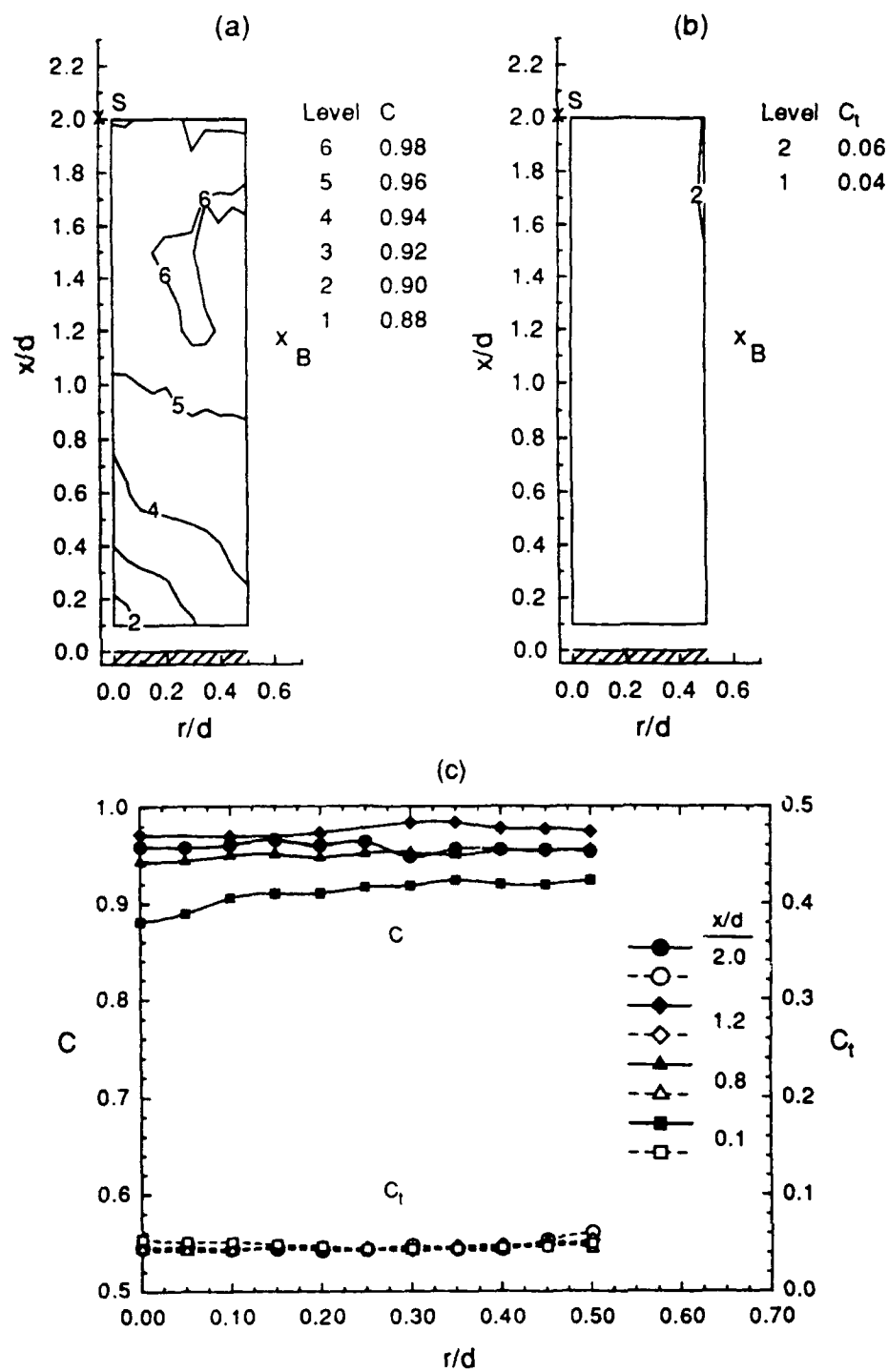


Figure 54 Temperature field behind a conical bluff body ($BR = 24\%$, $\theta = 45^\circ$, $U_a = 15$ m/s, $\phi = 0.65$, $T_{ad} = 1775$ K): (a) isothermal contours of C , (b) isothermal contours of C_t , and (c) radial profiles of C and C_t .

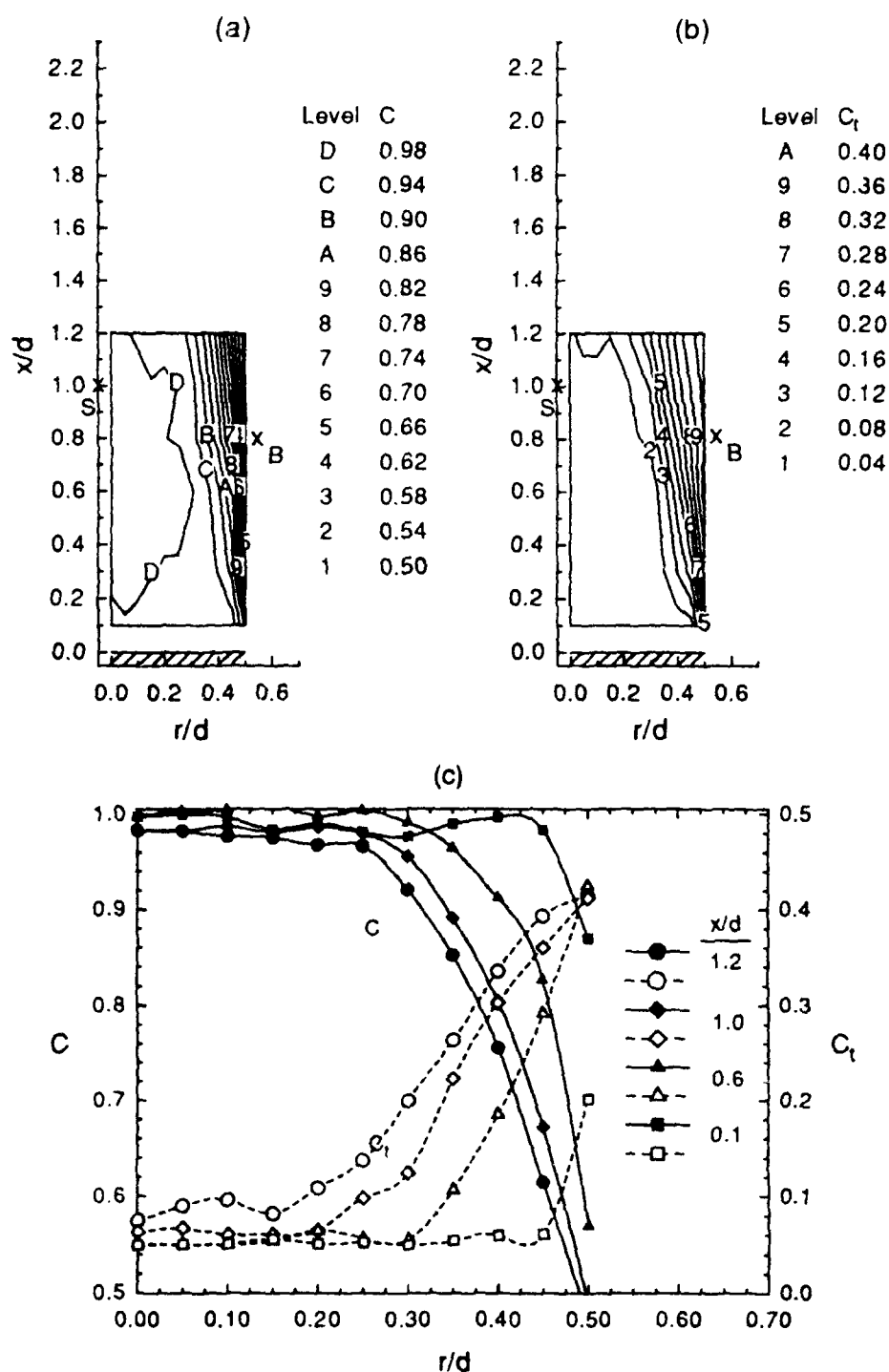


Figure 55 Temperature field behind a conical bluff body ($BR = 24\%$, $\theta = 45^\circ$, $U_a = 15$ m/s, $\phi = 0.65$, $T_{ad} = 1775$ K, $I = 22\%$): (a) isothermal contours of C , (b) isothermal contours of C_t , and (c) radial profiles of C and C_t .

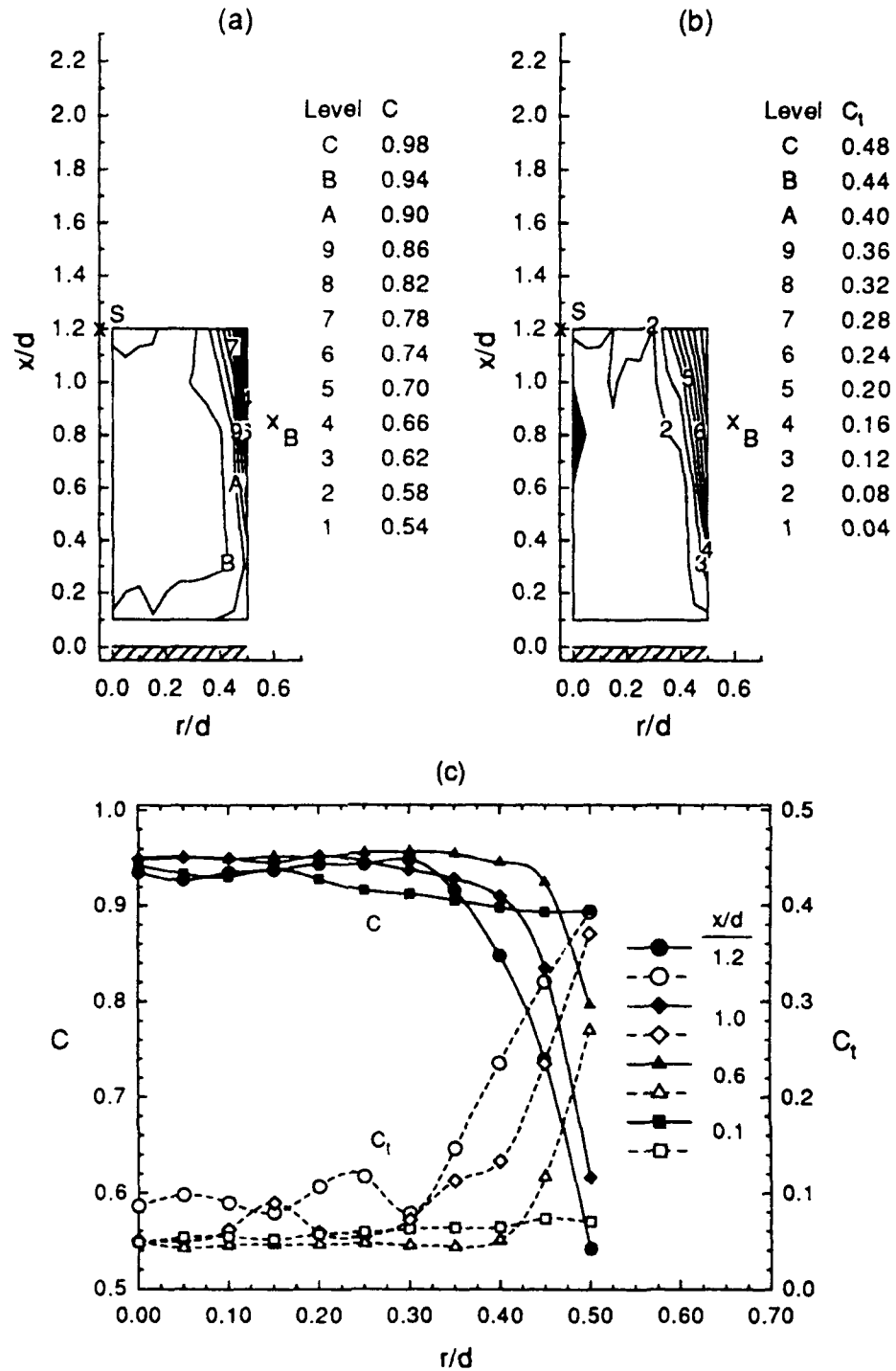


Figure 56 Temperature field behind a conical bluff body ($BR = 24\%$, $\theta = 45^\circ$, $U_a = 15$ m/s, $\phi = 0.65$, $T_{ad} = 1775$ K, $I = 17\%$): (a) isothermal contours of C , (b) isothermal contours of C_t , and (c) radial profiles of C and C_t .

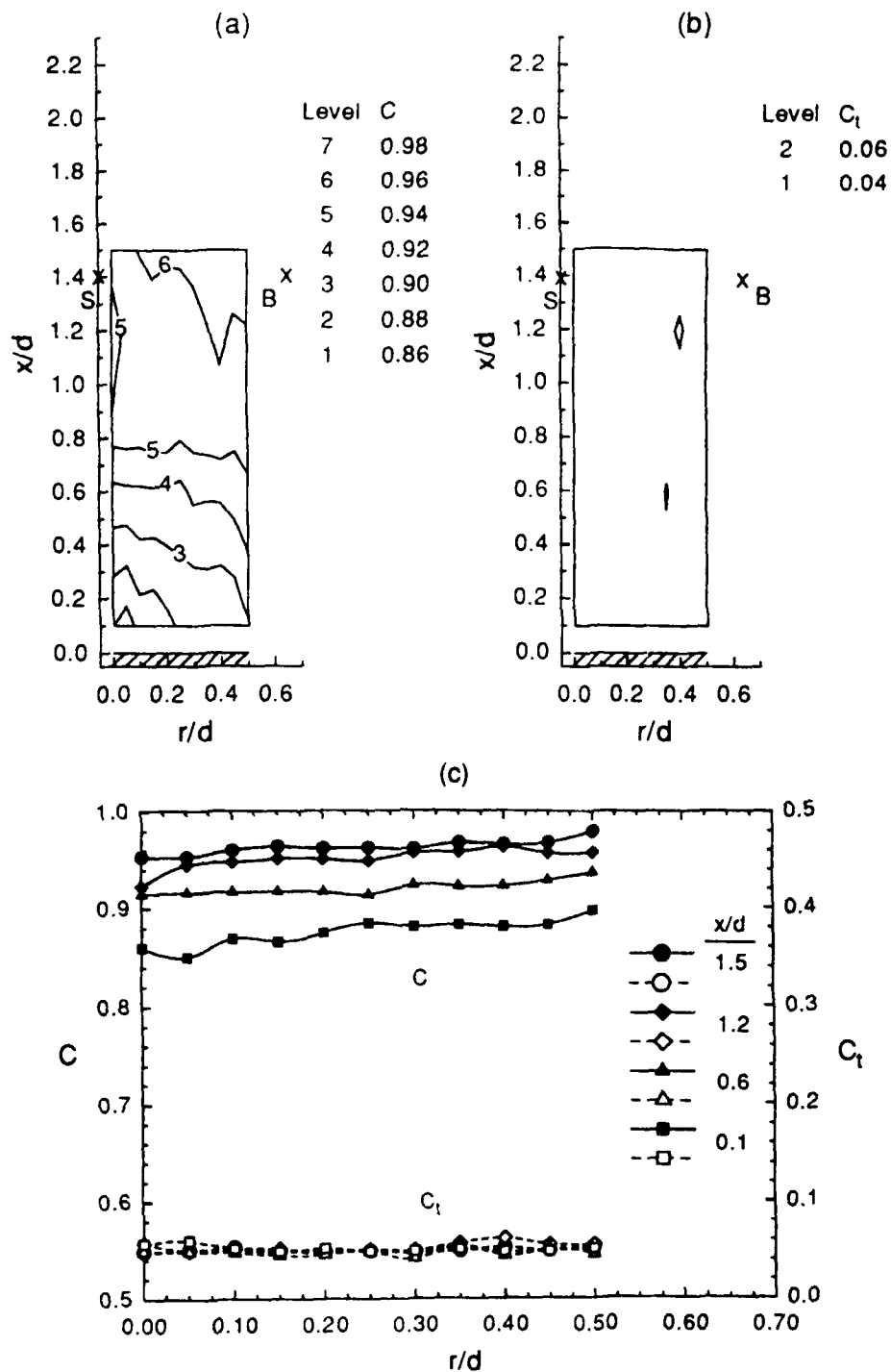


Figure 57 Temperature field behind a conical bluff body ($BR = 24\%$, $\theta = 45^\circ$, $U_a = 15$ m/s, $\phi = 0.8$, $T_{ad} = 1996$ K): (a) isothermal contours of C , (b) isothermal contours of C_t , and (c) radial profiles of C and C_t .

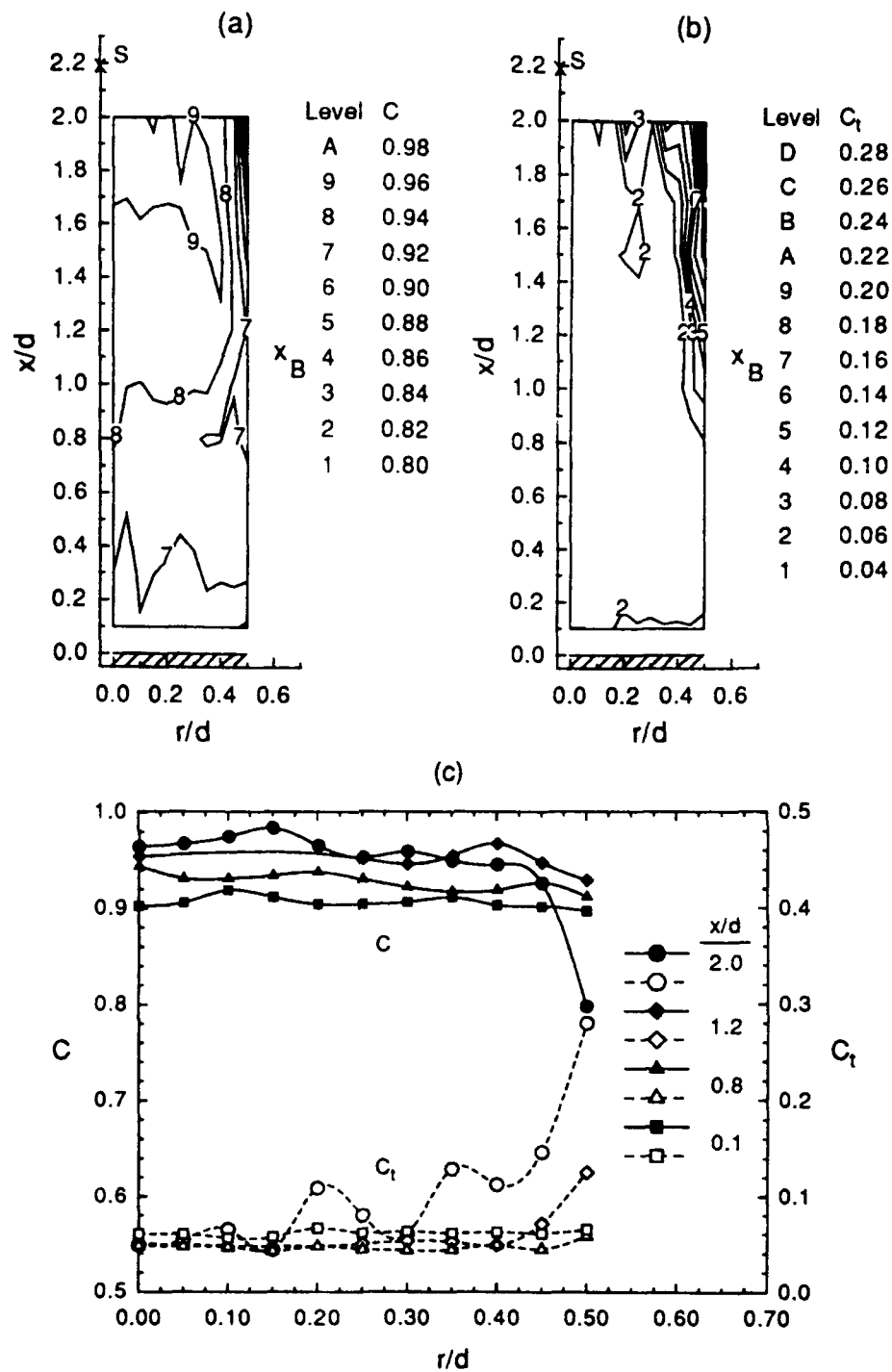


Figure 58 Temperature field behind a conical bluff body ($BR = 24\%$, $\theta = 45^\circ$, $U_a = 20$ m/s, $\phi = 0.65$, $T_{ad} = 1775$ K): (a) isothermal contours of C , (b) isothermal contours of C_t , and (c) radial profiles of C and C_t .

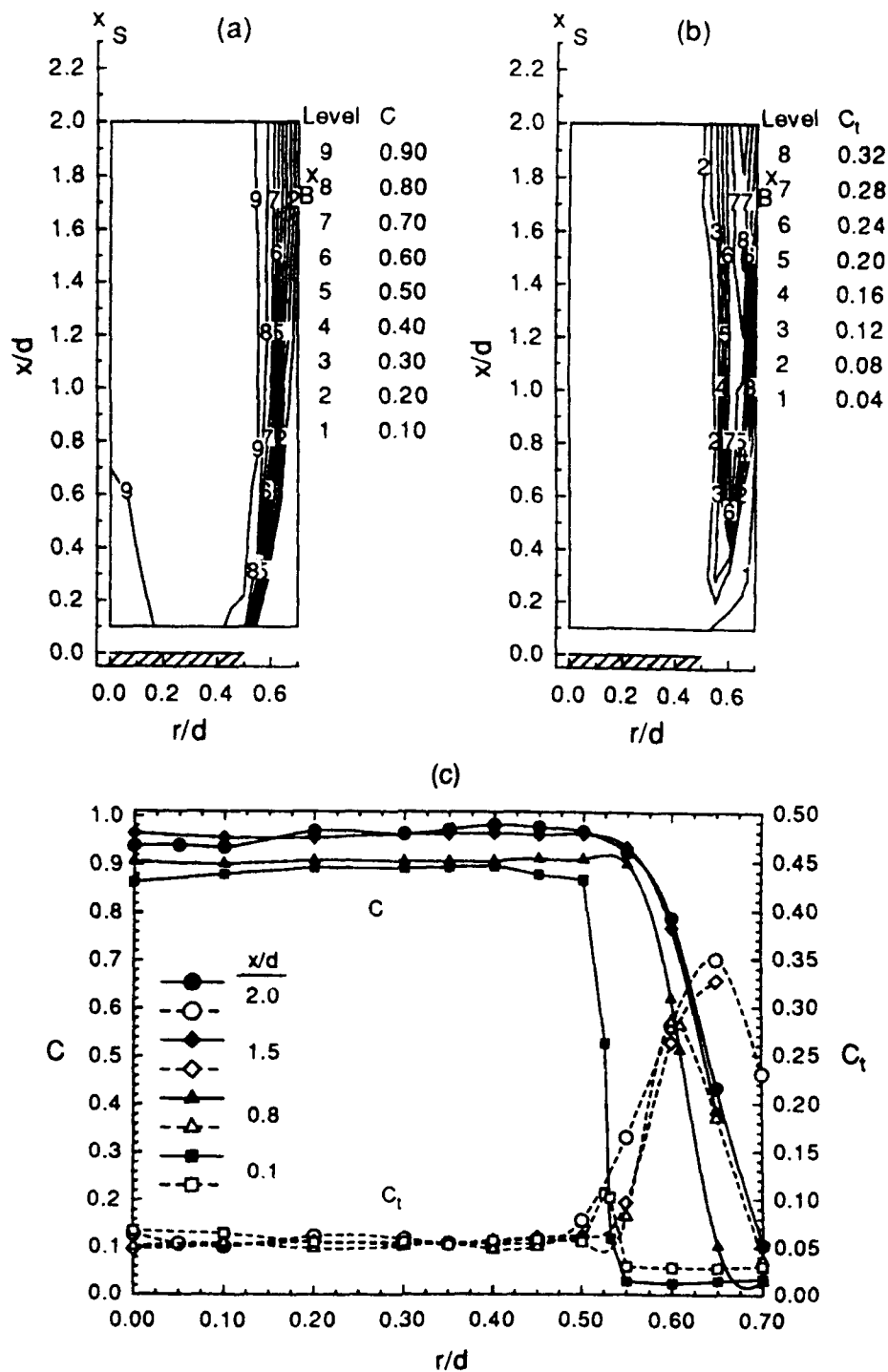


Figure 59 Temperature field behind a conical bluff body ($BR = 13\%$, $\theta = 45^\circ$, $U_a = 15$ m/s, $\phi = 0.65$, $T_{ad} = 1775$ K): (a) isothermal contours of C , (b) isothermal contours of C_t , and (c) radial profiles of C and C_t .

4.3 SWIRL COMBUSTOR SELECTED DATA SETS

FILENAME FORMAT

Each file is headed with a FILENAME. The FILENAMEs have the following format for the stability limit data: *JdtsX.STB* (upper case: letter, lower case: number).

J: type of jet fluid.

If *J* = A, air
= E, helium
= H, hydrogen
= M, methane
= P, propane.

d: fuel tube diameter (d).

If *d* = 9, *d* = 9.45 mm.

r: fuel tube lip thickness (δ).

If *r* = 0, δ = 0.2 mm
= 1, δ = 1.2 mm
= 2, δ = 2.4 mm.

s: swirler helix angle (θ).

If *s* = 0, θ = 0°
= 1, θ = 15°
= 3, θ = 30°
= 4, θ = 45°
= 6, θ = 60°

X: run number (A, B, C, etc.)

STB: filename extension for the stability data.

DATA FILES AND TEST CONDITIONS

Filename	Extension	d(mm)	δ (mm)	θ	U_c (m/s)
M900A	.STB	9.45	0.2	0°	0.5
M900B	.STB	9.45	0.2	0°	0.5
M900C	.STB	9.45	0.2	0°	0.5
M901	.STB	9.45	0.2	15°	0.5
M903	.STB	9.45	0.2	30°	0.5
M904	.STB	9.45	0.2	45°	0.5
M906	.STB	9.45	0.2	60°	0.5
M910	.STB	9.45	1.2	0°	0.5
M914	.STB	9.45	1.2	45°	0.5
M916	.STB	9.45	1.2	60°	0.5
M920	.STB	9.45	2.4	0°	0.5
M923	.STB	9.45	2.4	30°	0.5
M924	.STB	9.45	2.4	45°	0.5
M926	.STB	9.45	2.4	60°	0.5

Stability Limits

File Name M900A.STB
Date 4/24/89, 4/25/89
Measured by F. Takahashi
Fuel Methane C. F. 0.72 ρ (g/cc) 0.000661 μ (g/cms) 0.000110 v (scm/s) 0.167
Oxidant Air ρ (g/cc) 0.001197 μ (g/cms) 0.000183 v (scm/s) 0.153

	No.	d (in)	d (mm)	s (scm)	D (in)	D (mm)	Note		F	C
Fuel Tube	1A	0.372	9.45	0.701	0.386	9.80	Sharp-edged (with deformed tip)	RT(low)	68.5	20.3
Air Tube	1	1.060	26.92	5.693	1.074	27.28	Long exit section (4.125 in l.)	RT(high)	73.9	23.3
Annular Channel			25.08	4.938						
Coflowing Air Tube		5.906	150	170.9				RT(ave.)	71.2	21.8

Coflowing Air (F5) Q_a (l/min 70F) 550 U_e (m/s) 0.54 100/RT(K) 0.339
Swirler Unit 0 Degree

Annular Air						Fuel Jet at Lifting						Fuel Jet at Dropback			
Q_a -read (l/min OC)	Q_a (l/min RT)	U_a (m/s)	Re_a	U_{total} (m/s)	Re_t	Q_j -read (l/min OC)	Q_j (l/min RT)	U_j (m/s)	Re_j	Lift Height (in)	(mm)	Q_j -read (l/min OC)	Q_j (l/min RT)	U_j (m/s)	Re_j
0	0	0	0	0	0	119.2	92.67	22.03	12478	4.125	105	32.3	25.11	5.97	3381
1.08	1.17	0.039	65	0.039	65	118.2	91.89	21.84	12374	0	0	36	27.99	6.65	3769
2.04	2.2	0.074	122	0.074	122	119.5	92.9	22.08	12510	0	0	40.3	31.33	7.45	4219
3	3.24	0.109	179	0.109	179	118.8	92.36	21.95	12436	0	0	43.1	33.51	7.96	4512
4	4.32	0.146	239	0.146	239	69.6	54.11	12.86	7286	2.75	70	36	27.99	6.65	3769
5.02	5.42	0.183	300	0.183	300	61.75	48	11.41	6464	1.25	32	28.8	22.39	5.32	3015
6.02	6.5	0.219	360	0.219	360	55.9	43.46	10.33	5852	0.75	19	0	0	0	0
5.97	6.45	0.218	357	0.218	357	57	44.31	10.53	5967	0.5	13	24.9	19.36	4.6	2607
8.01	8.65	0.292	479	0.292	479	47	36.54	8.68	4920	0.625	16	23.1	17.96	4.27	2418
10	10.8	0.364	598	0.364	598	38.7	30.09	7.15	4051	0.75	19	21.9	17.03	4.05	2293
12.5	13.5	0.455	748	0.455	748	30.2	23.48	5.58	3161	1.25	32	19	14.77	3.51	1989
15.01	16.21	0.547	898	0.547	898	22.3	17.34	4.12	2334	2	51	12.3	9.56	2.27	1288
15	16.2	0.547	897	0.547	897	19.9	15.47	3.68	2083	2.75	70	4.7	3.65	0.87	492
17.53	18.93	0.639	1049	0.639	1049	14.6	11.35	2.7	1528	6	152	1.1	0.86	0.2	115
20	21.59	0.729	1197	0.729	1197	10.3	8.01	1.9	1078	8	203	0	0	0	0
22	23.75	0.802	1316	0.802	1316	7.8	6.06	1.44	817	9.5	241	0	0	0	0
24	25.91	0.875	1436	0.875	1436	6.8	5.29	1.26	712	10.5	267	0	0	0	0
26.03	28.11	0.949	1557	0.949	1557	5.9	4.59	1.09	618	11	279	0	0	0	0
28	30.23	1.02	1675	1.02	1675	5.4	4.2	1	565	11	279	0	0	0	0
30	32.39	1.093	1795	1.093	1795	4.6	3.58	0.85	482	0	0	0	0	0	0
31.6	34.12	1.152	1891	1.152	1891	3.7	2.88	0.68	387	0	0	0	0	0	0
34.8	37.57	1.268	2082	1.268	2082	2.5	1.94	0.46	262	0	0	0	0	0	0

Stability Limits

File Name M900B.STB
Date 4/25/89, 4/26/89

Measured by F. Takahashi

Fuel	Methane	C. F	0.72	ρ (g/cc)	0.000656	μ (g/cms)	0.000111	v (scm/s)	0.169
Oxidant	Air			ρ (g/cc)	0.001188	μ (g/cms)	0.000184	v (scm/s)	0.155

	No.	d (in)	d (mm)	s (scm)	D (in)	D (mm)	Note	F	C
Fuel Tube	1B	0.372	9.45	0.701	0.386	9.80	Sharp-edged (re-fabricated)	RT(low)	72.9 22.7
Air Tube	1	1.060	26.92	5.693	1.074	27.28	Long exit section (4.125 in l.)	RT(high)	77.5 25.3
Annular Channel			25.08	4.938					
Coflowing Air Tube		5.906	150	170.9				RT(ave.)	75.2 24.0

Coflowing Air (F5)	Qa (l/min 70F)	550	Ue (m/s)	0.54	100/RT(K)	0.337
Swirler Unit	0 Degree					

Annular Air						Fuel Jet at Lifting						Fuel Jet at Dropback			
Qa-read (l/min OC)	Qa (l/min RT)	Ua (m/s)	Rea	Utotal (m/s)	Ret	Qj-read (l/min OC)	Qj (l/min RT)	Uj (m/s)	Rej	Lift Height (in)	(mm)	Qj-read (l/min OC)	Qj (l/min RT)	Uj (m/s)	Rej
0	0	0	0	0	0	117	91.6	21.77	12163	4.25	108	33.4	26.16	6.22	3474
2	2.18	0.073	119	0.073	119	120.4	94.3	22.42	12522	4.25	108	37.9	29.69	7.06	3942
3	3.26	0.11	178	0.11	178	119.9	93.91	22.32	12470	4.25	108	41.6	32.58	7.74	4326
3.5	3.81	0.129	208	0.129	208	117.9	92.35	21.95	12262	4.25	108	40.5	31.72	7.54	4212
4	4.35	0.147	238	0.147	238	71.8	56.24	13.37	7467	0	0	32.1	25.14	5.98	3338
6	6.53	0.22	357	0.22	357	57.4	44.96	10.69	5970	2.5	64	25.6	20.05	4.77	2662
8	8.7	0.294	476	0.294	476	47.3	37.05	8.81	4919	0.625	16	22.4	17.55	4.17	2330
10	10.88	0.367	595	0.367	595	38.4	30.08	7.15	3994	0.75	19	21.6	16.92	4.02	2246
15	16.32	0.551	892	0.551	892	20.8	16.29	3.87	2163	2.25	57	11.6	9.09	2.16	1206
15	16.32	0.551	892	0.551	892	19.1	14.96	3.56	1986	3	76	5.6	4.39	1.04	582
20	21.76	0.734	1190	0.734	1190	9.3	7.28	1.73	967	8.5	216	0	0	0	0
24	26.11	0.881	1428	0.881	1428	6.2	4.86	1.15	645	0	0	0	0	0	0
28	30.46	1.028	1665	1.028	1665	4.3	3.37	0.8	447	0	0	0	0	0	0
32.3	35.14	1.186	1921	1.186	1921	2.5	1.96	0.47	260	0	0	0	0	0	0

Stability Limits

File Name M900C.STB
Date 4/28/89
Measured by F. Takahashi
Fuel Methane C. F. 0.72 ρ (g/cc) 0.000661 μ (g/cms) 0.000110 v (scm/s) 0.167
Oxidant Air ρ (g/cc) 0.001196 μ (g/cms) 0.000183 v (scm/s) 0.153

	No.	d (in)	d (mm)	s (scm)	D (in)	D (mm)	Note		F	C
Fuel Tube	1B	0.372	9.45	0.701	0.386	9.80	Sharp-edged (re-fabricated)	RT(low)	70.9	21.6
Air Tube	2	1.060	26.92	5.693	1.074	27.28	Shodrt exit section (4.000 in l.)	RT(high)	72.2	22.3
Annular Channel			25.08	4.938						
Coflowing Air Tube		5.906	150	170.9				HT(ave.)	71.6	22.0

Coflowing Air (F5) Q_e (l/min 70F) 513 U_e (m/s) 0.5 100/RT(K) 0.339
Swirler Unit 0 Degree

Annular Air						Fuel Jet at Lifting						Fuel Jet at Dropback			
Qa-read (l/min OC)	Qa (l/min RT)	Ua (m/s)	Rea	Utotal (m/s)	Ret	Qj-read (l/min OC)	Qj (l/min RT)	Uj (m/s)	Rej	Lift Height (in)	(mm)	Qj-read (l/min OC)	Qj (l/min RT)	Uj (m/s)	Rej
0	0	0	0	0	0	109.4	85.1	20.23	11446	4	102	31.9	24.82	5.898	3337
0	0	0	0	0	0	111.4	86.66	20.6	11655	4	102	0	0	0	0
3.5	3.78	0.128	209	0.128	209	79.6	61.92	14.72	8328	3.75	95	36.2	28.16	6.693	3787
3	3.24	0.109	179	0.109	179	108.5	84.4	20.06	11352	3.75	95	38.6	30.03	7.137	4038
6	6.48	0.219	359	0.219	359	58.4	45.43	10.8	6110	0	0	25.7	19.99	4.752	2689
10	10.8	0.365	598	0.365	598	41.1	31.97	7.599	4300	0.75	19	20.3	15.79	3.753	2124
15	16.21	0.547	897	0.547	897	25.4	19.76	4.696	2657	1.5	38	11.7	9.1	2.163	1224
15	16.21	0.547	897	0.547	897	23.4	18.2	4.327	2448	1.75	44	6.3	4.9	1.165	659
20	21.61	0.729	1196	0.729	1196	13.3	10.35	2.459	1391	5.75	146	0	0	0	0
24	25.93	0.875	1435	0.875	1435	7.4	5.76	1.368	774	10.5	267	0	0	0	0
28	30.25	1.021	1674	1.021	1674	5.8	4.51	1.072	607	10.75	273	0	0	0	0
34.8	37.6	1.269	2081	1.269	2081	2.5	1.94	0.462	262	0	0	0	0	0	0

Stability Limits

File Name M901.STB
Date 6/20/89
Measured by F. Takahashi
Fuel Methane C. F. 0.72 ρ (g/cc) 0.000658 μ (g/cms) 0.000111 v (scm/s) 0.168
Oxidant Air ρ (g/cc) 0.001192 μ (g/cms) 0.000183 v (scm/s) 0.154

	No.	d (in)	d (mm)	s (scm)	D (in)	D (mm)	Note		F	C
Fuel Tube	1B	0.372	9.45	0.701	0.386	9.80	Sharp-edged (re-fabricated)	RT(low)	73.4	23.0
Air Tube	1	1.060	26.92	5.693	1.074	27.28	Long exit section (4.125 in l.)	RT(high)	73.4	23.0
Annular Channel			25.08	4.938						
Coflowing Air Tube		5.906	150	170.9				RT(ave.)	73.4	23.0

Coflowing Air (F5) Q_e (l/min 70F) 513 U_e (m/s) 0.5 100/RT(K) 0.338
Swirler Unit 15 Degree

Annular Air						Fuel Jet at Lifting						Fuel Jet at Dropback			
Qa-read	Qa	Ua	Rea	Utotal	Ret	Qj-read	Qj	Uj	Rej	Lift Height		Qj-read	Qj	Uj	Rej
(l/min OC)	(l/min RT)	(m/s)		(m/s)		(l/min OC)	(l/min RT)	(m/s)		(in)	(mm)	(l/min OC)	(l/min RT)	(m/s)	
0	0	0	0	0	0	87.3	94.65	22.5	12647	4.5	114	24.7	26.78	6.365	3578
0	0	0	0	0	0	88	95.41	22.68	12749	4.5	114	24.7	26.78	6.365	3578
3	3.25	0.11	179	0.114	185	63.2	68.52	16.29	9156	3.25	83	29.3	31.77	7.551	4245
6	6.51	0.22	358	0.227	370	42.5	46.08	10.95	6157	2.5	64	19.9	21.58	5.128	2883
9	9.76	0.329	537	0.341	556	32.5	35.24	8.375	4708	0.75	19	17.6	19.08	4.536	2550
12	13.01	0.439	716	0.455	741	24.6	26.67	6.339	3564	1	25	17.7	19.19	4.561	2564
15	16.26	0.549	895	0.568	926	13.5	14.64	3.479	1956	2.5	64	11.2	12.14	2.886	1623
18	19.52	0.659	1073	0.682	1111	11.4	12.36	2.938	1652	5.5	140	6.7	7.26	1.727	971
21	22.77	0.768	1252	0.796	1297	7.8	8.46	2.01	1130	6.75	171	0	0	0	0
24	26.02	0.878	1431	0.909	1482	7	7.59	1.804	1014	7	178	0	0	0	0
27	29.27	0.988	1610	1.023	1667	5.5	5.96	1.417	797	7	178	0	0	0	0

Stability Limits

File Name M903.STB
Date 4/28/89
Measured by F. Takahashi
Fuel Methane C. F. 0.72 ρ (g/cc) 0.000659 μ (g/cms) 0.000110 v (scm/s) 0.168
Oxidant Air ρ (g/cc) 0.001194 μ (g/cms) 0.000183 v (scm/s) 0.153

	No.	d (in)	d (mm)	s (scm)	D (in)	D (mm)	Note		F	C
Fuel Tube	1B	0.372	9.45	0.701	0.386	9.80	Sharp-edged (re-fabricated)	RT(low)	72.5	22.5
Air Tube	1	1.060	26.92	5.693	1.074	27.28	Long exit section (4.125 in l.)	RT(high)	72.5	22.5
Annular Channel			25.08	4.938						
Coflowing Air Tube		5.906	150	170.9				RT(ave.)	72.5	22.5

Coflowing Air (F5) U_e (V/min 70F) 513 U_e (m/s) 0.5 100/RT(K) 0.338
Swirler Unit 30 Degree

Annular Air						Fuel Jet at Lifting						Fuel Jet at Dropback			
Qa-read (V/min OC)	Qa (V/min RT)	Ua (m/s)	Rea	Uttotal (m/s)	Ret	Qj-read (V/min OC)	Qj (V/min RT)	Uj (m/s)	Rej	Lift Height (in)	(mm)	Qj-read (V/min OC)	Qj (V/min RT)	Uj (m/s)	Rej
0	0	0	0	0	0	115.1	89.7	21.32	12023	4.25	108	35.2	27.43	6.52	3677
0	0	0	0	0	0	116.2	90.56	21.52	12138	4.25	108	0	0	0	0
2	2.16	0.073	119	0.084	138	118.8	92.58	22.01	12410	4	102	38.3	29.85	7.094	4001
4	4.33	0.146	239	0.169	276	70.4	54.86	13.04	7354	2.5	64	32.1	25.02	5.946	3353
3.5	3.79	0.128	209	0.148	241	75.4	58.76	13.97	7876	0	0	37	28.83	6.854	3865
3	3.25	0.11	179	0.127	207	113.2	88.22	20.97	11825	0	0	39.7	30.94	7.354	4147
6	6.49	0.219	358	0.253	414	58.6	45.67	10.85	6121	2.25	57	25.6	19.95	4.742	2674
8	8.66	0.292	478	0.337	552	49.8	38.81	9.22	5202	0.75	19	23.1	18	4.279	2413
11	11.91	0.402	657	0.464	758	38.8	30.24	7.19	4053	1	25	21.8	16.99	4.038	2277
15	16.24	0.548	896	0.633	1034	27.5	21.43	5.09	2873	1.56	40	18.8	14.65	3.482	1964
15	16.24	0.548	896	0.633	1034	25.7	20.03	4.76	2685	0	0	0	0	0	0
20	21.65	0.731	1194	0.844	1379	20.3	15.82	3.76	2121	3.5	89	1.1	0.86	0.204	115
25	27.06	0.913	1493	1.055	1724	19.2	14.96	3.56	2006	4	102	0	0	0	0
30	32.47	1.096	1791	1.265	2069	16.3	12.7	3.02	1703	5.125	130	0	0	0	0
32	34.64	1.169	1911	1.35	2206	13.5	10.52	2.5	1410	5.5	140	0	0	0	0
34.8	37.67	1.271	2078	1.468	2400	7	5.46	1.3	731	0	0	0	0	0	0
34	36.8	1.242	2030	1.434	2344	9.2	7.17	1.7	961	0	0	0	0	0	0
35.1	37.99	1.282	2096	1.481	2420	4	3.12	0.74	418	0	0	0	0	0	0
36.2	39.18	1.322	2162	1.527	2496	1.1	0.86	0.2	115	0	0	0	0	0	0

Stability Limits

File Name M904.STB
Date 4/28/89
Measured by F. Takahashi
Fuel Methane C. F. 0.72 ρ (g/cc) 0.000659 μ (g/cms) 0.000110 v (scm/s) 0.168
Oxidant Air ρ (g/cc) 0.001194 μ (g/cms) 0.000183 v (scm/s) 0.153

	No.	d (in)	d (mm)	s (scm)	D (in)	D (mm)	Note		F	C
Fuel Tube	1B	0.372	9.45	0.701	0.386	9.80	Sharp-edged (re-fabricated)	RT(low)	72.5	22.5
Air Tube	1	1.060	26.92	5.693	1.074	27.28	Long exit section (4.125 in l.)	RT(high)	72.5	22.5
Annular Channel			25.08	4.938						
Coflowing Air Tube		5.906	150	170.9				RT(ave.)	72.5	22.5

Coflowing Air (F5) Q_a (l/min 70F) 513 U_a (m/s) 0.5 100/RT(K) 0.338
Swirler Unit 45 Degree

Annular Air						Fuel Jet at Lifting						Fuel Jet at Dropback			
Q_a -read (l/min OC)	Q_a (l/min RT)	U_a (m/s)	Re_a	U_{total} (m/s)	Re_t	Q_j -read (l/min OC)	Q_j (l/min RT)	U_j (m/s)	Re_j	Lift Height (in)	(mm)	Q_j -read (l/min OC)	Q_j (l/min RT)	U_j (m/s)	Re_j
0	0	0	0	0	0	113.1	88.14	20.95	11815	4.25	108	35.2	27.42	6.52	3677
0	0	0	0	0	0	113.4	88.37	21.01	11846	0	0	0	0	0	0
2	2.16	0.073	119	0.139	227	115.2	89.78	21.34	12034	3.75	95	38.2	29.77	7.08	3990
4	4.33	0.146	239	0.278	455	70.9	55.25	13.13	7406	2.5	64	33.6	26.18	6.22	3510
3	3.25	0.11	179	0.209	341	116	90.4	21.49	12117	3.75	95	40.3	31.41	7.46	4210
6	6.49	0.219	358	0.417	682	60.1	46.84	11.13	6278	2.25	57	27.1	21.12	5.02	2831
8	8.66	0.292	478	0.556	909	51.5	40.13	9.54	5380	1.75	44	24	18.7	4.45	2507
11	11.91	0.402	657	0.765	1250	40	31.17	7.41	4178	1.5	38	22.9	17.85	4.24	2392
15	16.24	0.548	896	1.043	1705	31.2	24.31	5.78	3259	1.125	29	21.3	16.6	3.95	2225
15	16.24	0.548	896	1.043	1705	28.05	21.86	5.2	2930	1.25	32	21.3	16.6	3.95	2225
20	21.65	0.731	1194	1.391	2273	19.85	15.47	3.68	2074	3.25	83	18.5	14.42	3.43	1933
25	27.06	0.913	1493	1.738	2842	18.3	14.26	3.39	1912	3.75	95	10.1	7.87	1.87	1055
30	32.47	1.096	1791	2.086	3410	19	14.81	3.52	1985	4	102	5.8	4.52	1.07	606
35	37.88	1.279	2090	2.434	3979	19.8	15.43	3.67	2068	0	0	5.7	4.44	1.06	595
40	43.29	1.461	2389	2.781	4547	20.45	15.94	3.79	2136	4	102	7.05	5.49	1.31	736
45	48.71	1.644	2687	3.129	5115	20.9	16.29	3.87	2183	4	102	8.2	6.39	1.52	857
56	60.61	2.046	3344	3.894	6366	15	11.69	2.78	1567	4.75	121	0	0	0	0
51.3	55.53	1.874	3063	3.567	5831	10	7.79	1.85	1045	4	102	0	0	0	0
45.6	49.36	1.666	2723	3.171	5183	5	3.9	0.93	522	0	0	0	0	0	0
37.3	40.37	1.363	2227	2.594	4240	2.5	1.95	0.46	261	0	0	0	0	0	0
36.5	39.51	1.333	2180	2.538	4149	2.5	1.95	0.46	261	0	0	0	0	0	0
38	41.13	1.388	2269	2.642	4320	2.5	1.95	0.46	261	0	0	0	0	0	0
39.1	42.32	1.428	2335	2.719	4445	1.1	0.86	0.2	115	0	0	0	0	0	0

Stability Limits

File Name M906.STB
 Date 5/24/89, 6/22/89
 Measured by F. Takahashi
 Fuel Methane C. F. 0.72 ρ (g/cc) 0.000659 μ (g/cms) 0.000111 v (scm/s) 0.168
 Oxidant Air ρ (g/cc) 0.001194 μ (g/cms) 0.000183 v (scm/s) 0.153

	No.	d (in)	d (mm)	s (scm)	D (in)	D (mm)	Note		F	C
Fuel Tube	1B	0.372	9.45	0.701	0.386	9.80	Sharp-edged (re-fabricated)	RT(low)	71.7	22.1
Air Tube	1	1.060	26.92	5.693	1.074	27.28	Long exit section (4.125 in I.)	RT(high)	73.7	23.2
Annular Channel			25.08	4.938						
Coflowing Air Tube		5.906	150	170.9				RI(ave.)	72.7	22.6

Coflowing Air (F5) Q_a (l/min 70F) 513 U_e (m/s) 0.5 100/RT(K) 0.338
 Swirler Unit 60 Degree

Annular Air						Fuel Jet at Lifting						Fuel Jet at Dropback			
Qa-read (l/min OC)	Qa (l/min RT)	Ua (m/s)	Rea	Utotal (m/s)	Ret	Qj-read (l/min OC)	Qj (l/min RT)	Uj (m/s)	Rej	Lift Height		Qj-read (l/min OC)	Qj (l/min RT)	Uj (m/s)	Rej
										(in)	(mm)				
0	0	0	0	0	0	87.3	94.53	22.47	12662	4.375	111	23.6	25.55	6.074	3423
0	0	0	0	0	0	87.6	94.85	22.55	12705	4.375	111	23.3	25.23	5.997	3379
3	3.25	0.11	179	0.219	358	59.4	64.32	15.29	8615	3	76	27.8	30.1	7.155	4032
2	2.17	0.073	119	0.146	239	83.2	90.09	21.41	12067	4	102	25.6	27.72	6.588	3713
6	6.5	0.219	358	0.439	716	43.9	47.53	11.3	6367	2.25	57	20.6	22.31	5.302	2988
9	9.75	0.329	537	0.658	1075	33.9	36.71	8.725	4917	0.75	19	18.9	20.46	4.864	2741
12	12.99	0.439	716	0.877	1433	29	31.4	7.464	4206	0.875	22	19.5	21.11	5.019	2828
15	16.24	0.548	895	1.096	1791	23.2	25.12	5.971	3365	1	25	17.5	18.95	4.504	2538
15.2	16.46	0.555	907	1.111	1815	22.1	23.93	5.688	3205	1	25	21.3	23.06	5.482	3089
20.2	21.87	0.738	1206	1.476	2412	24.9	26.96	6.408	3611	1.125	29	19	20.57	4.89	2756
30.5	33.02	1.115	1821	2.229	3642	33.5	36.27	8.622	4859	1.375	35	18.1	19.6	4.658	2625
40	43.31	1.462	2388	2.923	4776	36.1	39.09	9.291	5236	2	51	20.4	22.09	5.25	2959
50	54.14	1.827	2985	3.654	5970	46	49.81	11.84	6672	2.5	64	24.4	26.42	6.28	3539
59.8	64.75	2.185	3570	4.371	7140	46.2	50.02	11.89	6701	3	76	27	29.24	6.949	3916
69.6	75.36	2.543	4155	5.087	8310	49.1	53.16	12.64	7121	3	76	37.2	40.28	9.574	5395
80	86.62	2.923	4776	5.847	9552	48.7	52.73	12.53	7063	3	76	42	45.48	10.81	6092
90	97.45	3.289	5373	6.578	10745	49.6	53.71	12.77	7194	3	76	48.4	52.41	12.46	7020
100.1	108.4	3.658	5976	7.316	11951	53.8	58.25	13.85	7803	3	76	51.2	55.44	13.18	7426
110.2	119.3	4.027	6579	8.054	13157	53.6	58.04	13.8	7774	3.5	89	0	0	0	0
125.9	136.3	4.601	7516	9.202	15032	45	48.73	11.58	6527	3.5	89	0	0	0	0
120	129.9	4.385	7164	8.77	14327	54.8	59.34	14.1	7948	3.5	89	0	0	0	0
107.5	116.4	3.928	6417	7.857	12835	35	37.9	9.008	5076	3.5	89	0	0	0	0
98.2	106.3	3.589	5862	7.177	11725	30	32.48	7.721	4351	3	76	0	0	0	0
91.7	99.29	3.351	5474	6.702	10948	25	27.07	6.434	3626	2	51	0	0	0	0
80.6	87.27	2.945	4812	5.891	9623	20	21.66	5.147	2901	1.75	44	0	0	0	0
76.7	83.05	2.803	4579	5.606	9158	15	16.24	3.86	2176	1.25	32	0	0	0	0
62.4	67.57	2.28	3725	4.561	7450	10	10.83	2.574	1450	0.5	13	0	0	0	0
50.8	55.01	1.856	3033	3.713	6065	5	5.41	1.287	725	0.5	13	0	0	0	0
33.8	36.6	1.235	2018	2.47	4036	0.9	0.97	0.232	131	0.5	13	0	0	0	0
130	140.8	4.751	7761	9.501	15521	55.1	59.66	14.18	7992	4	102	0	0	0	0
140	151.6	5.116	8358	10.23	16715	53.3	57.71	13.72	7730	4	102	0	0	0	0
140.4	152	5.131	8381	10.26	16763	50	54.14	12.87	7252	4	102	0	0	0	0

Stability Limits

File Name M910.STB

Date 5/25/89

Measured by F. Takahashi

Fuel Methane C.F. 0.72

Oxidant Air

ρ (g/cc) 0.000659

ρ (g/cc) 0.001193

μ (g/cms) 0.000111

μ (g/cms) 0.000183

v (scm/s) 0.168

v (scm/s) 0.154

	No.	d (in)	d (mm)	s (scm)	D (in)	D (mm)	Note		F	C
Fuel Tube	2	0.372	9.45	0.701	0.466	11.84	Flat-end (1.2 mm thickness)	RT(low)	73.0	22.8
Air Tube	1	1.060	26.92	5.693	1.074	27.28	Long exit section (4.125 in l.)	RT(high)	73.0	22.8
Annular Channel			24.18	4.593						
Coflowing Air Tube		5.906	150	170.9				RT(ave.)	73.0	22.8

Coflowing Air (F5) Q_e (l/min 70F) 513

Swirler Unit 0 Degree

U_e (m/s) 0.5

100/RT(K) 0.338

Annular Air						Fuel Jet at Lifting						Fuel Jet at Dropback			
Q_a -read (l/min OC)	Q_a (l/min RT)	U_a (m/s)	Re_a	U_{total} (m/s)	Re_t	Q_j -read (l/min OC)	Q_j (l/min RT)	U_j (m/s)	Re_j	Lift Height (in)	(mm)	Q_j -read (l/min OC)	Q_j (l/min RT)	U_j (m/s)	Re_j
0	0	0	0	0	0	84.8	91.87	21.84	12293	4.25	108	22.4	24.27	5.768	3247
0	0	0	0	0	0	85.5	92.63	22.02	12395	4.25	108	23.8	25.78	6.129	3450
3	3.25	0.118	186	0.118	186	77.3	83.75	19.91	11206	4	102	29	31.42	7.468	4204
4.5	4.88	0.177	278	0.177	278	54.2	58.72	13.96	7857	3.25	83	23	24.92	5.923	3334
6	6.5	0.236	371	0.236	371	50	54.17	12.88	7248	2.75	70	20.3	21.99	5.227	2943
9	9.75	0.354	557	0.354	557	45.1	48.86	11.61	6538	2.5	64	16.2	17.55	4.172	2348
12	13	0.472	742	0.472	742	39.6	42.9	10.2	5741	2.25	57	15	16.25	3.863	2174
15	16.25	0.59	928	0.59	928	29.6	32.07	7.622	4291	1	25	4.6	4.98	1.185	667
15	16.25	0.59	928	0.59	928	29.6	32.07	7.622	4291	1.5	38	0	0	0	0
18	19.5	0.708	1114	0.708	1114	28.4	30.77	7.313	4117	1.5	38	0	0	0	0
21	22.75	0.826	1299	0.826	1299	20.9	22.64	5.382	3030	2.375	60	0	0	0	0
24	26	0.944	1485	0.944	1485	17.1	18.53	4.403	2479	3.25	83	0	0	0	0
27	29.25	1.061	1671	1.061	1671	14.1	15.28	3.631	2044	5	127	0	0	0	0
30	32.5	1.179	1856	1.179	1856	12.5	13.54	3.219	1812	7	178	0	0	0	0
33	35.75	1.297	2042	1.297	2042	10.2	11.05	2.627	1479	9	229	0	0	0	0
36	39	1.415	2227	1.415	2227	8	8.67	2.06	1160	0	0	0	0	0	0
39	42.25	1.533	2413	1.533	2413	6	6.5	1.545	870	0	0	0	0	0	0
42	45.5	1.651	2599	1.651	2599	3.9	4.23	1.004	565	0	0	0	0	0	0
45	48.75	1.769	2784	1.769	2784	2	2.17	0.515	290	0	0	0	0	0	0
47.5	51.46	1.867	2939	1.867	2939	0.82	0.89	0.211	119	0	0	0	0	0	0

Stability Limits

File Name M914.STB

Date 5/26/89

Measured by F. Takahashi

Fuel Methane C. F. 0.72 ρ (g/cc) 0.000660 μ (g/cms) 0.000110 v (scm/s) 0.167

Oxidant Air ρ (g/cc) 0.001195 μ (g/cms) 0.000183 v (scm/s) 0.153

	No.	d (in)	d (mm)	s (scm)	D (in)	D (mm)	Note		F	C
Fuel Tube	2	0.372	9.45	0.701	0.466	11.84	Flat-end (1.2 mm thickness)	RT(low)	71.0	21.7
Air Tube	1	1.060	26.92	5.693	1.074	27.28	Long exit section (4.125 in l.)	RT(high)	73.4	23
Annular Channel			24.18	4.593						
Coflowing Air Tube		5.906	150	170.9				HI(ave.)	72.2	22.3

Coflowing Air (F5) Q_a (l/min 70F) 513 U_e (m/s) 0.5 100/RT(K) 0.338
Swirler Unit 45 Degree

Annular Air						Fuel Jet at Lifting						Fuel Jet at Dropback			
Qa-read (l/min OC)	Qa (l/min RT)	Ua (m/s)	Rea	Utotal (m/s)	Ret	Qj-read (l/min OC)	Qj (l/min RT)	Uj (m/s)	Rej	Lift Height (in)	(mm)	Qj-read (l/min OC)	Qj (l/min RT)	Uj (m/s)	Rej
0	0	0	0	0	0	85.7	92.71	22.04	12440	4.25	108	25	27.04	6.428	3629
0	0	0	0	0	0	85.6	92.6	22.01	12425	4.25	108	25	27.04	6.428	3629
3	3.25	0.118	186	0.167	263	62.5	67.61	16.07	9072	3.75	95	27.6	29.86	7.097	4006
6	6.49	0.236	372	0.333	526	52.3	56.58	13.45	7592	2.75	70	18.8	20.34	4.834	2729
9	9.74	0.353	558	0.5	788	46	49.76	11.83	6677	2.5	64	18.9	20.45	4.86	2743
12	12.98	0.471	743	0.666	1051	41.2	44.57	10.59	5980	2.25	57	17.4	18.82	4.474	2526
15	16.23	0.589	929	0.833	1314	37.5	40.57	9.642	5443	1.375	35	19.4	20.99	4.988	2816
15	16.23	0.589	929	0.833	1314	31.7	34.29	8.151	4601	1.5	38	15.6	16.88	4.011	2264
15	16.23	0.589	929	0.833	1314	30.7	33.21	7.894	4456	1.5	38	15.6	16.88	4.011	2264
18	19.47	0.707	1115	0.999	1577	24.8	26.83	6.377	3600	1.75	44	7.7	8.33	1.98	1118
21	22.72	0.824	1301	1.166	1840	22.2	24.02	5.708	3222	2	51	3.2	3.46	0.823	464
24	25.96	0.942	1487	1.332	2103	16.1	17.42	4.14	2337	3.5	89	0	0	0	0
27	29.21	1.06	1673	1.499	2365	15.1	16.33	3.883	2192	4	102	0	0	0	0
30	32.45	1.178	1858	1.665	2628	14.9	16.12	3.831	2163	4.25	108	0	0	0	0
33	35.7	1.295	2044	1.832	2891	15.6	16.88	4.011	2264	4.5	114	0	0	0	0
36	38.94	1.413	2230	1.998	3154	15.5	16.77	3.985	2250	4.75	121	0	0	0	0
38	41.11	1.492	2354	2.11	3329	1.25	1.35	0.321	181	1.25	32	0	0	0	0
37.8	40.89	1.484	2342	2.098	3311	0.85	0.92	0.219	123	1	25	0	0	0	0
39.6	42.84	1.554	2453	2.198	3469	1.05	1.14	0.27	152	1	25	0	0	0	0

Stability Limits

File Name M916.STB

Date 5/21/89

Measured by F. Takahashi

Fuel Methane C. F. 0.72

Oxidant Air

ρ (g/cc) 0.000659

ρ (g/cc) 0.001192

μ (g/cms) 0.000111

μ (g/cms) 0.000183

v (scm/s) 0.168

v (scm/s) 0.154

	No.	d (in)	d (mm)	s (scm)	D (in)	D (mm)	Note		F	C
Fuel Tube	2	0.372	9.45	0.701	0.466	11.84	Flat-end (1.2 mm thickness)	RT(low)	71.0	21.7
Air Tube	1	1.060	26.92	5.693	1.074	27.28	Long exit section (4.125 in l.)	RT(high)	73.4	23
Annular Channel			24.18	4.593						
Coflowing Air Tube		5.906	150	170.9				RT(ave.)	72.2	22.3

Coflowing Air (F5) Q_e (l/min 70F) 513 U_e (m/s) 0.5
Swirler Unit 60 Degree

100/RT(K) 0.338

Annular Air						Fuel Jet at Lifting						Fuel Jet at Dropback			
Q_a -read (l/min OC)	Q_a (l/min RT)	U_a (m/s)	Re_a	U_{total} (m/s)	Re_t	Q_j -read (l/min OC)	Q_j (l/min RT)	U_j (m/s)	Re_j	Lift Height (in)	Lift Height (mm)	Q_j -read (l/min OC)	Q_j (l/min RT)	U_j (m/s)	Re_j
0	0	0	0	0	0	84.6	91.69	21.79	12260	4.5	114	25	27.09	6.44	3623
3	3.25	0.118	186	0.236	371	62.3	67.52	16.05	9028	3.25	83	28.6	31	7.367	4145
6	6.5	0.236	371	0.472	742	50.9	55.17	13.11	7376	2.75	70	19.3	20.92	4.972	2797
9	9.75	0.354	557	0.708	1113	45.9	49.75	11.82	6652	2.5	64	17.9	19.4	4.611	2594
12	13.01	0.472	742	0.944	1485	40.3	43.68	10.38	5840	2	51	18.4	19.94	4.74	2666
15	16.26	0.59	928	1.18	1856	34.8	37.72	8.965	5043	1.13	29	17.1	18.53	4.405	2478
20	21.68	0.787	1237	1.573	2474	29	31.43	7.471	4203	1	25	17.5	18.97	4.508	2536
25	27.09	0.983	1546	1.966	3093	30.7	33.27	7.908	4449	1.5	38	17.5	18.97	4.508	2536
30	32.51	1.18	1856	2.36	3711	32	34.68	8.243	4637	1.75	44	17.5	18.97	4.508	2536
40	43.35	1.573	2474	3.146	4948	38.9	42.16	10.02	5637	2	51	18	19.51	4.637	2609
50	54.19	1.966	3093	3.933	6186	47.8	51.81	12.31	6927	2.5	64	18.1	19.62	4.663	2623
60	65.03	2.36	3711	4.719	7423	55.9	60.58	14.4	8101	3	76	19.9	21.57	5.126	2884
70	75.87	2.753	4330	5.506	8660	62.2	67.41	16.02	9014	3.13	79	17.1	18.53	4.405	2478
80	86.7	3.146	4948	6.292	9897	67.7	73.37	17.44	9811	3.13	79	0	0	0	0
90	97.54	3.539	5567	7.079	11134	69	74.78	17.78	9999	3.5	89	0	0	0	0
100	108.4	3.933	6186	7.866	12371	65.9	71.42	16.98	9550	3.5	89	0	0	0	0
110	119.2	4.326	6804	8.652	13608	62.3	67.52	16.05	9028	3.5	89	0	0	0	0
120	130.1	4.719	7423	9.439	14845	58.9	63.84	15.17	8536	3.5	89	0	0	0	0
130	140.9	5.113	8041	10.23	16082	58.8	63.73	15.15	8521	3.5	89	0	0	0	0
140	151.7	5.506	8660	11.01	17320	58	62.86	14.94	8405	3.5	89	0	0	0	0
137.1	148.6	5.392	8480	10.78	16961	57.6	62.43	14.84	8347	3.5	89	0	0	0	0
140	151.7	5.506	8660	11.01	17320	56.5	61.23	14.56	8188	3.5	89	0	0	0	0
136	147.4	5.349	8412	10.7	16825	57.2	61.99	14.74	8289	3.5	89	0	0	0	0
141	152.8	5.545	8722	11.09	17443	54.4	58.96	14.01	7884	4.5	114	0	0	0	0
136.4	147.8	5.364	8437	10.73	16874	50.9	55.17	13.11	7376	4.5	114	0	0	0	0
132.6	143.7	5.215	8202	10.43	16404	43.4	47.04	11.18	6289	4.25	108	0	0	0	0
119	129	4.68	7361	9.36	14722	36	39.02	9.274	5217	4	102	0	0	0	0
104.1	112.8	4.094	6439	8.188	12878	29.1	31.54	7.496	4217	3.5	89	0	0	0	0
87.7	95.05	3.449	5425	6.898	10849	21.8	23.63	5.616	3159	2.5	64	0	0	0	0
79.7	86.38	3.134	4930	6.269	9860	14.6	15.82	3.761	2116	2	51	0	0	0	0

Stability Limits

File Name M920.STB
Date 4/27/89
Measured by F. Takahashi
Fuel Methane C. F. 0.72 ρ (g/cc) 0.000659 μ (g/cms) 0.000111 v (scm/s) 0.168
Oxidant Air ρ (g/cc) 0.001193 μ (g/cms) 0.000183 v (scm/s) 0.154

	No.	d (in)	d (mm)	s (scm)	D (in)	D (mm)	Note		F	C
Fuel Tube	3	0.372	9.45	0.701	0.562	14.27	Flat-end (2.4mm thickness)	RT(low)	72.6	22.6
Air Tube	1	1.060	26.92	5.693	1.074	27.28	Long exit section (4.125 in I.)	RT(high)	73.5	23.1
Annular Channel			22.83	4.093						
Coflowing Air Tube		5.906	150	170.9				RT(ave.)	73.1	22.8

Coflowing Air (F5) Q_a (l/min 70F) 513 U_e (m/s) 0.5 100/RT(K) 0.338
Swirler Unit 0 Degree

Annular Air						Fuel Jet at Lifting						Fuel Jet at Dropback			
Q_a -read (l/min OC)	Q_a (l/min RT)	U_a (m/s)	Re_a	U_{total} (m/s)	Re_t	Q_j -read (l/min OC)	Q_j (l/min RT)	U_j (m/s)	Re_j	Lift Height (in)	(mm)	Q_j -read (l/min OC)	Q_j (l/min RT)	U_j (m/s)	Re_j
0	0	0	0	0	0	104.5	81.52	19.38	10906	4.25	108	35.5	27.69	6.58	3705
2	2.17	0.088	131	0.088	131	102.7	80.12	19.04	10718	0	0	38.9	30.35	7.21	4060
4	4.33	0.176	262	0.176	262	85.25	66.5	15.81	8897	3.25	83	30.9	24.11	5.73	3225
6	6.5	0.265	393	0.265	393	85	66.31	15.76	8871	3.125	79	24.3	18.96	4.51	2536
8	8.67	0.353	524	0.353	524	84	65.53	15.58	8767	3.125	79	21.9	17.08	4.06	2286
10	10.83	0.441	655	0.441	655	84.2	65.69	15.61	8788	3.25	83	20.8	16.23	3.86	2171
12	13	0.529	786	0.529	786	85.8	66.93	15.91	8955	3.375	86	17.8	13.89	3.3	1858
14	15.17	0.618	918	0.618	918	88	68.65	16.32	9184	3.75	95	10.5	8.19	1.95	1096
16	17.34	0.706	1049	0.706	1049	89.3	69.66	16.56	9320	0	0	4.5	3.51	0.83	470
18	19.5	0.794	1180	0.794	1180	92.3	72	17.11	9633	3.375	86	0	0	0	0
20	21.67	0.882	1311	0.882	1311	92	71.77	17.06	9602	3.75	95	0	0	0	0
23	24.92	1.015	1507	1.015	1507	96.2	75.05	17.84	10040	3.75	95	0	0	0	0
26	28.17	1.147	1704	1.147	1704	96.5	75.28	17.89	10071	3.75	95	0	0	0	0
30	32.5	1.324	1966	1.324	1966	95.2	74.27	17.65	9936	0	0	0	0	0	0
35	37.92	1.544	2294	1.544	2294	93.7	73.1	17.37	9779	0	0	0	0	0	0
40	43.34	1.765	2622	1.765	2622	91.9	71.69	17.04	9591	0	0	0	0	0	0
45	48.76	1.985	2949	1.985	2949	91.3	71.22	16.93	9529	0	0	0	0	0	0
50	54.17	2.206	3277	2.206	3277	90.2	70.37	16.73	9414	0	0	0	0	0	0
55	59.59	2.427	3605	2.427	3605	89.2	69.59	16.54	9310	0	0	0	0	0	0
60	65.01	2.647	3932	2.647	3932	88.1	68.73	16.34	9195	0	0	0	0	0	0
70	75.84	3.088	4588	3.088	4588	86.1	67.17	15.96	8986	4.75	121	0	0	0	0
75	81.26	3.309	4915	3.309	4915	80.1	62.49	14.85	8360	0	0	0	0	0	0
80.2	86.9	3.538	5256	3.538	5256	80	62.41	14.83	8349	5.75	146	0	0	0	0
70.9	76.82	3.128	4647	3.128	4647	84	65.53	15.58	8767	5.125	130	0	0	0	0
77.3	83.75	3.41	5066	3.41	5066	82	63.97	15.2	8558	0	0	0	0	0	0
91.1	98.71	4.019	5971	4.019	5971	75	58.51	13.91	7827	6.625	168	0	0	0	0
87.4	94.7	3.856	5728	3.856	5728	77.5	60.46	14.37	8088	0	0	0	0	0	0
99.6	107.9	4.394	6528	4.394	6528	70	54.61	12.98	7306	8	203	0	0	0	0
94.4	102.3	4.165	6187	4.165	6187	72.5	56.56	13.44	7567	7	178	0	0	0	0
92.6	100.3	4.086	6069	4.086	6069	65	50.71	12.05	6784	7.25	184	0	0	0	0
94.1	102	4.152	6167	4.152	6167	65	50.71	12.05	6784	0	0	0	0	0	0
92.4	100.1	4.077	6056	4.077	6056	65	50.71	12.05	6784	0	0	0	0	0	0
90.5	98.06	3.993	5931	3.993	5931	60	46.81	11.13	6262	7.25	184	0	0	0	0
82	88.85	3.618	5374	3.618	5374	50	39.01	9.27	5218	9	229	0	0	0	0

75.5	81.8	3.331	4948	3.331	4948	40	31.2	7.42	4175	7	178	0	0	0	0
70.4	76.28	3.106	4614	3.106	4614	30	23.4	5.56	3131	7	178	0	0	0	0
64	69.34	2.824	4195	2.824	4195	20	15.6	3.71	2087	0	0	0	0	0	0
56.7	61.43	2.502	3716	2.502	3716	12	9.36	2.23	1252	0	0	0	0	0	0
53	57.43	2.338	3474	2.338	3474	5	3.9	0.93	522	0	0	0	0	0	0
49.9	54.07	2.202	3270	2.202	3270	2	1.56	0.37	209	0	0	0	0	0	0
48.2	52.22	2.127	3159	2.127	3159	1.1	0.86	0.2	115	0	0	0	0	0	0

Stability Limits

File Name M923.STB
 Date 5/31/89
 Measured by F. Takahashi
 Fuel Methane C. F. 0.72 ρ (g/cc) 0.000657 μ (g/cms) 0.000111 v (scm/s) 0.169
 Oxidant Air ρ (g/cc) 0.001190 μ (g/cms) 0.000184 v (scm/s) 0.154

	No.	d (in)	d (mm)	s (scm)	D (in)	D (mm)	Note		F	C
Fuel Tube	3	0.372	9.45	0.701	0.562	14.27	Flat-end (2.4mm thickness)	RT(low)	74.2	23.4
Air Tube	1	1.060	26.92	5.693	1.074	27.28	Long exit section (4.125 in I.)	RT(high)	74.2	23.4
Annular Channel			22.83	4.093						
Coflowing Air Tube		5.906	150	170.9				HI(ave.)	74.2	23.4

Coflowing Air (F5) Q_e (l/min 70F) 513 U_e (m/s) 0.5 100/RT(K) 0.337
 Swirler Unit 30 Degree

Annular Air						Fuel Jet at Lifting						Fuel Jet at Dropback			
Q_a -read (l/min OC)	Q_a (l/min RT)	U_a (m/s)	Re_a	U_{total} (m/s)	Re_t	Q_j -read (l/min OC)	Q_j (l/min RT)	U_j (m/s)	Re_j	Lift Height (in)	(mm)	Q_j -read (l/min OC)	Q_j (l/min RT)	U_j (m/s)	Re_j
0	0	0	0	0	0	83.2	90.34	21.47	12037	4.25	108	24.3	26.39	6.272	3516
3	3.26	0.133	196	0.153	227	67.4	73.18	17.4	9752	3.375	86	30	32.57	7.743	4340
7	7.6	0.31	458	0.357	529	63.7	69.17	16.44	9216	3.25	83	18.8	20.41	4.852	2720
11	11.94	0.486	720	0.562	831	64.7	70.25	16.7	9361	3.25	83	17.1	18.57	4.413	2474
14.45	15.69	0.639	945	0.738	1092	65.7	71.34	16.96	9506	3.25	83	13.2	14.33	3.407	1910
15	16.29	0.663	981	0.766	1133	68.4	74.27	17.65	9896	4	102	1.4	1.52	0.361	203
30	32.57	1.326	1963	1.532	2267	70.2	76.23	18.12	10157	4	102	0	0	0	0
45	48.86	1.99	2944	2.297	3400	66.1	71.77	17.06	9563	3.75	95	0	0	0	0
60	65.15	2.653	3926	3.063	4533	63.2	68.62	16.31	9144	4.25	108	0	0	0	0
75	81.44	3.316	4907	3.829	5666	61.9	67.21	15.98	8956	4.75	121	0	0	0	0
90	97.72	3.979	5889	4.595	6800	59.9	65.04	15.46	8666	5.625	143	0	0	0	0
105	114	4.643	6870	5.361	7933	54.2	58.85	13.99	7842	6.5	165	0	0	0	0
110.5	120	4.886	7230	5.642	8349	47.1	51.14	12.16	6814	7	178	0	0	0	0
107.5	116.7	4.753	7034	5.488	8122	43.5	47.23	11.23	6294	7	178	0	0	0	0
98.5	107	4.355	6445	5.029	7442	36.2	39.31	9.343	5237	7.25	184	0	0	0	0
86.6	94.03	3.829	5666	4.421	6543	29	31.49	7.485	4196	7	178	0	0	0	0
75.1	81.55	3.321	4914	3.834	5674	21.7	23.56	5.601	3140	7	178	0	0	0	0
56.3	61.13	2.489	3684	2.874	4254	14.4	15.64	3.716	2083	7	178	0	0	0	0
46.3	50.27	2.047	3029	2.364	3498	5.9	6.41	1.523	854	0	0	0	0	0	0
41.1	44.63	1.817	2689	2.098	3105	0.8	0.87	0.206	116	1.25	32	0	0	0	0

Stability Limits

File Name M924.STB
 Date 5/1/89
 Measured by F. Takahashi
 Fuel Methane C. F. 0.72 ρ (g/cc) 0.000661 μ (g/cms) 0.000110 v (scm/s) 0.167
 Oxidant Air ρ (g/cc) 0.001196 μ (g/cms) 0.000183 v (scm/s) 0.153

	No.	d (in)	d (mm)	s (scm)	D (in)	D (mm)	Note	F	C
Fuel Tube	3	0.372	9.45	0.701	0.562	14.27	Flat-end (2.4mm thickness)	RT(low)	70.3 21.6
Air Tube	1	1.060	26.92	5.693	1.074	27.28	Long exit section (4.125 in l.)	RT(high)	72.2 22.3
Annular Channel			22.83	4.093					
Coflowing Air Tube		5.906	150	170.9				RT(ave.)	71.6 22.0

Coflowing Air (F5) Q_a (l/min 70F) 513 U_e (m/s) 0.5 100/RT(K) 0.339
 Swirler Unit 45 Degree

Annular Air						Fuel Jet at Lifting						Fuel Jet at Dropback			
Q_a -read (l/min OC)	Q_a (l/min RT)	U_a (m/s)	Re_a	U_{total} (m/s)	Re_t	Q_j -read (l/min OC)	Q_j (l/min RT)	U_j (m/s)	Re_j	Lift Height (in)	(mm)	Q_j -read (l/min OC)	Q_j (l/min RT)	U_j (m/s)	Re_j
0	0	0	0	0	0	103.2	80.28	19.08	10797	3.75	95	34.6	26.92	6.398	3620
0	0	0	0	0	0	102.8	79.97	19.01	10755	3.75	95	0	0	0	0
4	4.32	0.176	263	0.249	372	86.6	67.37	16.01	9060	0	0	32.4	25.2	5.991	3390
8	8.64	0.352	525	0.498	743	83.8	65.19	15.5	8767	3	76	22.1	17.19	4.086	2312
12	12.97	0.528	788	0.747	1115	84.5	65.73	15.62	8841	3.25	83	20.6	16.03	3.809	2155
15	16.21	0.66	985	0.933	1393	86	66.9	15.9	8998	3.25	83	18	14	3.328	1883
15	16.21	0.66	985	0.933	1393	86.7	67.45	16.03	9071	3.25	83	0	0	0	0
20	21.61	0.88	1314	1.244	1858	89.5	69.62	16.55	9364	3.25	83	1.5	1.17	0.277	157
30	32.41	1.32	1971	1.867	2787	89.2	69.39	16.49	9332	3.25	83	0	0	0	0
40	43.22	1.76	2627	2.489	3716	86.5	67.29	15.99	9050	3.75	95	0	0	0	0
50	54.02	2.2	3284	3.111	4645	84.6	65.81	15.64	8851	3.875	98	0	0	0	0
60	64.83	2.64	3941	3.733	5573	82.7	64.33	15.29	8652	4	102	0	0	0	0
70	75.63	3.08	4598	4.355	6502	80.7	62.78	14.92	8443	4.5	114	0	0	0	0
80	86.44	3.52	5255	4.978	7431	78.4	60.99	14.5	8202	4.5	114	0	0	0	0
90	97.24	3.96	5912	5.6	8360	77.5	60.29	14.33	8108	4.5	114	0	0	0	0
100	108	4.4	6568	6.222	9289	75.5	58.73	13.96	7899	5	127	0	0	0	0
110	118.9	4.84	7225	6.844	10218	73.3	57.02	13.55	7669	5.5	140	0	0	0	0
120	129.7	5.28	7882	7.466	11147	71	55.23	13.13	7428	6.25	159	0	0	0	0
0	0	0	0	0	0	107.1	83.31	19.8	11205	4.25	108	32.7	25.44	6.046	3421
0	0	0	0	0	0	106	82.46	19.6	11090	4.25	108	33.4	25.98	6.176	3494
15	16.21	0.66	985	0.933	1393	87.2	67.83	16.12	9123	3.5	89	19.3	15.01	3.569	2019
15	16.21	0.66	985	0.933	1393	88.2	68.61	16.31	9228	3.5	89	14.3	11.12	2.644	1496
120	129.7	5.28	7882	7.466	11147	68.2	53.05	12.61	7135	6	152	0	0	0	0
127.6	137.9	5.614	8381	7.939	11853	62.5	48.62	11.56	6539	7.25	184	0	0	0	0
126.8	137	5.579	8329	7.889	11779	59.9	46.6	11.08	6267	6.25	159	0	0	0	0
122.9	132.8	5.407	8073	7.647	11416	55.1	42.86	10.19	5765	6.5	165	0	0	0	0
117.5	127	5.17	7718	7.311	10915	50.1	38.97	9.264	5242	6.25	159	0	0	0	0
109.6	118.4	4.822	7199	6.819	10181	45	35.01	8.321	4708	6.75	171	0	0	0	0
101.6	109.8	4.47	6673	6.322	9438	39.8	30.96	7.359	4164	39.8	1011	0	0	0	0
95.1	102.8	4.184	6246	5.917	8834	34.9	27.15	6.453	3651	6.75	171	0	0	0	0
83.9	90.65	3.691	5511	5.22	7794	29.9	23.26	5.529	3128	6.5	165	0	0	0	0
77.8	84.06	3.423	5110	4.841	7227	25.1	19.53	4.641	2626	0	0	0	0	0	0
63.4	68.5	2.789	4164	3.945	5889	19.8	15.4	3.661	2072	0	0	0	0	0	0
57	61.59	2.508	3744	3.547	5295	14.9	11.59	2.755	1559	0	0	0	0	0	0

47.8	51.65	2.103	3140	2.974	4440	9.8	7.62	1.812	1025	0	0	0	0	0	0
49.1	53.05	2.16	3225	3.055	4561	5.1	3.97	0.943	534	1.75	44	0	0	0	0
51.3	55.43	2.257	3370	3.192	4765	10.6	8.25	1.96	1109	0	0	0	0	0	0
36.2	39.11	1.593	2378	2.252	3363	1.1	0.86	0.203	115	1	25	0	0	0	0
83.9	90.65	3.691	5511	5.22	7794	28.1	21.86	5.196	2940	0	0	0	0	0	0
63.9	69.04	2.811	4197	3.976	5936	21.2	16.49	3.92	2218	6.5	165	0	0	0	0
53.9	58.24	2.371	3540	3.354	5007	16.3	12.68	3.014	1705	0	0	0	0	0	0
41.9	45.27	1.843	2752	2.607	3892	6	4.67	1.109	628	0	0	0	0	0	0
48.7	52.62	2.143	3199	3.03	4524	11.7	9.1	2.163	1224	0	0	0	0	0	0
38.2	41.27	1.681	2509	2.377	3548	3	2.33	0.555	314	1.75	44	0	0	0	0

Stability Limits

File Name M926.STB
Date 5/30/89
Measured by F. Takahashi
Fuel Methane C. F. 0.72 ρ (g/cc) 0.000658 μ (g/cms) 0.000111 v (scm/s) 0.168
Oxidant Air ρ (g/cc) 0.001192 μ (g/cms) 0.000183 v (scm/s) 0.154

	No.	d (in)	d (mm)	s (scm)	D (in)	D (mm)	Note		F	C
Fuel Tube	3	0.372	9.45	0.701	0.562	14.27	Flat-end (2.4mm thickness)	RT(low)	72.6	22.6
Air Tube	1	1.060	26.92	5.693	1.074	27.28	Long exit section (4.125 in l.)	RT(high)	74.6	23.7
Annular Channel			22.83	4.093						
Coflowing Air Tube		5.906	150	170.9				RT(ave.)	73.6	23.1

Coflowing Air (F5) Q_a (l/min 70F) 513 U_e (m/s) 0.5 100/RT(K) 0.338
Swirler Unit 60 Degree

Annular Air						Fuel Jet at Lifting						Fuel Jet at Dropback			
Q_a -read (l/min 0C)	Q_a (l/min RT)	U_a (m/s)	Re_a	U_{total} (m/s)	Re_t	Q_j -read (l/min 0C)	Q_j (l/min RT)	U_j (m/s)	Re_j	Lift Height (in)	(mm)	Q_j -read (l/min 0C)	Q_j (l/min RT)	U_j (m/s)	Re_j
0	0	0	0	0	0	83.1	90.13	21.42	12035	4.25	108	24.3	26.36	6.264	3519
0	0	0	0	0	0	83.6	90.67	21.55	12107	4.25	108	26.3	28.53	6.78	3809
3	3.25	0.132	196	0.265	393	67	72.67	17.27	9703	3.25	83	30.8	33.41	7.94	4461
6	6.51	0.265	393	0.53	786	63.7	69.09	16.42	9225	3.125	79	17.8	19.31	4.589	2578
9	9.76	0.397	589	0.795	1179	62	67.25	15.98	8979	3.125	79	17.4	18.87	4.486	2520
12	13.02	0.53	786	1.06	1572	62.1	67.35	16.01	8994	3	76	16.7	18.11	4.305	2419
15	16.27	0.662	982	1.325	1965	61.6	66.81	15.88	8921	3	76	17.5	18.98	4.511	2534
15	16.27	0.662	982	1.325	1965	60.8	65.94	15.67	8805	3	76	14.5	15.73	3.738	2100
20	21.69	0.883	1310	1.767	2619	61.5	66.7	15.86	8907	3	76	12.9	13.99	3.326	1868
30	32.54	1.325	1965	2.65	3929	61.6	66.81	15.88	8921	3	76	9.1	9.87	2.346	1318
40	43.38	1.767	2619	3.533	5239	64.3	69.74	16.58	9312	3.125	79	12.4	13.45	3.197	1796
50	54.23	2.208	3274	4.417	6549	63.1	68.44	16.27	9138	3.125	79	12.6	13.67	3.248	1825
50	54.23	2.208	3274	4.417	6549	63.5	68.87	16.37	9196	3.125	79	12.6	13.67	3.248	1825
60	65.08	2.65	3929	5.3	7858	63	68.33	16.24	9124	3.125	79	14.8	16.05	3.815	2143
70	75.92	3.092	4584	6.183	9168	64.1	69.52	16.53	9283	3.5	89	16.3	17.68	4.202	2361
80	86.77	3.533	5239	7.067	10478	64.6	70.07	16.65	9356	3.5	89	0	0	0	0
90	97.61	3.975	5894	7.95	11788	65.9	71.48	16.99	9544	3.5	89	0	0	0	0
100	108.5	4.417	6549	8.833	13097	65.5	71.04	16.89	9486	3.5	89	0	0	0	0
110	119.3	4.858	7204	9.716	14407	63.1	68.44	16.27	9138	3.5	89	0	0	0	0
120	130.2	5.3	7858	10.6	15717	63.9	69.31	16.47	9254	3.63	92	0	0	0	0
130	141	5.742	8513	11.48	17027	63.6	68.98	16.4	9211	3.63	92	0	0	0	0
140	151.9	6.183	9168	12.37	18336	64.3	69.74	16.58	9312	3.75	95	0	0	0	0
156.8	170.1	6.925	10268	13.85	20537	60.8	65.94	15.67	8805	4.38	111	0	0	0	0
151.2	164	6.678	9902	13.36	19803	57.9	62.8	14.93	8385	4.25	108	0	0	0	0
133.6	144.9	5.901	8749	11.8	17498	50.7	54.99	13.07	7343	4	102	0	0	0	0
122.9	133.3	5.428	8048	10.86	16097	43.4	47.07	11.19	6285	4.25	108	0	0	0	0
110	119.3	4.858	7204	9.716	14407	36.2	39.26	9.332	5243	3.75	95	0	0	0	0
97.6	105.9	4.311	6392	8.621	12783	29	31.45	7.476	4200	3.25	83	0	0	0	0
86.1	93.38	3.803	5638	7.605	11277	21.7	23.54	5.594	3143	2.25	57	0	0	0	0
86.8	94.14	3.834	5684	7.667	11369	14.4	15.62	3.712	2085	2	51	0	0	0	0
49.4	53.58	2.182	3235	4.364	6470	5.2	5.64	1.341	753	0.5	13	0	0	0	0
41.4	44.9	1.828	2711	3.657	5422	0.8	0.87	0.206	116	0.5	13	0	0	0	0

MEASURED VARIABLES

Mean velocity components (Axial, radial, and tangential directions)

$$U = \frac{\sum_{i=1}^N u_i}{N}, \quad V = \frac{\sum_{i=1}^N v_i}{N}, \quad W = \frac{\sum_{i=1}^N w_i}{N}$$

where N = number of LDV data at a particular location
 u_i, v_i, w_i = measured velocity component samples

Root-mean-square fluctuation velocity components ($SIG(u')$, $SIG(v')$, $SIG(w')$ in the tabulated list)

$$\sigma(u') = \sqrt{u'^2} = \sqrt{\frac{\sum_{i=1}^N (u_i - U)^2}{N}}, \quad \sigma(v') = \sqrt{v'^2} = \sqrt{\frac{\sum_{i=1}^N (v_i - V)^2}{N}}, \quad \sigma(w') = \sqrt{w'^2} = \sqrt{\frac{\sum_{i=1}^N (w_i - W)^2}{N}}$$

Reynolds shear stresses ($u'v'$, $v'w'$, $w'u'$ in the tabulated list)

$$\overline{u'v'} = \frac{\sum_{i=1}^N [(u_i - U)(v_i - V)]}{N}, \quad \overline{v'w'} = \frac{\sum_{i=1}^N [(v_i - V)(w_i - W)]}{N}, \quad \overline{w'u'} = \frac{\sum_{i=1}^N [(w_i - W)(u_i - U)]}{N}$$

3rd moments (u'^3 , v'^3 , w'^3 , u'^2v' , v'^2u' , v'^2w' , w'^2v' , w'^2u' , u'^2w' in the tabulated list)

$$\overline{u'^3} = \frac{\sum_{i=1}^N (u_i - U)^3}{N}, \quad \overline{v'^3} = \frac{\sum_{i=1}^N (v_i - V)^3}{N}, \quad \overline{w'^3} = \frac{\sum_{i=1}^N (w_i - W)^3}{N}$$

$$\overline{u'^2v'} = \frac{\sum_{i=1}^N [(u_i - U)^2(v_i - V)]}{N}, \quad \overline{v'^2u'} = \frac{\sum_{i=1}^N [(v_i - V)^2(u_i - U)]}{N}$$

$$\overline{v'^2w'} = \frac{\sum_{i=1}^N [(v_i - V)^2(w_i - W)]}{N}, \quad \overline{w'^2v'} = \frac{\sum_{i=1}^N [(w_i - W)^2(v_i - V)]}{N}$$

$$\overline{w'^2u'} = \frac{\sum_{i=1}^N [(w_i - W)^2(u_i - U)]}{N}, \quad \overline{u'^2w'} = \frac{\sum_{i=1}^N [(u_i - U)^2(w_i - W)]}{N}$$

4th moment (u'^4 , v'^4 , w'^4 in the tabulated list)

$$\overline{u'^4} = \frac{\sum_{i=1}^N (u_i - U)^4}{N},$$

$$\overline{v'^4} = \frac{\sum_{i=1}^N (v_i - V)^4}{N},$$

$$\overline{w'^4} = \frac{\sum_{i=1}^N (w_i - W)^4}{N}$$

Other derived variables

Turbulent kinetic energy

$$q = \frac{\overline{u'^2} + \overline{v'^2} + \overline{w'^2}}{2} = \frac{\sum_{i=1}^N (u_i - U)^2 + \sum_{i=1}^N (v_i - V)^2 + \sum_{i=1}^N (w_i - W)^2}{2N}$$

Skewness

$$S_u = \frac{\overline{u'^3}}{[\overline{u'^2}]^{3/2}} = \frac{\frac{\sum_{i=1}^N (u_i - U)^3}{N}}{\left[\frac{\sum_{i=1}^N (u_i - U)^2}{N} \right]^{3/2}},$$

$$S_v = \frac{\overline{v'^3}}{[\overline{v'^2}]^{3/2}} = \frac{\frac{\sum_{i=1}^N (v_i - V)^3}{N}}{\left[\frac{\sum_{i=1}^N (v_i - V)^2}{N} \right]^{3/2}},$$

$$S_w = \frac{\overline{w'^3}}{[\overline{w'^2}]^{3/2}} = \frac{\frac{\sum_{i=1}^N (w_i - W)^3}{N}}{\left[\frac{\sum_{i=1}^N (w_i - W)^2}{N} \right]^{3/2}}$$

Kurtosis

$$K_u = \frac{\overline{u'^4}}{[\overline{u'^2}]^2} - 3 = \frac{\frac{\sum_{i=1}^N (u_i - U)^4}{N}}{\left[\frac{\sum_{i=1}^N (u_i - U)^2}{N} \right]^2} - 3,$$

$$K_v = \frac{\overline{v'^4}}{[\overline{v'^2}]^2} = \frac{\frac{\sum_{i=1}^N (v_i - V)^4}{N}}{\left[\frac{\sum_{i=1}^N (v_i - V)^2}{N} \right]^2} - 3,$$

$$K_w = \frac{\overline{w'^4}}{[\overline{w'^2}]^2} = \frac{\frac{\sum_{i=1}^N (w_i - W)^4}{N}}{\left[\frac{\sum_{i=1}^N (w_i - W)^2}{N} \right]^2} - 3$$

FILENAME FORMAT

Each file is headed with a FILENAME. The FILENAMEs have the following format for the velocity data: *JdtsVzzz.PPn* (upper case: letter, lower case: number).

J: type of jet fluid.

If *J* = A, air
= E, helium
= H, hydrogen
= M, methane
= P, propane.

d: fuel tube diameter (d).

If *d* = 9, *d* = 9.45 mm.

t: fuel tube lip thickness (δ).

If *t* = 0, δ = 0.2 mm
= 1, δ = 1.2 mm
= 2, δ = 2.4 mm.

s: swirler helix angle (θ).

If *s* = 0, θ = 0°
= 1, θ = 15°
= 3, θ = 30°
= 4, θ = 45°
= 6, θ = 60°

V: average velocities at the jet exit plane.

If *V* = A, U_j = 100, U_s = 20, U_e = 4 m/s (air jet)
= B, U_j = 25, U_s = 4, U_e = 1 m/s (air jet)
= I, U_j = 6, U_s = 3, U_e = 0.5 m/s (CH4 flame)
= J, U_j = 10, U_s = 3, U_e = 0.5 m/s (CH4 flame)
= L, U_j = 15, U_s = 3, U_e = 0.5 m/s (CH4 flame)

zzz: radial profile's axial position (z) or axial profile.

If *zzz* = a number, the file is a radial profile at axial position *zzz*

e.g., 001, *z* = 1.5 mm
010, *z* = 10 mm
025, *z* = 25 mm
050, *z* = 50 mm
075, *z* = 75 mm
150, *z* = 150 mm
250, *z* = 250 mm

= AX , the file is an axial profile along the jet centerline ($r=0$).

PP: LDV particle seeding method.

If *PP* = J_, the file contains the data with particles added to jet fluid only

= A_, the file contains the data with particles added to annulus fluid only

= E_, the file contains the data with particles added to external fluid only.

n: file ID number, 1 or 2.

If *n* = 1, the file includes $r, z, U, V, W, \sigma(u'), \sigma(v'), \sigma(w'), u'v', v'w', w'u'$

= 2, the file includes $r, z, u'^3, v'^3, w'^3, u'^2v', v'^2u', v'^2w', w'^2v', w'^2u', u'^2w', u'^4, v'^4, w'^4$.

DATA FILES AND TEST CONDITIONS

Filename	Extension		θ	$U_j(\text{m/s})$	$U_a(\text{m/s})$	$U_c(\text{m/s})$	$z(\text{mm})$	Seed
M920I005	.J_1	.J_2	0°	6	3	0.5	5	Jet
M920I005	.A_1	.A_2	0°	6	3	0.5	5	Annulus
M920I015	.J_1	.J_2	0°	6	3	0.5	15	Jet
M920I015	.A_1	.A_2	0°	6	3	0.5	15	Annulus
M920I025	.J_1	.J_2	0°	6	3	0.5	25	Jet
M920I025	.A_1	.A_2	0°	6	3	0.5	25	Annulus
M920J005	.J_1	.J_2	0°	10	3	0.5	5	Jet
M920J005	.A_1	.A_2	0°	10	3	0.5	5	Annulus
M920J015	.J_1	.J_2	0°	10	3	0.5	15	Jet
M920J015	.A_1	.A_2	0°	10	3	0.5	15	Annulus
M920J025	.J_1	.J_2	0°	10	3	0.5	25	Jet
M920J025	.A_1	.A_2	0°	10	3	0.5	25	Annulus
M920L005	.J_1	.J_2	0°	15	3	0.5	5	Jet
M920L005	.A_1	.A_2	0°	15	3	0.5	5	Annulus
M920L015	.J_1	.J_2	0°	15	3	0.5	15	Jet
M920L015	.A_1	.A_2	0°	15	3	0.5	15	Annulus
M920L025	.J_1	.J_2	0°	15	3	0.5	25	Jet
M920L025	.A_1	.A_2	0°	15	3	0.5	25	Annulus

C FILENAME: M920L015.A_1

C

C CH4 FLAME; d=9.45, delta=2.4 mm; theta 0 deg.; Uj 15, Ua 3, Ue=0.5 m/s; z=15 mm

C LDV SEED PARTICLES ADDED TO ANNULUS FLUID ONLY.

C

C 45 : No. of data points

C	Y	X	U	V	W	SIG(u')	SIG(v')	SIG(w')	u'v'	v'w'	w'u'
-13.30	15.01	1.609	-.119	-.009	.594	.255	.242	.056	.002	.019	
-12.81	15.01	2.053	-.082	.015	.642	.214	.225	.038	.003	-.018	
-12.32	15.01	2.698	.083	.034	.634	.215	.224	-.036	.002	-.010	
-11.80	15.01	3.284	.090	.029	.585	.216	.237	-.028	.004	-.015	
-11.19	15.01	3.708	.086	.022	.522	.206	.226	.017	.002	.016	
-10.59	15.01	3.951	.096	.019	.466	.203	.220	.004	.001	-.012	
-10.04	14.99	3.999	.113	.012	.436	.202	.223	.001	.000	.004	
-9.39	14.99	3.891	-.123	.007	.453	.197	.209	.015	.000	.002	
-8.80	14.99	3.711	-.105	.015	.468	.198	.220	.020	.000	-.001	
-8.31	14.99	3.532	-.083	.022	.493	.202	.258	.005	.000	.001	
-7.90	14.99	3.296	-.052	.037	.473	.248	.420	.026	-.004	.011	
-7.60	14.99	3.194	.011	.046	.462	.275	.534	.001	-.008	.007	
-7.28	15.01	3.140	.146	.065	.472	.311	.656	-.004	-.029	.003	
-6.99	15.01	3.251	.303	.083	.543	.338	.912	-.012	-.056	.019	
-6.78	15.01	3.331	.405	.060	.580	.390	1.070	-.011	-.067	.008	
-6.47	15.01	3.561	.556	.062	.678	.517	1.261	.001	-.056	-.009	
-6.21	15.01	3.972	.706	.015	.808	.657	1.519	-.004	-.035	.033	
-5.79	15.00	4.733	.762	.152	1.035	.876	1.832	-.114	.045	-.098	
-5.41	15.00	5.761	.765	.270	1.348	1.050	1.930	-.372	.178	-.260	
-5.19	15.00	7.443	.859	.063	1.808	1.288	1.683	-.855	-.074	.274	
-4.80	15.00	9.488	.946	.069	2.306	1.495	2.056	-1.420	-.196	.610	
-4.41	15.01	11.481	1.187	.025	2.463	1.537	2.213	-1.435	-.360	.700	
-4.00	15.01	13.165	1.435	.108	2.348	1.485	2.229	-1.066	-.403	.734	
-3.49	15.01	14.917	1.879	.004	2.128	1.398	2.160	-.762	-.506	.588	
-4.01	15.01	13.127	-1.316	.153	2.503	1.509	1.240	1.382	-.188	-.341	
4.41	15.01	11.253	-1.056	.104	2.539	1.523	.853	1.413	-.250	-.301	
4.80	15.01	9.319	-.791	.061	2.374	1.488	.546	1.363	-.099	-.202	
5.22	15.01	7.348	-.600	.028	1.937	1.397	.393	.412	-.021	-.067	
5.62	15.01	5.766	-.500	.006	1.414	1.203	.336	.391	-.043	-.046	
5.98	15.01	4.678	-.468	.008	1.078	1.058	.318	.200	-.036	-.015	
6.42	15.01	3.780	-.524	.011	.786	.757	.295	.030	-.018	-.004	
6.81	15.01	3.283	-.460	.005	.608	.447	.285	.033	.000	.001	
7.27	15.00	3.091	-.195	.007	.510	.281	.283	.024	.001	.005	
7.79	15.00	3.231	.052	.017	.476	.215	.276	.002	.000	.006	
8.31	15.01	3.477	.122	.014	.517	.221	.292	-.017	-.001	.012	
8.81	15.00	3.747	.135	.006	.489	.230	.286	-.022	.000	.003	
9.41	15.00	3.981	.139	.005	.456	.228	.281	-.016	-.001	.009	
9.99	15.00	4.078	.136	.018	.435	.230	.288	-.005	-.002	.001	
10.60	15.00	4.017	.134	.011	.465	.235	.288	.009	-.002	-.003	
11.20	15.01	3.747	.133	.017	.523	.247	.308	.011	-.001	-.008	
11.81	15.00	3.328	.126	.019	.577	.255	.294	.031	.003	-.003	
12.31	15.00	2.847	.157	.024	.632	.264	.305	.033	-.004	-.011	
12.80	15.00	2.205	.204	.024	.638	.296	.304	.045	-.001	.005	
13.32	15.00	1.859	.269	.018	.590	.346	.351	.075	-.016	-.023	
13.72	15.00	1.658	.308	.021	.569	.379	.376	.074	-.018	-.025	

C FILENAME= M920L015.J_1

C

C CH4 FLAME; d=9.45, delta=2.4 mm; theta=0 deg.; Uj 15, Ua 3, Ue=0.5 m/s; z 15 mm

C LDV SEED PARTICLES ADDED TO JET FLUID ONLY.

C

C 39 : No. of data points

C	y	x	U	V	W	SIG(u')	SIG(v')	SIG(w')	u'v'	v'w'	w'u'
	-7.30	15.01	4.164	.638	.127	1.290	1.070	1.854	-.536	.062	.051
	-6.80	15.00	5.469	-.893	.244	1.638	1.358	1.962	-.944	.016	.083
	-6.41	14.99	6.456	-.955	.277	1.879	1.469	1.888	-1.254	.001	.070
	-5.99	14.99	6.940	-.621	.070	1.989	1.441	1.755	-1.107	.060	.075
	-5.59	14.99	8.370	-.627	.135	2.260	1.541	1.602	1.466	.022	.119
	-5.18	14.99	9.657	-.473	.106	2.559	1.547	1.479	1.532	-.050	.270
	-4.79	14.99	11.450	-.375	.048	2.703	1.568	1.377	-1.556	-.102	.317
	-4.41	14.99	13.548	-.399	.044	2.579	1.467	1.236	-1.295	-.097	.272
	-4.01	14.99	15.694	-.462	.064	2.226	1.326	1.246	-.987	-.100	.232
	-3.48	14.99	17.031	-.159	.054	1.856	1.198	1.055	.740	-.054	.035
	-3.01	14.99	18.135	-.085	.007	1.636	1.090	1.006	-.616	-.015	.066
	-2.48	15.01	19.037	-.035	.056	1.471	1.010	.914	-.562	-.078	.035
	-1.87	15.01	19.907	-.052	-.020	1.325	.926	.845	-.432	-.036	.052
	-1.90	15.00	19.784	-.012	-.002	1.253	.876	.815	-.184	-.028	.050
	-1.18	15.01	20.675	-.014	-.010	1.152	.836	.827	-.277	-.037	.043
	-1.19	15.00	20.621	-.017	-.002	1.124	.817	.761	-.218	-.033	.044
	-.50	15.01	21.158	-.013	-.049	1.005	.802	.850	-.105	-.008	-.017
	-.50	15.00	21.094	.028	.005	.998	.759	.767	-.053	-.019	-.005
	.01	15.01	21.260	-.002	-.006	.972	.800	.945	.012	-.009	-.010
	.00	15.00	21.178	.003	.007	.935	.739	.800	.009	.001	.010
	.49	15.01	21.196	.013	-.029	.993	.801	1.018	.105	-.032	-.006
	.46	15.00	21.101	-.005	-.010	.957	.766	.885	.065	.004	-.012
	1.22	15.01	20.702	.008	-.078	1.184	.849	1.220	.338	-.021	-.022
	1.22	15.00	20.615	.009	-.015	1.130	.809	1.057	.211	.009	-.036
	1.88	15.01	20.042	.046	-.061	1.306	.919	1.412	.259	-.019	-.074
	1.90	15.00	19.843	.074	-.050	1.310	.884	1.235	.396	-.047	-.097
	2.49	15.00	19.073	.088	-.004	1.453	.972	1.417	.390	.030	-.024
	3.02	15.00	18.129	.121	-.036	1.613	1.050	1.581	.584	-.016	-.007
	3.52	15.00	17.147	.281	-.026	1.861	1.187	1.719	.612	-.089	-.177
	3.99	15.00	15.855	.556	-.041	2.250	1.325	1.824	.682	-.106	-.116
	4.41	15.00	14.500	.876	-.009	2.485	1.494	1.881	1.362	-.163	-.350
	4.78	15.00	12.858	1.082	-.011	2.652	1.643	1.808	1.906	-.181	-.464
	4.79	15.00	12.892	1.084	-.099	2.693	1.665	1.845	1.479	-.220	-.207
	5.19	15.00	11.169	1.244	-.039	2.717	1.744	1.848	.453	-.382	-.140
	5.22	15.00	10.926	1.170	-.054	2.744	1.797	1.812	.406	-.400	-.167
	5.61	15.00	9.116	1.128	-.039	2.447	1.790	1.720	2.115	-.524	-.691
	5.98	15.00	7.905	1.111	-.097	2.301	1.788	1.623	2.012	-.507	-.428
	6.38	15.00	6.578	.963	-.129	1.952	1.629	1.525	1.377	-.396	-.377
	6.76	15.00	5.563	.839	-.149	1.698	1.477	1.345	1.017	-.454	-.323

C FILENAME: M920L015.A_2

C

C CH4 FLAME; d=9.45, delta=2.4 mm; theta=0 deg.; Uj 15, Ua 3, Ue=0.5 m/s; z 15 mm

C LDV SEED PARTICLES ADDED TO ANNULUS FLUID ONLY.

C

C 45 : No. of data points

C	y	x	u'^3	v'^3	w'^3	u'^2v'	v'^2u'	v'^2w'	w'^2v'	w'^2u'
-13.30	15.01	.108	.002	.000	.020	.008	.001	-.001	.005	.005
-12.81	15.01	.068	-.001	-.001	.013	.004	.000	.000	.003	.003
-12.32	15.01	-.020	.001	.000	.004	.004	.000	.000	.000	.001
-11.80	15.01	-.052	.001	.002	.006	.000	.000	.000	.000	.000
-11.19	15.01	-.027	.001	.000	.003	-.001	.000	.000	.000	.000
-10.59	15.01	-.020	.000	.001	.004	-.002	.000	.000	.000	-.001
-10.04	14.99	-.009	.000	.000	.000	-.002	.000	.000	.000	-.001
-9.39	14.99	-.006	.001	.001	.004	-.002	.000	.000	.000	-.001
-8.80	14.99	-.013	.001	.000	.003	.000	.000	.000	.000	.001
-8.31	14.99	.006	.001	.002	.001	.000	.000	.000	.000	.003
-7.90	14.99	.008	.000	.005	.003	.000	.001	-.002	-.004	.004
-7.60	14.99	.000	.001	-.014	.005	.001	.000	.002	.007	.007
-7.28	15.01	-.010	.001	-.004	.006	-.005	.001	.004	-.024	.024
-6.99	15.01	-.051	.006	-.002	.007	-.007	-.004	.000	.081	.081
-6.78	15.01	-.043	.008	-.066	.007	-.013	.001	.004	-.131	.131
-6.47	15.01	-.016	-.023	.069	.017	-.025	-.023	.001	-.137	.137
-6.21	15.01	.023	-.066	.542	.002	.014	-.031	-.032	-.197	.197
-5.79	15.00	.511	-.257	.199	-.193	.159	-.038	-.066	-.371	.371
-5.41	15.00	1.636	-.477	.503	-.773	.541	-.239	-.175	-.021	.021
-5.19	15.00	4.650	-.778	-.692	-1.753	1.207	.135	-.224	.836	.836
-4.80	15.00	8.259	-1.384	-.431	-2.844	1.992	.467	-1.032	1.821	1.821
-4.41	15.01	5.727	-1.242	-.447	-1.976	1.501	.381	-1.248	1.495	1.495
-4.00	15.01	.356	-.676	.894	-.476	.552	.500	-.894	.056	.056
-3.49	15.01	-.974	-.517	.683	.009	.380	.434	-.968	-.423	.423
4.01	15.01	1.892	.697	-.008	1.234	.738	.035	.099	.338	.338
4.41	15.01	6.520	.692	.124	2.387	1.100	-.088	.042	.141	.141
4.80	15.01	10.378	.947	.028	2.801	1.422	-.084	-.003	.063	.063
5.22	15.01	6.889	1.079	.013	1.032	.770	-.022	.009	.012	.012
5.62	15.01	2.498	.654	.004	.551	.521	-.016	.006	.014	.014
5.98	15.01	.932	.536	.006	.135	.261	-.011	-.003	.004	.004
6.42	15.01	.089	.230	.001	-.012	.031	-.005	.000	.001	.001
6.81	15.01	-.034	.011	.001	-.003	-.012	.000	.001	.001	.001
7.27	15.00	-.025	-.002	.000	-.006	-.007	.000	.000	.000	.000
7.79	15.00	.003	.000	.000	-.004	.001	.000	.000	.000	.000
8.31	15.01	.002	-.001	.000	.000	.001	.000	.000	.000	.000
8.81	15.00	-.020	-.001	.000	.005	-.001	-.001	.000	.000	.000
9.41	15.00	-.014	.001	.000	.002	-.002	-.001	-.001	-.001	-.001
9.99	15.00	-.001	.001	.000	.002	-.003	.000	.000	.000	.000
10.60	15.00	-.021	.001	.000	-.005	-.002	.000	.000	.000	.000
11.20	15.01	-.035	.001	.003	-.001	.000	.001	-.001	-.001	-.001
11.81	15.00	-.042	.002	.002	.000	.001	.000	.002	.000	.000
12.31	15.00	-.011	.002	.002	.008	.002	.001	.000	.004	.004
12.80	15.00	.071	.007	.005	.023	.011	.002	.004	.011	.011
13.32	15.00	.062	.007	-.002	.026	.016	-.001	.001	.011	.011
13.72	15.00	.051	.011	-.002	.019	.016	-.004	.006	.009	.009

C FILENAME= M920L015.J_2

C

C CH4 FLAME; d=9.45, delta=2.4 mm; theta=0 deg.; Uj 15, Ua 3, Uo=0.5 m/s; z 15 mm

C LDV SEED PARTICLES ADDED TO JET FLUID ONLY.

C

C 39 : No. of data points

C	y	x	u'23	v'23	w'23	u'20'	v'20'	w'20'	u'20'	v'20'	w'20'
	-7.30	15.01	1.344	.923	.033	.581	.486	.145	.431	.193	
	-6.80	15.00	2.742	-1.189	.071	1.185	1.001	.032	.005	.366	
	6.41	14.99	3.902	.903	.273	-1.487	1.136	.142	-.113	.522	
	-5.99	14.99	4.213	.977	.198	1.459	1.121	.024	.128	.193	
	-5.59	14.99	6.048	.714	.075	1.888	1.190	.040	.316	.096	
	-5.18	14.99	4.676	.332	.001	-2.070	.977	.052	.191	.038	
	-4.79	14.99	3.440	.093	.032	-1.091	.510	.183	.166	.235	
	-4.41	14.99	-4.393	.940	-.091	.846	.526	-.009	.125	.090	
	-4.01	14.99	-4.884	.868	.175	1.291	.770	.067	.048	.108	
	3.48	14.99	-2.843	.692	.190	1.033	.523	-.025	.031	.138	
	-3.01	14.99	-1.320	.473	-.001	.430	.290	.002	.011	.063	
	-2.48	15.01	-.916	.375	.116	.404	.285	.006	.016	.073	
	-1.87	15.01	-.824	.240	.079	.363	.268	.012	.001	.056	
	-1.90	15.00	-.580	.183	.039	.129	.106	.003	.026	.067	
	-1.18	15.01	-.769	.131	.000	.239	.194	-.012	.057	.026	
	-1.19	15.00	-.656	.058	.053	.215	.127	-.023	.019	.040	
	-.50	15.01	-.471	.042	-.014	.134	.183	.010	.011	.012	
	-.50	15.00	-.491	.023	.032	.067	-.021	-.010	-.026	-.014	
	.01	15.01	-.370	.000	.066	-.054	-.137	.007	-.054	.002	
	.00	15.00	-.357	-.005	.014	-.010	-.135	-.002	-.011	.005	
	.49	15.01	-.468	-.077	.069	-.095	-.180	.005	-.084	-.075	
	.46	15.00	-.412	-.070	-.012	-.058	-.092	-.024	-.062	-.001	
	1.22	15.01	-.804	-.207	-.123	-.378	-.277	.008	-.073	-.143	
	1.22	15.00	-.744	-.108	-.012	-.179	-.111	.015	-.121	-.070	
	1.88	15.01	-.855	-.254	-.081	-.190	-.111	.021	-.096	.008	
	1.90	15.00	-.788	-.164	.178	-.301	-.150	.025	-.077	-.111	
	2.49	15.00	-.878	-.347	-.172	-.203	-.123	.041	.074	-.075	
	3.02	15.00	-1.546	-.414	-.090	-.342	-.331	-.022	-.181	-.189	
	3.52	15.00	-2.592	-.754	.240	-.474	-.347	.188	-.300	-.102	
	3.99	15.00	-4.824	-1.001	-.055	-.781	-.444	.123	-.237	.211	
	4.41	15.00	-5.032	-1.412	.158	-1.136	-1.125	.260	-.287	-.583	
	4.78	15.00	-2.126	-1.246	.294	-1.089	-.943	.196	.224	.050	
	4.79	15.00	-2.478	-1.726	.734	-1.041	-1.207	.467	.072	.151	
	5.19	15.00	.828	-.985	-.176	.126	.042	.361	.262	.217	
	5.22	15.00	2.041	-1.114	-.045	-.219	-.116	.351	.500	.172	
	5.61	15.00	4.270	.246	.269	1.622	.847	.024	.626	1.051	
	5.98	15.00	5.350	1.397	.192	2.319	1.833	.130	.917	1.222	
	6.38	15.00	4.664	1.509	-.029	2.140	1.695	-.193	.467	.398	
	6.76	15.00	2.904	1.889	-.044	1.303	1.176	-.326	.756	.673	

DATA FILES AND TEST CONDITIONS

Filename	Extension		θ	$U_j(\text{m/s})$	$U_a(\text{m/s})$	$U_e(\text{m/s})$	$z(\text{mm})$	Seed
A903B001	J_1	J_2	30°	25	4	1	1.5	Jet
A903B001	A_1	A_2	30°	25	4	1	1.5	Annulus
A903B001	E_1	E_2	30°	25	4	1	1.5	External
A903B010	J_1	J_2	30°	25	4	1	10	Jet
A903B010	A_1	A_2	30°	25	4	1	10	Annulus
A903B010	E_1	E_2	30°	25	4	1	10	External
A903B025	J_1	J_2	30°	25	4	1	25	Jet
A903B025	A_1	A_2	30°	25	4	1	25	Annulus
A903B025	E_1	E_2	30°	25	4	1	25	External
A903B050	J_1	J_2	30°	25	4	1	50	Jet
A903B050	A_1	A_2	30°	25	4	1	50	Annulus
A903B050	E_1	E_2	30°	25	4	1	50	External
A903B075	J_1	J_2	30°	25	4	1	75	Jet
A903B075	A_1	A_2	30°	25	4	1	75	Annulus
A903B075	E_1	E_2	30°	25	4	1	75	External
A903B150	J_1	J_2	30°	25	4	1	150	Jet
A903B150	A_1	A_2	30°	25	4	1	150	Annulus
A903B150	E_1	E_2	30°	25	4	1	150	External
A903B250	J_1	J_2	30°	25	4	1	250	Jet
A903B250	A_1	A_2	30°	25	4	1	250	Annulus
A903B250	E_1	E_2	30°	25	4	1	250	External
A903BAX	J_1	J_2	30°	25	4	1	1.5-320	Jet

C FILENAME= A903B025.R_1

C

C AIR JET; d=9.45, delta=0.2 mm; theta=30 deg.; Uj=25, Uj d, Uo=1 m/s; L=2.5 mm

C LDV SEED PARTICLES ADDED TO EXTERNAL FLOW ONLY.

C D060491

C 42 : No. of data points

C	y	x	U	V	W	SIG(u')	SIG(v')	SIG(w')	u'v'	v'w'	w'u'
-29.50	25.01	1.186	.087	.015	.101	.096	.207	.003	.006	.000	.000
-28.00	25.00	1.196	.088	.020	.118	.118	.233	.002	.001	.000	.000
-26.53	24.99	1.203	.096	.017	.102	.101	.208	.002	.000	.001	.001
-25.00	25.00	1.215	.103	.024	.102	.106	.215	.001	.001	.001	.001
-23.51	24.98	1.224	.108	.011	.113	.114	.218	.001	.000	.000	.000
-22.00	25.02	1.226	.119	.011	.133	.136	.232	.000	.000	.000	.000
-20.55	24.98	1.223	.125	.004	.165	.187	.257	.002	.003	.002	.002
-18.99	25.02	1.256	.128	.039	.228	.284	.295	.001	.018	.001	.001
-17.75	25.01	1.369	.099	.194	.412	.481	.460	.033	.061	.017	.017
-16.50	25.00	1.720	.090	.432	.642	.668	.667	.166	.189	.139	.139
-15.54	25.02	2.055	.116	.650	.820	.766	.788	.260	.264	.206	.206
-14.69	25.01	2.476	.092	.930	.956	.876	.918	.385	.377	.301	.301
-13.99	25.01	2.785	.129	1.099	.998	.921	.961	.418	.445	.306	.306
-13.40	25.00	3.124	.120	1.223	1.037	.937	.987	.414	.441	.288	.288
-12.80	25.00	3.391	.166	-1.333	1.024	.957	.997	.413	.453	.271	.271
-12.00	25.00	3.675	.216	-1.553	1.017	.974	1.006	.380	.483	.250	.250
-11.20	25.00	3.871	.235	1.781	.989	.948	.999	.224	.276	.101	.101
-10.40	25.00	3.847	.238	-2.064	1.029	.942	.951	.146	.396	.026	.026
-9.60	25.00	3.886	.392	-2.308	1.008	.960	.922	.054	.074	.021	.021
-8.81	25.01	3.813	.492	-2.617	1.034	.954	.930	.008	.161	.057	.057
-8.22	24.98	3.999	.633	-2.873	1.077	1.019	.989	.084	.395	.067	.067
8.18	25.01	4.256	.680	2.436	.971	.947	.907	.160	.333	.002	.002
8.80	24.99	4.124	.729	2.176	.972	.916	.907	.217	.355	.047	.047
9.59	25.01	3.917	.692	1.951	.987	.929	.916	.294	.371	.103	.103
10.40	25.01	3.558	.565	1.747	1.033	.929	.908	.358	.332	.134	.134
11.19	25.00	3.301	.598	1.491	1.045	.913	.926	.412	.255	.107	.107
11.99	25.00	2.984	.558	1.311	1.040	.881	.932	.403	.187	.125	.125
12.80	25.00	2.519	.480	1.114	1.000	.816	.896	.342	.296	.139	.139
13.40	25.00	2.373	.534	.994	.923	.751	.861	.262	.256	.104	.104
14.00	25.01	2.093	.500	.815	.827	.662	.812	.190	.210	.075	.075
14.69	24.98	1.945	.409	.661	.746	.616	.760	.140	.122	.125	.125
15.50	25.01	1.734	.349	.450	.629	.550	.682	.100	.035	.041	.041
16.51	25.01	1.523	.273	.215	.488	.432	.579	.037	.043	.034	.034
17.67	25.01	1.349	.215	.010	.323	.329	.459	.002	.023	.003	.003
19.01	25.00	1.270	.171	.144	.221	.231	.355	.002	.005	.000	.000
20.49	25.01	1.201	.152	.207	.172	.164	.295	.004	.003	.004	.004
22.00	25.00	1.170	.166	.221	.183	.177	.341	.003	.002	.000	.000
23.50	25.00	1.176	.164	.232	.154	.144	.310	.004	.001	.000	.000
24.98	25.01	1.155	.147	.209	.146	.146	.293	.004	.000	.002	.002
26.50	25.00	1.137	.158	.210	.138	.132	.282	.004	.001	.001	.001
28.00	25.00	1.111	.205	.171	.140	.136	.275	.004	.001	.002	.002
29.47	25.01	1.090	.273	.093	.164	.163	.313	.003	.000	.000	.000

C FILENAME= A903B025.A_1

C

C AIR JET; d=9.45, delta=0.2 mm; theta=30 deg.; Uj=25, Ua=4, Ue=1 m/s; x=25 mm

C LDV SEED PARTICLES ADDED TO ANNULUS FLUID ONLY.

C D051591

C 47 : No. of data points

C	y	x	U	V	W	SIG(u')	SIG(v')	SIG(w')	u'v'	v'w'	w'u'
-17.69	24.99	1.972	-.422	-.526	.830	.843	.816	-.259	.150	-.013	
-16.53	25.01	2.376	-.437	-.725	.946	.905	.872	-.299	.212	-.031	
-15.48	24.99	2.703	-.343	-.890	1.061	.925	.913	-.330	.293	.025	
-14.69	24.98	2.901	-.260	-1.013	1.084	.958	.938	-.271	.359	.053	
-14.01	24.99	2.614	.066	-1.070	1.045	.885	.897	-.262	.264	-.063	
-13.40	24.98	2.899	-.025	-1.305	1.033	.917	.916	-.272	.371	-.035	
-12.82	25.01	3.023	.013	-1.484	1.038	.964	.922	-.283	.382	-.015	
-12.01	25.00	3.295	.028	-1.714	1.040	.944	.919	-.288	.221	.008	
-11.20	25.00	3.588	.052	-1.944	.982	.961	.886	-.279	.314	-.087	
-10.40	25.00	3.868	.044	-2.249	.938	.944	.865	-.283	.404	-.096	
-9.60	25.00	4.042	.116	-2.489	.879	.871	.802	-.233	.304	-.116	
-8.80	25.00	4.231	.182	-2.792	.839	.844	.787	-.168	.169	-.020	
-8.20	24.99	4.424	.218	-3.043	.931	.842	.828	-.120	.162	-.007	
-7.62	25.01	4.730	.316	-3.203	1.021	1.009	.941	-.173	.163	-.031	
-7.01	25.00	5.603	.427	-3.367	1.525	1.324	1.203	-.606	.149	-.056	
-6.51	25.00	6.862	.483	-3.332	2.191	1.646	1.628	-1.439	.222	-.180	
-6.00	25.00	8.604	.502	-2.998	2.821	2.039	2.093	-2.700	.151	.425	
-5.51	25.00	10.719	.575	-2.511	3.341	2.331	2.574	-4.072	.042	.501	
-4.99	25.00	12.965	.699	-1.983	3.808	2.627	2.916	-5.309	-.098	.956	
-4.49	25.00	15.649	.938	-1.445	4.209	2.755	3.180	-6.247	-.335	.923	
-3.99	25.00	18.627	1.109	-.904	4.476	2.832	3.299	-6.656	-.503	1.227	
-3.42	25.02	21.712	1.371	-.722	4.325	2.776	3.260	-6.322	.158	.615	
-2.70	25.01	25.213	1.683	-.610	3.805	2.499	2.991	-4.551	-.255	1.029	
-2.00	24.99	27.712	2.181	-.332	3.011	2.545	2.668	-3.199	.012	.008	
2.00	25.01	27.852	1.890	.419	3.107	2.140	2.786	2.691	-.026	-.662	
2.69	25.01	25.648	1.448	.373	3.713	2.499	2.970	4.498	-.258	-.937	
3.40	25.00	22.372	1.014	.635	4.160	2.759	3.289	5.719	.004	-.716	
3.98	24.99	19.504	-.641	.700	4.342	2.852	3.445	6.555	.008	.055	
4.50	24.99	16.412	-.562	1.000	4.277	2.840	3.302	6.601	-.091	-.912	
5.01	24.98	13.663	-.408	1.768	4.002	2.704	3.150	5.858	-.438	-1.670	
5.49	24.98	11.311	-.318	2.308	3.548	2.411	2.777	4.437	-.127	-.088	
5.99	24.98	9.143	-.160	2.862	3.081	2.146	2.206	3.386	.089	-.596	
6.49	24.99	7.262	-.189	3.195	2.313	1.762	1.686	1.609	.088	-.087	
7.01	24.98	5.818	-.213	3.279	1.568	1.380	1.225	.615	.165	.088	
7.59	25.00	4.912	-.184	3.176	1.005	1.017	.919	.158	.100	.000	
8.20	25.00	4.550	-.098	3.028	.815	.860	.762	.088	.155	-.017	
8.79	25.00	4.378	-.015	2.788	.778	.783	.735	.086	.182	.002	
9.60	25.00	4.193	.047	2.550	.807	.824	.749	.173	.256	.052	
10.40	25.00	3.978	.096	2.282	.909	.843	.827	.217	.190	.129	
11.20	25.00	3.734	.136	2.046	.942	.941	.875	.233	.304	.027	
12.01	25.00	3.495	.165	1.814	.987	.980	.906	.262	.428	.029	
12.81	25.00	3.296	.193	1.580	1.031	.996	.952	.238	.418	-.039	
13.41	25.00	3.175	.220	1.416	1.061	.951	.941	.241	.290	-.041	
14.00	25.00	3.124	.302	1.252	1.071	.960	.927	.230	.369	-.055	
14.68	25.01	2.966	.383	1.120	1.055	.917	.925	.233	.346	-.062	
15.49	25.01	2.764	.448	.943	1.014	.915	.879	.253	.157	.027	
16.50	25.00	2.478	.506	.767	.962	.874	.870	.250	.218	-.013	

C FILENAME= A903B025.J_1

C

C AIR JET; d=9.45, delta=0.2 mm; theta=30 deg.; Uj=25, Ua=4, Ue=1 m/s; x=25 mm

C LDV SEED PARTICLES ADDED TO JET FLUID ONLY.

C D052191

C 26 : No. of data points

C	Y	X	U	V	W	SIG(u')	SIG(v')	SIG(w')	u'v'	v'w'	w'u'
	-7.01	25.00	7.465	-1.126	-3.296	2.585	2.075	1.957	-2.694	.031	.057
	-6.50	25.00	9.055	-1.048	-2.862	3.019	2.259	2.341	-3.733	-.342	.741
	-6.01	25.00	10.411	-.774	-2.264	3.263	2.376	2.608	-4.152	-.346	.723
	-5.50	25.00	13.031	-.894	-1.615	3.824	2.642	2.860	-5.548	-.383	1.024
	-5.00	25.00	15.744	-.909	-1.087	4.241	2.729	3.020	-6.596	-.106	.657
	-4.51	25.00	18.658	-.725	-.749	4.304	2.616	2.908	-6.241	-.274	.676
	-4.00	25.00	21.710	-.649	-.492	4.078	2.556	2.779	-5.517	.147	.307
	-3.40	25.01	24.776	-.241	-.281	3.627	2.333	2.400	-4.164	.076	.184
	-2.71	25.02	27.807	-.100	-.199	2.780	1.814	2.023	-2.220	-.098	.201
	-2.01	25.01	29.882	.029	-.091	2.156	1.497	1.573	-1.187	-.046	.049
	-1.33	25.00	31.210	.035	-.064	1.768	1.264	1.290	-.678	-.030	.000
	-.60	24.99	32.040	.004	.055	1.501	1.166	1.154	.289	-.032	-.057
	.00	25.00	32.184	.000	.000	1.433	1.130	1.107	.029	-.054	.066
	.59	25.01	31.892	.044	-.008	1.460	1.234	1.156	.349	-.025	.043
	1.28	24.99	31.192	-.014	-.023	1.755	1.291	1.304	.688	.001	-.005
	2.00	24.98	29.844	.006	.035	2.182	1.505	1.632	1.270	-.043	-.115
	2.69	24.98	27.706	.178	.096	2.854	1.837	1.974	2.254	-.031	-.017
	3.39	24.99	24.640	.427	.204	3.643	2.301	2.436	4.133	-.107	-.333
	3.98	25.00	21.635	.763	.356	4.126	2.539	2.768	5.385	-.256	-.573
	4.47	24.98	18.759	.912	.535	4.259	2.711	2.895	6.313	-.043	-.832
	5.00	24.98	16.200	1.221	.943	3.776	3.074	3.010	5.845	-.296	-.954
	5.49	24.98	13.696	1.284	1.521	3.933	2.638	2.935	5.917	-.413	-1.762
	5.99	24.98	11.329	1.449	2.102	3.566	2.475	2.756	4.995	-.262	-.981
	6.50	24.98	9.138	1.366	2.620	2.939	2.540	2.254	3.751	-.423	-.529
	7.00	24.98	7.654	1.425	2.923	2.511	2.380	2.057	3.070	-.275	-.244
	7.58	25.00	6.110	1.358	3.194	2.111	1.977	1.662	2.025	.026	-.013

C FILENAME= A903B250.E_1

C

C AIR JET; d=9.45, delta=0.2 mm; theta=30 deg.; Uj=25, Ua=4, Ue=1 m/s; x=250 mm

C LDV SEED PARTICLES ADDED TO EXTERNAL FLUID ONLY.

C D060791

C 53 : No. of data points

C	y	x	U	V	W	SIG(u')	SIG(v')	SIG(w')	u'v'	v'w'	w'u'
-28.00	250.01	3.712	-.327	-.302	1.638	1.301	1.225	-.955	.085	-.072	
-26.50	250.00	4.380	-.528	-.016	1.488	1.284	1.310	-.701	.028	-.108	
-25.00	250.00	4.814	-.587	.004	1.601	1.372	1.386	-.793	-.039	-.206	
-23.50	250.00	4.788	-.392	.021	1.634	1.382	1.410	-.815	.073	-.142	
-22.00	250.00	4.963	-.454	.034	1.694	1.437	1.424	-.948	-.036	-.328	
-20.50	250.00	5.105	-.407	.044	1.736	1.465	1.493	-.841	-.068	.407	
-14.69	250.01	6.841	-.374	-.131	1.872	1.475	1.568	-1.079	.034	-.057	
-14.00	250.01	6.993	-.351	-.038	1.873	1.507	1.549	-1.006	.040	-.101	
-13.40	250.01	7.114	-.365	-.065	1.864	1.484	1.582	-.936	-.039	.010	
-12.80	249.99	7.207	-.358	-.067	1.847	1.508	1.563	-.949	-.024	-.121	
-12.01	249.99	7.398	-.339	-.046	1.862	1.529	1.545	-.910	-.052	-.071	
-11.20	249.99	7.491	-.325	-.059	1.856	1.518	1.580	-.907	.020	-.071	
-10.40	249.99	7.715	-.312	-.026	1.897	1.526	1.560	-.926	-.023	-.036	
-9.60	249.99	7.892	-.304	.014	1.911	1.515	1.553	-.888	-.078	-.112	
-8.81	249.99	7.986	-.325	.010	1.850	1.495	1.552	-.794	-.081	-.037	
-8.20	249.99	8.058	-.271	.000	1.850	1.536	1.585	-.780	-.067	-.150	
-7.61	249.99	8.085	-.225	.033	1.877	1.514	1.563	-.717	.002	-.166	
-7.01	249.99	8.272	-.226	.049	1.793	1.601	1.554	-.669	-.035	-.127	
-6.50	249.99	8.151	-.242	.042	1.903	1.529	1.562	-.647	-.035	-.001	
-6.01	249.99	8.272	-.271	.083	1.907	1.536	1.572	-.605	-.020	-.206	
-5.51	249.99	8.252	-.183	.073	1.883	1.496	1.554	-.495	.007	-.200	
-5.01	249.99	8.070	-.134	.014	1.946	1.485	1.557	-.500	-.009	-.165	
-4.50	249.99	8.323	-.173	.025	1.919	1.517	1.543	-.546	-.010	-.201	
-4.01	249.99	8.298	-.169	.025	1.882	1.502	1.540	-.481	.033	-.209	
-3.39	249.99	8.293	-.151	.050	1.916	1.546	1.559	-.450	.005	-.233	
-2.70	249.99	8.266	-.116	.041	1.947	1.582	1.510	-.577	-.070	-.175	
-2.01	249.99	8.260	-.107	.033	1.928	1.540	1.513	-.617	-.104	-.173	
-1.30	249.99	8.203	.005	.002	1.987	1.524	1.570	-.603	-.007	.020	
-.61	249.99	8.226	.030	-.006	1.948	1.531	1.576	-.536	-.047	-.178	
.00	249.99	8.138	.000	.000	1.987	1.541	1.607	-.483	.032	.039	
.60	249.99	8.149	-.021	-.020	1.937	1.537	1.567	-.409	.057	.285	
1.29	249.99	8.237	.014	-.041	1.936	1.546	1.559	-.296	.149	.327	
2.00	249.99	8.279	.125	-.038	1.951	1.542	1.558	-.233	.070	.298	
2.70	249.99	8.092	.031	-.117	1.912	1.648	1.562	-.122	.122	.387	
3.39	249.99	8.195	.106	-.069	1.898	1.579	1.571	.075	.030	.288	
3.99	249.99	8.056	.196	-.073	1.904	1.551	1.551	.133	.154	.299	
4.49	249.99	7.859	.272	-.069	1.915	1.547	1.553	-.084	.146	.152	
5.00	249.99	7.740	.328	-.053	1.902	1.563	1.534	.021	.172	-.090	
5.49	249.99	7.687	.511	.011	1.965	1.584	1.565	.277	.161	-.198	
12.80	250.01	7.410	.326	.061	1.875	1.511	1.529	.744	.126	-.095	
13.40	250.01	7.247	.339	.093	1.889	1.494	1.533	.848	.117	-.173	
14.00	250.01	7.173	.416	.132	1.867	1.496	1.535	.823	.070	-.221	
14.69	250.01	7.131	.436	.086	1.894	1.535	1.565	.876	.207	-.204	
15.49	250.01	6.944	.436	.055	1.867	1.532	1.531	.895	.166	-.240	
16.50	250.01	6.824	.482	.041	1.868	1.509	1.555	.913	.138	-.200	
17.71	250.01	6.727	.453	-.034	1.830	1.483	1.490	.926	.091	-.089	
19.00	250.01	6.467	.419	-.019	1.793	1.466	1.512	.844	.082	-.070	
20.50	250.01	6.179	.410	-.031	1.788	1.478	1.475	.845	.113	-.042	
22.00	250.01	5.852	.394	-.063	1.757	1.419	1.444	.864	.060	.069	
23.50	250.01	5.331	.308	-.057	1.764	1.357	1.343	.888	.003	.074	
25.00	250.01	4.858	.230	-.082	1.731	1.343	1.331	.765	.005	.219	
28.00	250.01	4.786	.625	-.300	1.790	1.406	1.406	.980	.169	.115	
29.50	250.01	4.342	.385	-.438	2.063	1.433	1.314	1.411	.155	.228	

C FILENAME= A903B250.A_1

C

C AIR JET; d=9.45, delta=0.2 mm; theta=30 deg.; H₂ 25, He 4, O₂-1 m/z; x 250 mm

C LDV SEED PARTICLES ADDED TO ANNULUS FLUID ONLY.

C D052091

C 69 : No. of data points

C	y	x	U	V	W	SIG(u')	SIG(v')	SIG(w')	u'v'	v'w'	w'u'
-29.51	250.01	3.497	-.625	-.357	1.378	1.244	1.215	-.589	.111	-.036	-.036
-28.00	250.01	3.712	-.591	-.354	1.448	1.200	1.252	-.635	.085	-.076	-.076
-26.50	250.01	3.772	-.513	-.383	1.401	1.214	1.255	-.639	.108	-.071	-.071
-25.00	250.01	3.974	-.442	-.386	1.521	1.200	1.234	-.650	.066	-.068	-.068
-23.50	250.01	4.337	-.503	-.349	1.547	1.294	1.302	-.811	.099	-.111	-.111
-22.00	250.01	4.642	-.496	-.375	1.559	1.341	1.399	-.864	.092	-.001	-.001
-20.50	250.01	4.999	-.438	-.321	1.638	1.326	1.388	-.867	.020	-.018	-.018
-19.01	250.01	5.413	-.454	-.275	1.648	1.383	1.437	-.814	.128	-.007	-.007
-17.70	250.01	5.669	-.466	-.321	1.701	1.396	1.480	-.873	.174	-.156	-.156
-16.50	250.01	5.976	-.473	-.278	1.799	1.395	1.514	-1.026	.027	-.200	-.200
-15.49	250.01	6.196	-.421	-.252	1.770	1.393	1.472	-.884	.034	-.003	-.003
-14.70	250.01	6.420	-.418	-.210	1.742	1.428	1.491	-.933	.029	-.696	-.696
-13.99	250.01	6.544	-.396	-.156	1.760	1.444	1.518	-.871	.016	-.081	-.081
-13.40	249.99	6.650	-.355	-.150	1.771	1.416	1.522	-.838	.012	-.129	-.129
-12.80	249.99	6.838	-.317	-.103	1.869	1.452	1.549	-.923	.038	-.041	-.041
-12.01	249.99	7.066	-.355	-.176	1.853	1.455	1.548	-.937	.000	-.000	-.000
-11.20	249.99	7.262	-.383	-.126	1.879	1.455	1.542	-.918	.007	-.121	-.121
-10.40	249.99	7.392	-.358	-.077	1.803	1.463	1.537	-.811	.110	-.067	-.067
-9.60	249.99	7.599	-.344	-.046	1.880	1.453	1.519	-.802	.036	-.078	-.078
-8.80	249.99	7.804	-.323	-.083	1.819	1.474	1.533	-.813	.056	-.094	-.094
-8.19	249.99	7.860	-.307	-.112	1.848	1.502	1.535	-.751	.027	-.169	-.169
-7.61	249.99	8.091	-.318	-.107	1.788	1.530	1.498	-.621	.105	-.037	-.037
-7.00	249.99	8.092	-.254	-.071	1.880	1.509	1.510	-.676	.020	-.000	-.000
-6.50	249.99	8.159	-.207	-.080	1.855	1.469	1.502	-.561	.063	-.031	-.031
-6.01	249.99	8.323	-.243	-.103	1.829	1.468	1.446	-.551	.028	-.077	-.077
-5.51	249.99	8.366	-.194	-.112	1.827	1.459	1.507	-.480	.006	-.039	-.039
-4.99	249.99	8.435	-.197	-.037	1.836	1.532	1.507	-.460	.038	-.113	-.113
-4.49	249.99	8.534	-.178	-.073	1.885	1.476	1.503	-.467	.034	-.032	-.032
-4.01	249.99	8.573	-.124	-.084	1.867	1.432	1.483	-.475	-.002	-.042	-.042
-3.39	249.99	8.601	-.096	-.060	1.824	1.466	1.494	-.413	.080	-.065	-.065
-2.69	249.99	8.685	-.147	-.050	1.875	1.452	1.497	-.277	.034	-.173	-.173
-1.99	249.99	8.843	-.008	-.096	1.830	1.452	1.458	-.243	.050	-.019	-.019
-1.29	249.99	8.668	-.082	-.095	1.865	1.488	1.478	-.120	.059	-.023	-.023
-.61	249.99	8.793	.002	-.098	1.872	1.496	1.456	-.158	.054	-.084	-.084
.01	249.99	8.795	.000	.000	1.844	1.430	1.464	-.044	.095	-.112	-.112
.60	249.99	8.744	.058	-.046	1.756	1.485	1.450	.110	-.002	-.175	-.175
1.30	249.99	8.853	.100	-.102	1.855	1.481	1.470	.126	.085	-.083	-.083
2.00	249.99	8.660	.080	-.051	1.799	1.452	1.453	.246	-.014	-.034	-.034
2.71	249.99	8.762	.147	-.039	1.807	1.466	1.453	.296	.014	-.034	-.034
3.41	249.99	8.642	.153	-.088	1.840	1.437	1.493	.362	.056	-.014	-.014
4.01	249.99	8.541	.187	-.065	1.836	1.459	1.501	.342	.042	-.003	-.003
4.49	249.99	8.611	.213	-.065	1.816	1.494	1.483	.263	.069	-.061	-.061
5.01	249.99	8.606	.280	-.074	1.848	1.459	1.461	.413	.064	-.044	-.044
5.49	249.99	8.502	.276	-.033	1.773	1.429	1.480	.444	.086	-.003	-.003
6.00	249.99	8.349	.287	-.063	1.869	1.469	1.472	.501	.024	-.027	-.027
6.50	249.99	8.272	.262	-.040	1.866	1.479	1.506	.578	.022	-.010	-.010
7.01	249.99	8.138	.286	-.021	1.875	1.456	1.509	.411	.051	-.034	-.034
7.59	249.99	8.113	.309	-.035	1.854	1.443	1.484	.561	.008	-.034	-.034
8.20	249.99	7.976	.340	-.026	1.864	1.482	1.523	.696	-.011	-.101	-.101
8.81	249.99	7.917	.391	-.044	1.856	1.473	1.457	.719	.041	-.070	-.070
9.60	249.99	7.766	.360	-.047	1.899	1.472	1.522	.811	.009	-.014	-.014
10.41	249.99	7.534	.410	.034	1.820	1.449	1.495	.790	.073	-.051	-.051
11.19	249.99	7.404	.457	.039	1.785	1.462	1.511	.796	.007	-.069	-.069
12.01	249.99	7.320	.476	.112	1.886	1.431	1.488	.871	.032	-.166	-.166
12.81	249.99	7.138	.531	.058	1.802	1.426	1.497	.743	.037	-.015	-.015
13.40	249.99	7.051	.544	.116	1.803	1.463	1.498	.798	.059	-.042	-.042
14.01	249.99	6.915	.597	.114	1.780	1.439	1.497	.824	-.030	-.008	-.008
14.69	249.99	6.832	.616	.106	1.772	1.428	1.489	.806	.026	-.133	-.133
15.51	249.99	6.587	.640	.143	1.780	1.455	1.506	.854	-.035	-.139	-.139
16.50	249.99	6.433	.674	.169	1.769	1.427	1.500	.921	-.014	-.010	-.010
17.69	249.99	6.143	.707	.211	1.716	1.414	1.445	.816	.089	-.063	-.063
19.01	249.99	5.940	.680	.255	1.662	1.425	1.445	.801	.063	-.008	-.008
20.50	249.99	5.613	.806	.256	1.665	1.425	1.492	.783	.050	-.063	-.063
22.00	249.99	5.228	.777	.323	1.612	1.363	1.411	.719	.057	-.063	-.063
23.50	249.99	4.631	.607	.345	1.554	1.317	1.339	.706	.087	-.044	-.044
25.00	249.99	4.564	.714	.321	1.540	1.311	1.294	.733	.069	-.085	-.085
26.50	249.99	4.356	.817	.373	1.489	1.316	1.305	.646	.051	-.011	-.011
28.00	249.99	4.123	.873	.337	1.460	1.303	1.281	.632	.098	-.027	-.027
29.49	249.99	3.668	.728	.307	1.450	1.259	1.205	.676	.038	-.033	-.033

C FILENAME= A903B250.J_1
 C
 C AIR JET; d=9.45, delta=0.2 mm; theta=30 deg.; Uj=25, Ua=4, Ue=1 m/s; x=250 mm
 C LDV SEED PARTICLES ADDED TO JET FLUID ONLY.
 C D052191
 C 69 : No. of data points

C	y	x	U	V	W	SIG(u')	SIG(v')	SIG(w')	u'v'	v'w'	w'u'
-29.51	249.99	3.562	-.755	-.293	1.442	1.259	1.185	-.686	.032	-.047	
-28.00	249.99	3.575	-.664	-.280	1.387	1.245	1.177	-.668	.096	-.029	
-26.48	249.99	4.108	-.801	-.290	1.469	1.345	1.332	-.757	.082	-.106	
-25.00	249.99	4.373	-.736	-.275	1.557	1.347	1.313	-.875	.064	-.016	
-23.50	249.99	4.803	-.781	-.278	1.664	1.353	1.394	-.796	.010	.003	
-22.00	249.99	5.089	-.763	-.291	1.650	1.383	1.457	-.959	.104	-.047	
-20.51	249.99	5.385	-.723	-.276	1.758	1.449	1.467	-1.027	.062	.036	
-19.00	249.99	5.809	-.768	-.257	1.716	1.416	1.458	-.966	.054	.050	
-17.69	249.99	6.026	-.691	-.186	1.761	1.406	1.488	-.924	-.047	.046	
-16.50	250.01	6.323	-.700	-.160	1.786	1.431	1.552	-.947	.094	.054	
-15.49	250.01	6.588	-.660	-.148	1.793	1.459	1.548	-1.055	.051	.034	
-14.70	250.01	6.840	-.663	-.142	1.826	1.482	1.581	-1.000	.068	-.045	
-13.99	250.01	6.907	-.613	-.084	1.841	1.485	1.531	-1.024	.090	-.177	
-13.40	250.01	7.210	-.666	-.067	1.827	1.463	1.531	-1.024	.028	.041	
-12.80	250.01	7.218	-.618	-.077	1.874	1.479	1.582	1.024	.109	-.128	
-11.99	250.01	7.431	-.572	-.045	1.890	1.447	1.547	-.862	.020	-.181	
-11.19	250.01	7.513	-.533	-.024	1.850	1.508	1.557	-.946	.042	-.155	
-10.40	250.01	7.753	-.540	.007	1.892	1.505	1.532	-.937	-.015	.105	
-9.60	250.01	7.973	-.526	-.011	1.884	1.469	1.530	-.802	.008	-.023	
-8.80	250.01	8.002	-.461	-.019	1.924	1.495	1.554	-.886	.021	-.045	
-8.20	250.01	8.269	-.520	-.016	1.917	1.463	1.540	-.701	.022	-.153	
-7.59	250.01	8.325	-.447	-.022	1.890	1.452	1.518	-.654	.055	-.131	
-7.00	250.01	8.415	-.450	.071	1.841	1.462	1.530	-.657	-.016	-.077	
-6.49	250.01	8.579	-.435	.004	1.843	1.503	1.491	-.654	.018	-.095	
-5.99	250.01	8.673	-.387	.013	1.882	1.467	1.485	-.629	.021	-.130	
-5.51	250.01	8.596	-.351	.052	1.785	1.543	1.504	-.607	.033	-.030	
-4.99	250.01	8.741	-.315	-.014	1.863	1.490	1.496	-.551	.011	-.122	
-4.49	250.01	8.863	-.342	.012	1.907	1.483	1.489	-.559	.009	-.139	
-4.01	250.01	8.942	-.267	-.023	1.805	1.458	1.499	-.366	.036	-.048	
-3.40	250.01	8.761	-.288	.043	1.876	1.449	1.485	-.391	-.009	-.051	
-2.70	250.01	8.964	-.227	-.019	1.816	1.447	1.498	-.294	.014	-.056	
-1.99	250.01	8.923	-.211	.007	1.848	1.469	1.505	-.214	.079	.038	
-1.29	250.01	9.078	-.170	.010	1.824	1.495	1.473	-.150	-.130	-.010	
-.61	250.01	9.042	-.127	.033	1.788	1.502	1.476	-.195	.003	-.108	
.00	250.01	9.203	-.144	.000	1.853	1.465	1.484	.029	.019	.040	
.60	250.01	9.209	-.045	.016	1.802	1.422	1.445	.034	-.050	-.030	
1.29	250.01	9.170	-.047	.036	1.832	1.442	1.477	.085	.005	.021	
2.00	250.01	9.150	.007	.052	1.826	1.451	1.464	.131	.013	.003	
2.69	250.01	8.801	.011	.016	1.857	1.495	1.497	.288	.012	.017	
3.41	250.01	8.824	.114	.014	1.843	1.462	1.500	.320	.061	.036	
4.01	250.01	8.830	.104	.036	1.849	1.463	1.493	.329	-.028	.001	
4.51	250.01	8.747	.103	-.007	1.848	1.469	1.508	.273	.009	.048	
5.00	250.01	8.744	.158	.017	1.834	1.473	1.535	.439	-.031	-.059	
5.51	250.01	8.703	.202	.011	1.830	1.447	1.506	.483	.072	-.012	
6.00	250.01	8.516	.166	-.022	1.828	1.417	1.482	.392	.077	.038	
6.49	250.01	8.337	.188	.027	1.898	1.458	1.511	.523	-.015	.095	
7.01	250.01	8.321	.183	.034	1.832	1.459	1.511	.486	.036	-.067	
7.60	250.01	8.240	.308	.034	1.821	1.482	1.538	.603	.043	.082	
8.20	250.01	8.275	.290	.044	1.870	1.486	1.512	.619	.066	-.005	
8.80	250.01	8.137	.297	.041	1.825	1.501	1.532	.622	.046	-.080	
9.61	250.01	7.964	.359	.049	1.888	1.453	1.523	.661	.007	.071	
10.40	250.01	7.739	.393	.055	1.870	1.450	1.541	.674	.047	.084	
11.19	250.01	7.435	.413	.090	1.875	1.481	1.520	.874	.046	-.024	
11.99	250.01	7.461	.504	.109	1.832	1.472	1.542	.753	.012	.023	
12.81	250.01	7.130	.464	.125	1.842	1.476	1.556	.788	-.004	.060	
13.41	250.01	6.884	.438	.183	1.789	1.436	1.533	.821	.071	-.023	
14.01	250.01	6.967	.474	.173	1.826	1.432	1.515	.903	.042	.019	
14.69	250.01	6.664	.494	.190	1.820	1.435	1.529	.816	.036	.020	
15.49	250.01	6.693	.549	.227	1.771	1.426	1.525	.785	.036	.069	
16.50	250.01	6.489	.686	.222	1.738	1.449	1.556	.771	.066	.029	
17.69	250.01	6.089	.594	.274	1.748	1.421	1.474	.814	.003	.006	
19.01	250.01	5.542	.535	.277	1.708	1.379	1.431	.797	.056	.017	
20.50	250.01	5.485	.679	.369	1.675	1.407	1.451	.833	.111	-.036	
21.99	250.01	5.195	.706	.350	1.664	1.375	1.433	.792	.084	.104	
23.51	250.01	4.992	.808	.346	1.623	1.373	1.384	.814	.093	.000	
25.00	250.01	4.515	.714	.331	1.580	1.306	1.338	.695	.071	-.043	
26.50	250.01	4.364	.809	.326	1.516	1.331	1.314	.659	.082	.003	
28.00	250.00	4.119	.834	.363	1.487	1.312	1.257	.704	.087	.045	
29.50	250.00	3.831	.842	.407	1.412	1.305	1.239	.639	.145	.070	

C FILENAME= A903B025.E_2

C

C AIR JET; d=9.45, delta=0.2 mm; theta=30 deg.; Uj=25, Ua 4, Ue=1 m/s; x 25 mm

C LDV SEED PARTICLES ADDED TO EXTERNAL FLUID ONLY.

C D060491

C 42 : No. of data points

C	y	x	u'^3	v'^3	w'^3	u'^2v'	v'^2u'	v'^2w'	w'^2v'	w'^2u'
-29.50	25.01	.000	.000	.001	.000	.000	.000	.000	.000	.000
-28.00	25.00	.000	.000	.002	.000	.000	.000	.000	.000	.000
-26.53	24.99	.000	.000	.000	.000	.000	.000	.000	.000	.000
-25.00	25.00	.000	.000	.001	.000	.000	.000	.000	.000	.000
-23.51	24.98	.000	.000	.001	.000	.000	.000	.000	.000	.000
-22.00	25.02	.000	.000	.003	.000	.000	.000	.000	.000	.000
-20.55	24.98	-.002	-.002	.002	-.001	.001	.000	.000	.001	.001
-18.99	25.02	-.001	-.015	-.002	-.004	.002	-.006	-.003	.001	.001
-17.75	25.01	.045	-.094	-.060	-.037	.038	-.038	.034	.013	.013
-16.50	25.00	.272	-.305	-.339	-.159	.189	-.189	.183	.158	.158
-15.54	25.02	.458	-.433	-.443	-.243	.262	-.291	-.250	.235	.235
-14.69	25.01	.448	-.472	-.486	-.225	.271	-.327	-.304	.206	.206
-13.99	25.01	.289	-.440	-.348	-.159	.178	-.316	.251	.105	.105
-13.40	25.00	.122	-.377	-.297	-.099	.121	-.227	-.173	.053	.053
-12.80	25.00	-.006	-.318	-.129	.004	.048	-.165	-.138	.008	.008
-12.00	25.00	-.160	-.199	.079	.110	-.125	-.087	-.031	-.120	-.120
-11.20	25.00	-.177	.011	.241	.025	-.161	-.064	-.010	-.033	-.033
-10.40	25.00	-.240	.049	.243	.029	-.103	.044	.097	-.067	-.067
-9.60	25.00	-.179	-.075	.252	.012	-.154	.005	-.002	.015	.015
-8.81	25.01	-.128	-.094	.135	.012	-.068	-.023	.013	.064	.064
-8.22	24.98	-.074	-.151	.093	-.036	-.034	-.055	.011	.029	.029
8.18	25.01	-.157	.027	-.210	-.005	-.103	-.021	-.076	-.091	-.091
8.80	24.99	-.179	.035	-.220	-.056	-.105	.000	-.043	-.056	-.056
9.59	25.01	-.219	.102	-.163	-.092	-.045	.049	-.013	.063	.063
10.40	25.01	-.102	.190	-.080	-.031	.011	.056	.035	.007	.007
11.19	25.00	.060	.343	.010	.092	.118	.081	.078	.058	.058
11.99	25.00	.278	.381	.056	.161	.213	.054	.073	.095	.095
12.80	25.00	.452	.360	.181	.213	.201	.187	.177	.175	.175
13.40	25.00	.529	.299	.176	.250	.222	.156	.154	.149	.149
14.00	25.01	.424	.222	.175	.194	.186	.115	.117	.140	.140
14.69	24.98	.285	.138	.173	.167	.160	.092	.091	.097	.097
15.50	25.01	.188	.095	.134	.110	.112	.034	.032	.047	.047
16.51	25.01	.085	.044	.088	.050	.049	.035	.030	.041	.041
17.67	25.01	.009	.016	.031	.007	.006	.015	.011	.003	.003
19.01	25.00	-.001	.003	.007	.002	.001	.002	.004	.001	.001
20.49	25.01	.000	.001	.002	.001	.000	.000	.001	.001	.001
22.00	25.00	.000	.000	.002	.000	.000	.000	.001	.000	.000
23.50	25.00	.000	.000	.003	.000	.000	.000	.000	.000	.000
24.98	25.01	.000	.000	.001	.000	.000	.000	.000	.000	.000
26.50	25.00	.000	.000	.001	.000	.000	.000	.000	.000	.000
28.00	25.00	.000	.000	.001	.000	.000	.000	.000	.000	.000
29.47	25.01	.000	.000	.001	.000	.000	.000	.000	.000	.000

C FILENAME= A903B025.A_2

C

C AIR JET; d=9.45, delta=0.2 mm; theta=30 deg.; $U_i=25$, $U_a=4$, $U_e=1$ m/s; x=25 mm

C LDV SEED PARTICLES ADDED TO ANNULUS FLUID ONLY.

C D051591

C 47 : No. of data points

C	y	x	u'^3	v'^3	w'^3	u'^2v'	v'^2u'	v'^2w'	w'^2v'	w'^2u'
	-17.69	24.99	.261	-.229	.140	-.151	.143	-.102	-.101	.041
	-16.53	25.01	.267	-.164	-.115	-.105	.059	-.126	-.067	.011
	-15.48	24.99	.321	-.137	-.074	-.029	.020	-.117	-.075	.010
	-14.69	24.98	.248	-.095	-.027	-.033	-.049	-.132	-.079	-.040
	-14.01	24.99	.410	-.170	-.037	-.117	.112	-.101	-.069	.062
	-13.40	24.98	.168	-.079	.068	-.004	.031	-.050	.004	-.047
	-12.82	25.01	.050	.043	.113	.029	-.011	-.016	.036	-.018
	-12.01	25.00	-.142	.115	.210	.133	-.067	.045	.043	.007
	-11.20	25.00	-.235	.171	.244	.170	-.104	.109	.124	-.030
	-10.40	25.00	-.345	.427	.349	.248	-.221	.243	.252	-.113
	-9.60	25.00	-.312	.348	.293	.197	-.197	.231	.229	-.129
	-8.80	25.00	-.222	.289	.155	.131	-.173	.120	.091	-.074
	-8.20	24.99	-.150	.060	.046	.016	-.083	.082	.036	-.021
	-7.62	25.01	.197	-.232	-.080	-.102	.157	-.009	-.025	-.006
	-7.01	25.00	2.837	-1.276	-.129	-1.462	1.699	-.171	-.026	.337
	-6.51	25.00	11.609	-2.889	.099	-4.379	3.450	-.320	-.604	1.327
	-6.00	25.00	18.611	-4.830	3.471	-7.872	6.210	.356	-2.224	4.239
	-5.51	25.00	28.220	-7.149	7.427	-11.775	8.520	.751	-3.024	4.902
	-4.99	25.00	23.174	-6.978	7.028	-10.059	8.006	.693	-4.222	5.741
	-4.49	25.00	21.120	-5.820	6.499	-10.168	7.191	.079	-3.757	4.169
	-3.99	25.00	6.289	-.569	3.804	-3.124	1.770	.270	-3.628	.780
	-3.42	25.02	-14.535	2.925	2.944	5.083	-3.381	-.132	-.960	2.186
	-2.70	25.01	-20.254	3.846	.696	7.342	-5.857	.236	.361	-4.659
	-2.00	24.99	-11.104	5.492	-1.850	5.921	-6.074	.185	.481	-2.610
	-2.00	25.01	-11.171	-3.596	.843	-3.840	-3.406	-.296	-.908	-5.708
	2.69	25.01	-21.900	-4.954	1.733	-7.388	-5.302	.941	-1.421	-6.206
	3.40	25.00	13.010	-4.566	3.767	-5.389	-4.775	.228	1.814	-4.738
	3.98	24.99	-5.834	.727	.004	-1.806	-.419	-.294	.508	-.174
	4.50	24.99	16.093	3.882	-3.249	5.358	3.268	.821	3.870	2.621
	5.01	24.98	24.185	7.797	-8.423	10.242	8.949	-1.178	6.353	8.351
	5.49	24.98	25.639	8.007	-6.124	11.228	8.782	-.328	-.009	.659
	5.99	24.98	26.382	5.766	-4.649	10.558	7.555	-.455	3.451	5.789
	6.49	24.99	13.301	3.141	-1.096	4.855	3.652	-.074	.753	1.179
	7.01	24.98	4.060	1.284	-.007	1.443	1.537	.133	.481	.807
	7.59	25.00	.335	.221	.016	.172	.086	.047	.025	.098
	8.20	25.00	-.082	-.022	-.026	.010	-.072	-.097	-.068	-.031
	8.79	25.00	-.172	-.193	-.167	-.072	-.132	-.134	-.109	-.066
	9.60	25.00	-.249	-.331	-.230	-.170	-.181	-.198	-.163	-.070
	10.40	25.00	-.350	-.293	-.351	-.258	-.192	-.110	-.107	-.112
	11.20	25.00	-.267	-.356	-.273	-.195	-.169	-.154	-.131	-.107
	12.01	25.00	-.180	-.340	-.240	-.231	-.160	-.182	-.147	-.030
	12.81	25.00	-.047	-.184	-.179	-.127	-.141	-.064	-.069	-.031
	13.41	25.00	.086	-.049	-.048	-.097	-.123	.011	-.033	-.005
	14.00	25.00	.078	-.036	-.028	-.055	-.110	.043	-.001	-.009
	14.68	25.01	.131	-.047	.010	-.001	-.087	.027	.024	-.001
	15.49	25.01	.130	-.040	.005	.055	.015	.050	.061	.005
	16.50	25.00	.208	.051	.090	.064	.003	.064	.049	.016

C FILENAME= A903B025.J_2

C

C AIR JET; d=9.45, delta=0.2 mm; theta=30 deg.; Uj=25, Ua=4, Ue=1 m/s; x=25 mm

C LDV SEED PARTICLES ADDED TO JET FLUID ONLY.

C D052191

C 26 : No. of data points

C	y	x	u'^3	v'^3	w'^3	u'^2v'	v'^2u'	v'^2w'	w'^2v'	w'^2u'
	-7.01	25.00	13.855	-5.460	3.010	-6.272	4.230	-.112	-2.360	2.847
	-6.50	25.00	17.272	-5.187	5.331	-7.624	5.460	.316	-2.227	4.001
	-6.01	25.00	18.251	-4.925	4.715	-7.718	5.593	.829	-2.099	3.361
	-5.50	25.00	20.809	-4.370	4.607	-6.513	5.011	.101	1.595	2.341
	-5.00	25.00	5.436	-1.674	4.228	-.865	1.647	-.618	-.465	1.383
	-4.51	25.00	-7.273	2.122	2.162	5.195	3.396	-.045	.076	-1.489
	-4.00	25.00	-21.921	5.319	-.640	10.256	-7.356	-.243	.398	-3.602
	-3.40	25.01	-25.331	6.561	-2.325	10.550	-7.150	-.626	.925	-3.148
	-2.71	25.02	-12.174	2.568	-1.293	5.004	-3.345	-.063	1.061	-2.172
	-2.01	25.01	-5.255	1.436	-.054	2.210	-1.340	.013	.384	-.826
	-1.33	25.00	-2.137	.856	-.063	.954	-.792	-.083	.181	-.556
	-.60	24.99	-1.319	.265	-.115	.388	-.631	.024	.058	-.342
	.00	25.00	-1.216	-.104	.127	.072	-.598	.013	-.042	-.260
	.59	25.01	-1.051	-.404	-.015	-.480	-.701	.015	-.186	-.401
	1.28	24.99	-2.433	-.643	-.104	-.923	-.718	.023	-.242	-.454
	2.00	24.98	-4.641	-1.372	.016	-1.946	-1.404	.019	-.740	1.274
	2.69	24.98	-12.189	-3.248	.038	-4.895	-3.600	-.027	-.416	-1.119
	3.39	24.99	-23.266	-6.418	2.523	-10.427	-8.047	.312	-.661	-2.932
	3.98	25.00	-20.514	-5.067	2.038	-9.221	-6.379	.092	-.294	-3.594
	4.47	24.98	-7.296	-2.693	2.246	-4.897	-3.119	-.604	.970	-1.491
	5.00	24.98	1.975	.372	.939	.620	1.492	-.065	1.654	1.269
	5.49	24.98	16.506	4.269	-1.986	6.126	4.523	-.097	3.769	3.363
	5.99	24.98	20.126	6.432	-5.531	8.429	6.467	-.351	3.612	4.643
	6.50	24.98	13.474	6.336	-2.452	7.857	7.868	-.975	3.087	3.346
	7.00	24.98	9.883	6.012	-2.636	6.517	7.479	-.521	2.704	2.973
	7.58	25.00	9.676	5.570	-.398	5.280	4.515	-.067	2.235	2.410

C FILENAME: A903B250.E_2

C

C AIR JET; d=9.45, delta=0.2 mm; theta=30 deg.; Uj=25, Ua=4, Ue=1 m/s; x=250 mm

C LDV SEED PARTICLES ADDED TO EXTERNAL FLUID ONLY.

C D060791

C 53 : No. of data points

C	y	x	u'^3	v'^3	w'^3	u'^2v'	v'^2u'	v'^2w'	w'^2v'	w'^2u'
-28.00	250.01	1.647	-.741	.000	.526	.588	.060	.328	.452	
-26.50	250.00	1.281	-.728	.173	.338	.360	.053	-.481	.307	
-25.00	250.00	1.445	-.941	-.112	-.492	.472	.092	-.471	.243	
-23.50	250.00	1.204	-.900	.061	-.322	.374	.022	-.137	.307	
-22.00	250.00	1.373	-.710	.235	-.505	.383	.074	.408	.383	
-20.50	250.00	.783	-.650	-.234	-.286	.120	.160	-.613	.088	
-14.69	250.01	1.123	-.353	-.160	-.121	.132	.119	-.486	-.077	
-14.00	250.01	.542	-.381	-.350	.208	-.024	-.083	-.474	-.334	
-13.40	250.01	.336	-.342	-.201	.060	.111	.081	-.290	.160	
-12.80	249.99	.618	-.447	-.150	.238	-.161	-.100	-.270	-.252	
-12.01	249.99	.387	.041	-.084	.203	-.116	.084	-.231	-.099	
-11.20	249.99	.731	.237	-.305	.097	-.121	-.115	-.335	-.334	
-10.40	249.99	.204	.098	-.108	.358	-.373	.004	-.254	-.299	
-9.60	249.99	.363	-.178	.137	.342	-.384	.017	-.178	.431	
-8.81	249.99	-.013	-.262	-.273	.380	-.307	-.103	-.115	-.055	
-8.20	249.99	.107	-.024	-.345	.134	.345	.072	-.100	.412	
-7.61	249.99	.229	-.107	-.307	.051	.475	.126	-.159	.551	
-7.01	249.99	-.111	.227	.016	.384	.533	-.038	-.180	-.451	
-6.50	249.99	.286	-.108	-.477	.346	-.420	-.069	.037	-.073	
-6.01	249.99	-.097	.032	.026	.374	-.638	-.062	-.119	-.615	
-5.51	249.99	.286	-.205	.058	.311	-.310	-.114	.005	-.641	
-5.01	249.99	-.234	-.082	-.227	.451	-.590	-.040	-.032	-.546	
-4.50	249.99	-.265	.004	-.264	.630	-.610	-.054	.003	-.599	
-4.01	249.99	-.165	-.068	-.183	.338	-.628	.070	.098	-.670	
-3.39	249.99	-.185	.028	-.171	.406	-.787	.088	.059	-.581	
-2.70	249.99	-.365	-.084	.039	.568	-.762	-.046	.010	-.611	
-2.01	249.99	-.128	.162	-.113	.665	-.935	-.032	-.003	-.483	
-1.30	249.99	-.187	.011	-.274	.485	-.584	-.008	-.041	.077	
-.61	249.99	-.222	.205	-.225	.588	-.684	-.005	-.068	-.586	
.00	249.99	-.157	-.118	-.177	.566	-.767	-.094	.080	-1.052	
.60	249.99	.103	.174	-.152	.292	-.586	-.178	-.097	-.872	
1.29	249.99	.003	.230	-.088	.208	-.861	-.188	-.047	-.544	
2.00	249.99	-.126	.096	-.019	.259	-.797	.087	.080	-.691	
2.70	249.99	-.688	.116	.019	.114	-.765	-.173	-.145	-.450	
3.39	249.99	-.070	.059	-.021	-.145	-.684	.055	-.023	-.434	
3.99	249.99	-.338	.048	-.106	-.101	-.650	.004	.116	-.683	
4.49	249.99	.183	.094	.121	.066	-.724	.089	.291	-.748	
5.00	249.99	.004	.197	.284	.186	-.831	.068	.124	-.676	
5.49	249.99	-.085	.256	.080	.451	-.835	.075	.171	-.755	
12.80	250.01	.483	.427	-.032	-.174	-.355	.156	.338	-.252	
13.40	250.01	.752	.516	.082	.103	.066	-.041	.214	-.143	
14.00	250.01	.786	.465	.002	-.095	-.075	.068	.361	-.138	
14.69	250.01	.825	.587	.306	-.192	-.308	.233	.346	-.164	
15.49	250.01	.767	.670	.330	.006	-.217	.239	.313	-.337	
16.50	250.01	.911	.752	.024	-.132	-.204	.067	.401	-.114	
17.71	250.01	1.210	.788	.066	.293	.001	.189	.340	-.051	
19.00	250.01	.682	.771	-.042	.114	.089	.081	.392	-.201	
20.50	250.01	1.323	.592	.326	.169	-.040	.258	.428	-.059	
22.00	250.01	1.465	.846	-.012	.381	.327	.164	.557	.011	
23.50	250.01	1.489	.922	-.009	.463	.422	-.058	.205	.110	
25.00	250.01	1.220	.764	.255	.384	.346	.017	.357	.263	
28.00	250.01	1.064	.751	.330	.260	.323	.083	.458	.274	
29.50	250.01	2.430	1.198	.268	.470	.884	.065	.525	.675	

C FILENAME= A903B250.A_2

C

C AIR JET; d=9.45, delta=0.2 mm; theta=30 deg.; Uj=25, Ua=4, Ue=1 m/s; x=250 mm

C LDV SEED PARTICLES ADDED TO ANNULUS FLUID ONLY.

C D052091

C 69 : No. of data points

C	y	x	u'^3	v'^3	w'^3	u'^2v'	v'^2u'	v'^2w'	w'^2v'	w'^2u'
	-29.51	250.01	1.057	-.723	-.070	.298	.338	-.022	.327	.234
	-28.00	250.01	1.358	-.555	-.088	.387	.334	.000	.243	.375
	-26.50	250.01	.849	-.564	-.173	-.367	.355	-.011	.495	.347
	-25.00	250.01	1.010	-.459	-.114	-.327	.163	-.036	.423	.289
	-23.50	250.01	1.248	.910	.107	.566	.687	-.154	.345	.255
	-22.00	250.01	1.069	.617	.024	.358	.225	.100	.348	.385
	-20.50	250.01	1.385	-.655	.063	-.333	.094	.005	.289	.019
	-19.01	250.01	1.016	-.420	-.012	-.216	.200	-.134	.371	.190
	-17.70	250.01	1.490	.592	-.198	-.211	.263	.125	.381	.148
	-16.50	250.01	1.459	.581	-.005	-.349	.346	.008	.416	.108
	-15.49	250.01	.813	-.539	-.145	.089	.229	-.019	.341	.081
	-14.70	250.01	.724	-.273	-.083	.025	.097	.023	.485	.214
	-13.99	250.01	1.043	.270	-.197	.019	.243	.010	.174	.008
	-13.40	249.99	.906	-.545	-.079	.021	.025	-.201	.188	.117
	-12.80	249.99	.504	.436	.001	.113	.007	-.023	.072	.174
	-12.01	249.99	.743	.027	-.291	.011	.063	.020	.266	-.143
	-11.20	249.99	.582	-.280	-.107	.175	-.201	-.024	.256	.251
	-10.40	249.99	.271	.078	-.169	.265	-.288	-.044	-.335	-.212
	-9.60	249.99	.602	-.322	-.087	.186	-.183	-.200	-.143	-.345
	-8.80	249.99	.443	-.208	-.456	-.007	-.170	-.131	-.169	-.326
	-8.19	249.99	.045	-.018	-.319	.555	-.394	-.048	-.169	-.089
	-7.61	249.99	.503	.013	-.072	-.096	-.193	-.020	-.293	-.355
	-7.00	249.99	.176	-.195	-.162	.316	-.481	-.132	-.199	-.533
	-6.50	249.99	.503	-.204	-.256	.372	-.480	-.083	-.020	-.484
	-6.01	249.99	.251	.050	-.025	.313	-.508	-.075	-.132	-.470
	-5.51	249.99	.347	-.133	-.101	.216	-.277	-.023	-.100	-.462
	-4.99	249.99	.413	.167	-.241	.413	-.609	-.016	-.220	-.531
	-4.49	249.99	.138	.113	-.022	.481	-.467	.017	.022	-.667
	-4.01	249.99	.429	.150	-.007	.246	-.346	.067	-.186	-.406
	-3.39	249.99	.171	-.033	.007	.126	-.584	-.050	-.137	-.581
	-2.69	249.99	.188	-.010	-.104	.278	-.646	-.071	.109	-.519
	-1.99	249.99	-.033	-.151	-.175	.321	-.712	.066	-.099	.547
	-1.29	249.99	-.081	.043	.110	.155	-.560	.072	-.041	.706
	-.61	249.99	-.028	-.160	-.092	-.051	-.675	.050	-.023	-.489
	.01	249.99	-.349	-.010	.012	.003	-.473	.214	.170	-.711
	.60	249.99	.039	-.009	.030	.076	-.401	-.019	.052	-.756
	1.30	249.99	.116	-.114	-.164	-.106	-.681	.050	.093	-.493
	2.00	249.99	.214	.088	.024	-.161	-.746	.057	-.116	-.523
	2.71	249.99	-.018	-.194	.065	-.153	-.776	-.054	-.017	-.580
	3.41	249.99	.102	.206	.460	-.187	-.399	.113	-.121	-.608
	4.01	249.99	.006	-.105	-.106	-.277	-.593	.043	-.193	-.580
	4.49	249.99	.357	.184	.191	-.005	-.611	.004	.014	-.653
	5.01	249.99	.584	.072	-.045	-.016	-.386	.076	.010	-.441
	5.49	249.99	.331	.192	-.020	.052	-.277	.054	-.065	-.443
	6.00	249.99	-.042	.043	.094	-.210	-.471	.140	.021	-.388
	6.50	249.99	.136	.015	-.094	-.186	-.410	.056	.181	-.593
	7.01	249.99	.015	.047	-.007	-.341	-.531	.220	.028	-.807
	7.59	249.99	.846	.108	-.115	.019	-.364	.024	.068	-.457
	8.20	249.99	.481	.137	-.143	-.105	-.363	.108	.059	-.481
	8.81	249.99	.036	.038	-.172	-.403	-.392	.117	.043	-.372
	9.60	249.99	.305	.000	-.084	-.283	-.334	.109	.012	-.322
	10.41	249.99	.898	.050	.004	-.206	-.228	.114	.064	-.317
	11.19	249.99	.871	.322	.251	.076	-.048	.161	.241	-.365
	12.01	249.99	1.022	-.009	.063	.183	-.093	.119	.201	.010
	12.81	249.99	.710	.139	.102	.047	-.071	.075	-.013	-.171
	13.40	249.99	1.086	.044	-.165	.091	-.169	.005	.134	-.037
	14.01	249.99	.483	-.008	-.198	-.044	-.143	-.010	.073	.179
	14.69	249.99	.720	.276	-.027	-.076	-.066	.084	.351	.245
	15.51	249.99	1.189	.184	.062	.115	.004	.018	.156	-.035
	16.50	249.99	1.167	.337	-.119	.098	.047	-.031	.234	-.043
	17.69	249.99	.707	-.647	-.210	.052	.213	-.104	.335	-.080
	19.01	249.99	.915	.527	-.112	.211	.204	.095	.397	.000
	20.50	249.99	1.223	.346	-.182	.308	.088	.044	.430	.082
	22.00	249.99	.906	.268	-.401	.085	.021	.025	.355	.208
	23.50	249.99	1.135	.430	-.138	.358	.226	.038	.249	.103
	25.00	249.99	1.077	.582	-.092	.482	.362	-.008	.286	.165
	26.50	249.99	.995	.467	.071	.234	.089	.028	.387	.250
	28.00	249.99	.730	.362	-.147	.159	.095	.040	.377	.317
	29.49	249.99	1.152	.629	-.046	.436	.349	.049	.400	.285

C FILENAME= A903B250.J_2

C

C AIR JET; d=9.45, delta=0.2 mm; theta=30 deg.; Uj=25, Ua=4, Ue=1 m/s; x 250 mm

C LDV SEED PARTICLES ADDED TO JET FLUID ONLY.

C D052191

C 69 : No. of data points

C	y	x	u'^3	v'^3	w'^3	u'^2v'	v'^2u'	v'^2w'	w'^2v'	w'^2u'
-29.51	249.99	1.265	.665	-.139	.483	.392	-.019	-.381	.331	
-28.00	249.99	.968	.621	.008	-.279	.303	-.033	-.341	.463	
-26.48	249.99	1.099	-.522	.049	-.395	.287	-.062	-.387	.339	
-25.00	249.99	1.181	.670	-.032	-.539	.412	-.099	-.296	.242	
-23.50	249.99	.796	-.492	-.061	-.382	.257	.107	.345	.357	
-22.00	249.99	1.320	-.519	.096	-.297	.268	-.022	-.468	.198	
-20.51	249.99	1.631	-.543	.062	-.299	.114	.045	-.392	.139	
-19.00	249.99	.525	.605	-.039	.005	.163	-.173	-.336	.159	
-17.69	249.99	1.055	-.492	.157	-.027	.098	.017	-.127	.072	
-16.50	250.01	.726	-.477	-.382	.005	.176	.011	-.459	.023	
-15.49	250.01	.652	-.263	.032	.136	.189	.007	-.297	.106	
-14.70	250.01	.866	.146	.021	-.018	.069	.074	-.197	.035	
-13.99	250.01	.671	.415	-.390	.210	.003	-.101	-.220	-.060	
-13.40	250.01	.608	-.126	.034	.325	-.270	-.055	-.166	-.121	
-12.80	250.01	.707	-.276	-.136	.265	-.153	-.146	-.307	-.015	
-11.99	250.01	.708	.038	-.153	.465	-.204	-.094	-.179	-.235	
-11.19	250.01	.456	-.024	-.489	.132	-.092	-.216	-.201	-.266	
-10.40	250.01	.134	-.262	-.361	.490	.311	.055	-.175	-.454	
-9.60	250.01	.831	.203	-.244	.041	-.363	-.001	-.020	.409	
-8.80	250.01	.306	.295	-.461	.155	.314	.108	.091	-.274	
-8.20	250.01	.176	.292	-.282	.710	-.687	-.094	-.059	-.504	
-7.59	250.01	.353	.151	-.223	.631	-.595	.000	-.035	-.303	
-7.00	250.01	.546	.016	-.223	.288	-.482	-.096	-.155	-.448	
-6.49	250.01	.492	.210	-.496	.278	-.413	.120	.021	-.480	
-5.99	250.01	.334	-.087	-.006	.284	-.427	-.116	-.112	-.474	
-5.51	250.01	-.369	.411	-.148	.264	-.372	.057	-.144	-.290	
-4.99	250.01	.138	-.043	.051	.086	-.520	.027	-.067	-.350	
-4.49	250.01	-.456	-.003	.021	.477	-.699	-.059	-.256	-.613	
-4.01	250.01	.150	.141	-.107	.255	-.413	-.033	-.103	-.332	
-3.40	250.01	-.161	.028	.125	.242	-.594	.022	-.043	-.551	
-2.70	250.01	.007	-.001	.067	.269	-.716	.214	-.070	-.533	
-1.99	250.01	.144	.108	-.385	.176	-.572	-.122	.050	-.588	
-1.29	250.01	.080	-.120	-.215	.018	-.775	-.205	.096	-.495	
-.61	250.01	.100	.252	-.350	.109	-.709	-.101	-.071	-.566	
.00	250.01	.334	-.194	-.054	-.025	-.687	.022	-.043	-.537	
.60	250.01	-.119	-.004	-.001	-.313	-.684	-.077	-.095	-.609	
1.29	250.01	-.089	-.080	-.165	-.043	-.616	.020	.011	-.510	
2.00	250.01	-.497	.041	.081	.138	-.747	-.016	.065	-.498	
2.69	250.01	.331	.068	-.171	-.147	-.685	-.156	.074	-.539	
3.41	250.01	.081	.201	-.157	-.246	-.641	-.033	-.014	-.519	
4.01	250.01	-.372	.168	-.170	-.208	-.695	-.058	-.095	-.526	
4.51	250.01	.176	.071	-.135	.085	-.748	-.117	.014	-.483	
5.00	250.01	.294	.130	.050	-.284	-.666	.011	.088	-.728	
5.51	250.01	-.014	-.115	.050	-.312	-.552	.045	.044	-.561	
6.00	250.01	.502	.135	.086	-.319	-.416	.094	.036	-.558	
6.49	250.01	.062	.124	-.064	-.343	-.383	.031	.036	-.930	
7.01	250.01	.401	-.066	.048	-.402	-.476	.020	.131	-.323	
7.60	250.01	.429	-.188	.060	.020	-.404	.074	.054	-.605	
8.20	250.01	.151	-.064	.015	-.280	-.540	.025	.063	-.468	
8.80	250.01	.032	.087	-.058	-.267	-.434	.010	.145	-.499	
9.61	250.01	.354	.069	-.126	-.353	-.317	.173	.063	-.218	
10.40	250.01	.592	.039	-.145	-.221	-.228	-.001	.127	-.379	
11.19	250.01	.492	.107	.236	-.308	-.082	.046	-.022	-.248	
11.99	250.01	.770	.354	-.163	-.019	-.050	.030	.284	-.305	
12.81	250.01	.806	.313	.169	-.113	-.139	-.065	.318	-.463	
13.41	250.01	.823	.239	.037	-.195	-.138	.076	.222	-.257	
14.01	250.01	.628	.100	-.054	.087	-.007	.113	.203	-.154	
14.69	250.01	1.043	.225	.228	.040	-.079	.032	.267	-.117	
15.49	250.01	.842	.499	-.026	.044	-.061	-.037	.221	.202	
16.50	250.01	.634	.333	-.049	-.045	.024	.045	.352	-.135	
17.69	250.01	1.208	.202	-.222	.096	-.104	.001	.462	.062	
19.01	250.01	1.222	.093	.099	.291	.201	.133	.391	.430	
20.50	250.01	.877	.179	-.003	.061	-.002	.009	.317	.144	
21.99	250.01	.876	.283	.075	.010	.004	.074	.342	.231	
23.51	250.01	1.154	.275	-.022	.301	.267	.098	.307	.221	
25.00	250.01	1.194	.254	-.038	.107	.060	.035	.192	.202	
26.50	250.01	1.210	.508	-.155	.391	.366	.137	.375	.279	
28.00	250.00	.804	.429	-.153	.385	.236	.015	.348	.290	
29.50	250.00	.854	.635	.028	.268	.157	.127	.312	.212	

C FILENAME= A903BAX.J_1

C

C AIR JET; d=9.45, delta=0.2 mm; theta=30 deg.; Uj 25, Ua 4, Ue=1 m/s; y 0 mm

C LDV SEED PARTICLES ADDED TO JET FLUID ONLY.

C D052191

C 22 : No. of data points

C	r	z	U	V	W	SIG(u')	SIG(v')	SIG(w')	u'v'	v'w'	w'u'
-	.03	1.49	33.709	.000	.001	1.275	1.074	1.059	-.011	.021	.040
.	.00	10.01	33.304	-.030	-.007	1.379	1.080	1.059	.004	.007	-.045
.	.00	20.00	32.985	-.011	.002	1.416	1.100	1.112	.031	.028	.041
.	.00	30.01	32.651	-.055	.005	1.454	1.224	1.205	.061	-.059	-.093
.	.00	39.98	32.168	-.064	-.056	1.637	1.491	1.389	.136	-.069	-.151
.	.00	49.98	31.293	-.033	-.040	2.086	1.821	1.751	-.091	-.235	-.118
.	.00	59.98	29.523	.032	-.086	2.898	2.385	2.117	.264	.087	.087
.	.00	69.98	27.582	-.050	-.107	3.578	2.784	2.490	.382	.054	.511
.	.00	80.01	25.262	.006	-.105	3.810	2.938	2.689	.200	-.061	.485
.	.00	89.98	23.102	-.015	-.152	3.919	2.977	2.650	.270	-.003	-.030
.	.00	100.02	21.246	-.033	-.180	3.836	2.847	2.647	.621	.220	.409
.	.00	119.99	18.369	.023	-.049	3.399	2.621	2.503	.352	.185	.250
.	.00	139.98	15.867	.043	-.095	3.053	2.364	2.316	.031	.046	.098
.	.00	160.02	13.991	.025	-.046	2.753	2.151	2.159	.101	.153	.174
.	.00	180.01	12.670	.008	.008	2.580	1.988	1.930	-.054	.117	-.240
.	.00	200.01	11.274	.026	-.060	2.326	1.809	1.812	-.002	.132	.080
.	.00	220.01	10.336	-.016	.015	2.036	1.630	1.675	-.003	-.016	-.124
.	.00	240.01	9.562	-.019	.020	1.928	1.493	1.562	.003	.091	.008
.	.00	259.98	8.786	.009	-.013	1.732	1.380	1.436	-.013	.032	.020
.	.00	280.01	8.222	-.017	.050	1.646	1.313	1.318	-.045	-.019	.019
.	.00	300.01	7.686	-.002	.045	1.524	1.228	1.242	-.020	.014	-.016
.	.00	320.01	7.280	.026	.021	1.429	1.141	1.189	-.012	.051	.025

C FILENAME= A903BAX.J_2

C

C AIR JET; d=9.45, delta=0.2 mm; theta=30 deg.; Uj=25, Ua=4, Ue=1 m/s; y=0 mm

C LDV SEED PARTICLES ADDED TO JET FLUID ONLY.

C D052191

C 22 : No. of data points

C	r	z	u'^3	v'^3	w'^3	u'^2v'	v'^2u'	v'^2w'	w'^2v'	w'^2u'
	.03	1.49	-.911	.030	.026	.032	-.540	-.010	.027	.295
	.00	10.01	-.893	.002	.054	-.003	.566	-.061	-.021	.277
	.00	20.00	-1.249	.012	.005	.033	-.502	-.003	.035	.335
	.00	30.01	-1.303	.010	-.117	-.185	-.536	.049	.054	.275
	.00	39.98	-2.024	.113	.111	-.207	-1.227	.063	.064	.720
	.00	49.98	-6.446	.300	.136	.326	-3.191	-.119	-.067	-2.259
	.00	59.98	-23.218	-.319	-.166	-1.435	-9.957	.468	-.276	-4.056
	.00	69.98	-32.397	.257	-.350	-1.314	-13.862	.295	-.651	-7.242
	.00	80.01	-25.478	1.023	.942	-.254	-12.677	.881	.005	-6.339
	.00	89.98	-21.048	1.329	.402	-1.084	-11.047	.776	-.297	-4.805
	.00	100.02	-12.422	.583	-.369	-.709	-7.460	.617	.576	-5.372
	.00	119.99	-5.988	.286	1.012	-.479	-6.216	.061	.531	-4.273
	.00	139.98	-3.158	.772	.057	.594	-3.793	.024	.582	-1.157
	.00	160.02	-.888	.118	-.274	-.032	-2.505	.067	.096	-1.577
	.00	180.01	-.684	.580	-.318	.103	-1.747	.368	.201	-1.491
	.00	200.01	-.623	.551	-.098	.306	-1.202	.238	.022	-1.318
	.00	220.01	-.016	.351	-.300	.200	-.843	-.220	-.023	-.738
	.00	240.01	-.198	-.054	-.063	.054	-.762	-.075	-.059	-.713
	.00	259.98	-.172	-.081	-.063	-.043	-.574	-.040	.059	-.487
	.00	280.01	.188	-.055	-.078	-.001	-.453	-.005	-.026	-.351
	.00	300.01	.012	.041	.063	.050	.257	-.113	-.031	-.311
	.00	320.01	-.182	.100	.065	.081	-.254	.025	-.024	-.304