

Appendix

Data Tables

X (m)	U [m/s]	u' [cm/s]	w' [cm/s]	θ' [°C]	$w'\theta'/w'\theta$	ϵ [m ² /s ³]	χ [°C ² /s]
0.470	0.745	4.56	3.49	0.446	-0.6273	.011997	1.188
0.622	0.750	3.42	2.63	0.493	-0.6822	.005132	1.134
0.775	0.759	2.72	1.99	0.473	-0.6789	.002509	0.791
0.927	0.771	2.39	1.62	0.506	-0.6579	.001394	0.725
1.079	0.814	2.02	1.36	0.531	-0.6330	.000810	0.600
1.156	0.852	1.90	1.28	0.516	-0.5990	.000648	0.510
1.232	0.917	1.75	1.20	0.511	-0.5774	.000487	0.415
1.308	1.011	1.59	1.20	0.530	-0.5686	.000389	0.398
1.384	1.128	1.45	1.18	0.531	-0.5501	.000279	0.303
1.461	1.260	1.32	1.16	0.537	-0.5591	.000221	0.251
1.537	1.439	1.23	1.15	0.552	-0.5324	.000168	0.220
1.613	1.651	1.14	1.18	0.557	-0.5387	.000128	0.177
1.689	1.810	1.16	1.17	0.579	-0.5363	.000101	0.162
1.765	1.903	1.07	1.14	0.577	-0.5391	.000091	0.160
1.892	1.967	1.11	1.11	0.585	-0.5707	.000080	0.158
2.057	2.000	1.02	1.00	0.623	-0.6008	.000072	0.191
2.057	1.992	1.06	1.02	0.640	-0.5958	.000069	0.191
2.311	2.001	1.00	0.89	0.653	-0.5888	.000062	0.220
2.565	1.998	0.97	0.72	0.646	-0.4999	.000049	0.230
2.819	1.996	0.94	0.65	0.660	-0.3507	.000041	0.227
3.073	1.985	1.02	0.62	0.629	-0.1412	.000035	0.214
3.454	2.125	0.93	0.66	0.600	0.1266	.000028	0.156
3.835	2.134	1.02	0.72	0.557	0.2330	.000024	0.111
4.343	2.187	1.00	0.87	0.490	0.2596	.000026	0.062

Table 1: Strongly stratified data with $N_2 = 2.22$ rad/s for $M = 5.08$ cm and $\Delta x = 101.6$ cm. Mean and fluctuating velocities and temperature as well as normalized flux and dissipation rates of turbulent kinetic energy and temperature fluctuations. The horizontal lines mark the extent of the contraction.

X [m]	U [m/s]	u' [cm/s]	w' [cm/s]
0.470	0.850	4.97	3.98
0.622	0.860	3.86	3.10
0.775	0.870	3.18	2.57
0.927	0.888	2.76	2.25
1.079	0.933	2.34	2.03
1.232	1.043	2.00	1.96
1.308	1.147	1.91	2.02
1.384	1.276	1.78	2.05
1.461	1.439	1.63	2.19
1.537	1.641	1.55	2.27
1.689	2.018	1.39	2.48
1.816	2.168	1.36	2.48
2.070	2.225	1.29	2.42
2.311	2.231	1.26	2.32
2.565	2.236	1.26	2.25
2.819	2.236	1.21	2.10
3.073	2.230	1.22	2.07
3.454	2.224	1.17	2.02
3.835	2.229	1.20	1.93
4.343	2.230	1.21	1.74

Table 2: Non-stratified data for $M = 5.08$ cm and $\Delta x = 101.6$.

X (m)	U [m/s]	u' [cm/s]	w' [cm/s]	θ' [$^{\circ}C$]	$\overline{w'\theta}/w'\theta$	ϵ [m^2/s^3]	χ [$^{\circ}C^2/s$]
0.317	0.841	6.09	4.96	0.4031	-0.6056	.022707	1.188
0.394	0.860	5.17	4.24	0.4279	-0.6223	.014060	1.049
0.470	0.874	4.33	3.62	0.4704	-0.6538	.008496	1.004
0.546	0.904	3.87	3.22	0.4764	-0.6749	.005584	0.902
0.622	0.936	3.29	2.81	0.4940	-0.6715	.003561	0.773
0.698	0.995	2.94	2.59	0.5313	-0.7005	.002590	0.745
0.775	1.077	2.53	2.47	0.5586	-0.7115	.001877	0.708
0.851	1.194	2.32	2.47	0.6050	-0.7156	.001452	0.660
0.927	1.342	2.02	2.38	0.6326	-0.7140	.001079	0.587
1.003	1.522	1.86	2.42	0.6778	-0.7340	.000860	0.565
1.079	1.693	1.75	2.46	0.7343	-0.7465	.000721	0.558
1.156	1.843	1.68	2.42	0.7795	-0.7573	.000576	0.543
1.232	1.943	1.54	2.33	0.8183	-0.7524	.000508	0.586
1.308	1.987	1.55	2.22	0.8449	-0.7739	.000464	0.604
1.384	2.012	1.51	2.10	0.9120	-0.7703	.000424	0.706
1.461	2.039	1.47	2.04	0.9492	-0.7745	.000409	0.789
1.537	2.046	1.44	1.88	0.9507	-0.7659	.000373	0.802
1.537	2.036	1.45	1.89	0.9624	-0.7751	.000372	0.802
1.664	2.046	1.35	1.67	0.9891	-0.7603	.000318	0.882
1.791	2.049	1.38	1.51	1.0444	-0.7361	.000287	0.988
1.918	2.050	1.26	1.33	1.0588	-0.7072	.000249	1.044
2.045	2.046	1.26	1.17	1.0746	-0.6578	.000212	1.062
2.172	2.042	1.22	1.04	1.1102	-0.5589	.000188	1.117
2.362	2.041	1.17	0.89	1.0650	-0.3884	.000158	1.030
2.616	2.030	1.16	0.81	1.0392	-0.0797	.000123	0.924
2.870	2.025	1.09	0.86	0.9858	0.1900	.000099	0.797
3.302	2.034	1.06	1.01	0.8232	0.4184	.000084	0.477
3.810	2.044	1.02	1.16	0.6449	0.3691	.000077	0.242
4.191	2.101	1.00	1.23	0.5572	0.1953	.000074	0.143

Table 3: Strongly stratified data with $N_2 = 2.22$ rad/s for $M = 5.08$ cm and $\Delta x = 48.3$ cm.

X [m]	U [m/s]	u' [cm/s]	w' [cm/s]
0.317	0.867	6.67	5.35
0.470	0.903	4.85	3.97
0.622	0.971	3.64	3.33
0.775	1.127	2.86	3.09
0.851	1.255	2.56	3.16
0.927	1.425	2.38	3.22
1.079	1.815	2.04	3.42
1.232	2.100	1.90	3.47
1.384	2.178	1.79	3.39
1.537	2.192	1.77	3.20
1.664	2.203	1.72	3.17
1.791	2.204	1.70	3.02
1.918	2.201	1.65	2.94
2.172	2.203	1.60	2.77
2.362	2.200	1.54	2.68
2.616	2.192	1.47	2.50
2.921	2.194	1.47	2.36
3.302	2.199	1.44	2.28
3.810	2.198	1.37	2.09
4.191	2.200	1.28	1.93

Table 4: Non-stratified data for $M = 5.08$ cm and $\Delta x = 48.3$ cm.

X (m)	U [m/s]	u' [cm/s]	w' [cm/s]	θ' [$^{\circ}$ C]	$\overline{w'\theta}/w'\theta$
0.381	1.084	6.63	4.95	0.093	-.588
0.533	1.143	5.01	3.93	0.106	-.656
0.686	1.238	3.80	3.36	0.119	-.698
0.838	1.489	3.10	3.25	0.145	-.735
0.991	1.898	2.56	3.41	0.167	-.766
1.143	2.340	2.32	3.62	0.194	-.779
1.295	2.572	2.25	3.62	0.228	-.801
1.448	2.616	2.17	3.52	0.269	-.816
1.600	2.626	2.16	3.34	0.300	-.845
1.753	2.621	2.10	3.08	0.330	-.831
1.905	2.621	2.08	2.92	0.359	-.837
2.159	2.633	1.96	2.67	0.397	-.841
2.413	2.691	1.98	2.45	0.425	-.829
2.718	2.678	1.93	2.12	0.455	-.806
3.099	2.638	1.80	1.76	0.476	-.781
3.480	2.638	1.70	1.42	0.506	-.736
3.861	2.643	1.76	1.20	0.530	-.655
4.242	2.647	1.55	1.01	0.499	-.548
4.242	2.650	1.52	1.03	0.483	-.531
4.242	2.656	1.72	1.21	0.568	-.445
4.242	2.620	1.69	0.99	0.533	-.514
4.242	2.616	1.72	1.07	0.501	-.492

Table 5: Weakly stratified data with $N_2 = 0.98$ rad/s, for $M = 5.08$ cm and $\Delta x = 101.6$.