Table B.1: Normal shock wave properties for γ = 1.4

M_1	M_2	T_2/T_1	P_2/P_1	P_{02}/P_{01}	P_{02}/P_1	$\Delta V/a_1$
1.02	0.9805	1.0132	1.0471	1.0000	1.9379	0.033
1.04	0.9620	1.0263	1.0952	0.9999	1.9844	0.065
1.06	0.9444	1.0393	1.1442	0.9998	2.0325	0.097
1.08	0.9277	1.0522	1.1941	0.9994	2.0819	0.128
1.10	0.9118	1.0649	1.2450	0.9989	2.1328	0.159
-	-	-	-	-	-	-
1.12	0.8966	1.0776	1.2968	0.9982	2.1851	0.189
1.14	0.8820	1.0903	1.3495	0.9973	2.2388	0.219
1.16	0.8682	1.1029	1.4032	0.9961	2.2937	0.248
1.18	0.8549	1.1154	1.4578	0.9946	2.3500	0.277
1.20	0.8422	1.1280	1.5133	0.9928	2.4075	0.306
-	-	-	-	-	-	-
1.22	0.8300	1.1405	1.5698	0.9907	2.4663	0.334
1.24	0.8183	1.1531	1.6272	0.9884	2.5263	0.361
1.26	0.8071	1.1657	1.6855	0.9857	2.5875	0.389
1.28	0.7963	1.1783	1.7448	0.9827	2.6500	0.416
1.30	0.7860	1.1909	1.8050	0.9794	2.7136	0.442
-	-	-	-	-	-	-
1.32	0.7760	1.2035	1.8661	0.9758	2.7784	0.469
1.34	0.7664	1.2162	1.9282	0.9718	2.8444	0.495
1.36	0.7572	1.2290	1.9912	0.9676	2.9115	0.521
1.38	0.7483	1.2418	2.0551	0.9630	2.9798	0.546
1.40	0.7397	1.2547	2.1200	0.9582	3.0492	0.571
-	-	-	-	-	-	-
1.42	0.7314	1.2676	2.1858	0.9531	3.1198	0.596
1.44	0.7235	1.2807	2.2525	0.9476	3.1915	0.621
1.46	0.7157	1.2938	2.3202	0.9420	3.2643	0.646
1.48	0.7083	1.3069	2.3888	0.9360	3.3382	0.670
1.50	0.7011	1.3202	2.4583	0.9298	3.4133	0.694
-	-	-	-	-	-	-
1.52	0.6941	1.3336	2.5288	0.9233	3.4894	0.718
1.54	0.6874	1.3470	2.6002	0.9166	3.5667	0.742
1.56	0.6809	1.3606	2.6725	0.9097	3.6450	0.766
1.58	0.6746	1.3742	2.7458	0.9026	3.7244	0.789
1.60	0.6684	1.3880	2.8200	0.8952	3.8050	0.813
-	-	-	-	-	-	-
1.62	0.6625	1.4018	2.8951	0.8877	3.8866	0.836
1.64	0.6568	1.4158	2.9712	0.8799	3.9693	0.859
1.66	0.6512	1.4299	3.0482	0.8720	4.0531	0.881
1.68	0.6458	1.4440	3.1261	0.8639	4.1379	0.904
1.70	0.6405	1.4583	3.2050	0.8557	4.2238	0.926
-	-	-	-	-	-	-
1.72	0.6355	1.4727	3.2848	0.8474	4.3108	0.949
1.74	0.6305	1.4873	3.3655	0.8389	4.3989	0.971
1.76	0.6257	1.5019	3.4472	0.8302	4.4880	0.993
1.78	0.6210	1.5167	3.5298	0.8215	4.5782	1.015
1.80	0.6165	1.5316	3.6133	0.8127	4.6695	1.037

M_1	M_2	T_2/T_1	P_2/P_1	P_{02}/P_{01}	P_{02}/P_1	$\Delta V/a_1$
1.82	0.6121	1.5466	3.6978	0.8038	4.7618	1.059
1.84	0.6078	1.5617	3.7832	0.7948	4.8552	1.080
1.86	0.6036	1.5770	3.8695	0.7857	4.9497	1.102
1.88	0.5996	1.5924	3.9568	0.7765	5.0452	1.123
1.90	0.5956	1.6079	4.0450	0.7674	5.1418	1.145
-	-	-	-	-	-	-
1.92	0.5918	1.6236	4.1341	0.7581	5.2394	1.166
1.94	0.5880	1.6394	4.2242	0.7488	5.3381	1.187
1.96	0.5844	1.6553	4.3152	0.7395	5.4378	1.208
1.98	0.5808	1.6713	4.4071	0.7302	5.5386	1.229
2.00	0.5774	1.6875	4.5000	0.7209	5.6404	1.250
-	-	-	-	-	-	-
2.02	0.5740	1.7038	4.5938	0.7115	5.7433	1.271
2.04	0.5707	1.7203	4.6885	0.7022	5.8473	1.292
2.06	0.5675	1.7369	4.7842	0.6928	5.9523	1.312
2.08	0.5643	1.7536	4.8808	0.6835	6.0583	1.333
2.10	0.5613	1.7705	4.9783	0.6742	6.1654	1.353
-	-	-	-	-	-	-
2.12	0.5583	1.7875	5.0768	0.6649	6.2735	1.374
2.14	0.5554	1.8046	5.1762	0.6557	6.3827	1.394
2.16	0.5525	1.8219	5.2765	0.6464	6.4929	1.414
2.18	0.5498	1.8393	5.3778	0.6373	6.6042	1.434
2.20	0.5471	1.8569	5.4800	0.6281	6.7165	1.455
-	-	-	-	-	-	-
2.22	0.5444	1.8746	5.5831	0.6191	6.8298	1.475
2.24	0.5418	1.8924	5.6872	0.6100	6.9442	1.495
2.26	0.5393	1.9104	5.7922	0.6011	7.0597	1.515
2.28	0.5368	1.9285	5.8981	0.5921	7.1762	1.535
2.30	0.5344	1.9468	6.0050	0.5833	7.2937	1.554
-	-	-	-	-	-	-
2.32	0.5321	1.9652	6.1128	0.5745	7.4122	1.574
2.34	0.5297	1.9838	6.2215	0.5658	7.5319	1.594
2.36	0.5275	2.0025	6.3312	0.5572	7.6525	1.614
2.38	0.5253	2.0213	6.4418	0.5486	7.7742	1.633
2.40	0.5231	2.0403	6.5533	0.5401	7.8969	1.653
-	-	-	-	-	-	-
2.42	0.5210	2.0595	6.6658	0.5317	8.0207	1.672
2.44	0.5189	2.0788	6.7792	0.5234	8.1455	1.692
2.46	0.5169	2.0982	6.8935	0.5152	8.2713	1.711
2.48	0.5149	2.1178	7.0088	0.5071	8.3982	1.731
2.50	0.5130	2.1375	7.1250	0.4990	8.5261	1.750
-	-	-	-	-	-	-
2.52	0.5111	2.1574	7.2421	0.4911	8.6551	1.769
2.54	0.5092	2.1774	7.3602	0.4832	8.7851	1.789
2.56	0.5074	2.1976	7.4792	0.4754	8.9161	1.808
2.58	0.5056	2.2179	7.5991	0.4677	9.0482	1.827
2.60	0.5039	2.2383	7.7200	0.4601	9.1813	1.846

M_1	M_2	T_2/T_1	P_2/P_1	P_{02}/P_{01}	P_{02}/P_1	$\Delta V/a_1$
2.62	0.5022	2.2590	7.8418	0.4526	9.3155	1.865
2.64	0.5005	2.2797	7.9645	0.4452	9.4506	1.884
2.66	0.4988	2.3006	8.0882	0.4379	9.5869	1.903
2.68	0.4972	2.3217	8.2128	0.4307	9.7241	1.922
2.70	0.4956	2.3429	8.3383	0.4236	9.8624	1.941
-	-	-	-	-	-	-
2.72	0.4941	2.3642	8.4648	0.4166	10.0017	1.960
2.74	0.4926	2.3858	8.5922	0.4097	10.1421	1.979
2.76	0.4911	2.4074	8.7205	0.4028	10.2835	1.998
2.78	0.4896	2.4292	8.8498	0.3961	10.4259	2.017
2.80	0.4882	2.4512	8.9800	0.3895	10.5694	2.036
-	-	-	-	-	-	-
2.82	0.4868	2.4733	9.1111	0.3829	10.7139	2.054
2.84	0.4854	2.4955	9.2432	0.3765	10.8594	2.073
2.86	0.4840	2.5179	9.3762	0.3701	11.0060	2.092
2.88	0.4827	2.5405	9.5101	0.3639	11.1536	2.111
2.90	0.4814	2.5632	9.6450	0.3577	11.3022	2.129
-	-	-	-	-	-	-
2.92	0.4801	2.5861	9.7808	0.3517	11.4519	2.148
2.94	0.4788	2.6091	9.9175	0.3457	11.6026	2.167
2.96	0.4776	2.6322	10.0552	0.3398	11.7544	2.185
2.98	0.4764	2.6555	10.1938	0.3340	11.9072	2.204
3.00	0.4752	2.6790	10.3333	0.3283	12.0610	2.222
-	-	-	-	-	-	-
3.02	0.4740	2.7026	10.4738	0.3227	12.2158	2.241
3.04	0.4729	2.7264	10.6152	0.3172	12.3717	2.259
3.06	0.4717	2.7503	10.7575	0.3118	12.5286	2.278
3.08	0.4706	2.7744	10.9008	0.3065	12.6865	2.296
3.10	0.4695	2.7986	11.0450	0.3012	12.8455	2.315
-	-	-	-	-	-	-
3.12	0.4685	2.8230	11.1901	0.2960	13.0055	2.333
3.14	0.4674	2.8475	11.3362	0.2910	13.1666	2.351
3.16	0.4664	2.8722	11.4832	0.2860	13.3287	2.370
3.18	0.4654	2.8970	11.6311	0.2811	13.4918	2.388
3.20	0.4643	2.9220	11.7800	0.2762	13.6559	2.406
-	-	-	-	-	-	-
3.22	0.4634	2.9471	11.9298	0.2715	13.8211	2.425
3.24	0.4624	2.9724	12.0805	0.2668	13.9873	2.443
3.26	0.4614	2.9979	12.2322	0.2622	14.1546	2.461
3.28	0.4605	3.0234	12.3848	0.2577	14.3228	2.479
3.30	0.4596	3.0492	12.5383	0.2533	14.4921	2.497
-	-	-	-	-	-	-
3.32	0.4587	3.0751	12.6928	0.2489	14.6625	2.516
3.34	0.4578	3.1011	12.8482	0.2446	14.8339	2.534
3.36	0.4569	3.1273	13.0045	0.2404	15.0063	2.552
3.38	0.4560	3.1537	13.1618	0.2363	15.1797	2.570
3.40	0.4552	3.1802	13.3200	0.2322	15.3542	2.588

Table B.2: Normal shock wave properties for γ = 1.4

M_1	M_2	T_2/T_1	P_2/P_1	P_{02}/P_{01}	P_{02}/P_1	$\Delta V/a_1$
3.42	0.4544	3.2069	13.4791	0.2282	15.5297	2.606
3.44	0.4535	3.2337	13.6392	0.2243	15.7062	2.624
3.46	0.4527	3.2607	13.8002	0.2205	15.8838	2.642
3.48	0.4519	3.2878	13.9621	0.2167	16.0624	2.661
3.50	0.4512	3.3151	14.1250	0.2129	16.2420	2.679
-	-	-	-	-	-	-
3.52	0.4504	3.3425	14.2888	0.2093	16.4227	2.697
3.54	0.4496	3.3701	14.4535	0.2057	16.6044	2.715
3.56	0.4489	3.3978	14.6192	0.2022	16.7871	2.733
3.58	0.4481	3.4257	14.7858	0.1987	16.9708	2.751
3.60	0.4474	3.4537	14.9533	0.1953	17.1556	2.769
-	-	-	-	-	-	-
3.62	0.4467	3.4819	15.1218	0.1920	17.3415	2.786
3.64	0.4460	3.5103	15.2912	0.1887	17.5283	2.804
3.66	0.4453	3.5388	15.4615	0.1855	17.7162	2.822
3.68	0.4446	3.5674	15.6328	0.1823	17.9051	2.840
3.70	0.4439	3.5962	15.8050	0.1792	18.0951	2.858
-	-	-	-	-	-	-
3.72	0.4433	3.6252	15.9781	0.1761	18.2860	2.876
3.74	0.4426	3.6543	16.1522	0.1731	18.4781	2.894
3.76	0.4420	3.6836	16.3272	0.1702	18.6711	2.912
3.78	0.4414	3.7130	16.5031	0.1673	18.8652	2.930
3.80	0.4407	3.7426	16.6800	0.1645	19.0603	2.947
-	-	-	-	-	-	-
3.82	0.4401	3.7723	16.8578	0.1617	19.2564	2.965
3.84	0.4395	3.8022	17.0365	0.1589	19.4536	2.983
3.86	0.4389	3.8323	17.2162	0.1563	19.6518	3.001
3.88	0.4383	3.8625	17.3968	0.1536	19.8510	3.019
3.90	0.4377	3.8928	17.5783	0.1510	20.0513	3.036
-	-	-	-	-	-	-
3.92	0.4372	3.9233	17.7608	0.1485	20.2526	3.054
3.94	0.4366	3.9540	17.9442	0.1460	20.4549	3.072
3.96	0.4360	3.9848	18.1285	0.1435	20.6583	3.090
3.98	0.4355	4.0158	18.3138	0.1411	20.8627	3.107
4.00	0.4350	4.0469	18.5000	0.1388	21.0681	3.125
-	-	-	-	-	-	-
4.02	0.4344	4.0782	18.6871	0.1364	21.2745	3.143
4.04	0.4339	4.1096	18.8752	0.1342	21.4820	3.160
4.06	0.4334	4.1412	19.0642	0.1319	21.6905	3.178
4.08	0.4329	4.1729	19.2541	0.1297	21.9001	3.196
4.10	0.4324	4.2048	19.4450	0.1276	22.1106	3.213
-	-	-	-	-	-	-
4.12	0.4319	4.2368	19.6368	0.1254	22.3223	3.231
4.14	0.4314	4.2690	19.8295	0.1234	22.5349	3.249
4.16	0.4309	4.3014	20.0232	0.1213	22.7486	3.266
4.18	0.4304	4.3339	20.2178	0.1193	22.9633	3.284
4.20	0.4299	4.3666	20.4133	0.1173	23.1790	3.302

M_1	M_2	T_2/T_1	P_2/P_1	P_{02}/P_{01}	P_{02}/P_1	$\Delta V/a_1$
4.22	0.4295	4.3994	20.6098	0.1154	23.3958	3.319
4.24	0.4290	4.4324	20.8072	0.1135	23.6135	3.337
4.26	0.4286	4.4655	21.0055	0.1116	23.8324	3.354
4.28	0.4281	4.4988	21.2048	0.1098	24.0522	3.372
4.30	0.4277	4.5322	21.4050	0.1080	24.2731	3.390
-	-	-	-	-	-	-
4.32	0.4272	4.5658	21.6061	0.1062	24.4950	3.407
4.34	0.4268	4.5995	21.8082	0.1045	24.7180	3.425
4.36	0.4264	4.6334	22.0112	0.1028	24.9420	3.442
4.38	0.4260	4.6675	22.2151	0.1011	25.1670	3.460
4.40	0.4255	4.7017	22.4200	0.0995	25.3930	3.477
-	-	-	-	-	-	-
4.42	0.4251	4.7361	22.6258	0.0979	25.6201	3.495
4.44	0.4247	4.7706	22.8325	0.0963	25.8482	3.512
4.46	0.4243	4.8053	23.0402	0.0947	26.0773	3.530
4.48	0.4239	4.8401	23.2488	0.0932	26.3075	3.547
4.50	0.4236	4.8751	23.4583	0.0917	26.5387	3.565
-	-	-	-	-	-	-
4.52	0.4232	4.9102	23.6688	0.0902	26.7709	3.582
4.54	0.4228	4.9455	23.8802	0.0888	27.0041	3.600
4.56	0.4224	4.9810	24.0925	0.0874	27.2384	3.617
4.58	0.4220	5.0166	24.3058	0.0860	27.4737	3.635
4.60	0.4217	5.0523	24.5200	0.0846	27.7101	3.652
-	-	-	-	-	-	-
4.62	0.4213	5.0882	24.7351	0.0832	27.9475	3.670
4.64	0.4210	5.1243	24.9512	0.0819	28.1859	3.687
4.66	0.4206	5.1605	25.1682	0.0806	28.4253	3.705
4.68	0.4203	5.1969	25.3861	0.0793	28.6658	3.722
4.70	0.4199	5.2334	25.6050	0.0781	28.9073	3.739
-	-	-	-	-	-	-
4.72	0.4196	5.2701	25.8248	0.0769	29.1498	3.757
4.74	0.4192	5.3070	26.0455	0.0756	29.3934	3.774
4.76	0.4189	5.3440	26.2672	0.0745	29.6380	3.792
4.78	0.4186	5.3811	26.4898	0.0733	29.8836	3.809
4.80	0.4183	5.4184	26.7133	0.0721	30.1303	3.826
-	-	-	-	-	-	-
4.82	0.4179	5.4559	26.9378	0.0710	30.3779	3.844
4.84	0.4176	5.4935	27.1632	0.0699	30.6267	3.861
4.86	0.4173	5.5313	27.3895	0.0688	30.8764	3.879
4.88	0.4170	5.5692	27.6168	0.0677	31.1272	3.896
4.90	0.4167	5.6073	27.8450	0.0667	31.3790	3.913
-	-	-	-	-	-	-
4.92	0.4164	5.6455	28.0741	0.0657	31.6318	3.931
4.94	0.4161	5.6839	28.3042	0.0647	31.8857	3.948
4.96	0.4158	5.7224	28.5352	0.0637	32.1406	3.965
4.98	0.4155	5.7611	28.7671	0.0627	32.3965	3.983
5.00	0.4152	5.8000	29.0000	0.0617	32.6535	4.000

M_1	M_2	T_2/T_1	P_2/P_1	P_{02}/P_{01}	P_{02}/P_1	$\Delta V/a_1$
5.02	0.4149	5.8390	29.2338	0.0608	32.9115	4.017
5.04	0.4147	5.8782	29.4685	0.0598	33.1705	4.035
5.06	0.4144	5.9175	29.7042	0.0589	33.4305	4.052
5.08	0.4141	5.9570	29.9408	0.0580	33.6916	4.069
5.10	0.4138	5.9966	30.1783	0.0572	33.9537	4.087
-	-	-	-	-	-	-
5.12	0.4136	6.0364	30.4168	0.0563	34.2169	4.104
5.14	0.4133	6.0763	30.6562	0.0554	34.4810	4.121
5.16	0.4130	6.1164	30.8965	0.0546	34.7462	4.139
5.18	0.4128	6.1567	31.1378	0.0538	35.0125	4.156
5.20	0.4125	6.1971	31.3800	0.0530	35.2797	4.173
-	-	-	-	-	-	-
5.22	0.4123	6.2376	31.6231	0.0522	35.5480	4.190
5.24	0.4120	6.2784	31.8672	0.0514	35.8174	4.208
5.26	0.4118	6.3192	32.1122	0.0506	36.0877	4.225
5.28	0.4115	6.3603	32.3581	0.0499	36.3591	4.242
5.30	0.4113	6.4014	32.6050	0.0491	36.6315	4.259
-	-	-	-	-	-	-
5.32	0.4110	6.4428	32.8528	0.0484	36.9050	4.277
5.34	0.4108	6.4843	33.1015	0.0477	37.1794	4.294
5.36	0.4106	6.5259	33.3512	0.0470	37.4550	4.311
5.38	0.4103	6.5677	33.6018	0.0463	37.7315	4.328
5.40	0.4101	6.6097	33.8533	0.0456	38.0091	4.346
-	-	-	-	-	-	-
5.42	0.4099	6.6518	34.1058	0.0449	38.2877	4.363
5.44	0.4096	6.6941	34.3592	0.0443	38.5673	4.380
5.46	0.4094	6.7365	34.6135	0.0436	38.8479	4.397
5.48	0.4092	6.7791	34.8688	0.0430	39.1296	4.415
5.50	0.4090	6.8218	35.1250	0.0424	39.4124	4.432
-	-	-	-	-	-	-
5.52	0.4088	6.8647	35.3821	0.0417	39.6961	4.449
5.54	0.4085	6.9077	35.6402	0.0411	39.9809	4.466
5.56	0.4083	6.9509	35.8992	0.0405	40.2667	4.483
5.58	0.4081	6.9943	36.1591	0.0400	40.5535	4.501
5.60	0.4079	7.0378	36.4200	0.0394	40.8414	4.518
-	-	-	-	-	-	-
5.62	0.4077	7.0815	36.6818	0.0388	41.1303	4.535
5.64	0.4075	7.1253	36.9445	0.0383	41.4202	4.552
5.66	0.4073	7.1693	37.2082	0.0377	41.7112	4.569
5.68	0.4071	7.2134	37.4728	0.0372	42.0032	4.587
5.70	0.4069	7.2577	37.7383	0.0366	42.2962	4.604
-	-	-	-	-	-	-
5.72	0.4067	7.3021	38.0048	0.0361	42.5903	4.621
5.74	0.4065	7.3467	38.2722	0.0356	42.8854	4.638
5.76	0.4063	7.3915	38.5405	0.0351	43.1815	4.655
5.78	0.4061	7.4364	38.8098	0.0346	43.4786	4.672
5.80	0.4059	7.4814	39.0800	0.0341	43.7768	4.690