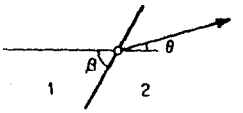
β
θ
1
2

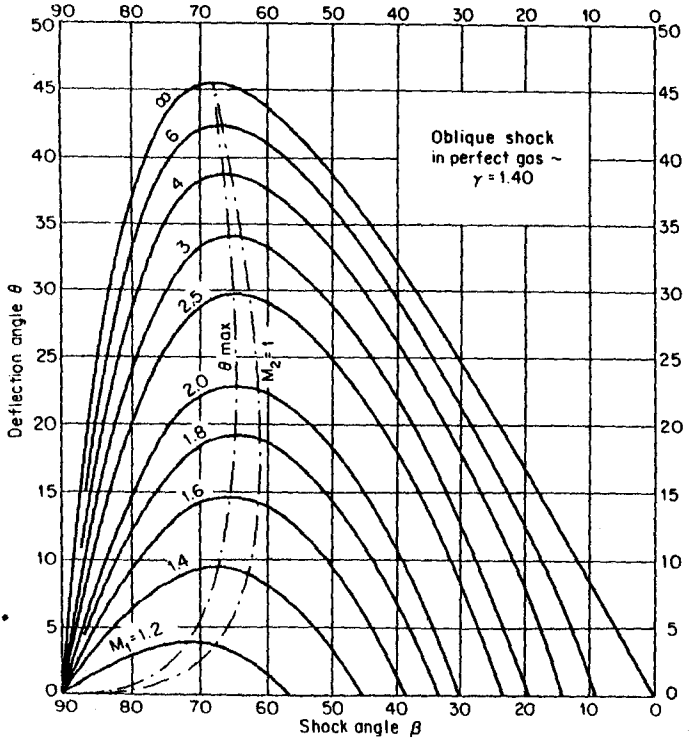
Oblique shock
in perfect gas ~
γ = 1.40
Deflection angle θ
Shock angle β
θ max
M2 = 1
M1 = 1.2
∞
6
4
3
2.5
2.0
1.8
1.6
1.4
90 80 70 60 50 40 30 20 10 0
0 5 10 15 20 25 30 35 40 45 50

Figure D.1

Table D.3 Oblique Shock in a Perfect Gas ($\gamma = 1.40$)

M_1	θ, degrees†	Weak Solutions β, degrees	Weak Solutions P_2/P_1	Weak Solutions M_2	Strong Solutions β	Strong Solutions P_2/P_1	Strong Solutions M_2
1.05	0.0	72.25	1.000	1.050	90.00	1.120	0.953
	(0.56)	79.94	1.080	0.984	79.94	1.080	0.984
1.10	0.0	65.38	1.000	1.100	90.00	1.245	0.912
	1.0	69.81	1.077	1.039	83.58	1.227	0.925
	(1.52)	76.30	1.166	0.971	76.30	1.166	0.971
1.15	0.0	60.41	1.000	1.150	90.00	1.376	0.875
	1.0	63.16	1.062	1.102	85.99	1.369	0.880
	2.0	67.01	1.141	1.043	81.18	1.340	0.901
	(2.67)	73.82	1.256	0.960	73.82	1.256	0.960
1.20	0.0	56.44	1.000	1.200	90.00	1.513	0.842
	1.0	58.55	1.056	1.158	87.04	1.509	0.845
	2.0	61.05	1.120	1.111	83.86	1.494	0.855
	3.0	64.34	1.198	1.056	80.03	1.463	0.876
	(3.94)	71.98	1.353	0.950	71.98	1.353	0.950
1.25	0.0	53.13	1.000	1.250	90.00	1.656	0.813
	1.0	54.88	1.053	1.211	87.66	1.653	0.815
	2.0	56.85	1.111	1.170	85.21	1.644	0.821
	3.0	59.13	1.176	1.124	82.55	1.626	0.832
	4.0	61.99	1.254	1.072	79.39	1.594	0.853
	5.0	66.50	1.366	0.999	74.64	1.528	0.895
	(5.29)	70.54	1.454	0.942	70.54	1.454	0.942
1.30	0.0	50.29	1.000	1.300	90.00	1.805	0.786
	1.0	51.81	1.051	1.263	88.06	1.803	0.787
	2.0	53.48	1.107	1.224	86.06	1.796	0.792
	3.0	55.32	1.167	1.184	83.96	1.783	0.800
	4.0	57.42	1.233	1.140	81.65	1.763	0.812
	5.0	59.96	1.311	1.090	78.97	1.733	0.831
	6.0	63.46	1.411	1.027	75.37	1.679	0.864
	(6.66)	69.40	1.561	0.936	69.40	1.561	0.936
1.35	0.0	47.80	1.000	1.350	90.00	1.960	0.762
	1.0	49.17	1.051	1.314	88.34	1.958	0.763
	2.0	50.64	1.104	1.277	86.65	1.952	0.766

† Figures in parentheses are maximum values.

M_1	θ, degrees†	Weak Solutions β, degrees	Weak Solutions P_2/P_1	Weak Solutions M_2	Strong Solutions β	Strong Solutions P_2/P_1	Strong Solutions M_2
	3.0	52.22	1.162	1.239	84.89	1.943	0.772
	4.0	53.97	1.224	1.199	83.03	1.928	0.781
	5.0	55.93	1.292	1.157	81.00	1.908	0.793
	6.0	58.23	1.370	1.109	78.66	1.877	0.811
	7.0	61.18	1.466	1.052	75.72	1.830	0.839
	8.0	66.92	1.633	0.954	70.03	1.711	0.909
	(8.05)	68.47	1.673	0.931	68.47	1.673	0.931
1.40	0.0	45.59	1.000	1.400	90.00	2.120	0.740
	1.0	46.84	1.050	1.365	88.55	2.119	0.741
	2.0	48.17	1.103	1.330	87.08	2.114	0.743
	3.0	49.59	1.159	1.293	85.57	2.106	0.748
	4.0	51.12	1.219	1.255	83.99	2.095	0.755
	5.0	52.78	1.283	1.216	82.32	2.079	0.764
	6.0	54.63	1.354	1.174	80.49	2.058	0.776
	7.0	56.76	1.433	1.128	78.42	2.028	0.793
	8.0	59.37	1.526	1.074	75.90	1.984	0.818
	9.0	63.19	1.655	1.003	72.19	1.906	0.863
	(9.43)	67.72	1.791	0.927	67.72	1.791	0.927
1.45	0.0	43.60	1.000	1.450	90.00	2.286	0.720
	1.0	44.78	1.050	1.416	88.71	2.285	0.720
	2.0	46.00	1.103	1.381	87.41	2.281	0.723
	3.0	47.30	1.158	1.345	86.08	2.275	0.726
	4.0	48.68	1.217	1.309	84.70	2.265	0.732
	5.0	50.16	1.279	1.272	83.27	2.253	0.739
	6.0	51.76	1.346	1.233	81.74	2.236	0.749
	7.0	53.52	1.419	1.191	80.07	2.213	0.761
	8.0	55.52	1.500	1.146	78.20	2.184	0.778
	9.0	57.89	1.593	1.095	75.98	2.142	0.801
	10.0	61.05	1.711	1.032	73.00	2.076	0.837
	(10.79)	67.10	1.915	0.924	67.10	1.915	0.924
1.50	0.0	41.81	1.000	1.500	90.00	2.458	0.701
	1.0	42.91	1.050	1.466	88.84	2.457	0.702
	2.0	44.07	1.103	1.432	87.67	2.454	0.704
	3.0	45.27	1.158	1.397	86.48	2.448	0.707
	4.0	46.54	1.217	1.362	85.26	2.440	0.711
	5.0	47.89	1.278	1.325	83.99	2.430	0.717

† Figures in parentheses are maximum values.

Table D.3 Oblique Shock in a Perfect Gas ($\gamma = 1.40$) (*Continued*)

M_1	θ, degrees†	Weak Solutions			Strong Solutions		
		β, degrees	P_2/P_1	M_2	β	P_2/P_1	M_2
	6.0	49.33	1.343	1.288	82.66	2.416	0.725
	7.0	50.88	1.413	1.250	81.25	2.398	0.735
	8.0	52.57	1.489	1.208	79.71	2.375	0.748
	9.0	54.47	1.572	1.164	78.00	2.345	0.764
	10.0	56.68	1.666	1.114	76.00	2.305	0.785
	11.0	59.47	1.781	1.056	73.44	2.245	0.817
	12.0	64.36	1.967	0.961	68.79	2.115	0.885
	(12.11)	66.59	2.044	0.921	66.59	2.044	0.921
1.55	0.0	40.18	1.000	1.550	90.00	2.636	0.684
	1.0	41.23	1.051	1.516	88.95	2.635	0.685
	2.0	42.32	1.104	1.482	87.88	2.632	0.686
	3.0	43.45	1.159	1.448	86.80	2.628	0.689
	4.0	44.64	1.217	1.413	85.70	2.621	0.693
	5.0	45.89	1.278	1.378	84.57	2.611	0.698
	6.0	47.22	1.343	1.341	83.39	2.599	0.705
	7.0	48.62	1.411	1.304	82.15	2.584	0.713
	8.0	50.13	1.485	1.265	80.83	2.565	0.723
	9.0	51.78	1.563	1.224	79.40	2.541	0.736
	10.0	53.60	1.649	1.180	77.81	2.511	0.752
	11.0	55.69	1.746	1.132	75.97	2.471	0.772
	12.0	58.24	1.860	1.076	73.69	2.415	0.801
	13.0	61.98	2.018	0.999	70.24	2.316	0.852
	(13.40)	66.17	2.179	0.920	66.17	2.179	0.920
1.60	0.0	38.68	1.000	1.600	90.00	2.820	0.668
	1.0	39.69	1.051	1.566	89.03	2.819	0.669
	2.0	40.73	1.105	1.532	88.06	2.817	0.670
	3.0	41.81	1.160	1.498	87.07	2.812	0.673
	4.0	42.93	1.219	1.464	86.06	2.806	0.676
	5.0	44.11	1.280	1.429	85.03	2.798	0.681
	6.0	45.35	1.345	1.393	83.97	2.787	0.686
	7.0	46.65	1.413	1.357	82.86	2.774	0.693
	8.0	48.03	1.484	1.320	81.69	2.758	0.702
	9.0	49.51	1.561	1.281	80.45	2.738	0.712
	10.0	51.12	1.643	1.240	79.10	2.713	0.725
	11.0	52.89	1.733	1.196	77.61	2.683	0.741

† Figures in parentheses are maximum values.

M_1	θ, degrees†	Weak Solutions			Strong Solutions		
		β, degrees	P_2/P_1	M_2	β	P_2/P_1	M_2
	12.0	54.89	1.832	1.148	75.90	2.643	0.761
	13.0	57.28	1.948	1.094	73.82	2.588	0.789
	14.0	60.54	2.097	1.023	70.90	2.500	0.832
	(14.65)	65.83	2.319	0.919	65.83	2.319	0.919
1.65	0.0	37.31	1.000	1.650	90.00	3.010	0.654
	1.0	38.27	1.052	1.616	89.11	3.009	0.654
	2.0	39.27	1.106	1.582	88.20	3.006	0.656
	3.0	40.30	1.162	1.548	87.29	3.003	0.658
	4.0	41.38	1.221	1.514	86.37	2.997	0.661
	5.0	42.50	1.283	1.480	85.42	2.989	0.665
	6.0	43.67	1.348	1.444	84.45	2.980	0.670
	7.0	44.89	1.415	1.409	83.44	2.968	0.676
	8.0	46.18	1.487	1.372	82.39	2.954	0.683
	9.0	47.55	1.563	1.334	81.29	2.937	0.692
	10.0	49.01	1.643	1.295	80.11	2.916	0.703
	11.0	50.58	1.729	1.254	78.83	2.890	0.716
	12.0	52.31	1.822	1.210	77.41	2.859	0.732
	13.0	54.26	1.926	1.163	75.80	2.819	0.752
	14.0	56.54	2.044	1.109	73.87	2.764	0.778
	15.0	59.52	2.192	1.042	71.25	2.681	0.818
	(15.86)	65.55	2.465	0.918	65.55	2.465	0.918
1.70	0.0	36.03	1.000	1.700	90.00	3.205	0.641
	1.0	36.97	1.053	1.666	89.17	3.204	0.641
	2.0	37.93	1.107	1.632	88.33	3.202	0.642
	3.0	38.93	1.164	1.598	87.48	3.199	0.644
	4.0	39.96	1.224	1.564	86.62	3.193	0.647
	5.0	41.03	1.286	1.529	85.75	1.186	0.650
	6.0	42.15	1.351	1.495	84.85	3.178	0.655
	7.0	43.31	1.420	1.459	83.93	3.167	0.660
	8.0	44.53	1.491	1.423	82.97	3.154	0.667
	9.0	45.81	1.567	1.386	81.97	3.139	0.675
	10.0	47.17	1.647	1.348	80.91	3.121	0.684
	11.0	48.61	1.731	1.309	79.78	3.099	0.695
	12.0	50.17	1.822	1.267	78.56	3.072	0.708
	13.0	51.87	1.920	1.223	77.21	3.040	0.724
	14.0	53.77	2.027	1.176	75.67	2.999	0.744

† Figures in parentheses are maximum values.

Table D.3 Oblique Shock in a Perfect Gas ($\gamma = 1.40$) (*Continued*)

M_1	θ, degrees†	Weak Solutions			Strong Solutions		
		β, degrees	P_2/P_1	M_2	β	P_2/P_1	M_2
	15.0	55.99	2.150	1.122	73.84	2.944	0.770
	16.0	58.80	2.300	1.057	71.43	2.863	0.808
	17.0	64.63	2.586	0.932	66.00	2.647	0.905
	(17.01)	65.32	2.617	0.918	65.32	2.617	0.918
1.75	0.0	34.85	1.000	1.750	90.00	3.406	0.628
	1.0	35.75	1.053	1.716	89.22	3.406	0.628
	2.0	36.69	1.109	1.682	88.44	3.404	0.630
	3.0	37.65	1.167	1.648	87.64	3.400	0.631
	4.0	38.65	1.227	1.613	86.84	3.395	0.634
	5.0	39.69	1.290	1.579	86.03	3.389	0.637
	6.0	40.76	1.356	1.544	85.19	3.381	0.641
	7.0	41.87	1.425	1.509	84.34	3.371	0.646
	8.0	43.04	1.497	1.473	83.45	3.360	0.652
	9.0	44.25	1.573	1.437	82.53	3.346	0.659
	10.0	45.53	1.653	1.400	81.57	3.329	0.667
	11.0	46.88	1.737	1.361	80.56	3.310	0.677
	12.0	48.32	1.826	1.321	79.47	3.287	0.688
	13.0	49.87	1.922	1.279	78.29	3.259	0.701
	14.0	51.55	2.025	1.235	76.99	3.225	0.718
	15.0	53.42	2.137	1.187	75.51	3.183	0.738
	16.0	55.59	2.265	1.133	73.76	3.127	0.764
	17.0	58.30	2.420	1.068	71.48	3.046	0.800
	18.0	62.95	2.667	0.965	67.27	2.873	0.877
	(18.12)	65.13	2.775	0.919	65.13	2.775	0.919
1.80	0.0	33.75	1.000	1.800	90.00	3.613	0.617
	1.0	34.63	1.054	1.766	89.27	3.613	0.617
	2.0	35.54	1.110	1.731	88.53	3.611	0.618
	3.0	36.48	1.169	1.697	87.78	3.608	0.619
	4.0	37.44	1.231	1.663	87.03	3.603	0.622
	5.0	38.45	1.295	1.628	86.27	3.597	0.625
	6.0	39.48	1.361	1.593	85.49	3.590	0.628
	7.0	40.56	1.431	1.558	84.69	3.581	0.633
	8.0	41.67	1.504	1.523	83.87	3.570	0.638
	9.0	42.84	1.581	1.486	83.02	3.557	0.644
	10.0	44.06	1.661	1.449	82.13	3.542	0.652

† Figures in parentheses are maximum values.

M_1	θ, degrees†	Weak Solutions			Strong Solutions		
		β, degrees	P_2/P_1	M_2	β	P_2/P_1	M_2
	11.0	45.34	1.746	1.412	81.20	3.525	0.660
	12.0	46.69	1.835	1.373	80.22	3.504	0.670
	13.0	48.12	1.929	1.332	79.16	3.480	0.682
	14.0	49.66	2.030	1.290	78.02	3.451	0.696
	15.0	51.34	2.138	1.245	76.76	3.415	0.712
	16.0	53.20	2.257	1.196	75.33	3.371	0.733
	17.0	55.34	2.391	1.142	73.63	3.313	0.759
	18.0	58.00	2.552	1.077	71.43	3.230	0.796
	19.0	62.31	2.797	0.977	67.58	3.064	0.867
	(19.18)	64.99	2.938	0.920	64.99	2.938	0.920
1.85	0.0	32.72	1.000	1.850	90.00	3.826	0.606
	1.0	33.58	1.055	1.815	89.31	3.826	0.606
	2.0	34.47	1.112	1.781	88.61	3.824	0.607
	3.0	35.38	1.172	1.746	87.91	3.821	0.608
	4.0	36.32	1.234	1.711	87.20	3.817	0.611
	5.0	37.30	1.299	1.677	86.48	3.811	0.613
	6.0	38.30	1.367	1.642	85.74	3.804	0.617
	7.0	39.35	1.438	1.607	84.99	3.796	0.621
	8.0	40.43	1.512	1.571	84.23	3.786	0.626
	9.0	41.55	1.590	1.535	83.43	3.774	0.631
	10.0	42.72	1.671	1.498	82.61	3.760	0.638
	11.0	43.94	1.756	1.461	81.75	3.744	0.646
	12.0	45.22	1.845	1.422	80.85	3.725	0.655
	13.0	46.58	1.940	1.383	79.89	3.703	0.665
	14.0	48.02	2.040	1.342	78.86	3.677	0.677
	15.0	49.56	2.146	1.298	77.75	3.646	0.692
	16.0	51.23	2.261	1.252	76.51	3.609	0.709
	17.0	53.09	2.386	1.203	75.11	3.563	0.729
	18.0	55.23	2.528	1.148	73.44	3.502	0.756
	19.0	57.87	2.697	1.082	71.29	3.415	0.793
	20.0	62.10	2.952	0.982	67.55	3.244	0.865
	(20.20)	64.87	3.106	0.920	64.87	3.106	0.920
1.90	0.0	31.76	1.000	1.900	90.00	4.045	0.596
	1.0	32.60	1.056	1.865	89.34	4.044	0.596
	2.0	33.47	1.114	1.830	88.68	4.043	0.597
	3.0	34.36	1.175	1.795	88.01	4.040	0.598

† Figures in parentheses are maximum values.

Table D.3 Oblique Shock in a Perfect Gas ($\gamma = 1.40$) (*Continued*)

M_1	θ, degrees†	Weak Solutions β, degrees	Weak Solutions P_2/P_1	Weak Solutions M_2	Strong Solutions β	Strong Solutions P_2/P_1	Strong Solutions M_2
	4.0	35.28	1.238	1.760	87.34	4.036	0.600
	5.0	36.23	1.304	1.725	86.66	4.031	0.603
	6.0	37.21	1.374	1.690	85.97	4.024	0.606
	7.0	38.22	1.446	1.655	85.26	4.016	0.610
	8.0	39.27	1.521	1.619	84.54	4.007	0.614
	9.0	40.36	1.600	1.583	83.79	3.996	0.620
	10.0	41.49	1.682	1.546	83.02	3.983	0.626
	11.0	42.67	1.768	1.509	82.22	3.968	0.633
	12.0	43.90	1.858	1.471	81.39	3.950	0.641
	13.0	45.19	1.953	1.432	80.50	3.930	0.650
	14.0	46.55	2.053	1.391	79.57	3.907	0.661
	15.0	48.00	2.159	1.349	78.56	3.879	0.674
	16.0	49.55	2.272	1.305	77.47	3.847	0.688
	17.0	51.23	2.393	1.258	76.25	3.807	0.706
	18.0	53.10	2.526	1.208	74.86	3.758	0.727
	19.0	55.24	2.676	1.151	73.21	3.694	0.755
	20.0	57.90	2.856	1.084	71.06	3.601	0.794
	21.0	62.25	3.132	0.979	67.23	3.414	0.869
	(21.17)	64.79	3.280	0.922	64.79	3.280	0.922
1.95	0.0	30.85	1.000	1.950	90.00	4.270	0.586
	1.0	31.68	1.057	1.914	89.37	4.269	0.586
	2.0	32.53	1.116	1.879	88.74	4.267	0.587
	3.0	33.40	1.178	1.844	88.11	4.265	0.589
	4.0	34.31	1.242	1.809	87.47	4.261	0.590
	5.0	35.23	1.310	1.773	86.82	4.256	0.593
	6.0	36.19	1.380	1.738	86.17	4.250	0.596
	7.0	37.18	1.454	1.703	85.50	4.242	0.599
	8.0	38.21	1.530	1.667	84.81	4.233	0.604
	9.0	39.26	1.610	1.630	84.11	4.223	0.609
	10.0	40.36	1.694	1.594	83.38	4.211	0.614
	11.0	41.50	1.781	1.557	82.63	4.197	0.621
	12.0	42.69	1.873	1.519	81.85	4.180	0.628
	13.0	43.93	1.969	1.480	81.03	4.162	0.637
	14.0	45.23	2.069	1.440	80.17	4.140	0.647
	15.0	46.60	2.175	1.398	79.25	4.115	0.658

† Figures in parentheses are maximum values.

M_1	θ, degrees†	Weak Solutions β, degrees	Weak Solutions P_2/P_1	Weak Solutions M_2	Strong Solutions β	Strong Solutions P_2/P_1	Strong Solutions M_2
	16.0	48.06	2.288	1.355	78.26	4.086	0.671
	17.0	49.62	2.408	1.310	77.17	4.051	0.686
	18.0	51.32	2.537	1.262	75.97	4.009	0.705
	19.0	53.21	2.678	1.210	74.59	3.956	0.727
	20.0	55.38	2.838	1.152	72.93	3.887	0.756
	21.0	58.10	3.031	1.082	70.75	3.787	0.796
	22.0	62.86	3.346	0.966	66.53	3.566	0.883
	(22.09)	64.72	3.460	0.923	64.72	3.460	0.923
2.00	0.0	30.00	1.000	2.000	90.00	4.500	0.577
	1.0	30.81	1.058	1.964	89.40	4.500	0.578
	2.0	31.65	1.118	1.928	88.80	4.498	0.578
	3.0	32.51	1.181	1.892	88.20	4.495	0.580
	4.0	33.39	1.247	1.857	87.59	4.492	0.581
	5.0	34.30	1.315	1.821	86.97	4.487	0.584
	6.0	35.24	1.387	1.786	86.34	4.481	0.586
	7.0	36.21	1.462	1.750	85.71	4.474	0.590
	8.0	37.21	1.540	1.714	85.05	4.465	0.594
	9.0	38.25	1.622	1.677	84.39	4.455	0.598
	10.0	39.32	1.707	1.641	83.70	4.444	0.604
	11.0	40.42	1.796	1.603	82.99	4.431	0.610
	12.0	41.58	1.888	1.565	82.26	4.415	0.617
	13.0	42.78	1.986	1.526	81.49	4.398	0.625
	14.0	44.03	2.088	1.487	80.69	4.378	0.634
	15.0	45.35	2.195	1.446	79.83	4.355	0.644
	16.0	46.73	2.308	1.403	78.92	4.328	0.656
	17.0	48.21	2.427	1.359	77.94	4.296	0.669
	18.0	49.79	2.555	1.313	76.86	4.259	0.685
	19.0	51.51	2.692	1.264	75.66	4.214	0.704
	20.0	53.42	2.843	1.210	74.27	4.157	0.728
	21.0	55.65	3.014	1.150	72.59	4.082	0.758
	22.0	58.46	3.223	1.076	70.33	3.971	0.802
	(22.97)	64.67	3.646	0.924	64.67	3.646	0.924
2.10	0.0	28.44	1.000	2.100	90.00	4.978	0.561
	2.0	30.03	1.122	2.026	88.90	4.976	0.562
	4.0	31.72	1.256	1.953	87.78	4.971	0.565
	6.0	33.51	1.402	1.880	86.64	4.961	0.569

† Figures in parentheses are maximum values.

Table D.3 Oblique Shock in a Perfect Gas ($\gamma = 1.40$) (*Continued*)

M_1	θ, degrees†	Weak Solutions β, degrees	Weak Solutions P_2/P_1	Weak Solutions M_2	Strong Solutions β	Strong Solutions P_2/P_1	Strong Solutions M_2
	8.0	35.41	1.561	1.807	85.47	4.946	0.576
	10.0	37.43	1.734	1.733	84.24	4.926	0.585
	12.0	39.59	1.923	1.656	82.94	4.901	0.596
	14.0	41.91	2.129	1.578	81.54	4.867	0.611
	16.0	44.43	2.355	1.495	80.00	4.823	0.630
	18.0	47.21	2.604	1.408	78.26	4.765	0.654
	20.0	50.37	2.885	1.312	76.19	4.685	0.687
	22.0	54.17	3.215	1.202	73.52	4.564	0.735
	24.0	59.77	3.674	1.049	69.11	4.324	0.825
	(24.61)	64.62	4.033	0.927	64.62	4.033	0.927
2.20	0.0	27.04	1.000	2.200	90.00	5.480	0.547
	2.0	28.59	1.127	2.124	88.98	5.478	0.548
	4.0	30.24	1.265	2.049	87.94	5.473	0.550
	6.0	31.98	1.417	1.974	86.89	5.463	0.555
	8.0	33.83	1.583	1.899	85.80	5.450	0.561
	10.0	35.79	1.764	1.823	84.67	5.431	0.569
	12.0	37.87	1.961	1.745	83.49	5.407	0.579
	14.0	40.10	2.176	1.666	82.22	5.376	0.592
	16.0	42.49	2.410	1.583	80.84	5.337	0.609
	18.0	45.09	2.666	1.496	79.31	5.286	0.630
	20.0	47.98	2.949	1.404	77.55	5.218	0.657
	22.0	51.28	3.270	1.301	75.42	5.122	0.694
	24.0	55.36	3.655	1.181	72.56	4.973	0.749
	26.0	62.70	4.292	0.980	66.48	4.581	0.885
	(26.10)	64.62	4.443	0.931	64.62	4.443	0.931
2.30	0.0	25.77	1.000	2.300	90.00	6.005	0.534
	2.0	27.30	1.131	2.221	89.04	6.003	0.535
	4.0	28.91	1.275	2.144	88.07	5.998	0.537
	6.0	30.61	1.434	2.067	87.09	5.989	0.541
	8.0	32.42	1.607	1.990	86.08	5.976	0.547
	10.0	34.33	1.796	1.912	85.03	5.959	0.554
	12.0	36.35	2.002	1.833	83.93	5.936	0.564
	14.0	38.51	2.226	1.751	82.77	5.907	0.576
	16.0	40.82	2.470	1.668	81.51	5.871	0.591
	18.0	43.30	2.736	1.581	80.14	5.824	0.609

† Figures in parentheses are maximum values.

M_1	θ, degrees†	Weak Solutions β, degrees	Weak Solutions P_2/P_1	Weak Solutions M_2	Strong Solutions β	Strong Solutions P_2/P_1	Strong Solutions M_2
	20.0	46.01	3.028	1.489	78.59	5.763	0.633
	22.0	49.03	3.351	1.389	76.77	5.682	0.664
	24.0	52.54	3.722	1.279	74.51	5.565	0.706
	26.0	57.08	4.182	1.143	71.27	5.368	0.774
	(27.45)	64.65	4.874	0.934	64.65	4.874	0.934
2.40	0.0	24.63	1.000	2.400	90.00	6.553	0.523
	2.0	26.12	1.136	2.318	89.10	6.552	0.524
	4.0	27.70	1.286	2.238	88.19	6.547	0.526
	6.0	29.38	1.451	2.159	87.26	6.538	0.530
	8.0	31.15	1.631	2.080	86.31	6.525	0.535
	10.0	33.02	1.829	1.999	85.33	6.509	0.542
	12.0	35.01	2.045	1.918	84.30	6.487	0.551
	14.0	37.11	2.280	1.835	83.22	6.460	0.562
	16.0	39.35	2.535	1.750	82.06	6.425	0.575
	18.0	41.75	2.813	1.661	80.80	6.382	0.592
	20.0	44.34	3.116	1.569	79.40	6.326	0.613
	22.0	47.18	3.448	1.471	77.81	6.253	0.640
	24.0	50.37	3.820	1.364	75.89	6.154	0.675
	26.0	54.19	4.252	1.243	73.40	6.005	0.726
	28.0	59.66	4.838	1.078	69.29	5.713	0.820
	(28.68)	64.71	5.327	0.937	64.71	5.327	0.937
2.50	0.0	23.58	1.000	2.500	90.00	7.125	0.513
	2.0	25.05	1.141	2.416	89.14	7.123	0.514
	4.0	26.61	1.296	2.333	88.28	7.118	0 516
	6.0	28.26	1.468	2.251	87.40	7.110	0.519
	8.0	30.01	1.657	2.169	86.51	7.098	0.524
	10.0	31.85	1.864	2.086	85.58	7.082	0.530
	12.0	33.80	2.090	2.002	84.61	7.061	0.539
	14.0	35.87	2.336	1.917	83.60	7.034	0.549
	16.0	38.06	2.604	1.830	82.52	7.001	0.562
	18.0	40.39	2.895	1.739	81.36	6.960	0.577
	20.0	42.89	3.211	1.646	80.07	6.908	0.596
	22.0	45.60	3.556	1.548	78.63	6.841	0.620
	24.0	48.60	3.936	1.443	76.94	6.753	0.651
	26.0	52.04	4.366	1.327	74.86	6.627	0.693
	28.0	56.34	4.884	1.189	71.95	6.425	0.757
	(29.80)	64.78	5.801	0.940	64.78	5.801	0.940

† Figures in parentheses are maximum values.

Table D.3 Oblique Shock in a Perfect Gas ($\gamma = 1.40$) (*Continued*)

M_1	θ, degrees†	Weak Solutions			Strong Solutions		
		β, degrees	P_2/P_1	M_2	β	P_2/P_1	M_2
2.60	0.0	22.62	1.000	2.600	90.00	7.720	0.504
	2.0	24.07	1.145	2.512	89.19	7.718	0.505
	4.0	25.61	1.307	2.427	88.36	7.714	0.506
	6.0	27.24	1.486	2.342	87.53	7.705	0.510
	8.0	28.97	1.683	2.257	86.67	7.693	0.514
	10.0	30.79	1.900	2.172	85.79	7.678	0.520
	12.0	32.72	2.137	2.085	84.88	7.657	0.528
	14.0	34.75	2.396	1.997	83.92	7.632	0.538
	16.0	36.90	2.677	1.908	82.91	7.600	0.550
	18.0	39.19	2.982	1.815	81.82	7.560	0.564
	20.0	41.62	3.313	1.720	80.63	7.511	0.582
	22.0	44.24	3.672	1.621	79.30	7.448	0.604
	24.0	47.10	4.066	1.516	77.78	7.367	0.631
	26.0	50.31	4.503	1.403	75.96	7.256	0.667
	28.0	54.09	5.007	1.274	73.59	7.091	0.719
	30.0	59.35	5.671	1.106	69.78	6.778	0.811
	(30.81)	64.87	6.297	0.943	64.87	6.297	0.943
2.70	0.0	21.74	1.000	2.700	90.00	8.338	0.496
	2.0	23.17	1.150	2.609	89.22	8.337	0.496
	4.0	24.70	1.318	2.520	88.43	8.332	0.498
	6.0	26.31	1.504	2.432	87.63	8.324	0.501
	8.0	28.02	1.710	2 344	86.82	8 312	0.506
	10.0	29.82	1.937	2.256	85.98	8.297	0.511
	12.0	31.73	2.186	2.167	85.11	8.277	0.519
	14.0	33.74	2.457	2.076	84.20	8.251	0.528
	16.0	35.86	2.752	1.984	83.24	8.220	0.539
	18.0	38.11	3.073	1.889	82.21	8.182	0.553
	20.0	40.50	3.420	1.792	81.10	8.135	0.569
	22.0	43.05	3.796	1.691	79.86	8.075	0.589
	24.0	45.81	5.206	1.585	78.47	7.998	0.615
	26.0	48.85	4.656	1.472	76.83	7.897	0.647
	28.0	52.34	5.163	1.349	74.79	7.753	0.691
	30.0	56.69	5.773	1.202	71.92	7.519	0.759
	(31.74)	64.96	6.814	0.946	64.96	6.814	0.946

† Figures in parentheses are maximum values.

M_1	θ, degrees†	Weak Solutions			Strong Solutions		
		β, degrees	P_2/P_1	M_2	β	P_2/P_1	M_2
2.80	0.0	20.93	1.000	2.800	90.00	8.980	0.488
	2.0	22.35	1.155	2.706	89.25	8.978	0.489
	4.0	23.85	1.329	2.613	88.49	8.974	0.491
	6.0	25.46	1.523	2.522	87.73	8.966	0.494
	8.0	27.15	1.738	2.431	86.95	8.954	0.498
	10.0	28.94	1.975	2.340	86.14	8.939	0.503
	12.0	30.83	2.236	2.248	85.31	8.919	0.510
	14.0	32.82	2.521	2.154	84.44	8.894	0.519
	16.0	34.92	2.831	2.059	83.53	8.864	0.530
	18.0	37.14	3.168	1.961	82.55	8.826	0.543
	20.0	39.49	3.532	1.861	81.50	8.780	0.558
	22.0	41.99	3.927	1.758	80.34	8.722	0.577
	24.0	44.68	4.355	1.651	79.05	8.650	0.600
	26.0	47.61	4.822	1.538	77.55	8.554	0.630
	28.0	50.89	5.340	1.416	75.73	8.424	0.668
	30.0	54.79	5.939	1.278	73.33	8.227	0.724
	32.0	60.43	6.753	1.091	69.21	7.828	0.831
	(32.59)	65.05	7.352	0.949	65.05	7.352	0.949
2.90	0.0	20.17	1.000	2.900	90.00	9.645	0.481
	2.0	21.58	1.160	2.802	89.28	9.643	0.482
	4.0	23.08	1.341	2.706	88.55	9.639	0.484
	6.0	24.67	1.542	2.612	87.81	9.631	0.487
	8.0	26.35	1.766	2.518	87.06	9.619	0.491
	10.0	28.13	2.014	2.423	86.29	9.604	0.496
	12.0	30.01	2.287	2.327	85.49	9.584	0.503
	14.0	31.99	2.586	2.230	84.65	9.560	0.511
	16.0	34.07	2.912	2.132	83.78	9.530	0.521
	18.0	36.27	3.266	2.031	82.85	9.493	0.533
	20.0	38.59	3.650	1.929	81.85	9.448	0.548
	22.0	41.05	4.064	1.823	80.74	9.392	0.566
	24.0	43.67	4.512	1.714	79.54	9.321	0.588
	26.0	46.52	4.998	1.600	78.14	9.231	0.615
	28.0	49.66	5.533	1.479	76.49	9.110	0.650
	30.0	53.28	6.136	1.345	74.39	8.935	0.699
	32.0	57.93	6.879	1.183	71.29	8.635	0.777
	(33.36)	65.15	7.912	0.952	65.15	7.912	0.952

† Figures in parentheses are maximum values.

Table D.3 Oblique Shock in a Perfect Gas ($\gamma = 1.40$) (*Continued*)

M_1	θ, degrees†	Weak Solutions			Strong Solutions		
		β, degrees	P_2/P_1	M_2	β	P_2/P_1	M_2
3.00	0.0	19.47	1.000	3.000	90.00	10.333	0.475
	2.0	20.87	1.166	2.898	89.30	10.322	0.476
	4.0	22.36	1.352	2.799	88.60	10.327	0.477
	6.0	23.94	1.562	2.701	87.88	10.319	0.480
	8.0	25.61	1.795	2.603	87.16	10.307	0.484
	10.0	27.38	2.055	2.505	86.41	10.292	0.489
	12.0	29.25	2.340	2.406	85.64	10.273	0.496
	14.0	31.22	2.654	2.306	84.84	10.248	0.504
	16.0	33.29	2.996	2.204	84.00	10.218	0.514
	18.0	35.47	3.368	2.100	83.11	10.182	0.525
	20.0	37.76	3.771	1.994	82.15	10.137	0.539
	22.0	40.19	4.206	1.886	81.11	10.082	0.556
	24.0	42.78	4.676	1.774	79.96	10.014	0.577
	26.0	45.55	5.184	1.659	78.65	9.927	0.602
	28.0	48.59	5.739	1.537	77.13	9.812	0.635
	30.0	52.02	6.356	1.406	75.24	9.652	0.678
	32.0	56.18	7.081	1.254	72.65	9.399	0.743
	34.0	63.67	8.268	1.003	66.75	8.697	0.908
	(34.07)	65.24	8.492	0.954	65.24	8.492	0.954
3.10	0.0	18.82	1.000	3.100	90.00	11.045	0.470
	2.0	20.21	1.171	2.994	89.32	11.043	0.470
	4.0	21.68	1.364	2.891	88.64	11.039	0.472
	6.0	23.26	1.582	2.789	87.95	11.031	0.474
	8.0	24.93	1.825	2.688	87.24	11.019	0.478
	10.0	26.69	2.096	2.586	86.52	11.004	0.483
	12.0	28.55	2.395	2.484	85.78	10.984	0.490
	14.0	30.51	2.724	2.380	85.00	10.960	0.497
	16.0	32.57	3.083	2.274	84.19	10.930	0.507
	18.0	34.74	3.474	2.167	83.33	10.894	0.518
	20.0	37.02	3.897	2.058	82.42	10.850	0.531
	22.0	39.42	4.354	1.947	81.42	10.795	0.548
	24.0	41.97	4.847	1.833	80.33	10.728	0.567
	26.0	44.69	5.379	1.715	79.09	10.644	0.591
	28.0	47.65	5.956	1.593	77.67	10.533	0.621
	30.0	50.94	6.592	1.462	75.94	10.383	0.661

† Figures in parentheses are maximum values.

M_1	θ, degrees†	Weak Solutions			Strong Solutions		
		β, degrees	P_2/P_1	M_2	β	P_2/P_1	M_2
	32.0	54.80	7.320	1.316	73.66	10.158	0.717
	34.0	60.21	8.277	1.124	69.87	9.717	0.820
	(34.73)	65.34	9.093	0.956	65.34	9.093	0.956
3.20	0.0	18.21	1.000	3.200	90.00	11.780	0.464
	2.0	19.59	1.176	3.090	89.34	11.778	0.465
	4.0	21.06	1.376	2.983	88.68	11.774	0.466
	6.0	22.63	1.602	2.878	88.01	11.766	0.469
	8.0	24.29	1.855	2.773	87.32	11.754	0.473
	10.0	26.05	2.138	2.667	86.62	11.738	0.478
	12.0	27.91	2.451	2.561	85.90	11.719	0.484
	14.0	29.86	2.795	2.453	85.15	11.695	0.491
	16.0	31.92	3.172	2.344	84.37	11.665	0.500
	18.0	34.07	3.583	2.233	83.54	11.629	0.511
	20.0	36.34	4.027	2.121	82.65	11.584	0.524
	22.0	38.72	4.507	2.006	81.70	11.531	0.540
	24.0	41.24	5.024	1.889	80.65	11.464	0.559
	26.0	43.92	5.582	1.770	79.48	11.381	0.581
	28.0	46.81	6.184	1.645	78.13	11.275	0.610
	30.0	50.00	6.843	1.514	76.53	11.131	0.646
	32.0	53.65	7.583	1.371	74.48	10.924	0.697
	34.0	58.35	8.491	1.198	71.41	10.566	0.779
	(35.33)	65.43	9.714	0.959	65.43	9.714	0.959
3.30	0.0	17.64	1.000	3.300	90.00	12.538	0.460
	2.0	19.01	1.181	3.186	89.36	12.537	0.460
	4.0	20.48	1.388	3.075	88.71	12.532	0.462
	6.0	22.04	1.622	2.965	88.06	12.524	0.464
	8.0	23.70	1.886	2.856	87.39	12.512	0.468
	10.0	25.46	2.181	2.747	86.71	12.496	0.473
	12.0	27.31	2.508	2.636	86.01	12.477	0.479
	14.0	29.26	2.869	2.525	85.28	12.452	0.486
	16.0	31.31	3.264	2.412	84.52	12.422	0.495
	18.0	33.46	3.695	2.297	83.72	12.386	0.505
	20.0	35.71	4.162	2.181	82.86	12.342	0.518
	22.0	38.08	4.666	2.064	81.94	12.288	0.533
	24.0	40.57	5.208	1.944	80.93	12.233	0.551
	26.0	43.22	5.792	1.822	79.81	12.141	0.573

† Figures in parentheses are maximum values.

Table D.3 Oblique Shock in a Perfect Gas ($\gamma = 1.40$) (*Continued*)

M_1	θ, degrees†	Weak Solutions			Strong Solutions		
		β, degrees	P_2/P_1	M_2	β	P_2/P_1	M_2
	28.0	46.06	6.421	1.696	78.54	12.036	0.599
	30.0	49.16	7.106	1.564	77.03	11.898	0.634
	32.0	52.67	7.866	1.422	75.15	11.704	0.680
	34.0	56.97	8.762	1.258	72.50	11.390	0.750
	(35.88)	65.52	10.356	0.961	65.52	10.356	0.961
3.40	0.0	17.11	1.000	3.400	90.00	13.320	0.455
	2.0	18.47	1.187	3.281	89.38	13.318	0.456
	4.0	19.93	1.400	3.166	88.74	13.314	0.457
	6.0	21.49	1.643	3.053	88.11	13.305	0.460
	8.0	23.15	1.917	2.940	87.46	13.293	0.463
	10.0	24.90	2.225	2.826	86.79	13.278	0.468
	12.0	26.76	2.566	2.712	86.11	13.258	0.474
	14.0	28.70	2.944	2.596	85.40	13.233	0.481
	16.0	30.75	3.358	2.479	84.66	13.203	0.489
	18.0	32.89	3.810	2.360	83.88	13.167	0.500
	20.0	35.13	4.300	2.241	83.05	13.122	0.512
	22.0	37.49	4.829	2.120	82.16	13.069	0.526
	24.0	39.97	5.398	1.997	81.19	13.003	0.544
	26.0	42.59	6.010	1.872	80.11	12.922	0.565
	28.0	45.39	6.668	1.744	78.89	12.819	0.590
	30.0	48.42	7.380	1.611	77.47	12.685	0.623
	32.0	51.81	8.165	1.469	75.72	12.499	0.665
	34.0	55.84	9.067	1.310	73.36	12.213	0.728
	36.0	61.92	10.331	1.087	68.96	11.582	0.856
	(36.39)	65.60	11.019	0.962	65.60	11.019	0.962
3.50	0.0	16.60	1.000	3.500	90.00	14.125	0.451
	2.0	17.96	1.192	3.377	89.39	14.123	0.452
	4.0	19.42	1.413	3.257	88.77	14.118	0.453
	6.0	20.97	1.664	3.140	88.15	14.110	0.456
	8.0	22.63	1.949	3.022	87.51	14.098	0.459
	10.0	24.38	2.269	2.904	86.86	14.082	0.464
	12.0	26.24	2.626	2.786	86.20	14.062	0.469
	14.0	28.18	3.021	2.666	85.51	14.037	0.476
	16.0	30.23	3.455	2.545	84.78	14.007	0.485
	18.0	32.36	3.928	2.422	84.02	13.970	0.495

† Figures in parentheses are maximum values.

M_1	θ, degrees†	Weak Solutions			Strong Solutions		
		β, degrees	P_2/P_1	M_2	β	P_2/P_1	M_2
	20.0	34.60	4.442	2.299	83.22	13.926	0.507
	22.0	36.95	4.997	2.174	82.35	13.872	0.521
	24.0	39.41	5.594	2.048	81.42	13.806	0.537
	26.0	42.01	6.234	1.920	80.38	13.726	0.557
	28.0	44.77	6.923	1.789	79.21	13.624	0.582
	30.0	47.76	7.665	1.655	77.85	13.492	0.613
	32.0	51.05	8.478	1.513	76.21	13.313	0.653
	34.0	54.89	9.397	1.357	74.05	13.046	0.710
	36.0	60.09	10.572	1.159	70.55	12.540	0.811
	(36.87)	65.69	11.703	0.964	65.69	11.703	0.964
3.60	0.0	16.13	1.000	3.600	90.00	14.953	0.447
	2.0	17.48	1.197	3.472	89.40	14.952	0.448
	4.0	18.93	1.425	3.348	88.80	14.947	0.449
	6.0	20.49	1.686	3.226	88.19	14.938	0.452
	8.0	22.14	1.982	3.104	87.57	14.926	0.455
	10.0	23.90	2.315	2.982	86.93	14.910	0.460
	12.0	25.75	2.687	2.859	86.28	14.890	0.465
	14.0	27.70	3.100	2.735	85.60	14.864	0.472
	16.0	29.74	3.554	2.609	84.90	14.834	0.480
	18.0	31.88	4.050	2.483	84.16	14.797	0.490
	20.0	34.11	4.588	2.355	83.37	14.752	0.502
	22.0	36.45	5.170	2.227	82.53	14.698	0.515
	24.0	38.90	5.795	2.097	81.62	14.632	0.532
	26.0	41.48	6.466	1.966	80.62	14.551	0.551
	28.0	44.22	7.186	1.834	79.49	14.450	0.575
	30.0	47.15	7.961	1.697	78.19	14.320	0.604
	32.0	50.38	8.804	1.555	76.64	14.145	0.642
	34.0	54.07	9.746	1.400	74.64	13.892	0.695
	36.0	58.80	10.894	1.215	71.62	13.450	0.781
	(37.31)	65.77	12.407	0.966	65.77	12.407	0.966
3.70	0.0	15.68	1.000	3.700	90.00	15.805	0.444
	2.0	17.03	1.203	3.567	89.41	15.803	0.444
	4.0	18.48	1.438	3.439	88.82	15.798	0.446
	6.0	20.03	1.707	3.312	88.22	15 790	0.448
	8.0	21.69	2.015	3.186	87.61	15.777	0.452
	10.0	23.44	2.361	3.059	86.99	15.761	0.456

† Figures in parentheses are maximum values.

Table D.3 Oblique Shock in a Perfect Gas ($\gamma = 1.40$) (*Continued*)

M_1	θ, degrees†	Weak Solutions			Strong Solutions		
		β, degrees	P_2/P_1	M_2	β	P_2/P_1	M_2
	12.0	25.30	2.750	2.931	86.35	15.740	0.461
	14.0	27.25	3.181	2.803	85.69	15.715	0.468
	16.0	29.29	3.655	2.673	85.00	15.684	0.476
	18.0	31.42	4.174	2.542	84.28	15.646	0.486
	20.0	33.65	4.738	2.410	83.51	15.601	0.497
	22.0	35.99	5.348	2.278	82.69	15.546	0.510
	24.0	38.43	6.003	2.145	81.80	15.480	0.526
	26.0	40.99	6.705	2.011	80.83	15.399	0.545
	28.0	43.71	7.458	1.876	79.74	15.298	0.568
	30.0	46.61	8.266	1.738	78.49	15.169	0.596
	32.0	49.77	9.142	1.594	77.01	14.998	0.632
	34.0	53.35	10.112	1.440	75.14	14.754	0.681
	36.0	57.76	11.260	1.262	72.45	14.352	0.758
	(37.71)	65.85	13.131	0.968	65.85	13.131	0.968
3.80	0.0	15.26	1.000	3.800	90.00	16.680	0.441
	2.0	16.60	1.208	3.662	89.42	16.678	0.441
	4.0	18.05	1.450	3.529	88.84	16.673	0.443
	6.0	19.60	1.729	3.398	88.25	16.664	0.445
	8.0	21.26	2.048	3.267	87.66	16.652	0.448
	10.0	23.02	2.409	3.135	87.05	16.635	0.452
	12.0	24.87	2.813	3.003	86.42	16.614	0.458
	14.0	26.82	3.263	2.870	85.77	16.588	0.464
	16.0	28.87	3.759	2.735	85.09	16.557	0.472
	18.0	31.00	4.302	2.600	84.39	16.519	0.482
	20.0	33.23	4.892	2.464	83.64	16.473	0.493
	22.0	35.56	5.530	2.328	82.84	16.418	0.506
	24.0	37.99	6.216	2.192	81.97	16.351	0.521
	26.0	40.54	6.951	7.055	81.02	16.270	0.540
	28.0	43.24	7.738	1.917	79.97	16.169	0.562
	30.0	46.11	8.581	1.776	78.77	16.040	0.589
	32.0	49.22	9.492	1.631	77.34	15.871	0.624
	34.0	52.70	10.494	1.478	75.57	15.634	0.670
	36.0	56.90	11.654	1.304	73.12	15.259	0.739
	38.0	64.19	13.487	1.029	67.57	14.227	0.913
	(38.09)	65.92	13.876	0.969	65.92	13.876	0.969

† Figures in parentheses are maximum values.

M_1	θ, degrees†	Weak Solutions			Strong Solutions		
		β, degrees	P_2/P_1	M_2	β	P_2/P_1	M_2
3.90	0.0	14.86	1.000	3.900	90.00	17.578	0.438
	2.0	16.20	1.214	3.757	89.43	17.577	0.438
	4.0	17.64	1.463	3.619	88.86	17.571	0.440
	6.0	19.20	1.752	3.483	88.28	17.562	0.442
	8.0	20.85	2.082	3.347	87.70	17.550	0.445
	10.0	22.61	2.457	3.211	87.10	17.533	0.449
	12.0	24.47	2.878	3.074	86.48	17.511	0.455
	14.0	26.42	3.347	2.936	85.84	17.485	0.461
	16.0	28.47	3.865	2.797	85.18	17.453	0.469
	18.0	30.61	4.433	2.657	84.49	17.414	0.478
	20.0	32.83	5.050	2.517	83.75	17.368	0.489
	22.0	35.16	5.717	2.377	82.97	17.312	0.502
	24.0	37.59	6.435	2.237	82.12	17.245	0.517
	26.0	40.13	7.203	2.097	81.20	17.163	0.535
	28.0	42.80	8.026	1.956	80.18	17.061	0.556
	30.0	45.65	8.906	1.813	79.01	16.933	0.583
	32.0	48.72	9.854	1.667	77.64	16.765	0.616
	34.0	52.13	10.890	1.513	75.96	16.533	0.660
	36.0	56.15	12.072	1.343	73.68	16.177	0.724
	38.0	62.09	13.690	1.110	69.50	15.402	0.853
	(38.44)	65.99	14.641	0.970	65.99	14.641	0.970
4.00	0.0	14.48	1.000	4.000	90.00	18.500	0.435
	2.0	15.81	1.219	3.852	89.44	18.498	0.435
	4.0	17.26	1.476	3.709	88.88	18.493	0.437
	6.0	18.81	1.774	3.568	88.31	18.484	0.439
	8.0	20.47	2.117	3.427	87.73	18.471	0.442
	10.0	22.23	2.506	3.287	87.14	18.454	0.446
	12.0	24.10	2.945	3.144	86.54	18.432	0.452
	14.0	26.05	3.434	3.001	85.91	18.405	0.458
	16.0	28.10	3.974	2.857	85.26	18.372	0.466
	18.0	30.24	4.567	2.713	84.58	18.333	0.475
	20.0	32.46	5.212	2.569	83.86	18.286	0.485
	22.0	34.79	5.909	2.425	83.09	18.230	0.498
	24.0	37.21	6.659	2.281	82.26	18.162	0.513
	26.0	39.74	7.463	2.137	81.36	18.079	0.530
	28.0	42.40	8.321	1.994	80.36	17.977	0.551

† Figures in parentheses are maximum values.