

TABLE I

Variation in Minimum Taylor Number and Associated Parameters for Both Modes of the Non-MHD Problem with Azimuthal Wave Number and Radius Ratio for $\gamma = 2$, $n = 3/4$, $\omega = 0$, $x_s = 1/2$

η	m	T_{aI}	\bar{c}_I	a_I	T_{aII}	\bar{c}_{II}	a_{II}
0.95	3	4926.8	-20.60	2.92	6765.5	-3.83	3.41
0.95	4	4865.8	-24.60	2.86	7449.6	-8.59	3.51
0.95	5	4854.7	-28.71	2.80	8268.7	-13.70	3.60
0.95	6	4890.6	-32.97	2.73	9185.3	-19.14	3.69
0.75	0	7079.4	- 8.34	3.15	7079.4	+ 8.34	3.15
0.75	1	6208.5	-17.86	2.95	9704.9	- 2.00	2.95
0.75	2	6334.5	-28.80	2.90	15129	-15.36	3.73
0.50	0	11538	- 6.80	3.19	11538	+ 6.80	3.19
0.50	1	9674.6	-23.64	2.95	44097	-12.36	3.83
0.50	2	22691	-67.77	3.33	49582	-34.94	4.25
0.30	0	22912	- 3.08	3.24	22912	+ 3.08	3.24
0.30	1	27064	-36.94	3.21	132823	-19.21	4.17
0.25	0	23757	0	3.34	23757	0	3.34
0.25	1	50158	-47.96	3.18			
0.24	1	59882	-51.69	3.13			
0.23	1	73956	-56.54	3.05			
0.22	1	96930	-63.59	2.92			
0.215	1	117000	-69.27	2.83			
0.2125	1	134292	-74.00	2.76			
0.2110	1	157750	-80.20	2.68			
0.20	0	33483	0	3.39	33483	0	3.39
0.15	0	53110	0	3.45	53110	0	3.45
0.10	0	105192	0	3.52	105192	0	3.52
0.05	0	363617	0	3.62	363617	0	3.62

TABLE II

Variation in Minimum Taylor Number and Associated Parameters for Both Modes of the Non-MHD Problem with Azimuthal Wave Number and Kinematic Viscosity

Ratio for $\gamma = 2$, $\omega = 0$, $x_s = 1/2$, $\eta = 0.95$

n	m	T_{aI}	\bar{c}_I	a_I	T_{aII}	\bar{c}_{II}	a_{II}
1.00	1	7814.3	-10.56	2.86	10992	+ 2.15	3.30
1.00	2	7038.9	-14.06	2.65			
1.00	3	6451.5	-17.22	2.41			
1.00	4	*0.9154	- 0.2119	0.7716			
0.75	3	4926.8	-20.60	2.92	6765.5	- 3.83	3.41
0.75	4	4865.8	-24.60	2.86	7449.6	- 8.59	3.51
0.75	5	4854.7	-28.71	2.80	8268.7	-13.70	3.60
0.75	6	4890.6	-32.97	2.73	9185.3	-19.14	3.69
0.50	2	3060.0	-17.94	3.21	2569.2	+ 1.35	3.18
0.50	3	3271.5	-23.05	3.23	2530.9	- 2.19	3.20
0.50	4	3511.4	-28.63	3.28	2521.5	- 5.64	3.24
0.50	5	3773.5	-34.70	3.29	2539.1	- 9.06	3.28
0.30	5	5071.5	-58.44	3.62	737.89	- 7.38	3.01
0.30	6	5119.3	-67.82	3.72	724.76	-9.71	3.06
0.30	7	5224.5	-77.73	3.82	722.37	-12.06	3.12
0.30	8	5374.5	-88.22	3.92	728.86	-14.47	3.18
0.25	6	5603.4	-81.18	3.82	468.26	- 9.06	3.00
0.25	7	5604.6	-91.90	3.90	465.83	-11.14	3.07
0.25	8	5657.4	-103.2	4.00	469.51	-13.28	3.13
0.20	6	6497.2	-101.7	3.77	274.57	- 8.34	2.97
0.20	7	6308.2	-113.5	3.87	273.80	-10.15	3.04
0.20	8	6205.4	-125.8	3.97	276.73	-12.03	3.11
0.15	5	11287	-134.0	2.95	138.32	- 5.97	2.96
0.15	6	9533.6	-145.0	3.24	137.01	- 7.47	3.02
0.15	7	8526.8	-157.0	3.46	137.91	- 9.01	3.08
0.125	5	19484	-187.0	2.14	87.29	- 5.59	3.05
0.10	3				49.29	- 2.89	3.28
0.10	4				48.51	- 3.98	3.25
0.10	5				48.64	- 5.12	3.27
0.10	6				49.44	- 6.29	3.31
0.075	0				17.05	0	3.45
0.075	1				18.73	- 0.90	3.86
0.075	2				19.49	- 1.78	3.83
0.075	3				20.28	- 2.66	3.77
0.075	4				21.00	- 3.55	3.73
0.075	5				21.73	- 4.47	3.74
0.070	0				14.00	0	3.50
0.070	1				14.34	- 0.879	3.78
0.050	0				4.864	0	3.91
0.050	1				3.344	- 0.712	2.78
0.050	2				4.185	- 1.477	3.62
0.045	0				3.330	0	4.09
0.045					*0.1373	- 0.1696	0.827
0.045	2				2.610	- 1.379	3.30

*"Anomalous" cases showing lowest T_e calculated. Minimum T_e is probably zero.

TABLE III

Variation in Minimum Taylor Number and Associated Parameters for Both Modes of the Non-MHD Problem with Azimuthal Wave Number and Kinematic Viscosity Ratio for $\gamma = 1.1$, $\omega = 0$, $x_s = 1/2$, $\eta = 0.95$

n	m	T_{aI}	\bar{c}_I	a_I	T_{aII}	\bar{c}_{II}	a_{II}
1.00	1	3913.5	- 8.15	3.09	4150.3	- 1.39	3.19
1.00	2	3870.2	-12.87	3.06	4359.7	- 6.39	3.26
1.00	3	3872.1	-17.68	3.05	4650.0	-11.71	3.34
0.75	3	2866.7	-19.02	3.39	2265.7	- 9.05	2.94
0.75	4	3081.6	-24.89	3.49	2251.6	-13.25	2.91
0.75	5	3345.6	-31.38	3.59	2259.0	-17.48	2.89
0.60	5	3755.0	-37.85	4.18	1263.9	-15.30	2.58
0.60	6	4594.2	-49.75	4.29	1247.0	-18.74	2.54
0.60	7	5312.0	-62.25	4.35	1243.5	-22.25	2.51
0.60	8	5931.9	-75.22	4.41	1251.9	-25.86	2.49
0.55	6	5895.2	-60.27	4.38	982.63	-17.77	2.41
0.50	6	6610.1	-69.14	4.44	746.60	-16.71	2.27
0.50	7	6691.5	-80.76	4.51	739.26	-19.63	2.24
0.50	8	6901.1	-93.46	4.58	739.63	-22.64	2.22
0.45	6	6834.6	-76.49	4.51	526.07	-15.35	2.08
0.45	7	6898.3	-88.90	4.57	524.70	-17.99	2.07
0.45	8	7072.3	-102.3	4.63	528.45	-20.74	2.07
0.425	7				414.68	-16.81	1.96
0.415	7				364.08	-16.11	1.91
0.405	7	6956.6	-96.45	4.61	295.93	-14.92	1.85
0.4025	7				265.90	-14.28	1.83

TABLE IV

Variation in Minimum Taylor Number and Associated Parameters for Both Modes of the Non-MHD Problem with Azimuthal Wave Number and Interfacial Position for $\gamma = 2$, $n = 3/4$, $\omega = 0$, $\eta = 0.95$

x_s	m	T_{aI}	\bar{c}_I	a_I	T_{aII}	\bar{c}_{II}	a_{II}
0.75	2	4663.9	- 8.37	3.24			
0.75	3	4885.1	-14.76	3.29			
0.70	3	4886.7	-14.13	3.21	152159	- 6.79	6.02
0.675	1	*24.018	- 0.1933	1.702			
0.67	3				83344	- 7.46	5.26
0.66	3				70584	- 6.49	5.20
0.65	1	4785.1	- 5.97	2.94			
0.65	3	4744.0	-14.50	3.05	61960	- 5.76	5.14
0.60	1	5054.2	- 8.55	2.99			
0.60	2	4781.3	-12.19	2.94	42733	+ 3.69	4.98
0.60	3	4691.8	-15.99	2.93	39616	- 5.26	4.84
0.60	4	4742.7	-20.09	2.94	37513	-13.26	4.75
0.60	5	4926.3	-24.65	2.99	36415	-20.69	4.71
0.575	5	4789.0	-25.09	2.89	27642	-20.39	4.40
0.550	5				19128.3	-19.84	3.96
0.50	3	4926.8	-20.60	2.92	6765.5	- 3.83	3.41
0.50	4	4865.8	-24.60	2.86	7449.6	- 8.59	3.51
0.50	5	4854.7	-28.71	2.80	8268.7	-13.70	3.60
0.50	6	4890.6	-32.97	2.73	9185.3	-19.14	3.69
0.30	3	50578	-99.39	4.45			
0.30	4	46617	-113.2	4.23			
0.29	4	59377	-132.0	4.47			
0.28	4	77190	-155.1	4.69			
0.27	4	103220	-183.9	4.86			
0.26	4	143926	-221.0	4.92			
0.25	4	215045	-270.5	4.74	3360.1	- 9.79	3.02
0.25	5	177948	-291.8	4.98	3335.6	-13.62	3.08
0.25	6	156625	-314.1	5.06	3360.4	-17.51	3.15
0.10	1				2891.0	- 1.79	2.96
0.10	2				2830.8	- 5.87	3.01
0.10	3				2852.0	- 9.82	3.06

*"Anomalous" case.

TABLE V

Variation in Minimum Taylor Number and Associated Parameters for Both Modes of the Non-MHD Problem with Azimuthal Wave Number and Density Ratio for

$$n = 1, \quad \omega = 0, \quad x_S = 1/2, \quad \eta = 0.95$$

γ	m	T_{aI}	\bar{c}_I	a_I	T_{aII}	\bar{c}_{II}	a_{II}
1.00	1	3525.1	- 5.00	3.13	3525.1	- 5.00	3.13
1.01	1	3547.3	- 5.97	3.12	3610.1	- 3.71	3.15
1.05	1	3702.6	- 7.27	3.10	3854.1	- 2.35	3.17
1.10	1	3913.5	- 8.15	3.09	4150.3	- 1.39	3.19
1.10	2	3870.2	-12.87	3.06	4359.7	- 6.39	3.26
1.10	3	3872.1	-17.68	3.05	4650.0	-11.71	3.34
1.20	1	4349.3	- 9.22	3.07	4754.3	- 0.156	3.21
1.20	2				5088.5	- 5.18	3.31
1.50	1	5680.1	-10.54	3.00	6743.7	+ 1.66	3.28
1.50	2				7677.1	- 3.47	3.41
1.80	2				11643	- 3.35	3.49
1.90	2				14268	- 4.01	3.49
1.91	2				14733	- 4.18	3.48
1.92	2				15358	- 4.43	3.46
1.925	2				15824	- 4.63	3.44
1.9275	2				16186	- 4.81	3.42
1.9285	2				16417	- 4.91	3.41
1.9290	2				16619	- 5.01	3.40
2.00	1	7814.3	-10.56	2.86	10992	+ 2.15	3.30

TABLE VI

Variation in Minimum Taylor Number and Associated Parameters for Both Modes
of the Non-MHD Problem with Density Ratio

for $n = 3/4$, $\omega = 0$, $x_s = 1/2$, $\eta = 0.95$, $m = 1$

γ	T_{a_I}	\bar{c}_I	a_I	$T_{a_{II}}$	\bar{c}_{II}	a_{II}
1.00	2567.1	- 6.23	3.41	1835.4	-2.99	2.83
1.01	2455.3	- 6.62	3.33	1949.4	-2.60	2.90
1.0125	2444.9	- 6.71	3.32			
1.05	2447.8	- 7.73	3.24	2167.5	-1.48	3.00
1.10	2552.9	- 8.64	3.20	2360.4	-0.518	3.05
1.20	2817.8	- 9.87	3.17	2713.0	+0.828	3.10
1.50	3696.9	-11.77	3.13	3788.6	+3.12	3.18