1853phae.proj.2699

KG
11365
259
M.11

Catalogue of Stars for Jones.

No correction for Sec. Var has been applied in reducing Bessels Zones for Standard Catalogue.

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj..259

KG11365.250

46.06003
15.35334
3.070

$$\Delta a = m + n \sin a \tan \delta = p$$
$$\Delta \delta = n \cos a \qquad = p'$$

$$m = 46''.02824 + y \times 0''.000308645$$
$$n = 20''.06442 - y \times 0''.0000970204 \Big\} 1750$$

$$\Delta p = \sin 1'' p' \tan \delta + \tfrac{1}{15} \sin 1'' \tan a \sec^2 \delta (p')^2$$

$$\Delta p' = -15 n \sin 1'' \sin a p$$

$n^2 \cos^2 a$
$2 a \cos a$

$$\Delta p = p \sin 1'' n \cos a \tan \delta + \tfrac{1}{15} \sin 1'' n^2 \sec^2 \delta \sin a \cos a$$
$\frac{1}{2} \sin 2a$

$$\delta \Delta a = n \cos a \, p \sin 1'' \tan \delta$$
$$+ \frac{n \sin a}{n \cos a} \sec^2 \delta (\Delta \delta)^2$$

14) 22 (.1
14

$$\frac{\sin 1''}{15} \tan a \sec^2 \delta \, p'^2.1$$

.000308645
.00092595
.0308645
.0317904
46.02824
46.06003 = m 1853

000097
.000291
.009702
.009993
20.06442
20''.05443 n 1853
4.01089
1.33696
6.68481
1.33696

46.06003
9.212006
3.070668

$$\sin(a+b) = \sin a \cos b + \cos a \sin b$$
$$\sin 2a = 2 \sin a \cos b$$
$$\tfrac{1}{2} \sin 2a = \sin a \cos a$$

36
12
±0.24

49
51
10
13

15) 0.112 (8
120

25
25
1
2
4) 53
132

± 0.22

37
37
259
111
6

36
36
216
108
1296

31
3

34
34
136
102
1156

1/3 1

9)1 (.111

3333
3000

90
21
.007

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

KC-1365.859

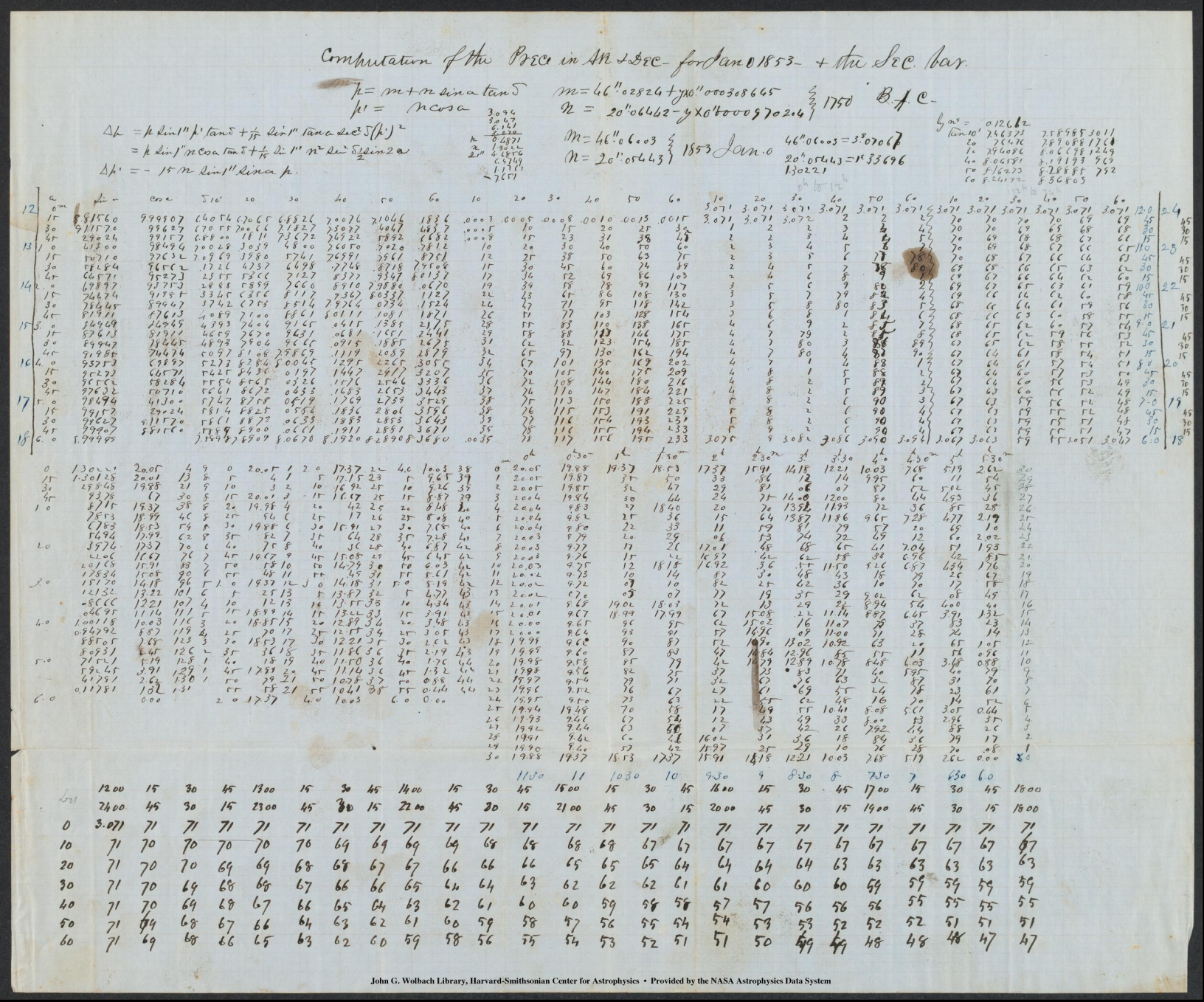
7.01.. 13.8 17.8

Boston Mass.

mi ndemy ermet in Zen 12 3E −97 99%

this section leaned it to be determined by sun and
willin see sie it --

29.5 +.3
0.7 +.9
0.2 +.4
37.2 +.2
31.2 +.3.
43.3 +.4



Computation of the Rec in Alt & Sec - for Jan 0 1853 - + the Sec. Var.

$\mu = m + n \sin\alpha \tan\delta$ $\quad m = 46''.02824 + y\,0''.000308645$ $\quad \zeta$ 1750 B.A.C.

$\mu' = n \cos\alpha$ $\quad n = 20''.06462 - y\,0''.000097024$ $\quad \zeta$

$\Delta\mu = \mu \sin 1'' \mu' \tan\delta + \frac{1}{15} \sin 1'' \tan\alpha \sec^2\delta(\mu')^2$

$= \mu \sin 1'' n \cos\alpha \tan\delta + \frac{1}{15} \sin 1'' n^2 \sec^2\delta \frac{1}{2} \sin 2\alpha$

$\Delta\mu' = -15 n \sin 1'' \sin\alpha \mu$.

3.094 / 3.067 / 6.161 / 1.222 / k 0.4871 / $2''$ 1.3022 / 4.1876 / 0.4749 / 1.1771 / 2.7651

$m = 46''.06003 \;\zeta\; 1853$ Jan. 0 $\quad 46''.06003 = 3°.07067$

$n = 20''.05443 \;\zeta\; 1853$ Jan. 0 $\quad 20''.05443 = 1°.33696$

130221

$y^{m.s.}$ = 0.12642

Time			
10'	7.466773	7.858985	3011
20	7.767476	7.890881	7761
30	7.946086	8.066798	1249
40	8.067581	8.187193	967
50	8.167273	8.288885	752
60	8.241172	8.362803	

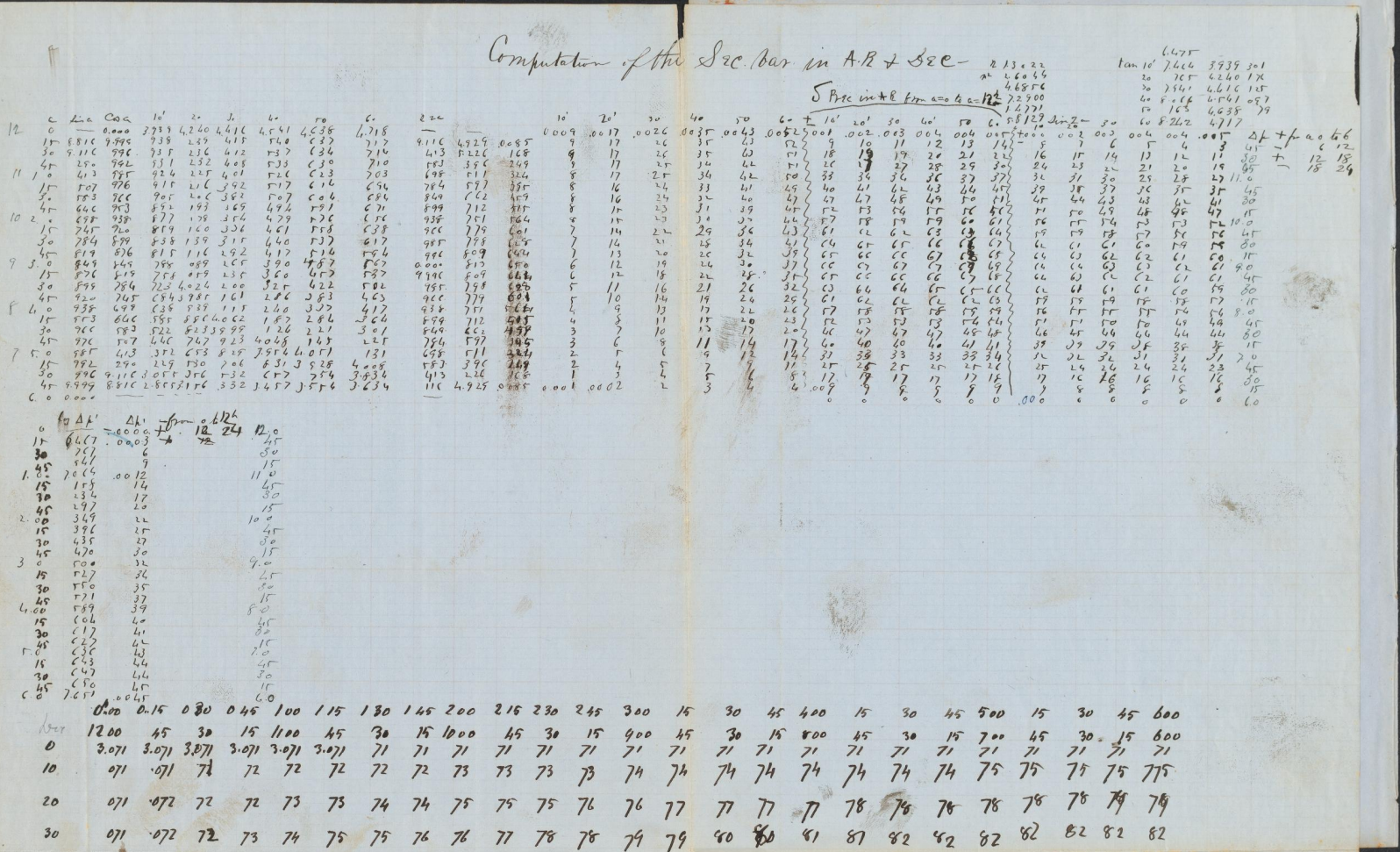
	m	$\Delta\mu$	cos	$5\Delta\mu'$	20	30	40	50	60	10	20	30	40	50	60	10	20	30	40	50	60	10	20	30	40	50	60		
12	0m															3.071	3.071	3.071	3.071	3.071	3.071	3.071	3.071	3.071	3.071	3.071	3.071	12.0	2.4
	15	8.81560	9.99807	640554	630655	628826	700076	710446	1836	.0003	.0005	.0008	.0010	.0013	.0015	3.071	3.071	3.072	2	2	2	2	2	2	2	2	2	45	45
	30	9.11570	9.99627	670555	700566	718227	750272	760473	2737	.0005	.0010	15	20	25	30	1	2	2	3	3	4	2	2	2	3	3	4	30	30
	45	9.29024	9.99527	688500	721111	737422	760252	770892	3638	.0008	15	23	31	38	46	2	2	3	4	4	5	2	2	3	4	4	5	15	15
13	0	9.43300	9.99396	700428	730359	748500	770150	780912	4539	.0010	20	30	40	50	60	2	3	4	5	6	7	2	3	4	5	6	7	0	0
	15	9.57010	9.99263	709269	739800	757411	780591	791451	5440	12	25	38	50	63	75	2	3	5	7	8	10	2	3	5	6	8	9	15	15
	30	9.69184	9.99102	717216	747237	764698	787746	798718	6341	17	34	52	69	86	103	2	4	6	8	9	11	2	4	6	7	9	11	30	30
	45	9.80571	9.98910	725302	754316	772127	795377	806337	7237	22	43	65	86	108	130	3	5	7	9	11	13	3	5	7	9	11	13	45	45
14	0	9.89897	9.98710	732848	761859	779660	802910	813886	8133	27	53	80	107	133	160	3	6	8	11	14	16	3	6	8	11	14	16	0	0
	15	9.98474	9.98479	740345	769316	787193	810337	821524	9027	32	63	95	127	158	190	3	6	9	12	15	18	3	6	9	12	15	18	15	15
	30	10.06645	9.98247	747842	776515	794514	817924	829254	9920	37	73	110	146	183	219	4	7	11	14	18	21	4	7	11	14	18	21	30	30
	45	10.14911	9.98013	755089	784089	802111	825981	837729	10813	42	84	126	168	210	252	4	8	13	17	21	25	4	8	13	17	21	25	45	45
15	0	10.22969	9.97769	762100	791660	809708	833705	845425	11707	47	93	140	187	233	280	5	9	14	19	23	28	5	9	14	19	23	28	0	0
	15	10.30769	9.97514	769393	798404	816165	840815	852385	12604	52	104	156	208	260	312	5	10	16	21	26	31	5	10	16	21	26	31	15	15
	30	10.38403	9.97249	776686	805140	823165	847925	859345	13504	58	116	174	232	290	348	6	12	17	23	29	35	6	12	17	23	29	35	30	30
	45	10.45879	9.96974	783979	811880	829708	854635	866305	14405	64	128	192	256	320	384	6	13	19	26	32	38	6	13	19	26	32	38	45	45
16	0	10.53203	9.96689	791276	818625	836796	861945	873265	15310	70	140	210	280	350	420	7	14	21	28	35	42	7	14	21	28	35	42	0	0
	15	10.60373	9.96394	798578	825376	843430	869255	880225	16220	76	152	228	304	380	456	8	15	23	30	38	46	8	15	23	30	38	46	15	15
	30	10.67390	9.96089	805885	832133	850110	876565	887185	17135	82	164	246	328	410	492	8	16	25	33	41	49	8	16	25	33	41	49	30	30
	45	10.74260	9.95774	813197	839896	856836	883880	894146	18050	88	176	264	352	440	528	9	18	26	35	44	53	9	18	26	35	44	53	45	45
17	0	10.80984	9.95447	820514	846664	863608	891200	901108	19005	94	188	282	376	470	564	9	19	28	38	47	56	9	19	28	38	47	56	0	0
	15	10.87562	9.95109	827835	853437	870426	898525	907975	19920	99	198	297	396	495	594	10	20	30	40	49	59	10	20	30	40	49	59	15	15
	30	10.94004	9.94760	835160	860215	877290	905855	914748	20835	104	208	312	416	520	624	10	21	31	42	52	62	10	21	31	42	52	62	30	30
	45	11.00313	9.94400	842490	866999	884200	912190	921426	21750	109	218	327	436	545	654	11	22	33	44	54	65	11	22	33	44	54	65	45	45
18	0	11.06492	9.94030	849825	873788	891156	918550	928010	22705	114	228	342	456	570	684	11	23	34	46	57	68	11	23	34	46	57	68	0	0

	m	$\Delta\mu$	cos	$5\Delta\mu'$	0h	0h30m	1h	1h30m	2h	2h30m	3h	3h30m	4h	4h30m	5h	5h30m	6h		
	0	13.02111	20.05	4	9	0	20.05	1	2	0	17.37	22	4.6	1.003	38	0	20.05	19.88	19.37	18.53	17.37	15.91	14.18	12.21	10.03	7.68	5.19	2.62	0.00
	15	13.01128	20.01	13	8	5	4	1	5	17.15	23	7	4.6	9.65	39	1	20.01	19.87	37	50	33	86	12	14	7.95	6.0	11	54	30
	30	12.58548	19.88	21	9	10	3	2	10	16.92	25	10	9.26	37	2	20.01	19.85	32	47	29	81	06	07	87	62	5.62	5.45	28	30
	45	8326	17	30	8	15	20.01	2	15	16.67	25	15	8.87	39	3	20.04	19.84	30	44	24	75	16.08	1200	80	4.4	4.93	36	27	30
	1 0	8.7115	19.37	38	8	20	19.98	4	20	42	25	20	8.48	40	4	20.04	19.83	27	1840	20	70	13.52	11.93	72	36	85	28	26	
		25.53	18.99	42	8	25	98	0	25	17	26	25	8.08	40	5	20.04	19.82	25	36	15	64	13.87	11.86	9.65	7.25	4.77	2.19	25	
		17.83	18.53	45	8	30	19.88	0	30	16.91	27	30	7.66	40	6	20.04	19.80	22	33	11	59	87	79	57	20	65	10	24	
		10.99	17.99	48	8	35	82	1	35	64	28	35	7.28	41	7	20.03	19.79	20	29	06	53	24	22	49	12	60	2.02	23	
	2.0	3.714	17.37	20	8	40	19	2	40	42	28	40	6.87	42	8	20.03	19.77	17	26	17.01	48	68	44	38	7.04	17	1.53	22	
		2.06	16.67	26	9	45	16.67	3	45	16.45	29	45	6.45	42	9	20.03	19.76	13	22	16.57	42	62	38	33	6.96	62	1.05	21	
		2.0158	15.91	33	9	50	15.98	4	50	14.29	30	50	6.03	42	10	20.03	19.75	12	1818	16.92	36	57	33	11.50	8.86	6.87	4.34	1.96	20
		1.2834	15.08	40	9	55	15.27	4	55	13.61	31	55	5.61	42	11	20.02	19.73	10	14	87	30	48	43	18	29	25	67	19	
	3.0	1.1720	14.18	46	10	0	14.18	5	0	12.93	32	0	5.19	42	12	20.00	19.72	07	10	82	25	62	36	10	20	12	18	18	
		1.2132	13.22	53	10	6	13.22	5	6	13.67	32	6	4.77	43	13	20.00	19.70	03	07	77	19	35	29	9.02	6.2	08	45	17	
		.8566	12.21	59	10	12	12.13	5	12	11.77	33	12	4.34	43	14	20.01	19.68	19.02	18.03	72	13	29	22	8.94	5.96	5.44	4.00	40	16
		.6695	11.14	111	5	18	11.89	14	18	11.22	33	18	3.91	43	15	20.01	19.67	18.99	17.99	67	15.08	22	11.14	8.87	6.45	3.91	1.32	15	
	4.0	1.0018	10.03	116	3	24	10.85	15	24	10.89	34	24	3.48	43	16	20.00	19.65	96	55	62	15.02	16	11.07	7.99	5.37	2.83	23	14	
		0.8292	8.87	119	4	25	10	17	25	10.44	34	25	3.05	43	17	20.00	19.64	95	91	57	14.76	09	11.00	11	28	26	14	13	
		8810	7.68	123	3	30	10.53	17	30	10.22	35	30	2.62	43	18	19.99	19.62	90	87	52	14.50	13.02	10.92	6.3	2.0	65	1.05	12	
		8.6931	6.45	126	2	35	9.86	18	35	11.88	36	35	2.19	43	19	19.98	19.60	85	83	47	14.64	12.96	85	55	11	58	0.96	11	
		7.7151	5.19	128	1	40	8.19	19	40	11.80	36	40	1.76	44	20	19.98	19.58	81	79	42	14.79	12.89	10.78	6.48	6.03	3.48	0.88	10	
	5.0	1.2145	3.91	129	1	45	12.58	20	45	11.76	36	45	1.32	44	21	19.98	19.56	82	80	37	14.93	12.83	10.63	6.40	5.92	3.40	0.79	9	
		6.1291	2.62	130	1	50	10.98	20	50	10.58	37	50	0.88	44	22	19.97	19.54	79	77	32	14.86	12.76	10.57	6.32	5.83	3.32	0.70	8	
		0.11781	1.32	131	0	55	21	21	55	10.41	38	55	0.44	44	23	19.96	19.52	76	67	27	14.71	12.69	10.51	6.24	5.74	3.23	0.61	7	
	6.0		0.00		2	0	17.37		6.0	10.03		6.0	0.00		24	19.95	19.50	73	63	22	14.57	12.62	10.48	6.16	5.70	3.14	0.52	6	
															25	19.94	19.48	70	58	17	14.49	12.55	10.41	6.08	5.61	3.05	0.44	5
															26	19.93	19.46	67	54	12	14.43	12.49	10.30	6.00	5.53	2.96	0.35	4
															27	19.92	19.44	63	50	07	14.37	12.42	10.26	5.92	5.44	2.87	0.26	3
															28	19.91	19.42	60	46	1.60	14.31	12.36	10.18	5.84	5.36	2.79	0.17	2
															29	19.90	19.40	57	42	19.97	14.25	12.29	10.10	5.76	5.27	2.70	0.08	1
															30	19.88	19.37	53.3	37.7	19.93	14.18	12.21	10.03	5.68	5.19	2.62	0.00	0

	11h30m	11h	10h30m	10h	9h30m	9h	8h30m	8h	7h30m	7h	6h30m	6h	
12.00	15	30	45	13.00	15	30	45	14.00	15	30	45	15.00	15	30	45	16.00	15	30	45	17.00	15	30	45	18.00
24.00	45	30	15	23.00	45	30	15	22.00	45	30	15	21.00	45	30	15	20.00	45	30	15	19.00	45	30	15	18.00
0 3.071	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71
10 71	70	70	70	70	70	69	69	69	69	68	68	68	68	67	67	67	67	67	67	67	67	67	67	67
20 71	70	70	69	69	68	68	67	67	66	66	66	65	65	65	64	64	64	64	63	63	63	63	63	63
30 71	70	69	68	68	67	66	66	65	64	64	63	62	62	62	61	61	60	60	60	59	59	59	59	59
40 71	70	69	68	67	66	65	64	63	62	61	60	60	59	58	58	57	57	56	56	56	55	55	55	55
50 71	69	68	67	66	64	63	62	61	60	59	58	57	56	55	54	54	53	53	52	52	52	51	51	51
60 71	69	68	66	65	63	62	60	59	58	56	55	54	53	52	51	51	50	50	49	49	48	48	48	47

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

Computation of the Sec. Bar in A.R. & Sec.



John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

XC 11365.259

HARVARD UNIVERSITY LIBRARY MAY 3 1956

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj..259

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj..259

+ 0.00027
45

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj .259

Taylor

Page 1

XX

	$d^2a\cdot\frac{t}{2}$	$K=d^2a\frac{t}{2}+P.M$	$da+K$	da 1844			18 da	~1853	
+	0.00027	+0.01227	+3.08327	3.0767	61534	6.153	rr.381	0h.10m.15.00	—
+	45	0.00145	+3.07545	3.0688	61376	6.138	rr.238	49.41.73	—
+	45	0.02145	+3.09445	3.0879	1758	6.176	rr.582	0.56.15.50	—
	72	0.01472	+3.09472	3.0881	1762	6.176	rr.586	2. 7. 3.23	—
	81	0.03081	3.11381	3.1072	2144	6.214	rr.930	2.10.23.43	—
	72	0.01672	3.08572	3.0791	1582	6.158	rr.424	2.17.36.01	—
	72	0.00272	3.07472	3.0681	1362	6.136	rr.226	3.29.14.84	—
	72	0.01472	3.10772	3.1011	2022	6.202	rr.820	4.20.56.56	—
	45	0.00345	3.08545	3.0789	1578	6.158	rr.420	4.54.16.49	—
	45	0.02145	3.11045	3.1039	2078	6.208	rr.870	4.54.21.59	—
+	27	0.01427	3.09727	3.0907	1814	6.181	rr.633	5.51.16.37	—
—	27	0.00873	3.09223	3.0861	1722	6.172	rr.550	6.19.10.20	—
—	27	0.02573	3.10873	3.1021	2042	6.204	rr.838	6.19.13.09	—
	27+0.00173		3.08173	3.0751	1502	6.150	rr.352	6.19.40.81	—
	36−0.00536		3.08064	3.0740	1480	6.148	rr.332	6.33.31.67	—
	45+0.00055		3.07655	3.0700	1400	6.140	rr.260	7. 5.47.44	—
	45+0.01255		3.08355	3.0770	1540	6.154	rr.386	7. 7.48.26	—
	45+0.01155		3.09355	3.0870	1740	6.174	rr.566	7.14.31.05	—
	54+0.00946		3.09246	3.0859	1718	6.172	rr.546	7.15.32.85	—
	0+0.00337		3.09537	3.0868	1736	6.174	rr.562	8. 1.15.24	—
	81+0.01419		3.09519	3.0926	1852	6.185	rr.670	9.18 4.31	—
	36+0.00564		3.08164	3.0750	1500	6.150	rr.350	10.0.24.90	—
	27+0.01473		3.08573	3.0791	1582	6.158	rr.424	10.14.33.09	—
	27+0.00673		3.07973	3.0731	1462	6.146	rr.316	10.22.46.87	—
	18+0.02582		3.10282	3.0962	1924	6.192	rr.732	10.53.32.85	—
	18+0.01682		3.09282	3.0862	1724	6.172	rr.552	10.55 1.76	—
	18+0.00482		3.07582	3.0692	1384	6.138	rr.246	10.55.43.54	—
	18+0.00282		3.07982	3.0732	1464	6.146	rr.318	10.56 5.36	—
	9+0.02491		3.09991	3.0933	1866	6.187	rr.673	11.6.15.15	—
	9+0.00491		3.08091	3.0743	1486	6.149	rr.337	11.15.46.47	—
	0+0.01000		3.08100	3.0744	1488	6.149	rr.339	11.20.32.39	—
	0+0.00400		3.07500	3.0684	1368	6.137	rr.231	11.21.53.56	—
—	0+0.01200		3.08300	3.0764	1528	6.153	rr.575	11.29.25.81	—
+	27+0.00927		3.08027	3.0737	1474	6.147	rr.321	12.11.8.33	—
	27−0.00873		3.06227	3.0557	61114	6.111	rr.003	12.12.22.77	—

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj...259

Page 1

δ 1853

+ 40 5.36	40.54	364.82	+ 6. 4.82	0.52.28.78	—	
39 1.72	39.17	352.55	5.52.55	0.34 3.28	—	
38.748	38.75	348.73	5.48.73	0.34.38.30	—	
33 8.50	33.95	305.55	5. 5.55	0.59.18.76	—	
34 5.56	34.56	311.00	5 11.00	1. 3.37 94	—	
32 9.62	32.96	296.66	4 56.66	−0.1 48.30	—	
24328	24.33	218.95	3.38.95	0.6.17.58	—	
16.638	16.64	149.74	2.29.74	1.3 2.71	—	
11 2.86	11.29	101.57	1.41.57	0.30 14 87	—	
11 1.614	11.61	104.53	1.44.53	0.49 48.49	—	
+ 1.526	1.53	+13.73	+13.73	0.3L 5.52	—	
− 33.70	3.37	−30.33	−30.33	0.32 10.95	—	
34.36	3.44	30.92	30.92	0.31 11.34		
34.16	3.42	40.74	40.74	0.22 49.24	—	
5 8.26	5.83	52.43	52.43	0.37 41.16	—	
11 2.44	11.24	101.20	1.41.20	−0.0 52 14		
11 644	11.64	104.80	1.44.80	0.5 23.21		
12 8.76	12.88	115.88	1.55.88	0.27 4.13		
16 1.70	16.17	145.53	2.25.53	0.32 0.72		
20 1.78	20.18	181.60	3.1.60	0.33 5.04		
29 9.22	29.92	269.30	4.29.30	0.48 8.33	—	
34 8.34	34.83	313.51	5.13.51	0.20 40.39		
36 0.24	36.02	324.22	5.24.22	−0.0 48 03		
36 6.44	36.64	329.80	5.29.80	0.6.56.53		
38 4.98	38.50	346.48	5.46.48	0.50.5.92	—	
38 6.48	38.65	347.83	5.47.83	0.41 40.64	—	
38 5.04	38.50	350.14	5.50.14	0.2.30.48	—	
38 7.00	38.70	348.30	5.48.30	0.47 21.66	—	
39 1.36	39.14	352.22	5.52.22	0.43 44.91		
39 4.74	39.47	355.27	5.55.27	0.5 16.72	—	
39 6.10	39.61	356.49	5.56.49	−0.5 17 82		
39 4.08	39.41	354.67	5.54.67	−0. 2.21.23		
39 7.04	39.70	357.34	5.57.34	−0.0 44.62		
40 1.70	40.17	361.53	6. 1.53	+0 1.49 23		
− 40 1.20	40.12	361.08	6. 1.08	+0.9 3.54		

δ 1844

[illegible]	−.0119	−18.794	−39.588	39 18	35 6.19	−5.56.19
+.0081	−.0419	19.822	39 644	39 14	35 680	5.56.80
+.0111	−.0489	19.504	39.006	39.01	35 107	5.51.07
+.0151	−.3749	19.229	38 458	38.46	34 612	5.46.12
+.0161	−.0639	18.720	37 440	37.44	336.96	5.36.96
+.0161	+.0261	18.627	37.254	37.25	335.29	5.35.29
+.0251	−.0649	16.707	32.214	32.21	289.93	4.49.93
+.0276	+.0476	15.011	30.022	30.02	270.20	4.30.20
+.0201	−.1012	14 913	29.886	29.89	268.97	4.28.97
+.0286	+.0286	14 659	29.118	29.12	262.06	4.22.06
+.0293	+.0093	14.200	28.400	28.40	255.60	4.15.60
+.0301	+.0301	13.687	27.374	27.37	246.37	4.06.37
+.0312	−.0488	13.215	26.430	26.43	237.87	3.57.87
+.0347	−.0553	10.712	21.424	21.42	192.82	3.12.82
+.0400	−.0300	3.478	6.956	6.96	62.60	1. 2.60
+.0400	−.0300	3.210	6.420	6.42	57.78	57.78
+.0400	+.0400	−1.018	−2.036	−2.04	−18.32	−18.32
+.0.0400	−.0900	+1.551	+3.102	3.10	+27.92	+27.92
+.0.040	−.0300	+1.664	3.328	3.33	29.95	29.95
+.0.0394	−.0206	−5.907	11.814	11.81	106.33	1.46.33
+.0394	−.0106	6.028	12.056	12.06	108.50	1.48.50
+.0393	−.0207	−6.022	12.044	12.04	108.40	1.48.40
+.0392	−.0506	−6.015	12.030	12.03	108.27	1.48.27
+.0395	+.0795	6.437	12.874	12.87	115.87	1.55.87
+.0350	+.0190	6.722	13.444	13.44	121.00	2.1.00
+.0372	+.0326	8.725	17.450	17.45	157.05	2.37.05
+.0342	−.0858	11.146	22.292	22.29	200.63	3.22.63
+.0347	−.0358	11.203	22.406	22.41	201.65	3.21.65
+.0339	−.0461	11.472	22.944	22.94	206.50	3.26.50
+.0328	−.0572	12.221	24.442	24.44	219.98	3.39.98
+.0238	−.0862	15.665	31.330	31.33	281.97	4.41.97
+.0233	−.1367	15.919	31.838	31.84	286.54	4.46.54
+.0230	−.0770	16.035	32.070	32.07	288.63	4.48.63
+.0202	+.0602	17.049	34.098	34.10	306.88	5.6.88
+.0167	−.0433	17.017	34.034	34.03	306.31	5.06.31
+.0112	−.0288	19.008	38.016	38.02	342.14	5.42.14
+.0112	−.0888	19.067	38.134	38.13	343.21	5.43.21
+.0084	−.1016	19.426	38.852	38.85	349.67	5.49.67

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj 259

2

XXX

δ 1853

0. 4. 54. 99	− 0. 1. 1. 20	
0. 14. 26. 54	+ 0. 8. 29. 74	
1. 11. 14. 81	+ 1. 5. 23. 74	
0. 2. 10. 55	− 0. 3. 35. 57	
0. 32. 0. 16	+ 0. 26. 23. 20	
0. 15. 2. 03	+ 0. 9. 26. 74	
0. 56. 38. 41	+ 0. 57. 48. 48	
0. 16. 37. 92	+ 0. 12. 7. 72	
0. 30. 5. 27	+ 0. 25. 36. 30	
0. 31. 3. 41	+ 0. 26. 41. 35	
0. 34. 56. 79	+ 0. 30. 41. 19	
0. 59. 16. 57	+ 0. 55. 10. 20	
0. 2. 44. 48	− 0. 1. 18. 39	
1. 5. 54. 29	+ 1. 2. 41. 47	
0. 28. 15. 32	+ 0. 27. 13. 72	
0. 10. 16. 75	+ 0. 9. 18. 97	
0. 42. 8. 3[illegible]	+ 0. 41. 50. 40	
0. 6. 15. 40	+ 0. 6. 43. 32	
0. 6. 21. 82	+ 0. 6. 51. 77	
0. 12. 38. 54	+ 0. 14. 24. 87	
0. 7. 44. 70	+ 0. 9. 33. 20	
0. 47. 29. 10	+ 0. 49. 17. 52	
0. 2. 39. 92	+ 0. 4. 28. 19	
0. 4. 25. 96	+ 0. 6. 21. 83	
0. 0. 57. 40	+ 0. 2. 58. 40	
0. 35. 17. 01	+ 0. 37. 54. 06	
0. 32. 22. 81	+ 0. 35. 45. 48	
0. 50. 26. 80	+ 0. 53. 48. 45	
0. 20. 34. 26	+ 0. 24. 0. 76	
− 0. 5. 18. 76	− 0. 1. 38. 78	
0. 14. 50. 83	+ 0. 19. 32. 80	
0. 33. 39. 54	+ 0. 38. 26. 08	
0. 32. 16. 02	+ 0. 37. 04. 71	
0. 8. 13. 97	+ 0. 13. 20. 85	
0. 32. 33. 75	+ 0. 37. 40. 06	
0. 11. 15. 01	+ 0. 16. 57. 15	
0. 5. 1. 88	+ 0. 10. 45. 09	
0. 24. 41. 79	+ 0. 30. 31. 46	

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj..259

6138
6138
55.242
17.65
27.1289

3.0595
+.027
−.13
−.103
14.94
298.5
29.88
2689
−4.289
30.53
25.364

00036
024
3.070
3.0594
18
24752
3094
55.692
572
1.41

3.058
9174
6116
6116
55.042
17.65
12.69

3057
6114
6114
55.026
17.65
12.68

6027
02
+.0227
15.159
15.037
30072
3007
2701

3069
6138
6138
55.258
4.307
16.379
12.72

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj..259

All the stars in Taylors Cat. from the Equator to 1° north reduced to Jan 1 1853

no	Obs	Mag	A.R Jan 1 1835	da	d²a	Annual P.P	Obs	S Jan 1 1835	dδ	d²δ	P.M	9.0 S.F.M.	da 1844
48	6	6.7	0h 9m 19s.52	3s.071	+.00003	+s.012	5	+0° 46 23.96	20.041	-.00030	+0'.23	-0.0027+0.2273	+20.268
290	3	8.9	0 48 46.49	3.074	+.00005	+.001	2	0 28 10.73	19.606	-.0010	-0.11	-0.0096-0.1195	19.586
323	6	6.7	0 55 19.92	3.073	+ 005	+.021	5	0 28 49.57	19.426	- 128	-0.09	-0.0115-0.1015	19.374
739	3	7.8	2 6 7.64	3.080	+ 008	+.014	4	0 54 13.21	17.097	- 248	-0.10	-0.0223-0.1223	16.975
765	9	6	2 9 27.50	3.083	+ 009	+.030	8	0 58 26.94	16.941	- 254	+0.36	-0.0228+0.3372	17.278
806	4	8.9	2 16 40.59	3.069	+ 008	+.016	4	- 0 6 44.93	16.595	- 264	-0.09	-0.0238-0.1138	16.481
1219	3	7	3 28 19.61	3.072	+ 008	+.002	4	0 2 38.63	12.327	-.364	-0.13	-0.0328-0.1628	12.164
1557	5	5.6	4 20 0.74	3.093	+ 008	+.014	5	1 0 32.94	8.477	- 418	-0.12	-.0375-0.1575	8.319
1788	5	6.7	4 53 21.07	3.082	+ 005	+.003	4	0 28 33.30	5.752	- 437	-0.07	-.0393-0.1093	5.643
1789	4	8	4 53 25.72	3.089	+ 005	+.021	4	0 48 3.96	5.746	- 436	+0.10	-.0392+0.0608	5.807
2241	6	6	5 50 20.74	3.083	+ 003	+.014	5	0 31 51.79	0 844	- 450	-0.04	-.0405-0.0805	+0.763
2484	4	6.7	6 18 14.65	3.084	- 003	+.009	4	0 32 41.28	1.595	- 449	-0.05	-.0404-0.0904	-1685
2486	2	8	6 18 17.25	3.083	- 003	+.026	4	0 31 42.26	1.598	- 449	-0.08	-.0400-0.1204	1.718
2491	6	6	6 18 45.46	3.080	- 003	+.002	6	0 23 29.98	1.638	- 449	-0.03	-.0404-0.0704	-1.708
2618	4	6	6 32 36.34	3.086	- 004	-.005	4	0 38 33.61	2.843	- 444	-0.03	-.0400-0.0700	2.913
2901	5	7	7 4 52.18	3.071	- 005	+.006	4	0 0 48.56	5.602	- 439	+0.02	-.0395-0.0195	5.622
2922	4	6.7	7 6 52.87	3.071	- 005	+.013	4	0 7 8.01	5.772	- 437	-0.01	-.0395-0.0495	5.822
2990	4	6	7 13 35.48	3.082	- 005	+.012	4	0 29 0.01	6.329	- 435	-0.07	-.0393-0.1093	6.438
3186	4	8	7 34 37.30	3.083	- 006	+.010	4	0 34 26.25	8.047	- 422	—	-.0380-0.0380	8.085
3429	4	8.9	8 0 19.68	3.090	- 007	+.004	1	0 56 6.64	10.055	- 382		-0.0344-0.0344	10.089
4095	4	7	9 12 8.64	3.085	- 009	+.015	4	0 52 37.63	14.914	- 294	-0.02	-.0265-0.0465	14.961
4504	15	5	9 59 29.55	3.076	- 004	+.006	6	0 25 53.90	17.348	- 216	-0.05	-.0192-0.0692	17.417
4623	3	7	10 13 37.67	3.071	- 003	+.015	3	0 4 41.15	17.935	- 190	-0.06	-.0171-0.0771	18.012
4699	5	6	10 21 51.55	3.073	- 003	+.007	5	0 12 26.33	18.246	- 172	-0.06	-.0155-0.0755	18.322
4983	3	7	10 52 37.12	3.077	- 002	+.026	4	0 55 52.40	19.196	- 115	-0.07	-.0104-0.0804	19.249
5000	4	8	10 54 6.21	3.076	- 002	+.017	4	0 47 28.47	19.234	- 112	-0.08	-.0101-0.0901	19.324
5005	6	7	10 54 48.29	3.071	- 002	+.005	5	0 6 20.62	19.252	- 110	-0.19	-.0099-0.1999	19.452
5008	2	6	10 55 10.06	3.077	- 002	+.003	5	0 53 9.96	19.260	- 110	-0.08	-.0099-0.0899	19.350
6004	9	5.6	11 5 19.47	3.071	- 001	+.025	5	0 49 37.13	19.490	- 089	-0.07	-.0080-0.0780	19.568
6091	7	7	11 14 51.13	3.076	- 001	+.001	4	1 2 11.99	19.671	- 070	-0.06	-.0063-0.0863	19.737
6157	3	7	11 19 37.05	3.071	000	+.010	4	0 0 38.67	19.748	- 063	-0.05	-.0057-0.0557	19.805
6146	4	7	11 20 58.23	3.071	000	+.004	4	0 3 33.44	19.769	- 058	+0.07	-.0052+0.0648	19.804
6218	12	4.5	11 28 30.23	3.071	000	+.012	14	0 5 12.72	19.868	- 046	+0.02	-.0041+0.0159	19.852
6542	10	6	12 10 13.00	3.071	+.003	+.009	5	0 7 50.76	20.038	+.031	-0.05	+.0028-0.0472	20.085
6552	10	3.4	12 11 27.77	3.071	+.003	-.009	22	0 15 4.62	20.033	+.033	-0.03	+.0030-0.0270	20.006

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj.:259

No	Obs	Mag	AR Jan. 1855	da	d²a	Am. M.	Obs	Jan. 1855	dδ	d²δ	Am. M.
7770	4	8.9	12 38 5.72	3.071	+,00004	+0,024	4	0 4 54.99	-19.782	+.00087	-0.02
6773	4	8	12 38 13 55	3.070	+ 004	+0.014	4	0 14 26 56	19.780	+ 87	-0.05
6911	4	8	12 56 19 42	3.064	+ 005	+0.007	4	1 11 16 81	19.455	+ 123	-0.06
7114	5	7	13 19 48 99	3.071	+ 006	+0.019	6	0 2 10 55	18.884	+ 168	-0.39
7177	4	7	13 25 52 08	3.067	+ 006	- 0.002	4	0 32 0 16	18.666	+ 179	-0.07
7182	16	4	13 26 17 65	3.069	+ 006	- 0.012	13	0 15 2 03	18.653	+ 179	+0.01
7719	3	8	14 27 34 26	3.058	+ 009	+0.014	4	0 56 38 41	16.042	+ 279	-0.09
7850	3	7	14 45 22 43	3.067	+ 009	+0.006	3	0 16 37 92	15.059	+ 307	+0.02
7878	7	6	14 49 6 17	3.063	+ 009	+0.015	7	0 50 5 27	14.841	+ 312	-0.13
7904	3	6	14 53 22 36	3.063	+ 009	+0.002	4	0 31 3 41	14.588	+ 318	00
7957	4	8.9	14 59 34 38	3.061	+ 009	+0.007	4	0 34 56 79	14.209	+ 326	-,02
8025	4	6	15 7 25 40	3.055	+ 009	+0.014	3	0 59 16 57	13.717	+ 335	-.00
8087	3	8	15 15 53 96	3.070	+ 008	+0.020	3	0 2 44 48	13.166	+ 347	-.08
8333	2	7	15 51 38 00	3.049	+ 008	-0.008	4	1 5 54 29	10.657	+ 386	+.09
8087	5	6	17 20 24 94	3.060	+ 004	+0.003	4	0 28 15 32	3.448	+ 445	+07
8111	4	9	17 23 31 32	3.067	+ 004	+0.013	2	0 10 16 75	3.180	+ 447	-07
8296	4	5.6	17 47 54 18	3.055	+ 003	+0.001	3	0 42 8 72	1.058	+ 447	—
8497	8	5.6	18 18 46 28	3.069	- 003	+0.011	13	0 6 15 40	+1.641	+ 448	-.13
8507	4	8.9	18 19 23 53	3.069	- 001	+0.009	4	0 6 21 82	1.694	+ 448	-.07
8852	2	8	19 8 45 68	3.066	- 006	+0.003	2	0 12 38 54	5.928	+ 438	-.06
8865	3	6.7	19 10 5 16	3.068	- 006	+0.018	4	0 7 44 70	6.039	+ 437	-05
8866	3	6	19 10 8 83	3.054	-.006	+0.020	5	0 47 29 10	6.043	+ 434	-0.06
8869	6	6	19 10 24 36	3.070	-.006	+0.003	7	0 2 39 92	6.066	+ 436	-0.09
8902	2	8	19 13 54 71	3.070	- 006	+0.012	2	0 4 25 96	6.357	+ 439	+0.04
8934	3	5.6	19 18 4 85	3.071	- 006	+ 010	5	0 0 57 40	6.703	+ 433	-0.02
9138	3	4	19 44 4 08	3.059	- 007	+ 014	5	0 35 17 01	8.798	+ 413	-0.10
9397	3	7	20 16 12 98	3.061	- 003	+ 014	2	0 32 22 85	11.232	+ 380	-0.12
9399	2	7.8	20 16 18 16	3.055	- 003	+ 005	2	0 50 26 80	11.238	+ 380	-0.07
9431	5	7.8	20 20 11 18	3.065	- 005	+ 003	6	0 20 34 26	11.518	+ 377	-0.08
9530	5	5.6	20 30 57 46	3.072	- 005	+ 012	8	-0 5 18 76	12.278	+ 365	-0.09
10017	1	7.8	21 26 58 90	3.067	- 006	+ 008	1	0 14 50 83	15.751	+ 265	-0.11
10072	3	8	21 32 41 96	3.070	- 006	+ 010	3	0 33 39 56	16.056	+ 259	-0.16
10080	5	6	21 33 45 24	3.064	- 005	+ 006	4	0 32 16 08	16.112	+ 256	-0.10
10205	8	8	21 51 33 56	3.069	- 001	+ 016	3	0 8 13 97	16.989	+ 225	+0.04
10387	12	5	22 16 51 07	3.066	- 004	+ 010	6	0 32 33 75	17.060	+ 186	-0.06
10411	6	6	22 46 32 98	3.070	- 003	+ 007	5	0 11 15 01	19.037	+ 132	-0.04
10495	6	6.7	22 51 0 29	3.071	- 003	+ 019	6	0 5 1 88	19.156	+ 128	-0.10
10686	4	8	23 7 11 96	3.069	- 002	+ 014	4	0 24 41 79	19.528	+ 094	-0.11

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj..259

Page 2.

Ra 1853

g.dec	g.dec+P.M.	dec 1844					
+.00036	+0°.02436	+.0178	3.089	6178	6.18	rr.60	12h 39m 1.32+18
36	.01436	0078	078	156	6.16	rr.40	12.39 8.95
45	.00745	.0009	065	130	6.13	rr.17	12.57.14.59+11
.00054+	1954+0129		.084	1.68	6.17	rr.51	13.20.44.50+11
+.00486							
.00054−	00146−0081		.055	1.18	6.12	rr.06	13.26.47.14+13
54	−.01146−0181		3.057	102	6.10	rr.92	13.47.12.57+13
81 +	1481+0082		3.066	132	6.13	rr.19	14.28 29.45+12
81 +	0681+0002		3.067	134	6.13	rr.21	14.46 17.64+12
81 +	1581+0092		3.072	144	6.14	rr.30	14.50 1.47+11
81	281−.0038		3.059	118	6.12	rr.06	14.54 17.42+12
81	781+.0012		062	124	6.12	rr.12	15.0.29.50+12
81	1481+0082		063	126	6.13	rr.13	15.8.20.53+13
72 +	2072+0141		.086	168	6.17	rr.51	15.16.49.47+12
72 −	0728−0139		.035	070	6.07	r4.63	15.52.32.13+13
36 +	336−.0032		057	114	6.11	rr.03	17.21.19.97+10
36	1336+0068		.074	148	6.15	rr.33	17.24.26.65+11
+ 27 +	0127−0053		050	100	6.10	r4.90	17.48.49.08+11
− 27 +	1073+0041		073	146	6.15	rr.31	18.19.41.59+13
− 9	891+.0023		071	142	6.14	rr.28	18.20.18.81+12
− 54	246−.0041		062	124	6.12	rr.12	19.9.40.80+11
− 54	1746+0109		.089	178	6.16	rr.42	19.11.0.58+12
− 54	1946+0129		.067	134	6.13	rr.21	19.11.4.04+11
54	0246−.0041		.066	132	6.13	rr.19	19.11.5.55+12
54	1146+.0049		.085	150	6.11	rr.35	19.14.50.06+12
54	946+.0029		074	148	6.11	rr.33	19.19.0.18+13
63	1337+0068		066	132	6.13	rr.19	19.44.59.27+11
27	1373+0071		068	136	6.14	rr.22	20.17 8.20+13
27	673+.0001		055	110	6.11	r4.99	20.17.13.15+9
45	255+.0046		069	138	6.14	rr.24	20.21.6.42+12
45	1155+.0050		077	154	6.15	rr.39	20.31.52.85+10
54	746+.0009		068	136	6.14	rr.22	21.27.54.12+13
54	946+.0029		073	146	6.15	rr.31	21.33.37.27+13
45	555−.0010		063	126	6.13	rr.13	21.34.40.37+13
45	1555+.0080		078	156	6.16	rr.40	21.52.28.96+13
36	964+.0030		069	138	6.14	rr.24	22.11.46.31+12
27	673+.0001		070	140	6.14	rr.26	22.47.28.24+13
27	1873+.0121		083	166	6.17	rr.49	22.51.55.78+13
− 18	882+.0072		3.076	152	6.15	rr.37	23.8 7.33+12

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj.:259

No	Obs	Grey	A.R. Jan 1 1835	da	d2a	An P.M.	Ob	δ Jan 1 1835	dδ	d2δ	P.M.
10764	13	5.6	23.18.28.57	3.070	−.001	+.027	12	0.21.12.44	19.723	+.070	−0.18
10766	5	6	18.47.74	3.070	−.001	+.008	4	0.13.2.64	19.734	+.069	−0.13
10.816	5	7	27 2.68	3.070	−.001	+.011	5	0.24.9.50	19.850	+.058	−0.05
10854	6	5	33 37.89	3.069	−.001	−.002	5	0.52.22.50	19.925	+.040	−0.13
10895	7	6	41.0.77	3.071	−.001	+.005	5	0.9.37.55	19.989	+.025	−0.05

	δa 1844				δ 1844
3.097	3.0504	3.097	19.723	.0063 −0.1737	19.549
3.078	3.0714	6.194 6.1.97	19.734	62 −0.1238	19.610
3.081	3.0744	3.079 6.158 6.1.6	19.850	52 −0.0448	19.805
3.067	3.0604	3.081 6.162 6.1.6	19.925	36 −0.1264	19.799
3.070	3.0694	3.071 6.142 6.1.28 3.067 6.134 6.1.3	19.989	23 −0.0477	19.941

61808	6.181 rr.621	39.058	39	10	357.88	3.076 6.152 6.1.537		
61.428	6.143 rr.284	39.220	39	22	352.96			
61.488	6.149 rr.359	39.510	39	61	356.49			
61.208	6.121 rr.087	39.578	39	60	350.38			
61.388	6.139 rr.249	39.682	39	88	358.94			

								δ 1853	
23.18.28.57	rr.634	23	~1853 19.24.20	+12	0	21.12.44	r.r1.88	0.27	04.32
18.47.74	29		19.43.03	+13	0	13.2.64	r.r2.98	0.18	55.62
27.2.68	34		27.58.02	+12	0	24.09.50	r.r1.49	0.30	05.99
33.37.89	09		34.32.98	+11	0	52.22.50	r.r6.38	0.58	18.88
41.0.77	25	23	41.56.02	+12	0	9.37.55	r.r8.94	0.15	36.49

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj..259

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj..259

Zone Steen from Santini-

a 1853

No	Mag.	Mean A.R. Jan 1 1840	Sa						a 1853	
		h m s							h m s	
9	7	0 5 36.10	3.071	+0.0000	+30	+2	3.07102	8213 39923	0 6 16.02	—
12	8	0 8 27.45	3.071	053	4		3.07104	8213 39923	0 9 7.37	—
15	8	0 11 45.34	3.071	070	5		07105	8213 39923	0 12 25.26	—
28	8.9	0 23 44.09	3.072	134	9		07209	8246 39937	0 24 24.03	—
34	9	0 30 36.54	3.071	173	11		07111	8243 39924	0 31 16.26	—
40	8	0 36 52.96	3.074	205	14		07414	8222 39963	0 37 32.92	—
59	6	0 55 35.20	3.073	306	21		07321	8219 39951	0 56 15.15	—
70	6.7	1 7 23.16	3.071	358	25		07125	8214 39927	1 8 03.09	—
73	8	1 9 6.18	3.077	367	25		07725	8232 40005	1 9 46.19	—
75	6.7	1 14 23.14	3.077	384	26		07726	8232 40005	1 15 03.15	—
84	8	1 24 55.51	3.077	435	30		07730	8232 40005	1 24 45.52	—
130	7.8	2 6 23.16	3.082	579	38		08239	8247 40072	2 7 03.23	—
133	6	2 9 43.09	3.083	588	40		08340	8250 40084	2 10 23.17	—
145	8	2 23 17.20	3.076	612	43		07643	8229 39993	2 23 57.19	—
166	7.8	2 41 24.54	3.074	640	44		07444	8223 39967	2 42 4.51	—
191	8	3 1 36.07	3.085	650	45		08545	8256 40111	3 2 16.18	—
201	7.8	3 11 47.01	3.086	647	44		08644	8259 40123	3 12 27.13	—
206	7	3 15 22.73	3.076	646	44		07644	8229 39993	3 16 2.72	—
240	5	3 46 7.49	3.086	599	42		08642	8259 40123	3 46 47.61	—
267	9	4 7 58.31	3.088	538	37		08837	8265 40149	4 8 38.46	—
290	5.6	4 28 18.88	3.085	463	32		08532	8256 40109	4 29 38.98	—
299	7.8	4 36 29.60	3.076	435	30		07630	8229 39992	4 37 9.59	—
306	7	4 42 29.96	3.083	409	28		08928	8268 40161	4 43 10.10	—
376	7	5 32 52.84	3.076	151	10		07610	8228 39989	5 33 32.84	—
401	6	5 50 35.90	3.083	053	4		08304	8245 40079	5 51 15.98	—
412	8	5 58 47.41	3.072	+006	+0		07200	8246 39936	5 59 27.35	—
430	8.9	6 9 46.05	3.076	-059	-4		07596	8227 39987	6 10 26.04	—
519	7	7 23 39.42	3.088	435	30		08770	8263 40140	7 24 19.56	—
527	8.9	7 30 16.45	3.089	460	32		08868	8266 40153	7 30 56.60	—
529	7	7 30 45.53	3.073	461	32		07268	8218 39945	7 31 25.48	—
553	7.8	7 52 12.98	3.078	538	37		07763	8233 40009	7 52 52.99	—
562	7	8 0 35.00	3.089	564	39		08861	8266 40152	8 1 15.15	—
588	7.8	8 20 56.57	3.075	609	42		07458	8223 39969	8 21 36.54	—
593	7	8 26 55.17	3.088	620	43		08767	8263 40139	8 27 35.71	—
607	7	8 32 10.65	3.085	636	44		08456	8253 40099	8 37 50.75	—
609	8	8 38 34.80	3.074	637	44		07456	8223 39969	8 39 14.77	—

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj..259

Zone Stars from Santini

No Obs	δ from 1840	dδ	Δδ						δ 1853
3	0.29.39.0	20.050	-0.000105	-0.00068	20.04732	80.142	260.63	4.20.6	0.33.59.6
3	0.57.35.2	20.043		162	104	.04196	6012	260.54	4.20.5	1.1.55.7
3	0.41.36.4	20.030		226	149	20.02851	6.08	260.37	4.20.4	0.45.56.8
3	0.37.32.3	19.947		495	319	19.94381	59.83	259.27	4.19.3	0.41.57.6
3	0.4.6.0	19.877		587	384	87316	59.62	258.35	4.18.4	0.8.24.4
3	0.56.55	19.796		718	468	19.79132	59.37	257.26	4.17.3	1.0.228
3	0.30.28.1	19.468		1015	676	.46104	58.38	252.99	4.13.0	0.34.41.1
3	0.5.55.1	19.195		1297	845	.18655	57.56	249.43	4.9.4	0.6.2.5
3	0.59.41.3	19.151		1330	848	14252	57.43	248.86	4.8.9	1.3.50.2
6	0.53.18.8	19.009		1429	861	.13000 39	57.01	24701	4.7.0	0.57.25.8
3	0.44.49.8	18.720		1607	969	18.71031	56.13	243.23	4.3.2	0.48.53.0
3	0.55.39.2	17.091		2347	1208	17.07552	51.23	222.02	3.42.0	0.57.21.2
6	0.57.52.2	16.929		2401	1440	16.91460	50.14	219.89	3.39.9	1.3.32.1
3	0.22.58.7	16.263		2622	1573	16.24727	48.14	211.21	3.31.2	0.26.29.8
2	0.15.9.7	15.284		2898	1740	15.26666	45.80	198.47	3.18.5	0.18.28.2
3	0.52.19.1	14.083		3188	1913	14.06387	42.19	18283	3.2.8	0.55.21.9
5	0.53.4.1	13.434		3322	1993	13.41407	40.24	17438	2.54.4	0.55.58.5
1	0.20.14.0	13.200		3376	2026	13.17774	39.54	171.34	2.51.3	0.23.05.3
2	0.47.18.6	11.062		3732	2239	11.05861	33.12	143.52	2.23.5	0.49.42.1
3	0.50.9.6	9.418		3952	2371	9.39427	28.18	123.12	2.3.1	0.52.12.7
1	0.40.6.0	7.757		4139	2483	7.73217	23.20	100.52	1.26.5	0.41.46.5
2	0.16.1.5	7.146		4183	2510	7.12030	21.36	92.57	1.32.6	0.17.34.1
2	0.52.4.4	6.653		4223	2534	6.67266	19.88	86.16	1.26.2	0.53.30.6
1	0.14.48.0	2.367		4448	2666	2.34034	7.02	30.42	30.4	0.15.18.4
2	0.31.54.9	0.823		4473	2684	0.81610	+2.39	10.35	10.4	0.32.05.3
6	0.5.16.3	0.105		4478	02684	00.88812	+0.26	+1.14	+1.1	0.5.17.4
1	0.16.54.9	0.854		4473	2684	-0.88084	-2.64	-11.45	-11.4	0.16.43.4
3	0.47.24.2	7.159		4183	2510	7.18410	21.55	93.39	1.33.4	0.45.50.8
3	0.51.40.9	7.695		4138	2488	7.71858	23.16	100.36	1.40.4	0.50.0.5
3	0.55.33.3	7.734		4134	2480	7.75888	23.27	100.87	1.40.9	0.54.12.4
2	0.22.1.6	9.432		3950	2370	9.45570	28.37	122.93	2.24	0.19.58.7
3	0.55.15.4	10.072		3873	2324	10.09524	30.29	131.24	2.11.2	0.53.04.2
1	0.13.34.8	11.571		3645	2187	11.59287	34.78	150.71	2.30.7	0.11.04.1
2	0.54.31.6	11.994		3588	2152	12.01552	36.05	156.21	2.36.2	0.51.55.4
3	0.46.27.5	12.702		3464	2078	12.72278	38.17	166.40	2.46.4	0.43.41.1
3	0.13.41.5	12.796		3448	2068	12.81168	38.45	166.62	2.46.2	0.10.54.9

19.79
13
59.37
1979
25727
4.17.3
56 55
60.22.8

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj..259

Stars for Zones from Santini

No	Mag	a Jan 1 1840	da							a 1853		
				-0.0000								
631	6	8h 55m 47s 53	3.073	647	-.00044	.07256	3073	9.21	39.94	8 55 27.47	−	+
645	7	9. 3. 15. 88	3.086	650	45	.08555	3086	9.26	40.12	9 3 56.00	−	
656	7	9. 12. 23. 95	3.084	647	45	.08355	3084	9.25	40.09	9 13 04.06	−	
679	8	9. 29. 43. 36	3.076	628	44	.07556	3076	9.23	39.89	9 30 23.35	−	
684	7	9. 34. 12. 06	3.077	618	43	.07657	3077	9.23	40.00	9 34 52. 06	−	
692	7	9. 42. 1. 74	3.082	605	42	.08158	3082	9.24	40.06	9 42 41. 80	−	
695	7	9. 44. 0. 05	3.081	606	42	.08058	3081	9.24	40.05	9 44 40 10	−	
713	4	9. 59. 44. 95	3.075	564	39	.07461	3075	9.22	39.97	10 0 24.92	−	
732	8	10 18 41. 67	3.078	497	34	.07766	3078	9.23	40.01	10 19 21. 68	−	
735	5-6	10. 22. 6. 53	3.072	486	33	.07167	3072	9.21	39.93	10 22 46. 46	−	
759	7	10 48 57. 25	3.074	375	26	.07374	3074	9.22	39.96	10 49 37. 21	−	
762	7	10. 52. 51. 88	3.076	358	25	.07575	3076	9.23	39.98	10. 53. 31. 87	−	
764	7	10. 55. 25. 14	3.076	358	25	.07575	3076	9.23	39.97	10. 56. 05. 14	−	
772	7	11. 2. 11. 90	3.122	317	22	.12178	3122	9.36	40.58	11 2. 52. 48	−	
795	4-5	11. 28 45. 41	3.071	231	16	.07084	3071	9.21	39.92	11. 29. 25. 33	−	
806	6-7	11. 40. 51. 80	3.071	112	8	.07092	3071	9.21	39.92	11. 41. 31. 72	−	3.07 13 9.21 3.07 39.91
826	7	11. 59. 013	3.070	-000	- 0	.07000	3070	9.21	39.91	11. 59. 40. 04	−	
839	6-7	12. 10. 28. 35	3.070	+0.59.00004		.07004	3070	9.21	39.91	12. 11. 8. 26	−	
840	4	12 11 43. 29	3.070	064	4	.07004	3070	9.21	39.91	12. 12. 23. 20	−	
845	8	12. 17. 29. 94	3.069	096	6	.06906	3069	9.21	39.90	12. 18 9. 84	−	
862	7	12 30 45. 45	3.070	168	11	.07011	3070	9.21	39.91	12. 31. 25. 34	−	
876	8	12. 43 40. 19	3.066	246	16	.06616	3066	9.20	39.86	12. 44. 20. 05	−	
879	7	12 47. 27. 39	3.066	259	17	.06617	3066	9.20	39.86	12. 48 7. 25	−	
890	8-9	12. 54. 37. 03	3.070	296	20	.07020	3070	9.21	39.91	12. 55. 16. 94	−	
905	7	13. 9. 18. 66	3.069	345	24	.06924	3069	9.21	39.90	13 9. 58. 56	−	30.66 9.19 41.24 30.66 9.20
921	7	13. 26. 7. 05	3.066	443	30	.06630	3066	9.20	39.86	13. 26. 46. 91	−	
922	4	13. 26. 32. 57	3.069	443	30	.06930	3069	9.21	39.90	13. 27. 12. 47	−	30.64 9.192 39.83
947	8	13 51 33. 75	3.061	535	37	.06137	3061	9.18	39.79	13. 52. 13. 54	−	
955	7	13. 59. 39. 41	3.062	564	39	.06239	3062	9.19	39.81	14 0 19.26	−	
965	7	14. 12. 19. 56	3.059	494	41	.05961	3059	9.18	39.77	14 12. 59. 33	−	
967	7	14 14 34. 88	3.069	601	42	.06942	3069	9.21	39.90	14 15. 14. 78	−	
984	8	14. 27. 49. 24	3.057	623	43	.05743	3057	9.17	39.74	14. 28. 28. 96		
1000	7	14. 42. 48. 78	3.064	643	44	.06444	3064	9.19	39.83	14 43 28. 61	−	
1005	6	14. 49. 21. 35	3.063	647	44	.06344	3063	9.19	39.82	14 50 1. 17	−	
1006	8-9	14 49 57. 84	3.059	647	44	.05944	3059	9.18	39.77	14 50 37. 61	−	
1011	6-7	14. 53. 37. 60	3.062	649	44	.06244	3062	9.19	39.81	14 54 17. 41	−	
1023	9	15 2. 36. 00	3.058	650	45	.05845	3058	9.17	39.75	15 3 15. 75		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj..259

Nr Obs	∫ Jan 1840 d5									∫ 1853
3	0·8·17·8	-13·793	-.0043251	-0285	-138145	138·15	41·44	-179·59	-2·59·6	0·5·18·2
2	0·56·31·5	14·382	3120	202	14·40022	146·02	43·20	189·22	3·7·2	0·53·24·3
3	0·51·21·7	14·928	2990	195	14·93475	149·45	44·84	194·32	3·14·3	0·48·07·6
3	0·23·45·2	15·898	2732	176	15·91176	159·16	46·74	205·90	3·25·9	0·20·19·3
3	0·26·43·5	16·132	2662	172	16·14976	161·50	48·44	209·94	3·29·9	0·23·13·6
1	0·50·46·6	16·530	2537	162	16·54762	165·46	49·54	215·00	3·35·0	0·47·11·6
2	0·49·29·0	16·627	2505	162	16·64332	166·43	49·93	216·36	3·36·4	0·48·52·6
3	0·24·27·5	17·358	2240	143	17·37323	173·72	52·12	225·84	3·45·8	0·20·41·7
3	0·39·54·2	18·129	2176	140	18·14333	181·43	54·43	235·86	3·55·9	0·35·58·3
3	0·10·51·0	18·254	1854	110	18·26500	182·65	54·80	237·45	3·57·5	0·6·53·5
4	0·32·32·0	19·100	1365	.0091	19·10891	191·09	57·32	248·41	4·8·4	0·28·23·6
5	0·54·14·1	19·202	1294	.0084	19·22104	192·10	57·63	249·73	4·9·7	0·50·4·4
3	0·51·32·2	19·265	1246	.0078	19·27228	192·73	57·82	250·55	4·10·6	0·47·21·6
3	0·47·58·6	19·493	1117	.0072	19·50002	195·00	58·50	253·50	4·13·5	0·43·45·1
4	0·3·31·5	19·869	610	.0040	19·87330	198·73	59·62	258·35	4·18·4	−0·0·47·9
3	0·34·13·9	19·986	373	.0024	19·98884	199·88	59·96	259·84	4·19·8	0·29·54·1
3	0·15·37·1	20·055	−.000019	−.0013	20·0563	200·56	60·17	260·73	4·20·7	0·11·16·4
3	0·6·10·7	20·085	+.000203	+.0013	20·03337	200·34	60·10	260·44	4·20·4	0·1·50·3
2	0·13·22·8	20·030	226	15	20·0285	200·29	60·08	260·37	4·20·4	0·9·02·4
3	0·36·11·3	19·998	341	22	19·99858	199·96	59·99	259·95	4·20·0	0·31·51·3
3	0·1·35·1	19·875	198	39	8716	19·872	59·61	258·33	4·18·3	−0·2·43·2
2	0·57·28·6	19·693	847	55	19·68675	196·88	59·06	255·96	4·15·9	0·53·12·7
2	0·55·27·9	19·627	923	60	19·62210	196·21	58·86	255·07	4·15·1	0·51·12·8
3	0·4·3·9	19·489	.001058	69	19·48721	194·82	58·45	253·27	4·13·3	−0·0·9·4
2	0·10·8·9	19·146	1333	86	19·13774	191·37	57·41	248·78	4·8·8	0·6·1·1
2	0·30·22·2	18·656	1644	106	18·64554	186·45	55·94	242·39	4·2·4	0·26·24·8
3	0·13·24·8	18·642	1651	107	18·63713	186·31	55·89	242·20	4·2·2	0·9·22·6
3	0·49·43·3	17·726	2096	136	17·71724	177·12	53·13	230·25	3·50·3	0·45·53·0
3	0·42·28·0	17·384	2231	145	17·36795	173·70	52·11	225·81	3·45·8	0·38·42·2
5	0·55·22·7	16·804	2444	158	16·78782	167·88	50·36	218·24	3·38·2	0·51·44·5
2	0·5·43·3	16·696	2485	162	16·67798	166·80	50·01	216·81	3·36·8	0·2·06·5
3	0·55·15·5	16·027	2693	175	16·00795	160·10	48·03	208·13	3·28·1	0·51·47·4
1	0·24·23·6	15·204	2920	189	15·18511	151·85	45·56	197·41	3·17·4	0·21·06·2
3	0·28·51·1	14·824	3014	195	14·80145	148·05	44·41	192·46	3·12·5	0·25·36·6
2	0·45·7·5	14·788	3024	197	14·76783	147·68	44·30	191·98	3·12·0	0·41·55·5
3	0·29·46·8	14·571	3076	200	14·55710	145·51	43·65	189·16	3·9·2	0·26·37·6
3	0·44·42·2	14·021	3201	208	14·00021	140·02	42·00	182·02	3·2·0	0·41·40·2

19·988
59·96
19·988
259·844
4·19·8
34·13·9
24·14·1
+·0034
19·9980
−19·99446
59·98338
19·95946
259·82978
4·19·5
36·11·3
31·51·4

0·060
19·875
19·863
59·607
19·863
258·273
4·15·3

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj..259

Stars from Santini

No	Mag	α Jan 1840	dα						α 1853
				+0.0000					
1026	7-8	15.6.11.33	3.054	649	43	0.05446	30.54	9.16 39.70	15.6 51.03 –
1028	6-7	7.40.63	3.054	648	44	0.05464	54	9.16 39.70	8.20.33 –
1061	9	16.38.00	3.054	612	43	0.05463	54	9.16 39.70	15.37.17.70
1073	8	15.49.29.19	3.063	591	41	0.06341	63	9.19 39.82	15.50 9.01
1092	9	16.5.49.17	3.066	554	39	0.06637	66	9.20 39.86	16 4.29.03
1095	8	16.6.44.06	3.067	541	37	0.06737	67	9.20 39.87	16 7.23.91
1113	7	16.20.32.35	3.062	490	34	0.06234	62	9.19 39.81	16.21.12.16
1121	7	16.28.57.55	3.058	463	32	0.05832	58	9.17 39.75	16.29.37.30
1135	8	16.41.9.55	3.066	413	29	0.06629	66	9.20 39.86	16.41.49.39
1142	7	16.44.55.61	3.064	396	27	0.06427	64	9.19 39.83	16 45 35.44
1151	7	16.57.854	3.049	339	23	0.04923	.49	9.15 39.64	16.57.48.18
1179	7	17.18.2336	3.047	231	16	0.04716	47	9.14 39.61	17 19.02.95
1186	7	17.23.4633	3.067	200	14	0.06714	.67	9.20 39.87	17 24.26.20
1215	8	17.44.40.97	3.070	085	6	0.07006	70	9.21 39.91	17.45.19.98
1219	5	17.48.9.35	3.054	070	5	0.05401	54	9.16 39.70	17.48.49.05
1228	8	17.53.20.7	3.068	041	3	0.06803	68	9.20 39.88	17.54.0.05
1229	8-9	17.54.4.69	3.068	+036	+2	0.06802	68	9.20 39.88	17 5444.57
1240	8	18.2.14.24	3.058	-012	-1	0.05799	58	9.17 39.75	18.2 53.99
1246	7-8	18 6.22.43	3.067	036	2	0.06698	67	9.20 39.87	18.7.2.30
1249	7	18 8.56.97	3.048	053	4	0.04796	48	9.14 39.62	18 9.36.81
1261	5	18.19.1.48	3.068	101	7	0.06753	.68	9.20 39.88	18.19.41.37
1262	7-8	18.19.38.85	3.068	112	8	0.06772	68	9.20 39.88	18.20.18.73
1278	7	18.29.1.06	3.052	162	11	0.05189	52	9.16 39.68	18.29.40.74
1288	7	18.33.16.86	3.061	184	14	0.06086	.61	9.18 39.79	18.33.56.65
1300	7	18.46.46.66	3.049	254	17	0.04883	.49	9.15 39.64	18.47.26.30
1314	7	18.55.9.08	3.063	301	21	0.06279	.63	9.19 39.82	18.55.48.90
1335	6	19.10.2389	3.052	371	25	0.05175	.52	9.16 39.68	19.11 3.57 –
1338	5	19.14.9.62	3.069	390	27	0.06873	.69	9.21 39.90	19.14.49.52
1370	7	19.39.25.11	3.055	490	34	0.05465	.55	9.16 39.71	19.40.04.82
1373	5.6	19.44.19.28	3.058	510	35	0.05745	.57	9.17 39.74	19.44.59.02
1381	7	19.51.14.48	3.057	535	37	0.05563	.55	9.17 39.72	19.51.54.85
1398	7-8	20.4.25.34	3.062	574	40	0.06160	.62	9.18 39.80	20.5.05.14
1460	7-8	20.54.55.71	3.054	649	44	0.05356	54	9.16 39.70	20.55.35.41
1471	8-9	21 3.56.54	3.054	649	44	0.05356	.54	9.16 39.70	21.4.36.24
1478	8-9	21.8.47.96	3.065	648	44	0.06456	65	9.19 39.84	21.9 27.80
1483	8-9	21.12.51.53	3.070	640	44	0.06956	.70	9.21 39.91	21.13 31.64

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj..259

No Obs	δ Jans 1840	dδ								δ 1853
3	0·57·55·3	13·795	+0·03248	+0·205	−13·7742	137·74	41·32	179·06	2·59·1	0·54·56·2
8	0·58·06·4	13·700	3268	215	13·6785	136·79	41·05	177·88	2·57·9	0·55·07·5
2	0·51·48·9	11·764	3628	234	11·7205	117·21	35·16	152·37	2·32·4	0·49·16·5
3	0·22·35·6	10·815	3771	247	10·7903	107·90	32·37	140·27	2·20·3	0·20·15·1
3	0·14·23·1	9·738	3913	253	9·7127	97·13	29·14	126·27	2·6·3	0·12·16·8
6	0·8·50·2	9·513	3941	254	9·4876	94·88	28·46	123·34	2·3·3	0·6·46·9
3	0·25·9·4	8·434	4063	266	8·4074	84·07	25·22	109·29	1·49·3	0·23·20·1
3	0·34·51·4	7·715	4132	267	7·7323	77·32	23·20	100·52	1·40·5	0·33·10·9
2	0·12·38·9	6·764	4214	273	6·7367	67·37	20·21	87·58	1·27·6	0·11·11·3
3	0·18·41·8	6·651	4242	273	6·6237	66·24	19·87	85·51	1·23·5	0·17·18·3
2	0·56·35·3	5·633	4311	280	5·6050	56·05	16·82	72·47	1·10·5	0·55·24·8
2	0·58·0·0	3·621	4403	286	3·5924	35·92	10·78	46·70	46·7	0·57·13·3
2	0·9·59·8	3·158	4422	287	3·1293	31·29	3·39	34·68	34·7	0·9·25·2
3	0·0·19·0	1·361	4470	292	1·3118	13·12	3·93	17·05	17·1	0·0·0·19
3	0·42·1·2	1·037	4471	292	1·0078	10·08	3·02	13·10	13·1	0·41·48·1
2	0·6·47±	0·583	4475	292	−0·5538	5·54	1·66	7·20	7·2	0·6·46·528±
3	0·6·30·6	−0·519	4471	292	−0·4808	−4·81	−1·44	−6·25	−6·3	0·6·24·3
3	0·31·8·2	+0·196	4477	292	+0·2252	+2·25	+0·68	+2·93	+2·9	0·31·11·1
3	0·8·12·0	0·557	4475	292	0·5862	5·86	1·76	7·62	7·6	0·8·19·6
2	0·57·24·1	0·784	4473	292	0·8132	8·13	2·44	10·57	10·6	0·57·34·7
3	0·6·22·8	1·663	4462	292	1·6922	16·92	5·08	22·00	22·0	0·6·44·8
2	0·6·27±	1·747	4461	292	1·7462	17·46	5·24	22·70	22·7	0·6·27·227±
2	0·49·19·0	2·532	4444	285	2·5308	25·31	7·68	33·34	33·3	0·49·52·3
3	0·25·15·1	2·903	4432	287	2·9311	29·32	8·79	38·11	38·1	0·25·53·2
3	0·55·36·7	4·066	4383	286	4·0846	40·95	12·28	53·23	53·2	0·56·29·9
1	0·20·56·1	4·780	4348	280	4·8080	48·08	14·42	62·50	1·2·5	0·21·58·6
3	0·42·58·4	6·064	4271	274	6·0919	60·92	18·27	79·19	1·19·2	0·43·17·6
3	0·4·56·2	6·377	4248	273	6·4043	64·04	19·21	83·25	1·23·3	0·6·19·5
3	0·42·34·6	8·427	4063	266	8·4555	84·56	25·37	109·93	1·49·9	0·44·24·5
3	0·55·19·0	8·818	4024	260	8·8440	88·44	26·53	114·97	1·55·0	0·37·54·0
2	0·56·42·9	9·357	3959	260	9·3830	98·83	29·15	122·98	2·3·0	0·58·45·9
3	0·23·5·9	10·361	3831	247	10·3857	103·86	31·16	135·02	2·15·0	0·25·50·9
3	0·54·22·3	13·864	3233	208	13·8848	138·85	41·65	180·50	3·0·5	0·57·22·8
3	0·58·57·5	14·423	3109	201	14·4432	144·43	43·33	187·76	3·7·8	1·2·05·3
2	0·21·42·4	14·715	3041	197	14·7345	147·35	44·20	191·55	3·11·6	0·24·54·0
2	0·0·4·1	14·954	2985	191	14·9731	149·73	44·92	194·65	3·14·7	0·3·18·6

0·032
·0192
−13·795
−13·776
137·76
41·33
179·09
2·59·1

57·55·3
2·59·1
54·56·2

6·451
027
6·424
(9·27)
83·51
1·23·5
16·41·3
17·18·3
5·433
16·299
70·6 53

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj..259

Santini

N	Mag	c Jan 1860 da							a 1853
				-0.0000					
1492	6.7	21.18.17.08	3.064	642	44	.06516	30.64	9.19	39.83	21.18.56.91
1501	8.9	21.25.10.61	3.065	633	44	.06456	30.65	.19	39.84	21.25.50.45
1511	6	21.34.0.34	3.063	618	43	.06257	63	.19	.82	21.34.40.16
1519	8	21.42.21.18	3.070	607	42	.06958	70	.21	91	21.43.1.09
1530	7	21.52.17.70	3.065	584	40	.06460	65	.19	84	21.52.57.14
1546	9	22.6.36.68	3.066	551	39	.06561	66	20	86	22.5.14.54
1566	8.9	22.20.46.46	3.061	647	37	.06063	61	.18	79	22.20.25
1560	4.5	22.17.6.48	3.065	505	35	.06465	65	19	84	22.17.46.32
1576	8.9	22.31.49.56	3.067	455	31	.06067	67	20	87	22.32.29.43
1593	7	22.46.48.75	3.069	385	26	.06874	69	21	90	22.47.28.65
1600	6.7	22.51.15.76	3.070	367	25	.06975	70	21	91	22.51.55.67
1606	7.8	22.57.6.68	3.068	339	23	.06777	68	20	88	22.57.46.66
1616	8.9	23.5.17.85	3.070	301	21	.07079	80	24	40.04	23.5.57.89
1625	6.7	23.18.44.23	3.069	231	16	.06884	69	21	39.90	23.19.24.13
1650	6	23.33.53.40	3.068	145	10	.06790	68	20	39.88	23.34.33.28
1661	9	23.44.5.51	3.069	090	6	3.06894	69	21	39.90	23.44.45.45

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj.259

nobs	δ Jan. 1840	dδ	dδ						δ 1853
2	0·25·17·1	15·266	+0·2903	+0·189	15·2849	15·285	45·85	198·70	3·18·7	0·28·36·4
2	0·22·54·0	15·650	2800	182	15·6682	15·668	47·00	203·68	3·23·7	0·26·17·7
2	0·33·36·9	16·122	2665	176	16·1396	16·140	48·41	208·81	3·29·8	0·31·04·7
2	0·0·34·7	16·546	2533	163	16·5623	16·562	49·69	213·31	3·35·3	0·4·10·0
2	0·27·12·9	17·022	2369	156	17·0376	17·038	51·11	219·49	3·41·5	0·30·54·4
1	0·23·56·0	17·566	2161	143	17·5803	17·580	52·74	228·54	3·48·5	0·27·42·5
1	0·49·7·1	17·611	2139	137	17·7247	17·725	53·17	230·42	3·50·4	0·52·57·5
2	0·34·3·0	18·068	1941	127	18·0807	18·081	54·24	235·05	3·55·1	0·37·58·1
2	0·22·30·1	18·590	1683	111	18·6011	18·601	55·80	241·81	4·1·8	0·26·31·9
2	0·12·50·8	19·041	1406	91	19·0501	19·050	57·15	247·65	4·7·7	0·16·58·5
2	0·6·36·9	19·161	1324	85	19·1695	19·170	57·51	248·21	4·8·2	0·10·45·1
2	0·26·43·0	19·305	1213	78	19·3128	19·313	57·94	251·07	4·11·1	0·30·54·1
2	0·3·43·1	19·687	1059	71	19·4941	19·494	58·48	253·42	4·13·4	0·7·56·5
2	0·22·49·6	19·732	802	52	19·7372	19·737	59·21	256·58	4·16·6	0·27·06·2
2	0·53·58·7	19·926	506	33	19·9293	19·929	59·79	259·08	4·19·1	0·58·17·8
1	0·36·30·6	20·008	+0·0310	0·0020	+20·0100	20·010	60·03	260·13	4·20·1	0·40·50·7

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj..259

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1953pbac.proj..259

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj..259

Airy's twelve year Cat.

No	Obs	AR Jan 1845	dα	Sp dα	P. M.
18	3	0 55 50.52 (1845)	3.074	+0034	+.0.010
	6½				
133		1 ~~26 (50)~~	(1845)		
738	1	8.7.29.40	3.078	-.0118	1845
	8				
742	1	8.8.31.50	3.075	-.006	1845
	8.9				
964	11	(11.28.45.27	3.071	-.0017	±.003
5.4	12	(11.29.0.76			
1000	7	(12.10.28.20	3.071	+0006	+.004
6	1	(12.10.43.63			
1002	7	(12.11.43.18	3.070	+.0006	-.003
3.4	14	(12.11.58.60			
1075	3	(13.26.32.67	3.069	+.0044	-.014
3.4	7	(13.26.47.78			
1204	5	(14.49.21.23	3.064	+.0063	+.008
6		(14.49 (40)			
1447	2	17.3.35.21 (1840)	3.060	+.0030	
1451	3	17.4.44.07	3.058	+.0029	
7					
1494			3.060	+0022	
5.6	3	17.20.55.33			
1581	5	18.3.34.35 (1840)	3.055	-.0003	
7½					
1586	5	18.3.56.81 (1840)	3.048	-.0005	
7					
1604	6	18.19.1.38 (1840)	3.068	-.0011	+.004
6					

1735 (19.18.(20) 3.070 -.0041 +.005
5 (1) 19.18.35.40
δ 3 { 0.1.30.96 +6.76 +.422 -.02
0 2 3.20

2005 22.17.(10) 3.064 -.0048 +.004
5.4 (1) 22.17.21.61
δ { (4) 0.34.415 +18.09 +.193 +.01
(3) 0.35.33.69

47
{ 2058 (5) 22.27.3.62 3.069 -.0038 +.007
5 (1) 0.14.25.27 +19.06 +.140 -.03 } 1845

{ 2100 (11) 23.18.43.78 3.069 -.0021 +.010
5.4 (9) 23.18.59.25
(10) 0 22.49.67 +19.74 +.079 -.10
(3) .0.24.28.72

2101 (9) 23.19.18.38 3.069 -.0020 +.003
6 (8) 0.16.19.08 +19.74 +.079 -.05 } 1845

2122 (9) 23.33.52.88 3.068 -.0009 -.004
5 (1) 23.34.8.29
(3) 0.53.59.89 +19.93 +.050 -.13
(10) 0.55.38.35

{ 9380 11.5.34.24 3.075 -.0033 +.011
5 (4) 11.5.49.56
(1) 0.47.59.65 -19.50 -.105 -.03
(5) 0.45.22.96

0.0.1.48
0.11
7.48
.0108 ÷2
3.075
3.086
9258
40.1.18
34.24
14.36

3.086
24.658
49.56
14.25

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae_proj...259

The numbers in brackets belong to the same star
1st Epoch 1840 2d Epoch 1845
The Pos in both $\alpha\alpha$ & δ are for 1850.

No. Obs	δ 1845 (1850)	$d\delta$		p.m.
4	0 32 03.94	+19.46	−.109	−0.07
~~3~~	0 8 35.63	+18.62	−.166	...
1	0 22 51.15	+10.61	−.381	
3	0 12 31.61	−10.69	−0.380	
~~3~~				
13	0 3 32.20	−19.88	−0.060	+.01
8	0 1 52.65			
5	0 4 29.21	−20.03	+.022	∓0.06
11	0 13 21.85	−20.03	+.024	∓0.04
7	0 11 42.22			
4	0 13 27.27	−18.63	+.166	+.06
10	0 11 54.94			
	29 ±	−14.79	+.302	∓.04
5	0 27 38.30			
2	0 29 46.76	−4.85	+.431	...
4	0 33 8.97	−4.75	+.439	
2	0 27 41.96	−3.38	+.440	∓.12
4	0 38 50.37	+0.53	+.446	
5	0 17 23.11	+0.83	+.445	
5	0 6 24.18	+1.71	+.446	∓0.05

	α 1853	δ 1853
4to		
68	0h 56.15.19	0 34 39.54
133	1 26 (50)	0 12 4.53
738	8 7 53.99	0 21 26.53
(742)	8 8 56.10	0 11 5.97
964	11 29 25.23	−0 0 46.33
	11 29 25.35	−0 0 46.45
(1000)	12 11 8.18	
	12 11 8.23	0 1 48.49
(1002)	12 12 23.05	0 9 00.97
	12 12 23.14	0 9 01.09
(1075)	13 27 12.39	
	13 27 12.42	
5	0 9 25.99	
	0 9 26.46	
1204	14 50 1.17	
	0 25 39.64	
1447	17 4 14.99	
	0 28 43.49	
1451	17 5 23.82	
	0 32 7.00	
1494	17 21 19.81	
	0 27 13.93	
1581	18 6 14.07	
	0 38 56.52	
1604	18 19 41.32	
	0 6 46.11	
(1735)	19 19 0.0	
8	0 2 58.37	
	0 2 57.05	
(2004)	22 17 46.19	
5	0 37 59.34	
	0 37 58.47	
(2058)	22 47 28.26	
	0 16 57.50	
(2100)	23 19 23.81	
	23 19 23.88	
8	0 27 5.83	
	0 27 4.95	

(2101)	23 19 42.96	
	0 18 56.59	
2122	23 34 32.71	
	23 34 32.79	
8	0 58 17.26	
	0 58 16.75	
938	11 6 14.36	
	11 6 14.25	
	0 43 45.77	
	0 43 46.57	

	1840	1845	
938	11h 6m 14.36	14.25	−0.11
964	11 29 25.23	25.35	+0.12
1000	12 11 8.18	8.23	+0.05
1002	12 12 23.05	23.14	+0.09
1075	13 27 12.39	12.42	+0.03
2100	23 19 23.81	23.88	+0.07

To the ARs reduced from 1840 0s.06 must be added for Red. to Equinox of Fund. Reg.

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj..259

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj..259

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj..259

Am proc/1830.0

Struve.

Sec. vars are here applied erroneously

No	Mag	1830	da							a 1853	cor. for error in sec variation	Struves Cor. Lett.	Voûtel Cor	
				+9000							s	s		
60	5.5	0.55.4.47	3.0727	275	+0030	3.0757	61,51	9.23	70.74	0.56.15.21	-0.06	-.04	= -0.10	
245	7.7	2.26.46.26	0748	620	68	.0816	61,63	24	87	2.27.57.13	-.14	-.02	.16	
319	7.5	3.5.18.59	0719	649	71	.0790	61,58	24	82	3.6.29.41	-.14	-.05	.19	
356	7.2	3.28.4.40	0707	630	69	.0776	61,54	23	78	3.29.15.18	-.14	-.09	.23	
411	6.0	4.3.25.33	0764	554	61	.0825	61,55	25	90	4.4.36.23	-.12	-.03	.15	
416	7.3	4.7.18.00	0707	541	60	0767	61,53	23	70.76	4.8.28.76	-.12	-.02	14	
465	8.0	4.32.10.92	0837	452	50	.0887	61,77	26	71.03	4.33.21.95	-.10	-.02	12	
481	7.0	4.41.59.41	0889	409	45	.0934	61,87	28	71.15	4.43.10.56	-.09	-.02	11	
528	6.0	5.2.59.60	0888	311	34	.0922	61,84	28	71.12	5.4.10.72	-.07	-.05	12	
565	8.0	5.14.19.51	0905	254	27	.0932	61,86	28	71.14	5.15.30.65	-.05	-.05	10	
674	7.4	5.56.22.89	0905	024	3	0905	61,82	27	71.09	5.57.33.98	-.01	-.03	04	
677	8.7	5.58.26.37	0781	+012	+1	0782	61,56	23	70.79	5.59.37.16	-.00	-.05	05	
733	8.5	6.18.1.48	0826	-101	-11	0817	61,63	25	88	6.19.12.36	+.02	-.03	-01	
857	7.5	7.11.46.72	.0866	380	42	.0818	61,63	24	87	7.12.57.57	+.08	-.04	+04	
917	8.5	7.38.19.38	.0793	486	53	.0740	61,48	22	70	7.39.30.08	+.11	-.04	07	
1048	7.5	8.38.51.90	0817	639	69	.0748	61,56	22	72	8.39.02.62	+.14	-.02	12	
1061	8.7	8.45.5.11	0712	646	71	.0641	61,28	19	47	8.46.15.58	+.14	-.02	12	
1215	9.2	10.24.1.65	0703	480	53	.0650	61,30	19	49	10.25.12.14	+.11	-.03	08	
1234	7.0	10.33.28.43	0753	443	48	0705	61,41	21	62	10.34.39.85	+.10	-.03	07	
1334	6.0	11.28.14.65	0706	178	20	0686	61,37	20	57	11.29.25.22	+.04	3.0706 -.03	+ 01	
1369	8.0	11.52.45.60	0706	-041	-4	0702	61,40	21	61	11.53.56.21	+.01	3.0687 -.03	-02	
1533	(8.0?) 9.5	13.25.36.78	0654	+443	+48	.0702	61,46	21	61	13.26.47.39	=.10	70.58 -.02	12	
1663	9.0	14.46.51.81	0599	642	70	.0669	61,34	20	54	14.43.2.35	=.14	-.04	18	
2014	6.2	17.48.22.07	0679	+070	+8	0687	61,37	21	58	17.49.32.65	-.02	-.03	05	
2059	8.0	18.1.43.74	0581	-012	-1	0580	61,16	17	.33	18.2.54.07	.00	-.04	04	
2067	7.0	18.5.51.84	0670	036	4	0666	61,23	20	53	18.7.2.37	+.01	-.03	-02	
2265	5.4	19.9.53.60	0527	371	41	.0686	60,97	14	70.11	19.11.3.71	+.08	-.03	+05	
2370	9.1	19.43.51.74	0656	510	56	0600	61,20	18	38	19.45.2.09	+.11	-.02	09	
2429	7.8	20.3.54.74	0629	574	63	.0566	61,13	17	30	20.5.5.04	+.13	-.02	11	
2465	6.5	20.15.57.74	0601	602	66	.0545	61,09	16	25	20.17.7.99	+.13	-.02	11	
2540	6.2	20.54.25.47	0555	649	70	.0485	60,97	14	11	20.55.35.58	+.14	-.02	12	
2626	7.5	21.38.12.58	0692	610	67	.0625	61,25	19	44	21.39.23.02	+.13	-.02	11	
2746	7.0	22.34.17.00	0674	443	46	0626	61,25	19	44	22.35.27.44	+.10	-.02	08	
2766	9.2	22.47.10.36	0670	-385	-42	.0628	61,26	19	70.45	22.48.20.81	+.08	-.02	+.06	

Corrected in the Catalogue in red ink.

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj..259

Struve Cat. ultima

Nobs δ 1830 d5 δ 1853

5	0.27.12.7	+19.480	-00 1064	-012	+19.468	+389.36	58.60	447.76	7.27.8	0.34.40.5	+0.4
4	0.20.13.9	16.289	2681	029	16.260	325.20	48.78	373.98	6.14.0	0.26.27.9	+.2
2	0.6.0.9	13.851	3233	.035	13.816	276.32	41.45	317.77	5.17.8	0.11.18.7	+.0
4	0.1.36.9	12.343	3528	.039	12.304	246.08	36.91	282.99	4.43.0	0.6.19.9	+.3
3	0.17.24.7	9.768	3906	.043	9.725	194.50	29.18	223.68	3.43.7	0.21.08.4	-.4
4	0.1.26.0	9.470	3943	.043	9.427	188.54	28.28	216.82	3.36.8	0.5.02.8	+.6
5	0.37.33.1	7.698	4153	.045	7.653	149.06	22.36	171.42	2.51.4	0.40.24.5	+.3
1	0.51.0.6	6.697	4222	.046	6.651	133.02	19.95	152.97	2.33.0	0.53.33.6	+.5
3	0.49.19.2	4.938	4340	.047	4.891	97.82	14.67	112.49	1.52.5	0.51.11.7	+.2
2	0.53.15.4	3.971	4394	.047	3.924	78.48	11.77	90.25	1.30.3	0.54.45.7	+.1
4	0.52.12.9	+0.317	4476	.049	0.268	5.36	0.80	6.16	0.2	0.52.19.1	+.7
2	0.20.22.9	+0.137	4477	.049	+0.088	+1.76	+.026	+2.02	+2.0	0.20.24.9	+.2
1	0.31.51.7	-1.576	4464	.049	-1.625	-32.50	4.87	-37.37	-37.4	0.31.14.3	+.7
2	0.42.45.3	-6.179	4260	.046	6.225	124.50	18.68	143.18	2.23.2	0.40.22.1	+.6
4	0.25.43.3	8.344	4075	.044	8.388	167.76	25.16	192.92	3.12.7	0.22.30.4	+.4
3	0.38.28.3	12.816	3462	.038	12.854	257.08	37.56	294.64	4.54.6	0.33.33.7	+.6
3	0.3.27.8	13.320	3368	.037	13.357	267.14	40.07	307.21	5.7.2	-0.1.39.4	+.6
6	0.0.25.7	18.324	1821	.021	18.345	366.90	55.04	421.94	7.1.9	-0.6.36.2	+.5
1	0.36.35.6	18.645	1642	.018	18.663	373.26	55.99	429.25	7.19.3	0.29.26.3	+.6
1	0.6.53.6	19.864	0623	.008	19.872	397.46	59.62	457.06	7.37.1	-0.0.43.5	+.7
4	0.34.5.5	20.046	-0076	-.008	20.038	400.76	60.11	460.87	7.40.9	0.26.24.6	+.4
4	0.33.36.5	18.674	+1642	+.018	18.656	373.12	55.97	429.09	7.9.1	0.26.27.4	+.6
6	0.40.53.5	15.259	2908	.032	15.227	304.54	45.68	350.22	5.50.2	0.35.03.3	+.4
4	0.5.50.5	-1.018	4471	.049	-0.969	-19.38	-2.91	-22.29	-22.3	0.5.28.2	+.2
7	0.31.7.3	+0.151	6477	.069	+0.200	+4.00	+.060	+4.60	+4.6	0.31.11.9	+.5
5	0.8.6.1	0.583	4475	.049	0.562	11.24	1.69	12.93	12.9	0.8.19.0	+.2
4	0.47.0.2	6.023	6271	.046	6.069	121.38	18.21	139.59	2.19.6	0.49.19.8	+.4
6	0.13.9.5	8.781	4026	.044	8.825	176.50	26.48	202.98	3.23.0	0.16.32.5	+.3
4	0.21.56.1	10.324	3837	.042	10.366	207.32	31.10	238.42	3.58.4	0.25.54.4	+.3
4	0.31.27.1	11.213	3714	.041	11.254	225.08	33.76	258.84	4.18.8	0.35.45.9	+.2
3	0.52.7.1	13.533	3246	.035	13.568	271.36	41.60	312.96	5.19.0	0.57.26.1	+.2
3	0.4.21.0	16.339	2601	.029	16.368	327.36	49.10	376.46	6.16.5	0.10.37.5	+.2
4	0.19.50.2	18.670	1642	.018	18.689	373.78	56.07	429.85	7.9.9	0.27.0.1	+.2
2	0.26.33.5	19.053	1402	.016	19.069	381.38	57.21	438.59	7.18.6	0.33.52.1	+.3

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj..259

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj..259

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj..259

Reduction of Stars in Bessels Zone 40 to 1853

mag	A.R	AR 1853		δ		δ 1853
8	23.55.15.70	1 19.08	23.57.14.78	0.34.12.8	- 25.0 0.33.47.8	9.21.5 0.43.09.3 -0
8.9	23.58.9.58	,07	0. 0 8.65	0 7.41.9	26.5 7.15.4	21.5 16.36.9
8.8	23.59.56.80	06	0. 1.55.86 ✓	0.16.36.1	26.1 16.10.0	21.5 25.31.5
8.7	0.4.17.27	04	0. 6.16.31 ✓	0.25.5.2	25.9 24.39.3	21.3 34.00.6
8.9	0.10.30.52	14.00	0. 12.29.52 ✓	0.12.6.3	26.7 11.41.6	20.8 21.02.4
8.8	0.10.26.24	14.02	0. 12.25.26 ✓	0.37 1.4	25.6 36.55.8	20.8 45.56.6
8.9	0 11.26.59	13.00	0. 13.25.59 ✓	0.13.44.8	26.7 13.18.1	20.6 0.22.38.7
9	0.13.9.74	02	15. 8.76	0.51.34.6	25.0 51.09.6	20.4 1. 0 30.0
6	0.15.53.28	03	17 52.31	0.58.36.5	24.9 58.11.6	20.0 1 7.31.6 +1
9	0.16.25.71	13.03	18. 24.74	0.59.14.4	24.9 58.49.5	19.8 1.8.09.3
8.9	0.22.25.20	12.98	24.24.18	0.33.1.5	26.4 32.35.1	19.5 0.41.54.6
8.8	0.24.53.34	12.93	26.52.27	0 2.39.0	28.0 2.11.3	17.6 1.28.9 +2
9	0.28.54.18	92	30.53.10	0.19.24.2	27.5 18.56.9	16.4 28.13.3
9	0.29.17.28	90	31. 16.18	-0, 0.20.7	28.4 - 0.49.1	16.3 8.37.2
9	0.30.16.94	10	32. 15.84	0 3.32.2	28.3 3.03.9	16.0 12.19.9 +2
8.9	0.30.52.38	9:	32. 51.29	0.10.46.4	28.0 10.18.4	15.7 19.34.1 +4
9	0.31.19.34	91	33. 18.25	0.13. 8.2	28.0 0.12.40.2	15.6 21, 55.8
8.9	0.32.31.24	90	34. 30.14	0.4.20.1	28.3 3.51.8	15.2 13.07.0
8.9	0.32.36.30	90	34. 35.20	0 6.46.7	28.3 6.18.4	15.2 +0.15.33.6
9	0.33.12.44	88	35. 11.32	-0.12.52.1	28.9 -13.21.0	14.9 -0.4.6.1
9	0.33.26.42	91	35. 25.33	0.20.23.3	27.5 19.55.8	14.8 29.10.6
8	0.35.34.22	97	37. 33.19	0.3-1.43.8	26.4 -5.17.4	14.0 1. 0.31.4
1	0.36. 5.24	96	38 4.20	0.45-25.7	26.7 44.59.0	13.8 54.12.8
1	0.45.30.60	77	47 29.39	-0.8.57.1	29.9 - 8.27.0	9.5 - 0.18.5 +1
9	0.49.51.98	75	51. 50.73	-0.9.4.0	30.3 - 9.34.3	9. 7.3 - 0.27.0
8	0.49.53.42	75	51. 52.17	-0.9.15.6	30.3 - 9.45.9	7.3 - 0.38.6
1	0.54.15.40	84	56. 14.24	0.26. 2.4	29.2 25.33.2	4.7 34.37.9
6	0.54.16.08	84	56. 14.92	0.26. 5.5	29.2 25.36.3	4.7 34.41.0
1	0.56.57.30	81	58. 56.11	0 16.13.9	29.6 15.44.3	3.1 24.47.1
1	0.57.41.02	82	0.59.39.84	0.25.32.4	29.3 25.03.1	2.7 34. 5.9
9	1. 3.30.50	75	1. 5 29.25	0 - 9.34.9	30.7 9.04.2	8.58.9 18. 3.7 +4
1	4.38.38	81	6. 37.19	0. 34.35.4	29.7 34.05.7	58.3 43. 4.0
9	5.32.68	78	7. 31.46	0 18.52.4	30.6 18.21.8	57.7 28.19.5
6.7	6. 4.30	69	8 2.99	-0 0.18.8	31.4 - 0.50.2	57.3 8. 7.1
9	6.14.98	69	8 13.67	0 1.15.2	31.4 + 0.43.8	57.1 9 40.9

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj..259

D 1853

AB 1853

S 1853

7.8	1. 7.47.28	1.58.87	1.09.46.15		0.55.30.9	−29.0	0.55.01.9	8.55.9	1.03.57.8 +10
8.9	8.10.98	75	10. 4.73		0.16.7.8	30.9	a13.36.9	55.6	22 32.5
9	8.57.30	67	10.55.97		0. 3.18.8	31.5	0.2.47.3	55.1	11.42.4
6	13.4.24	85	15. 3.09		0.49.6.7	30.2	48.36.5	55.8	57.28.3
9	13.20.92	61	15.19.53		−0.11.3.8	32.4	−0.11.36.2	51.0	− 2.44.6 +12
9	20.59.84	74	22.58.58		0.27.43.6	31.9	27.11.7	45.2	35.56.9
8	22.46.96	79	24.45.73		0.40.37.8	31.4	40.06.4	43.7	48.50.1
9	26.23.28	70	28.21.98	not in hdss	0.23.5.1	32.6	22.32.5	40.4	31.12.9
9	30.0.70	59	31.59.29	*	0.4.5.4	34.0	0.3.31.4	36.9	12.8.3 +14
8.9	31.19.84	78	33.18.62		0.44.46.1	32.2	46.13.9	35.6	52.49.5
9	31.47.00	53	33.45.53		−0.8.6.3	34.7	− 8.41.0	35.2	− 0.5.8
9	32.18.72	62	34.17.34		0.12.59.1	33.8	12.25.3	34.6	20.59.9
8.7	34.15.96	54	36.14.48		0.1.48.4	34.7	1.13.7	32.7	9.46.4 +16
8	39.28.77	67	41.27.44		0.28.2.0	34.3	27.27.7	27.4	36.15.1 18
9	40.29.30	55	42.27.85		0.7.28.6	35.2	6.53.4	26.3	15.19.7
9	43.6.09	62	45.04.71		0.24.4.5	34.7	23.29.8	23.5	31.53.3
9	44.56.88	75	46.55.63		0.48.18.0	34.1	47.43.9	21.4	56.05.3 +17
9	47.8.20	74	49.07.94		0.47.25.6	34.4	46.51.2	19.0	55.10.2
8.9	52.6.94	64	54.05.58	+	0.30.12.7	35.9	29.36.8	13.2	37.50.0
9	53.35.30	63	1.55.33.93		0.31.37.5	35.9	31 1.6	11.5	39.13.1
8.9	58.10.72	45.2	1.9.17		0.6.20.2	38.0	5.42.2	4.0	13 46.2
9	2. 0.8.18	74	2.6.93		0.53.7.2	35.9	52.31.3	38	1.0.35.1 19
9	0.13.42	41	2.11.83		−0.1.27.6	38.5	− 2.06.1	8.3.7	5.57.6
7.8	5.4.50	72	7.03.22		0.52.1.2	36.7	51.24.5	7.57.3	59.21.8
7	5.38.72	35	7.37.27	+	−0.5.17.2	39.4	−5.56.6	56.6	2.0.0
9	7.39.50	66	9.38.16		0.42.1.48	37.7	41.37.1	54.0	49.31.1
6	8.24.18	75	10.22.93		0.56.9.6	37.1	55.32.5	53.1	1.3.25.6
9	10.51.60	67	12.50.27		0.47.35.8	37.8	46.58.0	49.9	52.47.9
8	12.17.53	43	14.15.96		0.10.36.8	39.8	9.57.0	48.0	17.45.0
9	15.50.34	67	17.49.01		0.48.2.1	38.6	47.23.5	43.0	55.06 5 21
9	15.48.88	57	17.47.45		0.35.27.6	39.3	34.48.3	43.0	42.31.3
9	19.48.20	31	21.46.51		0.0.23.2	41.5	− 18.3	37.6	7.19.3
8	21.58.30	45	23.56.75		0.19.24.1	40.9	18.43.2	34.6	26 17.8
8	21.58.78	45	23.57.23		0.19.34.0	40.9	18.53.1	34.6	26.27.7
8	23.11.13	48	25.09.55		0.16.4.3	41.3	15.23.0	32.7	22.55.7
8.9	23.13.52	60	25.12.12		0.42.26.4	40.1	41.46.3	32.6	49.18.9 21
8									

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj..259

Jone 40 reduced to 1853

			a 1853					
8	2.25.21.34	1.18.49	2. 27. 19.83	0.29.3.1	-41.0	28.22.7	7.29.5	35.51.6 +21
9	25.39.42	45	27.37.87	0.22.39.9	41.4	21.18.5	29.1	29.24.6
9	30.1.98	54	32.00.52	0.37.15.7	41.6	36.34.1	22.5	43.56.6
7.8	31.59.98	18	33.58.16	-0.11.45.6	41.0	-12.29.6	19.5	-5.10.1
8	32.28.94	17	2. 34.27.11	-0.11.28.9	41.0	-12.12.9	7.18.8	-4.54.1 +22

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj..259

Lone 48.

	α 1853		δ 1853							
8.9	44 18.28	2.14.78	4 49.32.98	−0.2.28.3	−1.08.4	−0.3.30.7	42.5	4	−18	0.0.43.3
8	48.31.51	14.83	50.46.34	0.11.50.7	1.08.0	0.4.27	5-2.9	11.1		13.33.8
9	48.18.38	15.08	50.33.46	30.17.6	6.8	33.10.8	55	2.3.4		38.04.2
9	51.19.41	15.05	53.34.46	32.57.6	7.8	31.49.8	45.9	4.1		34.33.9
7	52.1.65	14.98	54.16.63	28.41.9	8.2	27.33.7	44.3	2.5		30.16.2
9	52.5.87	15.09	54.20.96	48.6.4	7.3	46.59.1	44.3	2.5		49.41.6
9	54.32.32	15.23	56.47.55	52.2.3	7.7	50.54.6	38.4	2.5		53.31.2
7	55.33.03	15.27	57.48.30	56.52.4	7.7	55.44.7	30.1	4.3		58.19.0
9	57.19.81	14.60	4.59 34.41	−0.7.53.2	16.2	−0.9 3.4	31.9	0.1	−0.	0.33.3
9.10	57.59.50	14.69	5 0.14.19	0.2.19.4	10.1	0.1 9.3	30.2	28.4		3.37.7
9	58.33.40	15.02	5.0.48.42	0.32.54.5	9.6	31 44.9	29.0	22.2		34.12.1
8	58.35.87	15.12	5 0.50.99	0.43.18.4	9.1	42 9.3	29.0	7.2		44.36.5
8	5.2.50.61	14.58	5.5.05.19	−0.7.6.0	12.8	−0.8 18.8	28.9	7.8	−0.	0.01.7
9	3.18.18	14.83	5.33.01	0.17.59.0	11.5	16.47.4	17.7	15.1		19.03.3
9	3.34.88	14.85	5.49.73	0.19.39.8	11.5	18.28.3	17.2	5.4		20.43.7
7	3.58.97	14.87	6.13.84	0.22.2.3	11.7	20.50.6	16.2	4.4		23.05.0
9	5.35.80	14.58	7.50.38	−0.7.36.2	13.4	−0.8 49.6	12.3	10.5	−0.	0.39.1
9	5.44.70	14.64	7.59.34	0.0 40.8	13.1	−0.32.3	12.6	0.8	+	1.38.5
8.9	8.33.98	14.90	10.48.88	0.25.4.4	12.8	23.51.6	5.2	3.4		25.55.0
9	9.50.40	15.04	12.05.44	0.40.1.7	12.3	38.49.4	2.9	1.1		40.50.5
9.10	10.36.06	15.13	12.51 19.	0.48.42.6	12.0	47.30.6	2.	0.4	158	49.29.2
9	10.51.18	14.88	13.06.06	0.25.42.2	13.2	24.29.0	1.59.7	7.5		26.26.9
7	15.58.86	14.83	18.13.69	0.22.35.4	14.7	21.20.7	49.6	7.8		23.08.5
9	16.44.60	14.84	18.59.44	0.23.15.6	14.7	22 0.9	45.5	3.7		23.44.6
9	17.6.50	14.92	19.21.42	0.30.19.0	14.6	29.04.4	44.6	4.8		30.47.2
8.9	17.46.91	14.95	20.01.86	0.33.55.2	14.5	32.44.7	42.9	41.1		34.25.8
9	18.20.98	14.99	20.35.97	0.39.16.9	14.3	38 2.6	41.7	39.3		39.42.5
9	18.38.7	15.24	20.19.08	0.58.13.2	13.6	56 57.6	42.3	4.5		58.40.1
8.9	20.47.51	14.73	23.02.24	0.14.38.1	16.2	13.21.9	35.7	33.9		14.55.8
9	21.2.50	14.54	23.17.04	−0.5.32.8	17.4	−0 6.50.2	35.1	33.3	−0.	1.07
8	22.51.86	14.52	25.06 38	−0.6.3.8	18.0	−0 7.21.8	30.8	29.0		5.52.8
9	23 37.50	14.90	25.52.40	0.30.40.5	16.2	29.24.3	29.0	27.2		30.51.5
9	23.59.40	14.49	26.13.87	−0.8.14.0	18.3	−0.9.32.3	28.0	26.2		8.06.1
7	24.43.40	14.50	26 57.90	−0.7 2.4	18.3	−0.8.20.7	26.2	24.4		0.56.3
9	26.58.11	14.68	29.12.77	0.11.45.7	17.9	10.27.8	20.7	18.1		11.46.7
7.8	29.68.56	15.04	32.03.60	0.45 2.0	17.3	43.44.7	13.8	12.0		44.46.9
9	29.53.77	15.05	32.08.86	0.49.27.2	16.9	48.10.3	13.6	11.8		49.22.1

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj..259

Zone 48

J 1853

7	5.31.18.05	2.1472	5.33.32.77	0.15.35.0	19.0	14.10.0	8.3	15.24.3
8.9	33.37.86	14.62	35.52.48	0.6.26.5	19.8	5.07	2.5	C.09.2
9	33.57.87	15.18	36.13.05	0.59.14.5	17.6	57.57.3	1.6	58.58.7
9	34.22.47	15.11	36.37.58	0.53.38.1	17.9	52.20.2	0.9	53.21.1
9	35.6.46	14.86	37.21.32	0.30.13.2	19.2	28.54.0	58.9	29.52.9
9	37.5.20	15.12	39.20.32	0.54.57.9	18.6	53.39.3	55.5	54.35.8
8	38.57.10	14.95	41.12.05	0.40.50.7	19.7	39.31.0	49.6	40.20.6
9	40.11.88	14.58	42.26.46	0.6.50.7	21.6	5.29.1	46.5	6.15.6
9	41.8.36	14.72	43.23.08	0.18.17.3	21.3	16.56.0	44.3	17.40.3
9	43.38.02	14.99	45.53.01	0.45.21.1	20.6	44.05	38.2	44.38.7
9	45.8.66	14.86	47.23.52	0.33.37.1	21.6	32.15.5	34.5	32.50.0
8	46.8.32	15.03	48.23.35	0.48.23.5	21.2	48.023	32.0	48.34.3
8	47.39.36	14.51	49.53.87	0.1.19.4	23.8	-0.4.4	28.5	0.24.1
6	49.1.70	14.85	51.16.55	0.33.88	22.8	31.46.0	25.0	32.11.0
8	55.32.10	14.90	57.49.00	0.38.25.9	25.7	37.2.2	8.9	37.11.1
9	56.32.01	14.50	58.46.51	0.2.47.0	26.0	1.21.0	6.7	1.27.7
8	57.12.98	14.54	59.27.52	0.6.41.9	26.0	5.15.9	+5.0	5.20.9
9	C. 3.10.08	14.99	C. 5.25.07	0.49.1.3	25.6	47.35.7	-9.9	47.25.8
9	3.25.74	14.89	5.40.63	0.39.3.4	26.0	37.37.4	10.4	37.27.0
8	6.28.48	14.51	8.42.99	0.5.21.4	28.4	3.53.0	17.9	3.35.1
9	7.4.88	14.43	9.19.31	-0.3.32.5	29.1	-5.01.6	19.4	-5.21.0
8.9	8.11.51	14.65	10.26.16	0.18.24.4	28.2	16.56.2	22.0	16.36.2
9	8.18.56	14.80	10.33.36	0.34.8.1	27.4	32.40.7	22.3	32.18.4
9	13.28.80	15.07	15.43.87	0.59.17.3	27.7	57.47.6	35.0	57.14.6
9	13.57.56	14.50	16.12.06	0.5.19.7	30.3	3.49.4	36.0	3.13.4
9	14.7.56	14.49	16.22.05	0.5.6.1	30.3	3.35.8	36.5	2.59.3
8	16.55.61	14.78	19.10.40	0.34.30.3	29.7	33.0.6	43.3	32.17.3
9	16.57.30	14.78	19.12.08	0.33.33.0	29.7	32.33.3	43.3	31.20.0
6	17.26.30	14.71	19.41.01	0.25.18.7	30.2	23.48.5	44.6	23.39
8.9	17.22.38	14.60	19.36.98	0.15.26.9	30.7	13.56.2	44.6	13.11.6
9	20.0.61	14.45	22.15.06	0.2.15.3	32.4	0.43.3	50.9	-7.6
8.9	20.33.28	14.49	22.47.77	0.6.26.5	32.0	4.54.5	52.1	4.12.4
9	20.12.78	14.72	22.27.50	0.28.46.6	30.7	27.15.9	51.4	26.24.5
9	22.55.60	14.78	25.10.38	0.34.42.2	31.2	33.11.0	58.0	32.13.0
9	23.49.01	14.48	26.03.49	0.6.51.1	32.8	5.18.3	1.0.1	4.18.2
8.9	25.10.20	14.83	27.25.03	0.39.34.0	31.5	38.02.5	13.5	36.57.0
8.9	25.42.22	14.83	27.57.05	0.39.49.0	31.6	38.17.4	4.7	37.12.7
9	26.52.52	14.86	29.7.38	0.42.12.6	31.8	40.40.8	-1.7.8	39.33.0

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj..259

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj..259

Jour 39 Comparison with Santini Agnes Tolansky

t				δ				δ 1853
6	4·27.46.6	1·54.05	4.29.40.65	0·37·38.0	-1.4.0	38·9.0	3.38.7	41 47.7
8·9	28.0.38	53.77	29.54.15	0.13.28.2	5.4	12. 22.8	38.3	16.01.1
8.9	28.0.92	.76	29.54.68	0.12.31.9	5.4	11. 26.5	38.3	15.048
9	29.44.50	.64	31.38.14	-0·1. 2.4	6.4	-0.2. 8.8	36.4	1.25.6
8	32.10.34	.77	34.04.11	0.13.56.2	6.2	12. 50.0	28.6	16.18.6
9	32.1.12	.93	33.55.05	0.29.48.1	5.4	28.42.7	29.2	3211.9
8.9	33.32.57	54.11	35.26.70	0.47.10.6	4.9	46. 6.7	25.6	49 32.3
7.8	35.17.09	53.77	37.10.86	0.15.18.8	6.9	14. 11.8	21.6	17.33.3
9	36.32.10	54.21	38.26.31	0.57.47.0	5.2	56.41.9	18.7	1.0.00.6
9	36.29.30	.18	38.43.48	0.54.7.9	5.4	53. 2.5	18.2	56.20.7
4	36.56.88	24	38.51.12	1. 0.15.4	5.2	59 10.2	18.0	1 2.28.2
8.9	37.27.38	53.82	39.21.20	0.18.51.6	7.2	17 44.4	16.8	21.01.2
9	37.42.32	.78	39.36.10	0.15.33.2	7.5	14 25.7	16.1	17.41.8
9	38.11.08	.76	40.04.84	0.14.50.9	7.7	13 43.2	15.0	16.58.2
8	38.40.30	.85	40.34.15	0.22.32.4	7.4	21 25.0	13.8	24 38.8
8.9	39.6.70	.93	41 0.63	0.30.18.2	7.1	29 51.1	12.9	33.04.0
9	39.21.50	.89	41.14.39	0.26.43.6	7.3	25 36.3	12.5	28.48.8
9	41.6.20	53.97	43 0.17	0.36.28.2	7.4	33.20.8	8.5	36.28.3
7	41.16.98	54.15	43.11.13	0.51.31.4	6.6	50 24.8	7.9	53 32.7
8.9	44.0.42	.14	45.54.56	0.51.45.1	7.5	49.57.6	7.6	52.59.2
8.9	44.37.52	54.25	46 31.77	1. 2.22.4	7.0	1.1.15.4	0.3	1.4.15.7
7	45.25.98	53.72	47.19.70	0.11.43.9	9.5	10 24.4	2.58.4	13.32.8
9	46.11.24	.71	48.05.95	0.9.59.1	9.9	8 49.2	56.6	11.45.8
9	46.58.03	.61	48.57.64	0.0.35.0	10.6	-0 35.6	54.8	+2.19.2
8.9	47.40.60	53.59	49 34.19	-0.2.23.7	10.8	-0 3.34.5	53.1	- 41.4
9	47.55.88	54.05	49.49.93	0.43.41.5	8.7	42 32.8	52.6	45.25.4
8.9	48.40.70	54.05	50.34.75	0.36.24.0	8.8	35 15.2	50.7	38.05.9
8	48.53.78	53.71	50.47.49	0.11.54.5	10.5	10 44.0	50.3	13.34.3
9	49.12.62	53.53	51.06.15	-0.7.29.4	11.5	-0.8 40.9	49.6	- 5.57.3
9	50.30.38	54.16	52.24.54	0.56.56.1	8.8	53 45.3	46.6	56.31.9
9	50.52.52	.08	52.46.60	0.45.18.1	9.3	44 8.8	45.7	46.54.5
8.9	51.41.40	53.58	53 35.88	0.32.58.6	10.1	31 48.5	43.8	34.32.3
6.7	52.24.04	.89	54.17.74	0.28.43.9	10.4	27 33.5	42.2	30.15.7
6.7	55.55.34	54.18	57.49.52	0.56.56.5	10.1	51 44.4	34.0	58.18.4
9	56.7 98	53.65	58 1.63	0 6.11.2	12.6	4.58.6	33.5	7.32.1
8.9	57.42.30		52 4.59.45.82	-0.7.54.4	13.6	-0 9.08.0	29.7	- 6.38.3
9	58.55.34	53.92	-0.49.26	0.32.56.2	12.0	0.31 44.2	26.8	34 11.0

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phee.proj..259

Zone 39

	t	c. 1853	δ					δ. 1853
8	4 58 18.28	54.04	-0 52 32	0 43 19.3	+11.6	42 07.7	2.2 c.c	44.343
4	5 2 15 18	53.77	4 09 55	0 18 44.6	13.5	17 30.8	18.9	19 49.7
9	2 39 18	53.83	4 33 01	0 26 16.0	13.6	23 0.4	17.7	25 18.3

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj...259

There Rs requires to be diminished by 0".50 for Bepels erroneous value of k

	t		q 1853								Ω 1853
7	17 8 42.6	57.15	19 9 39 75	−0.50	0.12 39.9	−1.01.1	11 38.8	+2.44.8			14.23.6
9	9.19.10	07	10.16 17	−0.50	0.19.16.6	0.7	18 15 9	46.4			21.02.3
7	10.2.94	20	11 00.14	..	0.7.44.7	0.9	6 43.8	47.7			9.31.5
7	10.23.69	21	11.20 90		0.5.42.2	1.1	4 41.1	48.7			7.29.8
8	12.32.52	56.89	13.2.9.41		0.36.41.2	58.4	35.42.3	53.6			38.35.9
9	17.49.94	57.24	18.47.18		0.1.49.7	59.2	0.50 5	3.5.8			3.56.3
6	18.3.40	24	19 00.64		0.0.48.4	55.3	− 0 10 9	6.2			2.55.3
9	18.23.09	31	19 20.40		−0.7.37.3	56.6	− 5.36.9	7.2			− 5.29.7
8.9	27.38.00	.04	28.35.04		0.17.22.3	56.0	16.26.7	58.2			19.54.9
8	31.19.99	57.12	32.17.11		0.8.58.0	55.6	7.52.4	36.7			11.29.1
8.9	33.33.94	56.73	34.30.67		0.47.54.3	53.1	47 01.2	41.7			51.42.9
8.9	33.40.41	75	34.37.16		0.45.32.7	53.2	44.39.5	42.2			48.21.7
8.9	34.27.99	67	35.24.66		0.51.6.3	53.0	50 13 3	43.7			54.57.0
8.9	35.27.96	75	36.24.71		0.47.10.1	52.9	46 17.2	45.9			50.03.1
9	36.33.46	69	37.30.15		0.49.44.7	52.6	48.52.1	48.4			52.40.5
8.9	36.38.52	96	37.35.48		0.21.7.3	53.6	20 13.5	48.7			24.01.9
7	39.9.04	75	40.05.79		0.41.26.5	52.1	40.34.4	54.2			44.28.6
9	40.38.91	83	41.35.74		0.34.36.1	52.1	33.44.0	57.5			37.41.5
8	42.28.52	81	43.25.43		0.25.21.7	52.3	24.29.4	41.8			28.31.2
9	43.54.72	84	44.51.56		0.32.1.1	51.4	31 4.7	49			35.14.6
7	44.3.51	82	45.00.39		0.34.40.2	51.3	33 48.9	51			37 54.0
9	45.31.3	56.70	46.28.00		0.45.40.9	50.4	44.50.5	8.4			48.58.9
9	46.52.29	57.20	47.49.49		−0.6.12.3	52.5	− 7.08.8	11.4			− 2.55.4
9	48.18.23	57.12	49.15.85		0.2.41.2	51.9	1.49.3	14.5			6.03.8
7.8	48.45.00	57.19	49.42.19		−0.53.8.0	52.2	−6.31.2	15.3			− 2.15.9
9	49.34.02	12	50.31.14		0.3.26.8	51.7	2.35.1	17.1			6.52.2
9	50.22.28	57.10	51.19.38		0.4.44.3	51.4	3.52.9	18.9			8.11.8
7	50.58.20	56.60	51.54.80		0.55.9.3	48.7	54.20.6	20.4			58.41.0
9	52.13.72	61	53.10.33		0.54.56.4	48.6	53.17.0	23.0			57.40.0
8.9	52.50.99	56	53.47.55		0.58.45.0	48.0	57.57.0	24.4			1.2.21.4
8.9	56.21.44	72	57.18.16		0.40.53.9	48.3	40 5.6	31.8			44.37.4
7	20 4.8.72	80	20 5.05.62		0.21.50.2	47.2	21 3.0	48.3			25.51.3
9	44.9.82	56.81	45.46.63		0.31.13.5	46.6	30.26.9	49.8			35.16.7
9	47.48.78	56.98	6 45.76		0.13.25.1	47.3	12 37.8	51.9			17.29.7
	7.53.30	56.92	8.50.22		0.18.19.0	46.5	18.37.5	56.2			22.28.7
8	8.52.30	64	9.28.95		47.38.5	45.0	46.53.5	48.3			51.51.8
7	9.0.62	56.76	9.57.18		17.30.6	44.5	56.46.1	4.58.6			1.1.44.7
8	10.9.50	57.04	11.06.59		6.57.0	46.7	6.10.3	51.1			11.11.4

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj...259

R to be diminished by 0.50

a 1853

9	10.12.99	56.99	11.09.98		0	11.41.2	46.5	10.54.7	45.1.1	15.51.8	
9	10.30.92	52.05	11.27.97			4.14.8	46.9	4.27.9	1.7	9.29.6	
9	11.12.92	56.90	12.9.82			20.27.5	47.8	19.41.7	3.2	24.44.9	
8.9	11.46.89	56.98	12.43.87			12.44.0	46.0	11.58.0	4.4	17.24	
8.9	12.18.45	56.62	13.15.07			51.19.0	44.1	50.34.9	5.5	55.40.4	
8	20.9.77	89	21.06.66			19.27.2	44.0	18.43.2	21.6	24.04.8	
8.9	29.50.31	82	30.47.19			25.22.4	41.6	24.40.8	40.6	30.21.4	
7.8	30.35.78	72	31.32.50			30.8.0	40.8	35.27.2	42.1	41.09.3	
9	31.19.75	81	32.16.56			27.48.4	41.2	27.7.2	43.5	32.50.7	
9	31.27.43	80	32.24.23			28.9.0	41.2	27.27.8	43.7	33.11.5	
9	32.19.30	87	33.16.11			20.16.9	41.4	19.35.5	45.4	25.20.9	
8	40.16.99	57	41.13.56			53.55.0	38.4	53.18.6	c. 0.8	59.17.4	
9	41.59.14	68	42.55.82			41.40.5	38.5	41 2.0	1.9	47.39	
9	43.16.30	77	44.13.07			30.33.0	38.9	25.54.1	c.3	36.04	
7	45.34.02	68	46.30.70			41.41.9	38.0	41 3.9	10.5	47.14.4	
9	51.6.04	91	52.02.95			11.48.1	38.3	11.9.8	20.6	17.30.4	
9	52.19.24	87	53.16.11			17.59.1	37.9	17.21.2	22.7	23.43.9	
7.8	52.38.14	83	53.34.97			21.56.9	36.9	21.20.0	23.3	27.43.9	
9	52.41.69	83	53.38.52			23.11.1	37.6	22.33.5	23.5	28.57.0	
8	52.55.95	82	53.52.77			24.12.2	37.3	23.34.9	23.8	29.58.7	
8.9	54.24.22	67	55.20.89			41.38.8	36.6	41 2.6	26.5	47.29.1	
7	54.39.39	59	55.35.98			54.3.1	35.6	51.0.5	26.9	57.27.4	
8.9	56.52.52	98	57.49.50	19.96		2.45.0	37.7	2.7.3	30.9	8.38.2	2.55
9	57.22.95	101	58.19.92	20.64		1.27.3	37.8	2.5.5			1.55.5
	21.1.56.99	56	2.53.55	68		56.34.8	34.1	55.55.9	39.5	1.2.39.4	4.50
8.9	3.40.53	56	4.37.09	34		56.1.8	33.9	55.27.9	42.5	1.2.10.4	2.25
8.9	8.24.67	78	9.21.45	40.30		27.2.5	34.5	26.27.0	40.4	33.17.4	
8.9	8.31.45	85	9.28.30			18.41.6	35.0	18.6.6	50.6	24.57.2	
8.9	9.50.63	78	10.47.41			28.34.7	34.1	28.0.6	52.8	34.53.4	
8	13.24.57	70	14.21.27			37.56.7	33.3	37.23.4	c.58.8	44.22.2	
8	15.22.03	58	16.18.61			56.44.0	32.1	56.11.9	2.2	13.14.1	
9	15.25.20	60	16.21.80			53.7.0	32.2	52.34.8	2.2	59.37.0	
7.8	18.0.75	83	18.57.58			22.8.0	33.3	21.34.7	6.2	28.40.9	
9	18.58.96	85	19.55.81	87		17.39.2	33.4	17.5.8	7.8	24.13.6	
9	20.55.97	88	21.52.85	20		23.9.7	32.8	22.36.9	10.7	29.37.6	
9	22.29.77	86	23.26.63	101		16.9.7	33.1	15.36.6	13.3	22.49.9	
9	23.32.01	74	24.28.75	50		35.8.7	31.7	34.37.0	14.9	41.51.9	
8.9	24.56.14	85	25.50.99			19.34.0	32.4	19 1.6	17.0	26.18.6	
8	26.57.41	89	27.54.30			12.45.4	32.4	12.13.0	20.1	19.33.1	
8.9	31.60.80	86	32.37.66			23.49.8	31.1	23.18.7	27.3	30.46.0	

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj..259

α, to be diminished by $0^s.50$

	α 1853							δ 1853
9	21.32.10.70	56.79	33 07 49	0.27.45.4	30.7	27.14.5	7.28.1	34.426
9.10	32.36.30	.77	33.33 07	0.30.16.2	30.7	29 45.5	28.7	37.14.2
8.9	32.40.39	76	33.37.15	0.31.31.0	30.6	31 0.4	28.7	38.29.1
7	33.44.53	77	34.41.30	0.30.15.6	30.7	29.34.9	30.3	37.05.2
9	38.26.76	95	39 23.69	0.32.8.6	31.4	2.57.2	37.1	10.34.3
9	41.38.78	61	42.35.39	0.58.4.2	28.2	57.36.0	41.5	1.5.17.5
9	43.8.60	95	44.5.55	0.2.50.2	30.8	2.19.4	43.5	10.029
9	46.13.87	80	47.10.67	0.26.49.5	29.2	26.20.3	47.8	34.08.1
8	51.32.11	93	52.29.04	0.5.54.3	29.6	5.24.7	54.8	3.19.5
8.9	52.1.30	81	52.58.11	0.25.27.2	28.5	24.58.7	55.4	32.54.1
8.9	52.3.15	56.78	52.59.93	0.29.39.5	28.2	29.11.3	7.55.5	37.06.8

66

Zone 2

	α 1853							δ 1853
9	19.3.38.96	56.87	30 19.4.35.26	0.38.48.1	-59.5	37.486	2.32.8	40.21.4
7.8	8.40.54	99	42 9.36.96	0.27.15.6	58.3	26.173	44.8	29.02.1
8	8.50.32	77	22 9.46.54	0.46.13.9	7.6	45.16.3	45.0	48.01.3
6	10.7.71	78	11 3.92	0.47.25.9	7.3	46.28.6	48.0	49.16.6
9	10.33.30	84	11.29.57	0.41.23.5	7.5	40.26.0	48.4	43.149
8	12.30.82	96	33 13.27.15	0.36.41.3	7.1	35.44.2	53.6	38.378
8	13.9.19	57.15	61 14.5.80	0.8.15.6	8.2	7.17.4	55.4	10128
8	13.52.96	21 56.44	14.49.00	0.4.19.4	8.0	3.21.4	2.56.6	6.180
	29.54.12	21 64	30.50.76	1.42.3	43	2.36.6		
4	30.20.85	07 56.50	31.17.45	0.13.52.6	3.6	12.49.0	3.34.4	16334
9	35.28.72	56.11	14 36.24.8	0.47.3.6	0.8	46.128	46.1	49.58.9
9	36.34.02	67	10 37.30.12	0.48.41.0	0.3	48.50.7	48.6	52.39.3
7	39.9.10	75	18 40.5.28	0.41.25.5	0.1	40.35.4	54.2	44.296
9	40.39.38	83	26 41.25.64	0.34.33.4	0.4	33.43.0	57.5	37.405
9	41.10.71	95	41 42.7.12	0.18.12.5	0.9	17.21.6	58.9	21.20.5
8	41.29.19	91	34 42.25.53	0.25.19.7	50.6	24.29.1	57.6	28.28.7
9	43.54.70	85	28 44.50.98	0.31.59.5	49.5	31.10.3	4.04.7	35.15.0
5.6	44.3.30	56.82	25 44.59.55	0.34.36.2	49.0	33.46.9	5.1	37.52.0
9	44.42.38	57.20	03 45.39.01	-0.6.20.1	50.9	-7.11.0	6.6	-3.4.4
9	46.53.32	57.20	03 47.49.95	-0.6.17.7	50.5	-7.08.2	11.4	-2.56.8
9	48.18.94	12	55 49.15.69	0.2.43.7	49.9	1.53.8	14.5	6.08.3
8	48.45.72	19	02 49.42.34	-0.5.38.9	50.0	-6 28.9	15.6	-2.13.3
9	49.34.72	11	54 50.31.26	0.3.24.9	49.5	4.35.4	17.3	8.52.7
9	50.22.72	10	53 51.19.25	0.4.46.8	49.4	3.57.4	18.9	8.16.3
9.10	50.39.31	02	45 51.35.76	0.13.1.2	48.8	12.12.4	19.5	16.31.9
9	51.31.04	04	47 52.27.51	0.11.27.6	48.7	10.38.4	21.5	15.00.4

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj..259

M to be diminished by 0s.50

8	56.21.98	56.73	.16	14	57.18.14	0.40.52.3	−46.3	40.6.0	4.31.7	44.37.7	
8	56.53.30	57.12	55		57.49 85	−0.1.21.8	49.8	−2 11.6	32.9	2.21.3	
7.8	20.4.9.37	56.90	33	20	5 5.70	0.21.48.9	45.3	21.3.6	48.5	25.52.1	
9	4.50.30	.81	24		5.46.56	0.31.9.4	44.7	30.24.7	44.98	35.14.5	
	8.36.49	57.10	6.53		5.3.02	−1.51.6	45.6	−2.37.0			
8	10.10.14	57.04	47		11 6.61	0.6.54.0	44.7	6 9.3	50.41	11 10.4	
7	10.14.20	56.99	42		11.10.62	0.11.60.6	44.5	10.56.1	1.1	15.57.2	
9	10.31.19	57.05	48		11.27.67	0.4.14.9	44.5	3.30.4	1.7	8.32.1	
9	11.13.72	56.90	33		12.10.05	0.20.25.5	3.8	19.41.7	3.1	24.44.8	
8.9	11.47.15	98	41		12.43.56	0.12.39.9	4.0	11.55.9	04.4	17.0.3	
	15.30.14	09	52		16.26.66	1.14.0	44.6	−2.3.0			
8	20.10.40	87	32		21 6.72	0.19.21.4	2.0	18.39.4	21.4	24.00.8	
9	23.58.19	83	26		24.54.45	0.24.27.7	40.9	23.47.0	29.0	29.16.0	
8.9	25.12.36	68	11		26 8.45	0.41.25.9	9.8	40.46.1	31.4	46.17.5	
9.10	25.48.64	67	10		26.44.74	0.42.10.5	9.6	41.30.9	32.6	47.03.5	
8.9	29.57.30	82	25		30.47.55	0.25.17.7	9.6	24.38.1	40.6	30.18.7	
8.9	30.36.17	72	15		31.32.32	0.36.6.0	9.0	35.27.0	41.9	41.08.9	
9	31.20.94	81	24		32.17.18	0.27.46.1	9.2	27.06.9	43.5	32.50.4	
9.10	31.28.30	80	23		32.24.53	0.28.10.1	9.2	27.30.9	43.9	33.14.8	
9	31.39.22	67	10		32.35.32	0.42.19.6	8.3	41.41.1	55.4.1	47.25.2	
8.9	40.17.82	58	01		41.13.83	0.53.51.3	6.4	53.14.9	6.0.7	59.15.6	
9	51.3.30	80	23		51.57.53	0.26.26.9	5.6	25.51.3	20.4	32.11.7	
9	51.4.89	83	26		52 1.15	0.23.51.3	5.7	23.15.6	20.6	29.36.2	
9	52.23.94	80	23		53.20.17	0.26.0.2	5.4	25.24.8	22.9	31.47.7	
8	52.38.30	82	25		53.34.55	0.22.0.2	35.6	21.24.6	23.3	27.48.1	
8	52.56.79	81	24		53.53.03	0.24.9.4	5.3	23.34.1	23.6	29.57.7	
8.9	54.24.72	67	10		55.20.82	0.41.39.9	4.2	41.5.7	26.5	47.32.2	
7.8	54.40.14	59	02		55.36.16	0.51.38.2	3.5	51 4.9	27.1	57.31.5	
9	57.24.20	57.01	6.66	20	58.20.64	−0.1.23.8	35.7	−1.59.5	31.8	4.32.3	
7.8	59.23.89	56.78	21	21	0.20.10	0.28.1.5	3.9	27.22.6	35.2	34.02.8	
	3.12.11	01	44		4.55	−0.1.17.3	34.7	1.52.0	6.41.7	4.49.7	
8.9	21.3.41.09	56	06		21.37.09	0.56.05	1.9	55.28.6	42.5	1.2.11.1	
9.10	5.57.40	62	05		6.53.45	0.38.55.7	2.3	38.23.4	46.4	45.09.8	
9	6.15.99	62	05		7.12.04	0.47.16.3	1.8	46.44.5	46.9	53.31.4	
8.9	8.25.94	78	21		9.22.15	0.27.0.9	2.5	26.28.4	50.4	33.18.8	
8.9	8.32.36	85	28		9.28.64	0.18.42.0	3.0	18 9.0	50.6	24.59.6	
8	9.50.97	78	21		10.47.18	0.28.33.1	2.1	28.1.0	52.8	34.53.8	
9	11.37.58	56.93	36		12.33.94	0.7.87	3.1	6.35.6	55.8	13.31.4	
8.9	12.35.66	57.01	44		13.32.10	−0.2.59.5	33.3	−3.32.8	57.5	3.24.7	
8	13.25.50	56.70	13		14.21.63	0.37.59.1	1.3	37.27.8	6.58.8	44.26.6	
8	15.22.82	.58	01		16.18.83	0.56.39.8	0.1	56 9.8	7.02.0	1.3.11.8	

37.15
37.49
3.68.7
11.21
3736

21.24.6
20.0
22.3

51.4.7
0.9
5.2
2.6
3.1

45
25
120
60

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj..259

Zone 2

R₁ to be diminished by 0ˢ.50 de Zone 1

9	21.15.25.79	56.60 03	21 16. 21.82	+	0.53. 6.0	-30.2	52.35.8	7.02.0	59.37.8
7.8	18.1.30	.83 26	18.57.56		0.22.8.1	1.3	21.36.8	6.2	28.43.0
9	18.59.96	.86 24	19.56.20		0.17.37.5	1.4	17 6.1	7.8	24 13.9
8.9	20.57.16	.82 25	21.53.41		0.23.7.7	30.8	22.36.9	10.9	29.47.8
9	21.27.32	.61 04	22.23.36		0.51.13.2	29.4	50.43.8	11.7	57.55.5
9	22.30.70	.86 29	23 26.99		0.16.10.81	31.1	15.39.7	13.3	22.53.0
9	23.32.96	.72 15	24.29.11		0.35.8.1	29.6	34.38.5	14.9	41.53.4
8.9	24.54.70	85 28	25.50.98		0.19.33.8	0.4	19 3.4	17.0	26,20,4
8.9	26.58.09	.89 32	27.54.41		0.12.44.4	0.4	12.14.0	20.3	19.34.3
9	31.41.50	.82 25	32.37.75		0.23.49.2	29.2	33.20.0	27.3	30.47.3
9	32.11.50	79 22	33 7.72		0.27.43.0	28.9	27.14.1	28.1	34.42.2
8.9	32.41.50	76 19	33.37.69		0.31.30.7	8.7	31 2.0	28.8	38.30.8
6.7	33.44.93	77 20	34.41.13		0.30.4.3	8.6	29.35.7	30.3	37.06.0
9	37.19.44	63 06	38 15.50		0.52.36.9	7.1	52,9.8	35.5	59.45.3
8.9	38.27.40	95 38	39.23.78		0 3.28.6	9.4	2,59.2	37.2	10.36.4
8	42.5.60	98 41	43.2.01		-0 2.58.1	9.1	-3.27.2	42.2	4.15.0
9	42.33.80	98 41	43.30.21		-0 2.37.5	9.1	-3.06.6	42.7	4.36.1
7	43.7.12	97 40	44 3.52		-0. 2.7.1	9.4	-2.36.1	43.5	5 7.4
9	43.9.09	9.1-38	44.5.48		0.2.48.5	8.9	2 9.6	43.5	9.53.1
8.9	43.46.82	73 16	44.42.98		0.36.2.6	6.9	35.35.7	44.5	43.20.2
8.9	51.32.87	93 36	52.29.23		0.55.5.0	7.6	5,27.4	52.8	13.22.2
9	52.2.19	.88 31	52.58.50		0.23.27.6	6.6	23.1.0	7.5.4	30.56.4

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj..259

Zone 21

			α 1853					δ 1853	
9	21.30.44.78	1.52.36	21 32 37.14	0.23.51.9	-34.2	23.17.7	7.27.2	30 44.9	
9	31.14.78	.34	33.07.12	0.27.46.7	34.0	27.10.7	27.9	34.38.6	
9	31.44.56	.31	33.36.87	0.31.29.6	33.6	30.55.8	28.7	38.24.5	
5.6	32.48.35	.31	34.40.66	0.30.55	33.8	29.31.7	30.3	37.02.0	
9	36.22.98	.15	38.15.13	0.52.35.3	32.3	52.03.0	35.3	59.383	
9	37.31.10	.49	39.23.59	0.3.31.2	34.5	2.57.7	37.1	10 34.8	
9	42.12.30	.48	44.04.78	0.2.47.5	34.0	2.13.5	43.5	9.57.0	
8.9	42.50.41	.25	44.42.66	0.36.05	32.4	35.28.1	44.4	43.12.5	
8.9	50.36.10	.43	52.28.53	0.5.51.9	32.8	5.19.1	54.8	13.13.9	
9	51.5.76	.33	52.58.09	0.23.28.4	31.9	22,56.5	55.4	30,51.9	58.09 20 57.99 34 58.50 2 17 4 58 58.19
9	51 7.78	.28	53. 0.06	0.29.38.7	31.5	29. 8.2	55.4	37 3.6	
9	55.25.40	.11	57.17.51	0.56.16.2	29.8	55.46.4	8.1.1	1.3 47.5	
9	56.17.51	.11	21. 58.09.62	0.56.48.4	29.6	56.13.8	2.3	1. 4.15 1	
9	22.4.26.28	.42	22 6.18.70	0.1.26.4	31.4	0.55.0	12.0	9.07.0	
9	4.28.30	.17	6.20.47	0.45-14.5	29.7	44.44.8	12.0	1.2,56.8	
9.10	6.14.90	.39	8.07.29	0.6.56.7	31.0	6,25.7	14.0	14.39.7	

Zone 34

9	21.45.33.46	1.36.93	21.47.10.39	0.26.49.6	-34.5	26.15.1	7.47.9	34.03.0
9	46.39.46	36.96	48.16.42	0.21.9.0	34.8	21.34.2	49.4	29.23.6
8	50.51.56	37.04	52.28.60	0.5.54.7	35.0	5.19.7	54.8	13.14.5
8.9	51.21.06	6.93	52,57.99	0.23.32.5	-34.0	22.58.5	55.4	30.53.9
9	51.22.88	.88	52,59.76	0.29.40.3	33.7	29.06.6	55.4	37. 2.0
9	55.41.20	.71	57.17.91	0.56.19.2	32.0	55.47.2	8.1.3	1.3.48.5
9	56.33.01	.71	21.58.09.72	0.56.44.8	31.9	56.12.9	2.3	1. 4.15.2
9	22.0.16.06	.76	22 1.52.82	0.46.34.3	32.0	46.02.3	6.9	54 9.2
8.9	4.41.90	37.00	6.18.70	0.1.27.5	33.8	0.53.7	12.0	9.05.7
9	4.43.88	6.76	6.20.64 +	0.45-14.2	31.6	44.42.6	12.0	x 52.54.6
9	6.30.10	.98	8.07.08	0.6.55.5	33.4	6.22.1	14.1	14.36.2
9	9.23.40	.98	11 0.38	0.0.29.6	33.3	-0.03.3	17.5	8.13.8
9	12.56.60	37.00	14.31.60	-0.5.19.7	33.2	-5.52.9	21.4	2.28.5
9	12.56.46	37.00	14.33.46	-0.7.17.2	33.3	-7.50.5	21.4	0.30.9
9	13.36.71	36.96	15.13.67	-0.2,52.0	33.1	-3.25.1	22.2	4.57.1
4.5	16.9.61	.79	17.46.40 +	0.30.0.8	31.4	19.29.4	25.0	38.04.4
8.9	18.42.98	.69	20.19.67	0.46.36.3	30.3	46.4.0	27.7	54.31.7
8	23.25.11	.71	25 1,82	0.41.45.5	-30.2	41.15.3	32.5	49.47.6
9	23.32.60	.74	25 2,34	0.36.4.2	30.4	35.33.8	32.6	44.06.4
9	24.33.71	.82	26.10 53	0.18.8.3	31.4	17,36.9	33.6	26.10.5

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1953phae.proj..259

Tome 34

8.9	22.24.40.86	136.68	26.17.49	0.58	7.3	29.3	57.38.0	8.33.8	1.6.11.8
9	29.28.88	81	31 05.74	0.14.15.9		30.9	13.450	38.5	22.23.5
7	30.37.81	84	32.14.65	0.8.17.3		31.2	7.461	40.5	16.26.6
8.9	30.52.30	80	32.29.10	0.18.18.7		30.8	17.489	39.9	25.28.8
9	30.15.71	73	37.52.44	0.26.4.9		30.1	24.348	44.7	34.19.5
7	38.17.95	76	39.53.82	0.14.52.0		30.3	14.217	46.5	23.082
9	38.59.20	72	40.35.94	0.25.35.6		29.9	25.57	47.2	33.52.9
9	39.46.40	3858	41.22.98	5-9.13.1		28.2	5.449		
9	42.35.50	61	44.12.11	0.51.40.0		28.5	51115	50.0	1.0.01.5
8	44.45.25	58	46.21.83	0.55.21.0		28.1	54.529	51.8	1.3.44.7
7	45.51.66	75	47.28.41	0.8.34.6		30.3	8.43	52.7	16.57.0
9	47 47.08	63	49.23.71	0.41.8.7		28.7	40.40.0	54.2	49.342
9	47.34.76	67	49.11.43	0.31.39.4		29.2	31.10.2	54.0	40.042
9	47.44.78	79	49.21.57	-0.2.8.0		30.7	-2,387	54.1	6.15.4
6.7	50.18.81	76	51.55.57	0.2.21.0		30.3	1.507	56.1	10.46.8
9	53.10.66	67	54.47.33	0.20.27.1		29.4	19.577	58.2	28.55.9
7.8	56.9.81	66	57.46.47	0.22.26.1		29.2	21.56.9	59.2	30.57.1
9	56.20.40	62	22. 57.57.02	0.49.56.1		28.0	49.281	0.2	58.28.3
8.9	23. 0.26.66	53	23 2 3.19	0.59.23.4		27.2	58.56.2	2.8	1.7.59.0
8.9	4.21.06	62	5.57.74	-0.0.38.4		29.9	-1,8.3	5.1	7.56.8
8	6.30.40	63	8.07.03	0.21.55.4		28.8	21.26.6	6.4	30 33.0
9	7.59.01	65	9.35.66	0.17.8.0		29.0	16.370	7.3	25.46.3
6.7	17.47.48	58	19.24.86	0.18.22.7		28.7	17.54.0	12.2	27.062
8	18.6.61	58	19.43.19	0.10.14.2		29.1	9.45.1	12.3	18.57.4
9	17.40.78	52	19.17.30	0.44.49.0		27.5	44.21.5	12.6	13.33.6
8.9	18.35.56	49	20.12.05	0.55.56.1		27.0	55.291	12.5	1.6.41.6
9	19.50.48	57	21.27.05	0.19.23.7		28.6	18.551	13.0	28.081
9	20 27.30	36.58	22.03.88	0.8.56.8		29.2	8.276	13.3	17.40.9
8.9	20.48.10	58	22.24.69	0.12.29.9		29.0	12,09	13.4	21.14.3
8	21.32.86	59	23.09.45	-0.4.38.6		29.7	-5,83	13.7	4.5.4
9	22.37.70	57	24.14.27	0.15.54.8		28.8	15.26.0	14.1	24.40.1
9	25.25.20	55	27.01.75	0.15.47.6		28.7	15.18.9	15.2	24.34.1
7.8	26.21.46	54	27.58.00	0.21.19.3		28.5	20,598	15.6	30.06.4
9	29.18.61	46	30.55.07	0.58.39.7		26.6	58131	16.6	1.7.29.7
6	32.56.81	47	34.33.28	0.49.31.2		27.0	49.42	17.7	58.21.9
9	36.40.20	48	38.16.68	0.42.34.6		27.4	42.72	18.7	51.25.9
9	38.20.40	48	39.56.88	0.12.35.9		28.9	12 7.0	19.1	21.26.1
9	39.33.51	49	41.10.00	0. 2.32.2		29.4	2.28	19.4	11.22.2

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj.259

Zone 34

7.8	23.40.19.60	13648	23.41.56.08	0.6.47.9	-29.2	6.18.7	9.19.5	15.38.2
9	41.13.77	44	42.50.21	0.57.15.5	27.8	56.47.1	19.7	1.C.07.4
9	42.58.60	45	44,34.85	0.32.20.6	28.1	31.52,5	20.0	41.12.5
9	43.9.30	46	44.45,76	0.31.59.1	28.1	31.31.0	20.0	40.51.0
9	47.24.38	45	49 0.83	0.17.1.2	28.8	16.32.4	20.7	25.53.1
9	47.22.76	43	48.59.19	0.57.16.5	26.9	55.47.6	20.7	1.C.08.3
9	50.42.51	43	52.18.94	0.54.10.4	27.0	53.43.4	20.1	1.3.08.5
9	50.52.30	43	52,28,73	0.7.22.7	24.2	6.53.5	21.0	16.14.5
9	51.26.66	43	53.03.09	0.5.58.5	29.3	5,29,2	21.1	14.503
8.9	55.38.74	42	57.15.16	0.34.15.5	28.1	33.47.4	21.4	43.08.8

Zone 74

8.9	12.58.35.60	1.41.30	12.55.16.90	0.10.58.6	-2.05.5	8.53.1	-9.6.1	-0.13.0
9	56.58.13	25	58.39.38	0.20.4.4	4.C	17.59.8	9.4.0	8.55.8
8	13.0.51.30	24	2.32.54	0.21.5.1	4.2	19 0.9	9.1.7	9.59.2
7	8.17.93	24	9.59.17	0.16.57.6	3.C	14.54.0	8.56.8	5.57.2
8	13.16.14	20	14.57.34	0.22.22.8	2.6	20.20.2	12.9	11.27.5
9	14.30.80	24	16.12.04	0.13.54.5	3.1	11.51.4	5.2.0	2.59.4
8	15.9.02	14	16.50.16	0.38.1.3	1.6	35.19.7	5.1.4	27.8.5
9	16.32.30	19	18.13.49	0.29.30.0	19	27.28.1	5.0.4	18.37.7
9	18.17.10	14	19.58.24	0.34.2.6	1.5	32 1.1	4.8.9	23.12.2
9	18.50.73	12	20.31.85	0.37.35.0	1.3	35.33.7	4.8.5	26.45.2
8	19.3.03	25	20.44.28	0.7.19.0	2.7	5.16.3	4.8.3	-3.32.0
7	25.6.42	12	26.47.54	0.37.3.7	0.C	35.03.1	4.3.1	26.20.0
4	25.32.00	19	27.13.19	0.20.4.1	1.2	18 2.9	4.2.1	9.20.8
9	26.49.20	28	28.30.48	0.0.5.1	1.9	-1.56.8	4.1.5	-10.38.3
9	28.18.23	07	29.59.30	0.62.21.7	1.59.8	40.21.9	40.2	31.41.7
7	28.34.43	19	30.15.62	0.18.8.4	2.0.9	16 7.5	39.9	7.27.6
9	50.30.62	02	52.11.64	0.43.4.0	1.5.3	41 7.7	17.0	32.50.7
8	50.32.70	40.93	52.13.63	0.56.8.2	55.6	54.12.6	17.0	45.55.6
9	50.54.30	94	52.35.24	0.55.21.1	55.7	53.25.4	16.6	45.8.8
8	53.22.93	93	55.03.86	0.55.29.2	55.2	53.34.0	13.7	45.20.3
9	54.4.03	96	55.44.98	0.49.52.1	55.5	47.56.6	12.8	39.43.8
8	54.49.93	41.08	13.56.31.01	0.30.49.7	54.4	28.53.3	12.0	20.41.3
9	59.57.70	40.96	14.1.38.66	0.49.13.9	54.1	47.19.2	5.9	39.13.3
9	59.54.33	40.97	1.35.30	0.47.30.7	54.8	45.35.9	6.1	37.29.8
8	14.0.41.21	41.17	2.22.38	0.12.44.6	54.5	10.48.1	5.1	2.43.0
9	1.48.51	40.84	3.29.35	1.6.29.2	53.7	1.43.5.5	3.8	56.31.7

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj..259

Zone 74 A corr. of −0.″40 is to be applied

8.9	14.33.97.71	1.40.81	14.35.20.72	1.11.59.3	−1.53.1	1.10.06.3	−8.1.4	1°2′4.″9	
7	4.25.00	41.24	6.06.24	0.1.1.2	54.4	−9.55.8	0.4	−9.55.6	
9	5.39.84	40.83	7.20.67	1.6.23.7	52.8	4.30.9	258.7	−3.27.8	56.32.2
8	10.15.62	.92	11.56.54	0.49.39.2	53.0	47.46.2	52.7	39.53.5	
7	11.18.96	85	12.59.79	1.1.26.2	52.3	59.33.9	51.4	51.42.5	
9	11.27.60	40.84	13.08.44	1.3.54.5	52.2	1.2.02.3	51.2	54.11.1	
7	13.33.93	41.17	15.15.10	0.11.46.1	54.4	9.51.7	48.4	2.3.3	
9	15.24.64	40.96	17.05.54	0.51.40.3	52.0	49.48.3	46.0	42.02.3	
9	15.33.93	41.00	17.14.93	0.37.08	52.7	35.8.1	45.6	27.22.5	
8.9	16.50.52	41.19	18.31.71	0.8.2.0	54.1	6.7.9	44.0	−1.36.1	
9	21.59.57	41.01	23.40.58	0.34.31.7	51.8	32.39.9	36.8	25.03.1	
9	23.29.81	41.23	25.11.04	0.3.51.1	53.0	1.58.1	34.7	−5.36.6	
9	24.33.03	41.14	26.14.17	0.15.46.6	52.4	13.54.2	33.2	6.21.0	
9	26.36.30	40.82	28.17.12	1.2.36.5	49.5	1.0.47.0	30.2	53.16.8	
8	26.48.40	40.82	28.29.22	1.1.4.0	49.5	59.14.5	29.9	51.44.6	
9	28.12.03	41.12	29.53.15	0.18.28.2	51.6	16.36.6	27.8	9.08.8	
8.9	30.17.21	41.01	31.58.22	0.32.31.7	50.4	30.41.3	24.6	23.16.7	
9	32.26.44	.11	34.07.52	0.20.59.7	50.6	19.9.1	21.4	18.47.7	
9	34.36.71	40.88	36.17.59	0.49.40.2	48.7	47.57.5	18.0	40.33.5	
8	38.22.02	41.03	40.03.05	0.29.32.7	48.9	27.43.8	12.2	20.31.6	
8	40.51.40	40.91	42.32.31	0.45.18.5	47.7	43.31.6	8.3	36.23.3	
9	41.21.30	.93	43.02.23	0.43.53.8	47.6	42.6.2	7.5	34.58.7	
9	41.50.60	40.93	43.31.53	0.43.46.9	47.6	41.57.3	6.8	34.50.5	
7	41.48.41	41.03	43.29.44	0.29.54.9	48.2	28.6.7	6.8	20.59.9	
9	42.8.31	.03	43.49.34	0.30.36.9	48.1	28.48.8	6.6	21.42.2	
9	43.19.84	40.84	45.0.68	0.53.0.7	46.9	51.13.8	4.9	44.9.0	
9	43.25.50	40.89	45.6.39	0.46.17.3	47.2	44.30.1	4.3	37.25.8	
8	44.34.03	41.11	46.15.14	0.19.28.6	48.3	17.40.3	2.4	10.37.9	
8	44.36.71	41.11	46.17.82	0.20.48.1	48.0	19.0.1	2.4	11.57.7	
9	46.13.12	40.83	47.53.95	0.54.11.6	46.3	52.25.3	6.8	45.25.7	
6	48.20.33	40.99	50.01.32	0.34.19.0	46.7	32.32.3	16.5	25.35.8	
8.9	49.43.93	41.08	51.25.01	0.23.36.8	47.2	21.47.6	14.0	14.53.6	
9	50.40.60	40.94	52.21.54	0.39.27.9	45.8	37.42.1	12.3	30.49.8	
6.7	52.36.82	.98	54.17.80	0.35.8.2	46.0	33.22.2	14.1	26.33.1	
8	58.13.20	.90	59.54.10	0.44.12.6	44.4	42.28.2	39.7	35.48.5	
9	58.17.91	96	59.58.87	0.37.19.4	44.9	35.34.5	34.5	28.55.0	
8	58.49.11	95	1.0.30.6	0.38.58.7	44.5	37.13.9	38.6	30.35.3	
9	1.1.35.60	85	1.3.16.45	0.49.57.2	43.6	48.13.6	33.9	41.39.7	

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj..259

Zone 75

corr of −0.40 is to be applied

δ 1853

5	11.27.34.47	1.50.68	11.28.25.15		0.10.30.9	−2.05.1	8.25.8	−9.16.1	−0.50.3
7	31.33.32	67	33.23.99		0.19.46.3	4.6	17.41.7	17.3	8.24.4
9	38.24.23	65	40.14.88		0.40.26.1	3.6	38.22.5	19.2	29.3.3
6.7	39.41.13	65	41.31.78		0.41.13.2	3.6	39.09.6	19.4	29.50.2
8.9	41.38.71	61	47.29.37		0.27.3.4	4.1	24.59.3	20.4	15.38.4
9	51.2.33	58	52.52.91		0.18.56.5	4.5	16.52.0	21.0	7.31.0
9	52.4.72	60	53.55.32		0.38.35.4	3.5	36.31.9	21.1	27.10.8
8.9	52.5.16	60	53.55.74		0.37.40.8	3.5	35.37.3	21.1	26.16.2
9	53.15.61	56	55.05.97		0.8.41.5	4.8	C.30.7	21.3	−2.44.6
7	57.49.03	56	57.39.59		0.22.39.8	4.1	20.35.7	21.5	11.14.2
9	58.45.73	56	12.0.30.29		0.36.29.8	3.5	34.26.3	21.5	25.4.8
7.8	12.0.3.98	54	1.54.52		0.15.4.6	4.4	13 0.0	21.5	3.38.5
8	0.16.83	54	2.07.37		0.16.10.8	4.4	12.6.4	21.5	2.44.9
8	2.3.41	53	3.53.94		1.11.58.3	2.0	1.9.50.3	21.5	1.0.34.8
9	8.1.96	47	10.52.41		0.59.44.6	2.0	57.42.6	21.1	48.21.5
9	8.21.72	47	10.12.19		1.2.12.2	1.9	1.0.10.3	21.0	50.47.3
6.7	9.17.30	50	11.07.80		0.13.9.8	4.1	11.5.7	21.0	1.44.7
9	9.51.20	50	11.41.70		0.24.31.6	3.6	22.28.0	21.0	13.70
4	10.32.83	50	12.23.33		0.20.23.9	3.8	18.20.1	20.9	38.59.2
8	10.53.51	48	12.43.99		0.51.37.8	4.3	49.35.5	20.9	40.14.6
8	12.15.62	48	14.06.10		0.50.50.4	4.3	48.48.1	20.6	39.27.5
9	11.54.73	48	13.45.21		0.45.7.8	2.6	43.5.2	20.7	33.44.5
9	13.26.81	45	15.17.26		0.45.15.3	4.5	43.12.8	20.6	33.52.4
8	16.19.20	45	18.09.65		0.43.8.7	2.5	41.6.2	20.1	31.46.1
9	17.11.51	44	19.01.97		0.51.14.5	2.1	49.12.4	19.9	39.52.5
8	17.24.41	44	19.14.87		0.48.9.8	2.2	47.7.6	19.8	37.47.8
8.9	23.37.56	40	25.27.96		0.43.2.8	2.1	41.21.7	18.5	32 3.2
8.9	27.0.73	40	28.51.13		0.42.13.6	2.2	40.11.4	17.5	30.53.9
9	27.54.04	37	29.44.41		0.48.29.6	1.9	46.27.7	17.2	37.10.5
7	29.34.92	43	31.25.35		0.8.31.6	3.5	C.28.1	16.7	−2.48.6
9	30.2.83	38	31.53.21		0.42.0.3	1.9	39.58.4	16.6	30.41.8
9	30.37.93	40	32.28.33		0.27.57.4	2.6	25.54.8	16.4	16.38.4
9	31.41.20	42	33.31.62		0.22.37.7	2.7	20.35.0	16.1	11.18.9
8	37.10.42	41	39.00.83		0.10.10.4	3.0	8.7.4	14.0	−1.06.6
8	37.18.20	40	39.08.60		0.19.62.8	2.4	17.40.4	13.9	8.26.5
8	38.45.30	34	40.35.64		0.37.50.7	1.5	35.49.2	13.3	26.35.9
8.9	41.21.61	39	43.12.00		0.14.19.7	2.6	12.17.1	12.3	3.04.8
8	42.29.84	28	44.20.12		1.4.23.7	0.3	1.2.23.4	14.7	53.11.7

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj..259

Zone 75

8.9	12.44.56.3	1.50.37	12.45.56.00	0.13.19.3	302.3	11.7.0	-9.11.0	2.06.0	
9	44.14.41	25	46.04.66	1.56.2.9	2.0.0	1.3.42.9	10.9	54.32.0	
9	46.35.03	37	48.25.40	0.9.32.5	2.5	7300	9.7	-1.39	
9	47.19.03	37	49. 9.40	0.8. 6.0	2.5	6.3.5	9.3	-3 5.8	
8.9	53.26.33	34	55.16.67	0.10.56.8	1.9	8.54.9	6.1	- 0.11.2	
9	56.49.03	32	58.39.35	0.20.1.3	1.4	17.59.9	4.1	8.55.3	
9	13.0.5.20	20	1.55.40	0.52.21.4	1.5.3	50.22.1	2.1	41.20.0	
9	0.42.73	30	2.33.03	0.21.5.1	2.0.7	19.4.4	1.8	10.2.6	

Zone 88

8	14.59.8.88	1.20.51	15.0.29.39	0.39.11.5	-1.45.2	37.26.3	-6.38.8	30.47.5	-12.2	30.35.3
6.7	15 6.59.99	20.30	8.20.29	1.3.24.5	42.9	1.1.41.6	25.1	11.16.5	11.9	11.04.6
8.9	6.34.88	40	7.55.28	0.50.33.7	43.8	48.49.9	25.8	42.24.1	11.9	4.12.2
9	11.20.10	58	12.40.68	0.27.5.1	44.1	25.21.0	17.3	19.03.7	11.5	18.52.2
8.9	12.13.99	59	13.34.58	0.26.16.3	44.1	24.32.2	15.5	18.16.7	11.4	18.5.3
7.8	14.11.99	21	15.32.20	1.7.34.7	41.8	15.52.9	12.0	59.40.9	11.3	59.29.6
8	15.27.67	74	16.48.41	0.6.6.8.0	44.5	5.03.5	9.6	-1.06.1	11.2	-17.3
8.9	18.52.30	76	20.13.06	0.2.1.3	44.2	0.17.1	3.3	- 5.46.2	-10.9	-55.71
9	19.7.87	59	20.28.46	0.32.19.4	42.7	30.36.7	2.9	26.33.8	10.9	22.9
9	23.7.99	32	24.28.31	0.68.12.2	41.5	46.30.7	5.5.3	40.35.4	10.7	24.7
9	23.12.30	36	24.32.66	0.44.54.8	52.2	43.02.6	5.5.1	37.18.2	10.7	7.5
9	23 46.57	60	25.05.17	0.17.49.0	42.8	16.6.2	5.4.2	10.12.0	10.7	1.3
8	25.57.37	51	27.17.88	0.26.35.4	41.9	26.53.5	4.9.8	21.03.7	10.5	10.53.2
9	26.36.36	25	27.56.61	0.56.3.0	40.5	54.22.5	4.8.6	48.33.9	10.4	23.5
8	27.8.20	39	28.28.59	0.41.11.2	41.0	39.30.2	4.7.5	33.42.7	10.4	32.3
9	27.9.88	28	28.30.16	0.53.24.5	40.5	51.44.0	4.7.5	45.56.5	10.3	46.2
9	27.55.57	56	29.16.13	0.21.47.3	41.9	20.05.4	3.6.2	14.19.2	10.3	8.9
8.9	28.25.20	50	29.45.70	0.27.7.8	41.7	25.26.1	4.5.2	19.40.9	10.3	30.6
9	35.57.00	20	35.77.20	0.56.36.1	38.9	54.57.2	3.0.2	49.27.0	9.8	17.2
9	40.8.37	27	41.28.64	0.46.57.9	38.7	45.19.2	2.1.8	39.57.4	9.5	47.9
8	44.49.78	23	46.10.01	0.51.14.6	37.7	49.36.9	1.2.6	44.24.3	9.1	15.2
8.9	46.29.60	35	47.49.95	0.38.1.3	38.1	36.23.2	9.2	31.14.0	9.1	4.9
8.9	48.48.47	43	50.08.90	0.27.3.0	38.1	25.24.9	4.4	20.20.5	8.9	11.6
9	49.16.87	35	50.37.22	0.35.37.8	37.8	34 0.0	3.4	28.56.6	8.9	47.7
9	49.41.56	04	51. 1.60	1.6.50.7	36.2	1.5.14.5	2.5	1.10.12.0	8.8	3.2
8	50.15.80	03	51.35.83	1.7.56.2	36.1	1.6.20.1	1.3	1.18.8	8.8	10.0
9	51.12.67	01	52.32.68	1.9.20.8	36.0	1.7.44.8	4.9.4	1.2.45.4	8.7	36.7
8.9	51.54.09	17	53.14.26	0.53.13.3	35.6	51.37.7	4.5.9	46 39.8	8.6	31.2

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj...259

Zone 88

8	15.51.28.98	1.20.30	12.49.28	0.60.27.6	-1.373	38.50.3	-4.588	33.51.5	-8.7	42.8	
8	54.50.28	63	12.10.91	0.6.385	383	5 0.2	51.9	0.08.3	84	-41	
9	55.26.77	12	12.46.89	0.56.6.4	359	54.30.5	50.6	49.39.9	84	31.5	
9	55.40.30	00	57.0.30	1.11.29.8	35.2	1.9.54.7	50.1	1.5.04.6	83	44.563	
8.9	55.40.78	40	57 1.18	0.29.60.5	37.2	28.03.3	50.1	23.13.2	83	4.9	
8	55.23.77	45	57.43.62	0.24.26.2	37.4	22.48.8	48.4	18.00.4	82	17.22	
8	57.21.27	61	58.41.88	0.8.39.1	37.9	7.01.2	46.4	2.14.8	82	6.6	
8.9	57.28.30	51	58.48.81	0.18.50.7	37.4	17.13.3	46.3	12.27.0	82	18.8	
9	16.3.8.78	49	16.4.29.27	0.18.35.1	36.3	16.58.8	34.4	12.24.4	78	16.6	
9	4.12.30	1997	5.32.27	1.7.53.8	337	1.6.20.1	32.0	1.1.48.1	77	40.4	
9	4.48.30	19.96	6 8.26	1.8.4.4	337	1.6.30.7	30.7	1.2.00	77	61.52.3 X	
9	4.56.96	20.07	6.17.03	0.58.41.9	34.1	57 7.8	30.5	52.37.3	77	29.6	
9	5.32.36	26	6.52.62	0.39.55.9	34.9	38.21.0	29.3	33.51.7	77	44.0	
8	5.45.78	64	7.6.42	0.6.48.7	36.6	3.12.1	28.7	-1.16.6	77	-1.24.3	
8	6.2.88	55	7.23.43	0.13.13	36.0	11.25.3	28.0	6.57.3	76	49.7	
9	6.41.28	12	8.1.40	0.53.33.0	34.1	51.58.9	26.8	47.32.1	76	24.5	
9	7.25.20	14	8.45.34	0.51.21.8	343	49.47.5	25.3	45.22.2	75	14.7	
9	8.46.30	37	10.6.67	0.29.56.9	35.0	28.21.9	22.3	23.59.6	73	52.3	
9	11.40.20	36	13.0.56	0.29.14.9	34.2	27.40.7	15.8	23.24.9	71	17.8	
8.9	13.0.09	02	14.20.11	1.1.17.3	32.8	59.44.5	12.9	55.31.6	70	24.6	
8	13.23.09	05	14.43.17	0.16.52.1	33.1	55.19.0	12.0	51.20	70	51 0.0	
9	13.29.30	43	14.49.53	0.60.17.0	33.6	38.43.4 (36.4)	11.8	34.31.3	70	24.6	
9	14.12.90	48	15.33.38	0.17.23.1	34.4	15.48.7	10.3	11.38.4	69	31.5	
8	14.15.67	56	15.36.23	0.10.59.2	34.9	9.24.3	10.0	5.14.3	69	7.4	
8.9	15.31.77	52	16.52.31	0.14.39.8	34.4	13.5.4	7.5	8.57.9	68	51.1	
9	16.20.08	21	17.40.29	0.42.6.7	33.0	40.33.7	5.7	36.28.0	68	21.2	
9	16.57.08	19.94	18.17.02	1.8.46.3	31.6	1.7.14.7	4.2	1.3.10.5	67	3.8	
9	18.7.60	21	19.27.61	0.41.48.3	32.6	40.15.7	1.8	36.13.9	66	7.3	
9	18.49.57	23	20.9.80	0.39.43.9	32.7	38.11.2	0.3	34 10.9	65	4.4	
9	18.41.36	07	20 1.43	0.54.27.5	34.2	52.55.3 (48.8)	0.3	48.54.5	65	48.3	
6	19.44.67	19.96	21.4.63	1.5.29.9	31.1	13.58.6	3.581	1.0.0.5	65	59.54.0	
7	19.51.67	20.35	21.12.02	0.28.59.9	32.7	27.27.2	5.8.0	23.29.2	65	22.7	
8	20.18.94	22	21.39.16	0.40.23.8	32.4	38.51.4 (45.0)	5.7.1	34.54.3	64	47.8	
9.10	20.23.78	22	21.44.00	0.40.47.0	32.4	39.14.6	5.6.6	35.18.0	65	11.5	
8	21.7.67	48	22.28.15	0.17.38.5	33.1	16.5.4	5.5.1	12.10.3	64	3.9	
8.9	21.47.20	50	23.7.70	0.15.48.4	33.3	14 15.1	5.3.6	10.21.5	63	15.2	
8	22.57.30	42	24.17.72	0.22.7.8	32.6	20.35.2 (29.0)	5.0.9	16.44.3	62	38.1	
7	28.16.48	23	29.36.71	0.38.26.9	30.9	36.56.0 (50.0)	39.8	33.17.0	60	11.6	

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj..259

Zone 88

9	16.28.21.67	1.042	16.29.42.09		0.20.44.3	-1.31.7	18.12.6	-33.87	15.33.9	-6.0	27.9	
8	28.55.30	.36	30.16.66		0.26.17.7	31.4	24.46.3	37.6	21.08.7	5.9	2.8	
9.10	31.50.20	50	33.10.70	double ll	0.13.35.0	31.5	12.03.4	31.0	8.32.4	5.6	26.8	X
9	31.50.69	50	33.10.99		0.13.27.9	31.6	11.56.3	31.0	8.25.3	5.6	19.7	
8.9	32.31.60	07	33.51.47		0.52.45.6	29.6	51.26.0	29.4	47.50.6	5.5	45.1	
9	33.46.08	38	35.6.46		0.24.9.8	30.6	22.39.2	26.5	19.12.7	5.4	1.3	
8.9	34.0.78	36	35.21.14		0.26.30.6	30.4	25.00.2	26.0	21.34.2	5.4	28.8	
9	34.22.88	46	35.43.34		0.17.24.5	30.8	15.53.7	25.1	12.28.6	5.4	25.2	
9	40.16.07	41	41.36.48		0.20.32.4	29.7	19.02.7	11.5	15.51.2	5.0	46.2	
8	40.26.83	47	41.49.30		0.15.50.5	30.0	14.20.5	11.1	11.9.4	5.0	4.4	
7	44.15.33	38	45.35.71		0.22.20.5	28.9	20.51.6	2.3	17.49.3	4.6	4.7	
8.9	46.32.99	36	47.53.35		0.24.34.7	28.4	23.6.3	2.57.3	20.9.0	4.5	4.5	
8.9	51.29.97	49	52.50.16	1.26.9	0.38.58.3	26.5	37.31.4	45.7	34.45.7	4.1	43.6	
9	51.19.08	1982	52.38.90	1.31.6	38.58.3		1.11.34.0	46.1	8.47.9	4.1	43.8	
9	52.17.70	19.85	53.37.55	27.3	1.9.25.2	25.0	1.8.00.2	43.8	1.5.16.4	4.0	12.4	
9	53.56.30	19.81	55.16.11		1.12.27	24.7	1.10.38.0	40.1	1.7.57.7	3.8	54.1	
9	54.1.28	20.23	55.21.51		0.33.48.0	26.4	32.21.6	39.8	29.41.8	3.8	38.0	
8.9	54.11.78	24	55.32.02		0.32.18.3	26.5	30.51.8	39.4	28.12.4	3.8	8.6	
7	54.46.97	53	56.9.50		0.8.13.2	27.6	6.45.6	37.9	4.7.7	3.8	3.9	
9	56.10.78	02	57.30.80		0.52.23.4	25.3	50.58.1	34.7	48.23.4	3.5	17.6	
9	56.27.76	19.95	57.47.71		0.59.37.7	24.8	58.12.9	34.0	55.38.9	3.8	35.1	
9	56.44.66	19.99	58.4.65		0.55.52.4	25.2	54.27.2	33.5	51.53.7	3.7	10.0	
8	57.47.19	19.99	59.7.18		0.55.20.7	25.0	54.55.7	31.0	52.24.7	3.7	21.0	
9	57.56.40	20.23	59.16.65		0.33.12.9	26.0	31.46.9	30.7	29.16.2	3.8	12.4	
9	58.35.88	19.89	59.55.77		1.3.25.2	24.3	1.2 0.9	29.0	59.31.9	3.8	28.1	
9	59.55.78	20.42	17.1.16.20+		0.17.42.6	26.2	16.16.4	25.1	13.59.8	3.5	47.3	
8.9	17.0.50.80	20.47	17.2.11.27		0.12.43.3	26.3	11.17.0	23.5	8.53.5	3.5	50.0	

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj..259

Zone 95

9	16.53.59.50	1.32.50	16.55.32.00	0.32 13.6	-1.28.3	3.45.3	-2.37.4	28.05.9	
7	56.37.40	77	55.10.17	8.8.5	29.5	6.39.0	37.9	4.01.1	
9	55.58.90	27	57.31.17	52.21.4	27.1	50.54.3	37.7	48.19.6	
7	56.16.03	20	57.48.23	59.37.2	26.4	58.10.8	34.0	55.36.8	
9	57.46.61	49	16.59.17.10	33.8.9	27.7	31.41.2	30.4	29.10.8	
9	59.43.50	68	17 1 16.18	17.37.8	27.9	16.09.9	25.5	13.44.4	
9	17.38.60	73	2.11.33	12.60.3	28.2	11.12.1	24.6	8.48.5	
8	0.40.93	31	2.13.24	48 13.5	26.4	46 46.9	23.5	44 23.4	
7.8	1,13.46	37	2.45.77	46 3.0	26.4	42.36.6	22.3	40.14.3	
7	3.51.51	47	5.23.98	35.52.5	26.2	34.26.3	16.0	32.10.3	
9	4.16.01	24	5.48.25	54.418	25.5	53.16.5	18.8	51.0.7	
9	9.53.30	33	11.25.63	0.67.53.9	24.4	46.29.5	1.6	44.27.9	
9	9.43.31	105	11.15.36	1.12.37.9	23.5	1.11.16.4	2.21	1m 5.14.3	
9	16.7.83	60	17.40.53	0.22.17.3	24.5	20.52.6	1.46.7	19.6.1	
9	17.8.50	83	18.41.33	0.1.20.0	25.0	-0.05.0	44.3	41.45.4	
9	17.28.43	80	19.01.23	0.4.24.1	25.0	2.59.1	43.4	1.15.7	
9	19.44.50	49	21.16.99	0.30.53.1	23.5	25.29.6	38.1	27.57.5	
5	19.47.23	49	21.19.72	0.30.15.9	23.5	28.52.4	37.8	27.14.6	
8	20.11.91	09	21.44.00	1.6.24.6	21.3	1.5.03.1	36.9	1.3.26.2	
9	21.9.87	68	22.42.55	0.16.24.2	23.9	13.0.3	34.5	11.25.8	
7	22.53.86	69	24.26.53	0.12.15.2	23.8	10.51.4	30.4	9.21.0	
9	22.54.53	30	24.26.89	0.41.29.6	24.4	40.7.5	30.4	38 34.8	
8	24.13.03	66	25.45.69	0.15.32.9	23.3	14 9.6	27.3	12.42.3	
8.9	25.41.82	75	27.14.57	0.8.51.1	23.3	7.27.8	23.6	6.4.2	
9	29.55.13	35	31.27.48	0.41.53.2	21.0	40.32.2	13.3	39.18.9	
9	30.21.23	31	31.53.54	0.45.16.4	20.7	43.55.6	12.5	42.43.2	
8.9	30.55.60	21	32.27.81	0.53.4.4	20.3	51 44.1	10.9	50.33.2	
9	33.50.24	30	35.22.54	0 45 34.8	20.1	44.14.7	3.8	43.10.9	
8	35.7.60	52	36.39.92	0.27.50.7	20.6	26 30.1	1.0.6	25.29.5	
9	39.18.51	35	40.50.85	0.39.1.3	19.2	37.42.1	50.4	36.51.7	
9	40.16.30	55	41.48.85	0.23.10.8	19.8	21.51.0	48.2	4.2.8	
8.9	40.21.23	46	41.53.69	0.3a.55.6	19.5	29.33.9	47.9	28.46.0	
89	40.54.50	40	42.26.90	0.35.48.1	19.2	34 28.9	46.5	33 42.4	
8	42.47.30	79	44.20.09	0.2.39.3	20.4	1.18.9	41.9	0.37.0	
8.9	46.19.50	30	47.11.80	0.43.43.0	17.6	42.25.4	33.3	41.52.1	
9	46.42.73	45	48.15.18	0.31.38.9	18.3	30.20.6	32.3	29.48.3	
5	47.16.30	30	48.48.60	0.43.35.1	17.4	42.17.7	31.1	41.46.6	
9	47.16.51	24	48.48.75	0.49.9.5	17.2	47.52.3	31.1	47.21.2	

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj..259

Zone 95

6	17.47.59.83	1.3273	49.32.66	0.7.16.7	-1.19.4	5.57.3	-7.88	5.28.5
9	48.17.01	64	49.49.65	0.14.55.0	18.7	13.36.3	28.4	13.7.9
8	51.11.03	67	52.43.70	0.12.37.1	18.8	11.19.0	21.3	10.57.7
8	52.27.63	71	54.0.14	0.8.22.5	18.2	7 4.3	18.4	6.45.9
8	53.11.74	72	54.44.46	0.7.57.9	18.0	6.39.9	16.5	6.23.4
9	53.6.03	68	54.38.71	0.10.42.9	17.9	9.25.0	16.7	9.08.3
9	59.23.23	72	18.0.55.95	0.7.13.2	16.8	5.56.4	-1.3	5.55.1
8	18 0.27.62	52	2.00.14	0.23.34.1	15.9	22 18.2	+1.2	22 19.4
9	0.43.84	52	2.16.30	0.26.49.2	15.8	23.33.4	2.0	23 35.4
8	1.21.52	41	2.53.93	0.32.22.2	15.3	31.06.9	3.5	31 10.4
9	1.37.14	41	3 9.55	0.33.23.3	15.0	32.8.3	4.2	32 12.5
9	1.54.14	46	3.26.60	0.29.25.6	15.2	28.10.4	5.0	28 15.4
9	4.49.84	75	6.22.59	0.4.25.2	15.9	3 9.3	12.0	3.21.3
9	4.57.20	68	6.29.88	0.10.51.8	15.5	9.36.3	12.3	9.48.6
7.8	5.29.84	70	7.02.54	0.9.21.5	15.5	8 6.0	13.8	8.19.8
9	5.22.81	53	6.55.36	0.23.12.2	14.9	21.57.3	13.5	22.10.8
8.9	6.27.61	67	8.0.28 +	0.11.15.6	15.3	10 0.3	16.0	10.16.3
7	8.4.21	12	9.36.33	0.58.23.0	12.7	57.10.3	20.1	57 30.4
9	9.5.93	24	10.38.17	0.49.4.6	12.8	47.57.8	22.5	48.14.3
8.9	9.38.30	30	11.10.60	0.42.52.7	13.1	41.39.6	23.8	42 3.4
8	10.24.64	25	11.56.89 x	0.47.54.2	12.8	46.41.4	25.7	47 7.1
9	12.47.04	07	14.19.11	1.3.36.7	11.5	1.2.25.2	31.6	1.2.56.8
9	13.21.20	11	14.53.31	0.59.53.0	11.6	58.41.4	32.8	59.14.2
8	14.25.20	60	15.57.80	0.17.0.6	13.4	15.47.2	35.5	16.22.7
9	14.57.50	83	16.30.33	-0.3.45.4	14.5	-4.59.9	+36.7	-4.23.2
9	15.26.00	82	16.58.82	-0.2.46.4	14.4	-3.27.8	37.9	-2.49.9
9	15.53.83	81	17.26.64	-0.1.46.1	14.3	-3 0.2	39.2	-2.21.0
5	18.9.03	72	19.41.75	0.7.13.5	13.3	6 0.2	44.6	6.4.8
7.8	18.46.20	72	20.18.92 x	0.7.20.0	13.1	6.6.9	46.3	6.53.2
8	19.34.24	31	21.06.55	0.42.59.9	11.3	41.48.6	48.1	42.36.7
9	20.1.94	55	21.34.49	0.21.22.4	12.2	20.10.2	49.2	20.59.4
8	20.13.30	63	21.45.93	0.14.22.8	12.5	13.10.3	49.6	13.59.9
9	20.41.20	64	22.13.84	0.13.26.5	12.5	12.12.0	50.9	13.02.9
9	21.6.33	30	22.38.63	0.43.22.6	10.8	42.11.6	51.9	43.03.5
9	21.26.13	37	22.58.50	0.37.22.7	11.2	36.11.5	52.6	37.04.1
8	21.33.91	60	23 0.51	0.17.25.6	11.9	16.13.7	53.1	17.07.0
8.9	21.52.41	56	23.24.97	0.20.14.9	11.8	19 3.1	53.6	19.56.7
8	29.30.91	32.80	31 3.71	-0 38.9	11.5	-1 50.4		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1953ApJ...118..259

Zone 93 +6.8

8	30 5.33	32.81	31 38.14				−1.17.1	1.11.4	−2.28.5		
8	18.30.36.30	1.32.79	32.09.09				0.1.10.5	1.11.1	−.006	+1.145	1.123
8	31.46.50	17	33.16.67				0.54.10.9	8.2	53.2.7	117.9	54.20.6
7	32.24.50	51	33.57.01				0.25.42.5	9.7	24.32.8	119.6	25.52.4
9	32.24.41	72	33.57.13				0.7.7.7	10.4	5.57.3	119.6	7.16.9
8	33.13.60	80	34.46.40				0.0.56.5	1.10.7	−0.142	1.21.4	1.012
8.9	39.58.43	71	41.31.14	41.57.13	4.8.5		0.8.3.1	9.1	6.54.0	378	8.31.8
8.9	42.13.91	36	43.46.27	43.29.90	2.93		0.39.15.3	7.1	38.8.2	43.1	39.51.3
7	45.44.30	19	47.16.49				0.55.42.7	5.7	54.37.0	515	56.28.5
9	45.50.41	13	47.22.54				1.0.2.5	5.4	58.57.1	518	1.0.489
8	47.26.02	28	48.58.30				0.46.11.6	5.9	45.5.7	55.0	47.1.3
8.9	47.47.84	56	49.20.40				0.22.22.5	6.9	21.15.6	56.5	23.12.1
7.8	52.27.23	10	53.59.33				1.4.4.4	4.1	1.3.0.3	217.0	1.5.79
9	53.46.30	63	54.18.94				0.17.40.9	6.0	16.34.9	109	18.45.8
9	53.36.21	19	55.09.00				0.13.32.7	6.3	12.26.4	105	14.36.9
7	54.16.93	60	55.49.53				0.20.51.5	5.9	19.45.6	11.9	21.57.5
8.9	54.43.13	46	56.15.59				0.31.26.2	5.1	30.21.1	13.0	32.34.1
8.9	55.39.84	11	57.11.95				1.4.13.6	3.5	1.3.10.1	15.3	1.5.25.4
8.9	55.51.51	83	57.24.34				−0.0.10.2	6.4	−1.16.6	2.158	+0.592
9	57.49.51	50	59.22.01				0.28.24.5	4.7	27.19.8	20.5	29.40.3
7	58.6.71	56	59.39.27				0.23.46.0	4.9	22.41.1	21.2	25.23
9	58.44.61	18	19.0 16.79				0.58.38.1	3.0	57.35.1	22.5	59.57.6
7	59.13.93	14	0.46.07				1.2.53.9	2.8	11.51.1	23.7	1.4.148
8.9	19.0.42.34	18	2.14.51				0.59.5.8	2.7	58.31	27.3	1.0.30.4
9	0.22.51	18	3.54.69				0.58.33.7	2.8	57.30.9	26.5	59.57.4
8	1.6.53	37	2.38.90				0.40.32.3	3.6	39.26.8	28.3	41.57.1
9	1.26.51	33	2.58.84				0.44.18.4	3.3	43.15.1	29.0	45.44.1
9	2.18.20	52	3.50.72				0.27.12.7	3.8	26.8.9	31.1	28.40.0
9	4.13.30	63	5.45.93				0.17.4.1	4.0	16.0.1	35.6	18.35.7
9	5.24.62	42	6.57.04				0.36.44.6	2.9	35.41.7	38.4	38.20.1
9	5.16.13	82	6.48.95				0 1.38.8	4.8	0.36.0	38.2	3.12.2
9	5.17.41	83	6.50.24				−0.0.43.3	4.8	−1.46.1	38.2	−.09.9
7	8.8.20	70	9.40.90				0.12.42.8	3.5	11.39.3	44.8	14.24.1
7.8	8.4.71	52	9.37.23				0.27.19.6	2.7	26.16.9	44.8	29.1.7
9	6.43.43	61	10.16.04				0.19.21.7	3.1	18.18.6	46.1	21.4.7
6	9.31.84	31	11.04.15				0 47.27.9	1.5	46.26.4	48.0	49.14.4
9	9.57.06	37	11.29.41				0.41.28.3	1.7	40.26.6	49.0	43.15.6
9	9.46.91	81	11.19.72				0.2.44.3	3.7	1.40.6	48.8	4.29.4

Der Zone 1A

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj..259

Zone 150

0ˢ.30 to be added to all the Rs

9	6. 27.15.41	1.5139	6.29.06.80	0.41.51.2	-1.23.8	40.324	-1.6.9	39.25.5	
8	28.35.33	38	30.26.71	0.41.28.9		24.0	40.049	1.10.9	38.54.0
9	28.50.50	51.09	30.41.59	0.15.36.3		25.3	14.11.0	11.4	12.59.6
9	29.22.69	51.21	31 13.90	0.25.9.1		24.9	33.44.2	12.8	22.33.4
9	29.30.41	51.13	31.21.54	0.19.28.2		25.1	18 3.1	13.1	16 50.0
8	29.45.61	51.29	31.36.90	0.36.18.3		24.4	32.53.9	13.8	31.40.7
9	30.7.51	51.42	31.58.93	0.45.17.2		24.0	43.53.2	14.6	42.38.6
9	30.39.79	51.44	32.31.23	0.68.35.3		23.8	47.11.5	15.9	45.55.6
9	31.5.30	50.97	32.56.27	0.7.29.5		25.8	6 13.7	17.1	4 46.6
8	31.58.62	51.00	33.49.62	0.8.10.1		25.9	6.44.2	19.2	5.25.0
7	31.40.09	51.35	33.31.44	0.40.23.0		24.6	38.58.4	18.6	37.39.8
9	32.31.33	51.19	34.22.52	0.26.55.2		25.0	25.30.2	20.5	24.9.7
9	33.42.15	51.03	35.33.22	0.14.46.6		25.9	13.20.7	23.3	11.57.4
8.9	33.49.91	51.01	35.40.92	0.9.56.8		26.1	8.30.7	23.6	7 7.1
9	34.46.30	51.41	36.37.71	0.48.29.8		24.6	47 5.2	26.0	45.39.2
8.9	35.10.74	51.39	37.02.13	0.46.55.1		24.5	45.30.6	27.0	44 3.6
9	35.27.70	51.41	37.19.11	0.48.51.6		24.7	47.26.9	27.5	45.59.4
9	35.41.69	50.94	37.32.63	0.6.56.5		26.4	5.33.1	28.2	4 4.9
8	35.47.79	50.98	37.38.77	0.9.9.0		26.3	7.42.7	28.5	6.14.2
9	38.4.30	51.46	39.55.76	0.53.53.1		24.5	52.28.6	34.0	50.54.6
8	38.23.20	51.23	40.14.43	0.32.46.3		25.5	31.20.8	34.7	29 46.1
8.9	38.35.30	51.21	40.26.51	0.31.45.6		25.7	30.19.9	35.2	28.44.7
8	38.47.40	51.20	40.38.60	0.30.40.7		25.7	29.15.0	35.7	27.39.3
9	40.11.69	51.49	42.03.18	0.57.10.2		24.6	55.45.6	39.0	54 6.6
8.9	40.38.70	51.50	42.30.20	0.56.28.8		24.6	57.04.2	40.0	55.24.2
8	40.48.99	51.09	42.40.08	0.21.12.7		26.5	19.46.2	40.5	18 5.7
9	43.40.23	51.11	45.31.34	0.25.54.4		26.7	24.27.7	47.4	22.40.3
8.9	43.22.62	51.47	46 14.09	0.57.31.9		25.1	55.06.8	49.1	54.17.7
9	43.34.74	51.35	46.26.09	0.48.3.9		25.4	46.38.5	49.6	44 48.9
9	43.37.30	51.43	46.28.73	0.54.40.4		25.2	53.15.2	49.6	51.25.6
8.9	46.1.41	51.20	47.52.61	0.35.25.8		26.4	33.59.4	52.9	32 6.5
9	46.15.41	51.42	48.06.63	0.37.22.6		26.3	35.56.1	53.4	34 2.7
8.9	47.18.83	51.25	49.10.08	0.39.11.4		26.3	37.45.1	56.1	35.49.0
9	47.41.20	51.36	49.32.56	0.48.31.5		26.0	47 5.9	57.0	45 8.9
9	48.25.19	51.17	50.16.36	0.32.28.6		27.0	31 1.6	58.7	29 2.9
8	48.38.99	51.21	50.30.20	0.37.10.1		26.7	35.43.4	59.2	33.44.2
9	49.1.69	50.94	50.52.83	0.43.55.1		27.9	12.27.2	20.1	10.27.1
9	49.10.51	51.02	51.01.53	0.20.43.6		27.5	19.16.1	0.6	17 15.5

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj.259

9	6.48.36.69	150.91	6.51.27.60		0.9.55.1	-1.28.0	8.27.1	201.6	6.25.5	
9	50.33.03	50.93	52.23.96		0.12.43.8	28.0	11.15.8	3.8	8.12.0	
9	50.38.40	51.01	52.29.41		0.19.0.5	27.8	17.32.7	4.0	15.28.7	
9	50.50.30	51.02	52.41.32		0.20.36.1	27.8	19 8.3	4.5	17.3.8	
9	51.8.00	51.04	52.59.04		0.22.22.4	27.7	20.54.7	5.2	18.49.5	
8	51.52.23	50.95	53.43.18		0.16.22.4	28.1	14.54.3	7.1	12.47.2	
9	52.23.82	50.90	54.14.72		0.10 4.6	28.3	8.36.3	8.3	6.28.0	
9	53.48.23	50.82	55.39.05		0.3.31.3	29.1	2.2.2	11.7	-0.9.5	
9	54.17.03	51.01	56.08.04		0.22.17.2	28.1	20.49.1	12.8	18.36.3	
8	53.58.91	51.17	55.50.08		0.36.54.7	27.6	35.27.1	12.1	33.15.0	
9	54.22.71	51.04	56.13.75		0.24.36.3	28.0	23.8.3	13.0	20.55.3	
8.9	54.46.51	50.97	56.35.48		0.18.10.0	28.3	16.41.7	13.8	14.27.9	
8	55.44.60	51.16	57.35.76		0.36.31.7	27.1	35.4.0	16.2	32.47.8	
9	56.14.51	51.13	58.05.64		0.33.25.7	27.8	31.57.9	17.4	29.40.5	
9	56.51.89	51.14	58.43.03		0.35.25.1	27.9	33.57.2	19.1	31.38.1	
9	57.21.09	51.00	59.12.09	17.12 12.9 57.21 12.60	0.21.28.1	28.5	19.59.6	20.0	17.39.6	19.59.6 56.7 11.63 58.2
9	57.41.79	50.76	6.59.32.55		0.2.12.5	29.6	0.42.9	20.9	-1.38.0	
9	58.38.03	50.86	0.28.89		0.9.16.5	29.3	7.45.3	23.0	5.22.3	
9	58.37.50	50.96	0.28.46		0.18.6.4	28.8	16.37.6	23.0	14.14.6	
8	2.1.93	50.72	3.52.65		0.0.15.7	31.1	-1.45.4	2.81.1	-3.46.5	

Zone 158

9	9.3.36.56	1.39.34	9.5 15.90	1.4.3.5	-1.37.8	1.2.25.7	-6.43.6	55.42.1	
8	4.42.20	39.14	6.21.34	0.33.28.2	37.5	0.31.48.7	45.4	25.3.8	
9	6.23.20	39.06	8 2.26	0.23.43.9	40.1	22 3.8	48.3	15.15.5	
8.9	8.57.21	39.22	10.36.43	0.46.54.9	39.2	45.15.9	52.6	38.22.4	
9	9.2.67	38.96	10.41.61	0.8.57.7	41.0	7.16.7	52.6	0.24.1	
9	9.54.08	39.37	11.33.45	1.6.18.2	38.4	1.4.39.8	54.1	57.45.7	
8	11.13.99	39.33	12.53.32	1.2.49.4	38.8	1.1.10.6	56.3	54.14.3	
9	11.24.61	39.28	13.3.89	0.56.45.0	39.1	55.5.9	56.7	48.9.2	
9	11.44.50	39.12	13.23.62	0.35.36.7	40.1	33.56.6	57.2	26.59.4	
9	11.59.37	38.91	13.38.28	0.7.11.7	41.3	5.30.4	57.6	-1.26.9	
8	13.0.30	39.00	14 39.30	0.20.31.3	40.9	18.50.4	59.3	11.57.1	
9	16 40.11	38.85	18.18.96	0.1.14.5	42.1	-0.37.6	1.53	-7.32.9	
9	18.26.06	39.03	20.05.09	0.26.56.6	41.1	25.15.5	7.9	18.7.6	
9	19.41.28	39.10	21.20.38	0.36.3.5	40.7	34.22.8	10.0	27.12.8	
9	22 1.67	38.83	23.40.50	0.2.48.4	42.6	1.05.8	13.6	-6.7.8	
9	23.37.37	38.83	25.15.20	0.3.55.3	42.1	2.12.7	16.2	-5.3.5	

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj..259

Zone 158

9	9.25.26.30	1.38.93	9.27.05.23	0.18.55.9	-1.42.0	17.13.9	-7.18.4	9.55.5
8	28.44.01	38.98	30.22.99	0 29.24.1	41.9	27.42.2	23.9	20.18.3
7	33.12.89	38.99	34.51.88	0.32.28.2	42.1	30.46.1	30.6	23.15.5
79	34.50.07	38.92	36.28.99	0.25.4.5	42.7	23.21.8	32.9	15.48.9
9	35.42.91	38.77	37.21.68	0. 3.8.3	43.7	1.24.6	34.2	-5.9.6
8	36. 1.11	38.90	37.40.01	0.21.51.8	42.9	20. 8.9	34.7	12.34.2
9	35.42.98	38.77	37.21.75	0. 3.6.6	43.7	1.22.9	34.2	-6.18.3
9	36.35.38	39.00	38.14.38	0.38.27.5	42.0	36.45.5	35.5	29.10.0
9	37.28.77	38.85	39 7.62	0.13.17.5	43.4	11.34.1	36.8	3.57.3
8	37.54.40	38.84	39.33.24	0.13.15.1	43.5	11.31.6	37.3	3.54.3
89	39.20.30	38.74	41 5.04	0.1.40.9	44.1	-0.3.2	39.4	-7.42.6
9	39.46.58	38.84	41.25.42	0.15.33.7	43.6	13.50.1	40.0	6.10.1
9	40.27.87	38.91	42 6.83	0.33.45.0	42.7	32 2.3	40.9	24.21.4
8	41.1.56	38.98	42.40.48	0.36.46.3	42.5	35 3.8	41.7	27.22.1
8	41.16.66	39.10	42.55.76	0.16.37.1	41.6	14.55.5	41.9	47.13.6
7	43. 0.87	39.09	44.39.90	0.15.19.3	41.8	53.37.5	44.3	45.53.2
8	44.15.09	38.74	45.53.83	0.3.40.5	44.5	1.56.0	46.0	-5.50.0
8	47.28.91	38.86	49 7.77	0.23.39.1	43.7	21.55.4	50.5	14.4.9
8	48.13.61	39.00	49.52.61	0.45.17.9	43.0	43.34.9	51.4	35.43.5
9	52. 6.71	38.74	53.45.45	0. 6.48.1	45.0	5. 3.1	56.5	-2.53.4
9	55.49.01	38.83	57.27.84	0.23.55.6	44.3	22.11.3	8.1.4	14.9.9
9	58.17.87	38.86	9.59.56.73	0.37.19.3	44.0	35.35.3	45	27.30.8
4	58.45.9.	38.83	10 0.24.73	0.30.31.3	44.3	28.47.0	5.1	20.41.9
9	10 5.38.40	38.85	7.1 .25	0.36.36.7	44.4	34.52.3	13.1	26.39.2
8	10.28.30	38.85	12 7.15	0.41.39.1	44.4	39.54.7	18.7	31.36.0
8	12.12.09	38.84	13.50.93	0.41.9.0	44.6	39.24.4	20.6	31.3.8
78	12.53.60	38.64	14.32.24	0. 9.26.5	46.0	7.40.8	21.4	-0.40.6
7	14.18.01	38.60	15.56.61	0.0.31.4	46.7	-0.0.8.3	22.9	-8.31.2
8	15.41.19	77	17.19.76	0.30.45.0	45.3	28.59.7	24.5	20.35.2
8	15.36.30	64	17.14.94	0. 7.26.8	46.3	5.40.5	24.5	-2.45.0
9	19.33.28	.77	21.12.05	0.35.1.8	45.3	33.16.5	28.6	24.47.9
56	21. 8.20	.68	22.46.88	0.17.13.1	46.3	15.26.8	30.2	6.56.6
9	23.33.58	59	25.12.17	0.3.43.6	46.8	1.56.8	32.7	-6.35.9
910	24.51.30	.83	26.30.13	0.54.14.1	44.7	52.29.4	33.9	43.55.5
9	30.50.81	.77	32.29.58	0.47.27.8	45.4	45.42.4	39.8	37.2.6
8	32. 0.21	73	33.38.94	0.39.56.3	45.8	38.10.5	40.9	29.29.6
8	32.34.79	38.73	34.13.52	0.40.1.9	45.8	38.22.1	41.4	29.40.7

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj...259

Zone 158.

9	10.36.50.56	158.76	38.29.32	0.51.43.6	-1.45.5	49.58.7	-8.45.2	41.13.0
9.10	37.34.37	67	39.13.04	0.28.7.3	46.9	26.20.4	45.9	17.34.5
9	41.19.87	65	42.58.52	0.28.16.2	46.9	26.29.3	49.0	17.40.3
9	45.28.30	52	47.6.82	0.2.7.6	48.4	0.19.2	52.4	-8.33.2
9	45.40.27	52	47.18.79	0.2.33.0	48.4	0.44.6	52.5	-8.7.9
9	46.14.40	54	47.52.94	0.8.53.5	47.8	1.5.7	52.9	-1.47.2
7	47.58.86	66	49.37.52	0.39.7.3	46.7	37.20.6	54.4	28.26.2
8.9	48.11.08	67	49.49.75	0.47.43.5	46.0	45.57.6	54.5	37.3.1
7	51.53.50	71	53.32.21	1.0.48.1	45.7	59.2.4	57.4	50.5.0
7.8	53.22.71	68	55.1.39	0.52.26.8	46.2	50.40.6	58.4	41.42.2
6.7	54.4.91	54	55.43.45	0.13.24.1	48.2	11.35.9	58.8	2.37.1
9	54.11.20	50	55.49.70	0.2.41.5	48.9	0.52.6	58.8	-8.06.2
9	55.38.20	50	57.16.70	0.1.1.4	49.0	-0.47.6	59.8	-9.47.4
8	57.18.68	67	10.58.57.35	0.51.66.0	46.5	49.59.5	9.0.9	40.58.6
9	58.41.98	48	11 0.20.46	0.0.40.9	49.2	-1.8.3	1.7	-10.10.0
8	59.14.07	50	0.52.57	0.8.6.6	48.8	6.17.8	2.0	-2.44.2
9	11 12.51.38	50	14.29.88	0.21.37.1	48.6	19.48.5	9.7	10.38.8
7.8	18.53.77	44	20.32.21	0.5.42.2	49.5	3.52.7	12.6	-5.19.9
8	20.9.99	51	21.48.50	0.39.2.1	47.8	37.14.3	13.1	28 1.2
7.8	20.14.98	45	21.53.43	0.8.38.1	49.4	6.48.7	13.2	-2.24.5
9	26.58.10	45	28.36.55	0.18.27.1	49.1	16.38.0	15.8	7.22.2
4.5	27.46.72	43	29.25.15	0.10.18.2	49.5	8.28.7	16.1	-0.47.4

Zone 208

9	6.57.7.57	+1.11.26	6.58.18.83	0.16.9.1	-123.6	14.45.5	-2.18.2	12.27.3
9	57.38.80	14	58.49.94	0.5.36.5	24.1	4.10.4	19.3	1.51.1
9	58.1.80	32	59.13.12	0.21.20.1	23.4	19.56.7	20.2	17.36.5
9.10	58.4.56	52	59.16.08	0.60.26.3	22.5	39 3.8	20.5	36.43.3
9	59.17.71	27	7 0.29.00	0.18.0.6	23.6	16.37.0	23.2	14.13.8
8.9	59.17.77	18	0.28.75	0.9.6.1	24.4	7.41.7	23.2	5.18.5
9	59.49.60	20	1.0.60	0.10.43.1	24.1	9.19.0	24.4	6.54.6
8	7 0.8.20	28	1.19.48	0.18.9.5	23.7	16.45.8	25.3	14.20.5
9	2.1.58	20	3.12.78	0.10.46.9	24.2	9.22.7	29.7	6.5[illegible]
6	2.41.40	09	3.52.47	0.0.7.6	24.7	-1.17.3	31.4	-3.48.7
7	4.35.88	12	5.47.00	0.3.5.4	24.7	1.40.7	35.8	-0.55.1
9	5.7.57	11	6.18.68	0.2.40.0	24.8	1.15.2	37.0	-1.21.8
9	5.7.98	20	6.15.18	0.10.30.6	24.4	9.6.0	37.0	6.29.0
9	5.48.66	48	7 0.14	0.37.48.2	23.1	36.25.1	38.6	33.46.5

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1953phae.proj..259

Zone 208

9	7	6. 6.36	1.11.43	7. 7.17.79	0·32.32.2	-123.3	31.08.9	-2.39.4	28.29.5
9		6.36.30	42	7.47.72	0·31·38·6	23.4	30.15.2	40.6	27.34.6
8		6.34.58	69	7.46.27	0·56.31.4	22.2	55 9.2	40.6	52.28.6
8		8.56.70	24	10 7.94	0·15·54.0	24.5	14.29.5	45.9	11.43.6
8		9.28.51	18	10.39.69	0· 9· 9.5	24.7	7.44.8	47.3	4.57.5
7		10·11·69	34	11.23.05	0·24·58.2	24.0	23.34.2	48.9	20.45.3
7		9.51.67	46	11 3.13	0·36.40.7	23.4	35.17.3	48.0	32.29.3
9		9.54.28	31	11 5.59	0·21·40·7	24.2	20.16.5	48.2	17.28.3
8.9		10.42.30	35	11·53.65	0·25·52.7	24.0	24.28.7	50.0	21.38.7
9		11.19.11	25	12.30.36	0·16·47.5	24.5	15.23.0	51.4	12.37.6
9		11·26·30	28	12.37.58	0·19·8·5	24.3	17.44.2	51.7	14.52.5
9		11.42.30	37	12.53.67	0 27.36.6	23.9	26.12.7	52.4	23.20.3
7		11.46.08	54	12.57.62	0·44·35·9	23.1	43.12.8	52.0	40.20.8
9		11·59·28	50	13·10.78	0·40·36·2	23.3	39.12.9	53.1	36.19.8
6		13.19.21	40	14.30.61	0·31·23·5	23.9	29.59.6	56.1	27.3.5
7		13.48.50	13	14.59.63	0·5·21·5	25.2	3.56.3	57.3	0.59.0
8.9		14.26.91	16	15.38.07	0·8·33·5	25.0	7.8.5	58.7	4.9.8
9		15.36.07	16	16.47.23	0·8·22.2	25.1	6.57.1	31.4	3.55.7
9		16.0.88	53	17.12.41	0·44·47·9	23.3	43.24.6	2.3	40.22.3
8		16.47.30	45	17.58.75	0·36·25·6	23.7	35.1.9	4.2	31.57.7
8.9		17.16.30	50	18.27.80	0·41·57·8	23.6	40.34.2	5.1	37.29.1
9		17.53.40	44	19.4.84	0·30·37·6	23.8	35.13.8	6.7	32.7.1
8		18.16.45	43	19.27.88	0·35·55·4	23.9	34.31.5	7.4	31.23.8
9		18.34.20	20	19.45.40	0·12·25·6	25.2	11. 0.4	8.2	7.52.2
8.9		22.31.51	15	23.42.66 E	0·8·13·5	25.5	6 48.4	17.3	3.31.1
7		22.13.18	39	23.24.57	0·32·14·3	24.4	30.49.9	16.6	27.33.3
8		22.25.68	39	23.37.07	0·32·55·1	24.4	31.30.7	17.1	28.13.6
7		23.7.66	59	24.19.25	0·50·33·5	23.4	49.10.1	18.7	45.51.4
9		23.11.28	52	24.22.80	0·41·54·7	23.7	44.31.0	18.9	41.12.1
8		23.44.76	62	24.56.38	0·53·48·9	23.4	52.25.5	20.0	49.5.5
8		24.11.16	71	25.22.87 E	1.2.85	22.7	1.0.45.8	21.2	57.24.6
9		2442.78	69	25.54.47	1.0.14.3	22.9	58.57.4	22.3	55.29.1
8		25.53.71	41	27. 5.12	0 34 13.3	24.3	32.49.0	25.1	29.23.9
8		26.7.10	40	27.18.50	0·33·23·9	24.4	31.59.5	25.6	28.33.9
9		26.31.60	22	27.42.82	0·14·57·8	25.3	13.32.5	26.5	10.6.0
9		27.39.38	26	28.50.64	0·18·42.0	25.1	17.16.9	29.1	13.47.8
9		27.49.28	21	29 0.54	0·18·17.4	25.4	16.52.0	29.4	13.22.6
9		29.23.11	68	30.34.79	1·0·48.2	23.2	59 25.0	33.1	55.57.9

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj...259

2022 208

7	7.29.45.21	1.11.62	7.30.56.83		0.54.56.8	-1.23.5	53.33.3	-3.33.7	49.59.6	
7	30.14.11	16	31.25.27		0.9.12.2	258	7.46.4	34.9	4.11.5	
8.9	34.4.10	25	35 15.35		0.18.46.2	25.6	17.20.6	43.7	13.36.9	
8.9	34.31.30	30	35 42 60		0.23.38.3	25.3	22.13.0	44.6	18.28.4	
6	34.24.08	44	35 32 52		0.37.9.5	24.7	35.44.8	44.1	32 0.7	
9	34.31.68	49	35 43.17	E	0.42.44.1	24.5	41.19.6	44.6	37.35.0	
9	35.46.81	41	36 56.22		0.34.13.9	24.8	32.49.1	47.2	29.01.9	
8	36.36.60	07	37 47 67	+	0.0.1.3	26.6	-1.25.3	49.3	-5.14.6	+
8	38.18.57	33	39 29.90		0.27.47.2	25.4	26.21.8	53.1	22.28.7	
9	38.18.98	34	39 30.32		0.28.3.7	25.4	26.38.3	53.1	22.45.2	
9	39.12.66	62	40 24.28		0.55.3.0	24.0	53.39.0	55.1	49.43.9	
7	40.11.99	73	41.23.72		1.6.52.3	23.4	1.5.28.9	57.3	61.31.6	
8.9	40.12.51	74	41.24.25		1.7.48.9	23.4	1.6.25.5	57.3	62.28.2	
8	40.0.58	18	41 11.76		0.11.32.8	26.3	10.6.5	3.56.9	6, 9.6	
9	42.35.07	07	43.46.14		0.0.14.3	26.9	-1.12.6	4,2.3	-5.14.9	
9	42.34.88	27	43.46.15		0.21.24.2	25.9	19.58.3	2.3	15.56.0	
9	43.31.77	41	44.43.18		0.35.19.8	25.2	33.54.6	4.4	29.50.2	
9	44.33.51	26	45.44.77		0.20.17.0	26.0	18.51.0	7.1	14.43.9	
9	44.58.31	21	46 9 52		0.15.50.3	26.4	14.23.9	7.7	10.16.2	
9	45.25.79	28	46 37.07		0.22.18.1	26.0	20.52.1	8.6	16.43.5	
9	46.59.07	17	48 10 24		0.11.5.4	26.7	9.38.7	12.3	5.26.4	
9	47.11.87	17	48 23.04		0.11.50.6	26.6	10.24.0	12.7	6.11.3	
9	47.24.57	14	48.35.71		0.8.5.7	26.7	6.39.0	13.1	2.25.9	
9	47.46.57	42	48.57.99		0.36.52.0	25.4	35.26.6	13.8	31.12.8	
9	48.5.56	51	49.17.07		0.45.5.0	25.0	43.40.0	14.7	39.25.3	+
8	49.0.09	52	50.11.61		0.46.57.8	25.0	45.32.8	16.7	41.16.1	
8	50.18.58	08	51.29.66		0.2.52.0	27.2	1.24.8	19.5	-2.54.7	
9	50.41.98	31	51.53.29		0.26.45.8	26.0	25.19.8	20.4	20.59.4	
7.8	51.41.81	30	52 53.11		0.25.45.1	26.1	24.19.0	22.6	19.56.4	
9.16	51.55.20	31	53 6.51		0.26.47.2	26.0	25.21.2	23.0	20.58.2	
9	52.6.56	71	53.16.27		1.6.44.5	24.0	1.5.20.5	23.5	60.57.0	
9	52.59.51	32	54.10.83		0.27.52.7	25.9	26.26.8	25.5	22.1.3	
9.10	52.60.28	25	53.51.53		0.20.3.7	26.4	18.37.3	24.8	14.12.5	
9	55.24.37	36	56.35.73		0.31.58.2	26.0	30.32.2	30.5	26.1.7	
9	56.16.01	41	57.27.42		0.36.30.1	25.8	35.43	32.2	30.32.1	
6	58.15.28	44	7.59.26.72		0.39.22.2	25.7	37.56.5	36.6	33.19.9	
6	59.32.81	44	8.0.44.25		0.39.38.6	25.8	38.12.8	39.3	33.33.5	

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj..259

Zone 208

9	7.59.45.81	1.11.44	δ 0 .57.25	0.39.29.7	-1.25.8	38	3.9	-4.39.8	33.24.1	
8	59.34.98	63	0.46.61	0.59.52.0	24.8	58.21.2	39.3	53.47.9		
7	8.0.3.56	63	1.15.19	0.59.10.5	24.8	57.45.7	40.6	53.05.1		
9	0.23.98	53	1.35.52	0.48.62.4	25.4	47.17.0	41.0	42.36.0		
8.9	0.59.77	55	2.11.32	0.51.55.1	25.2	50.29.9	42.3	45.47.6		
9	1.39.81	55	2.57.36 E	0.51.38.6	25.2	50.13.4	43.7	45.29.7		
9	2.18.71	19	3.29.90	0.13.25.3	27.3	11.58.0	45.2	7.12.8		
9	5.7.97	13	6.19.10	0.7.47.5	27.8	6.19.7	51.1	1.28.6		
8	5.28.67	17	6.39.74	0.1.37.2	28.1	0.9.1	51.7	-4.42.6		
8.9	7.44.57	22	8.55.79 E	0.17.31.1	27.4	16.3.7	56.4	11.7.3		
8	8.53.39	65	10.5.04 E	1.2.17.0	25.1	1.0.51.9	59.0	55.52.9		
9	9.10.51	57	10.22.08	0.54.52	25.6	52.39.6	59.6	47.40.0		
9	9.13.80	58	10.25.38 E	0.55.25.9	25.6	54 0.3	59.6	49 0.7		
8	13.20.61	29	14.31 .90	0.24.50.0	27.3	23.22.7	58.2	18.14.5		
8	13.51.97	09	15 3.06	0 2.23.2	28.6	0.54.7	9.2	-4.14.5		
7.8	17.3.50	16	18.14.66	0.10.42.7	28.2	9.14.5	15.6	3.58.9		
8	17.22.40	52	18.33.92	0.49.84	26.2	47.42.2	16.4	42.25.8		
9	17.31.37	45	18.42.82	0.40.52.0	26.6	39.25.4	16.6	34.8.8		
9	18.30.01	43	19.41.44	0.38.0.6	26.7	36.33.9	18.6	31.15.3		
9	18.59.61	35	20.10.96	0.30.25.6	27.3	28.58.3	19.4	23.38.9		
9	19.24.01	09	20 35.10	0 2.27.7	28.7	0.59.0	20.4	-4.21.4		
9	19.40.68	20	20.51.88	0.13.52.1	28.2	12.23.9	21.0	7.2.9		
7.8	20.25.30	24	21.36.54	0.17.55.4	25.0	16.27.4	22.4	11.5.0		
9	20.40.50	40	21.51.90	0.35.57	27.0	33.38.7	23.0	28.15.7		
7	21.11.60	42	22.23.02	0.37.18.4	26.9	35.51.5	24.0	30.27.5		
7.8	21.3.28	54	22.14.82	0.52.30.1	26.2	51.3.9	25.8	45.40.0		
8	22.56.17	30	24 7.47	0.25.27.7	27.7	24.0.0	27.4	18.32.6		
9	26.27.40	48	27.38.88	0.43.37.6	26.9	42.40.7	34.4	36.36.3		
7	26.23.18	60	27.35.38 +	0.58.58.2	26.1	57.32.1	34.4	51.57.7	+	
8	27.2.68	18	28.13.86	0.11.5.7	28.5	9.37.2	35.6	4.1.6		
8	27.5.58	16	28.20.74	0.8.28.3	28.8	6.59.5	36.0	1.23.5		
9	28.45.71	18	29.56.89	0.11.30.4	28.7	10.1.7	39.2	4.22.5		
9	29.28.57	22	30.39.79 E	0.15.12.6	28.6	13.44.0	40.4	8.3.6		
9	31.49.68	19	33.0.87	0.12.63.1	28.7	11.14.4	45.1	5.29.3		
9	32.12.88	14	33.24.02	0.6.54.1	29.2	5.24.9	45.8	-0.20.9		
9.10	33.6.37	17	34.17.54	0.10.50.0	28.9	9.21.1	47.5	3.33.6		
8.9	35.40.91	19	36.52.10 E	0.12.27.7	28.9	10.58.8	52.3	5.6.5		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj..259

Zone 208

8.9	8.36.4.70	1.11.27	37.15.97	1 D	0.22.45.8	-1.28.4	21.17.4	-55.3.2	15.24.2	
8.9	36.32.81 +1"1	26	37.44.07	1 D	0.21.15.0	28.6	19.46.4	54.0	13.53.4	
8.9	36.41.48	31	37.52.79		0.26.9.8	28.3	24.41.5	54.4	18.47.1	
9	37.29.51	29	38.40.80		0.24.3.0	28.4	22.34.6	55.9	16.38.7	
8	38.33.15	28	39.14.38		0.18.19.8	28.8	16.51.0	56.8	10.54.2	
8	38.50.56	47	40 2.03		0.44.17.0	27.5	42.49.5	58.4	36.57.1	
8	38.51.38	44	40.2.82		0.40.58.5	27.7	39.30.8	58.4	33.32.4	
9	41.18.78	62	42.30.40		1.3.24.9	26.4	61.58.5	C.3.1	55.55.4	
8	42.15.08	09	43.26.17	X	0.0.46.5	29.9	-0.43.4	48	-6.48.2	
8.9	44.14.41	36	45.25.77		0.31.9.5	28.3	29.41.2	8.5	23.32.7	
9	45.4.20	14	46.15.34		0.5.55.1 D5"	29.1	4.25.4	9.9	-1.44.5	
9	44.58.97	16	46.10.13		0.8.15.0	29.5	6.45.5	9.8	0.35.7	
8	45.8.97	13	46.20.10		0.4.10.5 D8"	29.8	2.40.7	10.1	-3.29.4	
8	48.0.49	62	49.12.11		1.4.46.5	26.5	1.3.17.7	15.5	57.02.2	
8	48.4.60	15	49.15.55		0.16.30.4	29.2	15.1.2	15.6	8.45.6	
8	48.50.17	13	50.1.30		0.2.10.9	30.0	0.40.9	17.0	-5.46.1	
8	50.23.21	14	51.34.35		0.4.26.2	30.0	2.54.2	19.9	-3.25.7	
9	50.26.77	35	51.38.12		0.29.24.6	28.7	27.55.9	19.9	21.36.0	
8	52.56.19	17	54.7.36		0.7.25.6	29.8	5.55.8	24.4	-0.28.6	
9	53.1.11	19	54.12.30		0.10.58.9	29.7	9.29.2	24.5	3 4.7	
6	53.15.95	21	54.27.16		0.13.11.9	28.6	11.42.3	24.9	5.17.4	
9	53.35.50	38	54.46.88		0.35.31.8	28.6	32.3.2	25.6	25.37.6	
9	56.14.16	24	8.57.25.40		0.16.55.4	29.5	15.25.9	30.2	8.55.7	
8	58.50.11	49	9.0 1.60		0.47.2.6	28.0	45.34.6	34.7	38.59.9	
9	9.0.17.35	12	1.28.47		0.0.53.3	30.6	-0.37.3	37.1	-1.14.4	
8	0.47.60	27	1.58.67		0.20.19.8	29.6	18.50.2	38.1	12.12.1	
8	1.36.05	33	2.45.38		0.27.25.0	29.3	25.59.7	39.3	19.20.4	
8	1.36.50	44	2.47.94		0.40.36.2	28.6	39.7.6	39.5	32.28.1	

Zone 209

8	2.34.31.00	1.12.44	35.43.44	0.59.56.2	-1.10.0	58.46.2	+7.17.0	11.05.2
8	38.41.65	15	39.53.80	0.20.19.5	12.1	19.7.4	12.5	26.19.9
8.9	38.52.46	43	40 4.89	0.59.15.4	10.0	58 5.4	12.2	66.18.6
7.8	40.52.51	08	42.4.59	0.12.36.0	12.6	11.23.4	9.0	18.32.4
8	41.35.20	10	42.47.30	0.15.21.6	12.5	14.9.1	8.0	21.11.1
8	42.39.90	41	43.52.31	0.59.40.4	10.4	58.30.0	6.2	65.36.2
9	46.41.66	26	47.53.92	0.39.36.9	11.6	38.23.3	6.5	45.23.1

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj..259

Room 209

8	2.50.38.91	1.12.37	2.51.51.28	0.58.2.7	1.10.8	56.51.9	6.53.3	63.45.2
9.10	50.30.47	19	51.42.66	0.33.34.9	12.1	32.22.8	6.53.5	39.16.3
8	51.31.85	.06	52.43.91	0.17.353	12.8	16.22.5	5.18	23.14.3
8	52.39.30	14	53.54.44	0.28.39.0	12.5	27.26.5	4.99	33.16.4
8	54.23.30	25	55.35.55	0.41.44.9	11.9	40.33.0	4.69	47.19.9
9	56.29.51	12.00	57.41.51	0.11.15.7	13.3	10.3.4	4.34	16.46.8
8.9	57.10.91	12.14	2.58.23.05	0.32.30.87	12.4	31.18.4	4.22	38.0.6
8	58.53.10	12.23	3 0.05.33	0.46.46.3	12.0	43.34.3	3.93	50.13.6
9	58.58.07	11.97	0.10.04	0.12.24.0	13.6	11.10.4	3.91	17.49.5
8.9	3 0.12.01	12.09	1.24.10	0.27.35.3	12.9	26.22.4	3.71	32.59.5
8	1.4.00	12.27	2.16.27	0.49.54.1	11.7	48.62.4	3.57	55.18.1
8	5.17.19	11.91	6.29.10	0.6.0.0	14.2	4.45.8	2.82	11.14.0
9	6.8.78	12.31	7.21.09	0.58.27.4	11.6	57.15.8	2.69	63.42.7
9	7.12.67	11.91	8.24.58	0.7.52.1	14.1	6.38.0	2.49	13.2.9
9	8.16.66	12.23	9.26.89	0.47.38.6	12.2	46.26.2	2.31	52.49.3
8	8.24.12	12.29	9.36.41	0.55.39.4	12.0	54.27.4	2.27	60.50.1
7.8	10.58.31	12.10	12.10.41	0.34.35.3	13.1	33.22.2	1.79	39.40.1
7	11.14.70	12.25	12.26.95	0.51.42.5	12.1	50.30.4	1.77	56.48.1
9	12.5.49	12.18	13.17.57	0.32.54.1	13.2	31.40.9	1.61	37.57.0
9	12.15.41	12.04	13.27.45	0.28.2.7	13.4	26.48.9	1.59	33.5.2
9	14.0.21	12.08	15.12.29	0.32.58.3	13.3	31.45.0	1.24	37.57.4
7	14.51.11	11.94	16.3.05	0.18.18.2	14.2	17.4.0	1.11	23.15.1
9	15.28.81	12.18	16.40.99	0.45.2.0	12.8	43.49.2	0.98	49.59.0
9	25.49.77	11.80	27.1.57	0.6.30.87	15.2	5.15.6	0.504	11.6.0
9.10	28.02.20	11.74	29.14.44	0.1.46.6	15.6	0.31.0	0.462	6.17.2
7	28.3.27	11.74	29.15.01	0.1.52.1	15.6	0.36.5	0.462	6.22.7
9	30.13.03	11.84	31.24.87	0.14.24.0	15.1	13.8.9	0.419	18.50.8
8.9	36.57.37	11.73	38.11.10	0.5.2.7	16.0	3.46.7	0.304	9.17.1
9	40.45.71	12.12	41.57.83	0.51.24.3	14.0	50.10.3	0.210	55.31.3
9.10	42.3.10	11.94	43.15.01	0.29.37.3	15.1	28.22.2	0.184	33.40.6
8	42.24.60	11.87	43.36.47	0.25.5.8	15.4	23.50.4	0.176	29.8.0
9	44.48.10	12.11	46.0.21	0.52.52.87	14.2	51.38.6	0.128	56.51.4
5	45.35.85	12.05	46.47.90	0.45.47.6	14.6	44.33.0	0.112	49.44.2
8	49.33.99	12.14	50.46.13	0.57.23.6	14.3	56.9.3	0.30	61.12.3
9	50.4.60	11.76	51.21.36	0.16.4.5	16.3	14.48.5	0.19	19.50.4
9	50.27.37	11.87	51.39.24	0.28.18.1	15.7	27.2.4	0.13	32.3.4
9	51.14.66	12.12	52.26.78	0.55.1.0	14.4	53.46.6	0.596	58.46.2

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj.259

Zone 2ig

8.9	3.59.56.91	1.11.75	4.1.8.66		0.20.7.2	-1.16.6	18.50.6	4.41.5	23.32.1
7	4.3.24.25	11.71	4.35.96		0.17.54.1	169	16.37.2	344	21.11.3
9.10	3.50.30	74	5.2.04		0.19.56.2	169	18.37.3	33.2	23.12.5
8	7.17.20	54	8.28.74		0.1.53.8	179	0.35.9	259	5.1.8
8	7.21.67	11.62	8.33.29		0.10.27.1	174	9.9.7	257	13.35.4
9	7.26.58	12.01	8.38.59		0.49.41	158	47.48.3	255	52.13.8
9	8.26.37	11.80	9.38.17		0.30.0.0	166	28.43.4	233	33.07
9	9.41.99	12.01	10.54.00		0.51.298	156	50.14.2	204	54.34.6
8	12.27.21	11.76	13.38.97		0.27.346	169	26.17.7	145	30.322
8	12.17.66	11.96	13.29.62		0.47.21.6	159	46.5.7	149	50.20.6
9	17.7.51	11.91	18.19.42	24-	0.43.49.0	163	42.32.7	4.2	46.36.9
8	17.10.20	11.86	18.22.06		0.38.45.6	167	37.28.9	4.0	41.32.9
9	17.17.87	65	18.29.52		0.17.46.2	171	16.28.5	4.39	20.32.4
9.10	19.49.67	70	21.01.37		0.23.284	181	22.10.3	3.58.6	26.8.9
78	23.38.20	82	24.50.02		0.37.13.4	170	35.56.4	498	39.46.2
9	2343.06	90	24.54.96		0.45.477	169	44.30.8	49.6	48.20.4
8	24.45.71	85	25.57.56		0.40.0.3	171	38.432	47.3	42.30.5
7	25.42.99	146	26.54.45		0.3.35.3	188	2.16.5	450	6.1.5
8	27.10.40	44	28.21.84		0.2.36.7	190	1.17.7	417	4.59.4
9	27.29.51	58	28.41.09		0.16.288	184	15.10.4	41.0	18.51.4
9	27.55.70	76	29.7.46		0.33.36.0	175	32.18.5	401	35.58.6
5.6	28.27.70	82	29.39.52		0.39.25.0	172	38.7.8	39.0	41.46.8
8.9	31.21.37	11.53	32.32.90		0.13.18.8	186	12.0.2	324	15.32.6

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj..259

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj..259

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj..259

Stars from B. A. C.

M	Mag		Pfm 3yr a 1853		δ		
57	6½	0.10.5.37	9.21	0.10.14.58	0.51.159	+1.0.1	0 52.16.0
405	7	1.14.53.53	9.20	1.15.2.73	0.56 30.4	+573	57.27.7
472	7½	1.27.5.01	9.22	1.27.14.23	11 6.2	5586	0.12.021
1110	6½	3.29.5.80	9.19	3.29.14.99	0.5.37 8.9	36.2	0.6 14.1
~~1112~~	~~4½~~	~~3.29.13.43~~	~~9.17~~		~~0.6.~~		
1431	6	4.29.30.13	9.25	4.29.39.38	0.41.252	23.1	41.48.3
1519	6	4.47.8.15	9.23	4.47.17.38	0.13 58	18.6	13.24.4
1913	6	5.51.7.01	9.26	5.51.16.27	0.32 18	+2.2	32 4.0
2086	6	6.19.31.65	9.25	6.19.40.90	0.27 1.2	-5.3	26.55.9
2189	6	6.33.22.49	9.26	6.33.31.75	0.37.481	-8.9	37.39.2
2382	6½	7.7.39.01	9.23	7.7.48.24	0.5.361	-17.7	5.18.4
2433	6	7.14.2181	9.27	14.31.08	0.23.205	-18.6	23 0.9
3458	5	10.0.15.59	9.22	10.0.24.81	0.21.34.0	-53.1	20.40.9
		10 14.23.89	9.21	14.33.10	0°7.50	-53.9	-0°48.9
3597	6	10.22.37.51	9.22	10.22.47.73	0.7.483	-55.0	6.53.3
3773	7	10.53.23.57	9.30	10.53.32.87	0.51.049	-57.8	50.7.1
3779	7	10.55.34.27	9.22	10.55.43.45	0.3.242	-58.7	2.26.5
3782	6	10.55.56.03	9.23	10.56.5.26	0.48.21.5	-57.9	47.23.6
3832	5½	11.6.5.73	9.23	11.6.14.96	0.44.423	-58.7	43.43.6
3873	7	11.15.37.12	9.23	11.15.46.35	0.57.17.7	-59.2	56.18.5
3946	4½	11.29.16.19	9.22	11.29.25.41	0 0.13.5	-59.6	-0.47.1
4137	4	12.10.59.00	9.22	12.11 8.22	0.2.485	-1.03	1.48.2
4145	3½	12.12.13.89	9.20	12.12.23.09	0.10 1.7	-1.0.2	9.1.5
4530	7	13.26.37.93	9.19	13.26.47.12	0.27.16.0	-56.3	26.19.7
4532	4	13.27.3.32	9.17	13.27.12.49	0.10.226	-55.7	9.26.9
4931	6	14.49.51.98	9.23	14.50.1.22	0.26.225	-44.5	25.38.0
4944	6	14.54.8.35	9.21	14.54.17.56	0.27.23.4	-43.7	26.39.7
5030	6	15.8.11.01	9.16	15.8.20.17	0.55.51.2	-41.0	55.10.2
5903	6	17.21.10.80	9.18	17.21.19.98	0.27.20.0	-10.5	27.09.5
6069	6	17.48.40.19	9.18	17.48.49.37	0.41.51.2	-3.1	41.48.1
6209	5½	18.19.32.27	9.22	18.19.41.49	0.6.358	+5.0	6.40.8
6596	7	19.10.51.29	9.21	19.11.0.50	0.9 11.3	+18.2	9.29.5
6597	6	19.10.54.55	9.16	19.11.3.71	0.48.59.4	+18.2	49.17.6
6600	6	19.11.10.43	9.21	19.11.19.64	0.4.328	+18.7	4.51.5
6653	5½	19.18.50.95	9.22	19.19.0.17	0.2.335	+20.2	2.53.7
6811	4	19.44.49.86	9.18	19.44.59.04	0.37.28.4	+6.2	37.54.6
7546	6	21.34.31.21	9.20	21.34.40.41	0.36.16.1	+48.5	37 4.6
7814	5	22 17.37.05	9.20	22.17.46.25	0.37.05.3	-1.5.3	37.59.6

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj..259

7985	C	22.47.19.07	9.23	22.47.28.30	0.15.56.5 +57.1 16.53.6
8005	C1/2	51.46.27	9.23	22.51.55.50	0.9.42.8 +57.1 10.39.7
8169	5/L	23.19.14.69	9.24	23.19.23,9.3	0.26.06.1 +58.9 27.5.0
8170	C	23.19.33.74	9.22	23.19.42.96	0.17.54.2 +59.0 18.53.2
8215	C1/2	20 27.48.60	9.20	23.27.57.80	0.29.05.4 59.4 30.28
8243	5	23 34 23.84	9.19	23.34.33.03	0.57.20.2 +59.4 58.19.6
8281	C	23.41.46.76	9.22	23.41.55.98	0.14.32.0 +59.7 15.31.7

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj..259

Stars from H Celisti Rumker

	1836						1836				
	2002	6.40.43.51	2	3.075	52.28	6.41.35.79	2	0.16.2.1	-3.54	1.0.2	0.15.1.9	-0.6
	2085	6.54.47.20	2	3.068	16	6.55.39.36	2	0.1.9.8	-4.74	1.20.6	-0.10.8	-.6
	3549	11.14.53.87	13	3.073	24	11.15.46.11	1	1.1.50.8	-19.65	5.34.0	56.16.8	-.2
56	3910	12.11.31.02	13	3.068	16	12.12.23.18	29	14.623	-20.01	5.40.0	9.023	-.0
84	4218	12.54.24.41	13	3.067	14	12.55.16.55	1	5.19.43	-19.48	5.30.2	-0.10.8	+.2
	4304	13.19.51.71	13	3.068	16	13.20.43.87	1	1.46.8	-18.84	5.20.3	-3.33.5	+.2
3	4356	13.20.20.36	20	3.066	12	13.21.12.48	20	14.43.0	-18.63	5.16.7	9.26.3	+.2
	4444	13.36.39.01	2	3.067	14	37.31.15	2	3.16.3	-18.29	5.10.7	-1.54.4	+.3
	4473	13.41.19.67	5	3.067	14	42.11.81	5	2.30.7	-18.11	5.7.9	-2.37.2	
	4516	13.47.45.49	2	3.063	07	48.37.56	2	24.46.8	-17.86	5.3.6	19.48.3	
	4519	48.5.07	3	3.062	05	48.57.12	3	36.6.0	-17.85	5.3.4	31.2.6	
	4524	48.59.00	1	3.063	07	49.51.07	1	27.51.3	-17.82	5.2.9	22.48.4	
8	4536	51.18.46	8	3.061	52.04	52.10.50	8	37.55.4	-17.72	5.1.2	32.56.2	
	4538	51.21.19	4	3.058	51.99	52.13.18	4	50.58.4	-17.72	5.1.2	45.57.2	
	4555	53.40.34	3	3.056	95	54.32.29	3	1.1.45.6	-17.62	4.59.5	56.45.9	
	4562	54.11.45	5	3.058	51.99	55.3.44	5	50.23.3	-17.60	4.59.2	45.24.1	
	4565	54.52.86	13	3.059	52.00	55.44.86	1	44.40.0	-17.58	4.58.9	39.41.1	
	4567	54.59.91	13	3.061	12	55.52.03	1	9.52.3	-17.57	4.58.7	4.53.6	
	4574	55.38.34	6	3.063	07	56.30.41	6	25.43.3	-17.56	4.58.2	20.45.1	
	4580	56.26.77	13	3.061	12	13.57.18.89	1	19.52.7	-17.51	4.57.7	14.55.0	
	4598	59.16.32	13	3.061	04	14.0.8.36	2	35.39.0	-17.39	4.55.6	30.43.4	
7	4601	59.26.85	6	3.059	52.00	0.18.85	6	43.39.5	-17.38	4.55.5	38.44.0	
	4604	59.52.67	2	3.056	51.95	14.0.44.62	2	59.32.6	-17.36	4.55.1	54.37.5	
	tracking	13.32.50.9	13	3.069	52.17	13.33.43.04	1	16.43.6	-18.62	5.13.1	11.30.5	
		13.42.56.1	13	3.067	14	42.57.75	1	9.51.5	-18.08	5.7.4	4.44.1	
	4615	14.0.42.85	13	3.060	02	14.1.34.91	1	42.29.6	-17.32	4.54.4	37.35.2	
	4616	0.45.92	4	3.059	00	1.37.92	5	44.10.4	-17.32	4.54.4	39.16.0	
	4620	1.30.67	13	3.055	51.94	2.22.61	1	1.4.23.2	-17.25	4.53.9	59.29.3	
	4644	6.27.80	2	3.055	51.94	7.19.74	2	1.1.23.3	-17.06	4.50.0	56.33.3	
	4659	12.6.95	13	3.067	52.14	12.59.09	1	5.21.3	-16.80	4.45.6	0.35.7	
7	4660	12.7.19	4	3.056	51.95	12.59.14	4	56.28.8	-16.80	4.45.6	51.43.2	
	4675	15.10.48	3	3.057	97	16.2.45	3	47.46.1	-16.65	4.43.0	43.3.1	+.4
	4687	16.12.57	13	3.058	99	17.4.56	1	46.47.9	-16.60	4.42.2	42.5.7	
	4751	27.24.93	2	3.055	94	28.16.87	2	57.54.0	-16.04	4.32.7	53.21.3	
8	4754	27.37.051	3	3.055	94	28.28.95	2	56.23.7	-16.03	4.32.5	51.51.2	
	4838	44.8.212	3	3.056	95	45.0.16	2	48.6.3	-15.12	4.17.0	43.49.3	
6	4874	49.9.021	3	3.060	52.02	50.1.04	1	26.53.6	-14.82	4.11.9	25.41.7	
	4932	57.53.441	3	3.055	51.94	14.58.45.38	1	49.37.3	-14.30	4.3.1	45.36.2	
6	4999	15.17.27991	3	3.051	87	15.8.19.86	2	59.0.8	-13.70	3.52.9	55.1.9	+.4

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj..259

δ 1853.0

7.8		15	5	59 25	1	3.052	51.88	15.6.51.13	1	0	59.11.1	−1.3.50	-3.446	55.26.5	+	
.2	5321	16	-2	34 13	1	3.048	82	16.3.25.95	1		59 106	−9.83	2.47.1	56.23.5	.6	
.0	5387		12	44 87	1	3.047	80	16.13.36.17	1		1 1 308	−9.04	233.7	58.57.1	6	
.2	5394		13	51 48	1	3.050	85	14.43.33	1		0.53 318	−8.56	2323	50.59.5	6	
.2	7 5465		28	44 86	1	3.056	91	16.29.36.81	1		35227	−7.77	2.12.1	33.10.6	6	
.2	7 5532	17	18	10 95	1	3.047	80	17.19.2.75	1		58184	−3.64	111.9	57.06.5	6	
.3	6 5856		20	27 91	1	3.058	51.99	17.21.19.90	1		28 75	−3 44	185	27.9.0	6	
3	5858		20	45 79	1	3.064	52.09	1721.37.88	1		10 51.4	−3.41	18.0	9.53.4	6	
3	8 6085		45	43 86	1	3.051	51.87	17.46 35.73	1		44 267	−1.25	21.2	44 5.5	6	
3	6193		57	4.081		3.047	80	17.57.55.88	1		54 269	−0.26	4.6	54 22.5	6	
3	Nachtrag		20	15 05	1	3.064	52.09	17.21 7 14	1		10 1.6	−3.46	188	9.2.8	6	
3	"		20	15 72	1	3.065	11	17.21.7.83	1		9 31 6	−3.46	188	8.32.8	6	
3			24	53 70	1	3.063	52.07	17.25.45.77	1		13 40 5	−3.06	52.0	12.48.5	6	
3			57	4 31	1	3.054	51.92	17.57.56.23	1		35 31 7	−0.78	133	35.18.4	6	
3	6249	18	1	7 73	2	3.048	82	18 1.59.55	2		51 10 0	+0.10	+17	51.11.7		
3	6250		1	7 97	1	3.067	52.14	18.2 0.11	1		22 17 1	0.10	17	22.18.8	6	
3	6253		1	19 83	7	3.049	51.83	.2.11.66	5		48 2 4	0.12	2.0	48.4.6		
3	6265		2	4.36	4	3.050	85	2.56.21	3		46 17 2	0.18	3.1	46 20 3	6	
3	6277		3	20 56	8	3.050	85	4.12.81	4		46 52 4	0.29	4.9	47 2.3		
3	6295		4	46 11	1	3.053	94	5.38.05	1		33 164	0.42	6.9	33 33.3	6	
3	6302		5	22 08	14	3.053	90	6.13.98	14		38 47 2	0.47	8.0	38 55.2		
3	786304		5	30 14	8	3.067	52.14	6.22.28	4		3 15 2	0.48	8.2	3.23.4	6	
3	6317		6	9 99	1	3.065	11	7.2.10	1		8 8 3	0.54	9.2	8.17.5		
3	6329		7	7 87	1	3.064	09	7.59.96	1		10 6 0	0.62	10.5	10.16.5	6	
3	6350		8	44 62	11	3.046	51.78	9.36.40	11		57 196	0.76	12.9	57.32.5		
3	6364		9	46 01	5	3.049	83	10.37.86	5		47 589	0.85	14.4	48.13.3	6	
3	6372		10	18 16	6	3.052	88	11.10.04	5		41 481	0.90	15.3	42.3.4		
3	6427		13	44 82	2	3.066	52.12	14.36.94	2		5 97	1.20	20.4	5.30.1	6	
3	6441		15	5 32	2	3.062	52.05	15.57.87	2		15 574	1.32	22.4	16.19.8		
3	6454		15	35 32	4	3.051	51.87	16.27.19	4		43 43.3	1.36	23.1	46 6.4	6	
+.4	6456		15	54 46	2	3.059	52.00	16.46.46	2		22 353	1.39	23.6	22 58.9		
4	6493		18	39 71	1	3.068	16	19.31.87	1		−0 1.2	+1.63	27.7	0.26.5	6	
	56495		18	49 06	15	3.065	11	19.41.17	9		6 17 4	164	27.9	6.47.3		
	6501		19	26 84	5	3.065	11	20.18.45	5		6 21 8	1.20	28.9	6.50.7	6	
	6519		20	53 49	6	3.063	07	21.45.56	6		13 268	1.82	30.9	13.57.7		
	6523		21	21 82	2	3.063	07	22.13.39	2		12 328	1.86	31.6	13.4.4	6	
	6532		22	14 18	5	3.062	05	23.6.23	4		16 308	1.54	33.6	17.3.8		
+.4	6538		22	32 58	2	3.059	52.00	23.24 58	1		19 204	-497	33.5	19.53.9	+.6	

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj..259

Sag Cat

19 0 9 25.55 — 3 0 46 55.8

6566	18 24 18.86	1	3.0	57	51.97	18 25 10.83	1	0	27 50 5	+2.12	36.0	28 26.9		b
6616	29 14 34 2		3.0	51	87	30 6 21	2		42 29 5	2.55	43.4	43 12.9		6
6623	31 16 17 2		3.0	68	52.16	18 32 8.33	2		0 28 3	2.73	46.4	1 14.7		6
6 7280	19 10 27 20 1		3.067		52.14	19 11 19.34	1		2 47 4	6.06	143.0	4 30.4	+.6	
9935	22 4 22 44 1		3.064		09	22 5 14.53	1		22 41 2	17.55	45.84	27 39.6	+.4	
10611	22 39 0.05 1		3.061		04	22 39 52.09	1		55 57 6	18.81	52.98	61 17.4	+.3	
9 10652	43 19 37 1		3.061		04	44 11.41	1		54 41 2	18.93	52.18	60 3.0		3
6 10771	51 31 6 2		3.067		14	51 55 30	2		5 „ 18 2	19.14	52.64	10 43.6		3
10799	53 29 19 1		3.065		11	54 21 30	1		29 44 8	19.20	52.64	35 11.2		3
10853	23 2 38 90 x		3.065		11	23 3 30.01	1		25 37 8	19.42	53.01	31 7.9		3
6 10932	7 15 03 1		3.066		12	8 7 15	1		24 58 9	19.57	53.17	30 30.6		3
9 10964	8 43 24 2		3.066		12	9 35 36	2		20 12 6	19.54	53.22	25 44.6	+.2	
6 11174	18 8 16 3 12		3.067		14	19 23 77	12		21 31 8	19.71	53.51	27 6.9		2
5.6 11261	22 16 90 1		3.068		16	23 9 06	1		−1 34 0	+19.77	53.61	4 2.1		2
11284	23 17 86 1		3.065		11	24 9 97	1		49 38 2	19.79	53.64	55 14.6		2
9 11286	23 21 85 3		3.067		14	24 13 79	3		19 1 8	19.79	53.64	24 38.2		2
7 11370	27 5 55 4		3.067		14	27 57 69	4		24 26 2	19.84	53.73	30 3.5		2
11440	30 47 58 1		3.068		16	31 39 74	1		4 3 8	19 88	53.80	9 41.8		2
6 11480	33 40 73 7		3.066		12	34 32 85	7		52 41 6	19.91	53.85	58 20.1		2
9 11539	37 23 84 1		3.066		12	38 15 96	1		45 45 5	19.94	53.91	57 24.6		2
" 11540	37 28 88 1		3.068		16	38 21 04	1		6 10 0	19.94	53.90	11 49.0		2
11564	38 51 19 2		3.067		14	39 43 33	2		14 49 6	19.96	53.93	20 28.9	+.1	
9 11570	39 4 32 1		3.068		16	39 56 48	0		— — —	—		—		
9 11602	40 17 31 3		3.068		16	41 9 47	3		5 40 1	19.97	53.95	16 19.6		1
5 11628	41 3 60 7		3.068		16	41 55 76	7		9 56 3	19.87	53.85	15 35.8		1
9 11858	52 10 36 1		3.068		16	53 2 52	1		5 10 1	20.03	54.05	14 50.6		1
6.7 27	0 „ 10 5 49 1		3.072		52.22	0 10 57 71	1		51 55 4	20.04	54.07	47 36.1		1
85 25	10 10 42 1		3.07		21	0 11 2 63	1		27 36 7	20.04	54.07	33 17.4		1

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1053phae.proj.259

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj..259

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1953phae.proj..259

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj..259

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

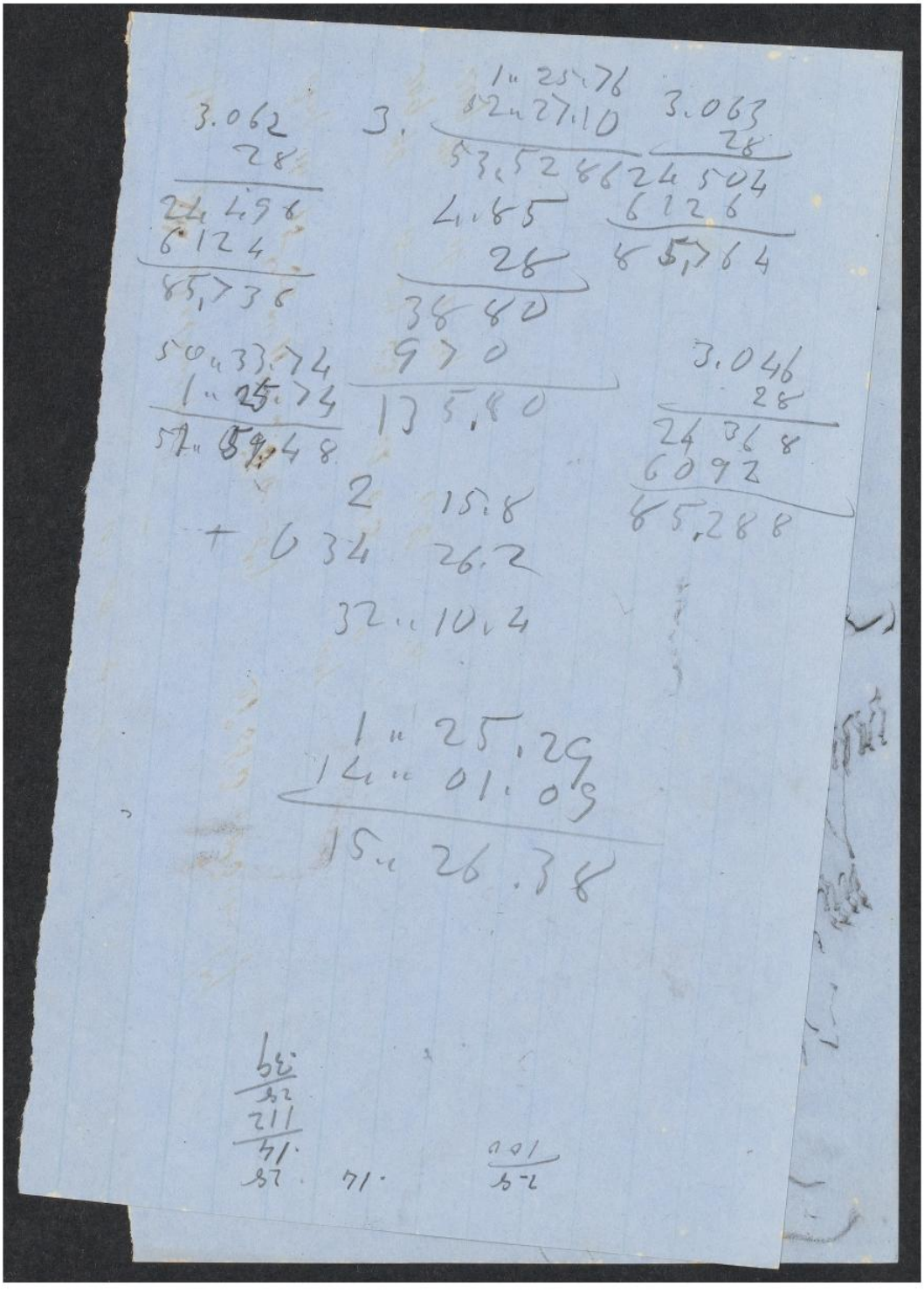
1853phae.proj..259

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj..259

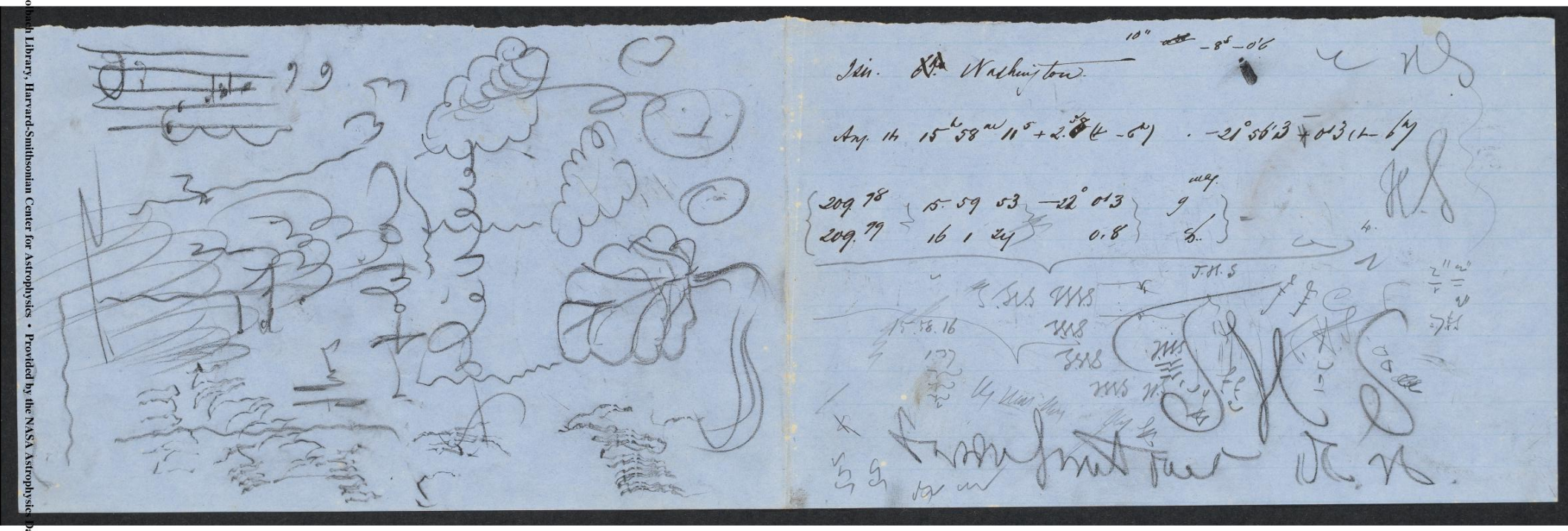
John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj..259



John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj..259S

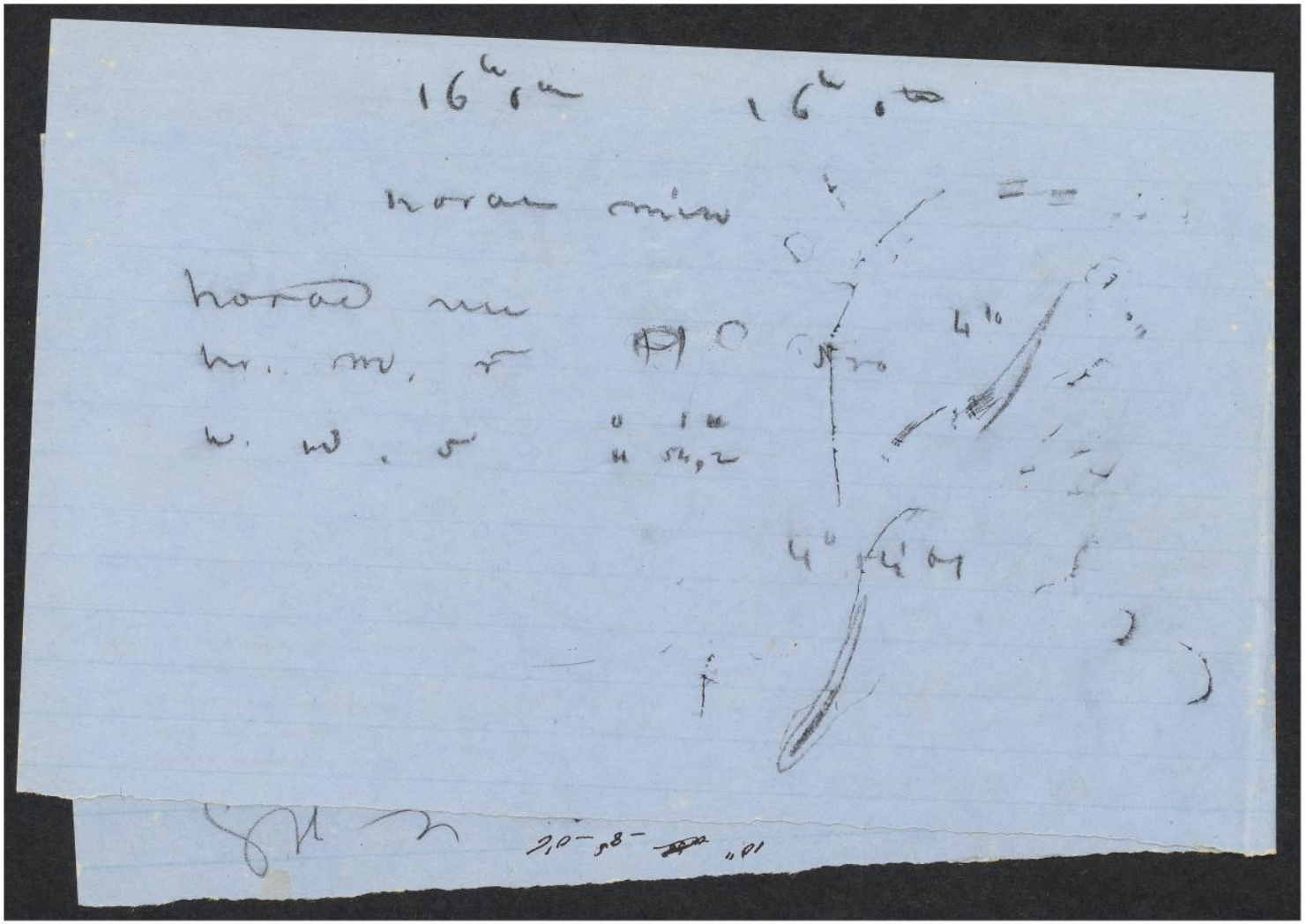


Jun. 14 Washington.

Aug. 14 15h 58m 11s + 2.58 (t − 6h) . −21° 56′ 23″ + 0′ 13″ (t − 6h)

209.78	15 59 53	−22° 013	9	wg.
209.79	16 1 24	0.8	5	

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System



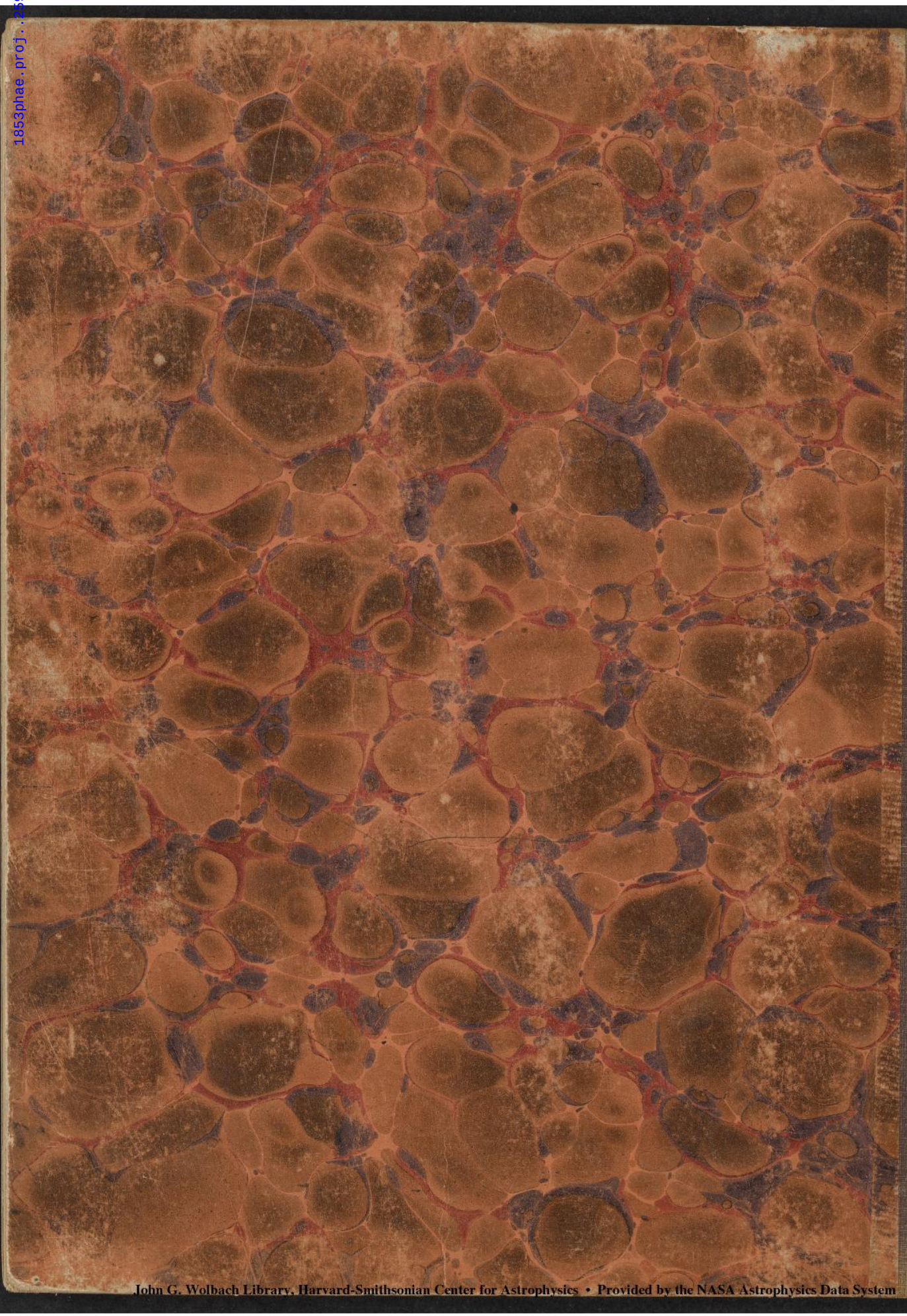
John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj..259

1853phae.proj..269

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1853phae.proj..269



John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System