GREENWICH

ASTRONOMICAL RESULTS,

1874.

RESULTS

OF THE

ASTRONOMICAL OBSERVATIONS

MADE AT

THE ROYAL OBSERVATORY, GREENWICH,

1874.

(EXTRACTED FROM THE GREENWICH OBSERVATIONS, 1874.)

ROYAL OBSERVATORY, GREENWICH.

CATALOGUE

OF

CONCLUDED MEAN RIGHT ASCENSIONS AND NORTH POLAR DISTANCES,

FOR 1874, JANUARY 1,

OF STARS OBSERVED IN THE YEAR 1874,

WITH THE ANNUAL VARIATIONS:

(The North Polar Distances being corrected for Inequality in the Screws of the Microscope-Micrometers, for Discordance of Direct and Reflexion-Observations, for Errors of Division, and for the Flexure of the Telescope of the Transit-Circle:)

ALSO,

NEW CONSTANTS FOR STARS INCLUDED IN THE CATALOGUE

NOT INCLUDED IN THE

GREENWICH SEVEN-YEAR CATALOGUES FOR 1860 AND 1864,

OR IN LATER ANNUAL CATALOGUES.

CATALOGUE OF THE CONCLUDED MEAN RIGHT ASCENSIONS AND MEAN NORTH POLAR DISTANCES, FOR 1874, JAN. 1, OF STARS OBSERVED IN THE YEAR 1874; WITH THE ANNUAL VARIATIONS.

(The N.P.D.'s are corrected for Inequality in the Screws of the Microscope-Micrometers, for Discordance of Direct and Reflexion-Observations, for Errors of Division, and for Flexure of Telescope of the Transit-Circle.)

No.	Star's Name.	Number of Obs. of R.A.	Mean R.A. 1874, Jan. 1.	Whole Number of Obs. of R.A.	Fraction of Year for Mean of Obs.	Concluded Seconds of R.A.	Annual Variation in R.A.	Number of Obs. of N.P.D. D.	Number of Obs. of N.P.D. R.	Mean N.P.D. 1874, Jan. 1. D.	Mean N.P.D. 1874, Jan. 1. R.	Whole Number of Obs. of N.P.D.	Fraction of Year for Mean of Obs.	Concluded Seconds of N.P.D.	Annual Variation in N.P.D.
			h m s			s	s			° ′ ″	″			″	″
1	Bradley 3212.....		0. 0. (4.)					1	1	61. 40. 26·12	25·28	2	0·71	25·70	− 19·86
2	α Andromedæ	5	0. 1. 52·612	5	0·53	52·612	+ 3·087	5		61. 36. 18·78		5	0·29	18·78	19·90
3	Piazzi XXIII. 282..	3	0. 2. 15·677	3	0·68	15·677	3·077	3		92. 55. 25·39		3	0·68	25·39	20·04
4	β Cassiopeiæ S.P. ..	2	0. 2. 27·775	2	0·30	27·775	3·157	2		31. 32. 41·69		2	0·30	41·69	19·86
5	87 Pegasi.....	6	0. 6. 44·863	6	0·80	44·863	3·089	1	1	72. 29. 18·39	18·17	2	0·84	18·28	20·03
6	Bradley 6.....							4	4	13. 44. 58·54	58·18				
	Bradley 6 S.P.	1	0. 9. 6·810	1	0·35	6·810	3·289	1		58·80		9	0·78	58·41	20·01
7	θ Andromedæ	1	0. 10. 30·840	1	0·76	30·840	3·111	1		52. 1. 4·55		1	0·76	4·55	20·00
8	ι Ceti	4	0. 13. 0·410	4	0·77	0·410	3·054	2		99. 31. 20·41		2	0·71	20·41	19·96
9	40 Piscium		0. 13. (25.)					1	1	74. 26. 55·82	54·10	2	0·84	54·96	20·00
10	Groombridge 48 ...		0. 13. (52.)					1	1	28. 49. 12·27	11·92	2	0·77	12·19	20·02
11	12 Cassiopeiæ	1	0. 17. 51·430	2	0·65	51·260	3·257	3	1	28. 52. 2·35	2·39	5	0·84	2·39	20·00
	12 Cassiopeiæ S.P..	1	0. 17. 51·090					1		2·60					
12	44 Piscium	3	0. 18. 56·643	3	0·88	56·643	3·072	2		88. 45. 28·80		2	0·88	28·80	19·97
13	Bradley 24.....	1	0. 19. 6·080	1	0·76	6·080	3·678	1		10. 38. 42·91		1	0·76	42·91	19·96
14	10 Ceti	3	0. 20. 9·540	3	0·63	9·540	3·075	2		90. 44. 49·67		2	0·62	49·67	19·95
15	Bradley 34.....		0. 22. (52.)					5	5	13. 40. 34·68	35·06	0	0·82	34·87	19·94
16	28 Andromedæ		0. 23. (28.)					1	1	60. 56. 35·90	36·01	2	0·93	35·96	19·87
17	12 Ceti	4	0. 23. 36·478	4	0·64	36·478	3·059			94. 39.					
18	13 Cassiopeiæ.....	1	0. 24. 11·570	2	0·62	11·405	3·422	1		24. 10. 35·03		2	0·69	34·88	19·94
	13 Cassiopeiæ S.P..	1	0. 24. 11·240					1		34·66					
19	κ Cassiopeiæ	1	0. 25. 51·040	3	0·18	50·980	3·361	2	1	27. 45. 50·27	50·07	5	0·43	49·32	19·94
	κ Cassiopeiæ S.P. ..	2	0. 25. 50·950					2		47·33					
20	52 Piscium	1	0. 25. 59·190	1	0·76	59·190	3·138	1		70. 24. 3·30		1	0·76	3·30	19·90
21	ζ Cassiopeiæ	1	0. 29. 57·550	2	0·51	57·525	3·307	1		36. 47. 48·56		2	0·57	48·97	19·87
	ζ Cassiopeiæ S.P. ..	1	0. 29. 57·500					1		49·79					
22	π Andromedæ	1	0. 30. 9·410	1	0·94	9·410	3·190	1		56. 58. 28·23		1	0·94	28·23	19·88
23	53 Piscium	2	0. 30. 13·600	2	0·72	13·600	3·115	2		75. 27. 42·57		2	0·72	42·57	19·86
24	Bradley 48 S.P. ...	2	0. 30. 20·750	2	0·28	20·750	4·248	2		8. 12. 7·37		2	0·28	7·37	19·96
25	ε Andromedæ	6	0. 31. 53·977	6	0·81	53·977	3·155	1		61. 22. 21·28		1	0·87	21·28	19·62
26	δ Andromedæ		0. 32. (35.)					2	1	59. 49. 42·93	43·58	3	0·85	43·15	19·75
27	α Cassiopeiæ	1	0. 33. 22·070	1	0·80	22·070	3·364	1		34. 9. 14·74		1	0·80	14·74	19·80
28	Groombridge 120 ..							2	1	24. 32. 38·64	38·28	5	0·68	37·18	19·83
	Groombridge 120 S.P.	2	0. 34. 34·135	2	0·33	34·135	3·512	2		37·42					
29	β Ceti.....	5	0. 37. 15·810	5	0·65	15·810	3·012			108. 40.					
30	21 Cassiopeiæ	1	0. 37. 22·070	1	0·76	22·070	3·835	4	3	15. 42. 3·21	4·33	7	0·84	3·69	19·72
31	23 Cassiopeiæ	1	0. 39. 23·520	1	0·00	23·520	3·877	1		15. 50. 27·51		1	0·00	27·51	19·72
32	η Cassiopeiæ	1	0. 41. 29·280	3	0·43	29·253	3·576	1		32. 51. 10·09		3	0·45	9·83	19·24
	η Cassiopeiæ S.P. ..	2	0. 41. 29·240					2		9·63					
33	Piazzi 0. 189	4	0. 41. 46·450	4	0·73	46·450	3·131	4		85. 22. 3·04		4	0·73	3·04	18·54
34	δ Piscium	4	0. 42. 8·720	4	0·88	8·720	3·105	1		83. 6. 3·84		1	0·75	3·84	19·67
35	ν Andromedæ.....		0. 42. (52.)					1	1	49. 36. 27·40	27·33	2	0·81	27·37	19·70
36	Bradley 90.....	1	0. 45. 33·870	1	0·74	33·870	3·525	1		29. 34. 1·99		1	0·74	1·99	19·71
37	20 Ceti.....	5	0. 46. 34·108	5	0·79	34·108	3·059			91. 49.					
38	υ^1 Cassiopeiæ.....	1	0. 47. 32·130	1	0·95	32·130	3·511	2		31. 42. 34·92		2	0·94	34·92	19·63
39	36 Andromedæ	2	0. 48. 13·430	2	0·73	13·430	3·202	2		67. 3. 16·02		2	0·73	16·02	19·59
40	γ Cassiopeiæ							1	1	29. 57. 56·95	58·15	3	0·75	57·68	− 19·62
	γ Cassiopeiæ S.P. ..	1	0. 49. 7·180	1	0·23	7·180	+ 3·557	1		58·07					

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			h m s			s	s			° ′ ″	″			″	″
41	μ Andromedæ	6	0. 49. 45·893	6	0·78	45·893	+ 3·301	3	2	52. 11. 4·70	4·12	5	0·88	4·47	− 19·63
	Groombridge 192...	1	0. 50. 33·720					1		24. 19. 46·32					
42	Groombridge 192 S.P.	1	0. 50. 33·780	2	0·62	33·750	3·718	1		46·55		2	0·67	46·41	19·57
43	h Piscium.....	1	0. 51. 1·220	1	0·73	1·220	3·231	1		61. 41. 20·94		1	0·73	20·94	19·55
44	Bradley 107.....	1	0. 53. 17·830	1	0·96	17·830	3·107	1		84. 11. 47·83		1	0·96	47·83	19·48
45	Bradley 95.....		0. 55. (21.)					1	1	3. 31. 37·51	37·24	2	0·81	37·38	19·49
46	Groombridge 215 S.P.	1	0. 55. 48·690	1	0·31	48·690	4·174	1		16. 18. 17·71		1	0·31	17·71	19·46
	Groombridge 219...	1	0. 55. 51·760					1		29. 36. 9·43					
47	Groombridge 219 S.P.	1	0. 55. 51·610	2	0·66	51·685	3·640	1		9·97		2	0·72	9·64	19·46
48	σ^1 Piscium	2	0. 55. 55·295	2	0·75	55·295	3·264	3	2	58. 52. 21·34	21·78	5	0·84	21·52	19·46
49	ε Piscium	11	0. 56. 24·276	11	0·57	24·276	3·112	3		82. 47. 19·00		3	0·52	19·00	19·45
50	Groombridge 234 ..	1	0. 58. 26·990	1	0·87	26·990	3·709	1		27. 54. 48·56		1	0·87	48·56	19·41
51	Bradley 109	1	0. 58. 31·600	2	0·60	31·650	4·857	1		10. 39. 41·98		2	0·60	41·59	19·33
	Bradley 109 S.P....	1	0. 58. 31·700					1		41·20					
52	σ^2 Piscium		0. 59. (15.)					1	1	58. 29. 36·12	34·96	2	0·93	35·54	19·40
53	μ Cassiopeiæ	3	0. 59. 54·100	4	0·49	54·950	3·938	3		35. 41. 54·50		4	0·51	54·61	17·82
	μ Cassiopeiæ S.P...	1	0. 59. 54·080					1		55·09					
54	Bradley 117	1	1. 1. 27·760	2	0·64	28·010	4·930	1		10. 59. 51·88		2	0·64	52·41	19·31
	Bradley 117 S.P....	1	1. 1. 28·260					1		52·94					
55	e Piscium.....	2	1. 1. 52·790	2	0·73	52·790	3·083	2		85. 1. 1·85		2	0·73	1·85	19·14
56	β Andromedæ	9	1. 2. 40·903	9	0·49	40·903	3·340	4		55. 2. 52·87		4	0·43	52·87	19·22
57	ψ^3 Piscium.....	1	1. 3. 5·070	1	0·95	5·070	3·206	1		71. 0. 51·83		1	0·95	51·83	19·30
58	ζ^1 Piscium	2	1. 7. 8·930	2	0·89	8·930	3·127	2		83. 5. 29·39		2	0·89	29·39	19·13
59	Polaris	57	1. 12. 38·595	118	0·52	38·560	20·716	71	7	1. 21. 45·09	45·05	152	0·56	45·09	19·05
	Polaris S.P.....	61	1. 12. 38·527					65	9	45·00	45·73				
60	ξ Andromedæ	1	1. 14. 55·790	1	0·86	55·790	3·501	1		45. 7. 55·83		1	0·86	55·83	18·98
61	θ Ceti	4	1. 17. 43·498	4	0·63	43·498	2·996			98. 50.					
62	Bradley 187.....	1	1. 19. 34·360	1	0·95	34·360	3·241	1		70. 35. 3·01		1	0·95	3·01	18·85
63	96 Piscium.....	4	1. 22. 28·518	4	0·74	28·518	3·128	4		83. 21. 25·05		4	0·74	25·05	18·73
64	μ Piscium.....	1	1. 23. 34·970	1	0·06	34·970	3·137	1		84. 30. 22·96		1	0·06	22·96	18·56
65	Groombridge 329...	1	1. 24. 10·110	1	0·87	10·110	4·012	1		27. 3. 22·45		1	0·87	22·45	18·72
66	η Piscium	11	1. 24. 44·605	11	0·52	44·605	3·199	4		75. 18. 16·91		4	0·38	16·91	18·70
67	Piazzi I. 104		1. 27. (0.)					1	1	53. 24. 34·13	34·20	2	0·90	34·17	18·68
68	40 Cassiopeiæ	2	1. 28. 29·140	2	0·02	29·140	4·650	3	1	17. 36. 12·11	11·39	4	0·45	11·93	18·60
69	50 Andromedæ	4	1. 29. 24·478	4	0·82	24·478	3·494	4		49. 13. 32·13		4	0·82	32·13	18·16
70	ω Cassiopeiæ	2	1. 33. 2·145	4	0·61	2·168	4·338	2		22. 35. 43·39		4	0·67	43·43	18·42
	ω Cassiopeiæ S.P...	2	1. 33. 2·190					2		43·49					
71	42 Cassiopeiæ	1	1. 33. 11·560	2	0·22	11·335	4·546	1		20. 0. 54·98		2	0·18	54·71	18·39
	42 Cassiopeiæ S.P..	1	1. 33. 11·110					1		54·30					
72	B. A. C. 516.....		1. 34. (46.)					1	1	55. 23. 28·96	28·82	2	0·92	28·89	18·36
73	ν Piscium	13	1. 34. 52·492	13	0·67	52·492	3·114	1		85. 9. 3·25		1	0·50	3·25	18·32
74	τ Ceti	4	1. 38. 12·910	4	0·81	12·910	2·784	4		106. 36. 5·20		4	0·81	5·20	19·09
75	Piazzi I. 159	2	1. 38. 39·260	3	0·61	39·277	4·184	2		26. 46. 13·86		3	0·63	13·85	18·09
	Piazzi I. 159 S.P...	1	1. 38. 39·310					1		13·84					
76	ο Piscium	9	1. 38. 44·438	9	0·79	44·438	3·162	4		81. 28. 37·70		4	0·78	37·70	18·23
77	Piazzi I. 170	2	1. 41. 13·020	2	0·90	13·020	3·518	3	1	52. 40. 31·47	31·52	4	0·88	31·48	18·14
78	Bradley 230.....	1	1. 42. 14·490	2	0·64	14·560	5·733	1		12. 25. 36·57		2	0·64	35·01	18·09
	Bradley 230 S.P. ..	1	1. 42. 14·630					1		33·44					
79	ε Cassiopeiæ	1	1. 45. 20·980	4	0·36	21·055	+ 4·245	2	1	26. 57. 6·49	6·58	6	0·56	6·38	17·95
	ε Cassiopeiæ S.P. ..	3	1. 45. 21·080					3		6·17					
80	α Trianguli		1. 45. (54.)					1	1	61. 2. 9·92	11·12	2	0·75	10·52	− 17·72

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			h m s			s	s			° ′ ″	″			″	″
81	46 Cassiopeiæ S.P. .	2	1. 46. 14·615	2	0·39	14·615	+ 4·557	2		21. 56. 5·12		2	0·39	5·12	− 17·91
82	β Arietis.....	14	1. 47. 40·927	14	0·61	40·927	3·297	1		69. 48. 30·68		1	0·69	30·68	17·77
83	ι Arietis	1	1. 50. 28·190	1	0·10	28·190	3·266	1		72. 47. 56·61		1	0·10	56·61	17·73
84	56 Ceti.....	1	1. 50. 46·200	1	0·95	46·200	2·811	1		113. 8. 33·91		1	0·95	33·91	17·71
85	48 Cassiopeiæ	1	1. 51. 38·460	3	0·26	38·523	4·817	1		19. 42. 19·13		3	0·22	19·50	17·72
	48 Cassiopeiæ S.P. .	2	1. 51. 38·555					2		19·78					
86	Piazzi I. 223	4	1. 52. 41·233	4	0·61	41·233	3·202	4		78. 19. 2·20		4	0·61	2·20	17·61
87	50 Cassiopeiæ	1	1. 52. 43·060	1	0·00	43·060	4·985	1		18. 11. 24·67		1	0·00	24·67	17·70
88	γ Andromedæ.....	3	1. 56. 10·300	3	0·46	10·300	3·652	3		48. 16. 33·61		3	0·46	33·61	17·48
89	Piazzi I. 243	2	1. 56. 48·255	2	0·88	48·255	3·287	1		72. 21. 12·77		1	0·82	12·77	17·55
90	54 Cassiopeiæ S.P. .	1	1. 58. 18·010	1	0·33	18·010	5·049	1		19. 2. 27·97		1	0·33	27·97	17·20
91	α Arietis	13	2. 0. 4·348	13	0·72	4·348	3·366	5	1	67. 8. 3·96	4·43	6	0·66	4·04	17·21
92	Bradley 282	1	2. 1. 47·760	1	0·92	47·760	5·348	1		16. 33. 59·73		1	0·92	59·73	17·31
93	β Trianguli		2. 2. (3.)					2	2	55. 36. 35·95	35·69	4	0·48	35·82	17·23
94	55 Cassiopeiæ S.P. .	1	2. 4. 37·200	1	0·30	37·200	4·617	1		24. 4. 3·58		1	0·30	3·58	17·17
95	6 Trianguli	1	2. 5. 3·950	1	0·93	3·950	3·466	1		60. 17. 19·60		1	0·93	19·60	17·10
96	19 Arietis	2	2. 6. 11·040	2	0·51	11·040	3·263	2		75. 18. 42·05		2	0·52	42·05	17·07
97	ξ^1 Ceti	4	2. 6. 19·395	4	0·44	19·395	3·170	2		81. 44. 42·04		2	0·45	42·04	17·05
98	δ Trianguli.....		2. 9. (22.)					1	1	56. 21. 13·33	13·95	2	0·99	13·64	16·70
99	67 Ceti.....		2. 10. (41.)					1		97. 0. 15·05		1	0·00	15·05	16·74
100	θ Arietis	3	2. 11. 7·180	3	0·91	7·180	3·324	3		70. 40. 58·01		3	0·91	58·01	16·85
101	Piazzi II. 61	2	2. 15. 0·255	2	0·93	0·255	3·716	4	2	49. 10. 35·35	35·78	6	0·34	35·49	16·59
102	B. F. 298.....	2	2. 16. 28·985	2	0·47	28·985	3·207	2		79. 44. 18·77		2	0·47	18·77	16·61
103	Bradley 332.....	1	2. 18. 42·760	2	0·16	42·750	4·840	1		23. 9. 57·43		2	0·13	56·39	16·48
	Bradley 332 S.P....	1	2. 18. 42·740					1		54·83					
104	Piazzi II. 60 S.P. ..	1	2. 19. 31·750	1	0·42	31·750	7·942	1		8. 54. 57·78		1	0·42	57·78	16·52
105	Bradley 341.....	3	2. 20. 0·223	3	0·32	0·223	3·209	3		80. 0. 10·55		3	0·32	10·55	16·30
106	ξ^2 Ceti	4	2. 21. 27·683	4	0·73	27·683	3·181	1		82. 6. 22·53		1	0·10	22·53	16·33
107	27 Arietis.....	2	2. 23. 55·160	2	0·41	55·160	3·314	2		72. 51. 16·38		2	0·41	16·38	16·14
108	14 Trianguli	2	2. 24. 25·550	2	0·53	25·550	3·638	4	1	54. 24. 47·05	47·72	5	0·41	47·18	16·19
109	Bradley 348.....	2	2. 26. 6·025	3	0·42	5·997	5·551	2		17. 44. 5·78		3	0·43	5·35	16·11
	Bradley 348 S.P. ..	1	2. 26. 5·940					1		4·07					
110	15 Trianguli	1	2. 28. 8·290	1	0·10	8·290	3·624	1		55. 51. 49·60		1	0·10	49·60	15·97
111	Piazzi II. 115	2	2. 28. 9·495	2	0·47	9·495	4·096	2		38. 35. 25·96		2	0·47	25·96	16·10
112	ν Ceti	3	2. 29. 15·773	3	0·07	15·773	3·136			84. 57.					
113	31 Arietis.....	1	2. 29. 45·720	1	0·93	45·720	3·259	1		78. 6. 0·55		1	0·93	0·55	15·83
114	δ Ceti	3	2. 33. 1·503	3	0·34	1·503	3·072	1		90. 12. 58·42		1	0·10	58·42	15·72
115	Bradley 366 S.P....	2	2. 34. 0·695	2	0·37	0·695	5·060	2		22. 42. 44·85		2	0·37	44·85	15·64
116	μ Arietis	3	2. 35. 15·860	3	0·63	15·860	3·367	3		70. 31. 36·04		3	0·63	36·04	15·58
117	θ Persei	1	2. 35. 36·130	2	0·17	36·180	4·060	1		41. 18. 22·52		1	0·01	22·52	15·47
	θ Persei S.P.	1	2. 35. 36·230					1		22·27					
118	35 Arietis		2. 36. (3.)					1		62. 49. 50·12		1	0·83	50·12	15·56
119	γ^2 Ceti	1	2. 36. 46·370	1	0·01	46·370	3·101	1		87. 17. 46·36		1	0·01	46·36	15·35
120	ο Arietis	2	2. 37. 36·480	2	0·07	36·480	3·299	2		75. 13. 22·08		2	0·07	22·08	15·43
121	W. B. (2) II. 927 ..	3	2. 39. 35·797	3	0·07	35·797	5·724	3		52. 44. 18·66		3	0·07	18·66	15·39
122	η Persei	1	2. 41. 31·150	2	0·18	31·110	4·329	1		34. 37. 44·49		2	0·15	44·59	15·28
	η Persei S.P.	1	2. 41. 31·070					1		44·74					
123	π Arietis.....	3	2. 42. 15·810	3	0·79	15·810	3·335	3		73. 3. 39·71		3	0·79	39·71	15·26
124	41 Arietis	1	2. 42. 34·250	1	0·95	34·250	3·514	3	1	63. 15. 38·18	36·36	4	0·71	37·73	15·09
125	16 Persei	2	2. 42. 38·115	2	0·06	38·115	+ 3·765	2		52. 12. 5·97		2	0·06	5·97	− 15·14

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			h m s			s	s			° ′ ″	″			″	″
126	17 Persei	1	2. 43. 45·360	1	0·00	45·360	+ 3·681	1		55. 27. 35·58		1	0·00	35·58	− 15·04
127	σ Arietis	2	2. 44. 32·200	2	0·86	32·200	3·298			75. 26.					
128	20 Persei	2	2. 45. 45·810	2	0·06	45·810	3·765	2		52. 10. 38·43		2	0·63	38·43	14·96
129	ρ^2 Arietis	3	2. 48. 43·767	3	0·79	43·767	3·363	3		72. 10. 49·05		3	0·79	49·05	14·88
130	Cephei 47 (Hev.) S.P.	1	2. 49. 25·990	1	0·32	25·990	7·649	1		11. 4. 57·61		1	0·32	57·61	14·82
131	21 Persei	1	2. 49. 38·680	1	0·93	38·680	3·628	1		58. 34. 28·86		1	0·93	28·86	14·82
132	* Magnitude = 6 ..	2	2. 50. 3·495	2	0·05	3·495	3·780	2		51. 53. 35·80		2	0·06	35·80	14·78
133	η Eridani	2	2. 50. 16·360	2	0·01	16·360	2·927	2		99. 24. 2·46		2	0·01	2·46	14·55
134	ε Arietis	2	2. 52. 0·565	2	0·93	0·565	3·418	2	1	69. 9. 54·02	53·28	3	0·94	53·77	14·65
135	Lalande 5538	1	2. 53. 51·870	1	0·06	51·870	5·801	2		51. 37. 20·09		2	0·06	20·09	14·56
136	γ Persei S.P.	1	2. 55. 40·700	1	0·44	40·700	4·304	1		36. 59. 19·30		1	0·44	19·30	14·44
137	α Ceti	8	2. 55. 41·620	8	0·50	41·620	3·129	2		86. 24. 21·71		2	0·22	21·71	14·33
138	ρ Persei	1	2. 57. 6·520	1	0·05	6·520	3·820	2		51. 38. 58·64		2	0·05	58·64	14·25
139	* Magnitude = 8 ..	2	2. 59. 27·900	2	0·05	27·900	3·824	2		51. 24. 3·12		2	0·06	3·12	14·22
140	β Persei	2	2. 59. 58·525	2	0·02	58·525	3·876	2		49. 31. 53·59		2	0·02	53·59	14·20
141	Groombridge 612 ..		3. 1. (40.)					2	2	16. 36. 31·31	30·94	4	0·51	31·13	14·09
142	ω Persei	3	3. 3. 9·690	3	0·32	9·690	3·854	4		50. 52. 7·58		4	0·26	7·58	14·00
143	Bradley 431	1	3. 4. 24·490	1	0·03	24·490	7·311	1		12. 43. 56·32		1	0·03	56·32	13·83
144	δ Arietis	5	3. 4. 25·584	5	0·55	25·584	3·419	2		70. 45. 4·55		2	0·52	4·55	13·90
145	Bradley 448							1	1	24. 48. 40·84	40·17	3	0·81	40·18	13·58
	Bradley 448 S.P. ..	1	3. 8. 55·400	1	0·44	55·400	5·180	1		39·21					
146	W.B. (2) III. 157 (1st Star)	5	3. 8. 57·712	5	0·06	57·712	5·906	4		49. 58. 58·76		4	0·07	58·76	13·62
147	W.B. (2) III. 157 (2nd Star)	1	3. 8. 57·830	1	0·08	57·830	5·906	1		49. 58. 54·62		1	0·08	54·62	13·62
148	Piazzi III. 38	1	3. 13. 36·980	1	0·03	36·980	3·445	1		69. 56. 50·05		1	0·03	50·05	13·42
149	Piazzi III. 27		3. 13. (45.)					2	2	25. 51. 60·31	59·40	4	0·02	59·86	13·22
150	τ^1 Arietis	2	3. 13. 57·215	2	0·46	57·215	3·450	1		69. 18. 31·37		1	0·07	31·37	13·27
151	α Persei	1	3. 15. 20·050	5	0·40	20·138	4·249	1		40. 35. 21·99		5	0·40	20·91	13·15
	α Persei S.P.	4	3. 15. 20·160					4		20·37					
152	τ^2 Arietis	2	3. 15. 30·265	2	0·89	30·265	3·444	2		69. 42. 35·82		2	0·89	35·82	13·17
153	ο Tauri	2	3. 18. 2·090	2	0·78	2·090	3·226	1		81. 24. 58·08		1	0·93	58·08	12·93
154	Piazzi III. 54 S.P. .	1	3. 19. 51·970	1	0·50	51·970	4·739	1		31. 33. 38·06		1	0·50	38·06	12·97
155	66 Arietis		3. 21. (4.)					1	1	67. 37. 54·64	55·59	2	0·97	55·12	12·68
156	Bradley 471		3. 21. (26.)					2	2	17. 5. 0·88	0·95	4	0·94	0·92	12·73
157	f Tauri	4	3. 23. 55·095	4	0·85	55·095	3·305			77. 29.					
158	Groombridge 642 ..							1	1	3. 45. 20·89	20·20	3	0·15	19·99	12·53
	Groomb. 642 S.P...	1	3. 25. 25·960	1	0·44	25·960	18·980	1		18·89					
159	7 Tauri	3	3. 26. 58·970	3	0·63	58·970	3·541	3		65. 57. 36·29		3	0·63	36·29	12·35
160	ε Eridani	5	3. 26. 59·650	5	0·50	59·650	2·823	2		99. 53. 8·49		2	0·46	8·49	12·38
161	11 Tauri	1	3. 33. 14·910	1	0·92	14·910	3·568	2	2	65. 4. 47·89	47·04	4	0·52	47·47	11·96
162	δ Persei S.P.	1	3. 33. 57·700	1	0·33	57·700	4·241	1		42. 37. 0·47		1	0·33	0·47	11·89
163	Piazzi III. 102 S.P.	1	3. 34. 7·070	1	0·42	7·070	5·614	1		23. 11. 47·15		1	0·42	47·15	11·93
164	13 Tauri	2	3. 35. 3·040	2	0·48	3·040	3·450	2		70. 42. 17·27		2	0·48	17·27	11·85
165	ο Persei		3. 36. (25.)					1	1	58. 6. 47·32	48·09	2	0·94	47·71	11·79
166	γ Camelopardali ...								1	19. 3.	32·20	3	0·24	32·22	11·69
	γ Camelopardali S.P.	2	3. 37. 5·325	2	0·41	5·325	6·178	2		32·23					
167	δ Eridani	4	3. 37. 12·815	4	0·27	12·815	2·869	2		100. 11. 27·41		2	0·09	27·41	12·44
168	17 Tauri	2	3. 37. 23·715	2	0·48	23·715	3·550	3	1	66. 17. 4·30	4·12	4	0·25	4·26	11·65
169	23 Tauri	1	3. 38. 51·020	1	0·92	51·020	3·552			66. 26.					
170	η Tauri	3	3. 39. 59·777	3	0·83	59·777	+ 3·552	2		66. 17. 9·87		2	0·51	9·87	− 11·44

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			h m s			s	s			° ′ ″	″			″	″
171	27 Tauri	3	3. 41. 40·370	3	0·55	40·370	+ 3·554	3		66. 20. 1·15		3	0·55	1·15	− 11·32
172	28 Tauri	2	3. 41. 41·595	2	0·48	41·595	3·555	2		66. 15. 0·25		2	0·48	0·25	11·32
173	Bradley 531	1	3. 42. 55·030	1	0·93	55·030	3·037	1		91. 50. 19·14		1	0·93	19· 4	11·32
174	ζ Persei	1	3. 46. 12·910	1	0·92	12·910	3·758	1		58. 29. 32·76		1	0·92	32·76	11·01
175	Piazzi III. 177							1	1	27. 17. 60·36	60·98				
	Piazzi III. 177 S.P.	2	3. 46. 19·175	2	0·41	19·175	5·218	2		59·59		4	0·21	60·12	11·10
176	Piazzi III. 160 S.P.	1	3. 49. 4·430	1	0·38	4·430	9·689	1		9. 39. 12·14		1	0·38	12·14	10·89
177	ε Persei		3. 49. (24.)					1	1	50. 21. 23·68	23·49	2	0·89	23·59	10·78
178	33 Tauri	2	3. 49. 35·730	2	0·78	35·730	3·550	2		67. 11. 30·42		2	0·78	30·42	10·80
179	ξ Persei		3. 50. (47.)					1	1	54. 34. 25·51	24·21	2	0·01	24·86	10·67
180	γ^1 Eridani	2	3. 52. 9·030	2	0·89	9·030	2·794			103. 52.					
181	36 Tauri	1	3. 56. 49·720	1	0·06	49·720	3·580	1		66. 14. 32·19		1	0·06	32·19	10·27
182	A^1 Tauri	6	3. 57. 14·852	6	0·45	14·852	3·534	5	2	68. 15. 51·57	52·53	7	0·15	51·84	10·15
183	Groomb. 750 S.P.	1	3. 57. 42·030	1	0·50	42·030	16·893	1		4. 46. 49·48		1	0·50	49·48	10·25
184	Groomb. 766 S.P.	1	3. 59. 12·970	1	0·38	12·970	13·289	1		6. 30. 23·91		1	0·38	23·91	10·13
185	50 Persei		4. 0. (13.)						1	52. 17.	31·74	1	0·05	31·74	9·81
186	ω^1 Tauri	1	4. 1. 49·620	1	0·13	49·620	3·486			70. 43.					
187	Groombridge 774		4. 2. (31.)					1	1	6. 58. 13·82	14·02	2	0·03	13·92	9·84
188	p Tauri	1	4. 3. 9·550	1	0·67	9·550	3·648	2	1	63. 50. 59·14	62·01	3	0·30	60·10	9·78
189	o^1 Eridani	3	4. 5. 42·943	3	0·09	42·943	2·923	2		97. 10. 3·27		2	0·07	3·27	9·66
190	Piazzi III. 260	1	4. 5. 47·830	1	0·05	47·830	5·220	1		28. 28. 11·22		1	0·05	11·22	9·58
191	f Persei		4. 6. (19.)					1	1	49. 50. 14·94	14·06	2	0·09	14·50	9·48
192	48 Tauri		4. 8. (37.)					1	1	74. 54. 60·51	58·98	2	0·03	59·75	9·35
193	Piazzi IV. 10 S.P.	1	4. 8. 50·320	1	0·50	50·320	5·574	1		25. 10. 12·94		1	0·50	12·94	9·33
194	o^2 Eridani	2	4. 9. 28·335	2	0·40	28·335	2·762	1		97. 51. 1·47		1	0·13	1·47	5·84
195	Piazzi IV. 22							2	2	29. 33. 62·16	61·56				
	Piazzi IV. 22 S.P.	1	4. 10. 50·920	1	0·44	50·920	5·195	1		57·99		5	0·46	61·31	9·13
196	53 Tauri	2	4. 12. 0·600	2	0·50	0·600	3·529	2		69. 9. 52·35		2	0·50	52·35	9·08
197	γ Tauri	3	4. 12. 37·433	3	0·94	37·433	3·408			74. 40.					
198	χ^1 Tauri	1	4. 14. 55·050	1	0·13	55·050	3·642	1		64. 40. 12·85		1	0·13	12·85	8·83
199	χ^2 Tauri	1	4. 14. 55·700	1	0·13	55·700	3·640	1		64. 39. 55·24		1	0·13	55·24	8·87
200	62 Tauri (1st Star)	1	4. 16. 22·140	1	0·03	22·140	3·611	1		65. 59. 30·57		1	0·03	30·57	8·76
201	62 Tauri (2d Star)	1	4. 16. 24·120	1	0·03	24·120	3·611	1		65. 59. 41·09		1	0·03	41·09	8·76
202	Groombridge 829		4. 17. (51.)					1	1	24. 8. 31·97	31·33	2	0·09	31·65	8·65
203	κ^1 Tauri	2	4. 17. 51·700	2	0·07	51·700	3·562	2		67. 59. 47·89		2	0·07	47·89	8·58
204	υ^2 Tauri	2	4. 19. 45·425	2	0·56	45·425	3·579	2		67. 17. 24·34		2	0·56	24·34	8·47
205	Piazzi IV. 82	1	4. 20. 32·140	1	0·06	32·140	3·559	1		68. 39. 47·23		1	0·06	47·23	8·48
206	ε Tauri	4	4. 21. 15·610	4	0·50	15·610	3·493	1		71. 6. 4·53		1	0·97	4·53	8·34
207	Aldebaran	13	4. 28. 41·508	13	0·35	41·523	3·436	16	1	73. 44. 45·69	46·34	17	0·51	45·73	7·61
208	Piazzi IV. 112							1	1	14. 17. 36·26	36·00				
	Piazzi IV. 112 S.P.	2	4. 31. 54·905	2	0·46	54·905	7·981	2		33·97		4	0·25	35·05	7·43
209	τ Tauri	2	4. 34. 41·045	2	0·56	41·045	3·593	1	1	67. 17. 13·13	12·61	2	0·06	12·82	7·28
210	Groomb. 870 S.P.	1	4. 38. 10·730	1	0·50	10·730	6·165	1		22. 3. 27·48		1	0·50	27·48	7·01
211	μ Eridani	1	4. 39. 12·150	1	0·14	12·150	2·998	1		93. 29. 14·22		1	0·14	14·22	6·92
212	α Camelopardali S.P.	2	4. 41. 32·270	2	0·45	32·270	5·923	2		23. 52. 28·84		2	0·45	28·84	6·76
213	i Tauri	1	4. 44. 0·200	1	0·09	0·200	3·501	1		71. 22. 36·72		1	0·09	36·72	6·47
214	2 Aurigæ		4. 44. (12.)					1	1	53. 30. 44·28	44·05	2	0·06	44·17	6·53
215	Piazzi IV. 191	2	4. 46. 22·605	2	0·12	22·605	7·491	2		15. 55. 49·17		2	0·13	49·17	6·32
216	Piazzi IV. 204 S.P.	1	4. 48. 32·500	1	0·44	32·500	7·388	1		16. 25. 37·63		1	0·44	37·63	6·16
217	B. F. 625	1	4. 48. 35·170	1	0·13	35·170	+ 3·649	1		65. 36. 40·75		1	0·13	40·75	− 6·16

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			h m s			s	s			° ′ ″	″			″	″
218	ι Aurigæ	1	4. 48. 47·330	1	0·05	47·330	+ 3·895	2	2	57. 2. 8·91	8·19	4	0·12	8·55	− 6·11
219	Bradley 686	1	4. 50. 5·640	1	0·95	5·640	3·461	1		73. 2. 46·28		1	0·95	46·28	6·02
220	*k* Tauri	1	4. 50. 26·730	1	0·07	26·730	3·664	1		65. 8. 47·92		1	0·07	47·92	5·94
221	β Camelopardali ...	1	4. 52. 13·060	4	0·37	13·032	5·314	1		29. 44. 42·51		4	0·35	41·88	5·85
	β Camelopardali S.P.	3	4. 52. 13·023					3		41·57					
222	*m* Tauri	1	5. 0. 0·130	1	0·95	0·130	3·548	1		71. 31. 34·78		1	0·95	34·78	5·23
223	*l* Tauri	1	5. 0. 21·110	1	0·13	21·110	3·547	1		69. 44. 59·86		1	0·13	59·86	5·12
224	103 Tauri		5. 0. (26.)					1		65. 54. 12·95		1	0·13	12·95	5·20
225	β Eridani	1	5. 1. 39·260	1	0·95	39·260	2·947	1		95. 15. 4·66		1	0·95	4·66	4·98
226	14 Camelopardali S.P.	3	5. 1. 48·133	3	0·54	48·133	5·558	3		27. 28. 2·59		3	0·54	2·59	5·05
227	Piazzi IV. 269.....		5. 1. (50.)					1	1	10. 55. 11·78	12·44	2	0·99	12·11	5·10
228	Capella	1	5. 7. 22·850	3	0·40	22·887	4·422	1		44. 7. 58·13		1	0·14	58·13	4·13
	Capella S.P.....	2	5. 7. 22·905					2		58·98					
229	Rigel	7	5. 8. 28·926	7	0·37	28·926	2·880	4		98. 20. 56·31		4	0·37	56·31	4·45
230	Piazzi IV. 311 S.P..	2	5. 9. 4·215	2	0·51	4·215	9·322	2		11. 49. 18·16		2	0·51	18·16	4·48
231	*n* Tauri	1	5. 11. 42·390	1	0·11	42·390	3·601	1		68. 2. 11·15		1	0·11	11·15	4·23
232	Bradley 743.....	1	5. 11. 53·060	1	0·13	53·060	2·754	1		103. 39. 22·42		1	0·13	22·42	4·20
233	Piazzi V. 41	1	5. 13. 4·790	1	0·82	4·790	3·764	1		62. 10. 22·31		1	0·82	22·31	4·01
234	17 Camelopardali ..	3	5. 18. 16·530	3	0·08	16·530	5·646	3		27. 2. 30·71		3	0·08	30·71	3·64
235	β Tauri	4	5. 18. 19·620	4	0·42	19·620	3·789	7	1	61. 30. 4·17	5·26	8	0·44	4·31	3·42
236	Groomb. 944 S.P...	3	5. 21. 50·300	3	0·47	50·300	18·533	2		4. 52. 27·39		2	0·48	27·39	3·33
237	Groombridge 966 ..	1	5. 22. 53·420	2	0·26	53·400	8·021	2	1	15. 2. 40·94	40·32	4	0·63	40·62	3·25
	Groomb. 966 S.P...	1	5. 22. 53·380					1		40·11					
238	19 Camelopardali S.P.	2	5. 25. 3·495	2	0·47	3·495	5·782	2		25. 55. 50·08		2	0·47	50·08	3·00
239	δ Orionis.....	4	5. 25. 34·178	4	0·12	34·178	3·064	1		90. 23. 38·38		1	0·82	38·38	2·96
240	Piazzi V. 136	1	5. 28. 1·140	1	0·13	1·140	3·763	1		62. 25. 19·51		1	0·13	19·51	2·73
241	ε Orionis	6	5. 29. 49·163	6	0·28	49·163	3·041	1		91. 17. 3·93		1	0·45	3·93	2·62
242	23 Camelopardali ..							1	1	28. 35. 23·25	22·04	5	0·71	22·21	2·42
	23 Camelopardali S.P.	3	5. 32. 33·540	3	0·45	33·540	5·500	3		21·78					
243	25 Camelopardali ..	1	5. 33. 33·640	1	0·14	33·640	4·960	1		35. 11. 57·92		1	0·14	57·92	2·32
244	ζ Orionis	1	5. 34. 24·040	1	0·23	24·040	3·027	1		92. 0. 38·26		1	0·23	38·26	2·21
245	Piazzi V. 184		5. 34. (26.)					1	1	67. 24. 18·38	19·81	2	0·11	19·10	2·23
246	B. A. C. 1813	3	5. 39. 22·447	3	0·10	22·447	6·441	3		21. 34. 9·48		3	0·10	9·48	1·82
247	131 Tauri.....	1	5. 40. 2·600	1	0·13	2·600	3·419	1		75. 33. 36·44		1	0·13	36·44	1·65
248	κ Orionis	6	5. 41. 46·815	6	0·36	46·815	2·844	1		99. 42. 57·30		1	0·18	57·30	1·57
249	31 Camelopardali ..	1	5. 43. 40·770	1	0·09	40·770	5·365	1		30. 8. 37·47		1	0·09	37·47	1·42
250	137 Tauri	3	5. 45. 12·837	3	0·69	12·837	3·407	3		75. 51. 44·47		3	0·69	44·47	1·29
251	136 Tauri	2	5. 45. 24·435	2	0·19	24·435	3·768	3	1	62. 25. 11·32	10·62	4	0·15	11·15	1·21
252	α Orionis	9	5. 48. 21·029	9	0·38	21·029	3·246	4		82. 37. 5·04		4	0·35	5·04	1·02
253	δ Aurigæ	2	5. 49. 9·095	3	0·21	9·100	4·932	2		35. 43. 41·65		3	0·18	41·49	0·82
	δ Aurigæ S.P.	1	5. 49. 9·110					1		40·98					
254	139 Tauri	1	5. 50. 10·540	1	0·15	10·540	3·721	1		64. 3. 50·53		1	0·15	50·53	0·86
255	χ^3 Orionis	1	5. 55. 59·770	1	0·95	59·770	3·560	1		70. 18. 34·56		1	0·95	34·56	0·32
256	1 Geminorum	1	5. 56. 27·620	1	0·18	27·620	3·645	3	2	66. 43. 56·39	56·32	5	0·06	56·36	0·21
257	2 Geminorum		5. 59. (7.)					1	1	66. 21. 7·73	8·05	2	0·14	7·89	0·07
258	39 Camelopardali ..	1	5. 59. 49·650	1	0·94	49·650	5·432	1		29. 31. 44·12		1	0·94	44·12	− 0·00
259	36 Camelopardali...	1	6. 0. 10·350	2	0·35	10·360	6·027	1		24. 15. 38·21		2	0·30	38·14	+ 0·09
	36 Camelopardali S.P.	1	6. 0. 10·370					1		38·02					
260	ν Orionis	2	6. 0. 22·550	2	0·49	22·550	+ 3·426	1		75. 13. 6·77		1	0·95	6·77	+ 0·06

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			h m s			s	s			° ′ ″	″			″	″
261	3 Geminorum	1	6. 2. 4·930	1	0·16	4·930	+ 3·649	1		66. 52. 4·66		1	0·16	4·66	+ 0·24
262	40 Camelopardali ..	2	6. 4. 21·475	3	0·30	21·347	5·395	2		29. 58. 9·57		3	0·26	9·76	0·42
	40 Camelopardali S.P.	1	6. 4. 21·090					1		10·33					
263	6 Geminorum.....		6. 4. (40.)					1	1	67. 3. 56·34	55·93	2	0·01	56·14	0·43
264	Piazzi V. 335 S.P...	1	6. 4. 57·490	1	0·47	57·490	6·624	1		20. 38. 25·46		1	0·47	25·46	0·53
265	1 Lyncis.....	1	6. 6. 17·680	1	0·16	17·680	5·538	1		28. 26. 50·46		1	0·16	50·46	0·58
266	η Geminorum	4	6. 7. 16·260	4	0·35	16·260	3·620			67. 27. ...					
267	Piazzi VI. 54.....		6. 14. (13.)					1		27. 14. 54·72		1	0·01	54·72	1·24
268	μ Geminorum	2	6. 15. 20·245	2	0·23	20·245	3·632	1		67. 25. 26·48		1	0·42	26·48	1·48
269	β Canis Majoris....	1	6. 17. 9·050	1	0·08	9·050	2·643	1		107. 53. 40·89		1	0·08	40·89	1·51
270	ν Geminorum.....	2	6. 21. 28·925	2	0·13	28·925	3·562			69. 42.					
271	Piazzi VI. 126.....	2	6. 24. 13·800	2	0·56	13·800	3·926	2		57. 27. 26·09		2	0·56	26·09	2·09
272	Piazzi VI. 75.....		6. 24. (42.)					1		10. 18. 22·22		1	0·01	22·22	2·75
273	8 Lyncis S.P.....	3	6. 26. 10·174	3	0·56	10·174	5·492	3		28. 24. 41·08		3	0·56	41·08	2·54
274	49 Aurigæ	1	6. 27. 15·900	1	0·23	15·900	3·782	1		61. 52. 53·94		1	0·23	53·94	2·40
275	γ Geminorum.....	6	6. 30. 25·903	6	0·14	25·903	3·466	2		73. 29. 43·12		2	0·24	43·12	2·70
276	54 Aurigæ	1	6. 31. 36·360	1	0·23	36·360	3·787	1		61. 37. 40·69		1	0·23	40·69	2·79
277	25 Geminorum	1	6. 33. 24·370	1	0·94	24·370	3·788	1		61. 41. 20·65		1	0·94	20·65	2·93
278	42 Camelopardali S.P.	1	6. 37. 48·070	1	0·44	48·070	6·394	1		22. 17. 31·16		1	0·44	31·16	3·30
279	ξ Geminorum.....	2	6. 38. 13·085	2	0·12	13·085	3·371			76. 58.					
280	Sirius	4	6. 39. 35·615	4	0·48	35·615	2·646	5		106. 32. 41·12		5	0·47	41·12	4·69
281	Cephei 51	5	6. 40. 44·534	14	0·52	44·603	30·288	21	13	2. 45. 52·21	52·28	60	0·36	52·34	3·65
	Cephei 51 S.P.	9	6. 40. 44·641					26		52·48					
282	Groombridge 1228..	1	6. 47. 1·230	1	0·23	1·230	6·868	2	1	19. 1. 35·92	37·55	3	0·18	36·46	4·08
283	θ Canis Majoris	1	6. 48. 20·200	1	0·23	20·200	2·787			101. 52.					
284	μ Canis Majoris	1	6. 50. 20·040	1	0·94	20·040	2·750			103. 52.					
285	Arg. Zone + 26°. No. 1410.	3	6. 51. 27·317	3	0·04	27·317	3·710	3		63. 55. 12·64		3	0·04	12·64	4·46
286	Groombridge 1245..	1	6. 51. 35·310	3	0·43	35·320	6·840	1		19. 5. 21·73		3	0·39	23·82	4·47
	Groomb. 1245 S.P..	2	6. 51. 35·325					2		25·40					
287	40 Geminorum	2	6. 51. 41·080	2	0·01	41·080	3·711	2		63. 55. 1·82		2	0·03	1·82	4·47
288	ε Canis Majoris	3	6. 53. 40·463	3	0·46	40·463	2·357	2		118. 48. 6·77		2	0·22	6·77	4·68
289	Piazzi VI. 293 S.P.	1	6. 54. 53·280	1	0·66	53·280	5·329	1		30. 0. 54·98		1	0·66	54·98	4·77
290	ζ Geminorum.....	5	6. 56. 38·074	5	0·31	38·074	3·563			69. 14.					
291	Piazzi VI. 316		6. 57. (52.)					1	1	55. 20. 12·65	13·36	2	0·14	13·01	5·17
292	γ Canis Majoris....	1	6. 58. 3·540	1	0·01	3·540	2·717	1		105. 26. 58·35		1	0·01	58·35	5·04
293	17 Lyncis.....	1	6. 58. 20·040	1	0·23	20·040	5·405	1		29. 0. 46·39		1	0·23	46·39	5·10
294	Piazzi VI. 285.....		7. 1. (21.)					1	1	8. 31. 15·16	14·76	2	0·15	14·96	5·30
295	δ Canis Majoris	1	7. 3. 16·060	1	0·04	16·060	2·439	1		116. 11. 38·09		1	0·04	38·09	5·45
296	47 Geminorum	1	7. 3. 34·120	1	0·08	34·120	3·726	1		62. 56. 18·91		1	0·08	18·91	5·52
297	Piazzi VI. 292.....							1	1	7. 21. 11·92	12·39	3	0·32	12·20	5·57
	Piazzi VI. 292 S.P.	1	7. 4. 25·990	1	0·50	25·990	13·039	1		12·28					
298	48 Geminorum	1	7. 4. 46·970	1	0·13	46·970	3·651	3	2	65. 39. 47·70	46·46	5	0·15	47·20	5·61
299	51 Geminorum	2	7. 6. 8·070	2	0·10	8·070	3·451			73. 37.					
300	44 Camelopardali...	2	7. 7. 42·800	2	0·04	42·800	5·203	2		30. 51. 38·98		2	0·04	38·98	5·91
301	53 Geminorum	1	7. 8. 4·930	1	0·14	4·930	3·754	1		61. 53. 8·39		1	0·14	8·39	5·88
302	47 Camelopardali ..	1	7. 11. 14·450	1	0·19	14·450	5·277	1		29. 52. 4·58		1	0·19	4·58	6·14
303	Piazzi VI. 334.....							1	1	8. 51. 16·84	16·13	4	0·34	15·82	6·14
	Piazzi VI. 334 S.P..	2	7. 11. 37·105	2	0·51	37·105	11·150	2		15·16					
304	δ Geminorum	3	7. 12. 35·800	3	0·08	35·800	3·591	5	6	67. 47. 15·98	16·38	11	0·17	16·20	6·27
305	Piazzi VII. 67.....	1	7. 17. 44·970	2	0·28	45·005	+ 6·300	2	1	21. 16. 49·86	50·00	4	0·18	49·89	+ 6·73
	Piazzi VII. 67 S.P..	1	7. 17. 45·040					1		49·83					

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			h m s			s	s			° ′ ″	″			″	″
306	β Canis Minoris ...	3	7. 20. 18·987	3	0·08	18·987	+ 3·257	2		81. 27. 29·99		2	0·15	29·99	+ 6·93
307	b^2 Geminorum	1	7. 21. 58·450	1	0·06	58·450	3·743	1		61. 49. 33·06		1	0·06	33·06	7·04
308	68 Geminorum	2	7. 26. 24·895	2	0·08	24·895	3·427	3	1	73. 54. 15·32	16·41	4	0·16	15·59	7·38
309	α^1 Geminorum	1	7. 26. 32·960	1	0·64	32·960	3·841	1		57. 50. 18·69		1	0·64	18·69	7·48
310	Castor.....	7	7. 26. 33·413	7	0·29	33·413	3·841	3		57. 50. 13·79		3	0·57	13·79	7·48
311	Groomb. 1119 S.P..	1	7. 27. 51·450	1	0·63	51·450	74·534	1		1. 0. 14·08		1	0·63	14·08	7·49
312	υ Geminorum.....	5	7. 28. 9·370	5	0·15	9·370	3·708	6	1	62. 49. 34·60	34·25	7	0·15	34·55	7·63
313	Bradley 1101.....	1	7. 31. 50·370	1	0·17	50·370	3·850	1		57. 42. 13·44		1	0·17	13·44	7·86
314	Procyon	10	7. 32. 42·255	10	0·28	42·255	3·144	4		84. 27. 13·25		4	0·48	13·25	8·98
315	49 Camelopardali...	4	7. 35. 2·113	4	0·10	2·113	5·483	4		26. 52. 8·27		4	0·10	8·27	8·13
316	Piazzi VII. 132 S.P.	3	7. 35. 20·810	3	0·58	20·810	10·215	3		9. 25. 27·95		3	0·58	27·95	8·05
317	c Geminorum.....	1	7. 36. 25·660	1	0·16	25·660	3·670	1		63. 55. 4·92		1	0·16	4·92	8·22
318	Pollux	7	7. 37. 36·170	7	0·31	36·170	3·680	4	1	61. 40. 17·18	17·81	5	0·35	17·31	8·35
319	Groombridge 1363 .		7. 38. (28.)					1	1	17. 54. 10·63	9·97	2	0·23	10·30	8·34
320	B. F. 1083.....	1	7. 42. 8·640	1	0·22	8·640	3·728	1		61. 29. 15·33		1	0·22	15·33	8·71
321	Piazzi VII. 187 S.P.	2	7. 44. 52·415	2	0·73	52·415	9·730	2		10. 10. 53·31		2	0·73	53·31	8·95
322	Groomb. 1374 S.P..	1	7. 45. 4·370	1	0·54	4·370	7·325	1		15. 44. 57·23		1	0·54	57·23	8·87
323	84 Geminorum	1	7. 45. 32·000	1	0·18	32·000	3·569	1		67. 20. 35·86		1	0·18	35·86	8·91
324	φ Geminorum	3	7. 45. 47·023	3	0·16	47·023	3·680	3		62. 54. 36·26		3	0·16	36·26	8·99
325	1 Cancri.....	2	7. 49. 50·175	2	0·20	50·175	3·414	3	1	73. 52. 29·36	31·02	4	0·19	30·78	9·28
326	ω^1 Cancri	3	7. 53. 18·263	3	0·40	18·263	3·638	3		64. 15. 51·43		3	0·40	51·43	9·50
327	5 Cancri	1	7. 54. 19·260	1	0·22	19·260	3·426	1		73. 11. 56·52		1	0·22	56·52	9·59
328	6 Cancri	4	7. 55. 46·548	4	0·08	46·548	3·693	2		61. 51. 15·56		2	0·14	15·56	9·78
329	Groombridge 1400..	2	7. 57. 14·550	2	0·43	14·550	6·289	1		19. 55. 7·18		2	0·37	6·57	9·82
	Groomb. 1400 S.P..							1		5·66					
330	Piazzi VII. 282 S.P.	2	7. 57. 44·055	2	0·70	44·055	5·704	2		23. 58. 36·05		2	0·70	36·05	9·93
331	15 Argûs	3	8. 2. 10·707	3	0·20	10·707	2·554			113. 56.					
332	ψ² Cancri	4	8. 2. 51·730	4	0·34	51·730	3·624	4		64. 6. 43·63		4	0·34	43·63	10·59
333	Bradley 1147	1	8. 3. 39·410	3	0·52	39·320	7·743	1		13. 51. 44·16		3	0·52	44·83	10·29
	Bradley 1147 S.P...	2	8. 3. 39·275					2		45·16					
334	15 Cancri.....		8. 5. (20.)					1	1	59. 58. 4·68	3·48	2	0·07	4·08	10·46
335	29 Lyncis S.P.....	1	8. 7. 21·360	1	0·70	21·360	5·033	1		30. 2. 43·19		1	0·70	43·19	10·58
336	57 Camelopardali...		8. 8. (18.)					1	1	27. 6. 23·73	23·93	2	0·06	23·83	10·64
337	β Cancri.....	8	8. 9. 40·861	8	0·18	40·861	3·258	1		80. 25. 41·28		1	0·31	41·28	10·79
338	Piazzi VIII. 30....	1	8. 12. 7·930	1	0·05	7·930	5·090	1		28. 58. 23·31		1	0·05	23·31	10·92
339	χ Cancri.....	1	8. 12. 24·480	1	0·18	24·480	3·658	2	1	62. 22. 33·47	34·09	3	0·21	33·68	11·33
340	λ Cancri.....	1	8. 13. 2·500	1	0·08	2·500	3·576	1		65. 34. 58·18		1	0·08	58·18	11·03
341	d^1 Cancri	5	8. 16. 8·832	5	0·17	8·832	3·443	1		71. 15. 54·24		1	0·07	54·24	11·24
342	Piazzi VIII. 46 S.P.	1	8. 17. 51·240	1	0·74	51·240	5·764	1		22. 17. 28·68		1	0·74	28·68	11·31
343	Groomb. 1418 S.P..	2	8. 18. 7·430	2	0·65	7·430	17·046	2		4. 30. 25·07		2	0·65	25·07	11·37
344	ϕ^2 Cancri (1st Star).	1	8. 19. 9·680	1	0·21	9·680	3·638	1		62. 39. 21·19		1	0·21	21·19	11·45
345	ϕ^2 Cancri (2d Star).	1	8. 19. 9·830	1	0·21	9·830	3·638	1		62. 39. 17·69		1	0·21	17·69	11·45
346	o Ursæ Majoris	2	8. 19. 46·710	5	0·46	46·710	5·042	3	2	28. 51. 46·90	47·73	8	0·28	47·03	11·61
	o Ursæ Majoris S.P..	3	8. 19. 46·710					3		46·52					
347	Piazzi VIII. 52 S.P.	2	8. 20. 23·640	2	0·66	23·640	6·022	2		20. 15. 35·61		2	0·66	35·61	11·53
348	υ^2 Cancri	1	8. 21. 8·410	1	0·07	8·410	3·567	1		65. 26. 20·27		1	0·07	20·27	11·65
349	29 Cancri.....	1	8. 21. 35·280	1	0·07	35·280	3·355	1		75. 22. 25·05		1	0·07	25·05	11·62
350	A Ursæ Majoris S.P.	1	8. 23. 17·710	1	0·56	17·710	5·453	1		24. 25. 38·41		1	0·56	38·41	11·81
351	Groomb. 1431 S.P..	1	8. 23. 23·250	1	0·74	23·250	11·519	1		7. 19. 15·45		1	0·74	15·45	11·73
352	υ^3 Cancri.....	1	8. 24. 3·400	1	0·23	3·400	+ 3·558	1		65. 29. 45·01		1	0·23	45·01	+ 11·86

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			h m s			s	s			° ′ ″	″			″	″
353	η Cancri	5	8. 25. 25·224	5	0·22	25·224	+ 3·478	1		69. 7. 56·30		1	0·27	56·30	+ 11·95
354	Groomb. 1446 S.P. .	1	8. 25. 38·690	1	0·63	38·690	6·841	1		15. 56. 1·29		1	0·63	1·29	11·91
355	33 Lyncis.....		8. 26. (38.)					1	1	53. 9. 0·95	1·28	2	0·22	1·12	11·98
356	3 Ursæ Majoris....	1	8. 27. 58·910	2	0·36	59·025	5·407	1		24. 32. 47·82		2	0·33	46·97	12·01
	3 Ursæ Majoris S.P.	1	8. 27. 59·140					1		45·70					
357	π Ursæ Majoris....	2	8. 29. 10·600	2	0·18	10·600	5·332	3	1	25. 14. 4·60	4·85	4	0·12	4·66	12·13
358	γ Cancri.....	2	8. 35. 59·555	2	0·12	59·555	3·480	1		68. 4. 48·33		1	0·23	48·33	12·60
359	A¹ Cancri.....	1	8. 36. 15·390	1	0·07	15·390	3·312	1		76. 52. 7·83		1	0·07	7·83	12·63
360	Piazzi VIII. 137 S.P.	1	8. 37. 22·800	1	0·77	22·800	5·527	1		22. 49. 56·71		1	0·77	56·71	12·69
361	ε Hydræ	5	8. 40. 6·074	5	0·09	6·074	3·183	1		83. 7. 11·64		1	0·04	11·64	12·94
362	b Ursæ Majoris S.P.	1	8. 42. 58·410	1	0·55	58·410	5·012	1		27. 34. 5·14		1	0·55	5·14	12·91
363	6 Ursæ Majoris S.P.	1	8. 45. 47·550	1	0·77	47·550	5·227	1		24. 54. 59·26		1	0·77	59·26	13·40
364	60 Cancri.....	1	8. 49. 2·650	1	0·22	2·650	3·282	1		77. 53. 37·41		1	0·22	37·41	13·51
365	59 Cancri.....		8. 49. (9.)						1	56. 36.	22·17	1	0·21	22·17	13·57
366	ι Ursæ Majoris S.P.	2	8. 50. 34·165	2	0·68	34·165	4·138	2		41. 27. 52·81		2	0·68	52·81	13·87
367	α Cancri.....	5	8. 51. 35·676	5	0·21	35·676	3·287	2		77. 39. 22·28		2	0·29	22·28	13·69
368	66 Cancri.....		8. 53. (40.)					1	1	57. 15. 25·78	25·14	2	0·16	25·46	13·77
369	σ¹ Ursæ Majoris ...	2	8. 57. 17·835	2	0·21	17·835	5·366	3	1	22. 37. 23·19	23·90	4	0·16	23·37	14·07
370	σ² Ursæ Majoris S.P.	2	8. 59. 16·760	2	0·68	16·760	5·373	2		22. 21. 22·01		2	0·68	22·01	14·25
371	Bradley 1283	2	8. 59. 21·945	2	0·23	21·945	3·345	2		74. 13. 21·80		2	0·23	21·80	14·02
372	τ Cancri.....	1	9. 0. 25·850	1	0·17	25·850	3·625	1		59. 50. 26·96		1	0·17	26·96	14·26
373	τ Ursæ Majoris S.P.	1	9. 0. 30·270	1	0·64	30·270	5·021	1		25. 58. 31·74		1	0·64	31·74	14·29
374	κ Cancri	1	9. 0. 55·260	1	0·14	55·260	3·256	1		78. 49. 33·91		1	0 14	33·91	14·23
375	ξ Cancri	3	9. 2. 6·753	3	0·21	6·753	3·459	3		67. 26. 47·50		3	0·21	47·50	14·30
376	B. F. 1283 S.P.	2	9. 3. 10·065	2	0·72	10·065	6·213	2		16. 32. 7·34		2	0·72	7·34	14·37
377	c Ursæ Majoris	2	9. 4. 21·560	2	0·07	21·560	4·815	2		28. 3. 35·76		2	0·07	35·76	14·53
378	Bradley 1299.....	2	9. 6. 25·335	2	0·16	25·335	3·442	2		68. 11. 57·94		2	0·16	57·94	14·61
379	Bradley 1300.....	1	9. 7. 29·790	1	0·14	29·790	3·707	1		54. 50. 52·62		1	0·14	52·62	14·60
380	38 Lyncis.....	1	9. 10. 59·610	1	0·29	59·610	3·752	1		52. 39. 57·37		1	0·29	57·37	14·90
381	83 Cancri.....	3	9. 11. 56·773	3	0·16	56·773	3·355	1		71. 45. 42·79		1	0·13	42·79	15·06
382	α Lyncis.....		9. 13. (22.)					1	1	55. 4. 34·58	33·31	2	0·26	33·95	15·01
383	κ Leonis.....	1	9. 17. 18·720	1	0·17	18·720	3·507	1		63. 16. 35·22		1	0·17	35·22	15·26
384	Piazzi IX. 37 S.P. .	2	9. 18. 56·515	2	0·70	56·515	9·066	2		8. 7. 11·66		2	0·70	11·66	15·35
385	α Hydræ	5	9. 21. 23·768	5	0·19	23·768	2·947			98. 6.					
386	h Ursæ Majoris....	1	9. 21. 34·240	1	0·13	34·240	4·802	1	1	26. 23. 21·23	20·43	2	0·13	20·83	15·34
387	d Ursæ Majoris ...	1	9. 23. 18·380	1	0·25	18·380	5·445	1		19. 37. 4·38		1	0·25	4·38	15·52
388	θ Ursæ Majoris	2	9. 24. 25·025	5	0·62	25·076	4·045	2		37. 44. 60·95		5	0·58	60·07	16·18
	θ Ursæ Majoris S.P.	3	9. 24. 25·110					3		58·90					
389	λ Leonis	3	9. 24. 31·687	3	0·21	31·687	3·434	3		66. 28. 40·92		3	0·21	40·92	15·65
390	ξ Leonis	3	9. 25. 9·160	3	0·11	9·160	3·239	2		78. 8. 36·02		2	0·16	36·02	15·72
391	10 Leonis Minoris..		9. 26. (30.)					1	1	53. 2. 40·28	39·79	2	0·26	40·04	15·74
392	9 Leonis.....	1	9. 30. 37·110	1	0·14	37·110	3·446	1		64. 45. 53·88		1	0·14	53·88	15·97
393	27 Ursæ Majoris ..	2	9. 31. 18·050	2	0·13	18·050	5·680	2	2	17. 10. 37·44	37·23	4	0·13	37·34	16·02
394	B. F. 1343.....	1	9. 31. 25·810	1	0·25	25·810	5·267	1		20. 11. 27·77		1	0·25	27·77	15·99
395	Piazzi IX. 135	2	9. 31. 50·215	2	0·09	50·215	3·385	2		69. 8. 7·48		2	0·09	7·48	15·99
396	13 Leonis.....	1	9. 34. 23·250	1	0·14	23·250	3·468	1		63. 30. 54·62		1	0·14	54·62	16·15
397	ο Leonis	1	9. 34. 25·380	1	0·29	25·380	3·206	1		79. 32. 8·63		1	0·28	8·63	16·18
398	ψ Leonis.....	1	9. 36. 51·950	1	0·29	51·950	3·274	1		75. 24. 12·95		1	0·29	12·95	16·29
399	ε Leonis	4	9. 38. 41·738	4	0·15	41·738	3·418	3	1	65. 38. 48·19	47·34	4	0·16	47·98	16·38
400	18 Leonis.....	1	9. 39. 35·960	1	0·14	35·960	+ 3·238	1		77. 36. 37·76		1	0·14	37·76	+ 16·35

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			h m s			s	s			° ′ ″	″			″	″
401	16 Leonis Minoris..	1	9. 42. 29·010	1	0·14	29·010	+ 3·713	1		49. 46. 58·43		1	0·14	58·43	+ 16·52
402	μ Leonis.....	3	9. 45. 35·603	3	0·19	35·603	3·422	3	2	63. 24. 2·67	2·36	5	0·19	2·55	16·76
403	19 Leonis Minoris..	1	9. 49. 57·510	1	0·29	57·510	3·699	1		48. 20. 44·44		1	0·29	44·44	16·92
404	Lacaille 4072.....	1	9. 50. 41·030	1	0·14	41·030	2·664	1		120. 29. 34·27		1	0·14	34·27	17·08
405	π Leonis.....	1	9. 53. 33·240	1	0·26	33·240	3·176	1		81. 21. 8·99		1	0·31	8·99	17·11
406	Piazzi IX. 230	1	9. 55. 47·490	1	0·14	47·490	3·359	1		67. 26. 38·30		1	0·14	38·30	17·19
407	Groombridge 1609 .		9. 59. (52.)					1	1	25. 25. 59·94	59·63	2	0·26	59·79	17·36
408	η Leonis.....	3	10. 0. 27·677	3	0·26	27·677	3·277	3		72. 37. 26·40		3	0·26	26·40	17·39
409	Regulus.....	10	10. 1. 39·574	10	0·42	39·574	3·201	5		77. 25. 3·54		5	0·67	3·54	17·43
410	34 Leonis.....	2	10. 4. 51·500	2	0·14	51·500	3·234	2		76. 1. 24·70		2	0·14	24·70	17·69
411	Bradley 1414.....	1	10. 5. 0·190	1	0·19	0·190	3·008	2		96. 41. 49·18		2	0·23	49·18	17·58
412	32 Ursæ Majoris...		10. 8. (51.)					1	1	24. 15. 51·58	52·72	2	0·22	52·15	17·78
413	ζ Leonis.....		10. 9. (40.)					1	1	65. 57. 20·81	20·65	2	0·23	20·73	17·75
414	37 Leonis.....	1	10. 9. 54·770	1	0·31	54·770	3·228	1		75. 38. 39·57		1	0·31	39·57	17·81
415	39 Leonis.....	1	10. 10. 18·460	1	0·14	18·460	3·314	1		66. 15. 45·53		1	0·14	45·53	17·90
416	22 Sextantis	1	10. 11. 22·040	1	0·28	22·040	2·980	1		97. 26. 31·95		1	0·28	31·95	17·85
417	γ^1 Leonis.....	4	10. 13. 1·340	4	0·23	1·340	3·316			69. 31.					
418	Bradley 1433.....	1	10. 14. 40·810	1	0·27	40·810	3·592	1		48. 7. 54·34		1	0·27	54·34	17·98
419	Bradley 1429.....							2	2	23. 47. 50·74	51·72	5	0·28	51·20	18·04
	Bradley 1429 S.P...	1	10. 15. 1·310	1	0·64	1·310	4·419	1		51·01					
420	Piazzi X. 22 S.P...	1	10. 15. 31·160	1	0·75	31·160	7·903	1		6. 48. 7·24		1	0·75	7·24	18·08
421	29 Leonis Minoris..	1	10. 18. 28·620	1	0·19	28·620	3·480	1		53. 56. 0·57		1	0·19	0·57	18·21
422	μ Hydræ.....	3	10. 19. 59·863	3	0·22	59·863	2·898	1		106. 11. 36·25		1	0·27	36·25	18·28
423	θ Leonis Minoris ..		10. 20. (35.)					1	1	52. 38. 53·76	52·66	2	0·31	53·21	18·29
424	35 Ursæ Majoris ...	1	10. 20. 55·840	1	0·30	55·840	4·341	1		23. 43. 47·61		1	0·30	47·61	18·23
425	*i* Leonis.....	1	10. 25. 28·110	1	0·16	28·110	3·212	1		75. 13. 1·32		1	0·16	1·32	18·36
426	ρ Leonis.....	5	10. 26. 10·504	5	0·24	10·504	3·166	2		80. 2. 43·61		2	0·29	43·61	18·43
427	35 Leonis Minoris..	1	10. 29. 7·370	1	0·27	7·370	3·467	3	2	53. 1. 14·33	13·13	5	0·25	13·85	18·52
428	Bradley 1458.....	1	10. 30. 56·130	1	0·27	56·130	6·354	1		8. 55. 0·11		1	0·27	0·11	18·55
429	39 Leonis Minoris .	1	10. 33. 22·360	1	0·14	22·360	3·343	2	1	61. 49. 7·52	9·20	3	0·17	8·08	18·64
430	Piazzi X. 126		10. 34. (1.)					1	1	20. 15. 57·21	56·72	2	0·20	56·97	18·71
431	34 Sextantis	6	10. 36. 7·033	6	0·25	7·033	3·100			85. 45.					
432	Bradley 1485.....	1	10. 36. 33·660	1	0·14	33·660	3·277	1		66. 9. 9·55		1	0·14	9·55	18·75
433	42 Leonis Minoris..		10. 38. (51.)					1	1	58. 39. 16·77	16·35	2	0·18	16·56	18·84
434	*k* Leonis	1	10. 39. 44·790	1	0·31	44·790	3·183	1		75. 8. 26·61		1	0·31	26·61	18·92
435	*l* Leonis.....	6	10. 42. 37·953	6	0·30	37·953	3·157	3		78. 47. 19·56		3	0·28	19·56	18·94
436	42 Ursæ Majoris ...		10. 43. (28.)					1	1	30. 0. 40·75	41·19	2	0·29	40·97	19·04
437	46 Leonis Minoris..		10. 46. (15.)					1	1	55. 6. 22·30	22·67	2	0·20	22·49	19·27
438	ω Ursæ Majoris....	3	10. 46. 43·187	3	0·26	43·187	3·478	3		46. 8. 23·11		3	0·26	23·11	19·10
439	54 Leonis.....		10. 48. (47.)					3	3	64. 34. 43·47	42·78	6	0·26	43·13	19·09
440	*d* Leonis.....	5	10. 54. 3·152	5	0·29	3·152	3·099	3		85. 42. 23·00		3	0·29	23·00	19·26
441	β Ursæ Majoris....	1	10. 54. 13·430	3	0·64	13·400	3·667	1		32. 56. 32·83		3	0·58	33·47	19·20
	β Ursæ Majoris S.P.	2	10. 54. 13·385					2		33·95					
442	α Ursæ Majoris....	4	10. 55. 55·983	5	0·47	55·976	3·761	6	2	27. 34. 9·43	9·78	8	0·28	9·52	19·37
	α Ursæ Majoris S.P.	1	10. 55. 55·950												
443	Lalande 21185.....	1	10. 56. 26·800	1	0·34	26·800	3·300	1		53. 11. 10·33		1	0·34	10·33	23·99
444	χ Leonis.....	2	10. 58. 30·940	2	0·35	30·940	3·098	1		81. 58. 59·77		1	0·39	59·77	19·42
445	Lalande 21272.....	1	11. 1. 3·190	1	0·14	3·190	3·187	1		71. 34. 52·77		1	0·14	52·77	19·37
446	67 Leonis.....	2	11. 2. 3·345	2	0·35	3·345	3·233	3	1	64. 39. 35·00	36·13	4	0·25	35·28	19·43
447	ψ Ursæ Majoris....	2	11. 2. 34·320	2	0·31	34·320	+ 3·400	2		44. 49. 5·54		2	0·31	5·54	+ 19·51

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			h m s			s	s			° ′ ″	″			″	″
448	66 Leonis.....	1	11. 2. 47·680	1	0·31	47·680	+ 3·072	1		90. 39. 1·95		1	0·31	1·95	+ 19·48
449	B. A. C. 3821.....	1	11. 4. 6·570	1	0·30	6·570	3·911	2	1	21. 2. 41·37	40·14	3	0·23	40·96	19·46
450	δ Leonis	7	11. 7. 24·271	7	0·29	24·271	3·201	3	3	68. 47. 10·70	11·30	6	0·27	11·00	19·67
451	Piazzi XI. 12	2	11. 7. 28·955	2	0·15	28·955	3·127	2		81. 15. 0·34		2	0·15	0·34	19·65
452	θ Leonis	2	11. 7. 37·575	2	0·22	37·575	3·155	2		73. 52. 55·08		2	0·22	55·08	19·59
453	Piazzi XI. 22	1	11. 9. 22·840	1	0·14	22·840	3·144	1		76. 27. 58·78		1	0·14	58·78	19·57
454	δ Crateris.....	6	11. 13. 2·570	6	0·29	2·570	2·995	3		104. 5. 48·64		3	0·29	48·64	19·46
455	σ Leonis.....	4	11. 14. 38·325	4	0·31	38·325	3·095	4		83. 16. 48·74		4	0·31	48·74	19·69
456	Piazzi XI. 43	4	11. 15. 20·905	4	0·22	20·905	3·625	5	1	24. 58. 49·75	48·51	6	0·21	49·54	19·73
457	71 Leonis.....		11. 15. (53.)					1	1	71. 52. 18·72	19·42	2	0·31	19·07	19·68
458	ι Leonis	2	11. 17. 21·295	2	0·09	21·295	3·128	2		78. 46. 37·03		2	0·09	37·03	19·78
459	81 Leonis.....	3	11. 19. 2·097	3	0·26	2·097	3·141	4	1	72. 51. 4·47	4·81	5	0·24	4·54	19·75
460	τ Leonis.....	6	11. 21. 27·407	6	0·29	27·407	3·085	3		86. 26. 59·23		3	0·32	59·23	19·79
461	Piazzi XI. 74							1	1	27. 32. 11·82	10·85	3	0·43	10·98	19·64
	Piazzi XI. 74 S.P..	1	11. 21. 51·600	1	0·91	51·600	3·482	1		9·92					
462	Groomb. 1782 S.P..	1	11. 22. 51·650	1	0·92	51·650	4·576	1		8. 10. 46·95		1	0·92	46·95	19·79
463	λ Draconis	4	11. 23. 53·890	5	0·35	53·926	3·641	4		19. 58. 26·00		5	0·32	26·07	19·87
	λ Draconis S.P.....	1	11. 23. 54·070					1		26·50					
464	86 Leonis.....	1	11. 23. 54·450	1	0·34	54·450	3·144	2		70. 53. 46·77		2	0·28	46·77	19·80
465	B. F. 1620.....	2	11. 25. 11·615	3	0·37	11·607	3·449	2		28. 13. 12·48		3	0·33	12·39	19·82
	B. F. 1620 S.P.....	1	11. 25. 11·590					1		12·11					
466	88 Leonis.....	1	11. 25. 14·450	1	0·22	14·450	3·104	1		74. 56. 1·65		1	0·22	1·65	20·02
467	2 Draconis.....	1	11. 28. 38·130	2	0·60	38·135	3·590	2	1	19. 58. 35·10	34·91	4	0·37	34·76	19·97
	2 Draconis S.P.....	1	11. 28. 38·140					1		33·54					
468	Groombridge 1804 .	1	11. 30. 20·290	3	0·53	20·417	3·410	1		27. 6. 24·78		3	0·49	24·93	19·89
	Groomb. 1804 S.P. .	2	11. 30. 20·480					2		25·04					
469	Piazzi XI. 111		11. 29. (40.)					1	1	61. 31. 20·55	21·85	2	0·31	21·20	19·93
470	υ Leonis	11	11. 30. 29·827	11	0·36	29·827	3·069	2		90. 7. 40·83		2	0·26	40·83	19·86
471	60 Ursæ Majoris...	4	11. 31. 47·165	4	0·36	47·165	3·252	4		42. 28. 2·00		4	0·36	2·00	19·96
472	3 Draconis S.P.....	3	11. 35. 25·523	3	0·71	25·523	3·410	3		22. 33. 27·35		3	0·71	27·35	19·87
473	Piazzi XI. 146.....	1	11. 36. 56·640	1	0·16	56·640	3·196	1		47. 34. 42·47		1	0·16	42·47	19·95
474	ν Virginis.....	1	11. 39. 23·050	1	0·92	23·050	3·089	1		82. 45. 52·00		1	0·92	52·00	20·18
475	χ Ursæ Majoris	1	11. 39. 23·380	2	0·45	23·420	3·195	1		41. 31. 19·60		1	0·19	19·60	19·95
	χ Ursæ Majoris S.P.	1	11. 39. 23·460					1		18·01					
476	β Leonis.....	13	11. 42. 37·883	13	0·31	37·883	3·064	1		74. 43. 24·24		1	0·42	24·24	20·10
477	B. F. 1656.....	2	11. 42. 39·615	2	0·13	39·615	3·082	2		84. 6. 40·03		2	0·13	40·03	20·00
478	β Virginis	6	11. 44. 7·847	6	0·28	7·847	3·124	2		87. 31. 30·41		2	0·29	30·41	20·29
479	B. A. C. 4005.....	3	11. 44. 27·237	3	0·29	27·237	3·093	3	1	77. 1. 16·61	17·01	4	0·30	16·71	20·01
480	Groombridge 1830 .	2	11. 45. 42·600	2	0·27	42·600	3·483	2		51. 22. 38·54		2	0·27	38·54	25·72
481	γ Ursæ Majoris....	5	11. 47. 11·610	6	0·42	11·612	3·187	5		35. 36. 15·60		8	0·48	15·81	20·02
	γ Ursæ Majoris S.P.	1	11. 47. 11·620					3		16·34					
482	Groomb. 1838 S.P..		11. 50. (18.)					1		27. 44. 52·92		1	0·93	52·92	20·04
483	Piazzi XI. 207	2	11. 52. 36·645	2	0·32	36·645	3·056	2		88. 46. 7·06		2	0·32	7·06	19·98
484	b Virginis	2	11. 53. 29·670	2	0·21	29·670	3·073	2		85. 38. 34·06		2	0·21	34·06	20·07
485	Groombridge 1845 .	1	11. 53. 41·220	1	0·35	41·220	3·323	2	1	8. 26. 38·49	39·73	3	0·27	38·90	20·05
486	π Virginis	11	11. 54. 24·927	11	0·26	24·927	3·077	1		82. 40. 57·89		1	0·40	57·89	20·09
487	o Virginis	4	11 58. 47·443	4	0·45	47·443	3·061	1		80. 34. 0·56		1	0·26	0·56	20·04
488	Groombridge 1853 .	2	11. 59. 16·930	2	0·38	16·930	3·081	2		26. 21. 46·00		2	0·38	46·00	20·05
489	10 Virginis	4	12. 3. 13·973	4	0·43	13·973	+ 3·072	4		87. 23. 39·30		4	0·43	39·30	20·26
490	3 Comæ		12. 4. (6.)					2	2	72. 29. 22·36	21·97	4	0·34	22·17	+ 20·04

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			h m s			s	s			° ′ ″	″			″	″
491	Piazzi XII. 6	3	12. 5. 13·470	3	0·32	13·470	+ 3·065	3		85. 14. 35·31		3	0·32	35·31	+ 20·19
492	68 Ursæ Majoris ..	3	12. 5. 27·463	4	0·48	27·420	3·021	3		32. 14. 37·55		4	0·45	37·63	20·11
	68 Ursæ Majoris S.P.	1	12. 5. 27·290					1		38·01					
493	Bradley 1634.....		12. 6. (16.)					1	1	11. 41. 2·00	0·63	3	0·45	1·27	20·02
	Bradley 1634 S.P. .							1		1·17					
494	δ Ursæ Majoris	2	12. 9. 10·760	2	0·26	10·760	3·002	2		32. 16. 1·60		2	0·26	1·60	20·08
495	6 Comæ	1	12. 9. 36·250	1	0·34	36·250	3·050	1		74. 23. 56·91		1	0·34	56·91	20·07
496	7 Comæ		12. 9. (57.)					1	1	65. 21. 13·71	14·13	2	0·23	13·92	20·04
497	Bradley 1650.....		12. 13. (10.)					1	1	14. 8. 23·18	23·43	2	0·22	23·31	20·00
498	η Virginis.....	8	12. 13. 27·590	8	0·37	27·590	3·065	4		89. 57. 57·90		4	0·45	57·90	20·05
499	11 Comæ	1	12. 14. 20·990	1	0·33	20·990	3·038	3	2	71. 30. 38·81	39·91	5	0·32	39·25	20·02
500	Groombridge 1879 .	2	12. 15. 34·655	2	0·34	34·655	2·197	2		5. 55. 36·90		2	0·34	36·90	20·01
501	Piazzi XII. 75.....		12. 18. (54.)					2	2	65. 22. 26·94	27·14	4	0·27	27·04	20·13
502	Groombridge 1888 .	1	12. 19. 13·040	1	0·38	13·040	2·839	1		25. 29. 56·50		1	0·38	56·50	19·99
503	Groombridge 1892 .		12. 19. (52.)					1	1	5. 52. 23·56	25·72	2	0·21	24·64	19·98
504	γ Comæ	1	12. 20. 39·360	1	0·33	39·360	3·002	2		61. 1. 51·70		2	0·25	51·70	20·08
505	δ Corvi	3	12. 23. 20·807	3	0·38	20·807	3·104	2		105. 48. 48·82		2	0·38	48·82	20·10
506	4 Draconis	2	12. 24. 34·445	2	0·34	34·445	2·683	3	1	20. 6. 0·89	0·63	5	0·43	0·95	20·03
	4 Draconis S.P.....							1		1·66					
507	21 Comæ		12. 24. (43.)					1	1	64. 44. 10·24	9·54	2	0·30	9·89	19·98
508	Piazzi XII. 111....	2	12. 25. 10·045	2	0·30	10·045	3·071	2		94. 21. 25·22		2	0·30	25·22	19·92
509	β Corvi.....	3	12. 27. 46·287	3	0·28	46·287	3·132	1		112. 41. 57·78		1	0·32	57·78	19·98
510	Oeltz. Arg. 12753..	5	12. 28. 1·394	5	0·37	1·394	2·895	5		42. 33. 21·56		5	0·37	21·56	19·91
511	κ Draconis	1	12. 28. 5·500	1	0·31	5·500	2·599	2	1	19. 31. 1·40	2·78	3	0·23	1·85	19·93
512	Groomb. 1909 S.P..	1	12. 30. 16·340	1	0·00	16·340	1·964	1		9. 3. 16·94		1	0·00	16·94	19·88
513	25 Comæ	3	12. 30. 39·190	3	0·32	39·190	3·016	4	1	72. 12. 58·20	57·88	5	0·31	58·14	19·92
514	Piazzi XII. 143....	1	12. 32. 14·730	1	0·26	14·730	3·080	1		93. 40. 43·55		1	0·26	43·55	19·82
515	γ^1 Virginis	3	12. 35. 16·400	3	0·49	16·400	3·038	3		90. 45. 24·69		3	0·50	24·69	19·87
516	γ^2 Virginis.....	2	12. 35. 16·570	2	0·32	16·570	3·038	2		90. 45. 30·47		2	0·32	30·47	19·87
517	ρ Virginis	7	12. 35. 30·399	7	0·28	30·399	3·036			79. 4.					
518	76 Ursæ Majoris ..	2	12. 36. 3·165	2	0·34	3·165	2·650	2		26. 35. 41·57		2	0·34	41·57	19·85
519	10 Canum Venaticûm	1	12. 39. 1·580	1	0·27	1·580	2·850			50. 2.					
520	34 Virginis	1	12. 40. 53·070	1	0·33	53·070	3·024	3	2	77. 21. 8·92	9·60	5	0·32	9·19	19·80
521	Piazzi XII. 183....	2	12. 41. 2·770	2	0·32	2·770	3·090	2		95. 36. 40·64		2	0·32	40·64	19·73
522	Groombridge 1927 .	1	12. 41. 14·470	1	0·32	14·470	1·508	1		8. 41. 17·54		1	0·32	17·54	19·73
523	7 Draconis.....	3	12. 42. 24·810	3	0·30	24·810	2·520	3	2	22. 31. 17·70	17·68	5	0·30	17·69	19·70
524	30 Comæ	1	12. 43. 9·030	1	0·37	9·030	2·929	1	1	61. 45. 40·05	38·95	2	0·37	39·50	19·67
525	Groombridge 1931 .		12. 44. (11.)					1	1	51. 47. 49·14	50·71	2	0·30	49·93	19·68
526	31 Comæ	3	12. 45. 33·637	3	0·32	33·637	2·934			61. 46.					
527	38 Virginis	2	12. 46. 44·025	2	0·32	44·025	3·070	2		92. 52. 3·48		2	0·32	3·48	19·67
528	35 Comæ	2	12. 47. 5·385	2	0·31	5·385	2·959	2		68. 4. 11·55		2	0·31	11·55	19·69
529	Bradley 1730.....	1	12. 48. 5·780	2	0·18	5·660	0·367	3	2	5. 53. 50·07	49·43	6	0·24	49·84	19·59
	Bradley 1730 S.P...	1	12. 48. 5·540					1		49·97					
530	Bradley 1731.....	1	12. 48. 13·830	1	0·35	13·830	0·353	1		5. 54. 8·42		1	0·35	8·42	19·57
531	ε Ursæ Majoris	1	12. 48. 28·690	2	0·61	28·740	2·658	1		33. 21. 20·62		2	0·55	20·44	19·66
	ε Ursæ Majoris S.P.	1	12. 48. 28·790					1		20·16					
532	δ Virginis.....	11	12. 49. 15·377	11	0·40	15·377	3·022	1		85. 55. 2·02		1	0·93	2·02	19·68
533	α Canum Venaticûm	2	12. 50. 7·805	2	0·38	7·805	2·814	3	2	51. 0. 2·81	2·62	5	0·34	2·73	19·52
534	8 Draconis.....	1	12. 50. 27·220	1	0·31	27·220	+ 2·427	1		23. 52. 39·66		1	0·31	39·66	19·63
535	36 Comæ		12. 52. (41.)					1	1	71. 54. 38·86	38·16	2	0·34	38·51	+ 19·48

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			h m s			s	s			° ′ ″	″			″	″
536	37 Comæ	1	12. 54. 14·540	1	0·45	14·540	+ 2·880	1		58. 32. 7·61		1	0·45	7·61	+ 19·50
537	9 Draconis	1	12. 55. 8·800	1	0·32	8·800	2·293	1		22. 43. 23·34		1	0·32	23·34	19·50
538	ε Virginis.....	15	12. 55. 54·249	15	0·35	54·249	2·988	3		78. 21. 46·67		3	0·46	46·67	19·43
539	Piazzi XII. 255 ...	1	12. 56. 51·020	2	0·51	51·060	2·379	1		25. 42. 44·41		1	0·33	44·41	19·42
	Piazzi XII. 255 S.P.	1	12. 56. 51·100												
540	Piazzi XII. 253....		12. 57. (3.)					1	1	65. 29. 45·51	46·30	2	0·30	45·91	19·44
541	Piazzi XII. 278 ...		13. 1. (25.)					1	1	27. 16. 57·49	55·85	2	0·31	56·67	19·37
542	θ Virginis.....	4	13. 3. 25·615	4	0·32	25·615	3·099	2		94. 51. 56·08		2	0·32	56·08	19·33
543	β Comæ		13. 5. (59.)					1	1	61. 28. 59·22	58·82	2	0·23	59·02	18·42
544	Oeltz. Arg. 13558..	6	13. 15. 41·638	6	0·37	41·638	2·592	6		42. 4. 9·22		6	0·37	9·22	18·97
545	Groombridge 1986.		13. 18. (10.)					1	1	52. 18. 29·64	27·12	2	0·21	28·38	18·90
546	Spica	22	13. 18. 33·358	22	0·51	33·358	3·151	7		100. 30. 9·92		7	0·58	9·92	18·93
547	ζ^1 Ursæ Majoris ...	1	13. 18. 50·910	3	0·43	50·873	2·431	1		34. 24. 57·86		3	0·43	57·40	18·92
	ζ^1 Ursæ Majoris S.P.	2	13. 18. 50·855					2		57·06					
548	ζ^2 Ursæ Majoris ...	1	13. 18. 51·850	3	0·43	51·837	2·428	1		34. 25. 9·93		3	0·43	9·48	18·93
	ζ^2 Ursæ Majoris S.P.	2	13. 18. 51·830					2		9·14					
549	Piazzi XIII. 96 S.P.	1	13. 21. 41·550	1	0·70	41·550	2·119	1		26. 5. 28·83		1	0·70	28·83	18·80
550	Piazzi XIII. 109...							1	1	16. 57. 14·60	14·72	3	0·44	14·02	18·79
	Piazzi XIII. 109 S.P.	1	13. 22. 55·390	1	0·84	55·390	1·524	1		12·10					
551	l^2 Virginis	3	13. 25. 24·907	3	0·33	24·907	3·114	2		95. 36. 15·63		2	0·40	15·63	18·72
552	Piazzi XIII. 133 ..	3	13. 25. 53·793	3	0·39	53·793	0·453	3		10. 42. 18·33		3	0·39	18·33	18·64
553	h Virginis	2	13. 26. 19·900	2	0·33	19·900	3·151	2		99. 30. 52·49		2	0·33	52·49	18·67
554	ζ Virginis.....	12	13. 28. 16·408	12	0·39	16·408	3·053	2		89. 57. 2·55		2	0·50	2·55	18·53
555	25 Canum Venaticûm	1	13. 31. 51·820	1	0·45	51·820	2·680	2	1	53. 3. 47·16	46·51	3	0·43	46·94	18·47
556	Groombridge 2029.	2	13. 34. 9·495	2	0·37	9·495	1·440	5	3	18. 6. 58·86	57·47	8	0·28	58·34	18·39
557	m Virginis	5	13. 35. 0·020	5	0·35	0·020	3·138	4		98. 3. 57·84		4	0·35	57·84	18·36
558	2 Boötis		13. 35. (4.)					1	1	66. 51. 54·36	53·95	2	0·35	54·16	18·35
559	Piazzi XIII. 184 S.P.	1	13. 37. 34·670	1	0·01	34·670	1·862	1		24. 32. 27·56		1	0·01	27·56	18·54
560	86 Virginis.....	1	13. 39. 13·540	1	0·36	13·540	3·185	1		101. 47. 37·29		1	0·36	37·29	18·20
561	B. F. 1886	2	13. 40. 33·910	2	0·33	33·910	3·163	2		99. 4. 35·17		2	0·33	35·17	18·15
562	3 Boötis.....	1	13. 40. 52·190	1	0·45	52·190	2·785	2	1	63. 39. 53·76	53·49	3	0·40	53·67	18·19
563	τ Boötis	2	13. 41. 16·435	2	0·38	16·435	2·852	1		71. 54. 52·09		1	0·33	52·09	18·22
564	Groomb. 2053 S.P.	1	13. 42. 8·040	1	0·00	8·040	0·174	1		11. 18. 16·27		1	0·00	16·27	18·03
565	η Ursæ Majoris	6	13. 42. 34·388	10	0·60	34·368	2·372	6		40. 3. 25·69		10	0·60	25·49	18·11
	η Ursæ Majoris S.P.	4	13. 42. 34·338					4		24·90					
566	B. F. 1905		13. 45. (34.)					1	1	54. 42. 32·66	32·99	2	0·42	32·83	17·97
567	Groombridge 2055.	1	13. 45. 39·250	2	0·23	39·280	+ 1·948	1		27. 52. 53·18		2	0·27	54·18	17·96
	Groomb. 2055 S.P.	1	13. 45. 39·310					1		55·66					
568	Piazzi XIII. 263...	1	13. 46. 1·690	1	0·42	1·690	− 2·093	1		6. 36. 57·27		1	0·42	57·27	18·03
569	i Draconis	1	13. 47. 45·060	1	0·43	45·060	+ 1·755	2	1	24. 39. 13·66	13·86	3	0·38	13·73	17·92
570	η Boötis	11	13. 48. 41·117	11	0·52	41·117	+ 2·858	8	1	70. 58. 11·39	10·92	9	0·56	11·34	18·20
571	Groombridge 2066.	2	13. 50. 28·665	4	0·19	28·948	− 0·314	3	2	10. 22. 56·75	57·97	7	0·23	57·16	17·77
	Groomb. 2066 S.P..	2	13. 50. 29·230					2		56·95					
572	9 Boötis	2	13. 50. 48·985	2	0·37	48·985	+ 2·743	4	2	61. 53. 21·13	21·26	6	0·35	21·17	17·81
573	τ Virginis	4	13. 55. 14·070	4	0·34	14·070	3·049	1		87. 50. 41·09		1	0·30	41·09	17·64
574	11 Boötis.....	1	13. 55. 27·720	1	0·42	27·720	2·724	2	1	62. 0. 14·30	14·78	3	0·27	14·46	17·54
575	Piazzi XIII. 306...	2	13. 59. 4·165	2	0·43	4·165	1·336	3	1	20. 42. 51·37	52·73	4	0·43	51·71	17·45
576	94 Virginis	1	13. 59. 37·550	1	0·31	37·550	3·167			98. 17.					
577	95 Virginis	1	14. 0. 3·000	1	0·43	3·000	3·164	1		98. 42. 39·09		1	0·43	39·09	17·36
578	α Draconis	2	14. 0. 58·650	5	0·19	58·640	+ 1·619	4	2	25. 1. 16·79	17·08	9	0·32	16·87	+ 17·33
	α Draconis S.P.....	3	14. 0. 58·633					3		16·83					

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			h m s			s	s			° ′ ″	″			″	″
579	*d* Bootis		14. 4. (39.)					2	2	64. 18. 37·74	37·58	4	0·40	37·66	+ 17·21
580	3 Ursæ Minoris S.P.	1	14. 5. 58·060	1	0·01	58·060	+ 0·431	1		14. 48. 34·00		1	0·01	34·00	17·03
581	κ Virginis.....	3	14. 6. 10·543	3	0·40	10·543	3·192	3		99. 41. 8·80		3	0·43	8·80	17·07
582	14 Boötis		14. 8. (1.)					1	1	76. 26. 54·54	56·88	2	0·27	55·71	17·07
583	Piazzi XIV. 22	1	14. 8. 27·640	1	0·41	27·640	3·306	1		107. 36. 45·32		1	0·41	45·32	16·99
584	Groomb. 2091 S.P..	2	14. 9. 43·765	2	0·02	43·765	1·119	2		19. 58. 32·00		2	0·02	32·00	16·99
585	Arcturus	20	14. 9. 54·864	20	0·57	54·864	2·734	17	2	70. 9. 38·02	37·79	19	0·59	38·00	18·85
586	ι Boötis	1	14. 11. 42·230	1	0·51	42·230	2·126	1		38. 3. 2·72		1	0·51	2·72	16·76
587	λ Virginis	5	14. 12. 17·636	5	0·33	17·636	3·235	5		102. 47. 22·80		5	0·33	22·80	16·79
588	20 Boötis		14. 13. (47.)					1	1	73. 6. 54·61	52·83	2	0·44	53·72	16·64
589	2 Libræ	1	14. 16. 38·910	1	0·18	38·910	3·216	1		101. 8. 13·00		1	0·18	13·00	16·69
590	Groombridge 2105 .	1	14. 17. 26·390	1	0·42	26·390	1·169	2	2	21. 38. 26·12	26·34	4	0·41	26·53	16·56
591	Groombridge 2108 .		14. 18. (41.)					1		21. 37. 21·04		1	0·36	21·04	16·50
592	*f* Boötis	1	14. 20. 35·830	1	0·41	35·830	2·796	3	3	70. 12. 19·89	19·84	6	0·31	19·87	16·36
593	ρ Boötis	3	14. 26. 23·927	3	0·65	23·927	2·587	4	1	59. 4. 28·23	28·67	5	0·56	28·32	15·96
594	Groombridge 2123 .	3	14. 27. 46·550	4	0·53	46·537	+ 1·444	3		26. 15. 23·93		4	0·49	23·81	16·03
	Groomb. 2123 S.P..	1	14. 27. 46·500					1		23·26					
595	5 Ursæ Minoris....							3	3	13. 44. 37·70	37·73	7	0·31	37·72	16·05
	5 Ursæ Minoris S.P.	1	14. 27. 48·950	1	0·01	48·950	− 0·205	1		37·78					
596	Groombridge 2132 .							1	1	24. 3. 13·91	14·62	3	0·28	13·85	15·86
	Groomb. 2132 S.P..	1	14. 30. 56·730	1	0·03	56·730	+ 1·238	1		12·61					
597	ζ Boötis		14. 35. (7.)					1	1	75. 43. 47·94	47·72	2	0·41	47·83	15·64
598	34 Boötis	1	14. 37. 53·150	1	0·51	53·150	2·639	3	2	62. 56. 7·89	7·54	5	0·46	7·75	15·47
599	Groombridge 2146 .							1	1	28. 12. 3·02	1·49	3	0·56	2·06	15·43
	Groomb. 2146 S.P..	1	14. 38. 54·870	1	0·94	54·870	1·477	1		1·50					
600	5 Libræ	3	14. 39. 1·063	3	0·25	1·063	3·297	3		104. 55. 35·78		3	0·25	35·78	15·43
601	ο Boötis		14. 39. (21.)					1	1	72. 30. 3·47	4·34	2	0·33	3·91	15·43
602	ε² Boötis.....	3	14. 39. 29·010	3	0·49	29·010	2·619	2	1	62. 23. 35·80	36·84	3	0·48	36·15	15·38
603	α Libræ	4	14. 43. 54·635	4	0·42	54·635	3·309	6		105. 30. 58·97		6	0·31	58·97	15·20
604	Bradley 1895.....	1	14. 44. 32·170	1	0·37	32·170	3·338	1		107. 15. 52·56		1	0·37	52·56	15·27
605	6 Ursæ Minoris....	1	14. 45. 11·820	2	0·17	12·125	0·243	1	1	17. 30. 30·00	29·45	3	0·25	29·65	15·08
	6 Ursæ Minoris S.P.	1	14. 45. 12·430					1		29·41					
606	ξ Boötis	1	14. 45. 34·700	1	0·42	34·700	2·767	2	1	70. 22. 29·83	29·57	3	0·41	29·74	15·17
607	Piazzi XIV. 212 ...	1	14. 50. 6·710	1	0·37	6·710	+ 3·485	1		110. 50. 41·84		1	0·37	41·84	16·46
608	β Ursæ Minoris....	4	14. 51. 5·345	6	0·53	5·427	− 0·244	7	3	15. 19. 46·03	46·32	12	0·49	46·21	14·75
	β Ursæ Minoris S.P.	2	14. 51. 5·590					2		46·92					
609	Piazzi XIV. 226...	1	14. 51. 19·180	1	0·42	19·180	+ 2·799	2	1	73. 6. 11·69	12·61	3	0·36	12·00	14·66
610	Piazzi XIV. 260...		14. 55. (35.)					2	2	23. 33. 54·78	54·67	4	0·38	54·73	14·40
611	ω Boötis	2	14. 56. 35·315	2	0·41	35·315	2·627	2		64. 29. 32·70		2	0·41	32·70	14·44
612	β Boötis	2	14. 57. 12·020	2	0·46	12·020	2·261	2	1	49. 6. 41·05	40·72	3	0·44	40·94	14·42
613	ψ Boötis	2	14. 59. 2·745	2	0·41	2·745	2·570	1		62. 33. 36·02		1	0·44	36·02	14·24
614	9 Ursæ Minoris....		15. 0. (18.)					1	1	17. 44. 33·09	33·21	2	0·31	33·15	14·03
615	Groombridge 2213 .		15. 4. (35.)					1	1	5. 33. 43·49	43·50	2	0·43	43·50	13·90
616	μ¹ Libræ	11	15. 5. 2·502	11	0·34	2·502	3·408	8		109. 18. 45·73		8	0·32	45·73	13·91
617	Piazzi XV. 19	1	15. 9. 5·070	1	0·37	5·070	3·459	1		111. 55. 51·02		1	0·37	51·02	13·68
618	β Libræ	6	15. 10. 13·677	6	0·41	13·677	3·218	1		98. 54. 57·80		1	0·33	57·80	13·54
619	δ Boötis	1	15. 10. 25·280	1	0·37	25·280	2·421	2	1	56. 12. 49·68	49·95	3	0·38	49·77	13·62
620	Groombridge 2214 .							2	2	22. 10. 28·09	27·57	5	0·33	27·90	+ 13·34
	Groomb. 2214 S.P..	1	15. 13. 12·020	1	0·03	12·020	+ 0·622	1		28·31					

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			h m s			s	s			° ′ ″	″			″	″
621	7 Serpentis	2	15. 16. 25·355	2	0·42	25·355	+ 2·841	2		76. 58. 47·50		2	0·42	47·50	+ 13·14
622	11 Ursæ Minoris S.P.	1	15. 17. 12·640	1	0·03	12·640	− 0·068	1		17. 43. 8·22		1	0·03	8·22	13·05
623	γ^2 Ursæ Minoris ...	1	15. 20. 56·530	1	0·38	56·530	− 0·127	2	2	17. 43. 3·69	3·67	4	0·35	3·68	12·77
624	ζ^1 Libræ	1	15. 21. 9·150	1	0·33	9·150	+ 3·374			106. 16.					
625	ι Draconis	2	15. 22. 7·635	2	0·62	7·635	1·336	2		30. 35. 30·84		2	0·62	30·84	12·71
626	β Coronæ	1	15. 22. 38·060	1	0·44	38·060	2·476	1		60. 27. 30·93		1	0·44	30·93	12·63
627	Piazzi XV. 96.....	4	15. 25. 22·608	4	0·26	22·608	3·427	4		109. 14. 20·19		4	0·26	20·19	12·60
628	Lacaille 6425.....	2	15. 26. 26·225	2	0·40	26·225	3·556	2		114. 40. 57·85		2	0·40	57·85	12·77
629	Piazzi XV. 136....		15. 29. (11.)					1	1	25. 22. 1·51	1·74	2	0·37	1·63	12·26
630	α Coronæ	18	15. 29. 21·166	18	0·58	21·166	2·539	12	1	62. 51. 35·92	35·22	13	0·67	35·87	12·32
631	42 Libræ	2	15. 32. 50·050	2	0·41	50·050	3·533	2		113. 24. 22·68		2	0·41	22·68	12·03
632	κ Libræ	1	15. 34. 41·360	1	0·26	41·360	3·445	1		109. 16. 4·74		1	0·26	4·74	12·01
633	τ^6 Serpentis	1	15. 35. 11·640	1	0·43	11·640	2·757	1		73. 34. 4·55		1	0·43	4·55	11·79
634	χ Serpentis	1	15. 35. 51·550	1	0·54	51·550	2·817	1		76. 44. 47·97		1	0·54	47·97	11·80
635	α Serpentis.....	3	15. 38. 3·723	3	0·48	3·723	2·951	2		83. 10. 34·69		2	0·74	34·69	11·59
636	B. A. C. 5197	3	15. 38. 20·037	3	0·44	20·037	3·564	3		114. 19. 1·79		3	0·44	1·79	11·62
637	β Serpentis	3	15. 40. 22·340	3	0·41	22·340	2·767	4	2	74. 10. 56·44	56·87	6	0·39	56·58	11·49
638	κ Serpentis		15. 43. (4.)					1	1	71. 28. 4·62	3·28	2	0·33	3·95	11·35
639	δ Coronæ		15. 44. (18.)					1	1	63. 32. 40·40	40·95	2	0·41	40·68	11·26
640	ε Serpentis.....	6	15. 44. 32·142	6	0·43	32·142	2·988	1		85. 8. 28·45		1	0·57	28·45	11·11
641	A^2 Scorpii	2	15. 46. 2·965	2	0·46	2·965	3·589	2		114. 56. 54·86		2	0·46	54·86	11·08
642	κ Coronæ	1	15. 46. 29·180	1	0·43	29·180	+ 2·256	2	1	53. 57. 2·33	1·90	3	0·39	2·19	11·39
643	ζ Ursæ Minoris S.P.	1	15. 48. 35·910	1	0·11	35·910	− 2·265	1		11. 49. 7·08		1	0·11	7·08	10·96
644	Piazzi XV. 212		15. 49. (1.)						1	69. 19.	5·02	1	0·40	5·02	10·85
645	γ Serpentis	4	15. 50. 38·075	4	0·45	38·075	+ 2·768			73. 55.					
646	π Scorpii	2	15. 51. 13·915	2	0·57	13·915	3·615	2		115. 44. 53·75		2	0·57	53·75	10·73
647	δ Scorpii	5	15. 52. 53·080	5	0·32	53·080	3·536	5		112. 15. 37·66		5	0·32	37·66	10·58
648	3 Herculis	2	15. 54. 35·840	2	0·54	35·840	2·974	2		85. 13. 5·03		2	0·54	5·03	10·43
649	Piazzi XV. 237....	1	15. 55. 43·950	1	0·42	43·950	+ 3·613	1		115. 30. 39·88		1	0·42	39·88	10·48
650	π Serpentis		15. 56. (52.)					2	2	66. 50. 40·05	39·30	4	0·38	39·68	10·22
651	17 Ursæ Minoris...	1	15. 58. 2·880	1	0·44	2·880	− 1·507	2	1	14. 3. 54·65	55·72	3	0·40	55·01	10·19
652	β^1 Scorpii.....	2	15. 58. 6·765	2	0·53	6·765	+ 3·477	1		109. 27. 30·35		1	0·57	30·35	10·19
653	Piazzi XV. 265....	1	16. 0. 27·070	1	0·42	27·070	3·647	1		115. 59. 11·71		1	0·42	11·71	10·06
654	Lacaille 6710.....	1	16. 1. 12·320	1	0·41	12·320	3·573	1		113. 20. 48·22		1	0·41	48·22	9·94
655	Groombridge 2320 .	1	16. 5. 59·370	1	0·57	59·370	0·137	1		21. 51. 27·68		1	0·57	27·68	9·50
656	Piazzi XVI. 10	3	16. 6. 16·127	3	0·48	16·127	3·523	3		111. 4. 32·92		3	0·48	32·92	9·59
657	δ Ophiuchi	3	16. 7. 44·590	3	0·36	44·590	3·136			93. 22.					
658	υ Coronæ		16. 11. (42.)					1	1	60. 32. 12·28	11·93	2	0·44	12·11	9·18
659	19 Scorpii	1	16. 13. 3·370	1	0·49	3·370	3·600	1		113. 51. 47·87		1	0·49	47·87	9·05
660	σ Scorpii	2	16. 13. 31·860	2	0·37	31·860	+ 3·633	2		115. 17. 14·40		2	0·37	14·40	8·98
661	19 Ursæ Minoris S.P.	1	16. 14. 26·830	1	0·95	26·830	− 1·832	1		13. 48. 20·47		1	0·95	20·47	8·91
662	γ Herculis	4	16. 16. 21·683	4	0·44	21·683	+ 2·643			70. 32.					
663	ξ Coronæ	1	16. 17. 11·390	1	0·57	11·390	2·342	1		58. 48. 50·75		1	0·57	50·75	8·58
664	ρ Ophiuchi (S. Star)	1	16. 18. 1·810	1	0·34	1·810	3·586	1		113. 9. 17·67		1	0·34	17·67	8·62
665	ρ Ophiuchi (as one mass)	1	16. 18. 1·910	1	0·33	1·910	3·586	1		113. 9. 13·46		1	0·33	13·46	8·62
666	α Herculis	1	16. 19. 36·060	1	0·47	36·060	2·754	1		75. 40. 30·44		1	0·47	30·44	8·54
667	25 Herculis	1	16. 20. 54·920	1	0·50	54·920	+ 2·134	2	1	52. 19. 3·62	5·00	3	0·24	4·08	8·40
668	η Ursæ Minoris							4	3	13. 57. 18·58	19·13				
	η Ursæ Minoris S.P.	3	16. 21. 12·647	3	0·64	12·647	− 1·810	3		18·22		10	0·50	18·64	8·12
669	Antares	5	16. 21. 41·054	5	0·47	41·054	+ 3·668	5		116. 8. 59·12		5	0·46	59·12	+ 8·37

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			h m s			s	s			° ′ ″	″			″	″
670	η Draconis	2	16. 22. 17·255	3	0·61	17·213	+ 0·807	3	1	28. 11. 59·57	60·49	5	0·57	59·97	+ 8·28
	η Draconis S.P.....	1	16. 22. 17·130					1		60·98					
671	22 Scorpii	4	16. 22. 33·318	4	0·28	33·318	3·634	4		114. 50. 6·74		4	0·28	6·74	8·22
672	τ Scorpii	2	16. 28. 2·555	2	0·19	2·555	+ 3·725	2		117. 57. 6·18		2	0·19	6·18	7·85
673	A Draconis	1	16. 28. 14·390	3	0·83	14·267	− 0·137	2	1	20. 57. 33·40	32·60	5	0·53	32·93	7·78
	A Draconis S.P. ...	2	16. 28. 14·205					2		32·48					
674	32 Herculis		16. 28. (34.)					1	1	59. 14. 6·96	5·71	2	0·45	6·34	7·83
675	ζ Ophiuchi	4	16. 30. 13·278	4	0·47	13·278	+ 3·298	1		100. 18. 34·87		1	0·80	34·87	7·63
676	Oeltz. Arg. 15798..	1	16. 31. 29·600	1	0·47	29·600	+ 3·567	1		111. 47. 22·83		1	0·47	22·83	7·55
677	Piazzi XVI. 182 ...	1	16. 32. 47·500	2	0·29	47·440	− 3·476	1		10. 46. 10·83		2	0·29	10·13	7·45
	Piazzi XVI. 182 S.P.	1	16. 32. 47·380					1		9·43					
678	Groombridge 2370 .		16. 35. (38.)					3	3	26. 40. 24·47	25·33	6	0·43	24·90	7·22
679	Piazzi XVI. 195 ...	1	16. 36. 5·470	3	0·21	5·457	− 2·636	1		12. 18. 14·47		3	0·21	12·70	7·18
	Piazzi XVI. 195 S.P.	2	16. 36. 5·450					2		11·81					
680	ζ Herculis	2	16. 36. 32·220	2	0·71	32·220	+ 2·263	2	1	58. 10. 4·21	4·75	3	0·64	4·39	6·69
681	Piazzi XVI. 159 ...	1	16. 37. 7·490	1	0·44	7·490	3·739	1		118. 16. 18·60		1	0·44	18·60	7·09
682	25 Scorpii	5	16. 39. 8·614	5	0·37	8·614	3·666	5		115. 17. 45·76		5	0·37	45·76	7·18
683	g Draconis							2	2	25. 10. 18·00	18·42	5	0·51	18·24	6·88
	g Draconis S.P.....	1	16. 40. 3·080	1	0·99	3·080	0·397	1		18·45					
684	Lacaille 7015.....	2	16. 43. 40·285	2	0·49	40·285	3·651	2		114. 36. 55·31		2	0·49	55·31	6·57
685	50 Herculis	2	16. 45. 43·875	2	0·52	43·875	2·336	3	1	59. 58. 37·76	38·04	4	0·50	37·83	6·37
686	22 Ophiuchi	1	16. 47. 14·120	1	0·57	14·120	3·621	1		113. 18. 11·10		1	0·57	11·10	6·31
687	53 Herculis	1	16. 48. 11·490	1	0·59	11·490	+ 2·268	1	1	58. 5. 17·73	18·12	2	0·53	17·93	6·18
688	Groombridge 2391 .							1		12. 16. 13·09		2	0·23	12·76	6·13
	Groomb. 2391 S.P..	1	16. 48. 43·980	1	0·09	43·980	− 2·782	1		12·43					
689	24 Ophiuchi	1	16. 49. 12·170	1	0·44	12·170	+ 3·614	1		112. 56. 52·02		1	0·44	52·02	6·17
690	κ Ophiuchi	8	16. 51. 42·261	8	0·54	42·261	2·834	1		18. 25. 37·63		1	0·11	37·63	5·87
691	Groombridge 2390 .	1	16. 52. 19·000	1	0·50	19·000	0·805	1		29. 26. 7·08		1	0·50	7·08	5·84
692	57 Herculis		16. 52. (20.)					1	1	64. 27. 3·02	4·31	2	0·42	3·67	5·83
693	Groombridge 2395 .	3	16. 55. 5·303	3	0·53	5·303	0·613	3		27. 26. 10·82		3	0·53	10·82	5·61
694	h^1 Draconis	1	16. 55. 20·200	3	0·25	20·323	0·309	1		24. 40. 20·44		3	0·29	19·99	5·55
	h^1 Draconis S.P....	2	16. 55. 20·385					2		19·66					
695	ε Herculis	4	16. 55. 28·143	4	0·56	28·143	2·292	2	1	58. 53. 12·32	11·93	3	0·35	12·19	5·54
696	h^2 Draconis	1	16. 55. 48·120	2	0·32	48·055	0·280	1		24. 46. 9·95		2	0·36	9·83	5·52
	h^2 Draconis S.P. ...	1	16. 55. 47·990					1		9·64					
697	28 Ophiuchi	1	16. 56. 15·690	1	0·44	15·690	+ 3·687	1		115. 30. 55·68		1	0·44	55·68	5·59
698	32 Ophiuchi		16. 57. (21.)					1	1	75. 43. 29·71	29·70	2	0·48	29·71	5·45
699	Groombridge 2411 .	2	16. 58. 47·515	2	0·47	47·515	− 1·236	2		16. 40. 57·64		2	0·47	57·64	5·29
700	ε Ursæ Minoris S.P.	1	16. 58. 57·200	1	0·14	57·200	− 6·384	1		7. 45. 33·05		1	0·14	33·05	5·27
701	Groombridge 2419 .	1	17. 2. 11·000	1	0·51	11·000	+ 2·933	1		12. 9. 48·77		1	0·51	48·77	5·00
702	η Ophiuchi.....	6	17. 3. 9·120	6	0·50	9·120	+ 3·433	2		105. 33. 58·68		2	0·28	58·68	4·81
703	Piazzi XVII. 3....		17. 3. (34.)					1	1	53. 53. 59·41	59·42	2	0·53	59·42	4·91
704	Groombridge 2427 .	2	17. 5. 38·440	2	0·54	38·440	− 1·947	2		14. 31. 44·83		2	0·54	44·83	4·71
705	Bradley 2174.....	1	17. 6. 23·570	1	0·44	23·570	+ 3·728	1		116. 49. 52·05		1	0·44	52·05	4·77
706	Piazzi XVII. 23 ...	1	17. 8. 51·950	1	0·51	51·950	3·898	1		122. 31. 0·84		1	0·51	0·84	4·33
707	α^1 Herculis.....	6	17. 8. 54·083	6	0·55	54·083	2·731	1		75. 27. 51·47		1	0·33	51·47	4·39
708	δ Herculis	2	17. 9. 51·445	2	0·54	51·445	2·459	2		65. 0. 38·48		2	0·54	38·48	4·51
709	π Herculis		17. 10. (39.)					3	2	53. 2. 51·63	52·20	5	0·50	51·86	4·29
710	Piazzi XVII. 61 ...							1	1	26. 58. 53·18	54·22	3	0·35	53·60	+ 4·25
	Piazzi XVII. 61 S.P.	1	17. 11. 27·410	1	0·14	27·410	+ 0·512	1		53·29					

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			h m s			s	s			° ′ ″	″			″	″
711	θ Ophiuchi	4	17. 14. 16·325	4	0·48	16·325	+ 3·677	1		114. 52. 14·41		1	0·26	144·1	+ 3·95
712	Groombridge 2432 .	2	17. 14. 32·865	2	0·51	32·865	0·722	2		29. 9. 5·17		2	0·51	5·17	3·95
713	Groombridge 2433 .	1	17. 14. 57·850	1	0·50	57·850	0·724	1		29. 11. 42·28		1	0·50	42·28	3·92
714	43 Ophiuchi.....	5	17. 15. 25·884	5	0·51	25·884	+ 3·770	5		118. 1. 3·91		5	0·51	3·91	3·84
715	70 Herculis		17. 15. (42.)					1	1	65. 22. 23·71	25·10	2	0·54	24·41	3·85
716	Groombridge 2437 .	1	17. 18. 10·880	1	0·42	10·880	− 0·956	2	1	18. 4. 38·00	37·13	3	0·46	37·71	3·63
717	ρ Herculis		17. 19. (20.)					1	1	52. 44. 11·20	11·05	2	0·44	11·13	3·69
718	σ Ophiuchi	3	17. 20. 15·797	3	0·52	15·797	+ 2·975			85. 44.					
719	Piazzi XVII. 109 ..		17. 21. (22.)					1	1	69. 48. 36·41	35·49	2	0·42	35·95	3·50
720	Piazzi XVII. 117 ..	1	17. 23. 55·090	1	0·43	55·090	3·720	1		116. 10. 12·73		1	0·43	12·73	3·24
721	Radcliffe 3714.....	3	17. 24. 3·627	3	0·54	3·627	0·769	5	2	29. 50. 42·81	42·79	7	0·51	42·80	3·13
722	λ Herculis		17. 25. (38.)					1	1	63. 47. 34·01	35·02	2	0·54	34·52	2·97
723	β Draconis	3	17. 27. 35·193	4	0·46	35·132	1·351	3		37. 36. 15·33		4	0·51	15·24	2·83
	β Draconis S.P.	1	17. 27. 34·950					1		14·68					
724	α Ophiuchi.....	12	17. 29. 5·125	12	0·55	5·125	2·779	5	2	77. 20. 47·14	46·82	7	0·51	47·05	2·90
725	Piazzi XVII. 176 ..	1	17. 31. 48·970	1	0·67	48·970	+ 2·282	1		59. 8. 5·11		1	0·67	5·11	2·46
726	f Draconis	2	17. 32. 28·205	4	0·33	28·220	− 0·256	2		21. 47. 5·74		4	0·37	5·40	2·29
	f Draconis S.P.	2	17. 32. 28·235					2		4·90					
727	ι Herculis	1	17. 35. 54·540	1	0·59	54·540	+ 1·677	1		43. 55. 31·87		1	0·59	31·87	2·10
728	Bradley 2228.....	1	17. 35. 54·990	1	0·63	54·990	2·469	1		65. 25. 22·09		1	0·63	22·09	2·04
729	Piazzi XVII. 203 ..	1	17. 36. 19·410	1	0·54	19·410	+ 2·695	2	1	73. 59. 15·16	15·61	3	0·52	15·31	2·00
730	Oeltz. Arg. 17413 ..	3	17. 37. 8·530	3	0·45	8·530	− 0·317	3		21. 26. 21·53		3	0·45	21·53	2·00
731	Oeltz. Arg. 17415 ..	3	17. 37. 9·600	3	0·44	9·600	− 0·364	3		21. 32. 45·61		3	0·44	45·61	3·20
732	β Ophiuchi.....	5	17. 37. 14·888	5	0·55	14·888	+ 2·959	1		85. 22. 40·38		1	0·66	40·38	1·82
733	Oeltz. Arg. 17419 ..	4	17. 37. 18·260	4	0·44	18·260	− 0·297	4		21. 32. 58·62		4	0·44	58·62	1·98
734	ω Draconis	1	17. 37. 41·360	1	0·60	41·360	− 0·358	2	1	21. 11. 2·36	3·04	3	0·56	2·59	1·64
735	84 Herculis		17. 38. (11.)					1	1	65. 36. 58·25	57·83	2	0·51	58·04	1·80
736	3 Sagittarii	5	17. 39. 37·838	5	0·42	37·838	+ 3·764	5		117. 46. 46·29		5	0·42	46·29	1·81
737	μ Herculis	11	17. 41. 31·643	11	0·45	31·643	2·344	3	1	62. 12. 15·51	14·60	4	0·29	15·28	2·35
738	Piazzi XVII. 255 ..	2	17. 43. 19·435	2	0·59	19·435	2·622	2		70. 42. 10·50		2	0·59	10·50	1·47
739	87 Herculis	2	17. 43. 42·615	2	0·67	42·615	+ 2·430	2		64. 20. 1·66		2	0·67	1·66	1·47
740	ψ¹ Draconis	3	17. 44. 10·933	4	0·39	10·937	− 1·086	5	3	17. 47. 23·99	24·28	9	0·47	24·05	1·66
	ψ¹ Draconis S.P.	1	17. 44. 10·950					1		23·46					
741	Bradley 2252.....	2	17. 44. 12·630	2	0·43	12·630	− 1·086	2	1	17. 46. 54·36	54·64	3	0·44	54·45	1·66
742	89 Herculis	3	17. 50. 20·203	3	0·52	20·203	+ 2·419			63. 55.					
743	ξ Herculis.....		17. 52. (52.)					1	1	60. 44. 13·47	13·58	2	0·52	13·53	0·65
744	γ Draconis	3	17. 53. 40·617	6	0·09	40·729	+ 1·392	3		38. 29. 44·09		6	0·08	43·73	0·59
	γ Draconis S.P.	3	17. 53. 40·840					3		43·00					
745	35 Draconis S.P.	1	17. 55. 5·410	1	0·16	5·410	− 2·693	1		13. 1. 18·60		1	0·16	18·60	0·19
746	ψ² Draconis	1	17. 57. 22·200	1	0·48	22·200	− 1·045	1		17. 59. 0·60		1	0·48	0·60	0·51
747	70 Ophiuchi.....	1	17. 59. 5·220	1	0·55	5·220	+ 3·028	1		87. 28. 10·21		1	0·55	10·21	1·20
748	Piazzi XVII. 359 ..	2	18. 0. 6·235	2	0·47	6·235	3·796	2		118. 28. 4·60		2	0·47	4·60	+ 0·10
749	72 Ophiuchi.....	15	18. 1. 22·557	15	0·58	22·557	2·842	2		80. 27. 8·79		2	0·32	8·79	− 0·18
750	ο Herculis.....	2	18. 2. 37·685	2	0·56	37·685	2·337	2		61. 15. 10·61		2	0·56	10·61	0·24
751	101 Herculis		18. 3. (26.)					1	1	69. 58. 22·83	23·04	2	0·54	22·94	0·26
752	Piazzi XVIII. 23 ..		18. 5. (19.)					2	2	23. 4. 15·39	15·65	4	0·53	15·52	0·46
753	μ¹ Sagittarii	4	18. 6. 13·655	4	0·58	13·655	3·584			111. 5.					
754	η Sagittarii.....	1	18. 9. 6·010	1	0·50	6·010	+ 4·057	1		126. 47. 36·90		1	0·50	36·90	0·57
755	δ Ursæ Minoris	8	18. 12. 57·795	13	0·49	57·906	−19·396	33	8	3. 23. 33·57	33·29	57	0·50	33·52	− 1·15
	δ Ursæ Minoris S.P.	5	18. 12. 58·444					16		33·52					

No.	Star's Name.	Number of Obs. of R.A.	Mean R.A. 1874, Jan. 1.	Whole Number of Obs. of R.A.	Fraction of Year for Mean of Obs.	Concluded Seconds of R.A.	Annual Variation in R.A.	Number of Obs. of N.P.D. D.	Number of Obs. of N.P.D. R.	Mean N.P.D. 1874, Jan. 1. D.	Mean N.P.D. 1874, Jan. 1. R.	Whole Number of Obs. of N.P.D.	Fraction of Year for Mean of Obs.	Concluded Seconds of N.P.D.	Annual Variation in N.P.D.
			h m s			s	s			° ′ ″	″			″	″
756	η Serpentis.....	5	18. 14. 47·394	5	0·57	47·394	+ 3·101	2		92. 55. 44·36		2	0·65	44·36	− 0·61
757	37 Draconis.....		18. 16. (1.)					1	1	21. 17. 24·90	24·66	2	0·54	24·78	1·32
758	Bradley 2308.....	1	18. 16. 53·470	1	0·47	53·470	2·500	1		66. 46. 38·48		1	0·47	38·48	1·53
759	Radcliffe 3896.....	2	18. 17. 14·990	2	0·55	14·990	+ 2·645	2		72. 14. 6·06		2	0·55	6·06	1·50
760	38 Draconis.....		18. 17. (43.)					1		21. 18. 30·37		1	0·54	30·37	1·46
761	Piazzi XVIII. 93 ..	1	18. 19. 56·410	1	0·50	56·410	− 0·101	1		22. 37. 34·91		1	0·50	34·91	1·78
762	λ Sagittarii	5	18. 20. 11·626	5	0·57	11·626	+ 3·702			115. 29.					
763	φ Draconis.....							1	1	18. 43. 46·97	48·20				
	φ Draconis S.P.....	2	18. 22. 33·715	2	0·16	33·715	− 0·849	2		46·60		4	0·37	47·19	2·00
764	χ Draconis.....	2	18. 23. 19·800	3	0·44	19·800	− 1·076	2		17. 19. 19·79		3	0·47	19·91	1·66
	χ Draconis S.P. ...	1	18. 23. 19·800					1		20·26					
765	Piazzi XVIII. 100 .		18. 24. (22.)					3	3	66. 12. 57·98	58·19	6	0·66	58·09	2·12
766	Bradley 2320.....	3	18. 24. 37·687	3	0·63	37·687	+ 3·427	3		105. 16. 5·69		3	0·63	5·69	2·15
767	42 Draconis.....	1	18. 25. 37·240	2	0·36	37·155	0·173	1	1	24. 30. 52·50	51·57	3	0·49	51·81	2·18
	42 Draconis S.P....	1	18. 25. 37·070					1		51·15					
768	Piazzi XVIII. 116 .		18. 27. (31.)					3	3	66. 28. 32·15	31·93	6	0·60	32·04	2·40
769	Piazzi XVIII. 132 .		18. 30. (15.)					3	2	66. 29. 41·19	41·55	5	0·53	41·33	2·59
770	α Lyræ.....	25	18. 32. 40·310	25	0·53	40·310	2·030	15	3	51. 19. 56·51	56·86	18	0·46	56·57	3·13
771	2 Aquilæ	5	18. 35. 22·442	5	0·57	22·442	3·285	2		99. 10. 13·60		2	0·57	13·60	3·07
772	Groombridge 2627 .	1	18. 35. 29·500	1	0·61	29·500	+ 1·931	1		49. 10. 45·14		1	0·61	45·14	3·09
773	Groombridge 2655 .	1	18. 35. 49·330	1	0·48	49·330	− 2·861	1		12. 33. 10·83		1	0·48	10·83	3·13
774	Bradley 2348.....	1	18. 36. 3·700	1	0·51	3·700	+ 1·177	1		34. 52. 14·42		1	0·51	14·42	3·42
775	φ Sagittarii	1	18. 37. 46·900	1	0·64	46·900	3·752	1		117. 7. 1·04		1	0·64	1·04	3·30
776	29 Sagittarii	1	18. 42. 11·480	1	0·61	11·480	3·561	1		110. 27. 55·57		1	0·61	55·57	3·70
777	β^1 Lyræ	8	18. 45. 25·715	8	0·63	25·715	2·212	3	1	56. 46. 55·31	55·57	4	0·69	55·38	3·92
778	σ Sagittarii	1	18. 47. 27·110	1	0·57	27·110	+ 3·724	1		116. 26. 59·95		1	0·57	59·95	4·04
779	Groomb. 2719 S.P..	2	18. 48. 54·595	2	0·13	54·595	− 1·465	2		16. 3. 39·26		2	0·13	39·26	4·25
780	113 Herculis		18. 49. (25.)					1	1	67. 30. 46·51	47·29	2	0·54	46·90	4·30
781	50 Draconis S.P....	1	18. 50. 25·380	1	0·11	25·380	− 1·911	1		14. 42. 55·34		1	0·11	55·34	4·45
782	13 Lyræ.....	3	18. 51. 30·093	3	0·62	30·093	+ 1·822	3		46. 13. 7·33		3	0·62	7·33	4·41
783	ε Aquilæ	11	18. 53. 54·235	11	0·64	54·235	+ 2·718	5	3	75. 6. 3·59	4·52	8	0·59	3·94	4·57
784	γ Lyræ.....		18. 54. (13.)					3	3	57. 28. 54·34	54·89	6	0·66	54·62	4·70
785	υ Draconis	1	18. 55. 55·940	2	0·77	56·015	− 0·717	1		18. 52. 17·55		2	0·72	18·24	4·90
	υ Draconis S.P.....	1	18. 55. 56·090					1		19·27					
786	Groombridge 2742 .	1	18. 56. 1·260	1	0·69	1·260	+ 0·609	2	2	27. 46. 24·22	24·34	4	0·59	24·28	4·85
787	Bradley 2421 (1st Star)	2	18. 57. 45·775	2	0·57	45·775	− 1·977	2		14. 23. 0·48		2	0·57	0·48	4·98
788	Bradley 2421 (2nd Star)	2	18. 57. 46·795	2	0·57	46·795	− 1·976	2		14. 22. 55·35		2	0·57	55·35	4·98
789	τ Sagittarii	1	18. 59. 4·330	1	0·60	4·330	+ 3·747	1		117. 51. 6·70		1	0·60	6·70	4·85
790	ζ Aquilæ	11	18. 59. 37·128	11	0·61	37·128	2·752	5	2	76. 19. 19·70	20·30	7	0·60	19·87	5·09
791	ι Lyræ		19. 2. (48.)					1	1	54. 5. 45·20	46·25	2	0·56	45·73	5·47
792	Groomb. 2771 S.P..	1	19. 3. 6·490	1	0·17	6·490	+ 0·660	1		28. 5. 46·95		1	0·17	46·95	5·36
793	Bradley 2440.....	1	19. 3. 13·150	3	0·32	13·230	− 2·456	2	1	13. 7. 48·70	49·77	5	0·42	49·09	5·48
	Bradley 2440 S.P. .	2	19. 3. 13·270					2		49·14					
794	Bradley 2420.....	2	19. 5. 56·735	2	0·53	56·735	+ 2·288	2		58. 34. 11·64		2	0·53	11·64	5·84
795	19 Lyræ.....		19. 6. (56.)					3	3	58. 55. 31·78	32·02	6	0·62	31·90	5·83
796	ψ Sagittarii	3	19. 7. 48·740	3	0·65	48·740	3·681	3		115. 28. 16·32		3	0·65	16·32	5·83
797	55 Draconis.....		19. 9. (17.)					2	2	24. 13. 55·74	55·96	5	0·56	55·71	5·96
	55 Draconis S.P....							1		54·84					
798	1 Vulpeculæ		19. 10. (48.)					2	2	68. 49. 50·27	49·74	4	0·67	50·01	6·09
799	ω Aquilæ	5	19. 11. 54·074	5	0·63	54·074	2·814	1		78. 37. 48·68		1	0·52	48·68	6·21
800	θ Lyræ.....	1	19. 11. 59·730	1	0·77	59·730	+ 2·077	2	1	52. 5. 21·41	22·78	3	0·64	21·87	− 6·13

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			h m s			s	s			° ′ ″	″			″	″
801	δ Draconis	1	19. 12. 31·320	3	0·28	31·237	+ 0·034	5	5	22. 33. 36·51	36·22	12	0·57	36·24	− 6·31
	δ Draconis S.P.	2	19. 12. 31·195					2		35·54					
802	59 Draconis	3	19. 13. 46·040	4	0·40	46·150	− 2·141	3		13. 39. 1·50		3	0·59	1·50	6·20
	59 Draconis S.P....	1	19. 13. 46·480												
803	A Aquilæ.....	2	19. 13. 46·620	2	0·53	46·620	+ 2·796	2		77. 51. 23·01		2	0·53	23·01	6·37
804	κ Cygni S.P.	2	19. 14. 11·415	2	0·13	11·415	1·386	1		36. 51. 45·92		1	0·21	45·92	6·47
805	Piazzi XIX. 84....	2	19. 16. 38·795	2	0·65	38·795	+ 3·751	2		118. 6. 23·57		2	0·65	23·57	6·60
806	τ Draconis	1	19. 17. 57·730	2	0·40	57·710	− 1·144	3	3	16. 52. 45·09	45·81	7	0·59	45·44	6·79
	τ Draconis S.P.	1	19. 17. 57·690					1		45·34					
807	b Aquilæ		19. 18. (57.)					2	2	78. 19. 25·31	25·87	4	0·62	25·59	7·46
808	δ Aquilæ	5	19. 19. 8·656	5	0·67	8·656	+ 3·023	2		87. 8. 4·27		2	0·62	4·27	6·89
809	π Draconis.....		19. 20. (1.)					1	1	24. 31. 40·13	40·11	2	0·78	40·12	6·89
810	Piazzi XIX. 126...	5	19. 22. 4·448	5	0·55	4·448	3·711	5		117. 14. 26·38		5	0·55	26·38	6·90
811	α Vulpeculæ	1	19. 23. 27·770	1	0·51	27·770	2·494	3	2	65. 35. 19·99	19·36	5	0·62	19·74	7·05
812	β Cygni		19. 25. (38.)					5	5	62. 18. 13·42	12·71	10	0·64	13·07	7·32
813	8 Cygni	1	19. 27. 5·310	1	0·50	5·310	2·231	1		55. 48. 50·69		1	0·50	50·69	7·48
814	μ Aquilæ	8	19. 27. 55·994	8	0·55	55·994	+ 2·931	3		82. 53. 12·30		3	0·56	12·30	7·36
815	h^2 Sagittarii.....		19. 29. (2.)					1		115. 9. 31·52		1	0·53	31·52	7·62
816	9 Vulpeculæ		19. 29. (2.)					3	3	70. 30. 1·34	0·81	6	0·69	1·08	7·62
817	Groombridge 2900 .	1	19. 29. 15·320	1	0·51	15·320	− 3·505	1	1	10. 39. 5·73	5·05	2	0·51	5·39	7·62
818	ε Sagittæ	4	19. 31. 35·198	4	0·64	35·198	+ 2·719	3		73. 49. 6·98		3	0·65	6·98	7·86
819	σ Draconis							2	2	20. 33. 11·97	11·89	4	0·56	11·93	6·10
	σ Draconis S.P. ...	1	19. 32. 36·270	1	0·05	36·270	− 0·111								
820	Groombridge 2899 .	2	19. 33. 25·845	3	0·46	25·913	+ 0·648	2		26. 50. 44·98		4	0·44	44·50	7·96
	Groomb. 2899 S.P..	1	19. 33. 26·050					2		43·79					
821	e^1 Sagittarii	2	19. 33. 30·160	2	0·55	30·160	3·438			106. 34.					
822	α Sagittæ	3	19. 34. 27·887	3	0·57	27·887	2·682	3		72. 16. 27·82		3	0·57	27·82	8·03
823	Groombridge 2917 .		19. 35. (40.)					1	1	18. 40. 30·68	29·95	2	0·71	30·32	8·13
824	Piazzi XIX. 237...	1	19. 37. 25·410	1	0·72	25·410	3·805	1		121. 12. 9·10		1	0·72	9·10	8·14
825	10 Vulpeculæ		19. 38. (28.)					3	3	64. 31. 41·84	42·09	6	0·68	41·97	8·34
826	γ Aquilæ	12	19. 40. 16·112	12	0·59	16·112	2·853	4		79. 41. 32·51		4	0·19	32·51	8·50
827	δ Cygni	1	19. 41. 2·100	1	0·08	2·100	1·877	1		45. 10. 31·58		1	0·08	31·58	8·56
828	χ^1 Cygni	2	19. 41. 38·585	2	0·57	38·585	2·274	3	2	56. 33. 51·30	51·00	5	0·65	51·18	8·17
829	π Aquilæ	2	19. 42. 45·775	2	0·60	45·775	2·826	3	1	78. 29. 46·37	44·19	4	0·57	45·83	8·65
830	α Aqnilæ	21	19. 44. 38·098	21	0·44	38·098	2·928	14		81. 27. 46·30		14	0·21	46·30	9·22
831	12 Vulpeculæ.....	2	19. 45. 38·590	2	0·65	38·590	2·586	2		67. 42. 32·25		2	0·64	32·25	8·97
832	ω Sagittarii	3	19. 48. 7·203	3	0·53	7·203	+ 3·683	3		116. 37. 51·06		3	0·52	51·06	9·19
833	ε Draconis S.P.	1	19. 48. 35·440	1	0·02	35·440	− 0·172			20. 3.					
834	β Aquilæ	3	19. 49. 7·440	3	0·67	7·440	+ 2·947	1		83. 54. 22·32		1	0·61	22·32	8·72
835	Lalande 38033.....	1	19. 49. 53·530	1	0·70	53·530	+ 2·140	1		51. 50. 56·05		1	0·70	56·05	9·25
836	λ Ursæ Minoris ...	9	19. 50. 16·866	14	0·56	16·358	− 60·485	23	8	1. 4. 17·69	18·09	47	0·49	17·76	9·27
	λ Ursæ Minoris S.P.	5	19. 50. 15·444					12	4	17·74	17·57				
837	A Sagittarii	4	19. 51. 16·478	4	0·59	16·478	+ 3·659	4		116. 32. 2·50		4	0·59	2·50	9·37
838	Groombridge 2992 .	2	19. 52. 40·135	2	0·66	40·135	0·990	3	1	29. 30. 36·44	36·40	4	0·68	36·43	9·47
839	14 Vulpeculæ	2	19. 53. 46·155	2	0·69	46·155	2·572	2		67. 14. 26·29		2	0·69	26·29	9·55
840	14 Sagittæ.....	2	19. 57. 44·045	2	0·74	44·045	2·748	2		74. 19. 14·77		2	0·74	14·77	9·89
841	e Draconis	2	20. 0. 8·225	2	0·65	8·225	0·648	2		25. 31. 52·90		2	0·65	52·90	10·02
842	17 Vulpeculæ.....	2	20. 1. 28·500	2	0·73	28·500	2·577	2		66. 44. 50·10		2	0·73	50·10	10·14
843	ρ Draconis S.P.	1	20. 2. 14·530	1	0·15	14·530	0·290	1		22. 29. 6·34		1	0·15	6·34	10·23
844	Groombridge 3051 .	1	20. 3. 9·320	1	0·76	9·320	0·765	1		26. 28. 19·69		1	0·76	19·69	10·27
845	7-yr. Cat. (1864) No. 2244	1	20. 3. 11·390	1	0·70	11·390	+ 3·409	1		106. 20. 5·55		1	0·70	5·55	− 10·26

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			h m s			s	s			° ′ ″	″			″	″
846	66 Draconis.....	1	20. 3. 32·320	2	0·44	32·300	+ 0·960	1		28. 22. 11·11		2	0·48	11·16	− 10·34
	66 Draconis S.P....	1	20. 3. 32·280					1		11·22					
847	b^2 Cygni.....	1	20. 4. 45·320	1	0·81	45·320	2·225	1	1	53. 31. 49·98	48·52	2	0·81	49·25	10·44
848	θ Aquilæ	10	20. 4. 48·137	10	0·68	48·137	3·097	2		91. 11. 35·61		2	0·51	35·61	10·38
849	19 Vulpeculæ	3	20. 6. 32·123	3	0·65	32·123	2·506	3		63. 33. 54·84		3	0·65	54·84	10·51
850	Piazzi XX. 36.....	3	20. 6. 40·993	3	0·65	40·993	2·508	2		63. 37. 51·38		2	0·67	51·38	10·53
851	Lalande (F.) 3384..	2	20. 6. 56·775	2	0·63	56·775	0·961	2		28. 17. 40·22		2	0·63	40·22	10·55
852	ρ Aquilæ.....		20. 8. (26.)					1	1	75. 11. 5·30	4·41	2	0·72	4·86	10·73
853	68 Draconis.....	1	20. 9. 31·080	2	0·41	30·925	0·990	2	1	28. 18. 8·94	8·67	4	0·53	8·77	10·79
	68 Draconis S.P....	1	20. 9. 30·770					1		8·42					
854	23 Vulpeculæ.....		20. 10. (32.)					1	1	62. 34. 18·00	16·32	2	0·85	17·16	10·82
855	a^2 Capricorni.....	11	20. 11. 3·696	11	0·68	3·696	3·331	2		102. 55. 58·93		2	0·65	58·93	10·86
856	Bradley 2615.....	2	20. 11. 8·550	3	0·56	8·560	+ 1·135	2		29. 44. 38·84		3	0·60	39·17	10·87
	Bradley 2615 S.P...	1	20. 11. 8·580					1		40·19					
857	κ^1 Cephei							1	1	12. 40. 8·67	8·47	3	0·38	8·94	11·00
	κ^1 Cephei S.P.....	1	20. 13. 5·340	1	0·15	5·340	− 1·896	1		9·69					
858	35 Cygni	3	20. 13. 48·777	3	0·69	48·777	+ 2·306	3		55. 24. 35·12		3	0·69	35·12	11·07
859	β Capricorni.....	2	20. 13. 55·830	2	0·73	55·830	3·378			105. 10.					
860	Groombridge 3140 .	1	20. 15. 41·300	1	0·77	41·300	2·173	1		50. 59. 35·07		1	0·77	35·07	11·19
861	Groombridge 3150 .	2	20. 16. 16·625	3	0·47	16·597	+ 0·531	2		23. 33. 3·94		3	0·50	3·73	11·23
	Groomb. 3150 S.P. .	1	20. 16. 16·540					1		3·10					
862	Groombridge 3212 .	2	20. 17. 30·800	2	0·74	30·800	− 7·978	2		5. 42. 10·91		2	0·74	10·91	11·33
863	γ Cygni		20. 17. (42.)					1	1	50. 8. 44·48	43·00	2	0·80	43·74	11·36
864	ρ Capricorni.....	3	20. 21. 40·273	3	0·75	40·273	+ 3·425			108. 13.					
865	Piazzi XX. 146 ...	1	20. 22. 7·560	1	0·77	7·560	3·529	3		112. 48. 25·44		3	0·69	25·44	11·61
866	40 Cygni	2	20. 22. 54·250	2	0·64	54·250	2·222	2		51. 58. 20·70		2	0·64	20·70	11·67
867	Lacaille 8466.....	1	20. 23. 13·850	1	0·71	13·850	3·686	1		119. 31. 56·44		1	0·71	56·44	11·73
868	41 Cygni		20. 24. (14.)					3	3	60. 3. 3·16	2·77	6	0·72	2·97	11·80
869	Piazzi XX. 165....	1	20. 24. 48·810	1	0·58	48·810	3·582	1		115. 17. 36·89		1	0·58	36·89	11·84
870	Piazzi XX. 170....	5	20. 25. 22·038	5	0·64	22·038	3·572	5		115. 22. 1·12		5	0·64	1·12	11·76
871	ε Delphini	2	20. 27. 11·550	2	0·71	11·550	2·866	1		79. 7. 25·81		1	0·81	25·81	11·98
872	θ Cephei		20. 27. (27.)					1	1	27. 25. 45·35	44·07	2	0·77	44·71	11·96
873	η Delphini	4	20. 27. 59·470	4	0·68	59·470	+ 2·841	4		77. 24. 10·54		4	0·68	10·54	12·15
874	Bradley 2673 S.P...	1	20. 30. 32·330	1	0·23	32·330	− 0·199	1		17. 53. 42·55		1	0·23	42·55	12·21
875	27 Vulpeculæ.....	3	20. 31. 42·110	3	0·60	42·110	+ 2·556	4	1	63. 58. 31·07	31·87	5	0·65	31·23	12·31
876	Piazzi XX. 265	1	20. 32. 8·540	1	0·63	8·540	+ 0·178	1		19. 54. 0·28		1	0·63	0·28	12·27
877	73 Draconis	2	20. 33. 8·890	3	0·55	8·880	− 0·723	2		15. 28. 38·42		3	0·59	38·56	12·40
	73 Draconis S.P. ...	1	20. 33. 8·860					1		38·99					
878	α Delphini	12	20. 33. 47·092	12	0·70	47·092	+ 2·788	4	2	74. 31. 51·89	51·62	6	0·77	51·80	12·50
879	Bradley 2671.....	1	20. 34. 43·130	1	0·60	43·130	2·788	1		74. 48. 15·04		1	0·60	15·04	12·79
880	49 Cygni	1	20. 35. 56·530	1	0·86	56·530	+ 2·432			58. 8.					
881	75 Draconis	1	20. 36. 3·140	1	0·63	3·140	− 3·474	1		9. 0. 38·61		1	0·63	38·61	12·62
882	74 Draconis.....	1	20. 36. 39·470	1	0·55	39·470	3·198	1		9. 21. 4·45		1	0·55	4·45	12·87
883	α Cygni	6	20. 37. 8·147	7	0·32	8·165	+ 2·042	5		45. 10. 8·55		5	0·42	8·55	12·70
	α Cygni S.P.	1	20. 37. 8·270					1		9·33					
884	δ Delphini.....	1	20. 37. 34·580	1	0·78	34·580	2·800	1		75. 22. 34·08		1	0·78	34·08	12·68
885	ψ Capricorni	1	20. 38. 37·900	1	0·65	37·900	3·561	1		115. 43. 17·05		1	0·65	17·05	12·63
886	17 Capricorni.....	5	20. 38. 51·520	5	0·63	51·520	3·487	5		111. 58. 11·44		5	0·63	11·44	12·80
887	Groombridge 3274 .	1	20. 39. 58·140	1	0·63	58·140	1·287	1		29. 51. 8·07		1	0·63	8·07	− 12·89
888	ε Aquarii	6	20. 40. 51·182	6	0·68	51·182	+ 3·250			99. 57.					

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			h m s			s	s			° ′ ″	″			″	″
889	Piazzi XX. 298....	3	20. 41. 0·400	3	0·67	0·400	+ 3·511	3		113. 11. 45·63		3	0·67	45·63	− 12·77
890	ε Cygni		20. 41. (7.)					1	1	56. 30. 2·24	1·73	2	0·62	1·99	13·35
891	Radcliffe 4976	1	20. 41. 28·380	1	0·51	28·380	− 5·449	1		6. 48. 52·31		1	0·51	52·31	12·99
892	α Microscopii.....	1	20. 42. 5·380	1	0·64	5·380	+ 3·785	1		124. 14. 50·15		1	0·64	50·15	12·88
893	Piazzi XX. 339....	4	20. 45. 37·613	4	0·59	37·613	3·535	4		114. 15. 11·69		4	0·59	11·69	13·15
894	μ Aquarii.....	5	20. 45. 51·372	5	0·70	51·372	3·239			99. 27.					
895	31 Vulpeculæ	1	20. 46. 44·100	1	0·78	44·100	2·572	2	1	63. 22. 24·81	24·25	3	0·80	24·62	13·26
896	32 Vulpeculæ	8	20. 49. 11·361	8	0·64	11·361	2·554	2	1	62. 25. 13·59	14·10	3	0·80	13·76	13·50
897	Piazzi XX. 401....	3	20. 51. 30·357	3	0·68	30·357	2·129	3		46. 6. 30·70		3	0·68	30·70	13·65
898	76 Draconis		20. 51. (35.)					1	1	7. 56. 13·51	13·86	2	0·73	13·69	13·62
899	33 Vulpeculæ		20. 52. (38.)					1	1	68. 9. 36·79	37·07	2	0·74	36·93	13·80
900	Bradley 2749.....	1	20. 53. 14·790	1	0·77	14·790	2·495	2	1	9. 55. 17·20	17·33	3	0·74	17·24	13·76
901	Groombridge 3357 .	1	20. 55. 6·460	1	0·71	6·460	+ 2·269	1		50. 14. 21·20		1	0·71	21·20	13·87
902	Bradley 2748.....	2	20. 56. 11·805	2	0·74	11·805	− 0·626	2		14. 33. 43·58		2	0·74	43·58	13·99
903	Bradley 2738.....		20. 56. (18.)					1		31. 3. 9·33		1	0·93	9·33	13·90
904	Piazzi XX. 452....	2	20. 57. 31·025	2	0·82	31·025	+ 2·295	2		50. 59. 13·31		2	0·82	13·31	13·95
905	θ Capricorni.....	8	20. 58. 51·694	8	0·69	51·694	3·380			107. 43.					
906	Piazzi XX. 465....	1	20. 59. 8·820	1	0·77	8·820	2·252	1	1	48. 52. 9·59	9·00	2	0·86	9·30	14·09
907	61 Cygni (1st Star).	1	21. 1. 15·110	1	0·70	15·110	2·673	1		51. 52. 7·48		1	0·70	7·48	17·47
908	61 Cygni (2nd Star)	1	21. 1. 16·630	1	0·70	16·630	2·673	1		51. 52. 15·63		1	0·70	15·63	17·47
909	Piazzi XXI. 1		21. 3. (18.)					1	1	60. 18. 7·98	8·78	2	0·65	8·38	14·38
910	6 Equulei	1	21. 4. 23·820	1	0·58	23·820	2·918	1		80. 27. 48·39		1	0·58	48·39	14·43
911	Groombridge 3409 .		21. 5. (38.)					5	5	19. 4. 23·64	23·26	10	0·70	23·45	14·52
912	ζ Cygni	17	21. 7. 34·434	17	0·54	34·434	2·548	6	3	60. 17. 20·10	20·12	9	0·59	20·11	14·57
913	77 Draconis		21. 7. (58.)					2	2	12. 23. 7·12	6·68	4	0·73	6·90	14·70
914	φ Capricorni	4	21. 8. 27·323	4	0·57	27·323	3·432	3		111. 10. 21·66		3	0·60	21·66	14·72
915	α Equulei	4	21. 9. 31·445	4	0·70	31·445	3·000	1		85. 16. 18·28		1	0·62	18·28	14·67
916	τ Cygni	2	21. 9. 45·710	2	0·76	45·710	2·392	2		52. 29. 28·93		2	0·76	28·93	15·24
917	σ Cygni	2	21. 12. 28·070	2	0·76	28·070	2·353	3	1	51. 7. 56·88	57·22	4	0·76	56·97	14·90
918	34 Vulpeculæ		21. 15. (22.)					1	1	66. 40. 26·16	25·69	2	0·74	25·93	15·10
919	ι Capricorni	1	21. 15. 13·690	1	0·65	13·690	3·348								15·11
920	α Cephei	5	21. 15. 34·248	5	0·64	34·248	1·436	7	3	27. 56. 52·37	52·28	10	0·71	52·34	15·12
921	1 Pegasi	2	21. 16. 15·545	2	0·67	15·545	2·778	4	2	70. 43. 60·62	59·72	6	0·67	60·37	15·24
922	6 Cephei.....	1	21. 16. 45·110	2	0·46	45·110	1·253	1		25. 39. 42·17		2	0·50	41·95	15·17
	6 Cephei S.P.	1	21. 16. 45·110					1		41·61					
923	33 Capricorni.....	3	21. 17. 0·660	3	0·77	0·660	3·413	3		111. 23. 8·16		3	0·77	8·16	15·12
924	ζ Capricorni	2	21. 19. 28·245	2	0·57	28·245	3·435	2		112. 57. 20·13		2	0·57	20·13	15·35
925	Piazzi XXI. 142 ...	1	21. 19. 46·640	1	0·68	46·640	1·339	1		26. 18. 49·88		1	0·68	49·88	15·48
926	35 Capricorni.....	1	21. 20. 5·870	1	0·65	5·870	3·417	1		111. 44. 21·73		1	0·65	21·73	15·37
927	35 Vulpeculæ	1	21. 22. 6·950	1	0·77	6·950	2·650	2	1	62. 56. 20·77	20·24	3	0·69	20·59	15·55
928	2 Pegasi.....	2	21. 24. 14·410	2	0·75	14·410	2·720	3	2	66. 54. 45·00	44·30	5	0·73	44·72	15·61
929	β Aquarii.....	7	21. 24. 55·427	7	0·67	55·427	3·161	2		96. 7. 26·52		2	0·83	26·52	15·64
930	7 Cephei.....	1	21. 25. 19·770	1	0·68	19·770	1·171	1		23. 44. 25·12		1	0·68	25·12	15·62
931	β Cephei.....	1	21. 27. 1·620	1	0·77	1·620	0·797	4	3	19. 59. 31·64	31·24	7	0·80	31·47	15·71
932	72 Cygni		21. 29. (37.)					1	1	52. 1. 47·85	47·91	2	0·64	47·88	16·01
933	ε Capricorni.....	5	21. 30. 1·374	5	0·68	1·374	3·367	5		110. 1. 44·53		5	0·68	44·53	15·91
934	ξ Aquarii	5	21. 31. 2·530	5	0·68	2·530	3·197			98. 25.					
935	5 Pegasi.....	1	21. 31. 51·650	1	0·75	51·650	+ 2·810	1		71. 14. 50·82		1	0·75	50·82	16·09
936	9Ce phei		21. 34. (32.)					2	2	28. 29. 10·68	8·87	4	0·61	9·78	− 16·15

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			h m s			s	s			° ′ ″	″			″	″
937	Bradley 2829.....	1	21. 37. 23·330	1	0·80	23·330	+ 3·304	1		106. 32. 45·75		1	0·80	45·75	− 16·29
938	ε Pegasi	4	21. 37. 59·798	4	0·72	59·798	2·948			80. 42.					
939	9 Pegasi.....	3	21. 38. 32·663	3	0·78	32·663	2·841	3		73. 13. 37·54		3	0·78	37·54	16·35
940	κ Pegasi		21. 38. (56.)					3	3	64. 55. 59·70	60·36	6	0·84	60·03	16·40
941	11 Cephei		21. 40. (4.)					3	3	19. 16. 6·43	6·51	6	0·71	6·47	16·49
942	δ Capricorni.....	3	21. 40. 5·003	3	0·62	5·003	3·317	3		106. 41. 51·05		3	0·62	51·05	16·15
943	78 Draconis S.P....	1	21. 41. 31·370	1	0·25	31·370	0·754	1		18. 15. 24·48		1	0·25	24·48	16·46
944	Groombridge 3571 .	1	21. 44. 5·640	1	0·65	5·640	2·481	1		51. 37. 41·07		1	0·65	41·07	16·58
945	13 Pegasi.....	1	21. 44. 8·980	1	0·57	8·980	2·857	2	1	73. 17. 57·16	58·34	3	0·62	57·55	16·62
946	Groombridge 3590 .	1	21. 44. 47·590	1	0·75	47·590	1·092	2	1	20. 25. 59·00	59·99	3	0·68	59·33	16·67
947	Groomb. 3594 S.P. .	1	21. 46. 33·990	1	0·30	33·990	1·520	1		25. 21. 18·19		1	0·30	18·19	16·75
948	16 Pegasi.....	1	21. 47. 19·720	1	0·65	19·720	2·727	4	3	64. 40. 0·50	0·81	7	0·82	0·63	16·78
949	Groombridge 3616 .	1	21. 50. 32·390	1	0·58	32·390	1·787	1		29. 6. 50·96		1	0·58	50·96	16·94
950	17 Pegasi.....		21. 50. (48.)					1	1	78. 31. 15·87	16·83	2	0·77	16·35	16·93
951	79 Draconis.... ..	1	21. 51. 17·900	1	0·75	17·900	0·738	2	1	16. 53. 36·28	37·06	3	0·68	36·54	16·96
952	Groombridge 3621..	1	21. 51. 34·320	1	0·77	34·320	1·793	1		29. 3. 19·71		1	0·77	19·71	16·99
953	Piazzi XXI. 360...							1	1	26. 58. 26·24	26·14	3	0·54	25·74	17·04
	Piazzi XXI. 360 S.P.	1	21. 53. 5·940	1	0·25	5·940	1·703	1		24·37					
954	29 Aquarii.....	1	21. 55. 32·580	1	0·72	32·580	+ 3·291	1		107. 34. 13·28		1	0·72	13·28	17·20
955	Groomb. 3667 S.P..	1	21. 56. 13·720	1	0·30	13·720	− 0·713	1		10. 17. 29·88		1	0·30	29·88	17·20
956	16 Cephei		21. 57. (26).					2	2	17. 25. 11·41	11·80	4	0·84	11·61	17·06
957	α Aquarii	4	21. 59. 18·653	4	0·70	18·653	+ 3·080	1		90. 55. 50·26		1	0·75	50·26	17·32
958	ι Aquarii	3	21. 59. 37·817	3	0·55	37·817	3·244	3		104. 28. 47·17		3	0·55	47·17	17·28
959	23 Pegasi.....	1	21. 59. 52·220	1	0·77	52·220	2·713	1		61. 38. 50·38		1	0·77	50·38	17·40
960	ι Pegasi		22. 1. (8.)					2	1	65. 16. 10·26	9·40	3	0·68	9·97	17·44
961	19 Cephei		22. 1. (16.)					1	1	28. 19. 57·26	56·53	2	0·89	56·90	17·38
962	Bradley 2904.....	1	22. 2. 50·660	1	0·65	50·660	3·175	1		98. 9. 0·31		1	0·65	0·31	17·49
963	24 Cephei	2	22. 7. 23·120	2	0·74	23·120	1·166	2		18. 16. 45·28		2	0·74	45·28	17·65
964	Bradley 2934.....	1	22. 7. 46·720	1	0·85	46·720	1·220	2	1	18. 30. 31·65	32·19	3	0·82	31·83	17·69
965	θ Aquarii.....	7	22. 10. 10·983	7	0·70	10·983	3·169			98. 24.					
966	1 Lacertæ	2	22. 10. 28·760	2	0·71	28·760	2·606	2		52. 52. 41·04		2	0·71	41·04	17·80
967	45 Aquarii.....	5	22. 12. 14·878	5	0·67	14·878	3·227	5		103. 56. 4·90		5	0·67	4·90	17·88
968	Groombridge 3739 .		22. 13. (29.)					2	2	24. 30. 4·19	3·94	4	0·82	4·07	17·92
969	γ Aquarii	2	22. 15. 8·760	2	0·71	8·760	3·101			92. 1.					
970	31 Pegasi.....	1	22. 15. 18·870	1	0·74	18·870	2·956	1		78. 25. 42·97		1	0·74	42·97	18·04
971	32 Pegasi.....		22. 15. (30.)					1	1	62. 18. 12·54	12·49	2	0·64	12·52	18·02
972	50 Aquarii.....	4	22. 17. 41·938	4	0·73	41·938	3·220	4		104. 10. 1·53		4	0·73	1·53	18·11
973	26 Cephei S.P.	1	22. 23. 2·220	1	0·31	2·220	1·916	1		25. 30. 34·65		1	0·31	34·65	18·27
974	56 Aquarii.....	3	22. 23. 32·050	3	0·75	32·050	3·225	3		105. 13. 43·40		3	0·75	43·40	18·29
975	σ Aquarii	2	22. 23. 58·605	2	0·80	58·605	3·177			101. 19.					
976	38 Pegasi.....		22. 24. (16.)					1	1	58. 4. 17·94	17·88	2	0·92	17·91	18·44
977	28 Cephei		22. 25. (44.)					1	1	11. 51. 23·09	23·09	2	0·77	23·09	18·32
978	39 Pegasi.....		22. 26. (30.)					1	1	70. 25. 6·97	6·32	2	0·86	6·65	18·43
979	η Aquarii	7	22. 28. 52·840	7	0·68	52·840	3·082	1		90. 45. 56·70		1	0·65	56·70	18·43
980	Groomb. 3834 S.P..	1	22. 30. 3·270	1	0·31	3·270	1·114	1		14. 25. 20·14		1	0·31	20·14	18·64
981	40 Pegasi.....		22. 32. (46.)					1	1	71. 7. 45·98	44·49	2	0·92	45·24	18·55
982	31 Cephei S.P.	1	22. 32. 39·250	1	0·30	39·250	1·490	1		17. 0. 38·33		1	0·30	38·33	18·65
983	10 Lacertæ	1	22. 33. 36·530	1	0·86	36·530	2·681	1		51. 36. 17·83		1	0·86	17·83	18·66
984	Piazzi XXII. 186 ..	2	22. 34. 38·040	2	0·63	38·040	+ 2·952	2		76. 6. 44·70		2	0·63	44·70	− 18·68

No.	Star's Name.	Number of Obs. of R.A.	Mean R.A. 1874, Jan. 1.	Whole Number of Obs. of R.A.	Fraction of Year for Mean of Obs.	Concluded Seconds of R.A.	Annual Variation in R.A.	Number of Obs. of N.P.D. D.	Number of Obs. of N.P.D. R.	Mean N.P.D. 1874, Jan. 1. D.	Mean N.P.D. 1874, Jan. 1. R.	Whole Number of Obs. of N.P.D.	Fraction of Year for Mean of Obs.	Concluded Seconds of N.P.D.	Annual Variation in N.P.D.
			h m s			s	s			° ′ ″	″			″	″
985	ζ Pegasi	3	22. 35. 10·667	3	0·71	10·667	+ 2·986	1		79. 49. 32·20		1	0·70	32·20	− 18·70
986	67 Aquarii	2	22. 36. 39·375	2	0·70	39·375	3·136	2		97. 37. 17·58		2	0·70	17·58	18·79
987	Groomb. 3887 S.P.	1	22. 39. 5·680	1	0·15	5·680	0·238	1		9. 16. 0·44		1	0·15	0·44	18·82
988	ξ Pegasi	1	22. 40. 23·900	1	0·75	23·900	2·992	1		78. 28. 22·44		1	0·75	22·44	18·36
989	λ Pegasi		22. 40. (28.)					1	1	67. 5. 49·47	49·98	2	0·86	49·73	18·85
990	τ^2 Aquarii	4	22. 42. 55·078	4	0·71	55·078	3·180	4		104. 15. 24·18		4	0·71	24·18	18·92
991	μ Pegasi	1	22. 43. 55·300	1	0·63	55·300	2·888	1	1	66. 3. 47·78	48·27	2	0·77	48·03	18·92
992	Groomb. 3904 S.P. (1st Star)	1	22. 44. 43·090	1	0·31	43·090	2·009	1		22. 5. 51·74		1	0·31	51·74	18·98
993	Groomb. 3904 S.P. (2d Star)	1	22. 44. 43·770	1	0·31	43·770	2·009	1		22. 5. 53·24		1	0·31	53·24	18·98
994	ι Cephei	1	22. 45. 11·940	2	0·63	11·880	2·118	1	1	24. 27. 42·72	43·58	3	0·77	42·83	18·86
	ι Cephei S.P.	1	22. 45. 11·820					1		41·88					
995	λ Aquarii	2	22. 46. 2·395	2	0·74	2·395	3·127			98. 14.					
996	74 Aquarii	4	22. 46. 50·503	4	0·73	50·503	3·164	4		102. 17. 8·36		4	0·73	8·36	19·02
997	Fomalhaut	2	22. 50. 40·975	2	0·76	40·975	3·327	1		120. 17. 21·16		1	0·63	21·16	18·96
998	51 Pegasi	1	22. 51. 16·640	1	0·75	16·640	2·947	1		69. 54. 23·31		1	0·75	23·31	19·23
999	Groomb. 3946 S.P.	2	22. 53. 51·910	2	0·30	51·910	1·868	2		17. 32. 22·49		2	0·30	22·49	19·22
1000	β Pegasi	2	22. 57. 40·000	2	0·86	40·000	2·900	2		62. 36. 0·78		2	0·86	0·78	19·47
1001	α Pegasi	6	22. 58. 29·083	6	0·74	29·083	2·983	2		75. 28. 20·02		2	0·57	20·02	19·32
1002	h^1 Aquarii	1	22. 58. 35·620	1	0·92	35·620	3·131	1		98. 22. 23·46		1	0·92	23·46	19·36
1003	Bradley 3054 S.P.	1	22. 58. 45·230	1	0·31	45·230	2·259	1		23. 28. 10·19		1	0·31	10·19	19·35
1004	Groombridge 3994	2	23. 2. 50·680	4	0·55	50·758	2·409	2		26. 27. 32·70		4	0·61	32·49	19·44
	Groomb. 3994 S.P.	2	23. 2. 50·835					2		32·18					
1005	π Cephei	2	23. 3. 53·750	3	0·67	53·773	1·889	2		15. 17. 36·02		3	0·73	36·05	19·41
	π Cephei S.P.	1	23. 3. 53·820					1		36·13					
1006	Groombridge 4005	1	23. 4. 57·380	1	0·89	57·380	2·338	1		23. 26. 29·08		1	0·89	29·08	19·48
1007	60 Pegasi		23. 5. (42.)					1	1	63. 49. 59·36	58·25	2	0·77	58·81	19·41
1008	Bradley 3077 S.P.	1	23. 7. 13·430	1	0·83	13·430	2·812	1		33. 31. 35·32		1	0·23	35·32	19·80
1009	ψ^1 Aquarii	3	23. 9. 17·290	3	0·76	17·290	3·145	3		99. 46. 24·08		3	0·76	24·08	19·55
1010	61 Pegasi	1	23. 9. 37·170	1	0·87	37·170	2·923	1		62. 26. 19·31		1	0·87	19·31	19·62
1011	Bradley 3085 S.P.	2	23. 10. 8·810	2	0·34	8·810	2·094	2		16. 27. 19·19		2	0·34	19·19	19·59
1012	χ Aquarii	4	23. 10. 19·035	4	0·87	19·035	3·110	4		98. 24. 47·49		4	0·87	47·49	19·56
1013	γ Piscium	4	23. 10. 38·003	4	0·88	38·003	3·106			87. 24.					
1014	Bradley 3086 S.P.	3	23. 10. 46·850	3	0·17	46·850	2·281	3		19. 47. 55·20		3	0·17	55·20	19·59
1015	ψ^2 Aquarii	1	23. 11. 21·080	1	0·66	21·080	3·121	1		99. 52. 9·91		1	0·66	9·91	19·58
1016	ο Cephei	1	23. 13. 27·470	2	0·61	27·465	2·443	1		22. 34. 40·36		2	0·67	39·45	19·64
	ο Cephei S.P.	1	23. 13. 27·460					1		38·08					
1017	τ Pegasi		23. 14. (24.)					1	1	66. 56. 57·13	58·67	2	0·92	57·90	19·65
1018	Bradley 3100	1	23. 15. 14·230	1	0·92	14·230	2·870	1		52. 6. 26·76		1	0·92	26·76	19·71
1019	64 Pegasi	2	23. 15. 46·005	2	0·86	46·005	2·919	3	1	58. 52. 39·71	37·40	4	0·76	39·13	19·70
1020	4 Cassiopeiæ S.P.	1	23. 19. 14·900	1	0·33	14·900	2·637	1		28. 24. 31·15		1	0·33	31·15	19·73
1021	κ Piscium	6	23. 20. 28·353	6	0·85	28·353	3·075	1		89. 25. 59·98		1	0·66	59·98	19·64
1022	Bradley 3121 S.P.	1	23. 20. 58·610	1	0·18	58·610	2·450	1		20. 0. 30·17		1	0·18	30·17	19·72
1023	Bradley 3125	1	23. 21. 57·650	2	0·61	57·590	2·475	2	1	20. 19. 59·99	61·55	4	0·77	60·41	19·78
	Bradley 3125 S.P.	1	23. 21. 57·530					1		59·97					
1024	Piazzi XXIII. 96	2	23. 23. 1·245	2	0·81	1·245	3·095	2		95. 13. 7·36		2	0·81	7·36	19·45
1025	14 Andromedæ		23. 25. (5.)					2	2	51. 27. 20·99	20·28	4	0·85	20·64	19·77
1026	Bradley 3135	1	23. 27. 8·880	1	0·74	8·880	+ 2·508	1		18. 41. 36·51		1	0·74	36·51	19·82
1027	Bradley 3147	1	23. 27. 49·740	2	0·50	50·100	− 0·003	1	1	3. 23. 16·03	14·93	3	0·58	16·18	19·86
	Bradley 3147 S.P.	1	23. 27. 50·460					1		17·58					
1028	15 Andromedæ	1	23. 28. 28·060	1	0·71	28·060	+ 2·918	1		50. 27. 28·10		1	0·71	28·10	− 19·82

No.	Star's Name.	Number of Obs. of R.A.	Mean R.A. 1874, Jan. 1.	Whole Number of Obs. of R.A.	Fraction of Year for Mean of Obs.	Concluded Seconds of R.A.	Annual Variation in R.A.	Number of Obs. of N.P.D. D.	Number of Obs. of N.P.D. R.	Mean N.P.D. 1874, Jan. 1. D.	Mean N.P.D. 1874, Jan. 1. R.	Whole Number of Obs. of N.P.D.	Fraction of Year for Mean of Obs.	Concluded Seconds of N.P.D.	Annual Variation in N.P.D.
			h m s			s	s			° ′ ″	″				″
1029	75 Pegasi.....	2	23. 31. 35·130	2	0·78	35·130	+ 3·027	2	1	72. 17. 50·38	51·46	3	0·75	50·74	− 19·97
1030	ι Piscium	8	23. 33. 28·168	8	0·84	28·168	3·084	1		85. 3. 22·80		1	0·84	22·80	19·47
1031	γ Cephei.....		23. 34. (11.)					2	2	13. 4. 14·96	13·85	4	0·69	14·41	20·08
1032	78 Pegasi.....		23. 37. (39.)					1	1	61. 20. 11·35	10·09	2	0·77	10·72	19·93
1033	Bradley 3166.....	1	23. 41. 53·720	2	0·57	53·875	2·828	3	2	22. 53. 34·84	34·78	6	0·72	34·63	19·98
	Bradley 3166 S.P...	1	23. 41. 54·030					1		33·19					
1034	δ Sculptoris	4	23. 42. 21·540	4	0·75	21·540	3·138	1		118. 49. 35·33		1	0·70	35·33	19·90
1035	Bradley 3168.....	1	23. 42. 43·810	1	0·90	43·810	2·902	2		30. 43. 17·19		2	0·92	17·19	20·02
1036	79 Pegasi.....	3	23. 43. 16·930	3	0·91	16·930	2·028	3		61. 51. 31·84		3	0·91	31·84	20·05
1037	φ Pegasi.....	4	23. 46. 4·808	4	0·87	4·808	3·045	4		71. 34. 46·03		4	0·87	46·03	20·03
1038	Groombridge 4154..		23. 46. (14.)					2	2	15. 9. 28·92	29·00	4	0·70	28·96	20·02
1039	24 Piscium.....	3	23. 46. 27·157	3	0·78	27·157	3·087	3		93. 51. 17·54		3	0·78	17·54	20·04
1040	Piazzi XXIII. 229 .	1	23. 48. 58·570	1	0·77	58·570	3·041	1		64. 44. 44·83		1	0·77	44·83	20·03
1041	ω Piscium.....	10	23. 52. 50·460	10	0·80	50·460	3·078			83. 50.					
1042	Bradley 3192.....	1	23. 53. 57·270	1	0·74	57·270	3·057	1		63. 46. 52·92		1	0·74	52·92	20·05
1043	Bradley 3195.....	3	23. 55. 11·943	4	0·66	11·942	3·022	4	2	29. 28. 43·16	44·11	7	0·75	43·34	20·02
	Bradley 3195 S.P...	1	23. 55. 11·940					1		42·09					
1044	29 Piscium.....	3	23. 55. 21·977	3	0·81	21·977	3·072	3		93. 43. 43·24		3	0·81	43·24	20·04
1045	85 Pegasi.....	2	23. 55. 35·440	2	0·78	35·440	3·126	3	1	63. 35. 4·68	7·01	4	0·77	5·26	19·10
1046	Bradley 3202 (1st Star)	1	23. 56. 9·840	1	0·94	9·840	3·022	1		24. 36. 8·10		1	0·94	8·10	20·06
1047	Bradley 3202 (2nd Star)	1	23. 56. 12·300	1	0·94	12·300	3·022	1		24. 36. 3·89		1	0·94	3·89	20·06
1048	2 Ceti.....	1	23. 57. 17·080	1	0·90	17·080	3·076			108. 2.					
1049	Groomb. 4222 S.P..	1	23. 58. 36·060	1	0·35	36·060	3·058	1		29. 23. 15·67		1	0·35	15·67	20·06
1050	Piazzi XXIII. 270 .	4	23. 58. 36·237	4	0·87	36·237	3·077	5		91. 12. 9·21		5	0·88	9·21	19·98
1051	86 Pegasi.....	1	23. 59. 13·880	1	0·86	13·880	+ 3·076	1		77. 18. 18·41		1	0·86	18·41	− 20·09

NEW CONSTANTS FOR STARS IN THE CATALOGUE NOT INCLUDED IN THE GREENWICH SEVEN-YEAR CATALOGUE OF STARS FOR 1860, IN THE GREENWICH NEW SEVEN-YEAR CATALOGUE FOR 1864, OR IN LATER ANNUAL CATALOGUES.

(N.B.—*New Constants are also given for all Stars within 5°. of the Pole.*)

No. in Star-Catalogue for 1874.	Star's Name.	Logarithms of e	Logarithms of f	Logarithms of g	Logarithms of h	Value of l	Logarithms of e′	Logarithms of f′	Logarithms of g′	Logarithms of h′	Value of l′
						″					″
38	υ^1 Cassiopeiæ	0·12192	0·08852	1·45511	0·11580	79·386	0·05953	9·56531	0·73027	0·14792	130·545
45	Bradley 95	0·35262	0·16411	1·52193	0·35223	21·044	0·14983	9·36332	0·74239	0·15809	126·321
50	Groombridge 234	0·12639	0·09200	1·45802	0·12116	78·160	0·08632	9·53780	0·74771	0·16211	127·852
59	Polaris	..	..	..	..	..	0·17647	9·39808	0·77402	0·17945	121·292
62	Bradley 187	0·10260	0·08780	1·45074	0·08711	83·306	9·95602	9·94810	0·78808	0·18752	119·356
72	B. A. C. 516	0·10522	0·09081	1·45398	0·09417	82·147	0·02991	9·83242	0·82196	0·21400	117·336
84	56 Ceti	0·10182	0·09121	1·44414	0·06995	84·816	9·79113	0·18979	0·85999	0·22141	105·525
121	W. B. (2) II. 927	0·10185	0·09819	1·45825	0·09305	81·607	0·09444	9·86645	0·98265	0·26508	102·987
122	η Persei	0·11037	0·10585	1·46725	0·10501	78·837	0·17214	9·75828	0·98772	0·26665	100·651
126	17 Persei	0·10076	0·09796	1·45750	0·09154	81·874	0·08425	9·88756	0·99362	0·26846	102·138
132	* R. A. = 2^h. 50^m. (3^s.). N. P. D. = 51°. 54′...	0·10122	0·09941	1·45910	0·09292	81·506	0·10565	9·87225	1·00915	0·27313	100·348
135	Lalande 5538	0·10097	0·09985	1·45941	0·09285	81·473	0·10961	9·87456	1·01879	0·27596	99·368
139	* R. A. = 2^h. 59^m. (28^s.) N. P. D. = 51°. 24′...	0·10054	0·10041	1·45976	0·09263	81·452	0·11411	9·87952	1·03252	0·27991	97·983
141	Groombridge 612	0·13470	0·13546	1·49503	0·13252	70·323	0·24499	9·72171	1·03789	0·28142	91·993
146	W. B. (2) III. 157	0·10007	0·10171	1·46098	0·09273	81·279	0·12698	9·88263	1·05597	0·28642	95·434
158	Groombridge 642	0·26380	0·29992	1·64325	0·26347	15·604	0·29024	9·76101	1·09601	0·29688	82·314
173	Bradley 531	0·09258	0·09868	1·44773	0·07875	84·068	9·86917	0·08566	1·13674	0·30668	93·955
183	Groombridge 750	0·20598	0·27616	1·62155	0·20560	32·271	0·30573	9·84079	1·17022	0·31408	72·844
187	Groombridge 774	0·16720	0·22504	1·57527	0·16661	49·468	0·30371	9·85315	1·18076	0·31627	71·882
202	Groombridge 829	0·10391	0·12941	1·48805	0·10181	76·041	0·26623	9·90661	1·21359	0·32269	71·507
210	Groombridge 870	0·10108	0·13557	1·49366	0·09952	75·454	0·28001	9·94253	1·25504	0·32979	65·448
216	Piazzi IV. 204	0·10463	0·15366	1·51042	0·10362	71·972	0·29889	9·95692	1·27517	0·33278	61·200
226	14 Camelopardali	0·09212	0·12708	1·48518	0·09069	78·115	0·26924	9·98999	1·30026	0·33605	60·942
230	Piazzi IV. 311	0·10443	0·18114	1·53536	0·10392	67·341	0·31509	9·99300	1·31331	0·33754	54·681
232	Bradley 743	0·08435	0·10281	1·44333	0·07796	84·743	9·73838	0·09665	1·31840	0·33807	85·650
236	Groombridge 944	0·12387	0·29528	1·63882	0·12372	41·926	0·33157	0·01488	1·33598	0·33969	49·819
240	Piazzi V. 136	0·08295	0·10534	1·45884	0·08093	83·239	0·10514	0·05521	1·34652	0·34050	68·356
243	25 Camelopardali	0·08398	0·11889	1·47646	0·08311	80·577	0·24591	0·04364	1·35577	0·34111	56·259
245	Piazzi V. 184	0·08207	0·10440	1·45675	0·08030	83·579	0·07236	0·06345	1·35742	0·34120	69·361
258	39 Camelopardali	0·07921	0·12556	1·48333	0·07918	80·099	0·26862	0·07895	1·39768	0·34242	48·629
262	40 Camelopardali	0·07827	0·12497	1·48274	0·07838	80·315	0·26705	0·08507	1·39130	0·34239	48·811
267	Piazzi VI. 54	0·07591	0·12882	1·48661	0·07628	79·997	0·27614	0·09862	1·41894	0·34205	44·975
273	8 Lyncis	0·07337	0·12684	1·48468	0·07407	80·638	0·27121	0·11401	1·43592	0·34113	43·235
278	42 Camelopardali	0·06861	0·13776	1·49537	0·06940	79·512	0·28955	0·13099	1·45173	0·33974	39·084
281	Cephei 51	9·98025	0·40830	1·74290	9·98038	31·819	0·33490	0·13883	1·45557	0·33930	32·665
300	44 Camelopardali	0·06528	0·12200	1·48018	0·06727	82·394	0·25493	0·16130	1·48906	0·33380	37·869
311	Groombridge 1119	..	..	..	..	..	0·32627	0·19697	1·51188	0·32786	25·473
313	Bradley 1101	0·06790	0·10471	1·46015	0·07319	84·744	0·12228	0·14874	1·51618	0·32650	49·251
334	15 Cancri	0·06444	0·10236	1·45834	0·07187	85·381	0·09753	0·16444	1·54937	0·31264	48·327
343	Groombridge 1418	9·85680	0·27852	1·62372	9·85770	76·078	0·29824	0·24676	1·56073	0·30618	21·953
347	Piazzi VIII. 52	0·03718	0·13274	1·49185	0·03990	84·179	0·25943	0·24035	1·56262	0·30499	26·796
354	Groombridge 1446	0·02360	0·14471	1·50298	0·02587	83·975	0·26827	0·24819	1·56710	0·30206	24·952
411	Bradley 1414	0·05735	0·09071	1·44710	0·08166	86·898	9·85303	0·04049	1·62924	0·22557	71·609
416	22 Sextantis	0·05698	0·09015	1·44704	0·08197	86·944	9·85163	0·03540	1·63188	0·21921	72·284
420	Piazzi X. 22	9·84166	0·16075	1·51864	9·84387	99·378	0·20025	0·32046	1·63354	0·21493	25·450
448	66 Leonis	0·05515	0·08510	1·44822	0·07945	87·503	9·88270	0·07519	1·64773	0·16043	71·696

For No. 59, log. e = 0·58705, log. f = 0·31675, log g. = 1·65887, log. h = 0·58696, and l = − 89^{s}·737.

For No. 311, log. e = − 9·34889, log. f = 0·67487, log g. = 1·99501, log. h = − 9·34830, and l = − 15^{s}·723.

No. in Star-Catalogue for 1874.	Star's Name.	Logarithms of				Value of	Logarithms of				Value of
		e	f	g	h	l	e′	f′	g′	h′	l′
						°					″
468	Groombridge 1804	0·02314	0·08597	1·45347	0·02964	92·301	0·04825	0·31870	1·65213	0·12355	42·898
508	Piazzi XII. 111	0·05444	0·07652	1·44845	0·08100	88·014	9·88964	0·05101	1·65258	0·03759	81·391
510	Oeltz. Arg. 12753	0·04224	0·07481	1·44552	0·05228	91·075	9·91212	0·28582	1·65231	0·03267	60·458
521	Piazzi XII. 183	0·05464	0·07485	1·44863	0·08151	88·071	9·89515	0·04285	1·65066	0·00949	83·533
525	Groombridge 1931	0·04795	0·07326	1·44515	0·06013	90·330	9·86958	0·25694	1·65016	0·00367	67·478
541	Piazzi XII. 278	0·02520	0·06502	1·43752	0·03155	94·723	9·88429	0·31325	1·64682	9·97107	62·820
544	Oeltz. Arg. 13558	0·04371	0·06735	1·44078	0·05313	91·796	9·82517	0·27927	1·64319	9·94241	71·065
545	Groombridge 1986	0·04945	0·06886	1·44289	0·06124	90·635	9·81425	0·24952	1·64245	9·93726	74·976
561	B. F. 1886	0·05648	0·06868	1·44968	0·08266	88·209	9·89109	0·02412	1·63500	9·88916	92·970
586	ι Boötis	0·04501	0·05737	1·43367	0·05250	92·955	9·70295	0·26976	1·62155	9·81729	84·238
591	Groombridge 2108	0·02167	0·04023	1·41752	0·02598	98·371	9·70876	0·29329	1·61800	9·80017	82·523
634	χ Serpentis	0·06435	0·05867	1·44432	0·07583	89·241	9·77254	0·12544	1·56586	9·59263	107·873
636	B. A. C. 5197	0·06356	0·05705	1·45582	0·08546	87·836	0·05698	9·98289	1·56374	9·58550	103·888
644	Piazzi XV. 212	0·06500	0·05693	1·44166	0·07423	89·625	9·69627	0·14335	1·55448	9·55503	110·807
648	3 Herculis	0·06641	0·05799	1·44679	0·07813	88·800	9·84286	0·09460	1·54936	9·53887	110·344
649	Piazzi XV. 237	0·06515	0·05566	1·45665	0·08509	87·783	0·07089	9·99016	1·54845	9·53599	105·112
654	Lacaille 6710	0·06596	0·05573	1·45596	0·08432	87·832	0·05911	0·00155	1·54331	9·52041	106·053
676	Oeltz. Arg. 15798	0·06928	0·05442	1·45587	0·08281	87·806	0·05733	0·02536	1·51260	9·43720	109·062
681	Piazzi XVI. 159	0·06939	0·05276	1·45856	0·08374	87·629	0·10065	0·01391	1·50640	9·42261	107·540
693	Groombridge 2395	0·06431	0·02574	1·40822	0·06602	94·660	9·16967	0·16069	1·48569	9·37974	127·399
699	Groombridge 2411	0·05641	9·98935	1·37592	0·05739	100·089	9·18013	0·16216	1·48129	9·37179	127·667
705	Bradley 2174	0·07286	0·05205	1·45833	0·08200	87·580	0·09757	0·03953	1·47208	9·35659	110·053
730	Oeltz. Arg. 17413	0·07256	0·00796	1·39240	0·07302	95·795	9·06145	0·11146	1·43128	9·31161	137·288
731	Oeltz. Arg. 17419	0·07265	0·00834	1·39275	0·07310	95·736	9·06070	0·11121	1·43105	9·31151	137·330
754	η Sagittarii	0·08039	0·04797	1·46347	0·07846	87·160	0·16167	0·08775	1·38378	9·30278	109·069
755	δ Ursæ Minoris	0·10168	8·87685	0·74472	0·10164	138·263	9·24969	0·05824	1·37775	9·30452	143·292
766	Bradley 2320	0·08186	0·05357	1·45385	0·07848	87·458	0·01832	0·08930	1·35880	9·31341	120·654
772	Groombridge 2627	0·08407	0·04648	1·43025	0·08238	89·297	9·35372	0·04106	1·34056	9·32628	145·290
805	Piazzi XIX. 84	0·08807	0·05254	1·45858	0·07493	86·961	0·10609	0·13182	1·26518	9·40729	116·097
820	Groombridge 2899	0·09987	0·02715	1·40905	0·09769	89·840	9·26717	9·92738	1·23154	9·45036	156·722
835	Lalande 38033	0·09313	0·05106	1·43361	0·08784	87·730	9·49234	9·96149	1·19734	9·49507	152·633
836	λ Ursæ Minoris	..	..	..	..	..	9·48530	9·86753	1·19631	9·49640	157·231
844	Groombridge 3051	0·10605	0·02999	1·41103	0·10331	88·666	9·37585	9·87025	1·16829	9·53271	159·313
850	Piazzi XX. 36	0·09309	0·05563	1·43946	0·08542	87·164	9·63669	9·98536	1·16050	9·54267	148·912
897	Piazzi XX. 401	0·10139	0·05392	1·43344	0·09470	86·475	9·57875	9·86226	1·05515	9·66946	157·013
937	Bradley 2829	0·09916	0·06425	1·45183	0·07332	86·041	9·97777	0·15576	0·93983	9·79024	124·592
947	Groombridge 3594	0·12387	0·04702	1·42357	0·11976	84·127	9·71357	9·64869	0·91657	9·81284	159·789
992	Groombridge 3904	0·13600	0·05797	1·43151	0·13206	80·941	9·86782	9·50919	0·77946	9·94309	154·333
1004	Groombridge 3994	0·12870	0·06561	1·43789	0·12378	81·164	9·89520	9·52180	0·74544	9·97916	151·540
1014	Bradley 3086	0·14373	0·06374	1·43587	0·14017	78·979	9·93080	9·44824	0·73271	9·99437	150·501
1026	Bradley 3135	0·14793	0·06830	1·43946	0·14456	77·712	9·96647	9·41910	0·71177	0·02417	147·685
1027	Bradley 3147	0·36495	0·01795	1·39641	0·36458	38·243	0·01484	9·32545	0·71107	0·02535	146·168
1035	Bradley 3168	0·12390	0·07560	1·44564	0·11789	80·712	9·96066	9·53497	0·69909	0·05094	144·483
1050	Piazzi XXIII. 270	0·10267	0·07904	1·44827	0·07867	84·692	9·88440	0·08670	0·69414	0·07707	124·529

For No. 836, log. e = 0·45489, og. f = − 0·29215, log. g. = − 1·54755, log. h = 0·45484, and l = 158°·820.

ROYAL OBSERVATORY, GREENWICH.

HORIZONTAL AND VERTICAL DIAMETERS

AND

RIGHT ASCENSIONS AND NORTH POLAR DISTANCES

OF THE

SUN, MOON, AND PLANETS,

(The Right Ascensions of the Sun, Moon, and Planets corrected for Personal Equation when required ; and the North Polar Distances corrected for Discordance of Direct and Reflexion Results, for Errors of Division, and for Flexure of the Telescope of the Transit-Circle,)

DEDUCED FROM THE OBSERVATIONS,

AND

COMPARED WITH THE CORRESPONDING RESULTS OF THE NAUTICAL ALMANAC:

WITH

THE INFERRED POSITION OF THE ECLIPTIC; THE GEOCENTRIC ERRORS OF THE SUN, MOON, AND PLANETS IN LONGITUDE AND ECLIPTIC POLAR DISTANCE;

AND

THE EQUATIONS BETWEEN THE GEOCENTRIC ERRORS OF THE PLANETS AND THE HELIOCENTRIC ERRORS OF THE EARTH AND PLANETS IN LONGITUDE AND ECLIPTIC POLAR DISTANCE.

1874.

SIDEREAL TIMES occupied by the TRANSIT of the SUN'S DIAMETER; and VERTICAL DIAMETERS of the SUN, corrected for Refraction and Parallax: compared with the corresponding Results of the Nautical Almanac.

DAY.	Observer.	Observed Duration of Transit.	Seconds of Nautical Almanac.	Apparent Error of Nautical Almanac.	Observed Vertical Diameter.	Seconds of Nautical Almanac.	Apparent Error of Nautical Almanac.
1874.		m s	s	s	′ ″	″	″
Jan. 1	E	2. 21·97	22·14	+ 0·17	32. 35·76	36·40	+ 0·64
5	E	....	...	...	32. 34·37	36·40	+ 2·03
6	L	2. 21·64	21·58	− 0·06	32. 37·19	36·40	− 0·79
7	M	2. 21·21	21·46	+ 0·25	32. 34·12	36·20	+ 2·08
10	M	2. 20·79	21·00	+ 0·21	32. 37·20	36·00	− 1·20
13	E	2. 20·44	20·50	+ 0·06	32. 31·68	35·60	+ 3·92
14	L	2. 20·15	20·32	+ 0·17	32. 34·30	35·40	+ 1·10
16	G	....	...	...	32. 35·69	35·20	− 0·49
17	M	2. 19·56	19·76	+ 0·20	32. 35·02	35·00	− 0·02
21	L	2. 18·88	18·94	+ 0·06	32. 36·14	34·20	− 1·94
27	E	2. 17·37	17·62	+ 0·25	32. 32·91	33·00	+ 0·09
30	AD	2. 16·83	16·94	+ 0·11	32. 30·82	32·20	+ 1·38
31	E	2. 16·58	16·72	+ 0·14	32. 28·81	32·00	+ 3·19
Feb. 7	H	2. 14·91	15·10	+ 0·19	32. 30·02	29·60	− 0·42
9	M	2. 14·49	14·64	+ 0·15	32. 26·91	29·00	+ 2·09
10	G	2. 14·13	14·42	+ 0·29	...	...	...
11	AD	2. 14·13	14·20	+ 0·07	32. 28·92	28·20	− 0·72
19	C	2. 12·57	12·54	− 0·03	32. 23·65	24·80	+ 1·15
20	E	2. 12·24	12·34	+ 0·10	32. 26·63	24·40	− 2·23
21	AD	2. 12·02	12·16	+ 0·14	32. 23·14	24·00	+ 0·86
27	C	2. 11·06	11·12	+ 0·06	...	...	...
Mar. 2	L	2. 10·42	10·68	+ 0·26	32. 23·72	19·80	− 3·92
3	C	2. 10·51	10·54	+ 0·03	32. 13·13	19·40	+ 6·27
4	E	....	...	...	32. 24·52	18·80	− 5·32
6	L	2. 10·11	10·14	+ 0·03	32. 18·74	17·80	− 0·94
7	C	2. 9·94	10·02	+ 0·08	32. 16·28	17·40	+ 1·12
23	C	2. 8·83	8·92	+ 0·09	32. 5·37	8·60	+ 3·23
25	L	2. 8·90	8·90	0·00	32. 14·37	7·60	− 6·77
27	C	2. 8·80	8·90	+ 0·10	32. 3·47	6·60	+ 3·13
28	AD	2. 8·86	8·90	+ 0·04	32. 8·18	6·00	− 2·18
April 7	M	2. 9·04	9·28	+ 0·24	31. 59·82	60·40	+ 0·58
20	AD	2. 10·40	10·54	+ 0·14	31. 54·10	53·40	− 0·70
21	L	2. 10·72	10·66	− 0·06	31. 55·51	52·80	− 2·71
22	C	2. 10·86	10·80	− 0·06	...	...	...
23	E	2. 10·99	10·92	− 0·07	31. 54·10	51·80	− 2·30
27	E	2. 11·46	11·50	+ 0·04	31. 51·80	50·00	− 1·80
28	AD	2. 11·64	11·64	0·00	31. 49·74	49·60	− 0·14
29	L	....	...	...	31. 53·69	49·00	− 4·69
30	C	2. 11·70	11·96	+ 0·26	31. 47·52	48·60	+ 1·08
May 16	AD	2. 14·53	14·54	+ 0·01	31. 42·55	41·40	− 1·15
18	L	2. 14·88	14·86	− 0·02	31. 46·17	40·60	− 5·57
20	AD	....	...	...	31. 40·77	40·00	− 0·77
21	E	2. 15·25	15·34	+ 0·09	31. 38·06	39·60	+ 1·54
22	L	....	...	...	31. 40·53	39·40	+ 1·13
27	C	2. 16·10	16·20	+ 0·10	...	...	...
30	L	2. 16·58	16·58	0·00	...	...	...
June 1	AD	2. 16·75	16·82	− 0·07	31. 35·07	36·20	+ 1·13
4	G	2. 17·10	17·12	+ 0·02	31. 39·80	35·40	− 4·40
5	H	2. 17·07	17·22	+ 0·15	31. 36·90	38·20	− 6·70
8	C	....	...	...	31. 32·74	34·60	+ 1·86
9	AD	....	...	...	31. 38·18	34·40	− 3·78
11	S	2. 17·59	17·66	+ 0·07	...	...	...
12	H	2. 17·48	17·72	+ 0·24	...	...	...
22	H	2. 17·77	17·92	+ 0·15	31. 30·18	32·40	+ 2·22
June 24	AD	2. 17·77	17·88	+ 0·11	31. 30·05	32·20	+ 2·15
30	L	2. 17·58	17·62	+ 0·04	31. 34·00	32·00	− 2·00
July 2	S	2. 17·44	17·48	+ 0·04	31. 28·95	32·00	+ 3·05
3	H	2. 17·21	17·40	+ 0·19	31. 31·58	32·00	+ 0·42
6	S	2. 16·92	17·12	+ 0·20	31. 32·84	32·00	− 0·84
7	M	2. 16·97	17·02	+ 0·05	31. 31·10	32·00	+ 0·90
8	L	2. 17·06	16·90	− 0·16	31. 33·60	32·00	− 1·60
9	C	2. 16·64	16·80	+ 0·16	31. 29·50	32·20	+ 2·70
10	AD	2. 16·39	16·68	+ 0·29	31. 30·04	32·20	+ 2·16
16	AD	2. 15·81	15·88	+ 0·07	31. 32·46	32·80	+ 0·34
17	E	2. 15·76	15·74	− 0·02	31. 33·96	32·80	− 1·16
18	L	2. 15·70	15·58	− 0·12	31. 36·82	33·00	− 3·82
23	C	2. 14·73	14·80	+ 0·07	31. 31·92	33·80	+ 1·88
25	E	2. 14·40	14·48	+ 0·08	31. 33·86	34·20	+ 0·34
Aug. 3	S	....	...	...	31. 34·28	36·40	+ 2·12
6	S	2. 12·13	12·40	+ 0·27	31. 35·80	37·20	+ 1·40
11	J	....	...	...	31. 34·01	38·60	+ 4·59
14	C	2. 11·01	11·08	+ 0·07	31. 35·82	39·80	+ 3·98
20	M	2. 10·16	10·18	+ 0·02	31. 43·08	42·00	− 1·08
22	AD	2. 9·88	9·92	+ 0·04	31. 42·52	42·80	+ 0·28
24	J	2. 9·49	9·66	+ 0·17	....	...	...
26	AD	2. 9·23	9·42	+ 0·19	31. 41·98	44·60	+ 2·62
29	L	2. 8·89	9·10	+ 0·21	31. 43·47	45·80	+ 2·33
Sept. 2	W	2. 8·44	8·72	+ 0·28	31. 49·10	47·60	− 1·50
15	W	2. 7·64	8·10	+ 0·46	31. 51·17	54·00	+ 2·83
19	S	2. 8·02	8·12	+ 0·10	....	...	...
21	EG	2. 7·87	8·16	+ 0·29	....	...	...
24	S	2. 8·07	8·26	+ 0·19	....	...	...
25	E	2. 8·16	8·30	+ 0·14	31. 57·47	59·60	+ 2·13
26	C	2. 8·26	8·36	+ 0·10	....	...	...
28	L	2. 8·38	8·48	+ 0·10	32. 2·49	1·20	− 1·29
30	S	2. 8·52	8·64	+ 0·12	32. 0·93	2·20	+ 1·27
Oct. 1	J	2. 8·55	8·72	+ 0·17	32. 2·65	2·80	+ 0·15
8	C	2. 9·40	9·46	+ 0·06	32. 4·00	6·60	+ 2·60
10	L	2. 9·55	9·72	+ 0·17	32. 8·47	7·60	− 0·87
20	C	2. 11·39	11·38	− 0·01	32. 12·83	13·20	+ 0·37
28	C	2. 13·12	13·02	− 0·10	32. 17·38	17·40	+ 0·02
Nov. 3	L	2. 14·28	14·36	+ 0·08	....	...	...
4	AD	2. 14·44	14·60	+ 0·16	32. 19·62	20·80	+ 1·18
5	C	2. 14·85	14·84	− 0·01	32. 20·75	21·40	+ 0·65
7	L	2. 15·33	15·30	− 0·03	32. 21·70	22·20	+ 0·50
11	E	2. 16·14	16·26	+ 0·12	....	...	...
12	L	2. 16·61	16·50	− 0·11	32. 27·16	24·60	− 2·56
14	AD	2. 16·77	16·58	− 0·19	32. 27·90	25·40	− 2·50
16	EG	....	...	...	32. 25·05	26·20	+ 1·15
20	C	2. 18·31	18·38	+ 0·07	32. 28·21	28·00	− 0·21
23	EG	2. 18·70	19·04	+ 0·34	32. 28·97	29·00	+ 0·03
24	L	2. 19·05	19·24	+ 0·19	32. 28·99	29·40	+ 0·41
27	S	2. 19·67	19·86	+ 0·19	32. 28·00	30·40	+ 2·40
Dec. 2	L	....	...	...	32. 34·25	32·00	− 2·25
4	AD	....	...	...	32. 31·53	32·40	+ 0·87
7	L	....	...	..	32. 33·69	33·20	− 0·49
10	AD	2. 21·83	21·88	+ 0·05	32. 31·07	34·00	+ 2·93
11	EG	....	...	...	32. 32·00	34·20	+ 2·20
23	AD	2. 22·66	22·58	− 0·08	32. 30·82	36·00	+ 5·18

SIDEREAL TIMES occupied by the TRANSIT of the MOON'S DIAMETER; and VERTICAL DIAMETERS of the MOON, corrected for Refraction, Parallax, and Defect of Illumination: compared with the corresponding Results of the Nautical Almanac.

DAY.	Observer.	Observed Duration of Transit.	Seconds of Nautical Almanac.	Apparent Error of Nautical Almanac.	Observed Vertical Diameter.	Seconds of Nautical Almanac.	Apparent Error of Nautical Almanac.
1874.		m s	s	s	′ ″	″	″
Jan. 3	AD	....	...	...	30. 34·42	30·20	− 4·22
Feb. 24	E	....	...	...	31. 4·42	6·80	+ 2·38
March 2	L	2. 4·77	4·80	+ 0·03	....	...	...
3	C	....	...	...	29. 31·16	30·80	− 0·36
24	AD	....	...	...	31. 9·71	10·20	+ 0·49
April 30	C	....	...	...	29. 40·62	38·00	− 2·62
May 1	E	2. 8·97	8·88	− 0·09	29. 47·57	46·80	− 0·77
29	E	....	...	...	30. 1·18	0·40	− 0·78
July 29	E	....	...	...	32. 19·85	14·80	− 5·05
Aug. 22	AD	....	...	...	30. 53·15	47·00	− 6·15
Sept. 25	E	....	...	...	33. 19·88	22·40	+ 2·52
Nov. 22	AD	....	...	...	33. 25·51	22·40	− 3·11
Dec. 21	E	....	...	...	32. 53·29	54·00	+ 0·71

VERTICAL DIAMETERS of MERCURY, corrected for Refraction, Parallax, and Defect of Illumination: compared with the corresponding Results of the Nautical Almanac.

DAY.	Observer.	Observed Vertical Diameter.	Diameter from Nautical Almanac.	Apparent Error of Nautical Almanac.
1874.		″	″	″
April 20	L	9·65	7·10	− 2·55
21	C	6·50	7·00	+ 0·50
June 5	H	7·91	5·50	− 2·41
9	AD	7·63	5·70	− 1·93
Dec. 6	L	9·66	5·90	− 3·76

VERTICAL DIAMETERS of VENUS, corrected for Refraction, Parallax, and Defect of Illumination: compared with the corresponding results of the Nautical Almanac.

DAY.	Observer.	Observed Vertical Diameter.	Diameter from Nautical Almanac.	Apparent Error of Nautical Almanac.	DAY.	Observer.	Observed Vertical Diameter.	Diameter from Nautical Almanac.	Apparent Error of Nautical Almanac.
1874.		″	″	″	1874.		″	″	″
Jan. 20	L	11·28	9·80	− 1·48	April 21	L	14·48	10·00	− 4·48
					22	C	11·59	10·00	− 1·59
					28	AD	11·88	11·00	− 0·88
Mar. 28	AD	10·00	9·80	− 0·20	29	L	15·55	10·20	− 5·35
					30	C	8·79	10·20	+ 1·41
April 8	G	11·70	9·90	− 1·80					
20	AD	12·66	10·00	− 2·66	May 16	AD	13·53	10·60	− 2·93

VERTICAL DIAMETERS of VENUS, corrected for Refraction, Parallax, and Defect of Illumination: compared with the corresponding results of the Nautical Almanac—*concluded.*

DAY.	Observer.	Observed Vertical Diameter.	Diameter from Nautical Almanac.	Apparent Error of Nautical Almanac.	DAY.	Observer.	Observed Vertical Diameter.	Diameter from Nautical Almanac.	Apparent Error of Nautical Almanac.
1874.		"	"	"	1874.		"	"	"
June 1	AD	14·24	11·10	− 3·14	August 6	S	18·02	15·30	− 2·72
2	E	15·56	11·20	− 4·36	20	M	17·81	16·90	− 0·91
4	G	14·11	11·20	− 2·91	21	L	21·35	17·00	− 4·35
5	H	12·52	11·20	− 1·32	22	AD	21·70	17·20	− 4·50
9	AD	14·48	11·40	− 3·08	24	J	17·37	17·50	+ 0·13
12	H	12·67	11·60	− 1·07					
15	C	14·08	11·70	− 2·38	Sept. 2	W	17·83	18·80	+ 0·97
19	C	13·39	11·90	− 1·49	10	EG	23·88	20·20	− 3·68
25	S	14·57	12·20	− 2·37	15	W	26·94	21·30	− 5·64
					26	C	24·66	24·00	− 0·66
July 7	M	11·75	12·90	+ 1·15	30	S	26·87	25·00	− 1·87
8	L	17·53	13·00	− 4·53					
9	C	16·46	13·00	− 3·46	Oct. 19	AD	32·72	32·10	− 0·62
10	AD	16·30	13·00	− 3·30	28	C	36·53	36·80	+ 0·27
13	L	18·48	13·30	− 5·18					
14	S	13·33	13·40	+ 0·07	Nov. 3	L	42·68	40·40	− 2·28
17	E	18·17	13·50	− 4·67	12	L	47·41	46·80	− 0·61
18	L	17·86	13·60	− 4·26	23	EG	54·66	55·60	+ 0·94
20	AD	15·75	11·40	− 4·35	27	S	58·73	58·60	− 0·13

SIDEREAL TIMES occupied by the TRANSIT of the DIAMETER of JUPITER; and VERTICAL DIAMETERS of JUPITER, corrected for Refraction and Parallax: compared with the corresponding results of the Nautical Almanac.

DAY.	Observer.	Observed Duration of Transit.	Duration from Nautical Almanac.	Apparent Error of Nautical Almanac.	Observed Vertical Diameter.	Diameter from Nautical Almanac.	Apparent Error of Nautical Almanac.	DAY.	Observer.	Observed Duration of Transit.	Duration from Nautical Almanac.	Apparent Error of Nautical Almanac.	Observed Vertical Diameter.	Diameter from Nautical Almanac.	Apparent Error of Nautical Almanac.
1874.		s	s	s	"	"	"	1874.		s	s	s	"	"	"
Feb. 8	L	3·00	2·86	−0·14	42·81	39·60	−3·21	April 6	L	3·13	2·95	−0·18	46·10	41·00	−5·10
19	C	2·97	2·92	−0·05	40·63	40·60	−0·03	7	M	....	...	...	42·17	41·00	−1·17
20	E	2·92	2·92	0·00	43·77	40·60	−3·17	8	G	2·80	2·94	+0·14	43·49	40·90	−2·59
24	E	2·98	2·94	−0·04	43·83	40·80	−3·03	10	J	2·90	2·94	+0·04	42·60	40·80	−1·80
27	C	3·06	2·95	−0·11	43·39	41·00	−2·39	16	AD	2·88	2·91	+0·03	42·29	40·30	−1·99
								20	AD	2·86	2·88	+0·02	42·25	40·00	−2·25
								21	L	2·92	2·88	−0·04	43·86	40·00	−3·86
Mar. 3	C	3·02	2·96	−0·06	43·22	42·20	−1·02	22	C	2·82	2·87	+0·05	38·36	39·90	+1·54
6	L	3·08	2·98	−0·10	49·52	41·40	−8·12	23	E	3·00	2·86	−0·14	44·58	39·80	−4·78
7	C	2·96	2·98	+0·02	42·75	41·40	−1·35	25	S	2·66	2·86	+0·20	41·12	39·60	−1·52
10	J	2·82	2·98	+0·16	42·41	41·60	−0·81	27	E	2·95	2·84	−0·11	42·71	39·60	−3·11
11	M	2·88	2·98	+0·10	...	...	...	28	AD	3·04	2·84	−0·20	43·71	39·50	−4·21
19	AD	2·94	3·00	+0·06	45·74	41·60	−4·14	29	L	3·08	2·84	−0·14	42·85	39·40	−3·45
20	E	3·06	3·00	−0·06	46·13	41·60	−4·53	30	C	2·88	2·83	−0·05	41·10	39·30	−1·80
23	C	3·01	3·00	−0·01	44·18	41·60	−2·58								
24	AD	3·08	3·00	−0·08	44·92	41·60	−3·32	May 6	J	2·70	2·79	+0·09	40·17	38·70	−1·47
25	L	3·32	3·00	−0·32	49·49	41·60	−7·89	9	E	2·90	2·76	−0·14	39·96	38·40	−1·56
26	E	3·20	3·00	−0·20	43·30	41·60	−1·70	15	L	2·75	2·72	−0·03	40·31	37·60	−2·71
31	C	3·12	2·97	−0·15	43·70	41·30	−2·40	18	L	2·79	2·69	−0·10	41·07	37·20	−3·87
								20	AD	2·68	2·67	−0·01	38·52	36·90	−1·62

SIDEREAL TIMES occupied by the TRANSIT of the DIAMETER of SATURN; and VERTICAL DIAMETERS of SATURN, corrected for Refraction and Parallax: compared with the corresponding results of the Nautical Almanac.

July 1	C	1·39	1·25	+0·14	16·90	16·60	−0·30	July 16	AD	1·33	1·28	−0·05	19·88	16·80	−3·08
6	S	1·16	1·26	+0·10	17·62	16·60	−1·02	17	E	1·40	1·28	−0·12	21·76	16·80	−4·96
13	L	...	...	...	20·02	16·60	−3·42	21	E	1·33	1·28	−0·05	21·01	16·80	−4·21
14	S	1·52	1·26	−0·26	16·61	16·60	−0·01	23	C	1·38	1·28	−0·10	18·94	16·80	−2·14
15	C	1·35	1·27	−0·08	17·96	16·70	−1·26	24	AD	1·30	1·28	−0·02	18·54	16·80	−1·74

SIDEREAL TIMES occupied by the TRANSIT of the DIAMETER of SATURN; and VERTICAL DIAMETERS of SATURN, corrected for Refraction and Parallax: compared with the corresponding results of the Nautical Almanac—*concluded.*

DAY.	Observer.	Observed Duration of Transit.	Duration from Nautical Almanac.	Apparent Error of Nautical Almanac.	Observed Vertical Diameter.	Diameter from Nautical Almanac.	Apparent Error of Nautical Almanac.
1874.		s	s	s	″	″	″
July 28	S	1·44	1·28	−0·16	17·73	16·80	−0·93
29	E	1·31	1·28	−0·03	19·26	16·80	−2·46
30	L	1·40	1·28	−0·12	20·31	16·80	−3·51
Aug. 1	AD	1·33	1·28	−0·05	18·72	16·80	−1·92
6	S	1·50	1·28	−0·22	18·27	16·80	−1·47
8	C	1·39	1·28	−0·11	19·00	16·80	−2·20
11	J	1·35	1·28	−0·07	17·00	16·80	−0·20
15	E	1·30	1·28	−0·02	19·77	16·80	−2·97
17	L	1·42	1·28	−0·14	17·99	16·80	−1·19
19	E	1·47	1·28	−0·19	18·92	16·80	−2·12
20	M	1·14	1·28	+0·14	17·55	16·70	−0·85
21	L	1·46	1·26	−0·20	20·83	16·60	−4·23
22	AD	1·29	1·26	−0·03	18·55	16·60	−1·95
25	L	1·41	1·26	−0·15	20·47	16·60	−3·87
26	AD	1·24	1·26	+0·02	18·92	16·60	−2·32
29	L	1·41	1·26	−0·15	19·86	16·60	−3·26
Sept. 2	W	1·18	1·26	+0·08	21·07	16·60	−4·47
4	AD	1·28	1·26	−0·02	19·42	16·60	−2·82
9	C	1·32	1·26	−0·06	16·70	16·60	−0·10
10	EG	1·05	1·26	+0·21	18·72	16·60	−2·12
12	AD	1·26	1·26	0·00	16·58	16·60	+0·02
14	C	1·42	1·24	−0·18	18·08	16·40	−1·68
1874.		s	s	s	″	″	″
Sept. 15	W	1·30	1·24	−0·06	16·96	16·40	−0·56
19	S	1·30	1·24	−0·06	18·96	16·40	−2·56
21	EG	1·19	1·24	+0·05	18·45	16·40	−2·05
22	C	1·33	1·24	−0·09	17·76	16·40	−1·36
26	C	1·32	1·22	−0·10	17·91	16·20	−1·71
28	L	1·37	1·22	−0·15	18·97	16·20	−2·77
Oct. 2	EG	1·22	1·20	−0·02	18·83	16·00	−2·83
5	S	1·21	1·20	−0·01	19·17	16·00	−3·17
8	C	1·34	1·20	−0·14	16·64	15·80	−0·84
9	EG	1·24	1·20	−0·04	18·46	15·80	−2·66
10	L	1·34	1·20	−0·14	18·80	15·80	−3·00
12	E	1·30	1·20	−0·10	19·09	15·80	−3·29
20	C	1·33	1·18	−0·15	19·04	15·60	−3·44
21	E	1·24	1·18	−0·06	18·78	15·60	−3·18
22	L	1·28	1·18	−0·10	18·00	15·60	−2·40
23	AD	1·08	1·17	+0·09	16·37	15·50	−0·87
24	C	1·28	1·16	−0·12	16·11	15·40	−0·71
Nov. 3	L	1·33	1·16	−0·17	16·97	15·20	−1·77
7	L	1·38	1·14	−0·24	17·21	15·00	−2·21
9	C	1·33	1·14	−0·19	15·69	15·00	−0·69
13	S	1·26	1·14	−0·12	16·90	15·00	−1·90

SIDEREAL TIMES occupied by the TRANSIT of the DIAMETER of URANUS; and VERTICAL DIAMETERS of URANUS, corrected for Refraction and Parallax: compared with the corresponding results of the Nautical Almanac.

Jan. 21	L	0·40	0·30	−0·10	5·78	4·20	−1·58	Mar. 24	AD	...	...	...	6·24	4·20	−2·04
Mar. 14	L	0·39	0·30	−0·09	6·09	4·20	−1·89	25	L	0·44	0·30	−0·14	6·76	4·20	−2·56
19	AD	...	...	...	5·92	4·20	−1·72	April 6	L	0·56	0·30	−0·26	5·56	4·20	−1·36

RIGHT ASCENSIONS and NORTH POLAR DISTANCES of the CENTER of the SUN.

Mean Solar Time of Transit of Center.	Observer.	R.A. from Observation.	Seconds of R.A. in Nautical Almanac.	Apparent Error of Nautical Almanac in R.A.	N.P.D. from Observation.	Seconds of N.P.D. in Nautical Almanac.	Apparent Error of Nautical Almanac in N.P.D.
1874. d h m s		s	s	s	° ′ ″	″	″
Jan. 1. 0. 3. 52·8	E	18. 47. 45·52	45·59	+ 0·07	113. 0. 11·87	11·10	− 0·77
5. 0. 5. 42·9	E	....	...	...	112. 36. 21·27	23·70	+ 2·43
6. 0. 6. 9·2	L	19. 9. 45·08	45·19	+ 0·11	112. 29. 19·09	19·40	+ 0·31
7. 0. 6. 35·3	M	19. 14. 7·82	7·81	− 0·01	112. 21. 47·76	48·50	+ 0·74
10. 0. 7. 50·1	M	19. 27. 12·49	12·64	+ 0·15	111. 56. 37·00	38·30	+ 1·30
13. 0. 9. 0·3	E	19. 40. 12·53	12·44	− 0·09	111. 27. 37·08	36·80	− 0·28
14. 0. 9. 22·7	L	19. 44. 31·08	31·15	+ 0·07	111. 17. 4·12	6·10	+ 1·98
16. 0. 10. 4·5	G	19. 53. 6·59	6·61	+ 0·02	110. 54. 50·96	51·40	+ 0·44
17. 0. 10. 24·6	M	19. 57. 23·25	23·32	+ 0·07	110. 43. 6·10	7·90	+ 1·80
21. 0. 11. 37·6	L	20. 14. 22·73	22·78	+ 0·05	109. 52. 19·52	21·40	+ 1·88
27. 0. 13. 3·5	E	20. 39. 28·18	28·19	+ 0·01	108. 25. 13·34	13·90	+ 0·56
30. 0. 13. 35·2	AD	20. 51. 49·62	49·74	+ 0·12	107. 37. 4·41	6·80	+ 2·39
31. 0. 13. 44·3	E	20. 55. 55·31	55·26	− 0·05	107. 20. 26·71	26·60	− 0·11

RIGHT ASCENSIONS and NORTH POLAR DISTANCES of the CENTER of the SUN—*continued.*

Mean Solar Time of Transit of Center.	Observer.	R.A. from Observation.	Seconds of R.A. in Nautical Almanac.	Apparent Error of Nautical Almanac in R.A.	N.P.D. from Observation.	Seconds of N.P.D. in Nautical Almanac.	Apparent Error of Nautical Almanac in N.P.D.
1874. d h m s		h m s	s	s	° ′ ″	″	″
Feb. 7. 0. 14. 23·9	H	21. 24. 10·91	10·93	+ 0·02	105. 15. 33·82	35·10	+ 1·28
9. 0. 14. 28·0	M	21. 32. 8·13	8·24	+ 0·11	104. 37. 26·97	28·80	+ 1·83
10. 0. 14. 29·0	G	21. 36. 5·77	5·73	− 0·04	104. 18. 2·42	3·40	+ 0·98
11. 0. 14. 29·1	AD	21. 40. 2·35	2·46	+ 0·11	103. 58. 23·16	23·60	+ 0·44
19. 0. 14. 4·2	C	22. 11. 9·83	9·87	+ 0·04	101. 13. 20·55	20·80	+ 0·25
20. 0. 13. 57·9	E	22. 15. 0·11	0·10	− 0·01	100. 51. 49·19	51·30	+ 2·11
21. 0. 13. 50·9	AD	22. 18. 49·62	49·66	+ 0·04	100. 30. 11·69	11·90	+ 0·21
27. 0. 12. 55·7	C	22. 41. 33·64	33·68	+ 0·04	....	...	...
Mar. 2. 0. 12. 20·2	L	22. 52. 47·70	47·94	+ 0·24	97. 8. 55·60	55·40	− 0·20
3. 0. 12. 7·8	C	22. 56. 31·79	31·68	− 0·11	96. 45. 58·26	58·50	+ 0·24
4. 0. 11. 54·4	E	23. 0. 14·87	14·94	+ 0·07	96. 22. 57·86	55·90	− 1·96
6. 0. 11. 26·5	L	23. 7. 40·07	40·16	+ 0·09	95. 36. 34·99	35·30	+ 0·31
7. 0. 11. 12·1	C	23. 11. 22·19	22·15	− 0·04	95. 13. 17·93	17·90	− 0·03
23. 0. 6. 41·6	C	0. 9. 55·79	55·77	− 0·02	88. 55. 22·77	23·40	+ 0·63
25. 0. 6. 4·8	L	0. 17. 11·95	11·97	+ 0·02	88. 8. 10·94	11·00	+ 0·06
27. 0. 5. 27·8	C	0. 24. 27·97	27·98	+ 0·01	87. 21. 8·32	9·10	+ 0·78
28. 0. 5. 9·3	AD	0. 28. 5·96	5·97	+ 0·01	86. 57. 41·74	43·00	+ 1·26
April 7. 0. 2. 9·0	M	1. 4. 30·76	30·61	− 0·15	83. 7. 38·01	37·20	− 0·81
19. 23. 58. 51·1	AD	1. 52. 27·50	27·52	+ 0·02	78. 26. 34·00	34·70	+ 0·70
20. 23. 58. 38·4	L	1. 56. 11·35	11·41	+ 0·06	78. 6. 6·82	7·80	+ 0·98
21. 23. 58. 26·3	C	1. 59. 55·70	55·71	+ 0·01	....	...	...
22. 23. 58. 14·5	E	2. 3. 40·44	40·45	+ 0·01	77. 25. 58·57	49·90	(− 8·67)
26. 23. 57. 32·0	E	2. 18. 44·05	43·97	− 0·08	76. 7. 47·24	46·20	− 1·04
27. 23. 57. 22·4	AD	2. 22. 30·96	31·06	+ 0·10	75. 48. 48·29	48·90	+ 0·61
28. 23. 57. 13·5	L	2. 26. 18·60	18·65	+ 0·05	75. 30. 5·10	5·60	+ 0·50
29. 23. 57. 5·0	C	2. 30. 6·66	6·76	+ 0·10	75. 11. 36·26	36·60	+ 0·34
May 6. 23. 56. 21·3	S	2. 56. 58·71	58·92	+ 0·20	73. 9. 18·67	19·40	+ 0·73
15. 23. 56. 7·2	AD	3. 32. 13·60	13·68	+ 0·08	70. 52. 22·23	21·50	− 0·73
17. 23. 56. 10·5	L	3. 40. 9·98	10·02	+ 0·04	70. 25. 23·14	21·10	− 2·04
19. 23. 56. 15·8	AD	3. 48. 8·48	8·56	+ 0·08	69. 59. 38·45	40·50	+ 2·05
20. 23. 56. 19·4	E	....	...	...	69. 47. 19·61	20·90	+ 1·29
21. 23. 56. 23·4	L	....	...	...	69. 35. 20·20	22·10	+ 1·90
26. 23. 56. 50·9	C	4. 16. 19·53	19·56	+ 0·03	....	...	...
29. 23. 57. 12·9	L	4. 28. 31·30	31·42	+ 0·12	....	...	...
31. 23. 57. 29·8	AD	4. 36. 41·36	41·50	+ 0·14	67. 55. 25·31	25·40	+ 0·09
June 3. 23. 57. 58·4	G	4. 48. 59·65	59·65	0·00	67. 32. 46·51	46·40	− 0·11
4. 23. 58. 8·4	H	4. 53. 6·28	6·45	+ 0·17	67. 26. 1·12	0·10	− 1·02
7. 23. 58. 41·2		....	...	...	67. 8. 3·94	3·50	− 0·44
8. 23. 58. 52·4	AD	5. 9. 36·68	36·95	+ 0·27	67. 2. 48·35	52·50	+ 4·15
10. 23. 59. 16·5	S	5. 17. 53·88	53·93	+ 0·05	....	...	...
11. 23. 59. 28·8	H	5. 22. 2·83	2·77	− 0·06	....	...	...
22. 0. 1. 37·5	H	6. 3. 37·49	37·42	− 0·07	66. 32. 41·17	41·80	+ 0·63
24. 0. 2. 3·2	AD	6. 11. 56·34	56·35	+ 0·01	66. 34. 14·76	14·80	+ 0·04
30. 0. 3. 17·0	L	6. 36. 49·73	49·83	+ 0·10	66. 48. 45·35	45·70	+ 0·35
July 2. 0. 3. 40·0	S	6. 45. 5·92	6·03	+ 0·11	66. 56. 51·17	51·30	+ 0·13
3. 0. 3. 51·3	H	6. 49. 13·76	13·74	− 0·02	67. 1. 30·66	30·40	− 0·26
6. 0. 4. 23·0	S	7. 1. 35·26	35·12	− 0·14	67. 17. 49·29	51·10	+ 1·81
7. 0. 4. 32·9	M	7. 5. 41·72	41·60	− 0·12	67. 24. 5·02	5·50	+ 0·48
8. 0. 4. 42·3	L	7. 9. 47·73	47·74	+ 0·01	67. 30. 40·98	43·50	+ 2·52
9. 0. 4. 31·5	C	7. 13. 53·47	53·51	+ 0·04	67. 37. 44·70	44·90	+ 0·20
10. 0. 5. 0·2	AD	7. 17. 58·76	58·89	+ 0·13	67. 45. 8·73	9·50	+ 0·77
16. 0. 5. 43·7	AD	7. 42. 21·68	21·79	+ 0·11	68. 37. 33·84	34·20	+ 0·36
17. 0. 5. 49·3	E	7. 46. 23·88	23·87	− 0·01	68. 47. 35·77	35·90	+ 0·13
18. 0. 5. 54·1	L	7. 50. 25·30	25·40	+ 0·10	68. 57. 58·14	59·20	+ 1·06
23. 0. 6. 10·6	C	8. 10. 24·58	24·58	0·00	69. 55. 11·74	10·90	− 0·84
25. 0. 6. 13·1	E	8. 18. 20·19	20·14	− 0·05	70. 20. 24·54	25·90	+ 1·36
Aug. 3. 0. 5. 54·3	S	8. 53. 30·27	30·33	+ 0·06	72. 29. 38·29	39·20	+ 0·91
6. 0. 5. 37·4	S	9. 5. 3·07	3·10	+ 0·03	73. 18. 0·64	2·00	+ 1·36
11. 0. 4. 57·9	J	9. 24. 6·25	6·26	+ 0·01	74. 44. 3·47	1·70	− 1·77

RIGHT ASCENSIONS and NORTH POLAR DISTANCES of the CENTER of the SUN—*concluded.*

Mean Solar Time of Transit of Center.	Observer.	R.A. from Observation.	Seconds of R.A. in Nautical Almanac.	Apparent Error of Nautical Almanac in R.A.	N.P.D. from Observation.	Seconds of N.P.D. in Nautical Almanac.	Apparent Error of Nautical Almanac in N.P.D.
1874. d h m s		h m s	s	s	° ′ ″	″	″
Aug. 14. 0. 4. 27·3	C	9. 35. 25·27	25·37	+ 0·10	75. 38. 36·83	36·50	− 0·33
17. 0. 3. 51·9	L	9. 46. 39·43	39·53	+ 0·10	76. 35. 12·13	14·70	+ 2·57
20. 0. 3. 11·8	M	9. 57. 48·89	48·99	+ 0·10	77. 33. 45·64	47·40	+ 1·76
22. 0. 2. 42·6	AD	10. 5. 12·73	12·82	+ 0·09	78. 13. 47·79	48·50	+ 0·71
24. 0. 2. 11·7	J	10. 12. 34·86	34·81	− 0·05	78. 54. 31·81	33·80	+ 1·99
26. 0. 1. 38·8	AD	10. 19. 54·95	55·06	+ 0·11	79. 35. 58·55	61·00	+ 2·45
29. 0. 0. 46·8	L	10. 30. 52·44	52·48	+ 0·04	80. 39. 23·80	24·80	+ 1·00
Sept. 1. 23. 59. 32·6	W	10. 45. 24·34	24·45	+ 0·11	82. 6. 1·63	1·10	− 0·53
13. 23. 55. 29·7	C	11. 28. 39·43	39·52	+ 0·09	86. 36. 48·77	52·10	+ 3·33
14. 23. 55. 8·6	W	11. 32. 14·80	14·96	+ 0·16	86. 59. 58·78	58·50	− 0·28
18. 23. 53. 44·1	S	11. 46. 36·29	36·43	+ 0·14	88. 32. 53·10	54·10	+ 1·00
20. 23. 53. 2·1	EG	11. 53. 47·30	47·27	− 0·03	89. 19. 30·52	34·90	+ 4·38
23. 23. 51. 59·4	S	12. 4. 34·05	34·10	+ 0·05	....	...	...
24. 23. 51. 39·0	E	12. 8. 10·15	9·96	− 0·19	90. 53. 10·76	8·60	− 2·16
25. 23. 51. 18·3	C	12. 11. 45·92	45·99	+ 0·07	91. 16. 28·45	32·70	+ 4·25
27. 23. 50. 37·9	L	12. 18. 58·57	58·64	+ 0·07	92. 3. 16·78	19·70	+ 2·92
29. 23. 49. 58·4	S	12. 26. 12·10	12·28	+ 0·18	92. 49. 59·70	63·00	+ 3·30
30. 23. 49. 39·4	J	12. 29. 49·53	49·52	− 0·01	93. 13. 21·88	22·50	+ 0·62
Oct. 7. 23. 47. 34·2	C	12. 55. 19·86	19·93	+ 0·07	95. 55. 22·20	23·90	+ 1·70
9. 23. 47. 2·1	L	13. 2. 40·76	40·87	+ 0·11	96. 41. 3·17	5·90	+ 2·73
19. 23. 44. 52·4	C	13. 39. 56·29	56·38	+ 0·09	100. 23. 11·22	11·30	+ 0·08
27. 23. 43. 53·3	C	14. 10. 29·48	29·53	+ 0·05	103. 10. 0·89	0·70	− 0·19
Nov. 2. 23. 44. 40·5	L	14. 34. 56·10	56·25	+ 0·15	105. 6. 39·49	41·80	+ 2·31
3. 23. 43. 41·5	AD	14. 37. 53·47	53·57	+ 0·10	105. 25. 18·88	19·50	+ 0·62
4. 23. 43. 43·0	C	14. 41. 51·60	51·73	+ 0·13	105. 43. 42·56	42·00	− 0·56
6. 23. 43. 48·8	L	14. 49. 50·46	50·59	+ 0·13	106. 19. 38·64	39·80	+ 1·16
10. 23. 44. 10·5	E	15. 5. 58·47	58·52	+ 0·05	....	...	...
11. 23. 44. 18·0	L	15. 10. 2·61	2·62	+ 0·01	107. 44. 36·51	39·10	+ 2·59
13. 23. 44. 35·4	AD	15. 18. 13·11	13·35	+ 0·24	108. 16. 30·28	31·90	+ 1·62
15. 23. 44. 56·5	EG	....	...	...	108. 47. 5·43	7·40	+ 1·97
19. 23. 45. 48·0	C	15. 43. 5·26	5·29	+ 0·03	109. 44. 11·91	13·50	+ 1·59
22. 23. 46. 35·0	EG	15. 55. 42·01	42·10	+ 0·09	110. 23. 17·06	17·70	+ 0·64
23. 23. 46. 52·3	L	15. 59. 55·94	55·95	+ 0·01	110. 35. 32·18	34·30	+ 2·12
26. 23. 47. 48·4	S	16. 12. 41·90	42·05	+ 0·15	111. 10. 3·64	5·70	+ 2·06
Dec. 1. 23. 49. 36·8	L	16. 34. 13·41	13·34	− 0·07	111. 59. 33·92	36·70	+ 2·78
3. 23. 50. 24·6	AD	16. 42. 54·41	54·47	+ 0·06	112. 16. 26·98	29·40	+ 2·42
6. 23. 51. 40·7	L	....	...	...	112. 38. 29·48	33·20	+ 3·72
9. 23. 53. 1·2	AD	17. 9. 10·82	11·07	+ 0·25	112. 56. 35·52	37·20	+ 1·68
10. 23. 53. 29·1	EG	....	...	...	113. 1. 42·32	44·20	+ 1·88
13. 23. 54. 54·5	C	17. 26. 50·64	50·60	− 0·04	113. 14. 20·50	20·10	− 0·40
22. 23. 59. 20·5	AD	18. 6. 46·39	46·62	+ 0·23	113. 26. 48·85	54·20	+ 5·35

RIGHT ASCENSIONS and NORTH POLAR DISTANCES of the CENTER of the MOON.

Jan. 1. 11. 21. 3·5	E	6. 6. 47·48	47·93	+ 0·45	62. 46. 19·94	20·10	+ 0·16
3. 13. 12. 53·9	AD	8. 6. 49·29	49·86	+ 0·57	64. 43. 56·20	57·70	+ 1·50
4. 14. 4. 2·5	C	9. 2. 2·82	3·48	+ 0·66	67. 48. 57·91	62·80	+ 4·89
5. 14. 51. 16·4	E	9. 53. 21·10	21·47	+ 0·37	71. 54. 14·24	17·90	+ 3·66
7. 16. 16. 7·8	C	11. 26. 19·62	20·08	+ 0·46	81. 56. 29·21	32·30	+ 3·09
12. 19. 41. 40·3	E	15. 12. 8·65	9·11	+ 0·46	108. 39. 0·00	4·30	+ 4·30
Jan. 24. 5. 40. 42·7	C	1. 56. 11·58	12·06	+ 0·48	79. 2. 53·47	50·50	− 2·97
25. 6. 30. 45·0	L	2. 50. 18·64	19·27	+ 0·63	73. 15. 12·28	7·30	− 4·98
26. 7. 22. 53·5	AD	3. 46. 32·25	32·80	+ 0·55	68. 27. 38·01	33·80	− 4·21
27. 8. 14. 56·9	E	4. 42. 40·76	41·24	+ 0·48	64. 57. 34·21	34·80	+ 0·59
30. 11. 4. 43·3	AD	7. 44. 44·69	45·34	+ 0·65	63. 52. 20·68	24·00	+ 3·32

RIGHT ASCENSIONS and NORTH POLAR DISTANCES of the CENTER of the MOON—*continued.*

Mean Solar Time of Transit of Center.	Observer.	R.A. from Observation.	Seconds of R.A. in Nautical Almanac.	Apparent Error of Nautical Almanac in R.A.	N.P.D. from Observation.	Seconds of N.P.D. in Nautical Almanac.	Apparent Error of Nautical Almanac in N.P.D.
1874. d h m s		h m s	s	s	° ′ ″	″	″
Feb. 3. 14. 12. 9·7	AD	11. 8. 28·12	28·61	+ 0·49	80. 0. 24·30	27·40	+ 3·10
7. 16. 51. 9·9	E	14. 3. 40·72	40·81	+ 0·09	101. 59. 8·34	12·10	+ 3·76
8. 17. 34. 2·4	C	14. 50. 36·78	37·05	+ 0·27	106. 56. 59·45	63·20	+ 3·75
10. 19. 10. 59·5	AD	16. 35. 42·93	43·33	+ 0·40	114. 44. 13·01	16·30	+ 3·29
Feb. 24. 7. 9. 4·6	E	5. 27. 1·24	1·85	+ 0·61	63. 10. 27·55	27·80	+ 0·25
27. 9. 52. 44·1	C	8. 22. 57·25	57·97	+ 0·72	65. 24. 25·69	25·30	− 0·39
28. 10. 41. 43·4	E	9. 16. 1·10	1·67	+ 0·57	68. 50. 19·76	23·30	+ 3·54
Mar. 1. 11. 27. 18·0	AD	10. 5. 39·79	40·36	+ 0·57	73. 11. 13·62	19·10	+ 5·48
2. 12. 9. 57·6	L	10. 52. 22·91	23·52	+ 0·61	78. 11. 7·27	13·80	+ 6·53
3. 12. 50. 29·2	C	11. 36. 57·74	58·15	+ 0·41	83. 35. 46·83	52·00	+ 5·17
6. 14. 48. 43·4	L	13. 47. 21·02	21·38	+ 0·36	100. 18. 46·36	49·50	+ 3·14
7. 15. 30. 21·8	E	14. 33. 2·89	3·22	+ 0·33	105. 26. 10·54	10·80	+ 0·26
9. 17. 2. 46·3	L	16. 13. 35·64	35·93	+ 0·29	113. 45. 45·38	46·80	+ 1·42
10. 17. 54. 47·3	C	17. 9. 41·68	41·90	+ 0·22	116. 25. 46·11	48·50	+ 2·39
Mar. 23. 5. 1. 22·9	C	5. 5. 25·44	26·08	+ 0·64	63. 39. 4·10	6·20	+ 2·10
24. 5. 59. 17·2	AD	6. 7. 25·80	26·51	+ 0·71	62. 15. 7·30	8·60	+ 1·30
25. 6. 55. 49·2	L	7. 8. 3·71	4·54	+ 0·83	62. 33. 43·25	46·30	+ 3·05
26. 7. 49. 30·8	E	8. 5. 50·62	51·34	+ 0·72	64. 24. 28·55	30·30	+ 1·75
30. 10. 49. 57·8	E	11. 22. 33·72	34·00	+ 0·28	81. 45. 23·11	27·10	+ 3·99
31. 11. 29. 23·3	C	12. 6. 1·99	2·56	+ 0·57	87. 20. 25·40	31·60	+ 6·20
Apr. 5. 14. 59. 3·8	AD	15. 55. 59·72	60·28	+ 0·56	112. 45. 33·85	37·60	+ 3·75
6. 15. 49. 18·0	E	16. 50. 18·78	19·07	+ 0·29	115. 48. 30·51	35·40	+ 4·89
8. 17. 39. 9·7	AD	18. 48. 21·59	22·27	+ 0·68	117. 47. 21·99	25·30	+ 3·31
10. 19. 33. 7·6	L	....	...	...	113. 10. 40·41	41·60	+ 1·19
Apr. 20. 3. 46. 40·7	AD	5. 40. 54·53	55·19	+ 0·66	62. 32. 55·03	61·60	+ 6·57
21. 4. 46. 1·1	L	6. 44. 21·18	21·95	+ 0·77	62. 9. 19·29	21·00	+ 1·71
22. 5. 42. 33·0	C	7. 44. 58·98	59·72	+ 0·74	63. 28. 47·81	49·40	+ 1·59
23. 6. 35. 2·6	E	8. 41. 33·77	34·29	+ 0·52	66. 13. 59·94	60·80	+ 0·86
24. 7. 23. 14·7	AD	9. 33. 50·32	50·84	+ 0·52	70. 4. 58·06	61·50	+ 3·44
25. 8. 7. 39·9	S	10. 22. 19·38	19·67	+ 0·29	74. 43. 35·11	36·90	+ 1·79
27. 9. 29. 4·0	E	11. 51. 49·96	50·26	+ 0·30	85. 25. 25·10	30·80	+ 5·70
28. 10. 8. 0·4	AD	12. 34. 49·26	49·84	+ 0·58	91. 5. 26·36	32·70	+ 6·34
29. 10. 47. 4·9	L	13. 17. 56·75	57·27	+ 0·52	96. 44. 10·26	17·80	+ 7·54
30. 11. 27. 38·4	C	14. 2. 33·47	34·05	+ 0·58	102. 10. 38·64	43·20	+ 4·56
May 1. 12. 10. 28·5	E	14. 49. 27·12	27·59	+ 0·47	107. 12. 7·25	12·30	+ 5·05
2. 12. 56. 22·6	AD	15. 39. 25·42	26·04	+ 0·62	111. 33. 56·08	62·20	+ 6·12
3. 13. 45. 49·6	L	16. 32. 57·09	57·50	+ 0·41	114. 59. 30·21	31·80	+ 1·59
10. 20. 3. 11·4	L	23. 18. 56·75	57·50	+ 0·75	98. 43. 20·56	17·50	− 3·06
May 24. 7. 26. 56·3	AD	11. 35. 49·20	49·59	+ 0·39	83. 26. 26·87	32·20	+ 5·33
26. 8. 45. 8·4	L	13. 2. 7·23	7·72	+ 0·49	94. 44. 36·08	41·40	+ 5·32
27. 9. 25. 7·1	C	13. 46. 9·12	9·61	+ 0·49	100. 16. 11·22	14·80	+ 3·58
28. 10. 7. 8·1	AD	14. 32. 13·54	14·06	+ 0·52	105. 28. 1·58	5·60	+ 4·02
29. 10. 52. 8·6	E	15. 21. 18·04	18·42	+ 0·38	110. 6. 18·87	23·70	+ 4·83
30. 11. 40. 48·1	L	16. 14. 2·07	2·75	+ 0·68	113. 54. 27·57	30·10	+ 2·53
31. 12. 33. 14·4	C	17. 10. 33·48	33·89	+ 0·41	116. 33. 51·05	54·20	+ 3·15
June 3. 15. 22. 24·4	C	20. 12. 1·01	1·71	+ 0·70	115. 16. 20·93	19·90	− 1·03
4. 16. 17. 9·1	AD	21. 10. 51·23	52·20	+ 0·97	111. 37. 38·88	37·00	− 1·88
5. 17. 9. 19·8	E	22. 7. 7·06	8·04	+ 0·98	106. 41. 8·51	5·90	− 2·61
7. 18. 47. 33·7	AD	23. 53. 30·26	31·05	+ 0·79	94. 11. 20·76	14·20	− 6·56
June 19. 4. 40. 52·1	C	10. 31. 48·25	48·79	+ 0·54	75. 59. 16·16	20·60	+ 4·44
21. 6. 2. 45·9	E	12. 1. 48·60	48·95	+ 0·35	86. 59. 52·69	59·00	+ 6·31
22. 6. 41. 51·2	H	12. 44. 56·90	57·29	+ 0·39	92. 40. 51·29	57·40	+ 6·11
24. 8. 2. 20·0	AD	14. 13. 32·05	32·58	+ 0·53	103. 35. 3·35	9·80	+ 6·45
July 1. 14. 11. 45·0	C	20. 51. 33·63	34·42	+ 0·79	112. 51. 15·08	15·30	+ 0·22
3. 15. 56. 41·7	L	22. 44. 40·71	41·62	+ 0·91	102. 27. 12·09	5·80	− 6·29
4. 16. 45. 32·5	C	23. 37. 36·01	36·83	+ 0·82	96. 0. 28·41	20·70	− 7·71
5. 17. 33. 19·6	WC	0. 29. 27·57	28·48	+ 0·91	89. 13. 26·14	20·90	− 5·24
6. 18. 21. 25·0	M	....	...	...	82. 27. 46·03	39·70	− 6·33
7. 19. 12. 19·7	L	2. 15. 27·87	28·84	+ 0·97	76. 5. 24·15	17·00	− 7·15

RIGHT ASCENSIONS and NORTH POLAR DISTANCES of the CENTER of the MOON—*concluded.*

Mean Solar Time of Transit of Center.	Observer.	R.A. from Observation.	Seconds of R.A. in Nautical Almanac.	Apparent Error of Nautical Almanac in R.A.	N.P.D. from Observation.	Seconds of N.P.D. in Nautical Almanac.	Apparent Error of Nautical Almanac in N.P.D.
1874. d h m s		h m s	s	s	° ′ ″	″	″
July 18. 3. 58. 17·4	L	11. 43. 26·77	27·19	+ 0·42	84. 52. 0·16	6·90	+ 6·74
19. 4. 37. 48·6	C	12. 27. 1·03	1·33	+ 0·30	90. 35. 19·41	26·20	+ 6·79
20. 5. 17. 3·0	AD	13. 10. 18·44	18·80	+ 0·36	96. 14. 40·35	46·00	+ 5·65
23. 7. 24. 40·6	C	15. 30. 6·68	7·19	+ 0·51	111. 7. 8·10	10·10	+ 2·00
27. 11. 2. 29·4	C	19. 24. 17·44	17·99	+ 0·55	116. 59. 38·93	35·70	− 3·23
28. 12. 0. 45·6	S	20. 26. 39·74	40·31	+ 0·57	114. 20. 40·29	39·50	− 0·79
29. 12. 56. 59·0	E	21. 26. 59·00	59·67	+ 0·67	110. 4. 51·37	48·00	− 3·37
30. 13. 50. 23·3	L	22. 24. 28·63	29·14	+ 0·51	104. 31. 36·80	34·20	− 2·60
Aug. 1. 15. 30. 16·7	E	0. 12. 31·58	32·20	+ 0·62	91. 12. 18·40	12·90	− 5·50
2. 16. 18. 54·9	WC	1. 5. 14·18	15·07	+ 0·89	84. 16. 25·00	20·90	− 4·10
4. 17. 59. 59·5	AD	2. 54. 28·59	29·58	+ 0·99	71. 50. 26·26	23·40	− 2·86
5. 18. 54. 23·0	S	3. 52. 57·60	58·66	+ 1·06	67. 5. 37·87	34·90	− 2·97
Aug. 18. 4. 34. 4·1	AD	14. 21. 32·55	32·89	+ 0·34	104. 58. 53·55	60·10	+ 6·55
19. 5. 17. 34·0	E	15. 9. 6·16	6·42	+ 0·26	109. 37. 56·11	61·60	+ 5·49
20. 6. 4. 24·7	M	16. 0. 1·08	1·49	+ 0·41	113. 30. 45·64	51·50	+ 5·86
21. 6. 55. 8·2	L	16. 54. 49·49	49·94	+ 0·45	116. 21. 17·41	23·20	+ 5·79
22. 7. 49. 36·8	AD	17. 53. 23·61	24·07	+ 0·46	117. 51. 53·20	54·60	+ 1·40
25. 10. 42. 28·7	L	20. 58. 33·56	34·30	+ 0·74	112. 20. 32·43	27·00	− 5·43
26. 11. 37. 48·0	AD	21. 57. 58·57	59·28	+ 0·71	107. 14. 24·09	20·40	− 3·69
28. 13. 21. 48·8	J	23. 50. 9·52	10·37	+ 0·85	94. 0. 17·68	13·80	− 3·88
29. 14. 12. 3·8	L	0. 44. 29·37	30·22	+ 0·85	86. 46. 63·25	59·60	− 3·65
Sept. 1. 16. 49. 33·9	L	3. 34. 15·00	15·84	+ 0·84	68. 12. 19·57	17·80	− 1·77
3. 18. 45. 26·2	AD	5. 38. 19·43	20·53	+ 1·10	62. 17. 22·18	23·10	+ 0·92
4. 19. 44. 9·8	C	6. 41. 9·24	10·35	+ 1·11	61. 59. 7·32	12·00	+ 4·68
Sept. 21. 8. 26. 33·7	EG	20. 28. 43·25	43·75	+ 0·50	114. 25. 40·16	37·60	− 2·56
22. 9. 21. 56·4	C	21. 28. 11·57	12·08	+ 0·51	110. 5. 18·44	15·50	− 2·94
25. 11. 58. 46·6	E	0. 17. 17·19	17·78	+ 0·59	90. 21. 48·31	43·50	− 4·81
26. 12. 50. 23·2	C	1. 12. 58·81	59·57	+ 0·76	82. 58. 61·55	56·20	− 5·35
27. 13. 43. 33·2	AD	2. 10. 14·12	15·00	+ 0·88	76. 2. 32·90	28·10	− 4·80
28. 14. 39. 10·9	L	3. 9. 57·55	58·55	+ 1·00	70. 3. 14·44	11·00	− 3·44
Oct. 2. 18. 36. 27·5	E	7. 23. 39·35	40·25	+ 0·90	....	...	...
Oct. 18. 6. 15. 5·2	S	20. 3. 20·08	20·60	+ 0·52	115. 50. 56·60	55·10	− 1·50
19. 7. 9. 8·6	AD	21. 1. 28·86	29·36	+ 0·50	112. 18. 6·13	2·60	− 3·53
20. 8. 1. 40·4	C	21. 58. 5·86	6·34	+ 0·48	107. 21. 15·26	13·50	− 1·76
21. 8. 52. 46·2	E	22. 53. 16·64	17·26	+ 0·62	101. 15. 25·22	18·70	− 6·52
22. 9. 43. 8·8	L	23. 47. 44·06	44·59	+ 0·53	94. 19. 56·26	50·40	− 5·86
27. 14. 22. 5·8	AD	4. 47. 9·67	10·70	+ 1·03	63. 41. 32·69	30·90	− 1·79
28. 15. 25. 7·2	E	5. 54. 17·94	18·77	+ 0·83	61. 52. 16·62	16·80	+ 0·18
Nov. 17. 6. 43. 39·3	L	22. 30. 15·56	15·99	+ 0·43	103. 51. 30·89	26·30	− 4·59
19. 8. 20. 38·1	E	0. 15. 23·35	23·84	+ 0·49	90. 34. 20·62	15·90	− 4·72
20. 9. 10. 24·5	C	1. 9. 14·49	15·00	+ 0·51	83. 25. 29·71	28·60	− 1·11
22. 10. 59. 17·7	AD	3. 6. 18·69	19·44	+ 0·75	70. 21. 62·00	58·20	− 3·80
23. 11. 59. 57·8	EG	....	...	...	65. 34. 7·83	7·80	− 0·03
26. 15. 10. 24·4	E	7. 33. 52·89	53·74	+ 0·85	63. 4. 8·72	14·60	+ 5·88
Dec. 1. 19. 9. 3·4	L	11. 52. 53·90	54·44	+ 0·54	86. 29. 46·93	48·50	+ 1·57
2. 19. 48. 11·8	C	12. 36. 5·32	6·03	+ 0·71	92. 16. 14·48	19·20	+ 4·72
Dec. 17. 7. 2. 1·9	E	0. 46. 57·86	58·38	+ 0·52	86. 8. 55·44	51·70	− 3·74
19. 8. 43. 40·6	J	2. 36. 46·39	46·91	+ 0·52	73. 3. 51·08	48·10	− 2·98
21. 10. 41. 52·1	E	4. 43. 10·41	11·00	+ 0·59	63. 54. 31·86	30·60	− 1·26
25. 14. 46. 38·0	E	9. 4. 22·83	23·61	+ 0·78	68. 15. 16·62	22·80	+ 6·18
29. 17. 44. 42·8	AD	12. 18. 43·04	43·87	+ 0·83	90. 12. 59·84	67·40	+ 7·56

RIGHT ASCENSIONS and NORTH POLAR DISTANCES of the CENTER of MERCURY.

Feb. 19. 1. 3. 12·4	C	23. 0. 26·12	26·26	+ 0·14	97. 6. 49·55	49·70	+ 0·15
April 19. 22. 22. 36·7	AD	....	...	...	91. 9. 49·06	51·30	+ 2·24
20. 22. 23. 8·8	L	0. 20. 26·06	26·05	− 0·01	90. 44. 3·41	3·90	+ 0·49
21. 22. 23. 48·5	C	0. 25. 2·41	2·39	− 0·02	90. 16. 49·30	51·40	+ 2·10

RIGHT ASCENSIONS and NORTH POLAR DISTANCES of the CENTER of MERCURY—*concluded.*

Mean Solar Time of Transit of Center.	Observer.	R.A. from Observation.	Seconds of R.A. in Nautical Almanac.	Apparent Error of Nautical Almanac in R.A.	N.P.D. from Observation.	Seconds of N.P.D. in Nautical Almanac.	Apparent Error of Nautical Almanac in N.P.D.
1874. d h m s		h m s	s	s	° ′ ″	″	″
June 4. 0. 52. 3·5	G	5. 43. 13·67	13·79	+ 0·12	64. 44. 53·14	55·70	+ 2·56
5. 0. 56. 53·5	H	5. 52. 1·03	1·11	+ 0·08	64. 38. 22·22	20·10	− 2·12
9. 1. 14. 34·6	AD	6. 25. 31·29	31·45	+ 0·16	64. 36. 44·85	44·90	+ 0·05
11. 1. 22. 17·9	S	6. 41. 9·01	9·04	+ 0·03	64. 49. 19·11	18·70	− 0·41
12. 1. 25. 51·3	H	....	...	...	64. 58. 30·09	30·80	+ 0·71
Aug. 19. 22. 58. 13·0	M	8. 52. 39·39	39·43	+ 0·04	71. 55. 20·89	21·90	+ 1·01
21. 23. 3. 58·2	AD	9. 6. 18·66	18·81	+ 0·15	72. 29. 22·37	23·80	+ 1·43
23. 23. 10. 31·0	J	9. 20. 45·69	45·75	+ 0·06	73. 14. 40·69	41·30	+ 0·61
Sept. 15. 0. 20. 49·9	W	11. 58. 0·34	0·30	− 0·04	88. 35. 30·27	30·50	+ 0·23
25. 0. 41. 19·4	E	12. 57. 58·74	58·71	− 0·03	96. 11. 52·59	54·00	+ 1·41
Oct. 19. 1. 14. 4·1	AD	15. 5. 26·07	26·23	+ 0·16	110. 8. 58·36	58·00	− 0·36
Nov. 26. 22. 31. 53·5	S	14. 56. 34·49	34·41	− 0·08	104. 8. 26·68	27·00	+ 0·32
Dec. 2. 22. 27. 43·9	C	15. 16. 3·57	3·75	+ 0·18	105. 47. 18·67	20·20	+ 1·53
3. 22. 28. 11·0	AD	15. 20. 27·34	27·28	− 0·06	106. 9. 56·51	56·40	− 0·11
6. 22. 30. 50·0	L	15. 34. 56·46	56·44	− 0·02	107. 22. 9·14	7·00	− 2·14

RIGHT ASCENSIONS and NORTH POLAR DISTANCES of the CENTER of VENUS.

Jan. 6. 23. 17. 35·0	M	18. 24. 59·38	59·41	+ 0·03	113. 27. 23·72	22·90	− 0·82
9. 23. 22. 11·7	M	18. 41. 26·55	26·58	+ 0·03	113. 21. 39·20	38·10	− 1·10
12. 23. 26. 46·1	E	18. 57. 51·43	51·48	+ 0·05	113. 9. 23·36	22·90	− 0·46
16. 23. 32. 46·0	M	19. 19. 38·29	38·40	+ 0·11	112. 43. 1·38	1·40	+ 0·02
20. 23. 38. 34·9	L	19. 41. 14·61	14·71	+ 0·10	112. 5. 29·27	30·10	+ 0·83
29. 23. 50. 46·4	AD	20. 28. 57·08	57·16	+ 0·08	110. 2. 37·77	39·00	+ 1·23
Mar. 23. 0. 34. 8·7	C	0. 37. 27·33	27·23	− 0·10	87. 16. 2·07	1·00	− 1·07
25. 0. 35. 20·4	L	0. 46. 32·35	32·61	+ 0·26	86. 15. 9·93	9·20	− 0·73
27. 0. 36. 33·4	C	0. 55. 38·71	38·80	+ 0·09	85. 14. 37·27	36·10	− 1·17
28. 0. 37. 10·3	AD	1. 0. 12·24	12·28	+ 0·04	84. 44. 28·00	28·30	+ 0·30
April 7. 0. 43. 43·2	M	....	...	...	79. 51. 27·96	27·20	− 0·76
8. 0. 44. 26·0	G	1. 50. 51·24	51·02	− 0·22	79. 23. 13·59	14·70	+ 1·11
20. 0. 54. 4·2	AD	2. 47. 49·69	49·83	+ 0·14	74. 7. 39·80	39·90	+ 0·10
21. 0. 54. 58·5	L	2. 52. 40·70	41·08	+ 0·38	73. 43. 36·74	39·60	+ 2·86
22. 0. 55. 54·4	C	2. 57. 33·24	33·40	+ 0·16	73. 20. 3·51	4·10	+ 0·59
23. 0. 56. 51·1	E	3. 2. 26·72	26·79	+ 0·07	72. 56. 53·85	54·20	+ 0·35
27. 1. 0. 48·6	E	3. 22. 11·05	11·22	+ 0·17	71. 28. 43·19	44·20	+ 1·01
28. 1. 1. 50·8	AD	3. 27. 9·94	10·07	+ 0·13	71. 7. 52·25	52·80	+ 0·55
29. 1. 2. 53·8	L	3. 32. 9·70	10·04	+ 0·34	70. 47. 30·54	31·10	+ 0·56
30. 1. 3. 58·4	C	3. 37. 11·01	11·12	+ 0·11	70. 27. 39·68	40·00	+ 0·32
May 16. 1. 23. 27·3	AD	4. 59. 48·03	48·15	+ 0·12	66. 27. 59·25	59·50	+ 0·25
June 1. 1. 45. 37·1	AD	6. 25. 6·39	6·60	+ 0·21	65. 18. 25·63	26·00	+ 0·37
2. 1. 47. 0·7	E	6. 30. 26·76	26·81	+ 0·05	65. 20. 9·29	10·60	+ 1·31
4. 1. 49. 46·3	G	6. 41. 6·01	6·18	+ 0·17	65. 25. 49·23	49·30	+ 0·07
5. 1. 51. 8·6	H	6. 46. 25·02	25·21	+ 0·19	65. 29. 42·92	43·00	+ 0·08
9. 1. 56. 31·9	AD	7. 7. 35·45	35·63	+ 0·18	65. 52. 22·41	22·50	+ 0·09
12. 2. 0. 27·0	H	7. 23. 20·88	20·92	+ 0·04	66. 16. 40·74	40·70	− 0·04
15. 2. 4. 13·9	C	....	...	...	66. 47. 4·37	4·40	+ 0·03
19. 2. 9. 1·6	C	7. 59. 32·81	32·89	+ 0·08	67. 36. 45·08	44·20	− 0·88
25. 2. 15. 36·3	S	8. 29. 48·07	48·12	+ 0·05	69. 9. 36·17	37·80	+ 1·63
July 2. 2. 22. 14·9	S	9. 4. 3·58	3·69	+ 0·11	....	...	...
6. 2. 25. 31·6	S	9. 23. 6·97	7·05	+ 0·08	....	...	...
7. 2. 26. 17·3	M	9. 27. 49·40	49·36	− 0·04	73. 13. 23·52	23·90	+ 0·38

RIGHT ASCENSIONS and NORTH POLAR DISTANCES of the CENTER of VENUS—*concluded.*

Mean Solar Time of Transit of Center.	Observer.	R.A. from Observation.	Seconds of R.A. in Nautical Almanac.	Apparent Error of Nautical Almanac in R.A.	N.P.D. from Observation.	Seconds of N.P.D. in Nautical Almanac.	Apparent Error of Nautical Almanac in N.P.D.
1874. d h m s		h m s	s	s	° ′ ″	″	″
July 8. 2. 27. 1·3	L	9. 32. 30·08	30·28	+ 0·20	73. 36. 41·25	44·30	+ 3·05
9. 2. 27. 44·2	C	9. 37. 9·66	9·82	+ 0·16	74. 0. 27·68	29·50	+ 1·82
10. 2. 28. 25·7	AD	9. 41. 47·82	48·00	+ 0·18	74. 24. 37·80	38·60	+ 0·80
13. 2. 30. 22·1	L	9. 55. 34·21	34·41	+ 0·20	75. 39. 22·41	22·60	+ 0·19
14. 2. 30. 58·5	S	10. 0. 7·25	7·23	− 0·02	76. 4. 59·78	60·40	+ 0·62
17. 2. 32. 39·2	E	10. 13. 37·89	37·92	+ 0·03	77. 23. 52·63	53·00	+ 0·37
18. 2. 33. 10·0	L	10. 18. 5·33	5·64	+ 0·31	77. 50. 48·46	47·90	− 0·56
20. 2. 34. 8·8	AD	....	...	...	78. 45. 26·70	29·20	+ 2·50
21. 2. 34. 36·2	E	10. 31. 21·46	21·52	+ 0·06	....	...	...
Aug. 6. 2. 39. 39·3	S	11. 39. 30·30	30·50	+ 0·20	87. 4. 2·90	2·40	− 0·50
20. 2. 41. 44·5	M	12. 36. 47·63	47·66	+ 0·03	94. 13. 46·49	46·70	+ 0·21
21. 2. 41. 50·5	L	12. 40. 50·23	50·48	+ 0·25	94. 44. 14·32	16·40	+ 2·08
22. 2. 41. 56·5	AD	12. 44. 52·79	53·07	+ 0·28	95. 14. 40·42	41·10	+ 0·68
24. 2. 42. 8·3	J	12. 52. 57·75	57·68	− 0·07	96. 15. 12·37	12·90	+ 0·53
Sept. 2. 2. 42. 54·7	W	13. 29. 13·23	13·22	− 0·01	100. 40. 42·21	42·10	− 0·11
10. 2. 43. 36·1	EG	14. 1. 27·96	27·96	0·00	104. 23. 0·02	0·50	+ 0·48
15. 2. 44. 5·1	W	14. 21. 39·04	39·19	+ 0·15	106. 32. 59·05	62·00	+ 2·95
26. 2. 45. 1·8	C	15. 5. 57·96	58·20	+ 0·24	110. 47. 54·62	56·20	+ 1·58
30. 2. 45. 13·1	S	15. 21. 55·55	55·82	+ 0·27	112. 8. 9·05	11·80	+ 2·75
Oct. 19. 2. 42. 0·5	AD	16. 33. 36·92	37·07	+ 0·15	116. 42. 26·63	28·90	+ 2·27
20. 2. 41. 29·1	C	16. 37. 2·01	2·18	+ 0·17	116. 51. 42·46	39·70	− 2·76
28. 2. 35. 2·2	C	17. 2. 6·46	6·47	+ 0·01	117. 45. 29·79	33·10	+ 3·31
Nov. 3. 2. 26. 45·1	L	17. 17. 27·30	27·45	+ 0·15	118. 3. 15·96	19·40	+ 3·44
5. 2. 25. 8·8	C	17. 23. 43·89	44·07	+ 0·18	118. 4. 52·08	57·70	+ 5·62
12. 2. 6. 29·9	L	17. 32. 37·79	38·01	+ 0·22	117. 53. 34·07	37·50	+ 3·43
23. 1. 24. 32·4	EG	17. 33. 55·51	55·29	− 0·22	116. 37. 45·81	51·00	+ 5·19
27. 1. 3. 59·8	S	17. 29. 5·77	5·86	+ 0·09	115. 50. 23·68	29·20	+ 5·52
Dec. 4. 0. 22. 31·7	AD	17. 15. 6·79	6·58	− 0·21	114. 1. 47·94	53·80	+ 5·86

RIGHT ASCENSIONS and NORTH POLAR DISTANCES of PALLAS ②.

Mean Solar Time of Observation.	R.A. from Observation.	Seconds of R.A. in Nautical Almanac.	Apparent Error of Nautical Almanac in R.A.	N.P.D. from Observation.	Seconds of N.P.D. in Nautical Almanac.	Apparent Error of Nautical Almanac in N.P.D.
1874. d h m s	h m s	s	s	° ′ ″	″	″
Oct. 22. 13. 4. 14·3	3. 9. 22·56	23·85	+ 1·29	112. 31. 15·95	20·20	+ 4·25
Nov. 11. 11. 29. 53·5	2. 53. 37·41	38·88	+ 1·47	116. 53. 24·86	30·40	+ 5·54

RIGHT ASCENSIONS and NORTH POLAR DISTANCES of JUNO ③.

Nov. 9. 11. 44. 55·0	3. 0. 48·24	39·91	− 8·33	94. 24. 34·55	51·80	+ 17·25
10. 11. 40. 16·9	2. 59. 65·97	57·59	− 8·38	94. 32. 36·06	55·00	+ 18·94
11. 11. 35. 39·0	2. 59. 23·84	15·43	− 8·41	94. 40. 19·87	37·10	+ 17 23
13. 11. 26. 23·8	2. 57. 60·30	51·95	− 8·35	94. 54. 42·15	56·30	+ 14·15
19. 10. 58. 51·2	2. 53. 62·51	54·41	− 8·10	95. 28. 33·69	48·60	+ 14·91

RIGHT ASCENSIONS and NORTH POLAR DISTANCES of VESTA ④.

Nov. 20. 12. 32. 12·4	4. 31. 35·55	35·15	− 0·40	75. 24. 48·58	50·70	+ 2·12
Dec. 9. 10. 57. 17·7	4. 11. 19·93	19·59	− 0·34	75. 29. 17·26	19·00	+ 1·74
17. 10. 18. 17·1	4. 3. 45 34	45·01	− 0·33	75. 23. 43·98	45·60	+ 1·62
19. 10. 8. 43·8	4. 2. 3·55	3·24	− 0·31	75. 21. 29·00	31·90	+ 2·90

RIGHT ASCENSIONS and NORTH POLAR DISTANCES of ASTRÆA (5).

Mean Solar Time of Observation.	R.A. from Observation.	Seconds of R.A. in Nautical Almanac or Berliner Jahrbuch.	Apparent Error of Nautical Almanac or Berliner Jahrbuch in R.A.	N.P.D. from Observation.	Seconds of N.P.D. in Nautical Almanac or Berliner Jahrbuch.	Apparent Error of Nautical Almanac or Berliner Jahrbuch in N.P.D.
1874. d h m s	h m s	s	s	° ′ ″	″	″
Dec. 14. 11. 7. 56·0	4. 41. 42·73	53·37	+10·64	76. 16. 49·15	24·50	−24·65
19. 10. 43. 36·0	4. 37. 1·51	12·13	+10·62	76. 15. 10·55	46·50	−24·05

RIGHT ASCENSIONS and NORTH POLAR DISTANCES of HEBE (6).

Sept. 8. 12. 42. 51·4 P	0. 3. 48·43	43·83	− 4·60	106. 49. 30·58	30·28	− 0·30
9. 12. 38. 24·4 P	0. 3. 16·78	12·09	− 4·69	107. 5. 49·80	49·10	− 0·70
12. 12. 34. 14·3	0. 1. 35·56	30·94	− 4·62	107. 53. 30·49	31·51	+ 1·02
15. 12. 20. 38·9	23. 59. 47·60	43·14	− 4·46	108. 39. 20·98	21·80	+ 0·82
21. 11. 53. 17·3	23. 55. 60·76	56·07	− 4·69	110. 3. 48·99	50·39	+ 1·40
22. 11. 48. 43·2	23. 55. 22·50	17·75	− 4·75	110. 16. 45·72	48·07	+ 2·35
25. 11. 35. 1·6	23. 53. 28·29	23·67	− 4·62	110. 53. 30·32	30·28	− 0·04
25. 11. 25. 42·4 P	23. 53. 28·52	23·92	− 4·60	110. 53. 25·70	25·60	− 0·10
26. 11. 21. 9·4 P	23. 52. 51·10	46·47	− 4·63	111. 4. 54·80	54·20	− 0·60
Oct. 8. 10. 27. 25·4 P	23. 46. 16· 7	....	....	112. 49. 43·40	...	...

RIGHT ASCENSIONS and NORTH POLAR DISTANCES of METIS (9).

May 20. 12. 14. 28·6	16. 8. 22·51	23·12	+ 0·61	109. 59. 16·48	11·50	− 4·98
26. 11. 44. 35·4	16. 2. 3·71	4·22	+ 0·51	109. 53. 52·58	51·05	− 1·53
June 1. 11. 5. 30·4 P	15. 55. 52·28	52·56	+ 0·28	109. 48. 10·70	12·40	+ 1·70
2. 11. 0. 34·4 P	15. 54. 52·03	52·22	+ 0·19	109. 47. 14·80	16·40	+ 1·60
4. 10. 50. 44·4 P	15. 52. 53·24	53·51	+ 0·27	109. 45. 25·10	26·00	+ 0·90
5. 10. 45. 50·4 P	15. 51. 54·83	55·27	+ 0·44	109. 44. 33·00	32·10	− 0·90
9. 10. 26. 12·4 P	15. 48. 10·72	11·02	+ 0·30	109. 41. 8·20	8·60	+ 0·40
11. 10. 16. 45·4 P	15. 46. 24·53	24·89	+ 0·36	109. 39. 35·60	36·40	+ 0·80
12. 10. 11. 58·4 P	15. 45. 33·18	33·41	+ 0·23	109. 38. 52·00	53·40	+ 1·40

RIGHT ASCENSIONS and NORTH POLAR DISTANCES of HYGEIA (10).

Nov. 9. 11. 38. 0·1	2. 53. 52·26	63·32	+11·06	68. 37. 50·41	176·47	+126·06
10. 11. 33. 15·6	2. 53. 3·53	14·93	+11·40	68. 41. 48·76	171·01	+122·25

RIGHT ASCENSIONS and NORTH POLAR DISTANCES of PARTHENOPE (11).

Oct. 6. 12. 26. 2·4 P	1. 37. 19·77	15·17	− 4·60	88. 10. 25·00	45·90	+20·90
8. 12. 16. 26·4 P	1. 35. 35·44	30·74	− 4·70	88. 22. 57·20	76·60	+19·40
10. 12. 16. 6·8	1. 33. 48·59	44·04	− 4·55	88. 35. 16·81	37·54	+20·73
19. 11. 32. 19·2	1. 25. 42·84	38·36	− 4·48	89. 26. 17·30	38·57	+21·27
27. 10. 45. 5·4 P	1. 18. 54·64	50·03	− 4·61	90. 2. 26·00	49·50	+23·50
28. 10. 40. 22·4 P	1. 18. 6·82	2·33	− 4·49	90. 6. 13·20	35·50	+22·30
31. 10. 26. 17·4 P	1. 15. 49·50	45·13	− 4·37	90. 16. 25·00	46·30	+21·30

RIGHT ASCENSION and NORTH POLAR DISTANCE of VICTORIA (12).

Mar. 24. 10. 34. 14·3	10. 43. 8·06	12·36	+ 4·30	94. 45. 55·57	84·04	+28·47

The letter P signifies that the observation was made at the Observatory of Paris; the time given is Mean Solar Time of Greenwich.

RIGHT ASCENSIONS and NORTH POLAR DISTANCES of LUTETIA (21).

Mean Solar Time of Observation.	R.A. from Observation.	Seconds of R.A. in Berliner Jahrbuch.	Apparent Error of Berliner Jahrbuch in R.A.	N.P.D. from Observation.	Seconds of N.P.D. in Berliner Jahrbuch.	Apparent Error of Berliner Jahrbuch in N.P.D.
1874. d h m s	h m s	s	s	° ′ ″	″	″
June 1. 12. 1. 59·4 P	16. 52. 30·03	33·69	+ 3·60	111. 49. 15·30	18·40	+ 3·10
2. 11. 57. 1·4 P	16. 51. 28·24	31·64	+ 3·40	111. 49. 12·10	16·30	+ 4·20
4. 11. 47. 5·4 P	16. 49. 23·16	26·69	+ 3·53	111. 49. 5·20	9·10	+ 3·90
9. 11. 22. 12·4 P	16. 44. 9·38	12·88	+ 3·50	111. 48. 27·90	33·70	+ 5·80
10. 11. 17. 14·4 P	16. 43. 7·12	10·57	+ 3·45	111. 48. 18·70	24·50	+ 5·80
11. 11. 12. 16·4 P	16. 42. 5·23	8·52	+ 3·29	111. 48. 11·30	14·90	+ 3·60
12. 11. 7. 19·4 P	16. 41. 3·65	7·14	+ 3·49	...	...	...
22. 10. 27. 49·7	16. 31. 32·55	35·86	+ 3·31	...	...	...
24. 10. 18. 17·9	16. 29. 52·28	55·39	+ 3·11	111. 46. 40·62	44·97	+ 4·35

RIGHT ASCENSIONS and NORTH POLAR DISTANCES of CALLIOPE (22).

Mar. 25. 12. 43. 2·9	12. 56. 14·40	16·60	+ 2·20	76. 55. 100·62	23·70	− 76·92
26. 12. 38. 17·1	12. 55. 24·38	26·30	+ 1·92	76. 51. 123·35	38·70	− 84·65

RIGHT ASCENSIONS and NORTH POLAR DISTANCES of PROSERPINE (23).

Feb. 4. 12. 7. 2·4 P	9. 16. 17·23	20·50	+ 3·27	68. 9. 33·70	44·70	+ 11·00
5. 12. 2. 8·4 P	9. 15. 19·16	22·25	+ 3·09	68. 5. 14·60	26·40	+ 11·80
6. 11. 57. 14·4 P	9. 14. 20·78	23·89	+ 3·11	68. 1. 1·60	12·80	+ 11·20
9. 11. 42. 32·4 P	9. 11. 26·15	28·78	+ 2·63	67. 48. 55·40	62·90	+ 7·50
10. 11. 17. 38·4 P	9. 10. 28·31	30·53	+ 2·22	67. 45. 3·80	10·60	+ 6·80
11. 11. 32. 45·4 P	9. 9. 30·73	32·54	+ 1·81	67. 41. 20·00	24·00	+ 4·00

RIGHT ASCENSIONS and NORTH POLAR DISTANCES of AMPHITRITE (24).

Feb. 17. 12. 26. 40·5	10. 17. 53·41	53·91	+ 0·50	74. 37. 59·79	65·20	+ 5·41
24. 11. 52. 10·8	10. 10. 53·87	54·38	+ 0·51	74. 17. 5·93	11·11	+ 5·18
Mar. 3. 11. 8. 41·4 P	10. 4. 13·44	...	...	74. 0. 48·70	...	...

RIGHT ASCENSION and NORTH POLAR DISTANCE of URANIA (30).

Feb. 17. 8. 19. 56·9	6. 10. 29·24	31·54	+ 2·30	65. 47. 61·98	51·34	− 10·64

RIGHT ASCENSIONS and NORTH POLAR DISTANCES of POMONA (32).

July 30. 12. 49. 53·4 P	21. 33. 9·48	10·62	+ 1·14	95. 29. 41·50	38·00	− 3·50
Aug. 3. 12. 30. 53·4 P	21. 29. 52·19	53·47	+ 1·28	95. 43. 56·40	50·60	− 5·80
7. 12. 11. 45·4 P	21. 26. 27·94	29·27	+ 1·33	95. 59. 58·50	53·50	− 5·00
15. 11. 43. 3·6	21. 19. 32·83	34·38	+ 1·55	96. 36. 24·48	22·59	− 1·89
19. 11. 23. 38·0	21. 16. 10·30	11·83	+ 1·53	96. 56. 9·46	7·04	− 2·42
21. 11. 14. 7·8	21. 14. 31·68	33·41	+ 1·73	97. 6. 14·26	12·82	− 1·44
22. 11. 9. 23·7	21. 13. 43·38	45·10	+ 1·72	97. 11. 20·44	17·90	− 2·54
29. 10. 27. 18·4 P	21. 8. 27·65	28·72	+ 1·07	97. 47. 8·40	4·40	− 4·00
31. 10. 18. 4·4 P	21. 7. 5·46	6·48	+ 1·02	97. 57. 15·20	13·80	− 1·40
Sept. 1. 10. 13. 29·4 P	21. 6. 25·75	...	...	98. 2. 20·50	...	...
5. 9. 55. 19·4 P	21. 3. 59·01	...	...	98. 22. 9·50	...	...

The letter P signifies that the observation was made at the Observatory of Paris; the time given is Mean Solar Time of Greenwich.

Mean Solar Time of Observation.	R.A. from Observation.	Seconds of R.A. in Berliner Jahrbuch.	Apparent Error of Berliner Jahrbuch in R.A.	N.P.D. from Observation.	Seconds of N.P.D. in Berliner Jahrbuch.	Apparent Error of Berliner Jahrbuch in N.P.D.
RIGHT ASCENSION and NORTH POLAR DISTANCE of POLYHYMNIA (30).						
1874. d h m s	h m s	s	s	° ′ ″	″	″
Dec. 29. 12. 34. 31·4 P	7. 17. 1·68	5·54	+ 3·86	64. 52. 42·70	50·10	+ 7·40
RIGHT ASCENSION and NORTH POLAR DISTANCE of CIRCE (34).						
Sept. 9. 10. 54. 21·4 P	22. 18. 57·55	54·14	− 3·41	96. 36. 17·50	29·80	+12·30
RIGHT ASCENSIONS and NORTH POLAR DISTANCES of FIDES (37).						
Feb. 17. 11. 26. 27·4	9. 17. 10·32	17·18	+ 6·86	70. 13. 11·36	37·82	+26·46
20. 11. 12. 0·3	9. 14. 30·51	37·59	+ 7·08	70. 6. 10·16	39·24	+29·08
RIGHT ASCENSIONS and NORTH POLAR DISTANCES of HARMONIA (40).						
Aug. 19. 12. 50. 35·9	22. 43. 22·52	21·26	− 1·26	105. 22. 28·75	36·22	+ 7·47
21. 12. 40. 58·9	22. 41. 37·06	35·71	− 1·35	105. 36. 55·67	65·17	+ 9·50
22. 12. 36. 9·2	22. 40. 43·11	41·86	− 1·25	105. 44. 8·36	16·06	+ 7·70
25. 12. 21. 37·0	22. 37. 58·17	56·96	− 1·21	106. 5. 20·00	27·04	+ 7·04
Sept. 8. 11. 4. 20·4 P	22. 24. 60·93	59·54	− 1·39	107. 30. 34·80	41·50	+ 6·70
9. 10. 59. 32·4 P	22. 24. 8·61	7·27	− 1·34	107. 35. 28·80	34·70	+ 5·90
12. 10. 54. 32·2	22. 21. 37·05	35·79	− 1·26	107. 48. 52·93	60·91	+ 7·98
RIGHT ASCENSION and NORTH POLAR DISTANCE of DAPHNE (41).						
Jan. 24. 10. 49. 19·9	7. 5. 39·43	36·21	− 3·22	89. 33. 73·97	54·42	−19·55
RIGHT ASCENSIONS and NORTH POLAR DISTANCES of ARIADNE (43).						
Sept. 12. 12. 44. 56·8	0. 12. 19·78	18·53	− 1·25	81. 32. 22·87	28·80	+ 5·93
14. 12. 35. 11·9	0. 10. 26·35	24·83	− 1·52	81. 43. 42·87	46·79	+ 3·92
18. 12. 15. 35·3	0. 6. 32·78	31·30	− 1·48	82. 8. 14·89	21·76	+ 6·87
22. 11. 55. 55·4	0. 2. 35·91	34·45	− 1·46	82. 35. 0·29	4·82	+ 4·53
25. 11. 31. 53·4 P	23. 59. 39·82	38·48	− 1·34	82. 55. 59·30	65·00	+ 6·00
26. 11. 26. 59·4 P	23. 58. 41·80	40·39	− 1·41	83. 3. 7·60	14·50	+ 6·90
Oct. 6. 10. 38. 41·4 P	23. 49. 41·01	...	...	84. 15. 51·90	...	...
8. 10. 29. 13·4 P	23. 48. 5·42	...	...	84. 30. 6·90	...	...
RIGHT ASCENSIONS and NORTH POLAR DISTANCES of HESTIA (46).						
Dec. 29. 12. 8. 48·4 P	6. 51. 13·70	12·80	− 0·90	70. 44. 8·50	7·10	− 1·40
30. 12. 3. 49·4 P	6. 50. 10·78	9·08	− 1·70	70. 42. 89·60	40·10	−49·50

The letter P signifies that the observation was made at the Observatory of Paris; the time given is Mean Solar Time of Greenwich.

RIGHT ASCENSIONS and NORTH POLAR DISTANCES of PALES (49).

Mean Solar Time of Observation.	R.A. from Observation.	Seconds of R.A. in Berliner Jahrbuch.	Apparent Error of Berliner Jahrbuch in R.A.	N.P.D. from Observation.	Seconds of N.P.D. in Berliner Jahrbuch.	Apparent Error of Berliner Jahrbuch in N.P.D.
1874. d h m s	h m s	s	s	° ′ ″	″	″
Dec. 29. 11. 28. 13·4 P	6. 10. 32·38	29·85	− 2·53	65. 10. 46·20	35·20	−11·00
30. 11. 23. 21·4 P	6. 9. 36·38	33·44	− 2·94	65. 11. 53·70	41·70	−12·00

RIGHT ASCENSIONS and NORTH POLAR DISTANCES of CONCORDIA (58).

June 4. 12. 22. 4·4 P	17. 24. 28·22	28·14	− 0·08	105. 8. 51·10	49·60	− 1·50
9. 11. 57. 56·4 P	17. 19. 59·17	59·03	− 0·14	105. 4. 29·90	32·60	+ 2·70
10. 11. 53. 6·4 P	17. 19. 4·92	4·70	− 0·22	105. 3. 55·60	51·80	− 3·80
11. 11. 48. 16·4 P	17. 18. 10·67	10·36	− 0·31	105. 3. 13·70	14·90	+ 1·20
12. 11. 43. 26·4 P	17. 17. 16·11	16·07	− 0·04	105. 2. 41·90	42·00	+ 0·10
July 1. 10. 13. 6·4 P	17. 1. 36·86	...	...	105. 5. 48·20	...	...
2. 11. 8. 30·4 P	17. 0. 56·11	...	...	105. 6. 44·30	...	...
3. 10. 3. 54·4 P	17. 0. 16·36	...	...	105. 7. 38·60	...	...
4. 9. 59. 20·4 P	16. 59. 37·99	...	...	105. 8. 40·20	...	...
6. 9. 50. 15·4 P	16. 58. 24·71	...	...	105. 10. 57·50	...	...

RIGHT ASCENSIONS and NORTH POLAR DISTANCES of ELPIS (50).

Dec. 14. 12. 12. 56·3	5. 46. 53·70	52·78	− 0·92	80. 27. 10·38	11·44	+ 1·06
29. 10. 50. 56·4 P	5. 33. 9·60	8·82	− 0·78	80. 14. 53·10	51·50	− 1·60

RIGHT ASCENSIONS and NORTH POLAR DISTANCES of ECHO (60).

July 2. 11. 2. 35·4 P	17. 55. 9·93	7·92	− 2·01	107. 58. 47·80	46·50	− 1·30
4. 10. 52. 49·4 P	17. 53. 16·09	14·10	− 1·99	107. 59. 18·30	17·80	− 0·50
6. 10. 43. 7·4 P	17. 51. 25·08	23·16	− 1·92	107. 59. 56·50	56·20	− 0·30
7. 10. 38. 17·4 P	17. 50. 30·81	28·92	− 1·89	108. 0. 21·90	18·20	− 3·70
8. 10. 33. 28·4 P	17. 49. 37·61	35·53	− 2·08	108. 0. 43·20	42·10	− 1·10

RIGHT ASCENSION and NORTH POLAR DISTANCE of ERATO (62).

April 8. 10. 45. 27·4 P	12. 2. 52·42	21·04	−30·38	87. 25. 51·10	37·30	−13·80

RIGHT ASCENSIONS and NORTH POLAR DISTANCES of ANGELINA (64).

Feb. 17. 12. 32. 13·8	10. 23. 7·55	7·78	+ 0·23	80. 46. 57·38	55·96	− 1·42
19. 12. 22. 36·1	10. 21. 21·34	21·40	+ 0·06	80. 38. 7·13	7·81	+ 0·68
24. 11. 58. 30·4	10. 16. 54·46	54·68	+ 0·22	80. 16. 1·41	2·42	+ 1·01

The letter P signifies that the observation was made at the Observatory of Paris; the time given is Mean Solar Time of Greenwich.

RIGHT ASCENSIONS and NORTH POLAR DISTANCES of CYBELE (65).

Mean Solar Time of Observation.	R.A. from Observation.	Seconds of R.A. in Berliner Jahrbuch.	Apparent Error of Berliner Jahrbuch in R.A.	N.P.D. from Observation.	Seconds of N.P.D. in Berliner Jahrbuch.	Apparent Error of Berliner Jahrbuch in N.P.D.
1874. d h m s	h m s	s	s	° ′ ″	″	″
April 7. 11. 54. 41·4 P	13. 48. 27·58	25·46	− 2·12	97. 17. 45·30	36·00	− 9·30
8. 12. 30. 6·4 P	13. 47. 47·95	45·97	− 1·98	97. 12. 62·10	53·00	− 9·10
20. 11. 44. 2·6	13. 39. 34·83	33·09	− 1·74	96. 16. 28·55	19·05	− 9·50
22. 11. 34. 48·9	13. 38. 12·69	10·80	− 1·89	96. 7. 22·05	14·66	− 7·39
23. 11. 30. 12·1	13. 37. 31·73	29·98	− 1·75	96. 2. 50·05	46·84	− 3·21
May 1. 10. 44. 13·4 P	13. 32. 18·76	16·80	− 1·96	95. 29. 30·30	22·80	− 7·50
2. 10. 39. 41·4 P	13. 31. 41·83	39·84	− 1·99	95. 25. 40·20	32·60	− 7·60
5. 10. 26. 6·4 P	13. 29. 54·55	...	...	95. 14. 41·80	...	...
6. 10. 21. 36·4 P	13. 29. 20·37	...	...	95. 11. 16·70	...	...
8. 10. 12. 38·4 P	13. 28. 13·95	...	...	95. 4. 34·70	...	...
9. 10. 8. 10·4 P	13. 27. 41·97	...	...	95. 1. 28·20	...	...
11. 9. 59. 17·4 P	13. 26. 40·46	...	...	94. 55. 26·20	...	...

RIGHT ASCENSIONS and NORTH POLAR DISTANCES of LETO (68).

Feb. 17. 12. 52. 52·5	10. 44. 9·71	8·50	− 1·21	70. 20. 49·29	26·18	−23·11
20. 12. 38. 30·6	10. 41. 35·16	34·02	− 1·14	70. 6. 33·79	12·39	−21·40

RIGHT ASCENSIONS and NORTH POLAR DISTANCES of HESPERIA (69).

Sept. 8. 12. 34. 0·4 P	23. 54. 55·68	55·69	+ 0·01	87. 46. 29·50	31·90	+ 2·40
9. 12. 29. 24·4 P	23. 54. 15·57	15·42	− 0·15	87. 53. 6·80	2·60	− 4·20
21. 11. 43. 4·3	23. 45. 46·05	46·09	+ 0·04	....	...	...
22. 11. 38. 25·1	23. 45. 2·73	2·91	+ 0·18	89. 23. 40·62	28·73	−11·89
25. 11. 15. 10·4 P	23. 42. 54·42	54·40	− 0·02	89. 45. 0·60	0·00	− 0·60
26. 11. 10. 32·4 P	23. 42. 11·93	11·86	− 0·07	89. 52. 10·30	10·90	+ 0·60
Oct. 3. 10. 38. 14·4 P	23. 37. 24·41	24·23	− 0·18	90. 41. 45·50	43·40	− 2·10
6. 10. 24. 30·4 P	23. 35. 28·68	28·75	+ 0·07	91. 2. 13·20	14·50	+ 1·30
7. 10. 19. 58·4 P	23. 34. 51·69	51·61	− 0·08	91. 8. 58·00	56·70	− 1·30

RIGHT ASCENSIONS and NORTH POLAR DISTANCES of GALATEA (74).

April 8. 10. 22. 57·4 P	11. 29. 17·83	...	...	89. 30. 13·70	...	...
13. 10. 0. 23·4 P	11. 37. 23·75	...	...	89. 6. 34·40	...	...

RIGHT ASCENSION and NORTH POLAR DISTANCE of EURYDICE (75).

April 13. 11. 22. 18·4 P	12. 59. 32·07	34·18	+ 2·11	99. 2. 38·90	19·00	−19·90

RIGHT ASCENSIONS and NORTH POLAR DISTANCES of FREIA (76).

Sept. 8. 11. 49. 5·4 P	23. 9. 53·26	54·53	+ 1·27	93. 9. 27·50	16·90	−10·60
9. 11. 44. 28·4 P	23. 9. 12·32	13·51	+ 1·19	93. 13. 64·90	55·50	− 9·40
Oct. 3. 9. 55. 4·4 P	22. 54. 7·99	...	...	95. 0. 38·90	...	...

The letter P signifies that the observation was made at the Observatory of Paris; the time given is Mean Solar Time of Greenwich.

RIGHT ASCENSIONS and NORTH POLAR DISTANCES of DIANA (78).

Mean Solar Time of Observation.	R.A. from Observation.	Seconds of R.A. in Berliner Jahrbuch.	Apparent Error of Berliner Jahrbuch in R.A.	N.P.D. from Observation.	Seconds of N.P.D. in Berliner Jahrbuch.	Apparent Error of Berliner Jahrbuch in N.P.D.
1874. d h m s	h m s	s	s	° ′ ″	″	″
Oct. 31. 12. 6. 18·4 P	2. 56. 6·53	1·91	− 4·62	58. 46. 12·00	40·80	+ 28·80
Nov. 4. 11. 46. 18·4 P	2. 51. 49·55	45·21	− 4·34	58. 51. 11·90	44·70	+ 32·80
5. 11. 41. 17·4 P	2. 50. 44·47	39·70	− 4·77	58. 53. 3·80	34·60	+ 30·80
9. 11. 30. 28·7	2. 46. 19·66	14·77	− 4·89	59. 2. 37·59	66·36	+ 28·77

RIGHT ASCENSIONS and NORTH POLAR DISTANCES of EURYNOME (97).

July 8. 12. 47. 2·4 P	20. 3. 33·61	35·20	+ 1·59	....	...	...
16. 12. 17. 24·4	19. 56. 2·63	4·45	+ 1·82	102. 52. 25·16	19·20	− 5·96
21. 11. 52. 50·1	19. 51. 7·09	9·09	+ 2·00	103. 4. 51·11	46·62	− 4·49
24. 11. 38. 4·8	19. 48. 9·04	11·28	+ 2·24	103. 13. 16·00	6·93	− 9·07
29. 11. 4. 16·4 P	19. 43. 18·87	20·46	+ 1·59	103. 28. 14·40	8·60	− 5·80
30. 10. 59. 24·4 P	19. 42. 21·99	23·58	+ 1·59	103. 31. 21·40	17·90	− 3·50
31. 10. 54. 31·4 P	19. 41. 25·73	27·36	+ 1·63	103. 34. 34·60	29·50	− 5·10
Aug. 3. 10. 40. 0·4 P	19. 38. 41·36	42·99	+ 1·63	103. 44. 23·20	16·90	− 6·30
6. 10. 25. 36·4 P	19. 36. 4·89	6·45	+ 1·56	103. 54. 26·10	19·90	− 6·20
7. 10. 20. 50·4 P	19. 35. 14·74	16·33	+ 1·59	103. 57. 48·60	43·30	− 5·30

RIGHT ASCENSIONS and NORTH POLAR DISTANCES of TERPSICHORE (81).

Dec. 3. 11. 4. 29·4 P	4. 4. 13·99	10·08	− 3·91	56. 20. 105·20	13·30	− 91·90
9. 10. 44. 23·6	3. 58. 23·62	21·06	− 2·56	56. 32. 58·96	66·05	+ 7·09

RIGHT ASCENSIONS and NORTH POLAR DISTANCES of BEATRIX (82).

Oct. 6. 12. 18. 35·4 P	1. 29. 52·27	51·80	− 0·47	81. 43. 10·20	11·40	+ 1·20
8. 12. 8. 50·4 P	1. 27. 58·01	57·55	− 0·46	81. 50. 34·10	37·10	+ 3·00

RIGHT ASCENSIONS and NORTH POLAR DISTANCES of ÆGINA (91).

Sept. 8. 12. 3. 26·4 P	23. 24. 16·72	25·10	+ 8·38	95. 18. 109·90	53·30	− 56·60
9. 11. 58. 37·4 P	23. 23. 24·18	32·45	+ 8·27	95. 23. 99·60	39·80	− 59·80
30. 10. 18. 29·4 P	23. 5. 46·65	54·71	+ 8·06	96. 54. 70·60	16·20	− 54·40
Oct. 3. 10. 4. 36·4 P	23. 3. 41·26	...	...	97. 4. 53·70	...	...

RIGHT ASCENSION and NORTH POLAR DISTANCE of MINERVA (18).

Jan. 24. 11. 16. 38·1	7. 33. 2·20	5·44	+ 3·24	56. 23. 21·54	3·75	− 17·79

The letter P signifies that the observation was made at the Observatory of Paris; the time given is Mean Solar Time of Greenwich.

RIGHT ASCENSIONS and NORTH POLAR DISTANCES of ARETHUSA (92).*

Mean Solar Time of Observation.	R.A. from Observation.	Seconds of R.A. in Berliner Jahrbuch.	Apparent Error of Berliner Jahrbuch in R.A.	N.P.D. from Observation.	Seconds of N.P.D. in Berliner Jahrbuch.	Apparent Error of Berliner Jahrbuch in N.P.D.
1874. d h m s	h m s	s	s	° ′ ″	″	″
Feb. 6. 10. 33. 19·4 P	7. 50. 11·80	6·98	− 4·82	85. 28. 76·30	44·20	−32·10
10. 10. 14. 51·4 P	7. 47. 30·20	...	...	85. 18. 20·90	...	...
11. 10. 10. 21·4 P	7. 46. 52·79	...	...	85. 15. 28·40	...	...

RIGHT ASCENSIONS and NORTH POLAR DISTANCES of CLOTHO (97).

July 2. 12. 2. 40·4 P	18. 55. 24·95	22·69	− 2·26	....	...	...
8. 11. 33. 48·4 P	18. 50. 7·31	4·84	− 2·47	98. 21. 48·40	54·10	+ 5·70

RIGHT ASCENSION and NORTH POLAR DISTANCE of THISBE (98).

March 18. 11. 0. 40·8	10. 45. 59·69	61·43	+ 1·74	89. 53. 112·00	56·68	−55·32

RIGHT ASCENSIONS and NORTH POLAR DISTANCES of CASSANDRA (114).

March 18. 11. 55. 46·4	11. 40. 74·34	25·61	−48·73	86. 1. 296·24	55·92	−240·32
23. 11. 32. 21·4	11. 36. 88·18	39·50	−48·68	85. 24. 250·12	12·86	−237·26
24. 11. 27. 41·4	11. 35. 104·04	55·78	−48·26	85. 16. 291·22	56·64	−234·58
26. 11. 18. 24·5	11. 34. 78·64	30·40	−48·24	85. 2. 275·72	44·76	−230·96

RIGHT ASCENSIONS and NORTH POLAR DISTANCES of SIRONA (116).

April 27. 12. 49. 29·5	15. 12. 48·38	40·39	− 7·99	105. 56. 63·26	37·93	−25·33
May 2. 12. 16. 7·4 P	15. 8. 24·19	15·95	− 8·24	105. 45. 47·80	25·20	−22·60
5. 12. 1. 37·4 P	15. 5. 41·31	33·10	− 8·21	....	...	...
8. 11. 47. 6·4 P	15. 2. 57·50	49·34	− 8·16	105. 31. 50·20	28·50	−21·70
9. 11. 42. 15·4 P	15. 1. 62·89	54·86	− 8·03	105. 29. 36·10	8·90	−27·20
11. 11. 32. 35·4 P	15. 0. 14·44	6·43	− 8·01	105. 24. 56·30	32·10	−24·20
15. 11. 22. 38·0	14. 56. 40·59	33·30	− 7·29	105. 15. 54·53	32·54	−21·99
16. 11. 17. 50·5	14. 55. 48·90	41·32	− 7·58	105. 13. 49·44	22·58	−26·86
20. 10. 58. 46·2	14. 52. 27·68	20·21	− 7·47	105. 5. 30·76	8·84	−21·92

RIGHT ASCENSIONS and NORTH POLAR DISTANCES of LACHESIS (120).

Sept. 8. 12. 17. 19·4 P	23. 37. 71·99	51·69	−20·30	90. 33. 53·50	224·20	+170·70
9. 12. 12. 37·4 P	23. 37. 26·01	5·62	−20·39	90. 36. 49·50	223·90	+174·40
30. 10. 34. 13·4 P	23. 21. 32·87	12·56	−20·31	91. 41. 49·30	219·80	+170·50
Oct. 3. 10. 20. 24·4 P	23. 19. 31·63	11·51	−20·12	91. 50. 13·60	182·90	+169·30
7. 10. 2. 10·4 P	23. 17. 1·02	...	...	92. 0. 37·90	...	...
8. 9. 57. 39·4 P	23. 16. 25·62	...	...	92. 3. 7·20	...	...

The letter P signifies that the observation was made at the Observatory of Paris; the time given is Mean Solar Time of Greenwich.

* The observed place on February 6 is compared with the Ephemeris in No. 1969 of the *Astronomische Nachrichten*.

RIGHT ASCENSIONS and NORTH POLAR DISTANCES of ANTIGONE (129).

Mean Solar Time of Observation.	R.A. from Observation.	Seconds of R.A. in Berliner Jahrbuch.	Apparent Error of Berliner Jahrbuch in R.A.	N.P.D. from Observation.	Seconds of N.P.D. in Berliner Jahrbuch.	Apparent Error of Berliner Jahrbuch in N.P.D.
1874. d h m s	h m s	s	s	° ′ ″	″	″
July 1. 11. 29. 12·4 P	18. 17. 55·01	95·56	+40·55	99. 16. 8·00	73·40	+65·40
2. 11. 24. 28·4 P	18. 17. 6·67	47·20	+40·53	99. 22. 23·20	90·20	+67·00
3. 11. 19. 44·4 P	18. 16. 18·87	59·28	+40·41	99. 28. 48·90	114·50	+65·60
4. 11. 15. 1·4 P	18. 15. 31·45	71·86	+40·41	99. 35. 18·50	86·30	+67·80
6. 11. 5. 36·4 P	18. 13. 58·26	98·72	+40·46	99. 48. 42·20	111·20	+69·00
8. 10. 56. 15·4 P	18. 12. 28·21	68·39	+40·18	100. 2. 35·60	102·10	+66·50
10. 10. 46. 56·4 P	18. 11. 1·27	...	...	100. 16. 51·30	...	...

RIGHT ASCENSION and NORTH POLAR DISTANCE of ELECTRA (130).

April 8. 12. 31. 13·4 P	13. 48. 55·72	79·39	+23·67	74. 12. 27·10	22·90	− 4·20

RIGHT ASCENSIONS and NORTH POLAR DISTANCES of HERTHA (135).

April 4. 9. 40. 16·4 P	10. 41. 44·20	...	...	82. 10. 50·80	...	...
8. 9. 22. 22·4 P	10. 39. 33·73	...	...	82. 0. 11·30	...	...
13. 9. 0. 32·4 P	10. 37. 22·48	...	...	81. 49. 47·10	...	...

RIGHT ASCENSIONS and NORTH POLAR DISTANCES of TOLOSA (138).

June 12. 10. 31. 33·4 P	16. 5. 11·59	...	...	112. 34. 19·10	...	...
22. 9. 44. 43·4 P	15. 57. 39·81	...	...	112. 27. 44·20	...	...

RIGHT ASCENSION and NORTH POLAR DISTANCE of SIWA (140).

Nov. 4. 10. 51. 58·5	1. 48. 0·31	...	...	84. 3. 36·66	...	...

RIGHT ASCENSIONS and NORTH POLAR DISTANCES of the CENTER of JUPITER.

Mean Solar Time of Transit of Center.	Observer.	R.A. from Observation.	Seconds of R.A. in Nautical Almanac.	Apparent Error of Nautical Almanac in R.A.	N.P.D. from Observation.	Seconds of N.P.D. in Nautical Almanac.	Apparent Error of Nautical Almanac in N.P.D.
1874. d h m s		h m s	s	s	° ′ ″	″	″
Feb. 8. 14. 49. 30·8	L	12. 5. 38·11	37·72	− 0·39	88. 59. 53·90	49·90	− 4·00
19. 14. 2. 48·8	C	12. 2. 10·61	10·21	− 0·40	88. 34. 48·84	46·70	− 2·14
20. 13. 58. 31·1	E	12. 1. 48·74	48·19	− 0·55	88. 32. 13·15	11·20	− 1·95
24. 13. 41. 15·1	E	12. 0. 16·17	15·63	− 0·54	88. 21. 24·99	23·50	− 1·49
27. 13. 28. 13·9	C	11. 59. 2·47	1·97	− 0·50	88. 12. 55·47	53·90	− 1·57
Mar. 3. 13. 10. 47·6	C	11. 57. 19·46	18·93	− 0·53	88. 1. 9·89	8·50	− 1·39
6. 12. 57. 39·7	L	11. 55. 59·11	58·62	− 0·49	87. 52. 4·18	4·20	+ 0·02
7. 12. 53. 16·7	C	11. 55. 31·91	31·37	− 0·54	87. 49. 0·57	0·40	− 0·17
10. 12. 40. 6·3	J	11. 54. 9·03	8·44	− 0·59	87. 39. 45·87	44·00	− 1·87
11. 12. 35. 42·6	M	11. 53. 41·13	40·46	− 0·67	87. 36. 40·42	37·30	− 3·12
19. 12. 0. 29·0	AD	11. 49. 54·26	53·59	− 0·67	87. 11. 42·46	39·80	− 2·66
20. 11. 56. 4·7	E	11. 49. 25·78	25·16	− 0·62	87. 8. 34·77	34·30	− 0·47
23. 11. 42. 52·3	C	11. 48. 0·83	0·31	− 0·52	86. 59. 26·61	23·20	− 3·41
24. 11. 38. 28·6	AD	11. 47. 32·92	32·24	− 0·68	86. 56. 23·44	21·80	− 1·64
25. 11. 34. 4·5	L	11. 47. 4·70	4·30	− 0·40	86. 53. 24·00	21·80	− 2·20
26. 11. 29. 41·2	E	11. 46. 37·21	36·52	− 0·69	86. 50. 22·95	23·30	+ 0·35
31. 11. 7. 46·0	C	11. 44. 21·23	20·62	− 0·61	86. 35. 59·58	57·00	− 2·58

The letter P signifies that the observation was made at the Observatory of Paris; the time given is Mean Solar Time of Greenwich.

RIGHT ASCENSIONS and NORTH POLAR DISTANCES of the CENTER of JUPITER—*concluded.*

Mean Solar Time of Transit of Center.	Observer.	R.A. from Observation.	Seconds of R.A. in Nautical Almanac.	Apparent Error of Nautical Almanac in R.A.	N.P.D. from Observation.	Seconds of N.P.D. in Nautical Almanac.	Apparent Error of Nautical Almanac in N.P.D.
1874. d h m s		h m s	s	s	° ′ ″	″	″
April 6. 10. 41. 36·8	L	11. 41. 46·98	46·46	— 0·52	86. 19. 50·74	49·60	— 1·14
7. 10. 37. 16·4	M	....	....	....	86. 17. 19·89	17·40	— 2·49
8. 10. 32. 56·4	G	11. 40. 58·34	57·79	— 0·55	86. 14. 51·33	48·10	— 3·23
10. 10. 24. 17·8	J	11. 40. 11·35	10·71	— 0·64	86. 9. 59·62	58·30	— 1·32
16. 9. 58. 32·1	AD	11. 38. 0·74	0·10	— 0·64	85. 56. 47·55	46·70	— 0·85
20. 9. 41. 31·5	AD	11. 36. 43·60	43·02	— 0·58	85. 49. 12·84	10·00	— 2·84
21. 9. 37. 17·7	L	11. 36. 25·63	25·11	— 0·52	85. 47. 26·70	25·30	— 1·40
22. 9. 33. 4·6	C	11. 36. 8·43	7·76	— 0·67	85. 45. 45·74	44·50	— 1·24
23. 9. 28. 51·9	E	11. 35. 51·63	50·98	— 0·65	85. 44. 9·56	7·70	— 1·86
25. 9. 20. 28·4	S	11. 35. 19·86	19·18	— 0·68	85. 41. 7·68	6·20	— 1·48
27. 9. 12. 7·4	E	11. 34. 50·53	49·76	— 0·77	85. 38. 23·30	21·10	— 2·20
28. 9. 7. 57·5	AD	11. 34. 36·53	35·96	— 0·57	85. 37. 6·73	4·70	— 2·03
29. 9. 3. 48·4	L	11. 34. 23·35	22·77	— 0·58	85. 35. 52·78	52·50	— 0·28
30. 8. 59. 40·1	C	11. 34. 10·91	10·20	— 0·71	85. 34. 46·33	44·50	— 1·83
May 6. 8. 35. 2·6	J	11. 33. 8·69	8·06	— 0·63	85. 29. 27·46	25·60	— 1·86
9. 8. 22. 52·7	E	11. 32. 46·41	45·69	— 0·72	85. 27. 46·86	44·10	— 2·76
15. 7. 58. 50·2	L	11. 32. 19·35	18·81	— 0·54	85. 26. 20·71	18·70	— 2·01
18. 7. 46. 58·1	L	11. 32. 14·91	14·39	— 0·52	85. 26. 37·22	35·00	— 2·22
20. 7. 39. 6·7	AD	11. 32. 15·41	14·79	— 0·62	85. 27. 8·72	7·80	— 0·92

RIGHT ASCENSIONS and NORTH POLAR DISTANCES of the CENTER of SATURN.

July 1. 14. 23. 44·7	C	21. 3. 35·31	34·36	— 0·95	107. 39. 16·02	13·70	— 2·32
2. 14. 19. 35·5	M	21. 3. 21·89	21·01	— 0·88	....	....	....
6. 14. 2. 56·0	S	21. 2. 26·02	25·08	— 0·94	107. 44. 53·04	48·70	— 4·34
13. 13. 33. 38·0	L	....	....	....	107. 53. 16·96	12·80	— 4·16
14. 13. 29. 26·0	S	21. 0. 22·92	22·22	— 0·70	107. 54. 30·87	27·50	— 3·37
15. 13. 25. 14·2	C	21. 0. 6·96	5·97	— 0·99	107. 55. 45·28	42·80	— 2·48
16. 13. 21. 1·8	AD	20. 59. 50·47	49·46	— 1·01	107. 56. 60·09	58·70	— 1·39
17. 13. 16. 49·5	E	20. 59. 34·06	32·99	— 1·07	107. 58. 17·79	15·00	— 2·79
21. 12. 59. 58·2	E	20. 58. 26·20	25·29	— 0·91	108. 3. 28·57	24·10	— 4·47
23. 12. 51. 31·8	C	20. 57. 51·54	50·70	— 0·84	108. 6. 3·54	0·60	— 2·94
24. 12. 47. 18·5	AD	20. 57. 34·06	33·25	— 0·81	108. 7. 23·03	19·10	— 3·93
28. 12. 30. 24·4	S	20. 56. 23·43	22·62	— 0·81	108. 12. 37·68	34·60	— 3·08
29. 12. 26. 10·8	E	20. 56. 5·73	4·79	— 0·94	108. 13. 58·89	53·50	— 5·39
30. 12. 21. 56·8	L	20. 55. 47·57	46·92	— 0·65	108. 15. 18·19	12·50	— 5·69
Aug. 1. 12. 13. 29·4	AD	20. 55. 11·87	11·06	— 0·81	108. 17. 54·40	50·20	— 4·20
6. 11. 52. 20·1	S	20. 53. 41·92	41·17	— 0·75	108. 24. 25·46	21·40	— 4·06
8. 11. 43. 52·4	C	20. 53. 5·96	5·31	— 0·65	108. 26. 61·22	55·90	— 5·32
11. 11. 31. 11·4	J	20. 52. 12·56	11·84	— 0·72	108. 30. 48·02	44·70	— 3·32
15. 11. 14. 17·8	E	20. 51. 2·38	1·60	— 0·78	108. 35. 46·62	42·30	— 4·32
17. 11. 5. 51·3	L	20. 50. 27·56	27·10	— 0·46	108. 38. 12·09	7·30	— 4·79
19. 10. 57. 25·8	E	20. 49. 53·79	53·10	— 0·69	108. 40. 35·29	29·40	— 5·89
20. 10. 53. 13·0	M	20. 49. 36·92	36·31	— 0·61	108. 41. 42·97	39·20	— 3·77
21. 10. 49. 0·4	L	20. 49. 20·19	19·68	— 0·51	108. 42. 52·29	48·30	— 3·99
22. 10. 44. 48·2	AD	20. 49. 3·80	3·21	— 0·59	108. 43. 59·27	56·50	— 2·77
25. 10. 32. 12·1	L	20. 48. 15·27	14·86	— 0·41	108. 47. 16·30	15·80	— 0·50
26. 10. 28. 0·6	AD	20. 47. 59·68	59·11	— 0·57	108. 48. 25·11	20·30	— 4·81
29. 10. 15. 26·9	L	20. 47. 13·55	13·12	— 0·43	108. 51. 33·77	27·90	— 5·87
Sept. 2. 9. 58. 45·1	W	20. 46. 15·27	14·95	— 0·32	108. 55. 24·97	23·00	— 1·97
4. 9. 50. 26·0	AD	20. 45. 47·87	47·34	— 0·53	108. 57. 19·08	13·80	— 5·28
9. 9. 29. 42·4	C	20. 44. 43·69	43·15	— 0·54	109. 1. 34·27	29·40	— 4·87
10. 9. 25. 34·4	EG	20. 44. 31·53	31·20	— 0·33	109. 2. 21·97	16·60	— 5·37
12. 9. 17. 19·7	AD	20. 44. 8·61	8·22	— 0·39	109. 3. 43·07	47·10	(+ 4·03)
14. 9. 9. 6·3	C	20. 43. 46·89	46·52	— 0·37	109. 5. 18·04	12·20	— 5·84
15. 9. 5. 0·0	W	20. 43. 36·48	36·17	— 0·31	109. 5. 58·79	52·60	— 6·19
19. 8. 48. 38·5	S	20. 42. 58·50	58·17	— 0·33	109. 8. 25·45	20·00	— 5·45
21. 8. 40. 29·9	EG	20. 42. 41·66	41·30	— 0·36	109. 9. 32·00	25·10	— 6·90

RIGHT ASCENSIONS and NORTH POLAR DISTANCES of the CENTER of SATURN—*concluded.*

Mean Solar Time of Transit of Center.	Observer.	R.A. from Observation.	Seconds of R.A. in Nautical Almanac.	Apparent Error of Nautical Almanac in R.A.	N.P.D. from Observation.	Seconds of N.P.D. in Nautical Almanac.	Apparent Error of Nautical Almanac in N.P.D.
1874. d h m s		h m s	s	s	° ′ ″	″	″
Sept. 22. 8. 36. 26·1	C	20. 42. 33·80	33·40	− 0·40	109. 9. 61·66	55·40	− 6·26
26. 8. 20. 14·7	C	20. 42. 5·95	5·53	− 0·42	109. 11. 47·33	41·70	− 5·63
28. 8. 12. 11·0	L	20. 41. 54·04	53·85	− 0·19	109. 12. 33·04	25·80	− 7·24
Oct. 2. 7. 57. 8·6	EG	20. 42. 35·36	35·15	− 0·21	109. 13. 41·30	35·60	− 5·70
5. 7. 44. 11·3	S	20. 41. 25·56	25·28	− 0·28	109. 14. 16·95	11·70	− 5·25
8. 7. 32. 17·3	C	20. 41. 19·29	19·05	− 0·24	109. 14. 38·66	33·50	− 5·16
9. 7. 28. 20·1	EG	20. 41. 18·00	17·79	− 0·21	109. 14. 44·16	37·60	− 6·56
10. 7. 24. 23·2	L	20. 41. 17·06	16·94	− 0·12	109. 14. 46·91	40·20	− 6·71
12. 7. 16. 31·2	E	20. 41. 16·83	16·48	− 0·35	109. 14. 47·77	40·40	− 7·37
20. 6. 45. 18·5	C	20. 41. 31·48	31·23	− 0·25	109. 13. 43·45	37·80	− 5·65
21. 6. 41. 26·5	E	20. 41. 35·33	34·93	− 0·40	109. 13. 28·50	22·80	− 5·70
22. 6. 37. 34·4	L	20. 41. 39·17	39·04	− 0·13	109. 13. 12·95	6·20	− 6·75
23. 6. 33. 43·1	AD	20. 41. 43·76	43·56	− 0·20	109. 12. 53·61	48·10	− 5·51
24. 6. 29. 52·1	C	20. 41. 48·70	48·49	− 0·21	109. 12. 34·52	28·50	− 6·02
Nov. 3. 5. 51. 44·1	L	20. 42. 59·99	59·94	− 0·05	109. 7. 52·98	46·50	− 6·48
7. 5. 36. 40·1	L	20. 43. 39·74	39·62	− 0·12	109. 5. 17·69	11·00	− 6·69
9. 5. 29. 10·5	C	20. 44. 2·06	1·78	− 0·28	109. 3. 50·99	44·20	− 6·79
13. 5. 14. 15·5	S	20. 44. 50·81	50·62	− 0·19	109. 0. 38·85	32·80	− 6·05

RIGHT ASCENSIONS and NORTH POLAR DISTANCES of the CENTER of URANUS.

Jan. 7. 13. 38. 17·6	M	8. 48. 3·45	14·91	+11·46	71. 26. 28·75	59·30	+30·55
16. 13. 1. 24·8	G	8. 46. 33·57	45·06	+11·49	71. 20. 24·21	57·30	+33·09
17. 12. 57. 18·5	M	8. 46. 23·19	34·72	+11·53	71. 19. 43·52	76·10	+32·58
21. 12. 40. 53·7	L	8. 45. 41·27	52·87	+11·60	71. 16. 57·38	89·90	+32·52
24. 12. 28. 33·7	C	8. 45. 9·55	21·10	+11·55	71. 14. 51·49	84·80	+33·31
27. 12. 16. 13·9	E	8. 44. 37·45	49·16	+11·71	71. 12. 49·34	79·80	+30·46
Feb. 10. 11. 18. 44·2	G	8. 42. 10·02	21·52	+11·50	71. 3. 20·09	51·90	+31·81
11. 11. 14. 37·9	AD	8. 41. 59·65	71·27	+11·62	71. 2. 41·54	73·10	+31·56
17. 10. 50. 2·7	HC	8. 40. 59·72	71·31	+11·59	70. 58. 57·32	87·90	+30·58
18. 10. 45. 57·0	L	8. 40. 49·87	61·62	+11·75	70. 58. 19·33	51·80	+32·47
20. 10. 37. 46·3	E	8. 40. 30·94	42·53	+11·59	70. 57. 10·46	40·80	+30·34
24. 10. 21. 25·8	E	8. 39. 54·00	65·64	+11·64	70. 54. 52·94	84·70	+31·76
27. 10. 9. 11·9	C	8. 39. 27·75	39·25	+11·50	70. 53. 16·85	48·10	+31·25
Mar. 3. 9. 52. 35·0	C	8. 38. 54·36	65·93	+11·57	70. 51. 15·38	47·40	+32·02
7. 9. 36. 40·5	C	8. 38. 23·48	34·96	+11·48	70. 49. 23·59	56·30	+32·71
14. 9. 8. 21·2	L	8. 37. 35·36	47·00	+11·64	70. 46. 35·10	66·80	+31·70
18. 8. 52. 14·3	C	8. 37. 12·06	23·48	+11·42	70. 45. 14·62	45·40	+30·78
19. 8. 48. 13·0	AD	8. 37. 6·67	18·07	+11·40	70. 44. 56·56	86·90	+30·34
20. 8. 44. 11·8	E	8. 37. 1·35	12·86	+11·51	70. 44. 38·71	69·20	+30·49
23. 8. 32. 9·9	C	8. 36. 47·06	58·40	+11·34	70. 43. 52·33	80·40	+28·07
24. 8. 28. 9·4	AD	8. 36. 42·55	53·98	+11·43	70. 43. 35·24	65·70	+30·46
25. 8. 24. 9·2	L	8. 36. 38·15	49·76	+11·61	70. 43. 21·62	51·70	+30·08
26. 8. 20. 9·5	E	8. 36. 34·38	45·74	+11·36	70. 43. 8·15	38·60	+30·45
31. 8. 0. 13·1	C	8. 36. 17·46	28·78	+11·32	70. 42. 14·41	44·50	+30·09
April 6. 7. 36. 24·2	L	8. 36. 3·95	15·39	+11·44	70. 41. 36·30	65·70	+29·40
8. 7. 28. 29·8	G	8. 36. 1·41	12·64	+11·23	70. 41. 29·49	59·20	+29·71

RIGHT ASCENSIONS and NORTH POLAR DISTANCES of the CENTER of NEPTUNE.

Jan. 1. 6. 53. 7·5	E	1. 38. 7·38	7·37	− 0·01	81. 40. 3·86	4·80	+ 0·94
7. 6. 29. 30·6	M	1. 38. 6·01	5·93	− 0·08	....	...	...
24. 5. 23. 1·6	C	1. 38. 27·56	27·42	− 0·14	81. 36. 42·69	43·20	+ 0·51

RIGHT ASCENSIONS and NORTH POLAR DISTANCES of the CENTER of NEPTUNE—*concluded.*

Mean Solar Time of Transit of Center.	Observer.	R.A. from Observation.	Seconds of R.A. in Nautical Almanac.	Apparent Error of Nautical Almanac in R.A.	N.P.D. from Observation.	Seconds of N.P.D. in Nautical Almanac.	Apparent Error of Nautical Almanac in N.P.D.
d h m s		h m s	s	s	° ′ ″	″	″
Sept. 12. 14. 28. 4·3	AD	1. 55. 44·20	44·27	+ 0·07	80. 3. 24·86	26·20	+ 1·34
14. 14. 20. 3·6	C	1. 55. 35·35	35·21	— 0·14	80. 4. 21·00	21·30	+ 0·30
18. 14. 4. 0·9	C	1. 55. 16·15	16·08	— 0·07	80. 6. 15·82	16·50	+ 0·68
21. 13. 51. 58·0	EG	1. 55. 1·01	0·90	— 0·11	80. 7. 46·56	46·90	+ 0·34
22. 13. 47. 56·9	C	1. 54. 55·77	55·69	— 0·08	80. 8. 16·58	17·70	+ 1·12
25. 13. 35. 53·1	E	1. 54. 39·67	39·65	— 0·02	80. 9. 52·79	52·20	— 0·59
26. 13. 31. 51·8	C	1. 54. 34·27	34·17	— 0·10	80. 10. 23·48	24·30	+ 0·82
Oct. 5. 12. 55. 36·8	S	1. 53. 42·23	42·25	+ 0·02	80. 15. 23·79	25·30	+ 1·51
9. 12. 39. 29·1	EG	1. 53. 18·08	17·96	— 0·12	80. 17. 43·94	44·50	+ 0·56
10. 12. 35. 27·0	L	1. 53. 11·92	11·80	— 0·12	80. 18. 19·57	19·60	+ 0·03
19. 11. 58. 47·5	AD	1. 52. 15·42	15·22	— 0·20	80. 23. 37·56	39·00	+ 1·44
21. 11. 51. 2·8	E	1. 52. 2·54	2·48	— 0·06	80. 24. 48·56	50·30	+ 1·74
22. 11. 47. 0·7	L	1. 51. 56·31	56·11	— 0·20	80. 25. 24·79	25·80	+ 1·01
28. 11. 22. 47·2	C	1. 51. 18·16	17·94	— 0·22	80. 28. 57·45	57·40	— 0·05
Nov. 4. 10. 54. 32·0	AD	1. 50. 34·22	34·07	— 0·15	80. 32. 59·02	57·80	— 1·22
7. 10. 42. 25·8	L	1. 50. 15·75	15·68	— 0·07	80. 34. 36·07	37·50	+ 1·43
10. 10. 30. 20·1	AD	1. 49. 57·70	57·64	— 0·06	80. 36. 14·70	14·80	+ 0·10
13. 10. 18. 14·9	S	1. 49. 40·12	40·03	— 0·09	80. 37. 48·09	49·10	+ 1·01
20. 9. 50. 4·5	C	1. 49. 1·02	0·91	— 0·11	80. 41. 16·22	16·00	— 0·22
23. 9. 38. 1·1	EG	1. 48. 45·35	45·15	— 0·20	80. 42. 37·45	38·20	+ 0·75
24. 9. 34. 0·0	L	1. 48. 40·12	40·04	— 0·08	80. 43. 5·04	4·70	— 0·34
Dec. 2. 9. 1. 55·0	L	1. 48. 2·27	2·14	— 0·13	80. 46. 16·83	18·20	+ 1·37
4. 8. 53. 54·5	AD	1. 47. 53·58	53·56	— 0·02	80. 47. 2·56	1·10	— 1·46
5. 8. 49. 54·4	E	1. 47. 49·44	49·41	— 0·03	80. 47. 21·16	21·70	+ 0·54
7. 8. 41. 54·8	L	1. 47. 41·59	41·42	— 0·17	80. 48. 1·19	1·00	— 0·19
9. 8. 33. 55·3	S	1. 47. 33·91	33·84	— 0·07	80. 48. 40·95	37·80	— 3·15
14. 8. 13. 58·8	C	1. 47. 16·90	16·75	— 0·15	80. 49. 58·61	58·60	— 0·01
19. 7. 54. 4·9	J	1. 47. 2·54	2·47	— 0·07	80. 51. 1·58	2·60	+ 1·02
23. 7. 38. 11·9	AD	1. 46. 53·20	53·16	— 0·04	80. 51. 40·13	41·30	+ 1·17
29. 7. 14. 26·2	M	1. 46. 42·98	42·88	— 0·10	80. 52. 18·13	17·80	— 0·33

COMET III. 1874 (COGGIA'S).

June 22. 13. 18. 1·4	WC	7. 22. 11·99	....	....	21. 51. 48·69	....	....
24. 13. 13. 38·7	AD	7. 25. 41·87	....	....	22. 17. 26·55	....	....
July 1. 12. 56. 54·1	C	7. 36. 30·40	....	....	25. 10. 29·30	....	....
3. 12. 51. 31·9	H	7. 39. 0·51	....	....	26. 36. 18·64	....	....
4. 12. 48. 45·5	J	7. 40. 10·14	....	....	27. 28. 4·92	....	....
6. 12. 42. 57·3	S	7. 42. 14·14	....	....	29. 32. 57·61	....	....
7. 12. 39. 56·6	M	7. 43. 9·47	....	....	30. 47. 52·70	....	....
8. 12. 36. 51·7	L	7. 44. 0·68	....	....	32. 12. 36·29	....	....
12. 12. 23. 55·5	WC	7. 46. 48·56	....	....	39. 50. 15·67	....	....

INVESTIGATION of the POSITION of the ECLIPTIC, from the OBSERVATIONS of the SUN.

Mean Tabular Errors of the Sun in R.A. and N.P.D.; and Errors in Ecliptic North Polar Distance, deduced from the Formula,

Error in Ecliptic North Polar Distance = R × Error of R.A. + S × Error of N.P.D.

Extent of Group.	Mean Day, 1874.	Error in R.A.	Number of Obs.	Error in N.P.D.	Number of Obs.	Error in Ecliptic N.P.D.
		s		″		″
January 1 to January 31	January 16	+ 0·043	12	+ 0·975	13	+ 1·070
February 7 to February 27	February 15	+ 0·039	8	+ 1·014	7	+ 1·148
March 2 to March 28	March 14	+ 0·030	9	+ 0·121	9	+ 0·289
April 7 to April 30	April 23	+ 0·013	9	+ 0·160	8	+ 0·215
May 7 to June 1	May 20	+ 0·099	7	+ 0·473	7	+ 0·765
June 4 to June 30	June 15	+ 0·059	8	+ 0·510	7	+ 0·543
July 2 to July 25	July 12	+ 0·013	12	+ 0·643	12	+ 0·609
August 3 to September 2	August 19	+ 0·064	11	+ 0·920	11	+ 0·546
September 14 to October 1	September 23	+ 0·053	10	+ 1·929	9	+ 1·453
October 8 to October 28	October 16	+ 0·080	4	+ 1·080	4	+ 0·561
November 3 to November 27	November 14	+ 0·099	11	+ 1·465	11	+ 1·054
December 2 to December 23	December 10	+ 0·086	5	+ 2·490	7	+ 2·376

Equations formed by assuming the Error in Ecliptic North Polar Distance to be represented by the Formula,

$$x \times \cos \text{Sun's longitude} + y \times \sin \text{Sun's longitude} + z,$$

and altering the number of observations so as to make the assumed weights of opposite parts of the year equal:

Spring.....	$+ 1''\cdot070 = + 0\cdot4425 \times x - 0\cdot8967 \times y + z$	Weight 9
	$+ 1\cdot148 = + 0\cdot8356 \times x - 0\cdot5493 \times y + z$	,, 5
	$+ 0\cdot289 = + 0\cdot9941 \times x - 0\cdot1086 \times y + z$	,, 7
Summer.....	$+ 0\cdot215 = + 0\cdot8374 \times x + 0\cdot5466 \times y + z$	,, 8
	$+ 0\cdot765 = + 0\cdot5113 \times x + 0\cdot8594 \times y + z$	,, 6
	$+ 0\cdot543 = + 0\cdot1019 \times x + 0\cdot9948 \times y + z$	,, 7
Autumn.....	$+ 0\cdot609 = - 0\cdot3404 \times x + 0\cdot9403 \times y + z$	,, 8
	$+ 0\cdot546 = - 0\cdot8318 \times x + 0\cdot5551 \times y + z$	,, 7
	$+ 1\cdot453 = - 1\cdot0000 \times x + 0\cdot0047 \times y + z$	,, 6
Winter.....	$+ 0\cdot561 = - 0\cdot9207 \times x - 0\cdot3902 \times y + z$	,, 4
	$+ 1\cdot054 = - 0\cdot6159 \times x - 0\cdot7878 \times y + z$	,, 11
	$+ 2\cdot376 = - 0\cdot2025 \times x - 0\cdot9793 \times y + z$	,, 6

Equations multiplied by the Weights:

Spring.....	$+ 9\cdot630 = + 3\cdot9825 \times x - 8\cdot0703 \times y + 9z$
	$+ 5\cdot740 = + 4\cdot1780 \times x - 2\cdot7465 \times y + 5z$
	$+ 2\cdot023 = + 6\cdot9587 \times x - 0\cdot7602 \times y + 7z$
Summer.....	$+ 1\cdot720 = + 6\cdot6992 \times x + 4\cdot3728 \times y + 8z$
	$+ 4\cdot590 = + 3\cdot0678 \times x + 5\cdot1564 \times y + 6z$
	$+ 3\cdot801 = + 0\cdot7133 \times x + 6\cdot9636 \times y + 7z$
Autumn.....	$+ 4\cdot872 = - 2\cdot7232 \times x + 7\cdot5224 \times y + 8z$
	$+ 3\cdot822 = - 5\cdot8226 \times x + 3\cdot8857 \times y + 7z$
	$+ 8\cdot718 = - 6\cdot0000 \times x + 0\cdot0282 \times y + 6z$
Winter.....	$+ 2\cdot244 = - 3\cdot6828 \times x - 1\cdot5608 \times y + 4z$
	$+ 11\cdot594 = - 6\cdot7749 \times x - 8\cdot6658 \times y + 11z$
	$+ 14\cdot256 = - 1\cdot2150 \times x - 5\cdot8758 \times y + 6z$

New Equations formed by adding and subtracting those above, as indicated below:

Spring + Summer + Autumn + Winter

$$+ 73''\cdot010 = - 0\cdot6190 \times x + 0\cdot2497 \times y + 84z$$

Spring + Summer − Autumn − Winter

$$- 18''\cdot002 = + 51\cdot8180 \times x + 9\cdot5819 \times y$$

Spring − Summer − Autumn + Winter

$$+ 17''\cdot964 = - 4\cdot0655 \times x - 55\cdot6085 \times y$$

Solution of these Equations:

$$x = - 0''\cdot292$$
$$y = - 0\cdot302$$
$$z = + 0\cdot868$$

The first term, taken alone, indicates that, at the first point of Aries, the error of the tabular Ecliptic N.P.D. is negative, or the assumed Ecliptic is north of the Sun's true path, by $0''\cdot292$, and therefore that the right ascensions of all stars ought to be diminished by $\frac{0^s\cdot292}{15 \times \sin 23^\circ.27'} = 0^s\cdot049$.

The second term, taken alone, indicates that the obliquity assumed in the Nautical Almanac ought to be diminished by $0''\cdot302$.

The third term indicates that the obliquity deduced from the southern solstice is less than that deduced from the northern solstice by $1''\cdot736$; or that the mean of observed distances from the pole to the ecliptic is too small by $0''\cdot868$.

MEAN ERRORS of the TABULAR GEOCENTRIC PLACES of the SUN and PLANETS.

THE SUN.

Extent of Group.	Number of Obs. of R.A.	Number of Obs. of N.P.D.	Mean Day, 1874.	Mean Error in R.A.	Mean Error in N.P.D.	Error in Longitude.	Error in E.P.D.
				s	″	″	″
Jan. 1 to Jan. 31	12	13	January 16	+ 0·043	+ 0·98	+ 0·41	+ 1·07
Feb. 7 to Feb. 27	8	7	February 15	+ 0·039	+ 1·01	+ 0·19	+ 1·15
March 2 to March 28	9	9	March 14	+ 0·030	+ 0·12	− 0·37	+ 0·29
April 7 to April 30	9	8	April 23	+ 0·013	+ 0·16	− 0·12	+ 0·22
May 7 to June 1	7	7	May 20	+ 0·099	+ 0·47	+ 1·26	+ 0·77
June 4 to June 30	8	7	June 15	+ 0·059	+ 0·51	+ 0·79	+ 0·54
July 2 to July 25	12	12	July 12	+ 0·013	+ 0·64	+ 0·28	+ 0·61
Aug. 3 to Sept. 2	11	11	August 19	+ 0·064	+ 0·92	+ 1·19	+ 0·55
Sept. 14 to Oct. 1	10	9	September 23	+ 0·053	+ 1·93	+ 1·50	+ 1·45
Oct. 8 to Oct. 28	4	4	October 16	+ 0·080	+ 1·08	+ 1·50	+ 0·56
Nov. 3 to Nov. 27	11	11	November 14	+ 0·099	+ 1·47	+ 1·74	+ 1·05
Dec. 2 to Dec. 23	5	7	December 10	+ 0·086	+ 2·49	+ 1·41	+ 2·38

MERCURY.

Feb. 19	1	1	Feb. 19	+ 0·140	+ 0·15	+ 1·87	+ 0·94
April 20 to April 22	2	3	April 21	− 0·015	+ 1·61	− 0·85	+ 1·39
June 4 to June 12	4	5	June 8	+ 0·098	+ 0·16	+ 1·33	− 0·12
Aug. 20 to Aug. 24	3	3	August 22	+ 0·083	+ 1·02	+ 1·43	+ 0·63
Sept. 15	1	1	September 15	− 0·040	+ 0·23	− 0·46	+ 0·45
Sept. 25	1	1	September 25	− 0·030	+ 1·41	+ 0·13	+ 1·47
Oct. 19	1	1	October 19	+ 0·160	− 0·36	+ 2·07	− 0·97
Nov. 27	1	1	November 27	− 0·080	+ 0·32	− 1·02	+ 0·64
Dec. 3 to Dec. 7	3	3	December 5	+ 0·033	− 0·24	+ 0·40	− 0·35

VENUS.

Jan. 7 to Jan. 13	3	3	January 10	+ 0·036	− 0·79	+ 0·55	− 0·76
Jan. 17 to Jan. 30	3	3	January 23	+ 0·097	+ 0·69	+ 1·20	+ 0·93
March 23 to April 8	5	6	March 29	+ 0·014	− 0·39	+ 0·34	− 0·28
April 20 to April 30	8	8	April 25	+ 0·187	+ 0·79	+ 2·36	+ 1·48
May 16	1	1	May 16	+ 0·120	+ 0·25	+ 1·62	+ 0·42
June 1 to June 9	5	5	June 4	+ 0·160	+ 0·38	+ 2·21	+ 0·23
June 12 to June 25	3	4	June 18	+ 0·056	+ 0·19	+ 0·80	+ 0·04
July 2 to July 10	6	4	July 8	+ 0·115	+ 1·51	+ 2·05	+ 0·91
July 13 to July 21	5	5	July 17	+ 0·116	+ 0·62	+ 1·81	− 0·02
Aug. 6 to Aug. 24	5	5	August 19	+ 0·138	+ 0·60	+ 2·14	− 0·26
Sept. 2 to Sept. 15	3	3	September 9	+ 0·046	+ 1·11	+ 1·01	+ 0·80
Sept. 26 to Sept. 30	2	2	September 28	+ 0·255	+ 2·17	+ 4·02	+ 1·14
Oct. 19 to Oct. 28	3	3	October 22	+ 0·110	+ 0·94	+ 1·58	+ 0·74
Nov. 3 to Nov. 12	3	3	November 7	+ 0·183	+ 4·16	+ 2·69	+ 4·00
Nov. 23 to Dec. 4	3	3	November 28	− 0·113	+ 5·52	− 1·22	+ 5·60

Extent of Group.	Number of Obs. of R.A.	Number of Obs. of N.P.D.	Mean Day, 1874.	Mean Error in R.A.	Mean Error in N.P.D.	Error in Longitude.	Error in E.P.D.
				s	"	"	"
PALLAS.							
Oct. 23	1	1	October 23	+ 1·290	+ 4·25	+19·55	+10·19
Nov. 11	1	1	November 11	+ 1·470	+ 5·54	+21·34	+12·67
JUNO.							
Nov. 9 to Nov. 19	5	5	November 12	− 8·314	+16·50	−131·95	−21·83
VESTA.							
Nov. 21	1	1	November 21	− 0·400	+ 2·12	− 6·11	+ 1·22
Dec. 9 to Dec. 19	3	3	December 15	− 0·326	+ 2·09	− 5·08	+ 1·13
JUPITER.							
Feb. 9 to Feb. 28	5	5	February 21	− 0·476	− 2·23	− 7·44	+ 0·80
March 4 to March 31	12	12	March 18	− 0·601	− 1·60	− 8·90	+ 2·12
April 6 to April 30	13	14	April 20	− 0·622	− 1·73	− 9·23	+ 2·10
May 6 to May 20	5	5	May 14	− 0·606	− 1·95	− 9·09	+ 1·78
SATURN.							
July 2 to Aug. 2	14	14	July 20	− 0·879	− 3·61	−11·02	− 7·00
Aug. 6 to Aug. 29	12	12	August 18	− 0·598	− 4·12	− 7·06	− 6·27
Sept. 2 to Sept. 28	12	11	September 15	− 0·374	− 5·55	− 3·66	− 6·74
Oct. 2 to Oct. 24	11	11	October 14	− 0·236	− 6·04	− 1·68	− 6·69
Nov. 3 to Nov. 13	4	4	November 8	− 0·160	− 6·50	− 0·49	− 6·87

URANUS.

Extent of Group.	Number of Obs. of R.A.	Number of Obs. of N.P.D.	Mean Day, 1874.	Mean Error in R.A.	Mean Error in N.P.D.	Error in Longitude.	Error in E.P.D.
Jan. 8 to Jan. 28	6	6	January 20	+11″·557	+32″·09	+166″·78	−12″·87
Feb. 10 to Feb. 27	7	7	February 18	+11·599	+31·40	+167·09	−12·78
March 3 to March 26	10	10	March 18	+11·476	+30·71	+165·05	−11·01
March 31 to April 8	3	3	April 4	+11·330	+29·73	+162·80	−11·44

NEPTUNE.

Jan. 1 to Jan. 24	3	2	January 12	− 0·077	+ 0·73	− 1·33	+ 0·26
Sept. 13 to Sept. 27	7	7	September 21	− 0·064	+ 0·57	− 1·09	+ 0·21
Oct. 6 to Oct. 28	7	7	October 16	− 0·129	+ 0·89	− 2·10	+ 0·16
Nov. 4 to Nov. 24	7	7	November 14	− 0·109	+ 0·22	− 1·59	− 0·37
Dec. 2 to Dec. 29	9	9	December 12	− 0·087	− 0·12	− 1·16	− 0·57

ERRORS of the TABULAR HELIOCENTRIC PLACES of the PLANETS.

MERCURY.

Day, 1874.		Error of the Tables of the Planet in Geocentric Longitude, expressed in terms of Error of Heliocentric Longitude of Planet (δL), of Error of Projection of Radius Vector of Planet ($\delta \rho$), of Error of Earth's Longitude (δl), and of Error of Earth's Radius Vector (δr). ($\delta \rho$ and δr are expressed in terms of the Earth's Mean Distance from the Sun.)								Error of Tables in Hel. E. P. D.
		″		″		″		″		″
February	19	+ 1·87	=	+ 0·202 δL	+ 113776 $\delta \rho$	+ 0·798 δl	− 37757 δr			+ 3·47
April	21	− 0·85	=	+ 0·044	− 218358	+ 0·955	+ 98519			+ 2·87
June	8	+ 1·33	=	+ 0·170	+ 144790	+ 0·831	− 49723			− 0·41
August	22	+ 1·43	=	+ 0·136	− 158322	+ 0·864	+ 47959			+ 2·31
September	15	− 0·46	=	+ 0·284	+ 40989	+ 0·716	− 16835			+ 1·52
	25	+ 0·13	=	+ 0·284	+ 78114	+ 0·716	− 35312			+ 4·44
October	19	+ 2·07	=	+ 0·168	+ 170986	+ 0·832	− 75287			− 2·41
November	27	− 1·02	=	− 0·046	− 229699	+ 1·045	+ 76269			+ 1·73
December	5	+ 0·40	=	+ 0·145	− 173073	+ 0·855	+ 65251			− 1·02

VENUS.

January	10	+ 0·55	=	+ 0·421 δL	− 30740 $\delta \rho$	+ 0·579 δl	+ 22712 δr			− 1·74
	23	+ 1·20	=	+ 0·423	− 21549	+ 0·577	+ 15909			+ 2·17
March	29	+ 0·34	=	+ 0·418	+ 24684	+ 0·582	− 17932			− 0·65
April	25	+ 2·36	=	+ 0·408	+ 46496	+ 0·592	− 33360			+ 3·36
May	16	+ 1·62	=	+ 0·397	+ 65577	+ 0·603	− 46656			+ 0·91
June	4	+ 2·21	=	+ 0·383	+ 85045	+ 0·617	− 60163			+ 0·48
	18	+ 0·80	=	+ 0·370	+ 100902	+ 0·630	− 71336			+ 0·07
July	8	+ 2·05	=	+ 0·345	+ 126468	+ 0·655	− 89586			+ 1·62
	17	+ 1·81	=	+ 0·330	+ 139271	+ 0·670	− 98919			− 0·03
August	19	+ 2·14	=	+ 0·247	+ 196589	+ 0·753	− 141251			− 0·32
September	9	+ 1·01	=	+ 0·147	+ 245850	+ 0·853	− 177783			+ 0·91
	28	+ 4·02	=	− 0·015	+ 303585	+ 1·013	− 220475			+ 1·06
October	22	+ 1·58	=	− 0·444	+ 395685	+ 1·439	− 288642			+ 0·51
November	7	+ 2·69	=	− 1·044	+ 444509	+ 2·040	− 324951			+ 2·13
	28	− 1·22	=	− 2·367	+ 285766	+ 3·365	− 209190			+ 2·18

Day, 1874.		Error of the Tables of the Planet in Geocentric Longitude, expressed in terms of Error of Heliocentric Longitude of Planet (δL), of Error of Projection of Radius Vector of Planet ($\delta \rho$), of Error of Earth's Longitude (δl), and of Error of Earth's Radius Vector (δr). ($\delta \rho$ and δr are expressed in terms of the Earth's Mean Distance from the Sun.)	Error of Tables in Hel. E. P. D.
		PALLAS.	
October	23	$+19''.55 = +1.745\,\delta L - 7970''\,\delta \rho$	$+8''.23 + 25411''\,\delta \rho$
November	11	$+21.34 = +1.721 + 22673$	$+9.12 + 29255$
		JUNO.	
November	12	$-131.95 = +2.004\,\delta L + 17358\,\delta \rho$	$-10.03 + 19646\,\delta \rho$
		VESTA.	
November	21	$-6.11 = +1.616\,\delta L - 13027\,\delta \rho$	$+0.73 + 3887\,\delta \rho$
December	15	$-5.08 = +1.566 + 28965$	$+0.77 + 3272$
		JUPITER.	
February	21	$-7''.44 = +1.194\,\delta L - 3761''\,\delta \rho - 0.194''\,\delta l + 20654''\,\delta r$	$+0''.67$
March	18	$-8.90 = +1.224 + 135 - 0.224 - 782$	$+1.74$
April	20	$-9.23 = +1.174 + 4985 - 0.174 - 27026$	$+1.78$
May	14	$-9.09 = +1.098 + 6869 - 0.098 - 37067$	$+1.60$
		SATURN.	
July	20	$-11.02 = +1.110\,\delta L - 590\,\delta \rho - 0.110\,\delta l + 5762\,\delta r$	-6.30
August	18	$-7.06 = +1.109 + 630 - 0.109 - 6143$	-5.65
September	15	$-3.66 = +1.079 + 1595 - 0.079 - 15681$	-6.23
October	14	$-1.68 = +1.030 + 2070 - 0.030 - 20623$	-6.46
November	8	$-0.49 = +0.987 + 2045 + 0.013 - 20460$	-6.92

URANUS.

Day, 1874.		Error of the Tables of the Planet in Geocentric Longitude, expressed in terms of Error of Heliocentric Longitude of Planet (δ L), of Error of Projection of Radius Vector of Planet (δ ρ), of Error of Earth's Longitude (δ l), and of Error of Earth's Radius Vector (δ r). (δ ρ and δ r are expressed in terms of the Earth's Mean Distance from the Sun.)	Error of Tables in Hel. E. P. D.
		″ ″ ″ ″ ″	″
January	20	+ 166·78 = + 1·056 δ L − 96 δ ρ − 0·056 δ l + 1758 δ r	− 12·19
February	18	+ 167·09 = + 1·052 + 232 − 0·052 − 4406	− 12·14
March	18	+ 163·05 = + 1·035 + 484 − 0·035 − 8980	− 10·63
April	4	+ 162·80 = + 1·021 + 571 − 0·021 − 10579	− 11·19

NEPTUNE.

January	12	− 1·33 = + 1·002 δ L + 228 δ ρ − 0·002 δ l − 6921 δ r	+ 0·26
September	21	− 1·09 = + 1·029 − 128 − 0·029 + 3765	+ 0·20
October	16	− 2·10 = + 1·034 − 29 − 0·034 + 824	+ 0·16
November	14	− 1·59 = + 1·031 + 93 − 0·031 − 2811	− 0·36
December	12	− 1·16 = + 1·021 + 181 − 0·021 − 5576	− 0·55

ERRORS of the MOON'S TABULAR PLACE in RIGHT ASCENSION, NORTH POLAR DISTANCE, LONGITUDE, and ECLIPTIC NORTH POLAR DISTANCE.

Day, 1874.		Errors of Moon's Tabular Place from Observations with Transit-Circle.				Observer.	Errors of Moon's Tabular Place from Observations with Altazimuth.				Observer.
		In R. A.	In N. P. D.	In Longitude.	In E. N. P. D.		In R. A.	In N. P. D.	In Longitude.	In E. N. P. D.	
		s	″	″	″		s	″	″	″	
Jan.	1	+ 0·45	+ 0·16	+ 6·01	+ 0·15	E	+ 0·54	+ 0·18	+ 7·23	+ 0·33	AD
	2						+ 0·61	+ 2·50	+ 8·36	+ 1·70	C
	3	+ 0·57	+ 1·50	+ 7·90	− 0·17	AD	+ 0·31	+ 1·21	+ 4·35	+ 0·40	E
	4	+ 0·66	+ 4·89	+10·24	+ 2·04	C	+ 0·37	+ 2·48	+ 5·60	+ 1·03	L
	5	+ 0·37	+ 3·66	+ 6·23	+ 1·66	E	+ 0·46	+ 3·49	+ 7·32	+ 1·17	AD
	6						+ 0·38	+ 6·73	+ 7·70	+ 4·15	C
	7	+ 0·46	+ 3·09	+ 7·51	+ 0·14	C	+ 0·40	+ 3·77	+ 6·94	+ 1·15	E
	8						+ 0·30	+ 3·32	+ 5·45	+ 1·25	L
	9						+ 0·30	− 2·49	+ 3·18	− 4·04	AD
	12	+ 0·46	+ 4·30	+ 7·45	+ 2·40	E	+ 0·45	+ 4·21	+ 7·32	+ 2·31	L
Jan.	20						+ 0·27	− 3·71	+ 5·03	− 2·01	AD
	21						+ 0·03	− 2·28	+ 1·31	− 1·92	E
	24	+ 0·48	− 2·97	+ 7·66	− 0·33	C	+ 0·48	− 2·98	+ 7·67	− 0·30	AD
	25	+ 0·63	− 4·98	+10·11	− 2·13	L	+ 0·35	− 2·09	+ 5·43	− 0·51	E
	26	+ 0·55	− 4·21	+ 8·41	− 2·44	AD	+ 0·43	+ 1·08	+ 5·61	+ 2·39	C
	27	+ 0·48	+ 0·59	+ 6·40	+ 1·43	E	+ 0·46	− 2·34	+ 6·55	− 1·42	L
	30	+ 0·65	+ 3·32	+ 9·24	+ 1·73	AD	+ 0·54	+ 0·69	+ 7·29	− 0·40	C
Feb.	2						+ 0·42	+ 2·38	+ 6·55	+ 0·02	E
	3	+ 0·49	+ 3·10	+ 7·90	+ 5·67	AD	+ 0·36	+ 4·25	+ 6·56	+ 1·86	C
	4						+ 0·48	+ 4·67	+ 8·45	+ 1·44	L
	7	+ 0·09	+ 3·76	+ 2·53	+ 3·08	E					
	8	+ 0·27	+ 3·75	+ 4·80	+ 2·46	C	+ 0·27	+ 2·27	+10·54	+ 1·00	L
	9						+ 0·61	+ 6·24	+ 9·79	+ 4·07	AD
	10	+ 0·40	+ 3·29	+ 5·87	+ 2·48	AD	+ 0·04	+ 5·58	+ 1·38	+ 5·44	E
Feb.	18						+ 0·39	− 0·06	+ 5·38	+ 2·28	E
	19						+ 0·35	− 1·69	+ 5·50	+ 0·49	AD
	20						+ 0·65	− 3·56	+10·26	+ 0·15	L
	24	+ 0·61	+ 0·25	+ 8·15	+ 0·70	E	+ 0·79	− 2·80	+10·75	− 2·14	L
	25						+ 0·53	− 2·96	+ 6·93	− 3·25	C
	27	+ 0·72	− 0·39	+ 9·49	− 2·69	C	+ 0·88	+ 3·06	+12·38	+ 0·38	AD
	28	+ 0·57	+ 3·54	+ 8·71	+ 0·97	E	+ 0·86	+ 0·19	+11·55	− 3·32	L
March	1	+ 0·57	+ 5·48	+ 9·61	+ 2·27	AD	+ 0·62	+ 2·60	+ 9·25	− 0·59	C
	2	+ 0·61	+ 6·53	+10·80	+ 2·62	L	+ 0·03	+ 6·84	+ 2·99	+ 6·17	E
	3	+ 0·41	+ 5·17	+ 7·68	+ 2·32	C	+ 0·62	+ 4·36	+10·21	+ 0·37	AD
	4						+ 0·81	+10·87	+15·52	+ 5·16	M
	6	+ 0·36	+ 3·14	+ 6·09	+ 1·05	L	+ 0·59	+ 2·44	+ 7·26	− 0·87	M
	7	+ 0·33	+ 0·26	+ 4·61	− 1·25	E	+ 0·70	+ 2·41	+10·39	− 0·94	AD
	9	+ 0·29	+ 1·42	+ 4·18	− 0·68	L	+ 0·29	+ 3·13	+ 4·50	+ 2·36	C
	10	+ 0·22	+ 2·39	+ 3·17	+ 2·11	C	+ 0·34	+ 5·48	+ 5·06	+ 5·05	E
	11						+ 0·31	+ 3·74	+ 4·10	− 3·77	AD
	12						+ 0·67	− 0·71	+ 8·98	+ 0·33	L
March	21						+ 0·47	− 0·72	+ 6·60	+ 1·04	AD
	22						+ 0·40	+ 3·12	+ 4·86	+ 4·03	E
	23	+ 0·64	+ 2·10	+ 8·37	+ 2·92	C	+ 1·03	+ 0·13	+13·78	+ 1·37	L
	24	+ 0·71	+ 1·30	+ 9·47	+ 1·17	AD	+ 0·54	+ 1·39	+ 7·21	+ 1·24	E
	25	+ 0·83	+ 3·05	+11·37	+ 1·74	L	+ 0·65	+ 4·07	+ 9·11	+ 3·03	C
	26	+ 0·72	+ 1·75	+ 9·93	− 0·30	E	+ 0·55	+ 1·45	+ 7·60	− 0·06	AD
	27						+ 0·84	+ 2·80	+11·99	− 0·54	L
	28						+ 0·48	+ 1·43	+ 6·93	− 0·91	E
	30	+ 0·28	+ 3·99	+ 5·41	+ 2·03	E	+ 0·44	+ 4·50	+ 7·77	+ 1·60	AD
	31	+ 0·57	+ 6·20	+10·34	+ 2·29	C	+ 0·81	+ 0·30	+11·26	− 4·56	L

Remarks on TRANSIT-CIRCLE Observations :—February 3. Very cloudy. March 3. Very tremulous. March 30. Cloudy.

Remarks on ALTAZIMUTH Observations : — January 6. The limbs exceedingly faint and the observation very unsatisfactory. February 2. Cloudy ; only one face of the Moon was observed, no star for instrumental error, nor any clock-star within 23^h.

ERRORS of the MOON'S TABULAR PLACE—*continued.*

Day, 1874.		Errors of Moon's Tabular Place from Observations with Transit-Circle.				Observer.	Errors of Moon's Tabular Place from Observations with Altazimuth.				Observer.
		In R.A.	In N.P.D.	In Longitude.	In E.N.P.D.		In R.A.	In N.P.D.	In Longitude.	In E.N.P.D.	
		s	″	″	″		s	″	″	″	
April	1						+ 0·52	+ 7·74	+10·21	+ 4·10	E
	3						+ 1·03	+ 2·33	+14·96	− 2·83	AD
	5	+ 0·56	+ 3·75	+ 8·35	+ 5·26	AD	+ 0·42	+ 3·99	+ 6·57	+ 2·63	E
	6	+ 0·29	+ 4·89	+ 4·47	+ 4·41	E	+ 0·17	+ 4·04	+ 2·78	+ 3·73	C
	8	+ 0·68	+ 3·31	+ 8·75	+ 4·05	AD	+ 0·44	− 2·71	+ 6·05	− 2·26	L
	10		+ 1·19			L					
April	20	+ 0·66	+ 6·57	+ 8·57	+ 6·59	AD	+ 0·76	+ 4·85	+10·06	+ 4·99	C
	21	+ 0·77	+ 1·71	+10·34	+ 0·93	L	+ 0·56	+ 1·09	+ 7·53	+ 0·42	E
	22	+ 0·74	+ 1·59	+10·10	− 0·17	C	+ 0·76	+ 2·51	+10·54	+ 0·61	AD
	23	+ 0·52	+ 0·86	+ 7·15	− 1·01	E	+ 1·06	+ 4·18	+15·22	+ 0·21	L
	24	+ 0·52	+ 3·44	+ 8·08	+ 0·92	AD	+ 0·60	+ 2·67	+ 8·91	− 0·21	C
	25	+ 0·29	+ 1·79	+ 4·58	+ 0·14	S	+ 0·52	+ 3·87	+ 8·45	+ 0·85	E
	26						+ 0·79	+ 6·09	+13·15	+ 1·10	AD
	27	+ 0·30	+ 5·70	+ 6·41	+ 3·45	E	+ 0·43	+ 3·55	+ 7·33	+ 0·70	G
	28	+ 0·58	+ 6·34	+10·53	+ 2·41	AD	+ 0·41	+ 5·14	+ 7·70	+ 2·30	C
	29	+ 0·52	+ 7·54	+10·03	+ 6·69	L	+ 0·21	+ 4·26	+ 4·52	+ 2·75	E
	30	+ 0·58	+ 4·56	+ 9·55	+ 1·39	C	+ 0·60	+ 5·34	+10·13	+ 1·94	AD
May	1	+ 0·47	+ 5·05	+ 7·94	+ 2·83	E	+ 0·44	+ 3·76	+ 7·16	+ 1·69	L
	2	+ 0·62	+ 6·12	+ 9·83	+ 3·99	AD	+ 0·43	+ 5·44	+ 7·15	+ 3·84	C
	3	+ 0·41	+ 1·59	+ 5·76	+ 0·74	L	+ 0·21	+ 2·64	+ 3·24	+ 2·16	E
	6						+ 0·13	+ 0·86	+ 1·60	+ 1·10	C
	8						+ 0·54	− 1·16	+ 7·59	+ 1·21	AD
	9						+ 0·33	− 4·31	+ 6·02	− 2·32	L
	10	+ 0·75	− 3·06	+11·45	+ 1·55	L	+ 0·39	− 3·87	+ 6·84	− 1·33	C
	11						+ 0·39	− 7·59	+ 8·40	− 4·62	E
May	17						+ 0·18	+ 0·48	+ 2·38	+ 0·61	E
	18						+ 0·77	− 1·58	+10·13	− 2·14	AD
	19						+ 0·44	+ 6·97	+ 6·93	+ 5·97	E
	20						+ 0·53	+ 6·74	+ 8·65	+ 4·85	L
	24	+ 0·39	+ 5·33	+ 7·47	+ 2·59	AD	+ 0·58	+ 3·56	+ 9·36	− 0·17	L
	25						+ 0·31	+ 6·63	+ 6·92	+ 4·26	C
	26	+ 0·49	+ 5·32	+ 8·82	+ 2·11	L	+ 0·30	+ 4·93	+ 6·04	+ 2·82	AD
	27	+ 0·49	+ 3·58	+ 8·04	+ 0·78	C	+ 0·16	+ 3·11	+ 3·32	+ 2·07	E
	28	+ 0·52	+ 4·02	+ 8·40	+ 1·45	AD	+ 0·66	+ 3·86	+10·27	+ 0·67	G
	29	+ 0·38	+ 4·83	+ 6·42	+ 3·30	E	+ 0·26	+ 3·73	+ 4·53	+ 2·64	C
	30	+ 0·68	+ 2·53	+ 9·64	+ 0·83	L	+ 0·57	+ 2·46	+ 8·17	+ 0·95	AD
	31	+ 0·41	+ 3·15	+ 5·76	+ 2·68	C	+ 0·38	+ 4·40	+ 5·52	+ 3·89	E
June	1						+ 0·86	+ 0·50	+11·45	+ 0·58	L
	3	+ 0·70	− 1·03	+ 9·54	+ 1·07		+ 0·77	+ 5·33	+ 9·09	+ 7·42	J
	4	+ 0·97	− 1·88	+13·54	+ 2·23	AD	+ 0·32	− 1·99	+ 4·85	− 0·62	E
	5	+ 0·98	− 2·61	+14·15	+ 2·53	E					
	7	+ 0·79	− 6·56	+13·48	− 1·31	AD	+ 0·84	− 4·02	+13·14	+ 1·30	AD
	8						+ 0·49	− 4·55	+ 8·57	− 1·30	E
	9						+ 0·81	− 4·11	+12·70	+ 0·62	L
	10						+ 0·84	− 1·25	+11·94	+ 2·79	WC
June	17						+ 0·42	+ 4·65	+ 6·93	+ 2·81	C
	19	+ 0·54	+ 4·44	+ 8·97	+ 1·22	C	+ 0·26	+ 6·34	+ 5·92	+ 4·45	E
	21	+ 0·35	+ 6·31	+ 7·34	+ 3·69	E	+ 0·23	+ 4·71	+ 5·05	+ 2·95	C
	22	+ 0·39	+ 6·11	+ 7·78	+ 3·35	H	+ 0·68	+ 5·35	+11·48	+ 0·96	AD
	23						+ 0·31	+ 4·08	+ 5·78	+ 2·11	J
	24	+ 0·53	+ 6·45	+ 9·45	+ 3·50	AD	+ 0·72	+ 3·81	+11·16	+ 0·14	L
July	1	+ 0·79	+ 0·22	+10·49	+ 3·18	C	+ 0·76	− 3·35	+11·05	− 0·43	M

Remarks on TRANSIT-CIRCLE Observations:—May 3. Very tremulous and ill-defined. May 28 and June 22. Cloudy. June 5. Faint. June 7. Too faint for proper observation. June 24. Very faint; cloudy.

Remarks on ALTAZIMUTH Observations:—June 23. Only one face of the Moon was observed in Azimuth, and no star for instrumental error.

ERRORS of the MOON'S TABULAR PLACE—*continued.*

Day, 1874.		Errors of Moon's Tabular Place from Observations with Transit-Circle. In R. A.	In N. P. D.	In Longitude.	In E. N. P. D.	Observer.	Errors of Moon's Tabular Place from Observations with Altazimuth. In R. A.	In N. P. D.	In Longitude.	In E. N. P. D.	Observer.
		s	″	″	″		s	″	″	″	
July	2						+ 0·60	− 3·80	+ 9·34	− 0·76	L
	3	+ 0·91	− 6·29	+14·75	− 0·79	L	+ 0·34	− 3·12	+ 5·78	− 1·04	C
	4	+ 0·82	− 7·71	+14·31	− 2·22	C	+ 1·04	− 4·19	+15·89	+ 2·25	WC
	5	+ 0·91	− 5·24	+14·63	+ 0·58	WC	+ 0·65	− 4·29	+10·67	− 0·08	M
	6		− 6·33			M	+ 0·81	− 6·89	+13·80	− 1·80	L
	7	+ 0·97	− 7·15	+15·70	− 2·09	L	+ 0·41	− 3·64	+ 6·89	− 1·34	C
	8						+ 0·88	− 6·60	+13·91	− 2·73	J
July	15						+ 0·13	+ 1·23	+ 2·15	+ 0·57	E
	16						+ 0·57	+ 4·48	+ 9·36	+ 1·16	L
	17						+ 0·42	+ 6·05	+ 8·10	+ 3·16	C
	18	+ 0·42	+ 6·74	+ 8·46	− 3·69	L	+ 0·20	+ 4·17	+ 4·42	+ 2·64	AD
	19	+ 0·30	+ 6·79	+ 6·83	+ 4·47	C	+ 0·20	+ 5·67	+ 5·01	+ 4·03	E
	20	+ 0·36	+ 5·65	+ 7·12	+ 3·19	AD					
	21						+ 0·08	+ 4·11	+ 2·52	+ 3·45	C
	23	+ 0·51	+ 2·00	+ 7·41	+ 0·23	C	+ 0·39	+ 3·13	+ 6·05	+ 1·73	E
	26						+ 0·78	− 1·05	+10·40	− 0·69	AD
	27	+ 0·55	− 3·23	+ 7·77	− 2·14	C	+ 0·46	− 1·63	+ 6·34	− 0·73	E
	28	+ 0·57	− 0·79	+ 8·78	+ 1·10	S	+ 0·72	− 3·93	+10·49	− 1·58	L
	29	+ 0·67	− 3·37	+10·05	− 0·22	E	+ 0·33	− 1·93	+ 5·02	− 0·42	C
	30	+ 0·51	− 2·60	+ 7·87	+ 0·28	L	+ 0·45	− 2·72	+ 7·07	− 0·21	AD
	31						+ 0·46	− 3·80	+ 7·77	− 0·84	E
August	1	+ 0·62	− 5·50	+10·74	− 1·35	E	+ 0·69	− 5·64	+11·74	− 1·05	J
	2	+ 0·89	− 4·10	+13·85	+ 1·30	WC	+ 0·36	− 2·82	+ 6·06	− 0·53	C
	3						+ 1·16	− 8·78	+19·12	− 2·09	AD
	4	+ 0·99	− 2·86	+14·34	+ 1·30	AD	+ 0·58	− 7·58	+10·25	− 4·68	E
	5	+ 1·06	− 2·97	+14·96	+ 0·18	S					
	6						+ 0·59	− 6·60	+ 8·88	− 5·39	C
	8						+ 0·98	− 0·48	+12·98	− 1·38	E
August	17						− 0·09	+ 2·78	− 0·25	+ 3·07	E
	18	+ 0·34	+ 6·55	+ 6·80	+ 4·59	AD	+ 0·18	+ 3·01	+ 3·42	+ 2·03	M
	19	+ 0·26	+ 5·49	+ 5·04	+ 4·28	E	+ 0·51	+ 3·24	+ 7·80	+ 1·21	L
	20	+ 0·41	+ 5·86	+ 6·70	+ 4·62	M	+ 0·58	+ 0·02	+ 7·83	− 1·52	AD
	21	+ 0·45	+ 5·79	+ 6·67	+ 5·10	L	+ 0·01	− 2·11	− 0·09	− 2·11	E
	22	+ 0·46	+ 1·40	+ 6·13	+ 1·32	AD	+ 0·17	+ 0·93	+ 2·27	+ 0·90	J
	24						+ 0·58	+ 0·26	+ 7·65	+ 1·77	AD
	25	+ 0·74	− 5·43	+11·43	− 2·31	L	+ 0·08	+ 0·30	+ 0·99	+ 0·59	E
	26	+ 0·71	− 3·69	+10·85	+ 0·02	AD	+ 0·83	− 6·56	+13·40	− 2·21	J
	27						+ 0·89	− 1·04	+12·55	+ 4·13	L
	28	+ 0·85	− 3·88	+13·23	+ 1·50	J	+ 0·48	− 9·58	+10·40	− 5·95	AD
	29	+ 0·85	− 3·65	+13·16	+ 1·61	L	+ 0·58	− 4·99	+ 9·97	− 1·16	WC
Sept.	1	+ 0·84	− 1·77	+11·81	+ 1·02	L	+ 0·71	− 6·55	+11·20	− 3·98	E
	2						+ 1·09	− 5·57	+15·61	− 2·99	AD
	3	+ 1·10	+ 0·92	+14·60	+ 1·43	AD					
	4	+ 1·11	+ 4·68	+15·05	+ 3·65	C	+ 0·91	− 1·87	+12·00	− 2·28	L
Sept.	15						+ 0·70	+ 3·63	+10·57	+ 0·63	AD
	18						+ 0·83	− 3·75	+10·86	− 4·28	L
	19						+ 0·79	− 1·70	+10·55	− 1·19	AD
	21	+ 0·50	− 2·56	+ 7·27	− 0·84	EG	+ 0·66	− 3·51	+ 9·61	− 1·29	AD
	22	+ 0·51	− 2·94	+ 7·77	− 0·53	C	+ 0·67	− 0·50	+ 9·14	+ 2·41	L
	23						+ 0·37	− 2·25	+ 5·85	− 0·12	E
	24						+ 0·54	− 7·11	+10·16	− 3·42	C

Remarks on TRANSIT-CIRCLE Observations :—July 4. Very cloudy. August 4. Very faint; cloudy. August 15, 18, 19, and September 3. Faint.

ERRORS of the MOON'S TABULAR PLACE—*concluded.*

Day, 1874.		Errors of Moon's Tabular Place from Observations with Transit-Circle.				Observer.	Errors of Moon's Tabular Place from Observations with Altazimuth.				Observer.
		In R.A.	In N.P.D.	In Longitude.	In E.N.P.D.		In R.A.	In N.P.D.	In Longitude.	In E.N.P.D.	
		s	′	″	″		s	″	″	″	
Sept.	25	+ 0·59	− 4·81	+10·04	− 0·90	E	+ 0·81	−10·18	+15·22	− 4·40	AD
	26	+ 0·76	− 5·35	+12·51	− 0·66	C	+ 0·69	− 6·39	+11·98	− 1·93	L
	27	+ 0·88	− 4·80	+13·68	− 0·25	AD	+ 0·43	− 6·97	+ 8·33	− 4·34	E
	28	+ 1·00	− 3·44	+14·51	+ 0·52	L	+ 0·53	− 5·40	+ 8·78	− 3·01	C
	29						+ 0·79	− 3·18	+11·30	− 0·89	AD
Oct.	1						+ 0·50	− 3·64	+ 6·49	− 3·87	E
	2	+ 0·90				E	+ 0·63	− 2·59	+ 8·05	− 3·49	C
	3						+ 0·94	+ 2·76	+13·07	0·00	J
	4						+ 0·64	+ 0·78	+ 8·78	− 1·86	L
	5						+ 0·06	+ 4·13	+ 2·23	+ 3·59	E
Oct.	18	+ 0·52	− 1·50	+ 7·21	− 0·02	S	+ 0·25	+ 1·01	+ 3·11	+ 1·68	C
	19	+ 0·50	− 3·53	+ 7·68	− 1·43	AD	+ 0·18	− 3·30	+ 3·33	− 2·48	E
	20	+ 0·48	− 1·76	+ 7·08	+ 0·73	C	+ 0·45	− 3·08	+ 7·11	− 0·72	L
	21	+ 0·62	− 6·52	+10·94	− 2·54	E	+ 0·62	− 9·16	+11·90	− 5·04	AD
	22	+ 0·53	− 5·86	+ 9·63	− 2·22	L	+ 0·40	− 3·55	+ 6·90	− 0·89	C
	23						+ 0·34	− 3·60	+ 6·12	− 1·30	E
	24						+ 0·82	− 6·10	+13·55	− 1·17	L
	25						+ 0·49	− 2·95	+ 7·61	− 0·63	AD
	27	+ 1·03	− 1·79	+13·99	− 0·07	AD	+ 0·60	− 1·66	+ 8·29	− 0·43	E
	28	+ 0·83	+ 0·18	+11·01	+ 0·26	E	+ 0·72	− 0·38	+ 9·58	− 0·05	L
	30						+ 0·50	+ 3·97	+ 7·36	+ 2·68	C
	31						+ 0·33	+ 4·25	+ 5·54	+ 2·88	E
Nov.	2						+ 0·80	+ 4·21	+12·40	− 0·36	AD
	3						+ 0·37	+ 4·01	+ 6·63	+ 1·54	C
	4						+ 0·27	+ 3·63	+ 5·16	+ 1·71	E
Nov.	13						+ 0·40	+ 0·38	+ 5·27	+ 0·82	C
	17	+ 0·43	− 4·59	+ 7·54	− 1·95	L	+ 0·11	+ 0·41	+ 1·34	+ 0·97	J
	18						+ 0·24	+ 2·45	+ 2·31	+ 3·66	C
	19	+ 0·49	− 4·72	+ 8·64	− 1·42	E	+ 0·51	− 6·65	+ 9·68	− 3·06	L
	20	+ 0·51	− 1·11	+ 7·45	+ 1·87	C	+ 0·26	− 2·41	+ 4·51	− 0·73	J
	22	+ 0·75	− 3·80	+11·24	− 0·78	AD	+ 0·73	− 5·02	+11·36	− 1·89	M
	23		− 0·03			EG	+ 0·51	− 4·52	+ 7·84	− 2·94	WC
	24						+ 0·98	− 7·07	+13·87	− 5·59	AD
	26	+ 0·85	+ 5·88	+12·19	+ 4·03	E					
	27						+ 0·92	− 0·25	+12·18	− 3·10	C
	29						+ 0·65	+ 2·05	+ 9·52	− 1·39	E
Dec.	1	+ 0·54	+ 1·57	+ 8·05	− 1·78	L	+ 0·37	+ 3·52	+ 6·49	+ 1·03	C
	2	+ 0·71	+ 4·72	+11·66	+ 0·15	C	+ 0·52	+ 0·64	+ 7·43	− 2·50	AD
	3						+ 0·31	+ 3·17	+ 5·47	+ 1·20	E
Dec.	14						+ 0·72	− 1·69	+10·37	+ 2·16	L
	16						+ 0·31	− 4·61	+ 6·10	− 2·38	C
	17	+ 0·52	− 3·74	+ 8·63	− 0·41	E	+ 0·37	− 7·56	+ 8·07	− 4·79	AD
	18						+ 0·57	− 4·89	+ 9·64	− 1·46	L
	19	+ 0·52	− 2·98	+ 8·02	− 0·52	J	+ 0·33	− 2·95	+ 5·45	− 1·28	E
	20						+ 0·59	+ 0·83	+ 7·78	+ 2·87	C
	21	+ 0·59	− 1·26	+ 8·07	− 0·22	E	− 0·06	+ 2·77	− 1·24	+ 2·61	AD
	23						+ 0·69	+ 2·43	+ 9·32	+ 1·79	E
	25	+ 0·78	+ 6·18	+12·23	− 2·79	E					
	27						+ 0·47	+ 5·66	+ 8·52	+ 2·66	E
	29	+ 0·83	+ 7·56	+14·46	− 2·01	AD	+ 0·47	+ 9·14	+10·12	+ 5·59	WC
	31						+ 0·30	+ 6·76	+ 6·55	+ 4·73	E

Remarks on TRANSIT-CIRCLE Observations:—September 27. Limb diffused. October 27. Cloudy. November 22. Diffused. December 29. Limbs indistinct.

Remarks on ALTAZIMUTH Observations:—October 25. No star could be observed for instrumental error, nor was any clock-star observed within 24^h.

ROYAL OBSERVATORY, GREENWICH.

OBSERVATIONS OF γ DRACONIS

WITH THE

REFLEX ZENITH TUBE;

AND

REDUCTION OF THE OBSERVATIONS.

1874.

Day and Hour of Observation, 1874.	Observer.	Position of Mic. A.	Wire used.	Micrometer Readings. A	Micrometer Readings. B	Level Readings.		Equivalents for Level.	Sum of Equivalents for Wire, for Micrometer-Readings, and for Level Readings.	Assumed Instrumental Constant.	Star's Z.D. North from Observation.	Correction to Mean Z.D. North for 1874, Jan. 1.	Mean Zenith Distance North, 1874, Jan. 1, from each Observation.	Concluded Mean Zenith Distance North, 1874, Jan. 1.
				r	r	div.	div.	"	"	"	"	"	"	"
January d h 5. 23	HC	Left	15	78·000	18·937	25·3	87·6	0·73	284·93	198·36	86·57	+12·20	98·77	98·77
February 20. 20	AD	Left	15	79·000	16·922	16·6	79·4	0·62	267·79		69·43	+25·10	94·53	94·53
May 15. 14	L	Left	15	79·000	17·307	4·6	65·7	0·45	274·08		75·72	+18·34	94·06	96·60
" "		Right	14	82·643	17·307	39·0	100·2	0·90	117·56		80·80		99·14	
May 19. 14	C	Left	15	82·000	14·569	24·5	84·6	0·70	278·73		80·37	+17·18	97·55	97·36
" "		Right	14	85·444	14·569	20·0	80·4	0·65	118·37				97·17	
May 20. 14	AD	Right	14	85·642	14·570	21·0	80·5	0·66	121·72		76·64	+16·89	93·53	95·07
" "		Left	15	85·642	10·889	23·5	83·0	0·69	278·08		79·72		96·61	
May 26. 14	L	Left	15	85·000	11·680	24·9	83·2	0·70	280·59		82·23	+15·05	97·28	98·12
" "		Right	14	88·100	11·680	20·5	78·6	0·64	114·45		83·91		98·96	
May . 14	E	Right	14	88·156	11·679	20·2	77·4	0·63	115·35		83·01	+14·12	97·13	97·36
" "		Left	15	88·156	8·596	27·2	84·6	0·72	281·82		83·46		97·58	
June 1. 13	AD	Left	15	88·250	8·520	26·0	82·0	0·70	282·11		83·75	+13·18	96·93	96·38
" "		Right	14	91·336	8·520	21·0	77·0	0·63	115·71		82·65		95·83	
June 3. 13	L	Left	15	91·000	5·791	26·1	83·3	0·71	282·47		84·11	+12·54	96·65	98·11
" "		Right	14	93·804	5·791	20·5	76·8	0·63	111·33		87·03		99·57	
June 4. 13	G	Right	14	93·987	5·791	22·5	77·7	0·65	114·43		83·93	+11·22	95·15	94·52
" "		Left	15	93·987	2·719	26·8	81·3	0·70	281·03		82·67		93·89	
June 8. 13	C	Left	15	82·000	14·764	24·4	80·5	0·68	281·99		83·63	+10·94	94·57	97·09
" "		Right	14	84·730	14·764	24·5	81·0	0·68	109·69		88·67		99·61	
June 9. 13	AD	Right	14	84·912	14·760	26·0	81·0	0·69	112·69		85·67	+10·62	96·29	95·67
" "		Left	15	84·912	11·901	24·0	79·0	0·67	282·79		84·43		95·05	
June 10. 13	E	Left	15	84·908	12·050	23·4	80·2	0·67	285·22		86·86	+10·30	97·16	96·28
" "		Right	14	87·656	12·050	24·5	81·5	0·69	113·26		85·10		95·40	
June 11. 13	S	Right	14	87·538	12·050	24·8	80·5	0·68	111·26		87·10	+ 9·98	97·08	97·38
" "		Left	15	87·538	9·469	23·7	79·5	0·67	286·05		87·69		97·67	
June 12. 12	H	Left	15	87·500	9·322	21·0	78·5	0·64	282·91		84·55	+ 9·66	94·21	94·98
" "		Right	14	90·325	9·322	25·4	83·2	0·70	112·28		86·08		95·74	
June 13. 12	L	Left	15	90·000	6·900	19·7	79·2	0·64	284·22		85·86	+ 9·34	95·20	97·07
" "		Right	14	92·537	6·900	26·3	85·2	0·72	108·77		89·59		98·93	
June 22. 12	H	Right	14	92·427	7·000	28·0	83·5	0·72	108·61		89·75	+ 6·46	96·21	96·85
" "		Left	15	92·427	4·781	20·8	77·0	0·63	289·38		91·02		97·48	
June 24. 12	AD	Left	15	92·400	4·641	20·0	77·0	0·63	286·58		88·22	+ 5·82	94·04	95·40
" "		Right	14	94·717	4·641	26·0	83·0	0·70	107·42		90·94		96·76	

The numerical value of the Sum of Equivalents in column 10, $= w +$ (sum of Micrometer Readings $- 80^r$) $\times 16''\cdot780 +$ sum of Level Readings $\times 0''\cdot00646$; where w, for wire 14, $= -3'\cdot38''\cdot10$; for wire 15, $= 0$. The numerical difference between this value and that of the Instrumental Constant is the Star's Z.D. North.

January 5^d. 23^h. Very faint; not seen after reversion.
June 12^d. 12^h. Very tremulous.

February 20^d. 20^h. Very tremulous; not seen after reversion.
June 13^d. 12^h. Diffused and tremulous; cloudy.

Day and Hour of Observation, 1874.	Observer.	Position of Mic. A.	Wire used.	Micrometer Readings. A	Micrometer Readings. B	Level Readings.	Level Readings.	Equivalents for Level.	Sum of Equivalents for Wire, for Micrometer-Readings, and for Level Readings.	Assumed Instrumental Constant.	Star's Z. D. North from Observation.	Correction to Mean Z. D. North for 1874, Jan. 1.	Mean Zenith Distance North, 1874, Jan. 1, from each Observation.	Concluded Mean Zenith Distance North, 1874, Jan. 1.
				r	r	div.	div.	"	"	"	"	"	"	"
d h														
July 1. 11	C	Left	15	94·000	3·403	23·0	80·8	0·67	292·69	198·36	94·33	+ 3·60	97·93	98·39
" "		Right	14	95·700	3·403	23·0	80·6	0·67	103·12		95·24		98·84	
July 2. 11	S	Left	15	79·328	17·919	23·8	78·3	0·66	290·07		91·71	+ 3·30	95·01	95·86
" "		Right	14	81·293	17·919	24·6	79·1	0·67	104·95		93·41		96·71	
July 3. 11	H	Right	14	81·274	18·000	24·0	79·0	0·67	106·00		92·36	+ 3·00	95·36	96·44
" "		Left	15	81·274	16·140	23·0	78·5	0·66	292·87		94·51		97·51	
July 4. 11	J	Left	15	81·276	16·000	23·0	79·2	0·66	290·56		92·20	+ 2·70	94·90	95·38
" "		Right	14	83·227	16·000	21·3	81·4	0·66	105·20		93·16		95·86	
July 6. 11	S	Right	14	83·198	16·001	26·2	82·1	0·70	104·76		93·60	+ 2·10	95·70	98·34
" "		Left	15	83·198	14·478	20·0	76·0	0·62	297·23		98·87		100·97	
July 7. 11	M	Left	15	83·196	14·337	12·5	77·5	0·58	294·78		96·42	+ 1·80	98·22	97·77
" "		Right	14	84·745	14·337	36·1	81·5	0·76	102·85		95·51		97·31	
July 13. 10	L	Left	15	81·000	16·628	23·1	78·1	0·65	296·45		98·09	+ 0·06	98·15	97·91
" "		Right	14	82·333	16·628	26·3	80·4	0·69	100·76		97·60		97·66	
July 14. 10	S	Right	14	82·485	16·629	27·2	80·5	0·70	103·34		95·02	− 0·22	94·80	96·77
" "		Left	15	82·485	15·194	23·5	76·5	0·65	297·31		98·95		98·73	
July 15. 10	C	Left	15	82·000	15·555	23·6	77·5	0·65	295·22		96·86	− 0·50	96·36	96·18
" "		Right	14	83·472	15·555	25·5	79·6	0·68	101·86		96·50		96·00	
July 16. 10	AD	Right	14	83·482	15·550	27·0	81·0	0·70	101·95		96·41	− 0·78	95·63	96·45
" "		Left	15	83·482	14·144	22·0	77·0	0·64	296·41		98·05		97·27	
July 17. 10	E	Left	15	83·484	14·074	21·2	76·0	0·63	295·25		96·89	− 1·06	95·83	96·55
" "		Right	14	84·843	14·074	27·8	82·2	0·71	100·04		98·32		97·26	
July 18. 10	L	Left	15	85·000	12·708	20·9	76·2	0·63	297·77		99·41	− 1·34	98·07	97·67
" "		Right	14	86·192	12·708	28·6	83·4	0·72	99·76		98·60		97·26	
July 21. 10	E	Right	14	86·188	12·708	29·8	84·6	0·74	99·71		98·65	− 2·15	96·50	96·85
" "		Left	15	86·188	11·517	20·7	75·5	0·62	297·71		99·35		97·20	
July 23. 10	C	Left	15	86·000	11·817	19·0	74·4	0·60	299·57		101·21	− 2·65	98·56	97·26
" "		Right	14	87·082	11·817	29·0	84·6	0·74	99·76		98·60		95·95	
July 28. 9	S	Right	14	87·098	11·817	28·3	84·5	0·73	100·02		98·34	− 3·90	94·44	96·96
" "		Left	15	87·098	10·847	20·0	76·0	0·62	301·73		103·37		99·47	
July 29. 9	E	Left	15	87·098	10·726	19·7	76·6	0·62	299·71		101·35	− 4·15	97·20	97·26
" "		Right	14	88·003	10·726	26·5	83·2	0·71	96·89		101·47		97·32	
July 30. 9	L	Left	15	88·000	9·905	19·7	76·2	0·62	301·06		102·70	− 4·40	98·30	98·21
" "		Right	14	88·761	9·905	27·8	84·2	0·72	95·84		102·52		98·12	
August 3. 9	S	Right	14	88·900	9·903	28·2	83·8	0·72	98·13		100·23	− 5·24	94·99	94·99

The numerical value of the Sum of Equivalents in column 10, $= w +$ (sum of Micrometer Readings $- 80^{r}$) $\times$ $16''\cdot780 +$ sum of Level Readings $\times$ $0''\cdot00646$; where w, for wire 14, $= -3'\cdot38''\cdot10$; for wire 15, $= 0$. The numerical difference between this value and that of the Instrumental Constant is the Star's Z.D. North.

July 1d. 11h. Bisection with micrometer A, right, not considered very good.
July 3d. 11h. Tremulous; high wind.
July 13d. 10h. Image extremely tremulous.
July 28d. 9h. Image bad.
July 2d. 11h. Very diffused.
July 6d. 11h. Image diffused.
July 18d. 10h. Diffused and tremulous.
August 3d. 9h. Very faint and tremulous; not seen after reversion.

Day and Hour of Observation, 1874.	Observer.	Position of Mic. A.	Wire used.	Micrometer Readings. A	Micrometer Readings. B	Level Readings.	Level Readings.	Equivalents for Level.	Sum of Equivalents for Wire, for Micrometer-Readings, and for Level Readings.	Assumed Instrumental Constant.	Star's Z.D. North from Observation.	Correction to Mean Z.D. North for 1874, Jan. 1.	Mean Zenith Distance North, 1874, Jan. 1, from each Observation.	Concluded Mean Zenith Distance North, 1874, Jan 1.
				r	r	div.	div.	"	"	"	"	"	"	"
August 6. 9 (d h)	S	Left	15	88·900	9·019	19·6	75·2	0·61	301·29	198·36	102·93	− 5·87	97·06	96·67
" "		Right	14	89·670	9·019	27·3	83·0	0·71	96·21		102·15		96·28	
August 8. 9	C	Left	15	90·000	7·990	20·0	76·2	0·62	302·49		104·13	− 6·29	97·84	98·07
" "		Right	14	90·554	7·990	26·5	83·6	0·71	93·78		104·58		98·29	
August 11. 9	J	Left	15	90·866	7·990	19·3	76·0	0·61	303·62		105·26	− 6·86	98·40	95·45
" "		Right	14	90·866	7·192	26·2	82·5	0·70	99·00		99·36		92·50	
August 13. 8	L	Left	15	91·000	7·005	19·9	78·3	0·63	302·75		104·39	− 7·22	97·17	97·62
" "		Right	14	91·498	7·005	25·7	82·7	0·70	93·08		105·28		98·06	
August 17. 8	L	Left	15	91·000	7·041	19·9	77·3	0·63	303·36		105·00	− 7·94	97·06	96·87
" "		Right	14	91·500	7·041	27·2	84·0	0·72	93·74		104·62		96·68	
August 18. 8	AD	Right	14	91·628	7·000	26·0	82·0	0·70	95·18		103·18	− 8·12	95·06	96·88
" "		Left	15	91·628	6·521	21·0	77·0	0·63	305·17		106·81		98·69	
August 20. 8	M	Left	15	92·573	5·613	21·5	75·8	0·63	305·79		107·43	− 8·43	99·00	99·13
" "		Right	14	92·747	5·613	27·5	81·5	0·70	90·68		107·68		99·25	
August 21. 8	L	Left	15	93·000	5·057	20·8	77·3	0·63	303·63		105·27	− 8·56	96·71	97·56
" "		Right	14	93·346	5·057	26·6	82·3	0·70	91·40		106·96		98·40	
August 28. 7	J	Right	14	93·532	5·056	31·4	95·2	0·82	94·62		103·74	− 9·47	94·27	95·78
" "		Left	15	93·532	4·616	18·0	74·4	0·59	305·11		106·75		97·28	
August 29. 7	L	Left	15	93·000	5·134	19·0	77·2	0·62	304·91		106·55	− 9·60	96·95	97·59
" "		Right	14	93·217	5·134	26·4	83·4	0·71	90·54		107·82		98·22	
September 2. 7	W	Right	14	93·157	5·107	33·0	81·8	0·74	89·12		109·24	− 9·92	99·32	99·73
" "		Left	15	93·157	5·184	22·1	78·0	0·65	308·41		110·05		100·13	
September 4. 7	AD	Left	15	93·150	5·074	23·0	79·0	0·66	306·47		108·11	−10·08	98·03	97·47
" "		Right	14	93·329	5·074	23·5	80·0	0·67	91·37		106·99		96·91	
September 10. 7	EG	Right	14	93·353	5·075	25·0	81·8	0·69	91·81		106·55	−10·48	96·07	97·86
" "		Left	15	93·353	4·991	23·3	80·5	0·67	308·48		110·12		99·64	
September 14. 6	C	Left	15	93·000	5·088	23·0	80·7	0·67	304·18		105·82	−10·64	95·18	96·76
" "		Right	14	93·196	5·088	23·0	81·0	0·67	89·38		108·98		98·34	
September 15. 6	W	Right	14	93·311	5·088	24·6	80·8	0·68	91·31		107·05	−10·68	96·37	96·12
" "		Left	15	93·311	4·821	22·0	78·5	0·65	304·90		106·54		95·86	
September 21. 6	EG	Right	14	95·757	2·628	25·0	80·5	0·69	91·08		107·28	−10·86	96·42	96·42
September 24. 6	S	Right	14	95·702	2·628	23·3	79·8	0·67	90·14		108·22	−10·92	97·30	98·57
" "		Left	15	95·702	2·679	25·1	81·8	0·69	309·12		110·76		99·84	
September 26. 5	C	Left	15	74·000	24·213	25·0	80·6	0·69	306·31		107·95	−10·64	97·31	97·20
" "		Right	14	74·147	24·213	22·5	77·8	0·65	90·63		107·73		97·09	

The numerical value of the Sum of Equivalents in column 10, $= w$ + (sum of Micrometer Readings -80^r) × 16″·780 + sum of Level Readings × 0″·00646; where w, for wire 14, $= -3'.38''.10$; for wire 15, $=0$. The numerical difference between this value and that of the Instrumental Constant is the Star's Z.D. North.

August 11d. 9h. Very tremulous.
August 21d. 8h. Image diffused and tremulous.

August 17d. 8h. Very tremulous.
September 2d. 7h. Very faint.

Day and Hour of Observation, 1874.	Observer.	Position of Mic. A.	Wire used.	Micrometer Readings. A	Micrometer Readings. B	Level Readings.		Equivalent for Level.	Sum of Equivalents for Wire, for Micrometer-Readings, and for Level Readings.	Assumed Instrumental Constant.	Star's Z.D. North from Observation.	Correction to Mean Z.D. North for 1874, Jan. 1.	Mean Zenith Distance North, 1874, Jan. 1, from each Observation.	Concluded Mean Zenith Distance North, 1874, Jan. 1.
				r	r	div.	div.	"	"	"	"	"	"	"
d h														
October 8. 5	C	Left	15	74·000	24·122	24·5	84·0	0·70	304·79	198·36	106·43	− 9·90	96·53	97·72
" "		Right	14	74·174	24·122	20·0	79·5	0·64	89·55		108·81		98·91	
October 12. 4	E	Left	15	74·138	24·200	24·6	82·7	0·69	308·39		110·03	− 9·46	100·57	99·78
" "		Right	14	74·138	24·180	20·5	79·0	0·64	89·91		108·45		98·99	
October 20. 4	C	Left	15	73·000	24·801	25·5	84·5	0·71	299·41		101·05	− 8·46	92·59	96·61
" "		Right	14	73·480	24·801	18·5	77·6	0·62	89·28		109·08		100·62	
October 28. 3	C	Left	15	74·000	24·000	24·7	82·6	0·69	302·73		104·37	− 7·10	97·27	97·97
" "		Right	14	74·478	24·000	20·6	78·8	0·64	92·60		105·76		98·66	
November 6. 2	J	Left	14	73·995	37·009	26·8	84·4	0·72	302·87		104·51	− 5·21	99·30	99·30
November 20. 2	C	Left	15	74·000	23·548	24·6	85·8	0·71	295·16		96·80	− 1·50	95·30	98·46
" "		Right	14	75·089	23·548	17·5	78·8	0·62	95·25		103·11		101·61	

The numerical value of the Sum of Equivalents in column 10, $= w +$ (sum of Micrometer Readings $- 80^{r}$) $\times 16''\cdot780 +$ sum of Level Readings $\times 0''\cdot00646$; where w, for wire 14, $= -3'.38''\cdot10$; for wire 15, $= 0$. The numerical difference between this value and that of the Instrumental Constant is the Star's Z.D. North.

October 12^{d}. 4^{h}. The reading of Micrometer B right has been decreased 1^{rev}.
November 7^{d}. The object-glass and micrometer were cleaned.

October 20^{d}. 4^{h}. Very faint.
November 20^{d}. 2^{h}. The reading of Micrometer B has been decreased 2^{revs}.

ROYAL OBSERVATORY, GREENWICH.

OBSERVATIONS OF THE SOLAR ECLIPSE

OF

1874, October 9,

WITH THE

EQUATIONS DEDUCED FROM THE DIFFERENCES OF RIGHT ASCENSION

AND FROM

THE DIFFERENCE OF NORTH POLAR DISTANCE

OF THE

LIMBS AND CUSPS.

1874.

OBSERVATIONS of the BEGINNING of the SOLAR ECLIPSE, 1874, October 9.

Reference.	Instrument used.	Clock or Chronometer used.	Time noted.	Time by Sidereal Standard.	Sidereal Time.	Mean Solar Time.	Observer.
			h m s	h m s	h m s	h m s	
(a)	Great Equatoreal	Sidereal Standard ...	10. 17. 45	10. 17. 45	10. 18. 23·64	21. 3. 11·85	WC
(b)	North Equatoreal	Hewitt 881	21. 2. 17·5	....	....	21. 3. 16·65	D
	East Equatoreal	Arnold 1	10. 19. 44·5	10. 17. 47·9	10. 18. 26·54	21. 3. 14·74	E
	Altazimuth	Graham 1	10. 18. 35	10. 18. 2·2	10. 18. 40·84	21. 3. 29·01	L

(a.) At the time noted the distance between the cusps was equal to about one interval of the wires, or 40″.
(b.) The Moon's limb seemed to enter quite suddenly.

OBSERVATIONS of the END of the SOLAR ECLIPSE, 1874, October 9.

Reference.	Instrument used.	Clock or Chronometer used.	Time noted.	Time by Sidereal Standard.	Sidereal Time.	Mean Solar Time.	Observer.
			h m s	h m s	h m s	h m s	
	Great Equatoreal	Sidereal Standard ...	12. 30. 25	12. 30. 25	12. 31. 3·61	23. 15. 30·10	WC
(a)	North Equatoreal	Hewitt 881	23. 14. 25	....	....	23. 15. 24·24	D
(b)	East Equatoreal	Arnold 1	12. 32. 16·0	12. 30. 19·2	12. 30. 57·81	23. 15. 24·32	E
	Altazimuth	Graham 1	12. 31. 1	12. 30. 28·2	12. 31. 6·81	23. 15. 33·29	L

(a.) Cloudy; but the observed time is tolerably exact.

(b.) Clouds passing; the observation may be one second in error.

GEOCENTRIC QUANTITIES for the SOLAR ECLIPSE, 1874, October 9, INTERPOLATED from the NAUTICAL ALMANAC.

A' = Sun's Right Ascension.
S' = Sun's Semidiameter.
δ' = Moon's North Polar Distance.
P = Moon's Horizontal Equatoreal Parallax.
Δ' = Sun's North Polar Distance.
α' = Moon's Right Ascension.
s' = Moon's Semidiameter.
θ' = Moon's Hour-Angle West of the Meridian.

Greenwich Mean Solar Time.		A'	Δ'	S'	α'
	d h m	h m s	° ′ ″	′ ″	h m s
October	9. 21. 10	13. 2. 16·77	96. 38. 36·89	16. 3·78	13. 0. 40·24
	21. 20	....	....	....	13. 0. 57·81
	21. 30	13. 2. 19·84	96. 38. 55·87	....	13. 1. 15·38
	21. 40	....	....	....	13. 1. 32·94
	21. 50	13. 2. 22·91	96. 39. 14·85	16. 3·78	13. 1. 50·51
	22. 40	13. 2. 30·58	96. 40. 2·30	16. 3·79	13. 3. 18·40
	22. 50	....	....	....	13. 3. 35·98
	23. 0	13. 2. 33·65	96. 40. 21·28	....	13. 3. 53·57
	23. 10	....	....	....	13. 4. 11·16
	23. 20	13. 2. 36·72	96. 40. 40·25	16. 3·79	13. 4. 28·74

Greenwich Mean Solar Time.		δ'	s'	P	θ'
	d h m	° ′ ″	′ ″	′ ″	° ′ ″
October	9. 21. 10	95. 25. 17·37	14. 44·29	53. 59·90	− 38. 51. 50·10
	21. 20	95. 27. 35·62	....	....	− 36. 25. 48·90
	21. 30	95. 29. 53·82	14. 44·27	53. 59·81	− 33. 59. 47·85
	21. 40	95. 32. 11·96	....	....	− 31. 33. 46·65
	21. 50	95. 34. 30·10	14. 44·24	53. 59·73	− 29. 7. 45·60
	22. 40	95. 46. 0·29	14. 44·18	53. 59·52	− 16. 57. 40·80
	22. 50	95. 48. 18·21	....	....	− 14. 31. 39·90
	23. 0	95. 50. 36·10	14. 44·16	53. 59·43	− 12. 5. 39·00
	23. 10	95. 52. 53·95	....	....	− 9. 39. 38·25
	23. 20	95. 55. 11·75	14. 44·14	53. 59·36	− 7. 13. 37·20

APPARENT QUANTITIES for the SOLAR ECLIPSE, 1874, October 9.

A = Sun's Right Ascension. Δ = Sun's North Polar Distance. S = Sun's Semidiameter.
θ = Moon's Hour-Angle West of the Meridian. α = Moon's Right Ascension.
δ = Moon's North Polar Distance. s = Moon's Semidiameter.
a = Excess of Moon's Right Ascension above Sun's Right Ascension.

Greenwich Mean Solar Time.	A	Δ	S	θ	α	δ	s	a
d h m	h m s	° ′ ″	′ ″	° ′ ″	h m s	° ′ ″	′ ″	m s
October 9. 21. 10	13. 2. 17·01	96. 38. 44·28	16. 3·78	39. 13. 14·35	13. 2. 5·86	96. 9. 54·47	14. 49·93	− 0. 11·15
21. 15	13. 2. 17·77	96. 38. 49·03	..	..	13. 2. 12·38	96. 11. 6·91	14. 50·04	− 0. 5·39
21. 20	13. 2. 18·53	96. 38. 53·79	..	36. 46. 4·68	13. 2. 18·86	96. 12. 19·28	14. 50·15	+ 0. 0·33
21. 25	13. 2. 19·29	96. 38. 58·54	..	..	13. 2. 25·31	96. 13. 31·58	14. 50·24	+ 0. 6·02
21. 30	13. 2. 20·05	96. 39. 3·29	..	34. 18. 52·91	13. 2. 31·72	96. 14. 43·80	14. 50·34	+ 0. 11·67
21. 35	13. 2. 20·81	96. 39. 8·04	..	..	13. 2. 38·09	96. 15. 55·95	14. 50·43	+ 0. 17·28
21. 40	13. 2. 21·57	96. 39. 12·80	..	31. 51. 38·94	13. 2. 44·43	96. 17. 8·02	14. 50·52	+ 0. 22·86
21. 45	13. 2. 22·33	96. 39. 17·55	..	..	13. 2. 50·73	96. 18. 20·02	14. 50·61	+ 0. 28·40
21. 50	13. 2. 23·09	96. 39. 22·30	16. 3·78	29. 24. 23·02	13. 2. 57·00	96. 19. 31·95	14. 50·69	+ 0. 33·91
22. 40	13. 2. 30·69	96. 40. 9·81	16. 3·79	17. 7. 39·23	13. 3. 58·30	96. 31. 26·33	14. 51·31	+ 1. 27·61
22. 45	13. 2. 31·45	96. 40. 14·56	..	..	13. 4. 4·30	96. 32. 37·24	14. 51·36	+ 1. 32·85
22. 50	13. 2. 32·21	96. 40. 19·31	..	14. 40. 14·55	13. 4. 10·29	96. 33. 48·04	14. 51·40	+ 1. 38·08
22. 55	13. 2. 32·97	96. 40. 24·05	..	..	13. 4. 16·27	96. 34. 58·73	14. 51·44	+ 1. 43·30
23. 0	13. 2. 33·73	96. 40. 28·80	..	12. 12. 48·94	13. 4. 22·23	96. 36. 9·31	14. 51·47	+ 1. 48·50
23. 5	13. 2. 34·49	96. 40. 33·55	..	..	13. 4. 28·18	96. 37. 19·78	14. 51·50	+ 1. 53·69
23. 10	13. 2. 35·25	96. 40. 38·29	..	9. 45. 22·65	13. 4. 34·12	96. 38. 30·15	14. 51·52	+ 1. 58·87
23. 15	13. 2. 36·00	96. 40. 43·04	..	..	13. 4. 40·04	96. 39. 40·41	14. 51·54	+ 2. 4·04
23. 20	13. 2. 36·76	96. 40. 47·78	16. 3·79	7. 17. 55·41	13. 4. 45·95	96. 40. 50·56	14. 51·56	+ 2. 9·19

OBSERVATIONS of DIFFERENCE of R.A. of CUSPS.

No. of Series.	Object.	Approx. N.P.D.	Approx. Hour Angle.	Seconds of Transit over the Wires. I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	Concluded Transit over Mean of Wires.	Clock Slow.	Sidereal Time.	Correction for Refraction.	Sidereal Time corrected for Refraction.
		° ′	h m	s	s	s	s	s	s	s	s	s	h m s	s	h m s	s	h m s
1	R. Cusp	96. 24	2. 34	50·4	52·6	55·1	57·4	1·9	6·7	9·0	11·5	13·7	10. 27. 2·04	38·64	10. 27. 40·68	+3·77	10. 27. 44·45
	L. Cusp	96. 24	2. 34	39·5	41·9	44·4	46·9	51·6	56·6	59·0	1·3	3·7	10. 27. 51·66	38·64	10. 28. 30·30	+3·77	10. 28. 34·07
2	R. Cusp	96. 25	2. 32	..	32·7	35·0	37·5	41·7	46·4	48·8	51·0	..	10. 28. 41·87	38·64	10. 29. 20·51	+3·71	10. 29. 24·22
	L. Cusp	96. 24	2. 32	23·2	25·5	28·0	..	..	..	42·5	44·7	47·5	10. 29. 35·23	38·64	10. 30. 13·87	+3·71	10. 30. 17·58
3	R. Cusp	96. 25	2. 31	20·8	23·4	25·7	28·2	32·6	37·4	39·7	42·3	44·6	10. 30. 32·75	38·64	10. 31. 11·39	+3·64	10. 31. 15·03
	L. Cusp	96. 24	2. 31	17·6	20·0	22·8	25·0	29·6	34·6	37·0	39·5	42·0	10. 31. 29·78	38·64	10. 32. 8·42	+3·64	10. 32. 12·06
4	R. Cusp	96. 25	2. 28	46·7	48·8	51·3	53·7	58·5	3·0	5·5	7·6	10·0	10. 32. 58·34	38·64	10. 33. 36·98	+3·55	10. 33. 40·53
	L. Cusp	96. 25	2. 28	47·9	50·3	52·6	55·2	0·0	4·6	7·1	10·2	12·0	10. 33. 59·99	38·64	10. 34. 38·63	+3·55	10. 34. 42·18
5	R. Cusp	96. 25	2. 26	40·2	42·5	44·8	47·3	51·8	56·4	58·9	1·1	3·5	10. 34. 51·84	38·64	10. 35. 30·48	+3·49	10. 35. 33·97
	L. Cusp	96. 25	2. 26	44·5	46·7	49·3	51·9	56·5	1·3	3·8	6·3	8·5	10. 35. 56·53	38·64	10. 36. 35·17	+3·49	10. 36. 38·66
6	R. Cusp	96. 25	2. 24	52·6	55·0	57·4	59·7	4·4	9·0	11·4	13·8	16·1	10. 37. 4·38	38·63	10. 37. 43·01	+3·41	10. 37. 46·42
	L. Cusp	96. 26	2. 24	0·1	2·5	4·9	7·5	11·9	16·8	19·3	21·7	24·4	10. 38. 12·12	38·63	10. 38. 50·75	+3·41	10. 38. 54·16
7	R. Cusp	96. 25	2. 22	46·0	48·5	50·7	53·1	57·6	2·5	4·9	7·4	9·6	10. 38. 57·81	38·63	10. 39. 36·44	+3·35	10. 39. 39·79
	L. Cusp	96. 26	2. 22	56·0	58·5	0·7	3·3	7·9	12·8	15·4	17·6	20·0	10. 40. 8·02	38·63	10. 40. 46·65	+3·35	10. 40. 50·00
8	R. Cusp	96. 25	2. 20	46·7	49·4	51·5	53·8	58·6	3·3	5·6	8·0	10·4	10. 40. 58·59	38·63	10. 41. 37·22	+3·29	10. 41. 40·51
	L. Cusp	96. 27	2. 20	59·2	1·4	4·0	6·4	11·2	15·9	18·4	20·6	23·0	10. 42. 11·13	38·63	10. 42. 49·76	+3·29	10. 42. 53·05
9	R. Cusp	96. 25	2. 18	42·8	45·2	47·5	49·8	54·5	59·6	1·6	4·0	6·4	10. 42. 54·60	38·63	10. 43. 33·23	+3·22	10. 43. 36·45
	L. Cusp	96. 27	2. 18	57·3	59·7	2·0	4·5	9·3	13·9	16·5	18·8	21·3	10. 44. 9·25	38·63	10. 44. 47·88	+3·22	10. 44. 51·10
10	R. Cusp	96. 25	2. 16	38·7	41·0	43·2	45·7	50·4	55·0	57·4	59·7	2·0	10. 44. 50·35	38·63	10. 45. 28·98	+3·16	10. 45. 32·14
	L. Cusp	96. 28	2. 16	54·7	57·0	59·5	1·6	6·5	11·5	13·7	16·1	18·6	10. 46. 6·58	38·63	10. 46. 45·21	+3·16	10. 46. 48·37
11	R. Cusp	96. 25	2. 14	57·0	59·3	1·6	3·8	8·7	13·4	15·9	18·2	20·7	10. 47. 8·73	38·63	10. 47. 47·36	+3·09	10. 47. 50·45
	L. Cusp	96. 28	2. 14	15·1	17·4	19·6	22·2	27·0	31·6	34·1	36·5	38·9	10. 48. 26·93	38·63	10. 49. 5·56	+3·09	10. 49. 8·65
12	R. Cusp	96. 25	2. 12	1·6	4·0	6·4	8·6	13·4	18·1	20·6	22·7	25·3	10. 49. 13·41	38·63	10. 49. 52·04	+3·03	10. 49. 55·07
	L. Cusp	96. 29	2. 12	21·1	23·5	..	28·3	32·8	37·5	..	42·5	44·8	10. 50. 32·93	38·63	10. 51. 11·56	+3·03	10. 51. 14·59
13	R. Cusp	96. 25	2. 10	11·4	13·5	15·9	18·2	22·8	27·6	30·0	32·3	34·8	10. 51. 22·95	38·63	10. 52. 1·58	+2·96	10. 52. 4·54
	L. Cusp	96. 29	2. 10	31·8	34·3	36·7	39·1	43·7	48·4	50·6	53·2	55·6	10. 52. 43·71	38·63	10. 53. 22·34	+2·96	10. 53. 25·30
14	R. Cusp	96. 25	2. 7	15·5	17·7	20·0	..	27·2	..	34·5	36·6	39·0	10. 54. 27·21	38·63	10. 55. 5·84	+2·87	10. 55. 8·71
	L. Cusp	96. 30	2. 7	37·4	..	42·1	44·4	49·2	54·0	56·2	..	1·0	10. 55. 49·19	38·63	10. 56. 27·82	+2·87	10. 56. 30·69

TABULAR R.A. of each CUSP with EFFECT of ERRORS of ELEMENTS.

Mean Solar Time.	Tabular R.A. of Cusp in Arc.	Coefficients of Small Errors of Elements.				
h m s	° ′ ″					
21. 12. 27·38	195. 27. 6·04	+ 0·576 dA	+ 0·424 $d\alpha$	− 1·294 dS	− 1·233 ds	− 1·156 $(d\delta - \delta\Delta)$
21. 13. 16·86	195. 39. 47·99	+ 0·390	+ 0·610	+ 1·170	+ 1·261	+ 1·102
21. 14. 6·93	195. 26. 57·35	+ 0·549	+ 0·451	− 1·200	− 1·157	− 1·065
21. 15. 0·15	195. 40. 34·36	+ 0·414	+ 0·586	+ 1·100	+ 1·176	+ 1·018
21. 15. 57·51	195. 26. 50·83	+ 0·522	+ 0·478	− 1·114	− 1·093	− 0·982
21. 16. 54·39	195. 41. 23·03	+ 0·439	+ 0·561	+ 1·041	+ 1·098	+ 0·942
21. 18. 22·70	195. 26. 46·15	+ 0·490	+ 0·510	− 1·022	− 1·032	− 0·895
21. 19. 24·18	195. 42. 22·28	+ 0·470	+ 0·531	+ 0·984	+ 1·015	+ 0·864
21. 20. 15·90	195. 26. 45·17	+ 0·466	+ 0·534	− 0·961	− 0·996	− 0·839
21. 21. 20·40	195. 43. 5·85	+ 0·492	+ 0·508	+ 0·951	+ 0·960	+ 0·813
21. 22. 28·06	195. 26. 46·66	+ 0·439	+ 0·561	− 0·899	− 0·965	− 0·782
21. 23. 35·61	195. 43. 54·03	+ 0·518	+ 0·482	+ 0·922	+ 0·903	+ 0·761
21. 24. 21·18	195. 26. 49·95	+ 0·416	+ 0·584	− 0·850	− 0·945	− 0·740
21. 25. 31·20	195. 44. 33·22	+ 0·539	+ 0·461	+ 0·904	+ 0·858	+ 0·723
21. 26. 21·63	195. 26. 55·36	+ 0·392	+ 0·608	− 0·802	− 0·928	− 0·698
21. 27. 33·97	195. 45. 12·96	+ 0·563	+ 0·438	+ 0·889	+ 0·815	+ 0·686
21. 28. 17·33	195. 27. 2·31	+ 0·368	+ 0·632	− 0·758	− 0·917	− 0·661
21. 29. 31·77	195. 45. 49·38	+ 0·585	+ 0·415	+ 0·879	+ 0·775	+ 0·653
21. 30. 12·76	195. 27. 10·85	+ 0·345	+ 0·655	− 0·717	− 0·909	− 0·627
21. 31. 28·78	195. 46. 23·83	+ 0·608	+ 0·392	+ 0·873	+ 0·737	+ 0·623
21. 32. 30·76	195. 27. 23·19	+ 0·317	+ 0·683	− 0·669	− 0·904	− 0·588
21. 33. 48·74	195. 47. 3·17	+ 0·635	+ 0·365	+ 0·869	+ 0·694	+ 0·588
21. 34. 35·10	195. 27. 36·18	+ 0·292	+ 0·708	− 0·627	− 0·902	− 0·554
21. 35. 54·40	195. 47. 36·57	+ 0·660	+ 0·340	+ 0·868	+ 0·655	+ 0·559
21. 36. 44·28	195. 27. 51·51	+ 0·266	+ 0·734	− 0·584	− 0·903	− 0·519
21. 38. 4·83	195. 48. 9·35	+ 0·686	+ 0·314	+ 0·870	+ 0·616	+ 0·529
21. 39. 48·04	195. 28. 16·57	+ 0·229	+ 0·771	− 0·524	− 0·908	− 0·471
21. 41. 9·80	195. 48. 52·70	+ 0·724	+ 0·276	+ 0·876	+ 0·561	+ 0·487

OBSERVATIONS of DIFFERENCE of N.P.D. of UPPER and LOWER CUSPS.

No. of Series.	Clock Time of Observation.	Object.	Approx. N.P.D.	Approx. Hour Angle.	Readings of Microscopes. M.	Readings of Microscopes. N.	Reading of Declination Micrometer.	Concluded Circle Reading.	Correction for Refraction in N.P.D.	Concluded Circle Reading corrected for Refraction.
	h m s		° ′	h m s	′ ″	′ ″	rev.	° ′ ″	′ ″	° ′ ″
15	11. 56. 38	U. Cusp	96. 26	1. 5. 48	96. 32. 42·0	32. 6·5	5·701	96. 32. 37·54	1. 35·85	96. 34. 13·39
16	11. 57. 40	L. Cusp	96. 45	1. 5. 14	96. 1. 16·6	50. 34·2	5·912	96. 51. 12·94	1. 36·96	96. 52. 49·90
17	11. 58. 25	U. Cusp	96. 27	1. 4. 3	96. 33. 4·7	32. 26·6	5·573	96. 32. 56·41	1. 35·64	96. 34. 32·05
18	11. 59. 27	L. Cusp	96. 45	1. 3. 26	96. 51. 28·6	50. 45·6	5·738	96. 51. 21·26	1. 36·73	96. 52. 57·99
19	12. 0. 4	U. Cusp	96. 27	1. 2. 26	96. 33. 15·0	32. 36·7	6·135	96. 33. 17·47	1. 35·45	96. 34. 52·92
20	12. 0. 46	L. Cusp	96. 45	1. 2. 8	96. 51. 20·5	50. 39·6	6·454	96. 51. 28·07	1. 36·57	96. 53. 4·64
21	12. 1. 19	U. Cusp	96. 27	1. 1. 13	96. 33. 26·0	32. 46·0	6·412	96. 33. 32·95	1. 35·31	96. 35. 8·26
22	12. 2. 0	L. Cusp	96. 45	1. 0. 54	96. 51. 18·0	50. 39·3	6·694	96. 51. 31·31	1. 36·41	96. 53. 7·72
23	12. 2. 45	U. Cusp	96. 28	0. 59. 48	96. 33. 37·5	32. 57·6	6·788	96. 33. 51·77	1. 35·16	96. 35. 26·93
24	12. 4. 20	L. Cusp	96. 45	0. 58. 34	96. 51. 11·6	50. 31·6	7·123	96. 51. 32·59	1. 36·13	96. 53. 8·72
25	12. 5. 7	U. Cusp	96. 28	0. 57. 29	96. 34. 7·2	33. 27·1	7·014	96. 34. 25·67	1. 34·92	96. 36. 0·59
26	12. 5. 43	L. Cusp	96. 46	0. 57. 11	96. 51. 16·0	50. 34·2	7·202	96. 51. 37·60	1. 35·97	96. 53. 13·57
27	12. 6. 34	U. Cusp	96. 29	0. 56. 3	96. 34. 30·2	33. 49·5	6·981	96. 34. 47·70	1. 34·78	96. 36. 22·48
28	12. 7. 26	L. Cusp	96. 46	0. 55. 29	96. 51. 13·2	50. 30·6	7·557	96. 51. 41·29	1. 35·77	96. 53. 17·06
29	12. 8. 8	U. Cusp	96. 29	0. 54. 32	96. 34. 45·0	34. 6·2	7·438	96. 35. 12·28	1. 34·64	96. 36. 46·92
30	12. 8. 44	L. Cusp	96. 46	0. 54. 11	96. 51. 7·2	50. 26·7	7·840	96. 51. 41·81	1. 35·63	96. 53. 17·44
31	12. 9. 41	U. Cusp	96. 29	0. 53. 0	96. 35. 37·0	35. 1·6	6·011	96. 35. 38·82	1. 34·50	96. 37. 13·32
32	12. 10. 36	L. Cusp	96. 46	0. 52. 19	96. 51. 41·3	51. 1·6	5·928	96. 51. 39·26	1. 35·43	96. 53. 14·69
33	12. 11. 30	U. Cusp	96. 30	0. 51. 13	96. 36. 9·0	35. 30·6	5·897	96. 36. 7·06	1. 34·34	96. 37. 41·40
34	12. 12. 10	L. Cusp	96. 46	0. 50. 45	96. 51. 40·3	50. 59·6	5·854	96. 51. 36·32	1. 35·26	96. 53. 11·58
35	12. 13. 8	U. Cusp	96. 30	0. 49. 38	96. 36. 37·0	35. 55·0	6·171	96. 36. 38·51	1. 34·22	96. 38. 12·73
36	12. 13. 52	L. Cusp	96. 45	0. 49. 5	96. 51. 35·6	50. 52·7	6·099	96. 51. 35·26	1. 35·09	96. 53. 10·35
37	12. 14. 45	U. Cusp	96. 31	0. 47. 52	96. 36. 55·5	36. 15·9	6·642	96. 37. 7·28	1. 34·08	96. 38. 41·36
38	12. 15. 18	L. Cusp	96. 45	0. 47. 39	96. 51. 25·2	50. 40·6	6·516	96. 51. 32·12	1. 34·94	96. 53. 7·06
39	12. 15. 54	U. Cusp	96. 31	0. 46. 54	96. 37. 22·0	36. 40·5	6·529	96. 37. 30·60	1. 34·01	96. 39. 4·61
40	12. 16. 34	L. Cusp	96. 45	0. 46. 23	96. 51. 12·6	50. 33·3	6·591	96. 51. 23·64	1. 34·82	96. 52. 58·46
41	12. 17. 17	U. Cusp	96. 32	0. 45. 32	96. 37. 41·4	37. 2·0	6·953	96. 37. 59·22	1. 33·91	96. 39. 33·13
42	12. 18. 1	L. Cusp	96. 45	0. 44. 56	96. 51. 3·0	50. 21·1	6·781	96. 51. 16·44	1. 34·68	96. 52. 51·12
43	12. 18. 36	U. Cusp	96. 32	0. 44. 15	96. 38. 6·7	37. 24·3	7·426	96. 38. 32·12	1. 33·83	96. 40. 5·95

The adopted value of one revolution of the Declination Micrometer is 19″·379. The zero used in the reduction is 5 revolutions.
The correction for Runs of Microscopes for 5′ is −0″·59.
The error of the clock from series 15 to 58 was 38ˢ·61 slow.

TABULAR N.P.D. of each CUSP, with EFFECT of ERRORS of ELEMENTS.

Mean Solar Time.	Tabular N.P.D. of Cusp.	Co-efficients of Small Errors of Elements.				
h m s	° ′ ″					
22. 41. 48·62	96. 26. 29·44	+ 0·491 da	− 0·947 dS	− 0·530 ds	+ 0·808 $d\Delta$	+ 0·192 $d\delta$
22. 42. 50·46	96. 45. 6·45	− 0·467	+ 0·494	+ 0·971	+ 0·151	+ 0·849
22. 43. 35·33	96. 26. 49·97	+ 0·522	− 0·951	− 0·565	+ 0·793	+ 0·208
22. 44. 37·17	96. 45. 14·44	− 0·502	+ 0·531	+ 0·975	+ 0·166	+ 0·834
22. 45. 14·07	96. 27. 10·06	+ 0·551	− 0·956	− 0·597	+ 0·778	+ 0·222
22. 45. 55·96	96. 45. 19·48	− 0·528	+ 0·560	+ 0·980	+ 0·177	+ 0·823
22. 46. 28·87	96. 27. 26·00	+ 0·574	− 0·961	− 0·623	+ 0·768	+ 0·232
22. 47. 9·75	96. 45. 23·53	− 0·553	+ 0·587	+ 0·986	+ 0·187	+ 0·813
22. 47. 54·63	96. 27. 45·01	+ 0·601	− 0·968	− 0·653	+ 0·756	+ 0·244
22. 49. 29·37	96. 45. 29·40	− 0·602	+ 0·640	+ 0·998	+ 0·206	+ 0·794
22. 50. 16·24	96. 28. 18·24	+ 0·649	− 0·984	− 0·704	+ 0·737	+ 0·264
22. 50. 52·15	96. 45. 31·74	− 0·633	+ 0·673	+ 1·009	+ 0·218	+ 0·783
22. 51. 43·00	96. 28. 39·72	+ 0·679	− 0·997	− 0·737	+ 0·725	+ 0·275
22. 52. 34·86	96. 45. 33·42	− 0·673	+ 0·716	+ 1·024	+ 0·231	+ 0·769
22. 53. 16·75	96. 29. 4·05	+ 0·715	− 1·013	− 0·775	+ 0·713	+ 0·287
22. 53. 52·66	96. 45. 33·78	− 0·705	+ 0·750	+ 1·038	+ 0·242	+ 0·758
22. 54. 49·49	96. 29. 29·22	+ 0·753	− 1·032	− 0·814	+ 0·701	+ 0·299
22. 55. 44·35	96. 45. 32·72	− 0·754	+ 0·801	+ 1·063	+ 0·256	+ 0·743
22. 56. 38·19	96. 30. 0·15	+ 0·801	− 1·060	− 0·865	+ 0·688	+ 0·312
22. 57. 18·09	96. 45. 30·42	− 0·801	+ 0·850	+ 1·089	+ 0·268	+ 0·732
22. 58. 15·93	96. 30. 29·50	+ 0·850	− 1·090	− 0·914	+ 0·678	+ 0·323
22. 58. 59·83	96. 45. 26·35	− 0·856	+ 0·907	+ 1·123	+ 0·281	+ 0·720
22. 59. 52·66	96. 30. 59·96	+ 0·904	− 1·127	− 0·970	+ 0·665	+ 0·335
23. 0. 25·57	96. 45. 21·47	− 0·907	+ 0·959	+ 1·156	+ 0·291	+ 0·708
23. 1. 1·48	96. 31. 22·74	+ 0·948	− 1·159	− 1·014	+ 0·658	+ 0·342
23. 1. 41·37	96. 45. 16·02	− 0·961	+ 1·013	+ 1·194	+ 0·300	+ 0·700
23. 2. 24·26	96. 31. 51·32	+ 1·006	− 1·203	− 1·072	+ 0·649	+ 0·351
23. 3. 8·13	96. 45. 8·95	− 1·020	+ 1·073	+ 1·238	+ 0·309	+ 0·690
23. 3. 43·04	96. 32. 19·91	+ 1·072	− 1·255	− 1·137	+ 0·641	+ 0·359

OBSERVATIONS of DIFFERENCE of N.P.D. of UPPER and LOWER CUSPS—*concluded.*

No. of Series.	Clock Time of Observation.	Object.	Approx. N.P.D.	Approx. Hour Angle.	Readings of Microscopes. M.	Readings of Microscopes. N.	Reading of Declination Micrometer.	Concluded Circle Reading.	Correction for Refraction in N.P.D.	Concluded Circle Reading corrected for Refraction.
	h m s		° ′	h m s	° ′ ″	′ ″	rev.	° ′ ″	′ ″	° ′ ″
44	12. 19. 34	L. Cusp	96. 45	0. 43. 23	96. 50. 41·3	50. 0·2	7·334	96. 51. 5·88	1. 34·53	96. 52. 40·41
45	12. 20. 17	U. Cusp	96. 33	0. 42. 36	96. 39. 16·6	38. 36·4	5·397	96. 39. 3·72	1. 33·73	96. 40. 37·45
46	12. 20. 52	L. Cusp	96. 45	0. 42. 6	96. 51. 6·4	50. 25·3	5·572	96. 50. 56·83	1. 34·41	96. 52. 31·24
47	12. 21. 30	U. Cusp	96. 33	0. 41. 24	96. 39. 37·3	38. 57·5	5·964	96. 39. 35·55	1. 33·66	96. 41. 9·21
48	12. 22. 28	L. Cusp	96. 45	0. 40. 31	96. 50. 59·0	50. 12·3	5·424	96. 50. 43·79	1. 34·26	96. 52. 18·05
49	12. 23. 2	U. Cusp	96. 34	0. 39. 53	96. 40. 22·6	39. 40·4	5·653	96. 40. 14·14	1. 33·58	96. 41. 47·72
50	12. 23. 45	L. Cusp	96. 44	0. 39. 14	96. 50. 41·6	49. 58·0	5·358	96. 50. 26·70	1. 34·15	96. 52. 0·85
51	12. 24. 30	U. Cusp	96. 35	0. 38. 26	96. 41. 1·8	40. 19·8	5·835	96. 40. 56·88	1. 33·51	96. 42. 30·39
52	12. 26. 2	L. Cusp	96. 44	0. 36. 58	96. 50. 12·7	49. 30·0	5·135	96. 49. 53·40	1. 33·94	96. 51. 27·34
53	12. 26. 38	U. Cusp	96. 36	0. 36. 21	96. 42. 7·5	41. 24·3	5·902	96. 42. 3·15	1. 33·43	96. 43. 36·58
54	12. 27. 8	L. Cusp	96. 43	0. 35. 53	96. 49. 33·5	48. 52·0	5·904	96. 49. 29·72	1. 33·84	96. 51. 3·56
55	12. 27. 42	U. Cusp	96. 37	0. 35. 18	96. 42. 52·4	42. 13·4	5·703	96. 42. 46·21	1. 33·40	96. 44. 19·61
56	12. 28. 15	L. Cusp	96. 43	0. 34. 46	96. 49. 11·2	48. 30·0	5·568	96. 49. 1·14	1. 33·73	96. 50. 34·87
57	12. 28. 54	U. Cusp	96. 38	0. 34. 7	96. 43. 42·0	42. 57·6	6·294	96. 43. 44·45	1. 33·38	96. 45. 17·83
58	12. 29. 39	L. Cusp	96. 42	0. 33. 23	96. 48. 22·4	47. 41·1	5·130	96. 48. 3·91	1. 33·58	96. 49. 37·49

The adopted value of one revolution of the Declination Micrometer is 19″·379. The zero used in the reduction is 5 revolutions.
The correction for Runs of Microscopes for 5′ is −0″·59.
The error of the clock from series 15 to 58 was 38^{s}·61 slow.
The observations were made with the Great Equatoreal by Mr. Christie; the microscopes were read by Mr. Criswick.

TABULAR N.P.D. of each CUSP, with EFFECT of ERRORS of ELEMENTS—*concluded.*

Mean Solar Time.	Tabular N.P.D. of Cusp.	Co-efficients of Small Errors of Elements.				
h m s	° ′ ″					
23. 4. 40·87	96. 44. 57·89	− 1·114 da	+ 1·166 dS	+ 1·312 ds	+ 0·320 $d\Delta$	+ 0·680 $d\delta$
23. 5. 23·76	96. 32. 58·75	+ 1·171	− 1·337	− 1·235	+ 0·632	+ 0·369
23. 5. 58·66	96. 44. 47·36	− 1·198	+ 1·250	+ 1·380	+ 0·328	+ 0·672
23. 6. 36·56	96. 33. 28·66	+ 1·256	− 1·410	− 1·319	+ 0·624	+ 0·376
23. 7. 34·40	96. 44. 31·55	− 1·330	+ 1·381	+ 1·494	+ 0·337	+ 0·663
23. 8. 8·31	96. 34. 9·16	+ 1·395	− 1·533	− 1·455	+ 0·616	+ 0·383
23. 8. 51·19	96. 44. 16·13	− 1·464	+ 1·514	+ 1·613	+ 0·344	+ 0·655
23. 9. 36·06	96. 34. 51·51	+ 1·572	− 1·696	− 1·630	+ 0·610	+ 0·390
23. 11. 7·82	96. 43. 40·00	− 1·838	+ 1·884	+ 1·960	+ 0·353	+ 0·646
23. 11. 43·72	96. 36. 2·56	+ 1·996	− 2·098	− 2·048	+ 0·604	+ 0·395
23. 12. 13·64	96. 43. 16·70	− 2·141	+ 2·185	+ 2·250	+ 0·354	+ 0·644
23. 12. 47·54	96. 36. 44·70	+ 2·375	− 2·467	− 2·424	+ 0·605	+ 0·393
23. 13. 20·45	96. 42. 46·07	− 2·674	+ 2·715	+ 2·769	+ 0·351	+ 0·649
23. 13. 59·35	96. 37. 42·92	+ 3·247	− 3·327	− 3·291	+ 0·617	+ 0·381
23. 14. 44·23	96. 41. 45·55	− 4·695	+ 4·737	+ 4·777	+ 0·308	+ 0·690

EQUATIONS given by the TRANSITS of RIGHT and LEFT CUSPS.

Series.	Measured Quantity, converted into Arc.		Tabular Quantity.								
	′ ″		′ ″								
1	12. 24·30	=	12. 41·95	+	0·186 $d\,a$	+	2·464 $d\,S$	+	2·494 $d\,s$	+	2·258 $(d\,\delta - d\,\Delta)$
2	13. 20·40	=	13. 37·01	+	0·135	+	2·300	+	2·333	+	2·083
3	14. 15·45	=	14. 32·20	+	0·083	+	2·155	+	2·191	+	1·924
4	15. 24·75	=	15. 36·13	+	0·021	+	2·006	+	2·047	+	1·759
5	16. 10·35	=	16. 20·68	−	0·026	+	1·912	+	1·956	+	1·652
6	16. 56·10	=	17. 7·37	−	0·079	+	1·821	+	1·868	+	1·543
7	17. 33·15	=	17. 43·27	−	0·123	+	1·754	+	1·803	+	1·463
8	18. 8·10	=	18. 17·60	−	0·170	+	1·691	+	1·743	+	1·384
9	18. 39·75	=	18. 47·07	−	0·217	+	1·637	+	1·692	+	1·314
10	19. 3·45	=	19. 12·98	−	0·263	+	1·590	+	1·646	+	1·250
11	19. 33·00	=	19. 39·98	−	0·318	+	1·538	+	1·598	+	1·176
12	19. 52·80	=	20. 0·39	−	0·368	+	1·495	+	1·557	+	1·113
13	20. 11·40	=	20. 17·84	−	0·420	+	1·454	+	1·519	+	1·048
14	20. 29·70	=	20. 36·13	−	0·495	+	1·400	+	1·469	+	0·958

EQUATIONS given by the MEASURES of DIFFERENCES of N.P.D. of UPPER and LOWER CUSPS.

Number of Series.	Measured Quantity.		Tabular Quantity.								
	′ ″		′ ″								
15 and 16	18. 36·51	=	18. 37·01	−	0·958 $d\,a$	+	1·441 $d\,S$	+	1·501 $d\,s$	+	0·657 $(d\,\delta - d\,\Delta)$
17 and 18	18. 25·94	=	18. 24·47	−	1·024	+	1·482	+	1·540	+	0·626
19 and 20	18. 11·72	=	18. 9·42	−	1·079	+	1·516	+	1·577	+	0·601
21 and 22	17. 59·46	=	17. 57·53	−	1·127	+	1·548	+	1·609	+	0·581
23 and 24	17. 41·79	=	17. 44·39	−	1·203	+	1·608	+	1·651	+	0·550
25 and 26	17. 12·98	=	17. 13·50	−	1·282	+	1·657	+	1·713	+	0·519
27 and 28	16. 54·58	=	16. 53·70	−	1·352	+	1·713	+	1·761	+	0·494
29 and 30	16. 30·52	=	16. 29·73	−	1·420	+	1·763	+	1·813	+	0·471
31 and 32	16. 1·37	=	16. 3·50	−	1·507	+	1·833	+	1·877	+	0·444
33 and 34	15. 30·18	=	15. 30·27	−	1·602	+	1·910	+	1·954	+	0·420
35 and 36	14. 57·62	=	14. 56·85	−	1·706	+	1·997	+	2·037	+	0·397
37 and 38	14. 25·70	=	14. 21·51	−	1·811	+	2·086	+	2·126	+	0·373
39 and 40	13. 53·85	=	13. 53·28	−	1·909	+	2·172	+	2·208	+	0·358
41 and 42	13. 17·99	=	13. 17·63	−	2·026	+	2·276	+	2·310	+	0·339
43 and 44	12. 34·46	=	12. 37·98	−	2·186	+	2·421	+	2·449	+	0·321
45 and 46	11. 53·79	=	11. 48·61	−	2·369	+	2·587	+	2·615	+	0·303
47 and 48	11. 8·84	=	11. 2·89	−	2·586	+	2·791	+	2·813	+	0·287
49 and 50	10. 13·13	=	10. 6·97	−	2·859	+	3·047	+	3·068	+	0·272
51 and 52	8. 56·95	=	8. 48·49	−	3·410	+	3·580	+	3·590	+	0·256
53 and 54	7. 26·98	=	7. 14·14	−	4·137	+	4·283	+	4·298	+	0·249
55 and 56	6. 15·26	=	6. 1·37	−	5·049	+	5·182	+	5·193	+	0·256
57 and 58	4. 19·66	=	4. 2·63	−	7·942	+	8·064	+	8·068	+	0·209

The resulting equations formed by taking the sums of the constituent equations of each group are—

$$242^{\prime}.\ 2^{\prime\prime}{\cdot}70 = 244^{\prime}.\ 30^{\prime\prime}{\cdot}60 - 2{\cdot}054\ d\,a + 25{\cdot}217\ d\,S + 25{\cdot}916\ d\,s + 20{\cdot}925\ (d\,\delta - d\,\Delta)$$
$$302.\ 29{\cdot}28 = 301.\ 15{\cdot}87 - 50{\cdot}544\ d\,a + 56{\cdot}957\ d\,S + 57{\cdot}771\ d\,s + 8{\cdot}983\ (d\,\delta - d\,\Delta)$$

Substituting in the above equations the values of $d\,S$ and $d\,s$ determined from the observations of the Solar Eclipse of 1870, December 21–22, the following equations are formed :—

$$242^{\prime}.\ 2^{\prime\prime}{\cdot}70 = 243^{\prime}.\ 35^{\prime\prime}{\cdot}51 - 2{\cdot}054\ d\,a + 20{\cdot}925\ (d\,\delta - d\,\Delta)$$
$$302.\ 29{\cdot}28 = 299.\ 11{\cdot}82 - 50{\cdot}544\ d\,a + 8{\cdot}983\ (d\,\delta - d\,\Delta)$$

or

$$-\ 92{\cdot}81 = -\ 2{\cdot}054\ d\,a + 20{\cdot}925\ (d\,\delta - d\,\Delta)$$
$$+\ 197{\cdot}46 = -\ 50{\cdot}544\ d\,a + 8{\cdot}983\ (d\,\delta - d\,\Delta)$$

from which we deduce

$$d\,a = -\ 4^{\prime\prime}{\cdot}78 = -\ 0^{s}{\cdot}318$$
$$(d\,\delta - d\,\Delta) = -\ 4^{\prime\prime}{\cdot}91$$

ROYAL OBSERVATORY, GREENWICH.

ECLIPSES, OCCULTATIONS, AND TRANSITS

OF

JUPITER'S SATELLITES,

COMPARED WITH THE NAUTICAL ALMANAC:

AND

OCCULTATIONS OF STARS BY THE MOON,

WITH THE

EQUATIONS DEDUCED FROM THE OCCULTATIONS.

1874.

ECLIPSES, OCCULTATIONS, and TRANSITS of JUPITER'S SATELLITES, 1874.

Day of Observation, 1874.	Satellite.	Phenomenon.	Phase of Phenomenon.	Observer.	Instrument.	Power.	Clock or Chronometer.	Time Noted.	Time by Transit Clock.	Sidereal Time.	Mean Solar Time.	Mean Time of Nautical Almanac.	Apparent Error of Nautical Almanac.
								h m s	h m s	h m s	h m s	h m s	m s
Jan. 30	IV	(a) Ecl. disap.	....	AD	S.E. Eq.	130	Sid.S.	9. 7. 30·0	9. 7. 30·0	9. 7. 38·0	12. 27. 23·0	12. 32. 10·0	+4. 47·0
30	III	(b) Ecl. disap.	....	WC	S.E. Eq.	285	Sid.S.	11. 19. 42·0	11. 19. 42·0	11. 19. 50·0	14. 39. 13·3	14. 34. 38·9	−4. 34·4
30	IV	(c) Ecl. reap.	....	WC	S.E. Eq.	,,	Sid.S.	12. 6. 30·0	12. 6. 30·0	12. 6. 38·0	15. 25. 53·6	15. 24. 46·1	−1. 7·5
30	III	(d) Ecl. reap.	....	WC	S.E. Eq.	,,	Sid.S.	14. 22. 50·0	14. 22. 50·0	14. 22. 58·0	17. 41. 51·3	17. 41. 1·7	−0. 49·6
Feb. 10	III	(e) Tr. Ingress	First contact	G	S.E. Eq.	,,	Sid.S.	8. 47. ±	8. 47. 0	8. 47. 9	11. 23. 43	11. 29.	
10	III	Tr. Ingress..	Last contact.....	G	S.E. Eq.	,,	Sid.S.	8. 53. 30 ±	8. 53. 30	8. 53. 39	11. 30. 11		
10	II	(f) Tr. Ingress	Last contact.....	AD	S.E. Eq.	,,	Sid.S.	15. 43. 32	15. 43. 32	15. 43. 41	18. 19. 6	18. 18.	
19	II	(g) Ecl. disap.	....	C	E. Eq.	310	Sid.S.	11. 43. 37·2	11. 43. 37·2	11. 43. 45·3	13. 44. 26·5	13. 43. 28·8	−0. 57·7
Mar. 18	I	Occ. reap. ..	Reappearance ...	C	E. Eq.	,,	Sid.S.	8. 12. 48	8. 12. 48	8. 12. 55	8. 28. 1	8. 28.	
23	II	Occ. disap...	First contact	C	E. Eq.	140	Sid.S.	13. 10. 37	13. 10. 37	13. 10. 43	13. 5. 21	13. 9.	
23	I	Occ. disap...	First contact	C	E. Eq.	,,	Sid.S.	13. 34. 25	13. 34. 25	13. 34. 31	13. 29. 5	13. 30.	
23	I	Occ. disap...	Last contact.....	C	E. Eq.	,,	Sid.S.	13. 37. 6	13. 37. 6	13. 37. 12	13. 31. 45		
24	I	(h) Tr. Ingress	Last contact.....	AD	E. Eq.	,,	Sid.S.	10. 51. 9	10. 51. 9	10. 51. 14	10. 42. 19	10. 43.	
24	I	(i) Tr. Egress	Last contact.....	AD	E. Eq.	,,	Sid.S.	13. 10. 19	13. 10. 19	13. 10. 25	13. 1. 7	12. 58.	
25	II	(k) Tr. Egress	First contact	L	E. Eq.	,,	Sid.S.	10. 25. 25	10. 25. 25	10. 25. 30	10. 12. 43	10. 17.	
25	II	Tr. Egress..	Bisection	L	E. Eq.	,,	Sid.S.	10. 28. 42	10. 28. 42	10. 28. 48	10. 16. 0		
25	II	Tr. Egress..	Last contact.....	L	E. Eq.	,,	Sid.S.	10. 31. 7	10. 31. 7	10. 31. 12	10. 18. 25		
25	III	Tr. Egress..	Last contact.....	L	E. Eq.	,,	Sid.S.	10. 31. 7	10. 31. 7	10. 31. 12	10. 18. 25	10. 22.	
25	I	(l) Ecl. reap.	....	L	E. Eq.	,,	Sid.S.	10. 34. 8·5	10. 34. 8·5	10. 34. 13·8	10. 21. 25·6	10. 21. 2·5	−0. 23·1
31	I	Tr. Ingress..	First contact	C	E. Eq.	,,	B.427	13. 3. 0	13. 2. 56	13. 3. 0	12. 26. 12	12. 27.	
31	I	Tr. Ingress..	Last contact.....	C	E. Eq.	,,	B.427	13. 6. 30	13. 6. 26	13. 6. 30	12. 29. 42		
Apr. 8	I	Occ. disap...	First contact	G	E. Eq.	,,	B.427	12. 26. 30	12. 26. 30	12. 26. 32	11. 18. 23	11. 24.	
8	I	Occ. disap...	Bisection	G	E. Eq.	,,	B.427	12. 29.	12. 29. 0	12. 29. 2	11. 20. 52		
8	I	Occ. disap...	Last contact.....	G	E. Eq.	,,	B.427	12. 32. 45	12. 32. 45	12. 32. 47	11. 24. 37		
8	II	Tr. Ingress..	First contact	G	E. Eq.	,,	B.427	13. 15. 30	13. 15. 30	13. 15. 32	12. 7. 15	12. 8.	
8	II	Tr. Ingress..	Bisection	G	E. Eq.	,,	B.427	13. 18.	13. 18. 0	13. 18. 2	12. 9. 44		

(a.) The first sensible diminution of brightness was noticed $3^m. 30^s.$ before the time recorded above.
(b.) Definition not good. The first sensible diminution of brightness was noticed $4^m. 42^s.$ before the time recorded above.
(c.) The satellite did not attain its full brightness till about ten minutes after the recorded time. It was extremely faint when first noticed.
(d.) The satellite attained its full brightness about seven minutes after the time recorded above. When first noted it was very faint, being overpowered by a patch of scattered light caused by moisture deposited between the lenses of the object-glass.
(e.) The observation was unsatisfactory, as Jupiter was blurred and ill-defined, and the satellite faint.
(f.) Satellite faint from daylight, the sky being also hazy.
(g.) The first diminution of brightness was noticed $2^m. 36^s.$ before the time recorded above. The observation is not a good one, the satellite being very faint, owing to a thick fog.
(h.) The image of Jupiter was diffused, and the observation was, in consequence, not satisfactory.
(i.) The planet was occasionally obscured by cloud.
(k.) The image of the planet ill-defined.
(l.) The sky was not very clear, and the observation may be a little late in consequence.

ECLIPSES, OCCULTATIONS, and TRANSITS of JUPITER'S SATELLITES—*concluded.*

Day of Observation, 1874.	Satellite.	Phenomenon.	Phase of Phenomenon.	Observer.	Instrument.	Power.	Clock or Chronometer.	Time noted.	Time by Transit Clock.	Sidereal Time.	Mean Solar Time.	Mean Time of Nautical Almanac.	Apparent Error of Nautical Almanac.
								h m s	h m s	h m s	h m s	h m s	m s
April 8	II	Tr. Ingress..	Last contact	G	E. Eq.	140	B.427	13. 21.	13. 21. 0	13. 21. 2	12. 12. 44	12. 8.	
8	III	Tr. Ingress..	First contact	G	E. Eq.	310	B.427	14. 58. 30	14. 58. 30	14. 58. 32	13. 49. 58	13. 57.	
8	III	Tr. Ingress..	Bisection	G	E. Eq.	,,	B.427	15. 4. 45	15. 4. 45	15. 4. 47	13. 56. 12		
8	III	Tr. Ingress..	Last contact.....	G	E. Eq.	,,	B.427	15. 11. 15	15. 11. 15	15. 11. 17	14. 2. 41		
8	I	Ecl. reap....	....	G	E. Eq.	140	B.427	15. 17. 18	15. 17. 18	15. 17. 20·0	14. 8. 42·6	14. 8. 53·8	+0. 11·2
16	I	(*a*) Tr.Ingress	First contact	AD	E. Eq.	,,	Sid.S.	11. 57. 50	11. 57. 50	11. 58. 54	10. 19. 22	10. 25.	
16	I	Tr. Ingress..	Last contact.....	AD	E. Eq.	,,	Sid.S.	12. 2. 42	12. 2. 42	12. 3. 46	10. 24. 13		
16	I	(*b*) Tr. Egress	First contact	AD	E. Eq.	,,	Sid.S.	14. 16. 44	14. 16. 44	14. 17. 48	12. 37. 53	12. 41.	
16	I	Tr. Egress ..	Last contact.....	AD	E. Eq.	,,	Sid.S.	14. 21. 7	14. 21. 7	14. 22. 11	12. 42. 15		
May 1	I	(*c*) Occ. disap.	First contact	E	E. Eq.	,,					11. 8. 56	11. 9.	
1	I	Occ. disap...	Last contact	E	E. Eq.	,,					11. 10. 56		
1	I	(*d*) Ecl. reap.	....	E	E. Eq.	,,	B.427	16. 59. 19	16. 59. 22·0	16. 59. 35·4	14. 20. 15·4	14. 20. 10·8	−0. 14·6
2	I	(*e*) Tr. Egress	Last contact.....	AD	E. Eq.	310	B.427	13. 28. 20	13. 27. 40	13. 27. 54	10. 45. 13	10. 43.	
8	I	(*f*) Occ.disap.	First contact	G	E. Eq.	,,	Sid.S.	16. 1. 52	16. 1. 52	16. 2. 8	12. 55. 26	12. 58.	
8	I	Occ. disap...	Bisection	G	E. Eq.	,,	Sid.S.	16. 3. 4	16. 3. 4	16. 3. 20	12. 56. 38		
8	I	Occ. disap...	Last contact.....	G	E. Eq.	,,	Sid.S.	16. 5. 27	16. 5. 27	16. 5. 43	12. 59. 1		
19	II	Ecl. reap....	....	C	E. Eq.	,,	Sid.S.	16. 47. 50·2	16. 47. 50·2	16. 48. 11·5	12. 58. 7·0	12. 58. 48·6	+0. 41·6
June 1	III	Ecl. disap...	....	AD	E. Eq.	,,	B.427	14. 54. 15	14. 53. 57·5	14. 53. 57·9	10. 13. 5·3	10. 9. 47·3	−3. 18·0
1	I	Tr. Ingress..	First contact	AD	E. Eq.	,,	B.427	15. 0. 0	14. 59. 43	14. 59. 43	10. 18. 49	10. 18.	
1	I	Tr. Ingress..	Last contact.....	AD	E. Eq.	,,	B.427	15. 2. 30	15. 2. 13	15. 2. 13	10. 21. 19		
24	I	(*g*) Tr.Ingress	Last contact.....	AD	E. Eq.	,,	Sid.S.	16. 44. 27	16. 44. 27	16. 44. 41	10. 33. 5	10. 32.	

(*a*.) The recorded time is probably rather early, owing to the diffused light from the planet.
(*b*.) Very good definition.
(*c*.) The planet was very tremulous. Observed with a Mean Solar Watch.
(*d*.) The satellite became suddenly visible, and at first increased rapidly in brightness; it attained its maximum brilliancy about $3^{m}.\ 41^{s}.$ after the time recorded above.
(*e*.) The images were much diffused, the definition being bad.
(*f*.) Tremulous.
(*g*.) The observation not satisfactory; Jupiter very tremulous.

OCCULTATIONS of STARS by the MOON, 1874.

Day of Observation, 1874.	Name of Object.	Phenomenon.	Moon's Limb.	Observer.	Instrument.	Clock or Chronometer.	Time Noted.	Time by Sidereal Standard Clock.	Sidereal Time.	Mean Solar Time.
							h m s	h m s	h m s	h m s
Jan. 25	53 Arietis ...	(*a*) Disappearance	Dark	L	Altazimuth	G. 1	8. 10. 16·8	8. 9. 46·65	8. 9. 53·96	11. 49. 28·0
27	*k* Tauri.....	Disappearance...	Dark	E	Altazimuth	Sid. S.	7. 9. 7·4	7. 9. 7·40	7. 9. 15·37	10. 41. 7·5
30	*c* Geminorum.	(*b*) Disappearance	Dark	AD	Altazimuth	G. 1	2. 43. 58·5	2. 43. 28·50	2. 43. 36·48	6. 4. 24·4
Mar. 26	λ Cancri	Disappearance...	Dark	E	Altazimuth	Sid. S.	12. 4. 9·3	12. 4. 9·30	12. 4. 15·05	11. 47. 16·1
31	10 Virginis ..	Disappearance...	Dark	C	E. Eq.	Sid. S.	9. 3. 17·2	9. 3. 17·20	9. 3. 21·89	8. 27. 13·1
May 19	*c* Geminorum.	Disappearance...	Dark	C	Altazimuth	Sid. S.	15. 20. 14·9	15. 20. 14·90	15. 20. 36·17	11. 30. 46·0
July 8	53 Arietis....	Reappearance ...	Dark	J	Altazimuth	Sid. S.	21. 21. 50·6	21. 21. 50·60	21. 22. 13·66	14. 14. 48·6
17	Piazzi XI. 12.	Disappearance...	Dark	C	Altazimuth	Sid. S.	16. 34. 28·0	16. 34. 28·00	16. 34. 56·15	8. 52. 55·0
Oct. 22	27 Piscium...	Disappearance...	Dark	L	Altazimuth	G. 1	2. 11. 55·8	2. 11. 25·20	2. 12. 0·66	12. 7. 1·8
22	29 Piscium...	Disappearance...	Dark	L	Altazimuth	G. 1	3. 58. 7·5	3. 57. 36·90	3. 58. 12·36	13. 52. 56·1
Nov. 19	10 Ceti.....	Disappearance...	Dark	E	Altazimuth	G. 1	2. 42. 59·5	2. 42. 37·20	2. 43. 8·72	10. 47. 59·2
Dec. 19	π Arietis.....	Disappearance...	Dark	J	Altazimuth	Sid. S.	5. 8. 12·20	5. 8. 12·20	5. 8. 49·90	11. 15. 19·2

(*a*.) Instantaneous.

(*b*.) Star obscured by brightness of Moon; very faint when close to the limb.

Disappearance of 53 Arietis, 1874, January $25^{d}.\ 11^{h}.\ 49^{m}.\ 28^{s}\cdot0 + t^{s}$, Greenwich Mean Solar Time.

Right Ascension of Zenith in arc	$122^{\circ}.28'.29''\cdot40 \quad + 15''\cdot0 \times t$
Moon's Right Ascension in arc	$45.32.\ 8\cdot10 + x + 0\cdot5588 \times t$
Moon's N. P. D.	$72.\ 7.59\cdot06 + y - 0\cdot2058 \times t$
Moon's Horizontal Equatoreal Parallax	$58.16\cdot15 \times \left(1 + \frac{m}{1000}\right)$
Moon's Semidiameter	$15.54\cdot26 \times \left(1 + \frac{n}{1000}\right)$
Star's Right Ascension in arc	$45.\ 4.58\cdot20 + e''$
Star's N. P. D.	$72.36.24\cdot10 + f$
Geocentric R. A. of corresponding point in arc	$45.42.17\cdot98 + e + 0''\cdot0345 \times t + 2''\cdot2398 \times m$
Geocentric N. P. D. of corresponding point	$71.55.31\cdot88 + f - 0\cdot0446 \times t - 2\cdot4522 \times m$

Geocentric distance of center from corresponding point,

$$15'.45''\cdot95 + 0\cdot5832 \times \left\{ + e'' - x'' - 0''\cdot5243 \times t + 2''\cdot2398 \times m \right\}$$
$$- 0\cdot7895 \times \left\{ f'' - 0''\cdot0446 \times t - 2''\cdot4522 \times m \right\}$$
$$+ 0\cdot7901 \times \left\{ y'' - 0''\cdot2058 \times t \right\}$$

Final Equation.

$$+ 8''\cdot31 = + 0\cdot5832 \times e'' - 0\cdot7895 \times f'' - 0\cdot5832 \times x'' + 0\cdot7901 \times y'' - 0''\cdot4332 \times t + 3''\cdot2423 \times m - 0''\cdot9543 \times n$$

Disappearance of k Tauri, 1874, January $27^{d}.\ 10^{h}.\ 41^{m}.\ 7^{s}\cdot5 + t^{s}$, Greenwich Mean Solar Time.

Right Ascension of Zenith in arc	$107^{\circ}.18'.50''\cdot55 \quad + 15''\cdot0 \times t$
Moon's Right Ascension in arc	$72.42.15\cdot15 + x + 0\cdot5991 \times t$
Moon's N. P. D.	$64.42.\ 1\cdot76 + y - 0\cdot1044 \times t$
Moon's Horizontal Equatoreal Parallax	$57.13\cdot69 \times \left(1 + \frac{m}{1000}\right)$
Moon's Semidiameter	$15.37\cdot27 \times \left(1 + \frac{n}{1000}\right)$
Star's Right Ascension in arc	$72.36.47\cdot25 + e''$
Star's N. P. D.	$65.\ 8.38\cdot80 + f$
Geocentric R. A. of corresponding point in arc	$72.59.16\cdot87 + e + 0''\cdot1376 \times t + 1''\cdot3496 \times m$
Geocentric N. P. D. of corresponding point	$64.40.34\cdot82 + f - 0\cdot0354 \times t - 1\cdot6840 \times m$

Geocentric distance of center from corresponding point,

$$15'.27''\cdot71 + 0\cdot8999 \times \left\{ + e'' - x'' - 0''\cdot4615 \times t + 1''\cdot3496 \times m \right\}$$
$$- 0\cdot0926 \times \left\{ f'' - 0''\cdot0354 \times t - 1''\cdot6840 \times m \right\}$$
$$+ 0\cdot0948 \times \left\{ y'' - 0''\cdot1044 \times t \right\}$$

Final Equation.

$$+ 9''\cdot56 = + 0\cdot8999 \times e'' - 0\cdot0926 \times f'' - 0\cdot8999 \times x'' + 0\cdot0948 \times y'' - 0''\cdot4219 \times t + 1''\cdot3704 \times m - 0''\cdot9373 \times n$$

Disappearance of c Geminorum, 1874, January $30^{d}.\ 6^{h}.\ 4^{m}.\ 24^{s}\cdot4 + t^{s}$, Greenwich Mean Solar Time.

Right Ascension of Zenith in arc	$40.\ 54.\ 7\cdot20 \quad + 15\cdot0 \times t$
Moon's Right Ascension in arc	$113.\ 16.\ 25\cdot65 + x + 0\cdot5852 \times t$
Moon's N.P.D.	$63.\ 30.\ 13\cdot95 + y + 0\cdot0678 \times t$
Moon's Horizontal Equatoreal Parallax	$55.\ 50\cdot99 \times \left(1 + \frac{m}{1000}\right)$
Moon's Semidiameter	$15.\ 14\cdot65 \times \left(1 + \frac{n}{1000}\right)$
Star's Right Ascension in arc	$114.\ 6.\ 42\cdot15 + e''$
Star's N.P.D.	$63.\ 55.\ 0\cdot50 + f$
Geocentric R.A. of corresponding point in arc	$113.\ 29.\ 21\cdot85 + e + 0''\cdot0464 \times t - 2''\cdot2403 \times m$
Geocentric N.P.D. of corresponding point	$63.\ 20.\ 27\cdot17 + f + 0\cdot0627 \times t - 2\cdot0733 \times m$

Geocentric distance of center from corresponding point,

$$15'.\ 8''\cdot95 + 0\cdot6831 \times \left\{ + e'' - x'' - 0''\cdot5388 \times t - 2''\cdot2403 \times m \right\}$$
$$- 0\cdot6451 \times \left\{ f'' + 0''\cdot0627 \times t - 2''\cdot0733 \times m \right\}$$
$$+ 0\cdot6463 \times \left\{ y'' + 0''\cdot0678 \times t \right\}$$

Final Equation.

$$+ 5''\cdot70 = + 0\cdot6831 \times e'' - 0\cdot6451 \times f'' - 0\cdot6831 \times x'' + 0\cdot6463 \times y'' - 0''\cdot3647 \times t - 0''\cdot1928 \times m - 0''\cdot9147 \times n$$

Disappearance of λ Cancri, 1874, March $26^{d}.\ 11^{h}.\ 47^{m}.\ 16^{s}\cdot1 + t^{s}$, Greenwich Mean Solar Time.

Right Ascension of Zenith in arc	$181.\ 3.\ 45\cdot75 \quad + 15\cdot0 \times t$
Moon's Right Ascension in arc	$123.\ 41.\ 3\cdot00 + x + 0\cdot5546 \times t$
Moon's N.P.D.	$64.\ 49.\ 39\cdot18 + y + 0\cdot1102 \times t$
Moon's Horizontal Equatoreal Parallax	$55.\ 27\cdot15 \times \left(1 + \frac{m}{1000}\right)$
Moon's Semidiameter	$15.\ 8\cdot09 \times \left(1 + \frac{n}{1000}\right)$
Star's Right Ascension in arc	$123.\ 15.\ 49\cdot95 + e''$
Star's N.P.D.	$65.\ 34.\ 52\cdot20 + f$
Geocentric R.A. of corresponding point in arc	$123.\ 48.\ 7\cdot81 + e + 0''\cdot0843 \times t + 1''\cdot9379 \times m$
Geocentric N.P.D. of corresponding point	$65.\ 3.\ 13\cdot90 + f - 0\cdot0518 \times t - 1\cdot8983 \times m$

Geocentric distance of center from corresponding point,

$$15'.\ 1''\cdot03 + 0\cdot3870 \times \left\{ + e'' - x'' - 0''\cdot4703 \times t + 1''\cdot9379 \times m \right\}$$
$$+ 0\cdot9045 \times \left\{ f'' - 0''\cdot0518 \times t - 1''\cdot8983 \times m \right\}$$
$$- 0\cdot9041 \times \left\{ y'' + 0''\cdot1102 \times t \right\}$$

Final Equation.

$$+ 7'\cdot06 = + 0\cdot3870 \times e'' + 0\cdot9045 \times f'' - 0\cdot3870 \times x'' - 0\cdot9041 \times y'' - 0''\cdot3285 \times t - 0''\cdot9670 \times m - 0''\cdot9081 \times n$$

Disappearance of 10 Virginis, 1874, March 31d. 8h. 27m. 13s·1 + t^s, Greenwich Mean Solar Time.

	° ′ ″	″	″
Right Ascension of Zenith in arc	135. 50. 28·35		+ 15·0 × t
Moon's Right Ascension in arc.....	180. 10. 58·20	+ x	+ 0·4378 × t
Moon's N. P. D.	86. 38. 44·28	+ y	+ 0·2290 × t
Moon's Horizontal Equatoreal Parallax.....	53. 58·21 × $\left(1 + \frac{m}{1000}\right)$		
Moon's Semidiameter.....	14. 43·81 × $\left(1 + \frac{n}{1000}\right)$		
Star's Right Ascension in arc.....	180. 48. 48·90 + e''		
Star's N. P. D.	87. 23. 49·80 + f		
Geocentric R. A. of corresponding point in arc	180. 24. 58·26 + e + 0″·1010 × t − 1″·4306 × m		
Geocentric N. P. D. of corresponding point.....	86. 42. 55·88 + f + 0·0041 × t − 2·4539 × m		

Geocentric distance of center from corresponding point,

$$14'.\,35''\cdot58 + 0\cdot9563 \times \left\{ + e'' - x'' - 0''\cdot3368 \times t - 1''\cdot4306 \times m \right\}$$
$$+ 0\cdot2874 \times \left\{ f'' + 0''\cdot0041 \times t - 2''\cdot4539 \times m \right\}$$
$$- 0\cdot2872 \times \left\{ y'' + 0''\cdot2290 \times t \right\}$$

Final Equation.

$$+ 8''\cdot23 = + 0\cdot9563 \times e'' + 0\cdot2874 \times f'' - 0\cdot9563 \times x'' - 0\cdot2872 \times y'' - 0''\cdot3867 \times t - 2''\cdot0734 \times m - 0''\cdot8838 \times n$$

Disappearance of c Geminorum, 1874, May 19d. 11h. 30m. 46s·0 + t^s, Greenwich Mean Solar Time.

	° ′ ″	″	″
Right Ascension of Zenith in arc.....	230. 9. 2·55		+ 15·0 × t
Moon's Right Ascension in arc.....	114. 28. 2·40	+ x	+ 0·6088 × t
Moon's N. P. D.	63. 16. 50·62	+ y	+ 0·0805 × t
Moon's Horizontal Equatoreal Parallax.....	57. 11·69 × $\left(1 + \frac{m}{1000}\right)$		
Moon's Semidiameter.....	15. 36·69 × $\left(1 + \frac{n}{1000}\right)$		
Star's Right Ascension in arc.....	114. 6. 22·95 + e''		
Star's N. P. D.	63. 54. 56·60 + f		
Geocentric R. A. of corresponding point in arc	114. 42. 19·91 + e − 0″·0605 × t + 2″·1570 × m		
Geocentric N. P. D. of corresponding point.....	63. 8. 7·39 + f − 0·0569 × t − 2·8092 × m		

Geocentric distance of center from corresponding point,

$$15'.\,27''\cdot20 + 0\cdot7369 \times \left\{ + e'' - x'' - 0''\cdot5483 \times t + 2''\cdot1570 \times m \right\}$$
$$- 0\cdot5651 \times \left\{ f'' - 0''\cdot0569 \times t - 2''\cdot8092 \times m \right\}$$
$$+ 0\cdot5635 \times \left\{ y'' + 0''\cdot0805 \times t \right\}$$

Final Equation.

$$+ 9''\cdot49 = + 0\cdot7369 \times e'' - 0\cdot5651 \times f'' - 0\cdot7369 \times x'' + 0\cdot5635 \times y'' - 0''\cdot3264 \times t + 3''\cdot1770 \times m - 0''\cdot9367 \times n$$

Reappearance of 53 Arietis, 1874, July $8^d.\ 14^h.\ 14^m.\ 48^s{\cdot}6 + t^s$, Greenwich Mean Solar Time.

	° ′ ″	″	″
Right Ascension of Zenith in arc	320. 33. 24·90		+ 15·0 × t
Moon's Right Ascension in arc	44. 39. 12·30 + x		+ 0·5776 × t
Moon's N.P.D.	71. 42. 31·16 + y		− 0·2149 × t
Moon's Horizontal Equatoreal Parallax	59. 9·01 × $\left(1 + \frac{m}{1000}\right)$		
Moon's Semidiameter	16. 8·65 × $\left(1 + \frac{n}{1000}\right)$		
Star's Right Ascension in arc	45. 5. 7·65 + e''		
Star's N. P. D.	72. 36. 21·20 + f		
Geocentric R. A. of corresponding point in arc	44. 26. 27·99 + e	+ 0″·0124 × t	− 2″·3197 × m
Geocentric N. P. D. of corresponding point	71. 53. 30·72 + f	+ 0·0458 × t	− 2·5705 × m

Geocentric distance of center from corresponding point,

$$16'.\ 20''{\cdot}92 + 0{\cdot}7032 \times \left\{ -\ e'' + x'' + 0''{\cdot}5652 \times t + 2''{\cdot}3197 \times m \right\}$$
$$+\ 0{\cdot}6729 \times \left\{ f'' + 0''{\cdot}0458 \times t - 2''{\cdot}5705 \times m \right\}$$
$$-\ 0{\cdot}6721 \times \left\{ y'' - 0''{\cdot}2149 \times t \right\}$$

Final Equation.

$$-12''{\cdot}27 = -\ 0{\cdot}7032 \times e'' + 0{\cdot}6729 \times f'' + 0{\cdot}7032 \times x'' - 0{\cdot}6721 \times y'' + 0''{\cdot}1562 \times t - 0''{\cdot}0985 \times m - 0''{\cdot}9687 \times n$$

Disappearance of Piazzi XI. 12, 1874, July $17^d.\ 8^h.\ 52^m.\ 55^s{\cdot}0 + t^s$, Greenwich Mean Solar Time.

	° ′ ″	″	″
Right Ascension of Zenith in arc	248. 44. 2·25		+ 15·0 × t
Moon's Right Ascension in arc	167. 12. 3·30 + x		+ 0·4608 × t
Moon's N. P. D.	80. 30. 19·37 + y		+ 0·2253 × t
Moon's Horizontal Equatoreal Parallax	54. 55·51 × $\left(1 + \frac{m}{1000}\right)$		
Moon's Semidiameter	14. 59·52 × $\left(1 + \frac{n}{1000}\right)$		
Star's Right Ascension in arc	166. 52. 24·60 + e''		
Star's N. P. D.	81. 15. 1·50 + f		
Geocentric R. A. of corresponding point in arc	167. 26. 48·50 + e	+ 0″·0189 × t	+ 2″·0639 × m
Geocentric N. P. D. of corresponding point	80. 33. 30·90 + f	− 0·0208 × t	− 2·4906 × m

Geocentric distance of center from corresponding point,

$$14'.\ 53''{\cdot}90 + 0{\cdot}9634 \times \left\{ +\ e'' - x'' - 0''{\cdot}4419 \times t + 2''{\cdot}0639 \times m \right\}$$
$$+\ 0{\cdot}2145 \times \left\{ f'' - 0''{\cdot}0208 \times t - 2''{\cdot}4906 \times m \right\}$$
$$-\ 0{\cdot}2139 \times \left\{ y'' + 0''{\cdot}2253 \times t \right\}$$

Final Equation.

$$+\ 5''{\cdot}62 = +\ 0{\cdot}9634 \times e'' + 0{\cdot}2145 \times f'' - 0{\cdot}9634 \times x'' - 0{\cdot}2139 \times y'' - 0''{\cdot}4783 \times t + 1''{\cdot}4542 \times m - 0''{\cdot}8995 \times n$$

Disappearance of 27 Piscium, 1874, October $22^d.\ 12^h.\ 7^m.\ 1^s{\cdot}8 + t^s$, Greenwich Mean Solar Time.

	° ′ ″	″	″
Right Ascension of Zenith in arc	33. 0. 9·90		+ 15·0 × t
Moon's Right Ascension in arc	358. 15. 0·45	+ x	+ 0·5483 × t
Moon's N. P. D.	93. 37. 57·79	+ y	− 0·2918 × t
Moon's Horizontal Equatoreal Parallax	60. 39·32 × $\left(1 + \frac{m}{1000}\right)$		
Moon's Semidiameter	16. 33·36 × $\left(1 + \frac{n}{1000}\right)$		
Star's Right Ascension in arc	358. 4. 11·85	+ e''	
Star's N. P. D.	94. 14. 59·90	+ f	
Geocentric R. A. of corresponding point in arc	358. 25. 54·69	+ e	+ 0″·1313 × t + 1″·3028 × m
Geocentric N. P. D. of corresponding point	93. 25. 35·36	+ f	+ 0·0079 × t − 2·9645 × m

Geocentric distance of center from corresponding point,

$$16'.\ 28''{\cdot}74 + 0{\cdot}6590 \times \left\{ + e' - x'' - 0''{\cdot}4170 \times t + 1''{\cdot}3028 \times m \right\}$$
$$- 0{\cdot}7510 \times \left\{ f'' + 0''{\cdot}0079 \times t - 2''{\cdot}9645 \times m \right\}$$
$$+ 0{\cdot}7508 \times \left\{ y'' - 0''{\cdot}2918 \times t \right\}$$

Final Equation.

$$+ 4''{\cdot}62 = + 0{\cdot}6590 \times e'' - 0{\cdot}7510 \times f'' - 0{\cdot}6590 \times x'' + 0{\cdot}7508 \times y'' - 0''{\cdot}4998 \times t + 3''{\cdot}0848 \times m - 0''{\cdot}9934 \times n$$

Disappearance of 29 Piscium, 1874, October $22^d.\ 13^h.\ 52^m.\ 56^s{\cdot}1 + t^s$, Greenwich Mean Solar Time.

	° ′ ″	″	″
Right Ascension of Zenith in arc	59. 33. 5·40		+ 15·0 × t
Moon's Right Ascension in arc	359. 13. 5·70	+ x	+ 0·5487 × t
Moon's N. P. D.	93. 7. 0·07	+ y	− 0·2929 × t
Moon's Horizontal Equatoreal Parallax	60. 42·25 × $\left(1 + \frac{m}{1000}\right)$		
Moon's Semidiameter	16. 34·16 × $\left(1 + \frac{n}{1000}\right)$		
Star's Right Ascension in arc	358. 51. 15·75	+ e''	
Star's N. P. D.	93. 43. 24·50	+ f	
Geocentric R. A. of corresponding point in arc	359. 24. 20·51	+ e	+ 0′·0765 × t + 1″·9848 × m
Geocentric N. P. D. of corresponding point	92. 55. 1·30	+ f	+ 0·0118 × t − 2·9032 × m

Geocentric distance of center from corresponding point,

$$16'.\ 25''{\cdot}26 + 0{\cdot}6830 \times \left\{ + e'' - x'' - 0''{\cdot}4722 \times t + 1''{\cdot}9848 \times m \right\}$$
$$- 0{\cdot}7296 \times \left\{ f'' + 0''{\cdot}0118 \times t - 2''{\cdot}9032 \times m \right\}$$
$$+ 0{\cdot}7294 \times \left\{ y - 0''{\cdot}2929 \times t \right\}$$

Final Equation.

$$+ 8''{\cdot}90 = + 0{\cdot}6830 \times e'' - 0{\cdot}7296 \times f'' - 0{\cdot}6830 \times x'' + 0{\cdot}7294 \times y'' - 0''{\cdot}5447 \times t + 3''{\cdot}4738 \times m - 0''{\cdot}9942 \times n$$

Disappearance of 10 Ceti, 1874, November $19^d.\ 10^h.\ 47^m.\ 59^s{\cdot}2 + t^s$, Greenwich Mean Solar Time.

	° ′ ″	″	″
Right Ascension of Zenith in arc	40. 47. 10·80		+ 15·0 × t
Moon's Right Ascension in arc	5. 9. 40·05 + x	+	0·5350 × t
Moon's N. P. D.	89. 51. 58·50 + y	−	0·2844 × t
Moon's Horizontal Equatoreal Parallax	60. 4·57 × $\left(1 + \frac{m}{1000}\right)$		
Moon's Semidiameter	16. 23·84 × $\left(1 + \frac{n}{1000}\right)$		
Star's Right Ascension in arc	5. 3. 10·80 + e''		
Star's N. P. D.	90. 44. 32·00 + f		
Geocentric R. A. of corresponding point in arc	5. 25. 4·54 + e	+	0″·1282 × t + 1″·3137 × m
Geocentric N. P. D. of corresponding point	89. 57. 21·55 + f	+	0·0013 × t − 2·8305 × m

Geocentric distance of center from corresponding point,

$$16'.\ 19''{\cdot}31 + 0{\cdot}9441 \times \left\{ + e'' - x'' - 0''{\cdot}4068 \times t + 1''{\cdot}3137 \times m \right\}$$
$$+ 0{\cdot}3299 \times \left\{ f'' + 0''{\cdot}0013 \times t - 2''{\cdot}8305 \times m \right\}$$
$$- 0{\cdot}3299 \times \left\{ y'' - 0''{\cdot}2844 \times t \right\}$$

Final Equation.

$$+ 4{\cdot}53 = + 0{\cdot}9441 \times e'' + 0{\cdot}3299 \times f'' - 0{\cdot}9441 \times x'' - 0{\cdot}3299 \times y'' - 0''{\cdot}2899 \times t + 0''{\cdot}3065 \times m - 0''{\cdot}9838 \times n$$

Disappearance of π Arietis, 1874, December $19^d.\ 11^h.\ 15^m.\ 19^s{\cdot}2 + t^s$, Greenwich Mean Solar Time.

	° ′ ″	″	″
Right Ascension of Zenith in arc	77. 12. 28·50		+ 15·0 × t
Moon's Right Ascension in arc	40. 41. 20·85 + x	+	0·5928 × t
Moon's N. P. D.	72. 28. 10·13 + y	−	0·2333 × t
Moon's Horizontal Equatoreal Parallax	60. 14·87 × $\left(1 + \frac{m}{1000}\right)$		
Moon's Semidiameter	16. 29·69 × $\left(1 + \frac{n}{1000}\right)$		
Star's Right Ascension in arc	40. 34. 50·40 + e''		
Star's N. P. D.	73. 3. 16·80 + f		
Geocentric R. A. of corresponding point in arc	40. 58. 21·98 + e	+	0″·1320 × t + 1″·4116 × m
Geocentric N. P. D. of corresponding point	72. 27. 13·08 + f	−	0·0273 × t − 2·1637 × m

Geocentric distance of center from corresponding point,

$$16'.\ 15''{\cdot}33 + 0{\cdot}9517 \times \left\{ + e'' - x'' - 0''{\cdot}4608 \times t + 1''{\cdot}4116 \times m \right\}$$
$$- 0{\cdot}0578 \times \left\{ f'' - 0''{\cdot}0273 \times t - 2'{\cdot}1637 \times m \right\}$$
$$+ 0{\cdot}0592 \times \left\{ y'' - 0''{\cdot}2333 \times t \right\}$$

Final Equation.

$$+ 14''{\cdot}36 = + 0{\cdot}9517 \times e'' - 0{\cdot}0578 \times f'' - 0{\cdot}9517 \times x'' + 0{\cdot}0592 \times y'' - 0'{\cdot}4507 \times t + 1''{\cdot}4685 \times m - 0''{\cdot}9897 \times n$$

ROYAL OBSERVATORY, GREENWICH.

MEASURES OF AREAS

OF

SPOTS AND FACULÆ

UPON THE SUN'S DISK

ON

PHOTOGRAPHS

TAKEN WITH THE

PHOTOHELIOGRAPH.

1873 and 1874.

MEASURES of AREAS of SPOTS and FACULÆ upon the SUN'S DISK on PHOTOGRAPHS taken at the ROYAL OBSERVATORY, GREENWICH, in the Years 1873 and 1874, expressed in millionths of the Sun's visible hemisphere.

Day.	Spots. No. of Group and Letter for Spot.	Spots. Distance from Centre, and [Radius of Sun].	Spots. Area of PENUMBRA for each Spot, [and for Day].	Spots. Area of UMBRA for each Spot, [and for Day].	Spots. Area of WHOLE for each Spot, [and for Day].	Faculæ. Group.	Faculæ. Distance from Centre.	Faculæ. Area for each Group, [and for Day].
1873. July 21						(290°)	158	985
	1	73	125	38	163			
	2	84	122	29	152			
	3	95	175	44	221			
	4	149	60	12	69			
						5	153	266
		[189]	[482]	[123]	[605]			[1251]
July 22						(290°)	166	1588
	1	62	126	40	167			
	2	66	93	30	123			
	3	68	168	48	217			
	4a	111	40	4	44			
	4b	120	77	27	105			
	5a	160	149	41	191			
	5b	170	80	15	97	5	170	1884
	6	182	110	22	132	6	182	825
	7	187	523	110	633	7	185	542
		[189]	[1366]	[337]	[1709]			[4839]
July 23						(290°)	178	1610
	1	73	105	29	134			
	2	68	61	31	94			
	3	59	179	39	218			
	4a	80	136	38	174			
	4b	95	82	26	105			
	5	145	114	42	157			
	6	169	73	44	111			
	7	177	343	126	472	7	178	2896
		[189]	[1093]	[375]	[1465]			[4506]
July 24						(290°)	180	322
	1	105	43	13	58			
	2	89	31	0	31			
	3	75	162	56	218			
	4a	58	123	22	144			
	4b	58	241	44	285			
	5	112	307	28	335			
	6	140	60	19	80			
	7	154	333	90	424	7	169	2010
	8	184	306	74	380	8	185	1018
		[190]	[1606]	[346]	[1955]			[3350]
July 25	1	134	11	0	11			
	2	133	6	0	6			
	3	100	152	37	187			
	4a	59	168	27	195			
	4b	49	225	48	271			
	5	86	132	39	172			
	6	109	37	21	58			
	7	129	291	63	353	7	148	529
	8	169	263	61	322	8	175	1639
		[190]	[1285]	[296]	[1575]			[2168]
1873. July 28	3	177	154	50	188	3	180	706
	4a	141	237	45	280			
	4b	152	155	50	202			
	5	90	90	10	100			
	6	20	28	16	45			
	7	28	226	94	319			
	8	79	293	82	377			
	9	123	45	5	50			
		[190]	[1228]	[352]	[1561]	10	184	577 [1283]
July 29	3	187	161	30	189	3	187	273
	4a	166	265	70	334	4	167	1615
	4b	171	239	17	256			
	5	123	118	16	135			
	6	60	14	2	17			
	7	43	276	86	365			
	8	46	228	65	297			
	9	122	93	3	96			
	10	174	34	0	34	10	172	669
		[190]	[1428]	[289]	[1723]			[2557]
July 30	4a	183	448	57	504	4	179	1939
	4b	184	198	7	203			
	5	151	66	1	67	5	148	1023
	6	99	25	6	31			
	7	76	294	88	382			
	8	38	268	62	329			
	9	128	47	3	50			
	10	153	35	0	35	10	152	331
		[190]	[1381]	[224]	[1601]			[3293]
July 31	4	189	377	0	377	4	187	1932
	5	170	37	0	37	5	167	2474
	6	136	18	0	18			
	7	115	259	88	347			
	8	68	228	36	263			
	9	142	25	0	25			
	10	71	35	4	39			
	11	116	16	0	16			
		[190]	[995]	[128]	[1122]			[4406]
Aug. 1						5	183	2515
	6	161	12	0	12	6	163	505
	7	144	293	92	387	7	153	751
	8	101	222	51	273			
	9	156	20	0	20	9	154	675
	10	35	127	13	140			
	11	83	34	0	34			
	12	185	98	11	109	12	187	486
		[190]	[806]	[167]	[976]			[4932]

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Measures of Areas of Spots and Faculæ upon the Sun's Disk—*continued.*

Day.	Spots. No. of Group and Letter for Spot.	Spots. Distance from Centre, and [Radius of Sun].	Spots. Area of PENUMBRA for each Spot, [and for Day].	Spots. Area of UMBRA for each Spot, [and for Day].	Spots. Area of WHOLE for each Spot, [and for Day].	Faculæ. Group.	Faculæ. Distance from Centre.	Faculæ. Area for each Group, [and for Day].
1873. Aug. 2	7	169	297	96	393	7	161	1546
	8	136	207	51	258	8	145	1809
						9	168	644
	10	17	208	35	244			
	11	53	17	3	20			
	12	170	90	31	120	12	173	939
	13	119	21	0	21			
		[190]	[840]	[216]	[1056]			[4938]
Aug. 4						7	189	899
	8	178	160	50	210	8	176	2223
						9	189	509
	10	90	472	100	572			
	11	89	26	0	26			
	12	130	62	24	86			
	13	50	11	0	11			
						(110°)	182	2751
		[190]	[731]	[174]	[905]			[6382]
Aug. 5	8	189	253	0	253	8	186	946
	10	131	527	116	640	10	152	536
	11	153	142	32	175	11	151	583
	12	105	76	19	95			
	13	75	15	0	15			
						(110°)	172	1067
		[190]	[1013]	[167]	[1178]			[3132]
Aug. 6	10	155	404	72	478	10	174	2942
	11	172	275	34	309	11	169	1740
	12	90	63	17	80			
	13	87	15	2	17			
						(110°)	156	1097
		[190]	[757]	[125]	[884]			[5779]
Aug. 7	10	176	360	39	399	10	176	2137
	11	185	284	13	294	11	173	1556
	12	89	54	14	68			
	14	29	53	4	57			
						15	180	1055
		[190]	[751]	[70]	[818]			[4748]
Aug. 8	10	186	204	4	209	10	186	1767
	11	186	47	0	47	11	182	1756
	12	101	50	12	62			
	14	62	67	10	77			
						15	172	1566
		[190]	[368]	[26]	[395]			[5089]
Aug. 9						10	176	399
	12	124	26	16	44			
	14	99	35	3	38			
	15	170	73	19	92	15	162	1226
		[190]	[134]	[38]	[174]			[1625]

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1873. Aug. 12	12	184	16	0	16	12	177	1343
						14	181	503
	15	71	200	42	243			
	16	184	16	0	16	16	165	439
						(130°)	177	491
		[190]	[232]	[42]	[275]			[2776]
Aug. 21						15	153	596
						(290°)	141	616
	16	115	50	15	65			
	17	69	35	0	35			
	18	145	244	34	278	18	150	2565
	19a	186	148	0	148	19	178	2225
		[190]	[477]	[49]	[526]			[6002]
Aug. 25						(290°)	186	647
						(310°)	167	1914
	18	29	269	58	326			
	19a	99	101	25	127			
	19b	122	217	51	268			
	19c	145	210	48	257	19	160	1439
						20	187	397
		[190]	[797]	[182]	[978]			[4397]
Aug. 26						(310°)	181	4396
						(270°)	162	859
	17	147	14	1	15			
	18	59	194	39	234			
	19a	75	131	38	169			
	19b	95	168	52	219			
	19c	119	158	41	198	19	148	991
						20	179	438
		[190]	[665]	[171]	[835]			[6684]
Aug. 27						(270°)	177	868
						(310°)	177	2324
	18	98	130	42	172			
	19a	66	191	45	236			
	19b	66	157	71	228			
	19c	86	117	48	165			
	20	168	16	0	16	20	165	601
		[190]	[611]	[206]	[817]			[3793]
Aug. 28	18	138	119	10	129	18	143	2808
	19a	84	211	35	246			
	19b	65	251	61	309			
	19c	56	90	37	128			
	20	132	45	25	70	20	143	200
						21	173	502
		[190]	[716]	[168]	[882]			[3510]

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1873. Aug. 29	18	163	96	5	101	18	165	3070
	19a	55	37	12	50	19	139	206
	19b	93	276	68	345			
	19c	114	248	62	310			
	20	92	47	17	64			
						21	184	2182
		[191]	[704]	[164]	[870]			[5458]
Aug. 30	18	180	77	0	77	18	178	2463
						(280°)	164	466
	19a	138	222	55	279	19	145	1259
	19b	119	270	70	336			
	19c	77	21	12	33			
	20	63	154	37	191			
	21	163	21	2	22	21	171 / 168	1077 / 579
	22	57	6	2	8			
		[191]	[771]	[178]	[946]			[5844]
Sept. 2	19c	187	151	0	151	19	176	1326
						(310°)	164	722
	20	71	313	72	387			
	21	146	25	0	25			
	22	134	29	11	40			
		[190]	[518]	[83]	[603]			[2048]
Sept. 8						(270°)	177	743
						20	175	642
	21	132	282	59	342	21	137	472
	23	68	43	0	43			
						26	181	690
		[190]	[325]	[59]	[385]			[2547]
Sept. 10						(270°)	176	1162
	21	180	462	116	578	21	174	1693
	23	80	16	10	21			
	24	129	35	16	51			
						26	168	964
						27	177	468
		[190]	[513]	[142]	[650]			[4287]
Sept. 11						(270°)	184	591
	21	189	158	0	158	21	188	2309
	23	111	7	0	7			
	24	95	38	0	38			
						26	162	390
						27	183	1829
		[190]	[203]	[0]	[203]			[5119]
Sept. 15	24	86	19	0	19			
	25	47	12	0	12			
	26	86	9	4	13			

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1873. Sept. 15 *cont.*	27	86	74	22	94			
	28	142	19	3	22	28	166	2164
	29	130	39	20	59	29	153	1052
		[190]	[172]	[49]	[219]			[3216]
Sept. 16						(310°)	168	466
	24	115	10	0	10			
	25	65	7	0	7			
	26	58	38	17	55			
	27	45	30	12	44			
	28	121	11	0	11			
	29	100	20	12	32			
						(110°)	173	1392
						31	175	988
		[190]	[116]	[41]	[159]			[2846]
Sept. 18	24	170	5	0	5	24	170	853
	25	135	6	0	6	25	170	643
	26	76	12	0	12			
	27	55	138	51	188			
	28	76	17	0	17			
	29	30	6	0	6			
						(140°)	175	2170
	30	188	70	0	70	30	185	1190
		[190]	[254]	[51]	[304]			[4856]
Sept. 20						25	181	579
	27	139	87	22	110	27	140	839
						(140°)	170	834
	30	168	164	36	203	30	171	4170
		[191]	[251]	[58]	[313]			[6422]
Sept. 22						26	180	369
	27	183	30	0	30	27	162	1542
						28	146	707
						(140°)	153	572
	30	111	84	33	117			
	31	86	139	27	166			
						(100°)	170	1878
		[191]	[253]	[60]	[313]			[5068]
Sept. 23						27	168	1261
						28	170	785
	30	68	28	4	32	30	138	492
	31	79	88	32	124			
						(100°)	164	1762
	32	183	484	106	589	32	184	1739
		[192]	[600]	[142]	[745]			[6039]
Sept. 24						27	180	1542
						28	183	435
	30	51	32	0	32			

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1873. Sept. 24 *cont.*	31	100	102	16	118			
	32	165	477	91	567	32	172	2303
						(110°)	181	728
		[191]	[611]	[107]	[717]			[5008]
Sept. 25						(320°)	163	1046
	30	20	117	18	136			
	31	126	93	19	111	31	138	693
	32	142	566	101	666	32	152	1760
						(110°)	169	585
		[191]	[776]	[138]	[913]			[4084]
Sept. 26						(320°)	177	852
	30	37	41	13	55			
	31	158	73	13	86	31	163	1060
	32	110	513	87	600			
	33a	185	197	56	252	33	185	2767
		[191]	[824]	[169]	[993]			[4679]
Sept. 27						(320°)	185	666
	30	81	18	4	22			
	31	179	41	3	46	31	172	1400
	32	76	499	77	577			
	33a	167	153	43	197			
	33 b	173	62	25	87	33	168	2552
	33c	180	255	58	311			
		[192]	[1028]	[210]	[1240]			[4618]
Sept. 29						(310°)	159	1796
	30	150	19	5	23			
	31	189	39	0	39	31	188	1266
	32	46	283	95	379			
	33a	106	149	32	182			
	33b	118	67	38	105			
	33c	133	298	48	349			
						34	189	352
		[192]	[855]	[218]	[1077]			[3414]
Sept. 30						(310°)	181	1741
	32	78	240	70	307			
	33a	68	185	48	233			
	33b	80	57	18	76			
	33c	98	242	58	300			
	34	177	97	2	99	34	176	259
						(130°)	183	285
		[192]	[821]	[196]	[1015]			[2285]
Oct. 2						30	170	936
	32	147	205	61	266	32	146	1403
	33a	67	36	9	46			
	33b	31	188	52	241			
	33c	12	138	41	179			

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1873. Oct. 2 *cont.*	34	123	37	8	46			
	35	169	99	20	120	35	152	600
		[192]	[703]	[191]	[898]			[2939]
Oct. 3						30	177	1145
	32	171	213	42	258	32	169	2514
	33a	74	164	44	219			
	33b	56	30	0	30			
	33c	30	128	31	159			
	34	84	40	4	44			
	35	148	132	43	175	35	149	326
		[192]	[707]	[164]	[885]			[3985]
Oct. 6						32	179	382
	33c	184	222	27	249	33	185	901
	34	57	66	15	81			
	35	43	13	0	13			
	36a	138	46	15	61			
	36b	173	211	72	284	36	176	2276
		[192]	[558]	[129]	[688]			[3559]
Oct. 9	34	191	130	0	130			
						(310°)	156	357
						(290°)	148	238
	35	115	103	13	116			
	36a	122	76	14	91			
	36b	111	249	58	306			
	37	171	247	75	322	37	172	1412
		[192]	[805]	[160]	[965]			[2007]
Oct. 14	36a	110	43	15	58			
	36b	110	155	25	179			
	37	31	164	39	204			
	38	112	18	0	18			
						(140°)	186	629
		[192]	[380]	[79]	[459]			[629]
Oct. 15	36a	140	23	12	35	36	144	828
	36b	140	127	34	161			
	37	69	158	38	196			
	38	80	71	13	84			
						(140°)	176	1156
		[193]	[379]	[97]	[476]			[1984]
Oct. 16	36a	165	32	11	42	36	168	1296
	36b	171	91	45	136			
	37	113	144	50	194			
	38	41	97	26	122			
						(140°)	162	873
						(100°)	182	787
		[192]	[364]	[132]	[494]			[2956]

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1873. Oct. 17	36a	187	66	24	90	36	182	796
	36b	183	23	14	35			
	37	145	168	45	213	37	145	739
	38	34	46	6	52			
						(100°)	172	1844
		[192]	[303]	[89]	[390]			[3379]
Nov. 1						(120°)	156	934
		[194]	[0]	[0]	[0]		[156]	[934]
Nov. 3						(310°)	185	716
	39	110	5	0	5			
	40	60	42	3	45			
	41	175	45	9	54	41	182	730
		[194]	[92]	[12]	[104]			[1446]
Nov. 11	42a	178	247	68	315			
	42b	150	128	38	166			
	42c	98	115	20	135			
	42d	104	34	2	36			
	43	31	117	27	144			
	44	119	136	28	165			
		[194]	[777]	[183]	[961]			
Nov. 12	42a	192	256	9	270			
	42b	177	239	49	289	42	176	1184
	42c	140	105	26	131			
	42d	140	10	0	10			
	43	35	154	30	185			
	44	84	162	30	192			
						46	180	772
						47	189	651
		[195]	[926]	[144]	[1077]			[2607]
Nov. 15						42	191	765
						(320°)	179	644
	43	145	219	51	269			
	44	69	85	21	103			
	45	140	326	70	398			
	46	110	240	37	276			
	47	170	141	18	154	47	169	1969
						(140°)	170	231
		[195]	[1011]	[197]	[1200]			[3609]
Nov. 20						44	188	725
						(270°)	163	617
	46a	117	168	29	198			
	46b	98	21	1	22			
	47a	88	16	2	18			
	47b	48	51	5	56			
						(110°)	167	728
		[195]	[256]	[37]	[294]			[2070]
1873. Nov. 21	46	150	151	28	180			
	47a	117	67	10	77			
	47b	82	36	1	37			
		[195]	[254]	[39]	[294]			
Nov. 25						47	183	2243
	48	121	37	12	49			
						(120°)	164	601
		[196]	[37]	[12]	[49]			[2844]
Nov. 27						(280°)	175	543
						(300°)	148	428
	48	169	48	3	51	48	168	324
	49	187	247	58	305	49	188	573
		[195]	[295]	[61]	[356]			[1868]
Dec. 1	49	84	188	38	228			
		[195]	[188]	[38]	[228]			
Dec. 17						(260°)	151	847
	50	79	4	0	4			
	51	180	199	41	240	51	172	588
	52	76	21	0	21			
						(80°)	184	421
		[197]	[224]	[41]	[265]			[1856]
Dec. 18						(260°)	178	1248
	50	80	5	0	5			
	51	194	132	30	162	51	192	616
	52	95	39	9	48			
						(80°)	170	633
		[197]	[176]	[39]	[215]			[2497]
Dec. 20						(260°)	182	443
	52	151	39	2	40	52	177	1641
	53	75	118	22	140			
	54a	156	173	59	232	54	178	843
		[197]	[330]	[83]	[412]			[2927]
Dec. 30	54a	179	1245	124	1373			
	54b	132	29	0	29			
	55	74	8	0	8			
	56	55	96	26	122			
	57	184	30	0	30			
		[197]	[1408]	[150]	[1562]			

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Measures of Areas of Spots and Faculæ upon the Sun's Disk—*continued.*

Day.	Spots.					Faculæ.		
	No. of Group and Letter for Spot.	Distance from Centre, and [Radius of Sun].	Area of PENUMBRA for each Spot, [and for Day].	Area of UMBRA for each Spot, [and for Day].	Area of WHOLE for each Spot, [and for Day].	Group.	Distance from Centre.	Area for each Group, [and for Day].
1874.								
Jan. 2	55	106	269	69	344			
	56	90	79	20	99			
	57	99	16	0	16			
		[197]	[364]	[89]	[459]			
Jan. 13						(280°)	170	312
						(240°)	154	408
	58a	64	331	79	410			
	58b	85	381	112	494			
						(70°)	175	395
		[198]	[712]	[191]	[904]			[1115]
Jan. 27	59	194	129	0	129	59	186	2679
	60a	27	110	26	134			
	60b	35	20	0	20			
	61a	34	194	46	240			
	61b	49	103	19	121			
	62a	94	362	77	438			
	62b	112	132	16	148			
	62c	128	186	23	209			
						(100°)	185	2707
		[197]	[1236]	[207]	[1439]			[5386]
Feb. 11	63	160	148	29	189	63	165	1688
	64a	52	84	22	106			
	64b	74	23	0	23			
		[199]	[255]	[51]	[318]			[1688]
Feb. 27	65a	100	32	0	32			
	65b	55	10	0	10			
	65c	90	21	0	21			
	66	129	290	34	325			
	67	188	41	10	51			
		[203]	[394]	[44]	[439]			
Feb. 28	65a	135	14	3	17			
	65b	69	5	0	5			
	65c	60	20	13	33			
	66	99	298	34	333			
	67	163	25	4	30			
		[203]	[362]	[54]	[418]			
Mar. 6	68a	168	76	23	99			
	68b	165	98	0	98			
	69	121	9	0	9			
	70	115	57	5	62			
	71	129	18	0	18			
		[198]	[258]	[28]	[286]			
Mar. 11	70	128	66	15	81			
	71	128	5	0	5			
	72	166	427	47	474	72	170	1744
		[197]	[498]	[62]	[560]			[1744]
1874.								
Mar. 23	73	172	37	0	37	73	188	1340
		[196]	[37]	[0]	[37]			[1340]
Mar. 25	73	88	65	0	65			
	74	25	36	0	36			
	75	180	73	23	96			
		[196]	[174]	[23]	[197]			
Mar. 26	73	125	59	33	92			
	74	56	80	25	105			
	75	157	146	30	176			
		[196]	[285]	[88]	[373]			
Mar. 27	73	157	63	13	76			
	74	92	316	61	377			
	75	132	165	35	200			
		[196]	[544]	[109]	[653]			
Mar. 28	73	181	21	0	21			
	74	123	280	50	331			
	75	110	163	35	197			
		[196]	[464]	[85]	[549]			
Apr. 1	75	129	167	27	194			
	76	20	35	0	35			
	77	144	509	62	571			
	78	163	327	47	371			
		[196]	[1038]	[136]	[1171]			
Apr. 3	75	180	50	16	66			
	76	80	11	0	11			
	77	74	276	50	326			
	78	102	275	25	300			
		[200]	[612]	[91]	[703]			
Apr. 6	76	169	27	0	27	76	185	387
	77	68	368	58	435			
	78	37	188	48	235			
	79	184	60	24	83	79	187	999
		[198]	[643]	[130]	[780]			[1386]
Apr. 7						76	189	660
	77	103	361	57	419			
	78	72	200	21	221			
	79	161	31	0	31			
	80	39	45	0	45			
		[197]	[637]	[78]	[716]			[660]
Apr. 8	77	139	364	72	437	77	176	427
	78	111	144	26	170			
	79	132	54	10	64			
	80	33	38	2	41			
		[198]	[600]	[110]	[712]			

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Measures of Areas of Spots and Faculæ upon the Sun's Disk—*continued.*

Day.	Spots.					Faculæ.		
	No. of Group and Letter for Spot.	Distance from Centre, and [Radius of Sun].	Area of PENUMBRA for each Spot, [and for Day].	Area of UMBRA for each Spot, [and for Day].	Area of WHOLE for each Spot, [and for Day].	Group.	Distance from Centre.	Area for each Group, [and for Day].
1874. Apr. 11	79	17	34	0	34			
	80	177	85	0	85			
	81	198	189	0	189			
		[200]	[308]	[0]	[308]			
Apr. 13	79	106	66	0	66			
	80	190	116	0	116			
	81	90	8	0	8			
		[200]	[190]	[0]	[190]			
Apr. 17	82	74	113	0	113			
		[192]	[113]	[0]	[113]			
Apr. 18	82	40	60	0	60			
		[193]	[60]	[0]	[60]			
Apr. 20		[192]	[0]	[0]	[0]			
Apr. 21		[192]	[0]	[0]	[0]			
Apr. 22		[192]	[0]	[0]	[0]			
Apr. 23		[192]	[0]	[0]	[0]			
Apr. 27	83	171	171	0	171			
		[192]	[171]	[0]	[171]			
Apr. 28	83	147	181	41	221			
		[190]	[181]	[41]	[221]			
Apr. 29	83	114	155	32	187			
		[190]	[155]	[32]	[187]			
Apr. 30	83	82	166	39	205			
	84	53	24	0	24			
		[190]	[190]	[39]	[229]			
May 1	83	47	159	31	190			
	84	86	33	0	33			
	85	166	41	0	41			
		[190]	[233]	[31]	[264]			
May 2	83	30	139	31	168			
	84	119	29	0	29			
	85	146	120	0	120			
		[190]	[288]	[31]	[317]			
May 4	83	94	139	25	164			
	85	64	285	28	313			
		[190]	[424]	[53]	[477]			
1874. May 5	83	125	117	16	133			
	85	26	246	31	277			
		[190]	[363]	[47]	[410]			
May 6	83	150	145	0	145			
	85	17	312	11	324			
	86	178	293	36	329			
		[190]	[750]	[47]	[798]			
May 7	83	174	154	34	187			
	85	65	225	39	264			
	86	159	394	71	466			
	87	180	862	93	954			
		[190]	[1635]	[237]	[1871]			
May 8	85	107	217	42	258			
	86	131	397	98	494			
	87	162	1036	39	1075			
		[190]	[1650]	[179]	[1827]			
May 9	85	137	197	35	232			
	86	100	332	61	393			
	87	136	734	132	870			
	88	150	76	0	76			
		[190]	[1339]	[228]	[1571]			
May 11	85	181	99	0	99	85	183	1149
	86	35	192	3	195			
	87	61	375	52	426			
	88	180	43	0	43			
		[190]	[709]	[55]	[763]			[1149]
May 16	87	140	201	34	235			
	89	175	79	0	79			
		[189]	[280]	[34]	[314]			
May 18	87	183	90	0	90			
	89	124	27	0	27			
		[189]	[117]	[0]	[117]			
May 20	89	83	254	46	300			
		[189]	[254]	[46]	[300]			
May 21	89	54	187	5	192			
		[189]	[187]	[5]	[192]			
May 22	89	51	246	18	264			
		[189]	[246]	[18]	[264]			
May 26	89	164	37	2	39	89	163	611
	90	164	314	61	375	90	171	1411
		[189]	[351]	[63]	[414]			[2022]

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Measures of Areas of Spots and Faculæ upon the Sun's Disk—*continued.*

Day.	Spots. No. of Group and Letter for Spot.	Spots. Distance from Centre, and [Radius of Sun].	Spots. Area of PENUMBRA for each Spot, [and for Day].	Spots. Area of UMBRA for each Spot, [and for Day].	Spots. Area of WHOLE for each Spot, [and for Day].	Faculæ. Group.	Faculæ. Distance from Centre.	Faculæ. Area for each Group, [and for Day].
1874. May 30	90	44	211	45	259			
		[189]	[211]	[45]	[259]			
June 1	90	77	170	31	202			
	91	168	78	32	110			
		[189]	[248]	[63]	[312]			
June 2	90	112	191	34	225			
	91	142	128	37	165			
						(60°)	178	822
		[189]	[319]	[71]	[390]			[822]
June 4	90	165	177	37	215			
	91	77	115	27	142			
		[189]	[292]	[64]	[357]			
June 5	90	181	154	0	154			
	91	38	115	12	127			
		[187]	[269]	[12]	[281]			
June 8		[189]	[0]	[0]	[0]			[0]
June 9		[189]	[0]	[0]	[0]			[0]
June 11	92	43	39	0	39			
		[189]	[39]	[0]	[39]			
June 12	92	56	32	0	32			
		[189]	[32]	[0]	[32]			
June 13	92	95	25	0	25			
	93a	74	97	11	108			
		[189]	[122]	[11]	[133]			
June 15	93a	70	26	0	26			
	93b	148	29	0	29			
	94	167	126	0	126			
		[189]	[181]	[0]	[181]			
June 19	93b	184	250	0	250			
	94	39	391	27	418			
		[189]	[641]	[27]	[668]			
June 22	94	116	503	52	556			
		[189]	[503]	[52]	[556]			
June 23	94	138	536	52	588			
		[189]	[536]	[52]	[588]			
June 24	94	166	445	33	481			
	95	182	61	0	61			
		[189]	[506]	[33]	[542]			
1874. June 25	94	184	394	35	429	94	176	3639
	95	174	113	0	113			
	96	88	47	0	47			
		[189]	[554]	[35]	[589]			
June 27	95	146	331	41	372			
	96	115	17	0	17			
		[189]	[348]	[41]	[389]			
June 29	95	92	273	44	318			
	96	62	376	44	419			
		[189]	[649]	[88]	[737]			
June 30						(260°)	176	315
	95	62	327	27	354			
	96	93	632	99	732			
	97	144	21	0	21			
		[189]	[980]	[126]	[1107]			[315]
July 2						(280°)	166	437
	95	75	154	31	185			
	96	158	544	66	608	96	157	2229
	97	74	54	1	55			
	98	160	14	0	14	98	166	660
	99	176	103	17	120	99	177	418
		[189]	[869]	[115]	[982]			[3744]
July 3	95	112	41	0	41			
	96	178	228	0	228	96	181	1265
	97	40	33	0	33			
	98	130	151	24	175			
	99	157	261	29	290			
		[189]	[714]	[53]	[767]			[1265]
July 4	95	136	76	20	96			
	96	185	59	0	59	96	186	526
	97	50	11	0	11			
	98	101	543	77	620			
	99	129	382	23	405			
	100	187	532	0	532			
		[189]	[1603]	[120]	[1723]			[526]
July 6	95	180	63	0	63	95	173	2462
	98	30	854	173	1027			
	99	57	353	88	441			
	100	153	512	108	619	100	165	2130
	101	75	70	15	85			
		[189]	[1852]	[384]	[2235]			[4592]
July 7						95	182	461
	98	33	1074	153	1228			
	99	39	260	46	306			

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Day.	Spots. No. of Group and Letter for Spot.	Spots. Distance from Centre, and [Radius of Sun].	Spots. Area of PENUMBRA for each Spot, [and for Day].	Spots. Area of UMBRA for each Spot, [and for Day].	Spots. Area of WHOLE for each Spot, [and for Day].	Faculæ. Group.	Faculæ. Distance from Centre.	Faculæ. Area for each Group, [and for Day].
1874. July 7 *cont.*	100	128	447	82	529	100	148	1346
	101	43	22	0	22			
		[189]	[1803]	[281]	[2085]			[1807]
July 8						(270°)	180	204
						(260°)	168	634
	98	45	1154	148	1301			
	99	82	274	55	329			
	100	94	411	102	513			
	101	27	18	0	18			
		[189]	[1857]	[305]	[2161]			[838]
July 9						(260°)	183	266
	98	122	1104	178	1283			
	99	81	188	25	212			
	100	62	344	83	426			
	101	69	9	0	9			
		[189]	[1645]	[286]	[1930]	102	175	294 [560]
July 10	98	150	727	130	858			
	99	116	93	20	113			
	100	47	378	47	424			
	102	152	28	0	28			
		[189]	[1226]	[197]	[1423]			
July 13	98	184	117	0	117	98	180	991
	99	186	70	0	70	99	182	297
	100	127	382	96	478			
	102	58	87	13	100			
		[189]	[656]	[109]	[765]			[1288]
July 14	100	155	182	53	235			
	102	32	47	0	47			
	103	184	88	0	88			
		[189]	[317]	[53]	[370]			
July 15	100	173	325	127	454	100	170	1214
	102	45	114	21	135			
	103	170	93	24	117	103	180	555
	104a	86	37	0	37			
		[189]	[569]	[172]	[743]			[1769]
July 16	100	187	511	21	532	100	182	1749
	102	100	156	28	184			
	103	148	136	34	170	103	154	1352
	104a	50	16	0	16			
	104b	114	73	0	73			
		[189]	[892]	[83]	[975]			[3101]
July 17	102	146	225	38	263			
	103	120	131	23	154			

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1874. July 17 *cont.*	104b	72	305	32	337			
		[189]	[661]	[93]	[754]			
July 18	102	165	140	36	175	102	169	1188
	103	89	116	24	140			
	104b	33	376	77	455			
		[189]	[632]	[137]	[770]			[1188]
July 20						(290°)	166	1599
	103	43	58	23	81			
	104b	61	595	157	764			
						(80°)	173	1668
						(110°)	167	1173
		[188]	[653]	[180]	[845]			[4440]
July 21						(290°)	168	1074
	103	59	36	14	49			
	104b	94	596	188	781			
						(80°)	154	614
						(110°)	161	925
		[189]	[632]	[202]	[830]			[2613]
July 23	103	119	22	6	28			
	104b	160	1004	159	1163	104b	179	702
	105	183	188	55	239	105	167	680
		[189]	[1214]	[220]	[1430]			[1382]
July 24	103	150	23	0	23			
	104b	179	836	157	990	104b	175	496
	105	164	213	48	261	105	165	293
		[189]	[1072]	[205]	[1274]			[789]
July 25	104b	186	70	0	70	104b	170	755
	105	141	242	56	299	105	154	430
		[189]	[312]	[56]	[369]			[1185]
July 30						(310°)	170	337
						(270°)	177	673
	105	60	221	54	275			
	106a	103	113	3	117			
	106b	128	280	64	346			
	106c	142	143	28	169	106	146	203
		[189]	[757]	[149]	[907]			[1213]
July 31						(310°)	185	586
	105	98	188	44	232			
	106a	69	83	3	86			
	106b	96	260	51	311			
	106c	107	167	54	222			
	107	179	145	43	188	107	184	575
		[189]	[843]	[195]	[1039]			[1161]

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Day.	Spots.					Faculæ.		
	No. of Group and Letter for Spot.	Distance from Centre, and [Radius of Sun].	Area of PENUMBRA for each Spot, [and for Day].	Area of UMBRA for each Spot, [and for Day].	Area of WHOLE for each Spot, [and for Day].	Group.	Distance from Centre.	Area for each Group, [and for Day].
1874. Aug. 3	105	179	109	43	152	105	177	507
	106b	38	200	45	237			
	106 a&c	12	212	44	255			
	107	104	272	40	312			
	108	130	151	42	193			
	109	130	48	25	72			
						(90°)	183	297
		[189]	[992]	[239]	[1221]			[804]
Aug. 6						(260°)	169	160
	106a	137	170	37	207	106	161	1010
	106b	142	170	36	206			
	106c	122	90	5	95			
	107	28	146	37	184			
	108	90	136	47	182			
	109	58	56	19	73			
						(120°)	165	215
						110	176	878
		[189]	[768]	[181]	[947]			[2263]
Aug. 8	106a	187	40	0	40	106	179	1435
	106b	180	349	38	387			
	106c	182	203	25	228			
	107	106	128	25	153			
	108	131	247	70	317	108	160	261
	109	97	41	14	55			
						(120°)	167	162
	110	187	438	80	517	110	180	2818
		[189]	[1446]	[252]	[1697]			[4676]
Aug. 10	107	163	136	40	176	107	159	643
	108	176	170	18	188	108	172	1124
	109	153	30	14	44	109	152	337
	110	154	401	103	502	110	165	1773
	111	187	826	80	900	111	186	775
		[189]	[1563]	[255]	[1810]			[4652]
Aug. 11	107	181	92	29	122	107	177	798
						108	180	981
	109	175	44	0	44	109	171	390
	110	123	441	95	535	110	140	715
	111	176	1075	168	1243	111	176	1068
		[189]	[1652]	[292]	[1944]			[3952]
Aug. 12						109	176	684
	110	90	374	101	475			
	111	160	947	135	1082	111	161	1093
						(90°)	168	575
		[190]	[1321]	[236]	[1557]			[2352]
Aug. 14						(300°)	173	297
	110	15	343	75	419			
1874. Aug. 14 *cont.*	111	107	991	154	1151			
						(90°)	170	414
		[190]	[1334]	[229]	[1570]			[711]
Aug. 15	110	40	385	76	463			
	111	90	786	124	912			
	112	160	90	10	96			
						(110°)	175	373
		[190]	[1261]	[210]	[1471]			[373]
Aug. 17	110	118	390	72	459			
	111	89	566	127	685			
		[190]	[956]	[199]	[1144]			
Aug. 19	110	173	382	8	390			
	111	133	408	83	491			
	113	84	20	0	20			
	114	114	17	0	17			
	115	172	224	44	268			
	116	182	77	0	77			
		[190]	[1128]	[135]	[1263]			
Aug. 20	110	187	347	0	347	110	171	848
	111	159	529	94	623	111	163	1763
	114	80	127	24	151			
	115	149	235	48	283	115	152	359
	116	163	33	0	33	116	172	803
		[190]	[1271]	[166]	[1437]			[3773]
Aug. 21						110	173	254
	111	177	248	57	305	111	178	1300
	114	56	102	19	121			
	115	123	211	48	261			
	116	137	53	24	77			
		[190]	[614]	[148]	[764]			[1554]
Aug. 22	111	188	79	0	79	111	187	1215
	114	65	82	0	82			
	115	98	226	46	272			
	116	103	26	19	45			
		[190]	[413]	[65]	[478]			[1215]
Aug. 24	114	118	80	0	80			
	115	74	199	52	253			
	117	179	44	0	44	117	175	865
		[189]	[323]	[52]	[377]			[865]
Aug. 25	114	140	22	0	22	114	171	359
	115	88	165	34	201			
	117	163	38	19	56	117	174	983
						(130°)	187	384
		[190]	[225]	[53]	[279]			[1726]

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Measures of Areas of Spots and Faculæ upon the Sun's Disk—*continued.*

Day.	Spots.					Faculæ.		
	No. of Group and Letter for Spot.	Distance from Centre, and [Radius of Sun].	Area of PENUMBRA for each Spot, [and for Day].	Area of UMBRA for each Spot, [and for Day].	Area of WHOLE for each Spot, [and for Day].	Group.	Distance from Centre.	Area for each Group, [and for Day].
1874. Aug. 26						114	168	1191
						(310°)	162	225
	115	114	184	46	229			
	117	139	40	17	57			
						(130°)	180	672
						(110°)	185	185
		[189]	[224]	[63]	[286]			[2273]
Aug. 27						114	185	1123
						(310°)	180	230
	115	142	173	44	217			
	117	102	24	0	24			
						(130°)	173	1208
						(110°)	181	418
		[190]	[197]	[44]	[241]			[2979]
Aug. 28	115	164	189	28	217	115	164	515
	117	68	26	3	29			
	118	51	9	0	9			
						(130°)	178	1588
						(110°)	171	424
		[190]	[224]	[31]	[255]			[2527]
Aug. 29	115	181	135	32	167	115	180	370
						(300°)	165	293
	117	26	20	8	28			
	118	55	76	4	80			
						(130°)	165	1012
						(110°)	148	98
		[190]	[231]	[44]	[275]			[1773]
Aug. 31	117	62	6	0	6			
	118	68	72	0	72			
		[190]	[78]	[0]	[78]			
Sept. 1	117	99	5	0	5			
	118	108	83	9	92			
						(130°)	183	831
		[190]	88	9	97			[831]
Sept. 2						117	171	684
	118	139	112	14	126			
						(130°)	173	1177
						(90°)	179	587
		[190]	[112]	[14]	[126]			[2448]
Sept. 4						117	180	589
	118	186	69	0	69	118	184	805
						(260°)	155	722
						(90°)	182	298
	119	184	308	46	357	119	185	154
		[190]	[377]	[46]	[426]			[2568]

Day.	Spots.					Faculæ.		
	No. of Group and Letter for Spot.	Distance from Centre, and [Radius of Sun].	Area of PENUMBRA for each Spot, [and for Day].	Area of UMBRA for each Spot, [and for Day].	Area of WHOLE for each Spot, [and for Day].	Group.	Distance from Centre.	Area for each Group, [and for Day].
1874. Sept. 5	118	189	261	56	317			
						(260°)	168	1328
	119	175	32	0	32	119	181	1930
		[190]	[293]	[56]	[349]			[3258]
Sept. 9	119	40	33	0	33			
	120	170	28	0	28	120	166	270
	121	113	45	6	51			
		[190]	[106]	[6]	[112]			(270)
Sept. 10	119	50	9	0	9			
	120	180	74	0	74	120	179	380
	121	135	77	7	84			
		[190]	[160]	[7]	[167]			[380]
Sept. 12	119	130	102	27	129			
						120	180	425
	121	178	356	33	389	121	180	1076
						(120°)	167	699
		[190]	[458]	[60]	[518]			[2200]
Sept. 14	119	183	85	28	113	119	165	1767
						(250°)	126	2405
						(120°)	145	307
						122	153	141
						(110°)	180	534
		[190]	[85]	[28]	[113]			[5154]
Sept. 15						119	162	317
	122	171	47	0	47			
						(110°)	180	1617
		[190]	[47]	[0]	[47]			[1934]
Sept. 19						(310°)	182	107
	122	80	15	0	15			
						(110°)	174	491
		[190]	[15]	[0]	[15]			[598]
Sept. 22						(320°)	171	273
						(270°)	171	152
	122	100	13	0	13			
	123	70	49	15	64			
	124	140	324	75	382	124	153	334
						(100°)	171	202
		[190]	[386]	[90]	[459]			[961]
Sept. 24						(320°)	170	242
						(270°)	169	209
	123	56	40	11	51			
	124	80	344	70	414			
						(100°)	170	72
						(130°)	175	371
		[190]	[384]	[81]	[465]			[894]

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Measures of Areas of Spots and Faculæ upon the Sun's Disk—*continued.*

Day.	Spots. No. of Group and Letter for Spot.	Spots. Distance from Centre, and [Radius of Sun].	Spots. Area of PENUMBRA for each Spot, [and for Day].	Spots. Area of UMBRA for each Spot, [and for Day].	Spots. Area of WHOLE for each Spot, [and for Day].	Faculæ. Group.	Faculæ. Distance from Centre.	Faculæ. Area for each Group, [and for Day].
1874. Sept. 25						(320°)	177	399
						(270°)	180	192
	123	85	32	11	42			
	124	55	337	76	415			
	125	186	67	0	67	125	186	408
		[190]	[436]	[87]	[524]			[999]
Sept. 26						(300°)	166	325
	123	121	24	8	32			
	124	59	311	68	379			
	125	170	36	15	54	125	174	545
		[190]	[371]	[91]	[465]			[870]
Sept. 28	123	170	18	0	18	123	171	276
	124	120	316	66	383			
	125	115	16	0	16			
	126	189	852	150	1002	126	186	1230
		[190]	[1202]	[216]	[1419]			[1506]
Sept. 29						123	173	951
	124	149	282	55	340	124	148	666
	125	77	15	0	15			
	126	177	1292	105	1398	126	180	2247
	127	153	48	10	58	127	153	459
						(100°)	183	619
		[190]	[1637]	[170]	[1811]			[4942]
Sept. 30	124	170	230	54	285			
	125	95	11	0	11			
	126	162	781	87	867			
	127	126	55	14	69			
		[191]	[1077]	[155]	[1232]			
Oct. 1	124	186	211	68	279	124	184	1691
	126	138	992	158	1151	126	146	1020
	127	93	28	9	37			
						(110°)	179	533
		[191]	[1231]	[235]	[1467]			[3244]
Oct. 3						(260°)	165	324
	126	83	1292	205	1499			
	127	61	25	1	26			
						129	174	242
						(90°)	177	730
		[191]	[1317]	[206]	[1525]			[1296]
Oct. 5						(260°)	172	351
						(300°)	160	336
	126	73	888	157	1044			
						(90°)	154	223
						(140°)	173	1489
		[191]	[888]	[157]	[1044]			[2399]

Day.	Spots. No. of Group and Letter for Spot.	Spots. Distance from Centre, and [Radius of Sun].	Spots. Area of PENUMBRA for each Spot, [and for Day].	Spots. Area of UMBRA for each Spot, [and for Day].	Spots. Area of WHOLE for each Spot, [and for Day].	Faculæ. Group.	Faculæ. Distance from Centre.	Faculæ. Area for each Group, [and for Day].
1874. Oct. 8	126	155	637	97	733	126	168	1702
	128	83	15	0	15			
		[191]	[652]	[97]	[748]			[1702]
Oct. 10	126	187	260	17	277	126	186	1976
	128	147	82	3	85			
	129	78	167	49	216			
		[191]	[509]	[69]	[578]			[1976]
Oct. 13	129	152	106	38	144			
		[192]	[106]	[38]	[144]			
Oct. 15	129	189	75	0	75	129	186	1187
	130	126	60	10	70			
	131	183	114	56	171	131	184	522
		[192]	[249]	[66]	[316]			[1709]
Oct. 19	130	44	26	0	26			
	131	62	102	20	122			
	132	141	113	21	134			
		[192]	[241]	[41]	[282]			
Oct. 20	130	75	39	13	52			
	131	22	69	11	80			
	132	111	57	22	79			
		[192]	[165]	[46]	[211]			
Oct. 22	130	144	14	0	14	130	160	677
	131	70	31	14	45			
	132	50	99	25	124			
	133	155	17	0	17	133	158	610
						(130°)	185	1040
		[192]	[161]	[39]	[200]			[2327]
Oct. 23						130	171	331
	131	110	26	0	26			
	132	50	64	25	89			
		[192]	[90]	[25]	[115]			[331]
Oct. 26		[192]	[0]	[0]	[0]			[0]
Oct. 27		[192]	[0]	[0]	[0]			[0]
Oct. 28						(320°)	184	323
						131	181	713
						(140°)	158	1488
						(100°)	179	1994
		[192]	[0]	[0]	[0]			[4518]
Oct. 29		[192]	[0]	[0]	[0]			[0]

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Measures of Areas of Spots and Faculæ upon the Sun's Disk—*concluded.*

Day.	Spots. No. of Group and Letter for Spot.	Spots. Distance from Centre, and [Radius of Sun].	Spots. Area of PENUMBRA for each Spot, [and for Day].	Spots. Area of UMBRA for each Spot, [and for Day].	Spots. Area of WHOLE for each Spot, [and for Day].	Faculæ. Group.	Faculæ. Distance from Centre.	Faculæ. Area for each Group, [and for Day].
1874. Nov. 3	134	124	363	82	446			
		[194]	[363]	[82]	[446]			
Nov. 4						(280°)	168	1428
	134	97	425	95	518			
		[193]	[425]	[95]	[518]			[1428]
Nov. 5						(280°)	169	806
	134	72	396	90	485			
		[193]	[396]	[90]	[485]			[806]
Nov. 6	134	69	394	63	458			
		[193]	[394]	[63]	[458]			
Nov. 7						(310°)	167	338
	134	84	462	94	557			
		[193]	[462]	[94]	[557]			[338]
Nov. 9	134	145	664	156	820			
		[193]	[664]	[156]	[820]			
Nov. 11	134	184	433	18	451			
		[193]	[433]	[18]	[451]			
Nov. 12	134	190	122	0	122	134	189	502
	135	186	87	0	87	135	183	2035
		[193]	[209]	[0]	[209]			[2537]
Nov. 13	135	166	140	29	170	135	171	783
		[195]	[140]	[29]	[170]			[783]
Nov. 16						(270°)	170	505
	135	70	242	48	287			
		[196]	[242]	[48]	[287]			[505]
Nov. 17	135	20	178	56	234			
		[193]	[178]	[56]	[234]			
Nov. 20	135	121	453	85	537	135	145	557
	136	187	77	29	105	136	187	481
	137	192	232	0	232			
		[193]	[762]	[114]	[874]			[1038]
1874. Nov. 23						(280°)	166	130
	135	192	270	13	282	135	186	1109
	136	103	76	18	95			
	137	145	242	38	273	137	162	619
						(130°)	178	813
		[193]	[588]	[69]	[650]			[2671]
Nov. 24	136	59	56	13	68			
	137	112	229	24	251			
		[193]	[285]	[37]	[319]			
Nov. 27	136	74	21	4	24			
	137	48	172	38	208			
						138	185	628
		[194]	[193]	[42]	[232]			[628]
Dec. 3		[193]	[0]	[0]	[0]			[0]
Dec. 4						137	187	510
		[193]	[0]	[0]	[0]			[510]
Dec. 7	138	36	96	14	110			
						140	185	178
		[193]	[96]	[14]	[110]			[178]
Dec. 11	138	167	35	0	35	138	169	462
	139	57	17	0	17			
	140	137	171	56	227	140	149	349
		[193]	[223]	[56]	[279]			[811]
Dec. 14	140	36	230	39	269			
		[194]	[230]	[39]	[269]			
Dec. 17	140	121	178	13	191			
						(80°)	177	127
		[193]	[178]	[13]	[191]			[127]
Dec. 18	140	148	119	0	119			
						(80°)	186	158
		[193]	[119]	[0]	[119]			[158]

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