

SOUTHERN NEBULÆ.

INTRODUCTION.

The following observations were made with the filar micrometer of the 26-inch equatorial. In general an eye-piece magnifying 175 times was employed. The value of one revolution of the screw was assumed to be 9".88, and was obtained by transits of equatorial stars. Differences of right ascensions were recorded on the chronograph, and differences of declination were obtained by means of the micrometer screw. The results thus obtained were corrected for differential refraction and reduced to 1890.0.

The observers were Messrs. Ormond Stone, F. P. Leavenworth, Frank Muller, and N. M. Parrish.

By comparing estimates of magnitudes made by the different observers equations of condition were obtained, of the form

$$x - ay + a^2z = c,$$

in which a is 13.0 minus the magnitude estimated by a given observer, and c is the correction to the magnitude thus estimated. These equations were solved by the method of least squares. The values of x , y , and z thus obtained are given in the following tables :—

Arg.		x	y	z	No. Comp.
S	L—S	+ 0.14	+ 0.011	— 0.040	22
	M—S	+ 0.69	— 0.156	— 0.043	45
	P—S	— 0.34	— 0.315	+ 0.069	23

Arg.		x	y	z	No. Comp.
L	S—L	+ 0.54	— 0.289	— 0.017	22
	M—L	+ 0.21	— 0.149	— 0.009	45
	P—L	+ 0.92	— 0.591	+ 0.076	7
M	S—M	+ 0.14	— 0.111	— 0.016	45
	L—M	+ 0.11	— 0.097	— 0.019	45
	P—M	+ 0.28	— 0.370	+ 0.012	30
P	S—P	+ 0.34	— 0.050	— 0.009	23
	L—P	— 0.16	— 0.423	+ 0.050	7
	M—P	+ 0.42	— 0.390	+ 0.022	30

Whence the reductions to the mean become

Arg.	x	y	z
S	+ 0.12	— 0.115	— 0.004
L	+ 0.42	— 0.257	+ 0.012
M	+ 0.13	— 0.144	— 0.006
P	+ 0.15	— 0.216	+ 0.016

The means of these results are

$$+ 0.20, \quad - 0.183, \quad + 0.004,$$

showing that the errors of estimation are only partially due to personal equation; since otherwise these means would vanish. The results obtained may easily be accounted for by assuming them to be principally due to atmospheric causes; nebulae would naturally be estimated brighter on clear than on hazy nights. The portions due to personal equation alone are as follows:

Arg.	x	y	z
S	— 0.08	+ 0.068	— 0.008
L	+ 0.22	— 0.074	+ 0.008
M	— 0.07	+ 0.039	— 0.010
P	— 0.05	— 0.033	+ 0.012

For convenience in application the reductions to the mean are repeated in the following table :—

Obs'd Mag.	S.	L.	M.	P.
9.0	+ 0.5	+ 1.6	+ 0.6	+ 1.2
10.0	+ 0.4	+ 1.4	+ 0.5	+ 0.9
11.0	+ 0.3	+ 1.0	+ 0.4	+ 0.6
12.0	+ 0.2	+ 0.7	+ 0.3	+ 0.4
13.0	0.0	+ 0.4	+ 0.1	+ 0.2
14.0	0.0	+ 0.2	0.0	0.0
15.0	— 0.1	— 0.1	— 0.2	— 0.2
16.0	— 0.3	— 0.3	— 0.4	— 0.4

In the following table the first column gives the brightness as designated in Herschel's General Catalogue ; the second gives the mean of the corresponding magnitudes estimated here by the different observers and corrected for personal error ; the third gives the number of comparisons :—

H. G. C.	L. M. Obs.	No. Comp.
vB	12.0	13
B	12.9	19
cB	13.0	9
pB	13.3	99
pF	13.8	70
cF	14.3	8
F	14.0	17
vF	14.5	7

If α be the right ascension of a given nebula ; a_1, a_2 , etc. the same as determined by each of the n different observers ; μ_1, μ_2 , etc. the corresponding estimates of magnitudes ; $x_1 + (16 - \mu_1)y_1$, etc. the correction for personal error, we have for each nebula equations of the form

$$\left. \begin{aligned} x_1 + (16 - \mu_1)y_1 + a_1 &= a \\ x_2 + (16 - \mu_2)y_2 + a_2 &= a \\ \dots &\dots \end{aligned} \right\} \quad (1)$$

These give

$$na = x + \dots + (16 - \mu_1)y_1 + \dots + a_1 + \dots;$$

whence equations (1) become

$$\begin{aligned} &\left[1 - \frac{1}{n}\right]x_1 - \frac{1}{n}x_2 - \dots - \frac{1}{n}x_n \\ &+ \left[1 - \frac{1}{n}\right](16 - \mu_1)y_1 - \frac{1}{n}(16 - \mu_2)y_2 - \dots - \frac{1}{n}(16 - \mu_n)y_n \\ &+ \left[1 - \frac{1}{n}\right]a_1 - \frac{1}{n}a_2 - \dots - \frac{1}{n}a_n = 0 \\ &-\frac{1}{n}x_1 + \left[1 - \frac{1}{n}\right]x_2 - \dots - \frac{1}{n}x_n - \frac{1}{n}(16 - \mu_1)y_1 \\ &+ \left[1 - \frac{1}{n}\right](16 - \mu_2)y_2 - \dots - \frac{1}{n}(16 - \mu_n)y_n \\ &-\frac{1}{n}a_1 + \left[1 - \frac{1}{n}\right]a_2 - \dots - \frac{1}{n}a_n = 0 \end{aligned}$$

Adding together the equations for the individual nebulae, the following normal equations were obtained:—

$$\left. \begin{aligned} 46.5x_s - 14.3x_l - 21.5x_m - 10.7x_p + 94.0y_s - 23.4y_l - 45.5y_m - 24.0y_p + 2^s.55 &= 0 \\ -14.3x_s + 45.3x_l - 28.2x_m - 2.8x_p - 28.7y_s + 91.1y_l - 64.9y_m - 6.6y_p - 0.28 &= 0 \\ -21.5x_s - 28.2x_l + 61.2x_m - 11.5x_p - 46.5y_s - 61.9y_l + 136.2y_m - 27.9y_p - 1.94 &= 0 \\ -10.7x_s - 2.8x_l - 11.5x_m + 25.0x_p - 18.8y_s - 5.8y_l - 25.8y_m + 58.5y_p - 0.33 &= 0 \\ 94.0x_s - 28.7x_l - 46.5x_m - 18.8x_p + 309.2y_s - 33.4y_l - 125.7y_m - 55.8y_p + 3.08 &= 0 \\ -23.4x_s + 91.1x_l - 61.9x_m - 5.8x_p - 33.4y_s + 281.9y_l - 137.7y_m - 12.1y_p + 0.70 &= 0 \\ -45.5x_s - 64.9x_l + 136.2x_m - 25.8x_p - 125.7y_s - 137.7y_l + 441.1y_m - 64.5y_p - 4.55 &= 0 \\ -24.0x_s - 6.6x_l - 27.9x_m + 58.5x_p - 55.8y_s - 12.1y_l - 64.5y_m + 172.9y_p - 0.34 &= 0 \end{aligned} \right\}$$

in which the subscripts are the initials of the different observers.

The first of equations (2) is equal to the sum of the succeeding three with opposite signs; hence a new condition may be chosen arbitrarily. Assuming, therefore,

$$x_s + x_l + x_m + x_p = 0$$

and solving, the following corrections for personal error to be applied to observations in right ascension were obtained :—

Obs.	Correction for R. A.
S	— 0 ^s .073 + 0 ^s .021 (16 — μ)
L	+ 0 .044 — 0 .013 (16 — μ)
M	+ 0 .016 + 0 .005 (16 — μ)
P	+ 0 .013 + 0 .001 (16 — μ)

in which μ is the observed magnitude of the nebula.

The following normal equations, obtained by comparing observations of declinations, were derived in exactly the same manner as were those obtained from observations of right ascensions.

$$\begin{aligned}
 &42.3x_s - 10.2x_l - 21.3x_m - 10.8x_p + 76.7y_s - 19.7y_l - 46.6y_m - 25.4y_p - 18''.61 = 0, \\
 &10.2x_s + 39.8x_l - 26.3x_m - 3.3x_p - 18.3y_s + 81.4y_l - 58.9y_m - 7.7y_p + 11.40 = 0, \\
 &21.3x_s - 26.3x_l + 58.2x_m - 10.5x_p - 41.7y_s - 55.8y_l + 128.4y_m - 24.4y_p - 6.81 = 0, \\
 &10.8x_s - 3.3x_l - 10.5x_m + 24.7x_p - 16.7y_s - 6.0y_l - 22.9y_m + 57.4y_p + 2.92 = 0, \\
 &76.7x_s - 18.3x_l - 41.7x_m - 16.7x_p + 256.4y_s - 26.7y_l - 116.4y_m - 51.7y_p - 39.11 = 0, \\
 &19.7x_s + 81.4x_l - 55.8x_m - 6.0x_p - 26.7y_s + 250.3y_l - 124.1y_m - 12.6y_p + 2.73 = 0, \\
 &46.6x_s - 58.9x_l + 128.4x_m - 22.9x_p - 116.4y_s - 124.1y_l + 406.4y_m - 53.5y_p + 15.61 = 0, \\
 &25.4x_s - 7.7x_l - 24.3x_m + 57.4x_p - 51.7y_s - 12.6y_l - 53.5y_m + 172.3y_p - 4.00 = 0.
 \end{aligned}$$

Assuming

$$x_s + x_l + x_m + x_p = 0,$$

as was done in the case of right ascension, and solving, the following corrections for personal error were obtained to be applied to observations in declination :—

Obs.	Cor. for Dec.
S	$+ 0''.53 + 0''.04 (16 - \mu)$
L	$- 0.44 + 0.24 (16 - \mu)$
M	$+ 0.30 - 0.05 (16 - \mu)$
P	$- 0.39 + 0.29 (16 - \mu)$

Corrections for personal equation have not been applied; and in view of the fact, that a new general catalogue of southern stars down to the 9th magnitude is now in process of construction under the auspices of the Astronomische Gesellschaft, I have deemed it best to reserve an investigation of the positions of the comparison stars used, until that catalogue is completed. The positions of the comparison stars designated C. C. O. were kindly observed at my request by Dr. H. C. Wilson of the Carleton College Observatory.

Number.	Name.	Observed $\Delta\alpha$.	No. Comp.	Observed $\Delta\delta$.	No. Comp.	Magni- tude.	Size.	Notes.
1	L. M. 1	m. . . s.	0	+2 28.2	2	. . .	. . .	
2	. . .	-0 9.92	15	+2 28.2	2	14.5	0.3	R, gbMN
3	. . .	-0 9.66	18	+2 29.0	3	13.	0.2	dif
4	. . .	. . .	0	+4 27.9	2	. . .	. . .	
5	L. M. 4	+2 29.80	16	+2 37.5	2	. . .	. . .	
6	G. C. 74	-0 5.98	6	. . .	. . .	. . .	. . .	
7	. . .	-1 17.85	9	+0 0.1	2	13.	0.6	gbMN
8	. . .	-1 17.99	9	+0 1.4	2	13.5	0.3	iR; surrounded by a F. R. neb- ulosity, 0'.7.
9	. . .	-1 18.36	3	. . .	. . .	. . .	. . .	
10	G. C. 107	+0 31.20	10	+0 42.1	4	12.	0.8 x 0.2	E o°, vsbMN
11	L. M. 12	+0 36.05	10	+3 39.7	2	14.	0.2	dif
12	G. C. 153	+1 19.40	9	-2 25.4	4	14.0	0.8	1E 40°, sbMN
13	G. C. 154	-0 5.38	15	+0 35.1	4	14.5	0.3 x 0.5	E o°, gbM, night poor
14	. . .	-0 5.51	21	+0 33.9	2	12.0	0.3	psbM
15	G. C. 156	-0 52.53	9	+3 59.9	4	. . .	. . .	
16	G. C. 5121	+1 53.08	3	+3 5.6	2	13.5	0.3	iR, gbM
17	. . .	+0 6.87	12	. . .	0	. . .	. . .	
18	. . .	-0 47.34	5	-1 43.8	2	. . .	. . .	
19	Nova	+2 7.70	16	-2 37.2	2	12.0	0.2	sbMN
20	G. C. 5178	-2 27.86	8	+0 6.5	2	14.8	0.1	
21	. . .	-3 27.75	8	. . .	0	. . .	. . .	
22	G. C. 322	-2 13.10	8	. . .	0	13.5	0.1	
23	. . .	-3 13.03	8	+0 52.0	2	. . .	. . .	
24	G. C. 323	-2 11.59	8	. . .	0	13.5	0.1	
25	. . .	-3 11.53	8	-1 14.4	2	. . .	. . .	
26	N.G.C. 565	-1 1.90	8	+1 19.6	2	14.8	0.2	
27	G. C. 342	+2 14.96	6	-1 3.4	2	. . .	. . .	
28	. . .	+2 14.80	8	-1 6.2	2	. . .	. . .	
29	. . .	+2 14.62	12	-1 3.9	3	11.5	0.7	mbM
30	. . .	+1 1.50	8	-1 17.1	2	. . .	. . .	

Number.	Observer.	1890.0		Epoch 1800+	Comp. Star.	1890.0	
		$\Delta\alpha$	$\Delta\delta$			α	δ
1	S	m. s. . . .	+2' 28.0"	88.828	DM. 32	h. m. s. 0 10 0.0	° ' " -22 5.4 "
2	M	-0 9.92	+2 28.4	87.782	. . .	. . .	. . .
3	P	-0 9.66	+2 29.3	90.773	. . .	. . .	. . .
4	M	. . .	+4 28.3	87.782	Anon.	. . .	-22 7
5	P	+2 29.79	+2 37.6	90.850	C. C. O. 5	0 16 37.52	- 5 48 7.0
6	S	. . .	. . .	87.932	Anon.	0 28 35	. . .
7	S	-1 17.83	+0 0.1	87.932	C. C. O. 7	0 29 46.60	-10 18 48.0
8	M	-1 17.99	+0 1.4	87.724	. . .	. . .	. . .
9	S	. . .	. . .	87.932	Anon.	0 29 47	. . .
10	L	+0 31.20	+0 42.1	87.650	C. C. O. 11	0 34 31.96	-14 29 19.4
11	P	-0 36.05	+3 39.8	87.973	DM. 90	0 39 36.0	- 4 26.4
12	M	+1 19.39	-2 25.5	87.861	DM. 160	0 43 40.8	- 9 13.1
13	M	-0 5.38	+0 35.1	87.949	C. C. O. 17	0 45 10.52	- 2 31 8.4
14	P	-0 5.51	+0 33.9	87.968	. . .	. . .	. . .
15	M	-0 52.53	+3 59.9	87.688	C. C. O. 19	0 46 20.64	- 7 43 24.0
16	S	+1 53.06	+3 5.8	87.929	DM. 171	0 46 6.9	- 9 25.0
17	S	+0 6.87	. . .	87.929	C. C. O. 20	0 47 50.49	- 9 23 31.4
18	S	-0 47.33	-1 43.8	87.929	C. C. O. 21	0 48 44.66	- 9 20 10.6
19	P	+2 7.71	-2 37.3	89.007	C. C. O. 32	1 8 51.53	- 8 30 52.1
20	P	-2 27.86	+0 8.0	89.738	C. C. O. 39	1 22 35.64	- 1 57 14.5
21	P	-3 27.75	. . .	89.738	C. C. O. 43	1 23 35.98	- 1 53 54.2
22	P	-2 13.10	. . .	89.738	C. C. O. 39	1 22 35.64	- 1 57 14.5
23	P	-3 13.03	+0 52.1	89.738	C. C. O. 43	1 23 35.98	- 1 53 54.2
24	P	-2 11.59	. . .	89.738	C. C. O. 39	1 22 35.64	- 1 57 14.5
25	P	-3 11.53	-1 14.3	89.738	C. C. O. 43	1 23 35.98	- 1 53 54.2
26	P	-1 1.90	+1 19.6	89.738	C. C. O. 43	1 23 35.98	- 1 53 54.2
27	L	+2 14.95	-1 3.6	86.924	C. C. O. 42	1 23 35.33	- 7 25 2.1
28	L	+2 14.78	-1 6.3	87.004	. . .	. . .	. . .
29	P	+2 14.60	-1 4.0	88.989	. . .	. . .	. . .
30	L	+1 1.49	-1 17.2	87.004	DM. 245	1 24 48.8	- 7 25.0

Number.	Name.	Observed $\Delta\alpha$.		No. Comp.	Observed $\Delta\delta$		No. Comp.	Magni- tude.	Size.	Notes.
31	G. C. 346	^{m.} +2	^{s.} 31.00	12	' -0	" 11.7	2	15.0	0.3	glbM
32	G. C. 351	-0	49.52	6	...	...	0	...	...	
33	...	-0	49.44	9	-0	35.5	2	12.	0.2	RR, bMN
34	G. C. 353	-0	10.48	6	...	...	0	...	...	
35	...	-0	43.86	7	...	...	0	...	...	
36	...	-0	48.66	9	+1	13.5	2	13.	0.2	gbMN
37	...	-0	48.71	9	+1	14.1	4	14.5	0.2	R, sbMN
38	L. M. 311	-0	13.12	2	...	...	...	...	...	
39	G. C. 363	...	...	0	+2	5.3	2	12.0	0.1 x 1.0	gbsbMN
40	...	+0	20.02	12	+2	6.5	4	12.0	0.5 x 0.2	E 160°, gbsbMN
41	...	+0	37.50	9	+1	50.5	2	...	...	Envelope E 80°, vF, B stell N
42	...	-0	55.19	9	...	...	0	...	...	
43	...	-0	55.12	12	-3	53.3	3	13.	0.2	mbM
44	...	-1	44.46	9	-0	59.7	2	12.0	0.4	R, gbMN
45	...	-1	44.41	12	-0	58.2	2	...	...	
46	L. M. 10	-3	20.62	3	-1	9.5	2	14.	0.1	bMN
47	...	-3	37.63	3	...	...	...	...	...	
48	...	...	...	0	-2	39.5	5	B	vS	svmbMN i
49	G. C. 404	-0	33.07	20	-3	16.3	4	13.	0.6	glbMN
50	G. C. 431	+2	56.64	12	-1	49.9	3	11.	0.5	R, smbM
51	...	+1	33.89	12	-4	44.5	1	...	...	
52	...	+0	19.94	15	-0	18.5	2	...	...	Dif
53	G. C. 435	+3	26.46	12	+1	38.3	2	13.5	0.4	R, no conden- sation
54	L. M. 42	+1	20.97	16	+1	33.4	2	F	vS	bMN
55	Nova	+0	55.24	6	-0	11.1	2	15.0	0.2	
56	...	+0	55.27	9	...	...	0	...	...	
57	...	+0	55.25	20	-0	16.6	2	14.8	0.3	lbMN
58	...	+0	20.11	3	...	...	0	...	...	
59	...	-0	36.55	3	...	...	0	...	...	
60	A. N. 2347, 7	...	...	0	-1	3.8	2	14.0	0.8	R, glbM

Number.	Observer.	1890.0		Epoch 1800+	Comp. Star.	1890.0	
		$\Delta\alpha$	$\Delta\delta$			α	δ
31	P	^{m.} +2 30.98	['] -0 11.8	88.989	C. C. O. 42	^{h. m. s.} 1 23 35.33	^{° ' "} - 7 25 2.1
32	L	-0 49.52	. . .	87.661	C. C. O. 49	1 28 10.73	- 7 35 15.0
33	M	-0 49.44	-0 35.4	87.782	. . .	. . .	. . .
34	S	-0 10.48	. . .	87.932	Anon.	1 27 50	. . .
35	S	-0 43.85	. . .	87.932	Anon.	1 28 24	. . .
36	S	-0 48.65	+1 13.5	87.932	C. C. O. 51	1 28 28.44	-12 47 41.2
37	M	-0 48.70	+1 14.4	87.724	. . .	. . .	. . .
38	M	-0 13.12	. . .	87.724	C. C. O. 51	. . .	. . .
39	S	. . .	+2 5.3	87.938	C. C. O. 52	1 29 15.67	- 7 54 14.7
40	L	+0 20.02	+2 6.6	87.661	. . .	. . .	. . .
41	M	+0 37.50	+1 50.6	87.847	Anon.	1 28 58	- 7 54
42	M	-0 55.19	. . .	87.866	C. C. O. 55	1 34 31.92	- 8 0 25.1
43	P	-0 55.12	-3 53.4	87.927	. . .	. . .	. . .
44	M	-1 44.46	-0 59.6	87.866	C. C. O. 56	1 35 21.46	- 8 3 19.6
45	P	-1 44.40	-0 58.1	88.926	. . .	. . .	. . .
46	S	-3 20.61	-1 9.3	88.836	DM. 297	1 38 31	-19 15.4
47	S	-3 37.62	. . .	88.836	Anon.	1 38 21	. . .
48	P	. . .	. . .	88.837	W. Arg S. 813	1 33 25.37	-19 15 25.2
49	P	-0 33.07	-3 16.4	88.899	C. C. O. 60	1 44 18.04	-10 55 13.2
50	P	+2 56.62	-1 50.0	89.004	C. C. O. 62	1 44 42.87	-14 15 2.4
51	P	+1 33.91	-4 44.7	89.004	Rümker 941	1 46 5.70	-14 12 9.6
52	M	+0 19.94	-0 18.5	87.847	Anon.	1 47 20	-14 17
53	P	+3 26.43	+1 38.1	88.973	C. Z. 1151	1 45 11.31	-24 19 1.9
54	P	+1 20.97	+1 33.3	88.773	Anon.	. . .	. . .
55	S	+0 55.24	-0 11.2	87.787	C. C. O. 72	1 53 27.13	- 7 22 18.0
56	M	+0 55.27	. . .	87.782	. . .	. . .	. . .
57	P	+0 55.25	-0 16.6	89.754	. . .	. . .	. . .
58	S	+0 20.11	. . .	87.787	Anon.	1 54 2	. . .
59	S	-0 36.53	. . .	87.787	DM. 341	1 54 59.5	- 7 25.9
60	M	. . .	-1 4.0	87.949	C. C. O. 73	1 53 38.12	- 9 31 1.8

Number.	Name.	Observed $\Delta\alpha$.	No. Comp.	Observed $\Delta\delta$.	No. Comp.	Magni- tude.	Size.	Notes.
61	A.N. 2347, 7	^{m.} +1 44.39	16	['] -1 3.0	3	13.5	0.3	R, sbMN
62	...	-0 12.82	...	+2 32.8	3	...	...	
63	G. C. 474	+2 10.52	6	...	0	12.5	0.4	gbMN
64	...	+2 10.55	9	+1 21.5	2	12.5	0.3	R, gbMN
65	...	+1 35.40	3	...	0	...	...	
66	...	+0 38.75	3	...	0	...	...	
67	Nova	+0 52.91	9	+1 38.6	2	15.0	0.3	R, sbM
68	G. C. 520	+0 0.86	15	+3 22.2	3	14.	0.8	R, gbMN
69	G. C. 534	+1 45.84	9	+0 20.2	2	13.	0.4	gbM, dif
70	...	+1 46.16	9	+0 21.5	2	14.8	1.0	R, dif
71	Nova	+1 53.98	2	...	0	15.0	0.4	iR, sbM stell
72	G. C. 544	-4 30.89	8	+1 50.2	2	...	...	N?
73	...	...	0	+1 50.2	2	12.	vL	R, mbMN
74	G. C. 548	+2 3.81	16	+2 51.0	2	13.	0.5	lbM
75	G. C. 551	-2 39.33	6	-0 18.8	2	13.5	1.5 x 0.4	E 15°, vgpsmbM
76	...	-2 58.11	6	...	0	...	...	
77	L. M. 341	-1 4.70	9	-0 11.5	2	16.	0.3	
78	G. C. 574	+2 46.62	8	+0 18.4	2	...	...	
79	...	+0 57.46	12	-2 30.2	2	14.	0.7	gbM stell N
80	...	+0 57.70	7	-2 28.4	1	eF	...	
81	...	+0 49.42	6	-1 10.6	1	...	...	
82	G. C. 589	+1 45.21	12	-0 13.4	2	11.	0.8	bMN
83	...	+1 45.19	16	-0 14.4	2	11.	0.7	bMN
84	...	-2 15.04	4	...	0	...	...	
85	...	-5 5.55	4	...	0	...	...	
86	Sw. 439	+3 40.66	4	...	0	...	...	
87	...	-0 19.60	16	-0 25.2	2	15.	0.2	gbM
88	...	-3 10.22	4	...	0	...	...	
89	G. C. 600	-0 5.26	13	+0 34.0	4	9.0	2.	E 45°, svmbM
90	...	-0 18.69	13	+0 1.5	4	...	...	

Number.	Observer.	1890.0		Epoch 1800+	Comp. Star.	1890.0	
		$\Delta\alpha$	$\Delta\delta$			α	δ
61	P	^{m.} +1 44.40	['] ["] -1 2.9	89.724	C. C. O. 73	^{h.} ^{m.} ^{s.} 1 53 38.12	[°] ['] ["] - 9 31 1.8
62	M	-0 12.82	+2 33.0	87.949	C. C. O. 75	1 55 35.35	- 9 34 42.0
63	S	+2 10.52	. . .	87.787	C. C. O. 72	1 53 27.13	- 7 22 18.0
64	M	+2 10.55	+1 21.4	87.782	. . .	. . .	. . .
65	S	+1 35.40	. . .	87.787	Anon.	1 54 2	. . .
66	S	+0 38.75	. . .	87.787	DM. 341	1 54 59.5	- 7 25.9
67	M	+0 52.91	+1 38.6	87.878	C. C. O. 82	2 12 18.54	- 7 26 18.6
68	M	+0 0.86	+3 22.2	87.878	C. C. O. 84	2 13 38.54	- 7 21 16.6
69	S	+1 45.82	+0 20.0	87.938	C. C. O. 86	2 15 1.80	-21 19 57.8
70	M	+1 46.15	+0 21.1	87.880	. . .	. . .	. . .
71	M	+1 53.97	. . .	87.880	C. C. O. 86	2 15 1.80	-21 19 57.8
72	S	-4 30.86	+1 50.4	88.995	C. C. O. 92	2 26 32.48	- 1 40 52.1
73	P	. . .	+1 50.6	88.828	. . .	. . .	. . .
74	P	+2 3.80	+2 51.0	90.732	C. C. O. 89	2 21 22.08	-19 35 4.8
75	M	-2 39.33	-0 18.5	87.866	C. C. O. 95	2 27 37.06	- 1 35 36.3
76	M	-2 58.10	. . .	87.866	C. C. O. 96	2 27 55 28	- 1 36 30.6
77	M	-1 4.69	-0 11.4	87.932	C. C. O. 100	2 30 19.09	- 9 16 3.5
78	L	+2 46.60	+0 18.9	87.004	Bonn VI, p. 328	2 30 19.86	- 7 9 37.6
79	S	+0 57.46	-2 30.3	87.982	C. C. O. 101	2 32 8.80	- 7 6 35.1
80	L	+0 57.69	-2 28.5	87.004	. . .	. . .	. . .
81	L	+0 49.41	-1 10.7	87.004	DM. 460	2 32 17.4	- 7 8.2
82	S	+1 45.20	-0 13.5	88.932	C. C. O. 103	2 33 55.64	- 8 43 27.4
83	P	+1 45.16	-0 14.5	89.007	. . .	. . .	. . .
84	S	-2 15.03	. . .	88.932	C. C. O. 111	2 37 55.92	- 8 44 59.2
85	S	-5 5.53	. . .	88.932	Anon.	2 40 46	. . .
86	S	+3 40.65	. . .	88.932	C. C. O. 103	2 33 55.64	- 8 43 27.4
87	S	-0 19.60	-0 25.2	88.932	C. C. O. 111	2 37 55.92	- 8 44 59.2
88	S	-3 10.21	. . .	88.932	Anon.	2 40 46	. . .
89	L	-0 5.26	+0 34.0	87.661	C. C. O. 110	2 37 8.66	- 0 29 33.6
90	L	-0 18.69	+0 1.5	87.661	Anon.	2 37 22	- 0 29

Number.	Name.	Observed $\Delta\alpha$.	No. Comp.	Observed $\Delta\delta$.	No. Comp.	Magni- tude.	Size.	Notes.
91	G. C. 603	^{m.} +6 ^{s.} 41.47	8	—0' 3.9"	2	12.5	0.5	lbM
92	...	+1 44.07	12	...	0	...	...	
93	...	+1 28.10	9	—0 37.3	2	12.	0.5	gbM
94	...	+1 10.75	12	...	...	...	...	
95	L. M. 67	...	...	—3 24.8	2	13.5	0.2	sbMN
96	...	—0 8.58	10	—3 26.8	4	14.5	0.2	R, sbMN
97	...	—0 8.46	6	—3 25.1	2	14.0	0.4	R, gsbMN
98	...	—2 15.07	3	...	0	...	...	
99	L. M. 68	+0 20.23	4	...	0	14.5	0.5 x 0.4	E 10°, dif
100	...	+0 18.95	15	+4 23.5	4	15.0	0.3	iR
101	...	...	0	—4 54.9	2	14.5	0.4	
102	...	—1 51.00	9	—4 51.6	2	...	...	
103	L. M. 69	+0 38.48	6	+5 35.9	2	14.5	0.7 x 0.4	E 20°, dif
104	...	+0 37.51	15	+5 35.1	4	15.0	0.3 x 0.2	
105	...	—1 32.86	11	—3 39.5	2	...	...	
106	G. C. 611	—2 17.68	6	+3 25.3	2	14.0	1.5 x 1.0	E 0°, dif
107	G. C. 640	+0 13.69	14	—3 30.2	2	...	1.3	Cl
108	G. C. 636	—0 7.63	14	—0 36.5	2	...	0.3	R, sbMN
109	G. C. 643	+0 26.98	6	...	0	...	...	
110	...	—3 13.18	6	—0 11.7	2	...	...	
111	A. N. 2390, 8	+3 8.44	12	+1 50.3	2	13.3	0.4	sbMN
112	...	—1 18.87	16	+0 50.8	2	...	...	
113	G. C. 648	+1 57.86	6	...	...	...	...	
114	...	—0 49.05	6	+0 13.0	2	...	...	
115	A. N. 2661, 23	+3 13.60	6	+1 24.0	2	13.5	0.3	bMN
116	...	+0 53.55	6	...	0	...	...	
117	...	+0 10.26	12	...	0	...	...	
118	...	+1 35.13	6	...	0	...	...	
119	...	+1 35.31	9	+1 51.0	2	14.	0.3	R, sbMN
120	G. C. 651	—0 30.78	16	—1 32.5	5	14.	1.	sbMN

Number.	Observer.	1890.0		Epoch 1800+	Comp. Star.	1890.0	
		Δa	$\Delta \delta$			a	δ
91	P	^{m.} +6 41.42	^{s.} -0 4.6	88.927	C. Cat. 2771	^{h.} ^{m.} ^{s.} 2 32 17.98	[°] ['] ^{''} -29 28 15.7
92	S	+1 44.07	...	88.836	Anon.	2 37 15	...
93	S	+1 28.09	-0 37.6	88.836	Anon.	2 37 31	-29 29
94	S	+1 10.74	...	88.836	O. Arg. S. 1768	2 37 47.65	-29 25 57.6
95	S	...	-3 25.0	88.009	C. C. O. 115	2 39 55.16	-18 2 38.8
96	M	-0 8.58	-3 26.8	87.719	...	...	...
97	M	-0 8.46	-3 25.3	87.793	...	...	...
98	M	-2 15.06	...	87.793	C. C. O. 117	2 42 2.16	-18 5 28.9
99	M	+0 20.23	...	87.793	C. C. O. 114	2 39 51.15	-18 14 48.4
100	M	+0 18.95	+4 23.6	87.719	...	...	...
101	S	...	-4 55.2	88.007	C. C. O. 117	2 42 2.16	-18 5 28.9
102	M	-1 51.00	-4 51.8	87.793	...	...	...
103	M	+0 38.48	+5 36.1	87.793	C. C. O. 114	2 39 51.15	-18 14 48.4
104	M	+0 37.51	+5 35.4	87.719	...	...	...
105	M	-1 32.86	-3 39.5	87.793	C. C. O. 117	2 42 2.16	-18 5 28.9
106	M	+2 17.68	+3 25.7	87.724	C. C. O. 121	2 46 18.28	-17 30 32.4
107	P	-0 13.69	-3 30.3	89.001	C. C. O. 131	2 57 30.30	-23 14 30.4
108	M	-0 7.63	-0 36.5	87.784	C. C. O. 129	2 56 33.58	-15 15 40.2
109	S	-0 26.98	...	87.938	C. C. O. 133	2 58 57.47	-16 4 54.7
110	S	-3 13.86	-0 12.2	87.938	C. C. O. 136	3 1 44.50	-16 2 28.0
111	P	+3 8.43	+1 50.1	89.059	Anon.	2 58 8	-1 15
112	P	-1 18.86	+0 50.9	89.059	C. C. O. 138	3 2 35.31	-1 14 2.9
113	S	+1 57.85	...	87.938	C. C. O. 133	2 58 57.47	-16 4 54.7
114	S	-0 49.05	+0 13.1	87.938	C. C. O. 136	3 1 44.50	-16 2 28.0
115	S	+3 13.60	-1 24.2	87.787	DM. 493	3 0 11.3	-3 21.3
116	S	...	...	87.787	Anon.	3 2 31	...
117	S	...	...	87.787	Anon.	3 3 15	...
118	S	+1 35.13	...	87.787	C. C. O. 137	3 3 25.12	-3 22 36.3
119	M	+1 35.31	+1 50.9	87.782	...	...	...
120	P	-0 30.77	-1 32.2	88.990	O. Arg. S. 2078	3 5 18.45	-20 58 22.4

Number.	Name.	Observed $\Delta\alpha$.		No. Comp.	Observed $\Delta\delta$.		No. Comp.	Magni- tude.	Size.	Notes.
121	G. C. 651	m. -2	s. 30.45	12	' +2	" 7.2	2	...	...	gbM
122	G. C. 696	-4	40.41	6	+0	43.2	2	14.5	0.3	
123	...	-4	40.15	8	+0	42.2	1	13.5	0.2	
124	...	-6	11.54	3	-1	3.9	2	...	...	
125	G. C. 697	-1	17.90	12	-2	28.5	1	...	...	
126	G. C. 708	-1	18.09	6	+2	19.2	2	13.0	0.3	lbM
127	...	-1	18.11	6	...	...	0	...	...	
128	...	-2	49.20	6	+0	32.0	2	...	...	
129	...	-2	49.18	6	+0	34.0	2	14.	0.1	
130	...	-3	10.89	6	...	...	0	...	...	
131	G. C. 709	-1	29.31	6	+3	31.2	2	12.0	2.5 x 0.3	E 115°, svmbMN
132	...	-1	29.28	12	...	...	0	...	...	
133	...	-3	0.44	6	+1	44.1	2	...	...	
134	...	-3	0.36	12	+1	46.1	2	11.	1.8	
135	...	-3	22.10	12	...	...	0	...	...	
136	G. C. 726	+0	15.92	15	-0	51.6	2	14.	...	bMN R, vgsmbMN
137	...	+0	15.86	18	...	...	0	14.0	0.5	
138	G. C. 734	-0	16.03	9	-2	16.4	2	...	...	R, mbMN
139	...	-1	28.78	9	+1	24.5	2	...	...	
140	...	-1	28.96	16	+1	25.1	2	...	0.3	
141	G. C. 742	...	...	0	-0	50.4	1	...	...	
142	...	-5	45.40	3	-0	49.8	2	14.	0.2	
143	...	...	...	0	+0	40.7	1	13.5	...	R, gbM
144	Nova	-2	48.78	8	+0	31.9	2	15.5	0.1	
145	L. M. 373	-4	31.31	3	...	...	0	14.8	0.3	StellN R, gbM
146	...	...	...	0	+2	14.0	2	...	...	
147	G. C. 745	-2	16.18	6	-2	14.2	2	14.0	0.5	R, vgsmbM E 0°, sbMN
148	L. M. 374	-4	17.56	3	...	...	0	14.5	0.3 x 0.2	
149	...	...	...	...	+2	11.5	2	...	...	
150	...	...	...	...	-0	50.4	2	14.5	...	

Number.	Observer.	1890.0		Epoch 1800+	Comp. Star.	1890.0	
		$\Delta\alpha$	$\Delta\delta$			α	δ
121	P	m. s. -2 30.44	' '' +2 7.2	88.990	O. Arg. S. 2108	h. m. s. 3 7 18.32	° ' '' -21 2 3.2
122	S	-4 40.37	+0 43.9	88.029	C. C. O. 157	3 22 54.06	-21 46 48.6
123	P	-4 40.16	+0 42.2	90.806	...	...	...
124	S	-6 11.50	-1 3.1	88.029	Bonn VI, p. 338	3 24 24.73	-21 45 1.3
125	L	-1 17.92	-2 28.6	87.119	C. C. O. 154	3 19 48.16	-37 33 29.6
126	S	-1 18.07	+2 19.1	88.029	C. C. O. 157	3 22 54.06	-21 46 48.6
127	P	-1 18.11	...	90.804	...	...	...
128	S	-2 49.17	+0 32.3	88.029	Bonn VI, p. 338	3 24 24.73	-21 45 1.3
129	P	-2 49.19	+0 34.0	90.806	...	...	...
130	P	-3 10.90	...	90.806	O. Arg. S. 2308	3 24 46.16	-21 47 58.2
131	S	-1 29.29	+3 31.4	88.029	C. C. O. 157	3 22 54.06	-21 46 48.6
132	P	-1 29.28	...	90.806	...	...	...
133	S	-3 0.41	+1 44.6	88.029	Bonn VI, p. 338	3 24 24.73	-21 45 1.3
134	P	-3 0.37	+1 46.2	90.806	...	...	...
135	P	-3 22.11	...	90.806	O. Arg. S. 2308	3 24 46.16	-21 47 58.2
136	S	+0 15.92	-0 51.6	88.029	C. C. O. 160	3 27 52.04	-14 1 19.8
137	M	+0 15.86	...	87.724	...	...	...
138	S	-0 16.03	-2 16.4	88.836	O. Arg. S. 2379	3 30 34.34	-25 15 40.6
139	S	-1 28.78	+1 24.6	88.836	O. Arg. S. 2393	3 31 47.50	-25 19 17.1
140	P	-1 28.95	+1 25.2	88.982	...	...	...
141	S	...	-0 50.3	87.806	C. C. O. 180	3 38 26.47	-18 41 13.1
142	M	-5 45.40	-0 48.8	87.784	...	...	...
143	S	...	...	87.806	Anon.	...	-18 43
144	S	-2 48.79	+0 32.1	87.724	C. C. O. 175	3 35 57.29	-18 45 2.2
145	M	-4 31.25	...	87.784	C. C. O. 180	3 38 26.47	-18 41 13.1
146	M	...	+2 14.2	87.806	C. C. O. 175	3 35 57.29	-18 45 2.2
147	M	-2 16.18	-2 14.0	87.784	C. C. O. 175	3 35 57.29	-18 45 2.2
148	M	-4 17.50	...	87.784	C. C. O. 180	3 38 26.47	-18 41 13.1
149	M	...	+2 11.7	87.804	...	...	...
150	S	...	...	87.806	Anon.	...	-18 40

Number.	Name.	Observed $\Delta\alpha$.		No. Comp.	Observed $\Delta\delta$.		No. Comp.	Magni- tude.	Size.	Notes.
151	Nova	^{m.} +0	^{s.} 29.80	12	['] +1	["] 33.1	4	14.	0.1	
152	G. C. 743	+1	29.42	16	+1	0.5	4	13.	1.3	lbN
153	...	-2	51.07	16	+0	47.2	4	...	...	
154	G. C. 746	+0	6.49	10	...	...	0	14.5	1.5 x 1.0	E 130°, dif
155	...	...	...	0	+4	40.8	3	...	...	
156	G. C. 756	-3	43.44	6	...	...	0	14.5	0.8	R, gbM
157	G. C. 747	+1	1.97	4	+3	39.2	1	...	...	
158	...	-3	13.94	4	+0	56.8	1	...	...	
159	...	-3	14.28	3	...	...	0	...	...	
160	Nova	-0	48.01	6	-2	55.9	2	15.0	0.3	1E 90°, dif.
161	G. C. 752	+3	59.86	4	-1	25.3	1	...	...	
162	...	-2	33.32	3	...	...	0	...	...	
163	Nova	-2	0.72	6	-0	43.7	1	15.2	1.0	R, dif
164	G. C. 758	-1	32.88	6	-2	30.9	2	13.0	1.5 x 0.5	E 185°, gvsvmbM
165	G. C. 759	+0	35.88	12	+2	32.1	5	14.0	1.2 x 0.7	E 150°, sbMstellN
166	G. C. 760	-1	14.72	6	-4	4.0	1	14.0	1.2 x 0.4	E 190°, dif
167	G. C. 763	-0	16.74	6	-3	54.6	1	14.8	1.6 x 0.5	E 180°, dif
168	Nova	...	...	0	+1	7.7	2	15.5	...	
169	...	-2	15.24	3	...	...	0	15.	0.2	iR, gbM
170	...	-2	14.66	3	+1	6.2	2	...	...	
171	Nova	-1	38.95	3	+4	3.2	2	15.5	1.0 x 0.8	E 80°, dif
172	G. C. 765	+1	32.55	9	+1	48.8	4	14.0	0.4	R, vgsmbMN
173	...	+1	32.53	16	+1	50.5	3	12.5	0.4	bMN
174	G. C. 778	+2	16.05	9	+0	12.8	2	12.5	0.3	R, gbMN
175	...	+2	9.34	16	+1	34.1	3	12.	0.3	bMN
176	...	-0	17.39	9	...	...	0	...	...	
177	...	-0	17.57	16	-3	11.2	2	...	...	
178	G. C. 781	-0	9.99	7	-2	28.9	2	...	...	
179	L. M. 122	...	...	0	-3	37.5	2	13.5	0.3	R, neb*
180	G. C. 815	-0	2.58	8	+4	37.5	4	12.5	0.3	R, mbMN

SOUTHERN NEBULÆ.

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Number.	Observer.	1890.0		Epoch 1800+	Comp. Star.	1890.0	
		$\Delta\alpha$	$\Delta\delta$			α	δ
151	S	^{m.} +0 29.80	['] +1 33.2	89.724	C. C. O. 175	^{h. m. s.} 3 35 57.29	^{° ' "} -18 45 2 2
152	P	+1 29.42	+1 0.6	89.007	C. C. O. 169	3 31 15.17	-24 52 52.4
153	P	-2 51.05	+0 47.2	89.007	C. C. O. 174 ⁵⁴	3 35 35.78	-24 52 35.5
154	M	+0 6.49	. . .	87.877	DM. 623	3 33 36.4	-23 19.2
155	M	. . .	+4 40.8	87.877	C. C. O. 172	3 33 42.01	-23 26 47.4
156	M	-3 43.39	. . .	87.938	DM. 727	3 38 4.1	-5 1.1
157	L	+1 1.96	+3 40.1	87.007	C. C. O. 171	3 33 32.13	-19 6 23.8
158	L	-3 13.92	+0 57.6	87.007	C. C. O. 178	3 37 47.92	-19 3 45.7
159	L	-3 14.24	. . .	87.007	. . .	. . .	. . .
160	M	-0 48.01	-2 56.0	87.784	C. C. O. 175	3 35 57.29	-18 45 2.2
161	L	+3 59.83	-1 26.3	87.004	C. C. O. 168	3 31 14.72	-18 54 46.3
162	L	-2 33.29	. . .	87.004	C. C. O. 178	3 37 47.92	-19 3 45.7
163	M	-2 0.71	-0 44.0	87.938	DM. 727	3 38 4.1	-5 1.1
164	M	-1 32.88	-2 30.7	87.938	DM. 727	3 38 4.1	-5 1.1
165	M	+0 35.87	+2 32.2	88.092	C. C. O. 173	3 35 33.52	-22 52 30.0
166	M	-1 14.72	-4 3.9	87.938	DM. 727	3 38 4.1	-5 1.1
167	M	-0 16.74	-3 54.8	87.938	. . .	. . .	. . .
168	S	. . .	+1 7.8	87.806	C. C. O. 180	3 38 26.47	-18 41 13.1
169	M	-2 15.25	. . .	87.784	. . .	. . .	. . .
170	M	-2 14.67	+1 6.3	87.806	. . .	. . .	. . .
171	M	-1 38.96	+4 3.6	87.806	C. C. O. 180	3 38 26.47	-18 41 13.1
172	M	+1 32.55	+1 48.7	87.724	C. C. O. 176	3 36 28.35	-22 29 20.6
173	P	+1 32.52	+1 50.4	89.004	. . .	. . .	. . .
174	M	+2 16.05	+0 12.4	87.782	C. C. O. 181	3 38 42.78	-4 18 58.9
165	P	+2 9.33	+1 34.0	89.009	DM. 657	3 38 48.5	-4 19.4
176	M	-0 17.39	. . .	87.782	C. C. O. 184	3 41 15.91	-4 15 34.8
177	P	-0 17.57	-3 11.2	89.007	. . .	. . .	. . .
178	S	-0 9.99	-2 28.9	88.029	C. C. O. 185	3 43 16.42	-16 41 24.0
179	M	. . .	-3 37.6	87.932	C. C. O. 191	4 2 25.51	-11 26 0.4
180	P	-0 2.57	+4 37.5	88.982	C. C. O. 194	4 3 33.50	-21 25 18.8

Number.	Name.	Observed $\Delta\alpha$.	No. Comp.	Observed $\Delta\delta$.	No. Comp.	Magni- tude.	Size.	Notes.
181	G. C. 815	m. s. -1 11.42	4	+4 37.5	0	12.5	0.3	R, gbM
182	...	-1 24.65	9	-0 34.2	1	15.0	0.5	
183	...	-1 24.98	8	-0 33.6	2	...	...	
184	G. C. 866	-0 41.58	6	...	0	13.5	0.4	R, smbMN
185	...	-0 41.35	32	-2 59.0	2	13.0	0.5	
186	...	-2 30.46	6	+0 12.1	4	...	...	
187	...	-2 49.72	6	...	0	...	...	R, gbM
188	G. C. 867	-0 39.52	20	-1 25.3	2	14.0	0.1	
189	G. C. 868	-0 31.19	16	-3 28.3	2	14.5	0.1	
190	L. M. 136	-0 22.86	12	-0 0.7	2	13.0	0.3	E 60°, gsmbsp
191	...	-0 23.13	12	+0 0.2	4	14.0	1.0 x 0.5	
192	G. C. 903	+3 17.06	6	-1 41.7	3	14.5	1.2	
193	...	+3 17.11	16	-1 42.4	2	14.0	...	R, vglbM glbM
194	G. C. 932	+0 53.91	8	-0 21.7	2	...	...	
195	...	+0 7.13	12	+1 52.8	4	...	...	
196	L. M. 140	-0 3.61	12	+0 43.1	2	...	...	bMN
197	...	-0 3.57	18	+0 44.5	2	12.	0.2	
198	Nova	-1 6.09	3	...	0	15.5	1.0 x 0.4	
199	...	-1 42.30	3	...	0	...	...	E 90°, dif
200	G. C. 951	-0 32.96	6	-2 13.9	2	14.8	1.6 x 0.6	
201	G. C. 953	+0 23.88	12	+1 37.1	4	14.5	0.4	
202	...	-0 11.92	8	...	0	...	...	sbMN iR, gbMN * in dif neb
203	L. M. 141	+0 13.40	20	-4 13.8	2	13.0	0.1	
204	...	-0 29.46	6	-1 32.4	2	14.5	0.2	
205	...	-0 29.45	14	...	0	16.0	0.1	iR, gmbM
206	...	...	0	-1 33.1	2	14.0	...	
207	...	-0 29.46	20	-1 32.9	3	...	...	
208	L. M. 142	-0 29.91	14	...	0	15.5	0.1	iR, gmbM
209	Nova	+3 42.14	4	...	0	16.0	0.1	
210	G. C. 997	-1 48.75	9	-0 31.8	2	14.0	0.3	

Number.	Observer.	1890.0		Epoch 1800+	Comp. Star.	1890.0	
		$\Delta\alpha$	$\Delta\delta$			α	δ
181	M	^{m.} -1 11.42	['] +4 37.5	87.877	C. C. O. 195	^{h. m. s.} 4 4 42.26	^{° ' "} -21 20 33.9
182	M	-1 24.65	-0 33.9	87.877	C. C. O. 196	4 4 56 18	-21 20 8.4
183	P	-1 24.98	-0 33.4	88.982	...	...	...
184	S	-0 41.59	...	87.776	C. C. O. 201	4 26 55.85	-5 16 23.2
185	P	-0 41.35	-2 59.1	90.694	...	...	...
186	S	-2 30.46	+0 12.7	87.787	C. C. O. 203	4 28 44.58	-5 19 11.6
187	S	-2 49.73	...	87.787	C. C. O. 204	4 29 3.95	-5 22 1.2
188	P	-0 39.52	-1 25.4	90.732	C. C. O. 201	4 26 55.85	-5 16 23.2
189	P	-0 31.19	-3 28.4	90.732	C. C. O. 201	4 26 55.85	-5 16 23.2
190	S	-0 22.86	+0 0.6	87.949	C. C. O. 210	4 37 51.46	-20 38 42.4
191	M	-0 23.13	+0 0.1	87.793	...	...	...
192	M	+3 17.06	-1 41.5	88.092	C. C. O. 208	4 37 46.88	-4 57 37.0
193	P	+3 17.10	-1 42.6	89.007	...	...	...
194	L	+0 53.91	-0 21.9	86.971	Anon.	4 50 37	-5 2
195	L	+0 7.13	+1 52.8	86.971	DM. 1096	4 51 23.4	-5 4.7
196	S	-0 3.61	+0 43.1	88.927	C. C. O. 221	4 52 21.37	-15 28 27.4
197	P	-0 3.57	+0 44.5	88.932	...	...	...
198	M	...	...	87.949	C. C. O. 224	4 53 59.56	-7 56 53.5
199	M	...	...	87.949	C. C. O. 226	4 54 35.67	-7 59 14.4
200	M	-0 32.96	-2 13.9	87.938	C. C. O. 226	4 54 35.67	-7 59 14.4
201	M	+0 23.88	+1 37.1	87.938	C. C. O. 224	4 53 59.56	-7 56 53.5
202	M	-0 11.92	...	87.938	C. C. O. 226	4 54 35.67	-7 59 14.4
203	P	+0 13.40	-4 13.9	88.984	C. C. O. 225	4 54 20.77	-15 55 3.3
204	M	-0 29.46	-1 32 5	87.130	C. C. O. 228	4 55 3.54	-15 57 47.3
205	S	-0 29.45	...	89.062	...	...	...
206	S	...	-1 33.4	88.029	...	...	...
207	P	-0 29.46	-1 32.4	88.984	...	...	...
208	S	-0 29.91	...	89.059	C. C. O. 228	4 55 3.54	-15 57 47.3
209	S	...	...	89.059	C. C. O. 228	4 55 3.54	-15 55 3.3
210	M	-1 48.75	-0 31.8	87.946	C. C. O. 232	5 1 52.20	-9 17 25.5

Number.	Name.	Observed $\Delta\alpha$.	No. Comp.	Observed $\Delta\delta$.	No. Comp.	Magni- tude.	Size.	Notes.
211	G. C. 997	^{m.} -1 48.87	20	['] -0 33.3	4	13.5	0.4	gpmbM
212	Nova	-0 51.33	3	+0 26.8	1	15.5	1.5	iR, dif
213	G. C. 1043	+2 38.86	6	...	0	13.0	0.6	R, gbM
214	...	+1 30.42	6	+1 34.0	2	...	...	
215	...	-1 13.31	6	+1 18.3	2	...	...	
216	...	-1 13.25	9	+1 19.4	2	14.5	1.0	R, dif
217	G. C. 1196	-0 18.01	13	+0 41.4	2	...	...	
218	G. C. 1370	+1 4.88	3	...	0	14.	0.3	R, gbMN
219	...	+1 4.43	3	+4 1.0	1	...	...	
220	...	-0 42.62	3	...	0	...	...	
221	...	-1 14.37	3	-0 55.1	1	...	...	
222	...	-1 15.00	3	-0 53.7	1	13.5	0.1	R, gbMN
223	...	-1 34.97	3	...	0	...	...	
224	...	-2 33.48	3	...	0	...	...	
225	G. C. 1384	+5 12.37	3	...	0	...	...	
226	...	+5 11.97	3	+1 13.1	1	...	...	
227	...	+1 34.10	3	+2 25.4	1	12.	1.0	R, gmbMN
228	...	+1 33.95	3	+2 26.6	1	13.5	0.3	
229	G. C. 1393	+1 27.67	9	-1 17.3	2	...	...	
230	L. M. 150	+0 22.47	12	+1 30.1	2	...	...	
231	...	+0 22.25	15	+1 28.5	4	15.	0.4	1E 30°, gbMN
232	G. C. 1439	+2 23.15	9	+1 23.5	2	13.5	0.2	lbM
233	...	-0 3.13	9	+4 6.3	2	...	...	
234	...	-0 3.11	14	+4 7.3	2	14.5	1.0	gbMstellIN
235	G. C. 1446	-0 7.88	6	-4 33.9	1	...	...	
236	...	-1 13.55	9	...	0	...	...	
237	...	-2 30.02	9	-1 13.4	2	14.8	0.7 x 0.6	E 90°, gbM
238	G. C. 1447	...	0	+0 50.0	2	13.5	0.2	gbM
239	...	-2 7.94	9	+0 52.6	2	15.0	0.8	R, gbM
240	G. C. 1459 ₁	+1 38.28	21	-1 15.6	2	13.	0.1	vlbM

Number.	Observer.	1890.0		Epoch 1800+	Comp. Star.	1890.0	
		$\Delta\alpha$	$\Delta\delta$			α	δ
211	P	m. s. -1 48.86	' '' -0 33.1	89.059	C. C. O. 232	h. m. s. 5 1 52.20	° ' '' -9 17 25.5
212	M	-0 51.33	+0 27.0	87.946	C. C. O. 232	5 1 52.20	-9 17 25.5
213	S	...	...	87.949	Anon.	5 4 27	...
214	S	+1 30.42	+1 33.6	87.949	C. C. O. 234	5 5 35.56	-15 50 51.2
215	S	-1 13.31	+1 17.9	87.949	C. C. O. 236	5 8 19.32	-15 50 36.0
216	M	-1 13.25	+1 19.6	87.877	...	...	...
217	S	+0 18.01	+0 41.4	88.927	DM. 1185	5 31 53.9	-17 52.1
218	S	+1 4.88	...	87.075	C. Cat. 7302	6 2 18.37	-21 47 59.1
219	L	+1 4.43	+4 0.8	87.116	...	...	...
220	S	-0 42.61	...	87.073	DM. 1363	6 4 5.3	-21 43.4
221	S	-1 14.38	-0 54.9	87.073	C. C. O. 253	6 4 37.46	-21 43 2.8
222	M	-1 15.00	-0 53.3	87.127	...	...	...
223	S	-1 34.96	...	87.073	DM. 1367	6 4 58.1	-21 43.9
224	S	-2 33.47	...	87.073	DM. 1377	6 5 57.1	-21 49.2
225	S	+5 12.35	...	87.073	C. Cat. 7302	6 2 18.37	-21 47 59.1
226	L	+5 11.96	+1 11.6	87.119	...	...	...
227	S	+1 34.11	+2 25.0	87.119	C. C. O. 254	6 5 56.45	-21 49 15.6
228	M	+1 33.94	+2 26.3	87.127	...	...	...
229	S	+1 27.67	-1 17.8	88.122	C. C. O. 256	6 10 14.06	-21 18 52.3
230	S	+0 22.47	+1 30.2	88.927	C. C. O. 257	6 13 19.32	-18 31 11.1
231	M	+0 22.25	+1 28.4	87.937	...	...	...
232	P	+2 23.14	+1 23.1	88.935	Anon.	6 31 35	-24 46
233	P	-0 3.13	+4 6.6	88.935	C. C. O. 261	6 34 0.87	-24 49 13.3
234	S	-0 3.09	+4 7.7	89.092	...	...	...
235	L	-0 7.89	-4 33.8	87.119	O. Arg. S. 5561	6 38 25.39	-23 17 30.3
236	M	-1 13.56	...	87.891	C. C. O. 269	6 39 31.60	-23 18 34.5
237	M	-2 30.03	-1 12.9	87.891	C. C. O. 271	6 40 47.98	-23 20 55.3
238	S	...	+0 50.4	88.119	C. C. O. 270	6 40 26.82	-27 21 58.4
239	M	-2 7.95	+0 52.9	87.891	...	...	...
240	P	+1 38.27	-1 15.8	89.138	C. Z. 1979	6 41 35.77	-26 36 16.0

Number.	Name.	Observed $\Delta\alpha$.	No. Comp.	Observed $\Delta\delta$.	No. Comp.	Magni- tude.	Size.	Notes.
241	G. C. 1459 ₂	^{m.} +1 41.60	21	' '' -0 44.9	2	12.2	0.2	bM
242	G. C. 1461	+1 22.00	28	-1 44.0	2	11.5	0.3	bM
243	G. C. 1485	+1 33.56	3	...	0	13.5	0.3	gbM
244	...	+1 26.80	2	...	0	...	...	
245	G. C. 1487	-0 15.59	12	+0 42.6	2	11.5	...	Neb*
246	...	-0 15.38	15	+0 42.7	4	11.	...	P. A. 120°, neb*
247	G. C. 1500	+0 19.32	6	+0 51.5	2	9.5	...	Neb*
248	...	+0 19.53	9	+0 50.7	4	9.6	...	Neb*
249	L. M. 402	+2 41.17	3	...	0	14.3	0.3	R, gbM
250	...	-0 29.27	8	-1 21.8	2	...	...	
251	...	-0 29.50	9	...	0	13.	...	Stell
252	...	-0 29.50	9	...	0	...	...	
253	...	-0 29.28	12	-1 23.8	2	14.0	0.3	lbM
254	...	-4 2.95	7	-0 46.3	2	13.7	0.2	gbMN
255	L. M. 403	+2 48.35	2	...	0	15.7	0.2	R, gbM
256	...	-0 21.79	6	...	0	...	0.3	
257	...	-0 21.89	10	-0 35.3	2	15.0	0.4	gbM
258	...	-0 21.92	7	-0 34.2	2	...	...	
259	...	...	16	-0 34.4	2	15.5	0.5	dif
260	...	-3 55.34	10	+1 9.2	2	...	...	
261	L. M. 404	+2 57.80	3	-0 29.3	1	13.5	0.4	R, gbM
262	...	-0 11.19	9	...	0	...	...	
263	...	-0 11.36	6	+3 51.4	1	...	...	
264	...	-0 11.38	8	+3 54.0	2	15.0	0.5	dif
265	...	-2 8.14	6	-1 56.6	2	14.0	0.5	gbM
266	G. C. 1673	-0 21.30	6	...	0	...	...	
267	...	-2 32.52	6	-1 45.9	1	...	...	
268	...	-2 32.60	3	-1 42.2	2	13.5	0.3	iR, sbMN
269	L. M. 407	+0 51.96	6	-0 54.3	2	14.0	0.7 x 0.5	E 45°, iF, bMN
270	...	-0 14.24	6	...	0	...	...	

Number.	Observer.	1890.0		Epoch 1800+	Comp. Star.	1890.0	
		$\Delta\alpha$	$\Delta\delta$			α	δ
241	P	^{m.} +1 41.61	^{s.} -0 45.2	89.138	C. Z. 1979	^{h.} 6 41 35.77	[°] -26 36 16.0
242	P	+1 21.98	-1 44.5	89.138	C. Z. 1979	6 41 35.77	-26 36 16.0
243	S	...	...	88.122	Anon.	6 56 46	...
244	S	...	...	88.122	Anon.	6 56 53	...
245	S	-0 15.59	+0 42.6	88.204	DM. 1767	6 59 12.9	-11 9.9
246	M	-0 15.38	+0 42.8	87.938	...	...	...
247	S	+0 19.32	+0 51.4	88.179	DM. 1619	7 3 27.5	-0 38.4
248	M	+0 19.53	+0 50.6	87.938	...	...	...
249	L	+2 41.16	...	87.201	Anon.	...	...
250	L	-0 29.27	-1 21.8	87.201	C. C. O. 277	8 19 21.97	-4 31 50.8
251	S	-0 29.50	...	88.119	...	...	...
252	S	-0 29.50	...	88.185	...	...	...
253	P	-0 29.28	-1 23.8	89.092	...	...	...
254	S	-4 2.94	-0 45.6	88.185	Anon.	8 22 55	-4 33
255	L	+2 48.34	...	87.193	Anon.	8 16 12	...
256	S	-0 21.79	...	88.119	C. C. O. 277	8 19 21.97	-4 31 50.8
257	S	-0 21.89	-0 35.2	88.185	...	...	...
258	L	-0 21.91	-0 34.1	87.201	...	...	...
259	P	...	-0 34.4	89.092	...	...	...
260	S	-3 55.33	+1 9.8	88.185	Anon.	8 22 55	-4 34
261	L	+2 57.79	-0 30.0	87.201	Anon.	8 16 13	-4 28
262	S	-0 11.19	...	88.125	C. C. O. 277	8 19 21.97	-4 31 50.8
263	L	-0 11.36	+3 51.5	87.174	...	...	...
264	P	-0 11.38	+3 54.6	89.092	...	...	...
265	S	-2 8.14	-1 56.3	88.125	Anon.	8 21 19	-4 26
266	S	...	...	87.229	Anon.	8 29 0	...
267	S	-2 32.50	-1 45.4	87.229	C. C. O. 279	8 31 11.66	-12 46 13.7
268	M	-2 32.59	-1 41.7	87.171	...	...	...
269	S	+0 51.96	-0 54.6	88.122	C. C. O. 280	8 40 9.81	-18 53 11.4
270	S	-0 14.24	...	88.127	C. C. O. 281	8 41 16.45	-18 55 49.2

Number.	Name.	Observed $\Delta\alpha$.	No. Comp.	Observed $\Delta\delta$.	No. Comp.	Magni- tude.	Size.	Notes.
271	L. M. 407	^{m.} -0 ^{s.} 14.38	15	+1' 42.2"	7	13.5	0.2 x 0.8	E 60°, gbM
272	G. C. 1734	-0 7.96	6	-1 4.3	4	14.	0.1	gmbM
273	...	-0 8.04	6	-1 6.0	1	13.5	0.2	R, gbM
274	...	-1 31.45	6	-0 49.4	1	...	...	
275	G. C. 1777	+1 14.77	3	+0 14.7	1	...	...	
276	...	+1 14.82	6	+0 14.4	2	...	...	
277	...	+1 2.43	3	...	0	...	...	
278	G. C. 1780	-0 15.27	12	+0 42.5	2	11.	1.0 x 0.3	E 60°, gbMN
279	...	-0 15.11	15	+0 43.1	6	12.0	0.9	R, gbMN
280	G. C. 1796	-1 8.72	12	+0 12.9	2	...	...	
281	...	-1 8.70	11	+0 12.7	4	13.	0.4	R, bMN
282	G. C. 1835	+1 41.11	9	...	0	...	...	
283	...	-0 3.86	6	+3 59.0	4	13.	0.8	R, gbMN
284	G. C. 1841	...	0	-1 8.6	2	12.	vS	gbMN
285	...	+7 10.00	8	-1 7.9	2	13.6	0.4	gbM
286	L. M. 413	-0 26.80	4	...	0	...	...	
287	...	-0 49.88	8	...	0	14.0	0.2	gbM
288	...	-1 13.44	8	...	0	...	...	
289	...	-0 50.31	8	...	0	...	...	
290	G. C. 5482	-0 45.16	6	...	0	13.	0.3	E 120°, neb*
291	G. C. 5484	+0 45.43	12	+2 12.4	2	15.	0.1	
292	...	+0 45.20	9	+2 11.4	4	14.0	0.4	1E 5°, bsp
293	G. C. 1854	+1 5.19	12	+0 58.5	4	14.5	1.	gbM stell N
294	...	+1 5.12	9	+0 59.7	3	14.0	1.6	R, gbM stell N
295	G. C. 5491	+0 31.17	16	-1 14.7	2	15.3	0.3	
296	...	+2 17.52	16	-2 34.4	3	...	...	
297	G. C. 1882	+3 32.05	16	-0 53.3	2	12.5	0.5	psmbMN
298	...	+2 3.62	6	-1 43.6	4	13.0	0.4 x 0.3	E 160°, biN
299	...	+0 19.24	12	...	0	...	...	
300	...	-0 43.52	16	+1 52.3	2	...	...	

Number.	Observer.	1890.0		Epoch 1800+	Comp. Star.	1890.0	
		$\Delta\alpha$	$\Delta\delta$			α	δ
271	M	m. s. -0 14.38	+1' 42.3"	87.951	C. C. O. 281	h. m. s. 8 41 16.45	-18° 55' 49.2"
272	S	-0 7.97	-1 4.5	87.231	C. C. O. 282	8 52 19.56	-24 13 59.7
273	M	-0 8.04	-1 6.1	87.119	...	...	...
274	M	-1 31.46	-0 49.2	87.119	C. C. O. 283	8 53 43.05	-24 14 16.8
275	L	+1 14.77	+0 14.4	87.083	C. C. O. 285	9 5 0.85	-14 22 17.2
276	M	+1 14.82	+0 14.1	87.270	...	...	...
277	L	+1 2.44	...	87.083	Sj. 3373	9 5 13.47	-14 27 6.6
278	S	-0 15.27	+0 42.5	88.204	C. C. O. 287	9 7 41.02	-23 43 58.8
279	M	-0 15.11	+0 43.1	88.891	...	...	...
280	S	-1 8.72	+0 13.1	88.204	C. C. O. 288	9 12 10.14	-15 51 30.0
281	M	-1 8.71	+0 12.9	87.965	...	...	...
282	M	+1 41.11	...	88.108	DM. 2609	9 14 29.0	-11 30.7
283	M	-0 3.86	+3 59.2	88.108	DM. 2614	9 16 13.2	-11 22.3
284	S	...	-1 8.4	91.253	O. Arg. S. 9526	9 11 22.06	-22 40 16.3
285	P	+7 10.02	-1 8.8	89.084	...	...	...
286	S	...	...	88.264	Anon.	9 20 13	...
287	S	-0 49.88	...	88.264	DM. 2905	9 20 36.1	-6 12.2
288	S	-1 13.43	...	88.264	DM. 2907	9 20 59.8	-6 17.1
289	S	...	...	88.264	Anon.	9 20 36	...
290	M	-0 45.16	...	87.952	Bonn VI, p. 329	9 20 47.78	-11 10 58.7
291	S	+0 45.45	+2 12.3	88.204	DM. 2835	9 20 20.2	-11 7.3
292	M	+0 45.21	+2 11.4	87.951	...	...	...
293	S	+1 5.21	+0 58.3	88.204	Bonn VI, p. 329	9 20 47.78	-11 10 58.7
294	M	+1 5.13	+0 59.8	87.951	...	...	...
295	P	+0 31.17	-1 14.7	89.099	Anon.	9 28 23	?
296	P	+2 17.52	-2 34.8	89.099	DM. 2279	9 26 35	?
297	P	+3 32.06	-0 53.8	89.078	C. C. O. 294	9 28 8.53	-20 37 44.6
298	M	+2 3.64	-1 43.9	88.029	C. C. O. 297	9 29 36.92	-20 36 26.2
299	M	+0 19.24	...	88.029	DM. 2957	9 31 20.2	-20 38.8
300	P	-0 43.52	+1 52.5	89.078	Anon.	9 32 24	-20 40

Number.	Name.	Observed $\Delta\alpha$.		No. Comp.	Observed $\Delta\delta$.		No. Comp.	Magnitude.	Size.	Notes.
301	G. C. 1904	^{m.} +2	^{s.} 33.67	3	' +1	" 42.1	1	...	...	
302	...	+2	33.63	3	...	...	0	...	...	
303	...	+0	2.85	6	+0	25.3	4	13.	0.4 x 0.2	E 45°
304	...	+0	2.38	6	+0	25.9	1	...	...	
305	...	+0	2.30	11	+0	24.0	2	...	...	
306	G. C. 1907	-1	49.68	9	+1	0.6	2	14.5	0.6	Dif
307	...	-2	58.37	3	+0	5.4	2	15.	0.8 x 0.6	E 10°
308	...	-2	58.68	6	+0	9.2	2	14.5	0.3	R, glbM
309	G. C. 1913	-0	43.35	9	...	...	0	13.0	0.3	Stell N
310	...	-0	43.42	12	+1	57.0	2	15.0	0.4	R, gbsbM stell N
311	L. M. 418	-0	44.30	2	+0	16.1	1	14.3	0.4 x 0.2	E 15°, gbM
312	...	-1	15.90	2	-0	37.2	1	...	...	
313	...	-1	22.05	2	...	...	0	...	...	
314	...	-1	49.85	2	+0	59.9	1	...	...	
315	...	-2	58.56	20	+0	0.9	2	14.2	0.5 x 0.2	E 10°, gmbMN
316	...	-3	25.50	20	+3	26.3	2	...	...	
317	G. C. 1961	+1	7.68	8	...	...	0	...	...	
318	...	+0	58.18	8	...	...	0	...	...	
319	...	+0	58.10	16	+3	1.8	2	14.0	0.1	gbMN
320	...	-0	55.02	8	-1	38.7	2	14.5	0.2	bM stell N
321	G. C. 1965	+2	34.74	3	...	...	0	13.	0.4	gbM
322	...	+2	34.81	8	+2	6.9	2	13.3	0.4	gbM
323	...	+2	28.05	12	...	...	0	...	...	
324	...	+2	28.30	16	-1	7.0	2	...	...	
325	G. C. 1981	...	...	0	-0	26.3	2	...	...	
326	...	+2	15.97	3	-0	27.3	1	13.	0.3	R, gbMN
327	G. C. 1992	+4	29.50	2	+2	50.8	1	...	...	
328	...	-1	5.96	6	+2	9.2	2	13.	0.4	iR, gsbMN
329	G. C. 1994	+4	48.63	3	+1	23.6	1	...	...	
330	...	-0	47.10	3	+0	35.3	2	15.5	0.4	R, gpmbM

Number.	Observer.	1890.0		Epoch 1800+	Comp. Star.	1890.0	
		$\Delta\alpha$	$\Delta\delta$			α	δ
301	L	^{m.} +2 33.67	['] +1 41.7	87.196	C. C. O. 298	^{h. m. s.} 9 34 26.86	^{° ' "} - 3 13 35.2
302	M	+2 33.62	...	87.270	...	...	...
303	S	+0 2.85	+0 25.2	87.231	C. C. O. 301	9 36 58.18	- 3 12 17.8
304	L	+0 2.38	+0 25.9	87.196	...	...	...
305	M	+0 2.30	+0 23.9	87.270	...	...	...
306	M	-1 49.69	+1 0.9	87.965	DM. 2913	9 39 35.1	- 9 54.4
307	M	-2 58.37	+0 5.0	87.226	C. C. O. 304	9 40 44.38	- 9 53 4.2
308	L	-2 58.68	+0 8.9	87.130	...	...	...
309	S	-0 43.35	...	88.127	C. C. O. 303	9 39 53.83	-20 48 24.3
310	L	-0 43.40	+1 57.2	87.281	...	...	...
311	L	-0 44.30	+0 16.2	87.152	Anon.	9 49 24	- 9 53
312	L	-1 15.90	-0 37.0	87.152	Anon.	9 49 56	- 9 54
313	L	...	...	87.152	Anon.	9 50 2	...
314	L	-1 49.85	+1 0.2	87.152	C. C. O. 307	9 50 30.25	- 9 54 2.8
315	P	-2 58.56	+0 1.1	89.103	Anon.	9 51 38	- 9 53
316	P	-3 25.50	+3 26.8	89.103	Anon.	9 52 5	- 9 56
317	S	+1 7.69	...	89.007	C. C. O. 305	9 47 53.02	-26 44 46.4
318	S	+0 58.19	...	89.007	C. C. O. 306	9 48 2.51	-26 49 4.8
319	P	+0 58.10	+3 2.0	89.300	...	...	...
320	S	-0 55.03	-1 38.8	89.004	Anon.	9 49 56	-26 44
321	M	+2 34.74	...	88.283	Anon.	9 47.2	-27 49
322	P	+2 34.81	+2 7.0	89.242	...	...	...
323	M	+2 28.05	...	88.283	Anon.	9 47.3	-27 46
324	P	+2 28.30	-1 7.3	89.242	...	...	...
325	S	...	-0 26.5	88.286	C. C. O. 308	9 51 8.40	-26 23 39.8
326	M	+2 15.98	-0 27.8	87.251	...	...	...
327	L	+4 29.54	+2 50.1	87.083	Bonn VI, p. 123	9 50 33.09	-19 9 19.3
328	M	-1 5.96	+2 9.3	87.226	C. C. O. 312	9 56 8.67	-19 8 42.9
329	L	+4 48.66	+1 22.7	87.084	Bonn VI, p. 123	9 50 33.09	-19 9 19.3
330	M	-0 47.10	+0 35.4	87.226	C. C. O. 312	9 56 8.67	-19 8 42.9

Number.	Name.	Observed $\Delta\alpha$.	No. Comp.	Observed $\Delta\delta$.	No. Comp.	Magni- tude.	Size.	Notes.
331	G. C. 2008	m. s. -0 34.05	6	' ''	0	...	...	
332	...	-0 34.07	9	-0 30.0	2	12.	2 x 0.4	E 45°, gbsmbMN
333	...	-0 33.86	15	-0 29.6	4	11.	3.0 x 0.4	E 50°, vmbMN
334	...	-2 9.73	6	+0 13.0	2	...	...	
335	...	-2 9.80	9	+0 13.4	2	...	...	
336	...	-2 10.07	3	+0 13.9	2	...	...	E 30°, gsmbMN
337	...	-1 55.77	3	...	0	...	...	
338	...	-1 55.93	3	...	0	...	...	
339	Washb. Obs. I No. 1	+0 7.94	6	...	0	...	...	
340	...	-0 25.13	12	+3 48.4	4	14.8	2.0 x 0.6	E 80°, gvlbM
341	...	-2 31.07	3	-0 4.6	2	14.	0.2	sbMN
342	...	-2 31.10	3	-0 5.9	1	13.5	0.8	E 170°, sbMN
343	...	-2 30.99	3	-0 7.3	2	...	...	
344	G. C. 2070	+3 31.83	3	-2 57.8	1	12.5	1.0 x 0.4	E 70°, sbMN; $\Delta\delta$ ch'd 1 rev. = 9".9
345	...	-3 15.53	16	-1 43.1	2	14.5	1. x 0.2	E 70°, bMN
346	G. C. 2139	-2 4.12	3	...	0	...	...	
347	...	...	0	-1 6.8	2	...	...	
348	...	-3 37.43	9	-2 40.9	2	...	...	
349	...	-3 38.00	3	...	0	13.	0.4	E 130°, sbMN
350	...	...	0	+1 18.5	2	...	...	
351	G. C. 2157	+0 41.35	2	...	0	...	...	
352	...	-0 51.82	6	-1 33.1	2	14.	0.4	gbM
353	...	-0 52.20	2	-1 30.3	2	12.	0.3	R, sbMN
354	G. C. 2159	+6 19.99	3	+0 30.9	2	13.5	0.3	R, gbMN
355	...	+0 54.53	3	...	0	...	...	
356	...	+0 27.55	2	...	0	...	...	
357	...	...	0	-2 16.4	2	...	...	
358	...	-0 39.35	3	-6 6.0	1	12.	0.3	R, sbMN
359	...	-0 40.02	2	...	0	...	...	R, gbMN
360	...	-4 22.92	4	...	0	...	...	

Number.	Observer.	1890.0		Epoch 1800+	Comp. Star.	1890.0	
		$\Delta\alpha$	$\Delta\delta$			α	δ
331	S	m. s. -0 34.05	' '' . . .	87.253	C. C. O. 313	h. m. s. 10 0 19.84	° ' '' - 7 10 40.7
332	L	-0 34.07	-0 30.1	87.281	. . .	. . .	. . .
333	M	-0 33.86	-0 29.5	87.951	. . .	. . .	. . .
334	S	-2 9.74	+0 13.1	87.253	C. C. O. 314	10 1 55.37	- 7 11 18.4
335	L	-2 9.79	+0 13.7	87.281	. . .	. . .	. . .
336	M	-2 10.06	+0 14.3	87.261	. . .	. . .	. . .
337	L	-1 55.77	. . .	87.261	DM. 2959	10 1 41.2	- 7 17.5
338	M	-1 55.93	. . .	87.281	. . .	. . .	. . .
339	S	. . .	. . .	87.976	Anon.	10 13 11	. . .
340	M	-0 25.13	+3 48.7	87.965	C. C. O. 322	10 13 44.78	-17 29 47.5
341	S	-2 31.09	-0 4.3	87.976	C. C. O. 323	10 15 50.30	-17 25 50.6
342	L	-2 31.11	-0 5.5	87.125	. . .	. . .	. . .
343	M	-2 31.01	-0 7.0	87.965	. . .	. . .	. . .
344	M	+3 31.81	-2 58.5	87.166	C. C. O. 316	10 10 55.88	-26 5 51.1
345	P	-3 15.53	-1 43.6	89.237	C. Z. 1253	10 17 43.26	-26 7 5.4
346	L	. . .	. . .	87.130	Anon.	10 30 30	. . .
347	L	. . .	-1 6.3	87.130	G. C. 2157	10 31 12	-26 52 4
348	S	-3 37.46	-2 40.5	87.231	C. C. O. 328	10 32 4.00	-26 50 33.0
349	L	-3 38.02	. . .	87.130	. . .	. . .	. . .
350	L	. . .	. . .	87.146	Anon.	. . .	-26 54
351	L	. . .	. . .	87.130	Anon.	10 30 30	. . .
352	S	-0 51.79	-1 32.8	87.231	C. C. O. 328	10 32 4.00	-26 50 33.0
353	L	-0 52.21	-1 30.2	87.130	. . .	. . .	. . .
354	S	+6 19.96	+0 31.4	88.281	C. Z. 1774	10 25 5.43	-26 57 24.0
355	L	. . .	. . .	87.130	Anon.	10 30 30	. . .
356	L	. . .	. . .	87.130	Anon.	10 30 57	. . .
357	L	. . .	-2 16.3	87.292	Anon.	10 31	-26 54 26
358	L	-0 39.36	-6 6.2	87.130	C. C. O. 328	10 32 4.00	-26 50 33.0
359	L	-0 40.03	. . .	87.146	Anon.	10 32 5	. . .
360	S	. . .	. . .	88.281	Anon.	10 35 48	. . .

Number.	Name.	Observed $\Delta\alpha$		No. Comp.	Observed $\Delta\delta$	No. Comp.	Magni- tude.	Size.	Notes.
361	G. C. 2159	m. -5	s. 17.91	4	' "	0	...	'	R, gbMN
362	...	-5	58.15	4	...	0	...	...	
363	G. C. 2160	+6	27.06	1	0 0.0	1	15.	0.6	Dif
364	...	+1	1.62	3	...	0	...	...	
365	...	+0	34.90	2	...	0	...	...	
366	...	...	...	0	-0 34.2	2	...	...	
367	...	-4	16.02	2	...	0	...	...	
368	...	-5	11.00	2	...	0	...	...	
369	...	-5	51.27	2	...	0	...	...	
370	...	...	...	0	-2 50.6	1	...	...	
371	...	-0	32.30	3	...	0	14.5	0.7	R, sbMN
372	...	-0	33.72	2	...	0	...	...	
373	G. C. 2161	-0	13.38	2	...	0	...	...	
374	...	-3	56.12	4	...	0	14.	0.2	R, gbMstellN
375	...	-4	51.11	4	...	0	...	...	
376	...	-5	31.35	4	...	0	...	...	
377	G. C. 2162	+0	28.30	2	...	0	16.	0.1	L
378	...	...	...	0	-1 38.1	1	...	...	
379	G. C. 2163	+0	54.00	2	...	0	...	...	
380	...	+0	21.20	2	...	0	15.3	0.2	
381	Harv. XIII, 210	+1	36.10	2	...	0	...	...	
382	...	+1	9.20	2	...	0	...	...	
383	...	...	...	0	-1 40.9	2	...	...	
384	...	+0	2.44	5	-3 20.8	3	15.5	0.1	
385	...	+0	2.55	2	...	0	15.5	0.5	
386	L. M. 425	+2	38.70	4	...	0	14.8	0.3	R, vgsbM
387	...	+2	25.79	8	-1 40.5	1	13.	0.3	gbMN
388	...	+2	25.86	6	-1 36.8	2	...	...	
389	L. M. 424	...	...	0	+0 54.5	2	15.0	0.5 x 0.4	E 10°, dif
390	...	-0	35.4	2	...	0	...	...	

Number.	Observer.	1890.0		Epoch 1800+	Comp. Star.	1890.0	
		$\Delta\alpha$	$\Delta\delta$			α	δ
361	S	m. s. ...	' '' ...	88.281	Anon.	h. m. s. 10 36 43	° ' '' ...
362	S	...	...	88.281	Anon.	10 37 23	...
363	S	+6 27.03	-0 0.2	88.281	C. Z. 1774	10 25 5.43	-26 57 24.0
364	L	+1 1.62	...	87.130	Anon.	10 30 30	...
365	L	+0 34.87	...	87.130	Anon.	10 30 57	...
366	L	...	-0 34.2	87.146	G. C. 2159	10 31 25	-26 56 39
367	S	...	...	88.281	Anon.	10 35 48	...
368	S	...	...	88.281	Anon.	10 36 43	...
369	S	...	...	88.281	Anon.	10 37 23	...
370	L	...	...	87.146	Anon.	10 31	-26 54 26
371	L	...	...	87.130	C. C. O. 328	10 32 4.00	-26 50 33.0
372	L	-0 33.75	...	87.130	Anon.	10 32 5	...
373	L	-0 13.41	...	87.130	Anon.	10 32 5	...
374	S	...	...	88.281	Anon.	10 35 48	...
375	S	...	...	88.281	Anon.	10 36 43	...
376	S	...	...	88.281	Anon.	10 37 23	...
377	L	+0 28.27	...	87.130	C. C. O. 326	10 31 32.66	-27 5 12.0
378	L	...	-1 38.1	87.144	...	...	...
379	L	...	...	87.130	C. C. O. 326	10 31 32.66	-27 5 12.0
380	L	...	...	88.281	Anon.	10 32 5	...
381	L	+1 36.11	...	87.130	Anon.	10 30 30	-26 53
382	L	+1 9.19	...	87.130	Anon.	10 30 57	...
383	L	...	-1 41.0	87.216	G. C. 2157	10 31 12	-26 52 4
384	S	+0 2.44	-3 20.9	87.231	C. C. O. 328	10 32 4.00	-26 50 33.0
385	L	+0 2.55	...	87.130	...	...	...
386	M	+2 38.70	...	88.031	DM. 3547	10 31 40.2	-23 17.5
387	S	+2 25.79	-1 40.8	88.267	DM. 3550	10 31 53.7	-23 18.9
388	M	+2 25.86	-1 37.2	88.031	...	...	...
389	M	...	+0 54.5	88.031	DM. 3547	10 31 40.2	-23 17.5
390	M	-0 35.4	...	88.031	L. M. 425	10 34 19	-23 20.6

Number.	Name.	Observed $\Delta\alpha$	No. Comp.	Observed $\Delta\delta$	No. Comp.	Magni- tude.	Size.	Notes.
391	L. M. 427	m. s. -2 18.79	4	' " "	0	15.5	0.1	gbM
392	Nova	. . .	0	-2 11.4	1	15.5	1.5 x 0.6	E 110°, dif
393	. . .	-3 3.6	2	. . .	0	. . .	. . .	
394	L. M. 428	-1 24.18	8	+0 59.1	2	14.7	0.8 x 0.3	E 125°, gbM
395	. . .	-1 24.30	3	+1 4.0	1	15.3	0.5 x 0.2	E 135°, gbM
396	L. M. 429	+2 4.50	8	-0 51.9	2	14.3	0.8 x 0.3	E 135°, gbM
397	. . .	+2 4.40	3	-0 51.6	1	14.8	0.6 x 0.3	E 135°, gbM
398	G. C. 2271	+1 55.28	4	. . .	0	14.	0.3	R, gbM
399	. . .	-0 7.73	24	-1 21.8	2	15.0	. . .	Neb.*
400	. . .	-0 7.80	12	-1 19.7	5	. . .	. . .	
401	G. C. 2288?	-0 50.63	3	+1 53.4	1	. . .	. . .	
402	G. C. 2305	-1 38.33	3	-3 24.7	1	. . .	. . .	
403	. . .	-1 38.27	3	. . .	0	. . .	. . .	
404	. . .	-1 50.40	3	+1 50.0	1	. . .	. . .	
405	. . .	-1 50.20	3	+1 46.4	2	14.5	0.6	R, psbMN
406	L. M. 432	+3 16.24	6	+2 16.3	1	14.	0.2	R, bMN
407	. . .	+3 15.64	6	+1 43.4	1	. . .	. . .	
408	. . .	+1 38.60	8	+0 29.8	2	12.5	0.4	gbMN
409	. . .	+1 38.62	6	+0 28.3	1	. . .	. . .	
410	G. C. 2330	-3 22.30	3	+4 47.0	2	12.0	1.8 x 1.0	E 95°
411	. . .	-3 12.80	2	. . .	0	. . .	. . .	
412	G. C. 2341	+1 18.62	6	+3 6.9	2	10.5	. . .	
413	. . .	+1 18.62	6	. . .	0	. . .	. . .	
414	. . .	+1 18.47	3	. . .	0	. . .	. . .	
415	. . .	-0 36.66	6	-1 27.5	2	. . .	. . .	
416	. . .	-0 36.66	6	-1 26.7	2	. . .	. . .	
417	. . .	-0 36.93	3	-1 27.5	2	. . .	. . .	
418	Nova	-1 8.18	12	-2 7.2	2	15.5	0.1	
419	. . .	-1 8.10	12	-2 6.6	4	15.5	0.3	R
420	. . .	-1 48.84	4	. . .	0	. . .	. . .	

Number.	Observer.	1890.0		Epoch 1800+	Comp. Star.	1890.0	
		$\Delta\alpha$	$\Delta\delta$			α	δ
391	S	m. s. -2 18.79	' ' ' . . .	88.279	C. C. O. 331	h. m. s. 10 47 15.00	° ' " -16 26 33.2
392	M	. . .	-2 11.4	88.031	DM. 3550.	10 31 53.7	-23 18.9
393	M	-3 3.6	. . .	88.031	L. M. 425	10 34 19	-23 20.6
394	S	-1 24.18	+0 59.2	88.278	C. C. O. 331	10 47 15.00	-16 26 33.2
395	L	-1 24.31	+1 4.1	87.149	. . .	. . .	. . .
396	S	+2 4.50	-0 51.7	88.281	C. C. O. 331	10 47 15.00	-16 26 33.2
397	L	+2 4.41	-0 51.7	87.149	. . .	. . .	. . .
398	M	+1 55.29	. . .	88.201	C. C. O. 332	10 51 48.36	-27 53 19.8
399	S	-0 7.73	-1 21.8	88.009	C. Cat. 15017	10 53 51.85	-27 51 56.3
400	M	-0 7.80	-1 19.8	88.201	. . .	. . .	. . .
401	L	-0 50.64	+1 53.6	87.084	Bonn VI, 101	10 56 38.60	-15 5 59.4
402	L	-1 38.34	-3 24.7	87.196	C. C. O. 342	11 3 30.62	-18 49 13.3
403	M	-1 38.28	. . .	87.226	. . .	. . .	. . .
404	L	-1 50.41	+1 50.3	87.196	C. C. O. 343	11 3 43.04	-18 54 24.04
405	M	-1 50.21	+1 46.7	87.226	. . .	. . .	. . .
406	L	+3 16.24	+2 16.0	87.319	C. C. O. 338	11 1 0.46	-12 49 20.4
407	L	+3 15.64	+1 43.1	87.319	C. C. O. 339	11 1 1.16	-12 48 49.8
408	S	+1 38.60	+0 29.7	88.264	C. C. O. 341	11 2 38.16	-12 47 35.4
409	L	+1 38.62	+0 28.1	88.319	. . .	. . .	. . .
410	L	-3 22.35	+4 47.4	87.073	C. C. O. 350	11 9 25.76	-17 46 19.1
411	L	. . .	. . .	87.073	Anon.	11 9 16	. . .
412	S	+1 18.64	+3 7.0	88.976	C. C. O. 344	11 6 36.12	-26 12 32.9
413	L	+1 18.64	. . .	87.215	. . .	. . .	. . .
414	M	+1 18.46	. . .	87.261	. . .	. . .	. . .
415	S	-0 36.66	-1 27.6	88.976	C. C. O. 349	11 8 31.55	-26 7 57.3
416	L	-0 36.66	-1 26.8	87.215	. . .	. . .	. . .
417	M	-0 36.92	-1 27.6	87.261	. . .	. . .	. . .
418	S	-1 8.19	-2 7.3	89.015	C. C. O. 354	11 19 14.74	-9 9 26.6
419	M	-1 8.11	-2 6.6	88.029	. . .	. . .	. . .
420	S	-1 48.85	. . .	89.015	C. C. O. 355	11 19 55.63	-9 9 43.0

Number.	Name.	Observed $\Delta\alpha$		No. Comp.	Observed $\Delta\delta$		No. Comp.	Magnitude.	Size.	Notes.
421	Nova	m. $+0$	s. 2.59	20	' $+2$	" 3.7	2	15.0	0.1	
422	...	-0	1.54	14	$+1$	34.6	4	15.5	0.8	R, dif
423	G. C. 2406	$+0$	41.00	16	$+0$	30.5	2	14.7	0.2	
424	...	$+0$	36.87	9	$+0$	0.4	4	14.5	0.3	R, gbM
425	G. C. 2411	$+0$	13.80	8	...		0	15.5	3. x 1.	gbM, dif
426	...	-0	26.79	4	...		0	...	...	
427	...	-0	27.30	3	-1	54.5	1	...	...	
428	G. C. 2441	-1	0.94	12	-2	43.3	4	14.0	14.0	iR, vlbM
429	...	-0	43.44	8	...		0	...	...	
430	Nova	-0	10.70	4	-2	48.6	1	13.5	1.0	1E 170°, gbMN
431	Copernicus, I, p. 50, 22	-1	53.76	12	$+2$	23.4	3	14.5	0.8 x 0.4	E 20°, svlbMN
432	...	-1	53.95	19	$+2$	23.4	3	15.0	0.1	bMN
433	Nova	$+0$	53.92	3	...		0	15.8	1.0 x 0.8	E 90°, dif
434	A. N. 2212, 36	...		0	-2	7.6	1	14.5	0.4	iR,
435	G. C. 2554	-1	26.48	3	...		0	...	...	
436	...	-1	59.08	3	$+0$	49.7	1	...	...	
437	...	...		0	$+0$	45.5	1	12.	2 x 1	E 170°, dif
438	...	-1	59.05	9	...		0	...	...	
439	G. C. 2557	...		0	-0	48.4	2	13.	1.3	R, gbM
440	...	$+1$	1.90	6	-0	48.1	1	...	...	
441	...	$+1$	1.79	9	-0	47.6	4	13.0	1.0	R, vglbM
442	...	-0	20.30	3	...		...	...	...	
443	...	-0	20.08	6	-1	43.2	1	...	...	
444	...	-0	20.36	9	...		...	...	...	
445	G. C. 2570	$+2$	45.10	2	$+0$	5.9	1	14.0	0.4	E 100° $\pm$, bM
446	...	-2	44.80	3	...		0	11.5	0.4	R, gbM
447	...	$+2$	22.55	2	...		0	...	...	
448	...	$+2$	17.35	2	...		0	...	...	
449	...	$+2$	17.13	3	-0	4.2	1	...	...	
450	G. C. 2586	$+3$	11.30	8	$+1$	40.3	2	12.0	0.7 x 0.4	gvmbM

Number.	Observer.	1890.0		Epoch 1800+	Comp. Star.	1890.0	
		$\Delta\alpha$	$\Delta\delta$			α	δ
421	S	^{m.} +0 2.59	['] +2 3.8	89.004	DM. 3360	^{h. m. s.} 11 18 0.6	[°] -13 17.1
422	M	-0 1.54	+1 34.6	87.938	C. C. O. 353	11 18 8.69	-13 15 17.3
423	S	+0 41.00	+0 30.5	89.004	DM. 3360	11 18 0.6	-13 17.1
424	M	+0 36.88	+0 0.4	87.965	C. C. O. 353	11 18 8.69	-13 15 17.3
425	S	+0 13.80	...	89.015	C. C. O. 354	11 19 14.74	-9 9 26.6
426	S	-0 26.80	...	89.015	C. C. O. 355	11 19 55.63	-9 9 43.0
427	L	-0 27.30	-1 54.6	87.286	...	...	...
428	M	-1 0.94	-2 43.4	88.204	C. C. O. 357	11 26 42.93	-13 40 59.3
429	M	-0 43.44	...	88.204	C. C. O. 358	11 27 0.53	-13 34 43.6
430	L	-0 10.70	-2 48.8	87.152	Wash. Cat. 4946	11 31 6.20	-9 11 38.4
431	M	-1 53.77	+2 23.6	88.122	C. C. O. 361	11 34 45.87	-10 4 12.0
432	P	-1 53.96	+2 23.5	89.029	...	...	...
433	M	...	...	88.122	Copernicus, I, p. 50, 22	11 32 52.11	-10 1 48.4
434	M	...	-2 7.6	87.207	C. C. O. 362	11 39 29.32	-16 11 27.1
435	L	...	...	87.084	Anon.	11 42 56	...
436	L	-1 59.10	+0 49.6	87.084	C. C. O. 368	11 43 28.90	-16 15 25.4
437	M	...	+0 45.6	87.207	...	...	...
438	M	-1 59.06	...	87.207	...	...	...
439	S	...	-0 48.5	88.223	C. C. O. 365	11 41 23.12	-10 20 16.2
440	L	+1 1.90	-0 48.0	87.201	...	...	...
441	M	+1 1.79	-0 47.6	88.053	...	...	...
442	S	-0 20.30	...	87.322	C. C. O. 367	11 42 45.72	-10 19 22.8
443	L	-0 20.08	-1 43.2	87.201	...	...	...
444	M	-0 20.36	...	88.053	...	...	...
445	L	+2 45.15	+0 5.8	87.146	C. C. O. 363	11 40 55.12	-28 40 3.0
446	M	+2 44.85	...	87.166	...	...	...
447	L	+2 22.58	...	87.146	C. C. O. 364	11 41 17.64	-28 44 37.7
448	L	+2 17.36	...	87.146	C. C. O. 366	11 41 23.17	-28 40 1.8
449	M	+2 17.16	-0 4.4	87.166	...	...	...
450	P	+3 11.33	+1 40.4	89.081	Anon.	11 42 17	-28 13