KG
11365
869

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HENRY DRAPER MEMORIAL.

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No 51

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Page 149 Z.D. M. no = 17° 4999 is this the right star or should I have taken 49973

Page 149 Look up Plate 3696 7.2 23.0 18h 14.5 −17.3°

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7.7
7.7
2.0 less in Ra 11 more in Dec.

2259
12
71

40.7
2.0
38.7

62

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Count of I Plates

Date	Pl. No.	Date	Pl. No.	Date	Pl. No.	Date	Pl. No.	Date	Pl. No.
Sept. 27, 1889	1								

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Contents.

Plate	Page	Plate	Page	Plate	Page	Plate	Page	Plate	Page	Plate	Page
B	1748	4	5179	206							
	" 3561	8									
	" 1750	14									
	" 2962	20									
	" 2336	36									
	" 3405	56									
	" 3570	62									
	" 3261	68									
	" 3606	74									
	" 3611	78									
	" 2947	82									
	" 4654	88									
	" 3683	92									
	" 3638	100									
	" 5610	112									
	" 4619	116									
	" 4530	122									
	" 3262	134									
	" 3180	140									
	" 3696	148									
	" 5676	156									
	" 5677	162									
	" 3714	168									
	" 4655	172									
	" 5667	176									
	" 4035	180									
	" 4680	190									
	" 4659	194									
	" 5870	200									

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R.A. 3h 20m Dec. −18.4

Fog moon & clouds R-8.0 Fog ch. 6.9

St. Light 6.5

L 1.30

September, 26, 1890

Plate 1748

V	H	class	No. Rem.	Limit	K.	Intens.	Add. Lines	Br.	V	H	V	H
5.8	18.6	~~K~~ L		K	K=H	3	seen	6.2 6.4	2.9	39.6	22.8	14.8
7.2	18.1	M	b	K	K=H	4	seen	5.6 6.2	3.6	36.2	22.1	15.8
7.6	11.6	A		η	N	4	—	4.2	3.8	23.2	21.9	28.8
9.5	21.5	A		α	N	1	—	6.7	4.8	43.0	20.9	9.0
10.0	6.2	A		H	N	1	—	7.9	5.0	12.4	20.7	39.6
10.1	17.2	A		γ	N	2	—	6.3	5.0	34.4	20.7	17.6
10.7	20.2	A		β	N	2	—	6.5	5.4	40.4	20.3	11.6
11.6	8.1	A		α	N	2	—	6.2	5.8	16.2	19.9	35.8
12.1	10.3	A		α	N	1	—	6.7	6.0	20.6	19.7	31.4
12.0	13.1	A		H	N	1	—	8.0	6.0	26.2	19.7	92.8
12.7	23.3	A		α	N	1	—	6.7	6.4	46.6	19.3	5.4
12.6	6.8	A		H	N	1	—	8.0	6.3	13.6	19.4	38.4
13.4	7.4	A		H	N	1	—	7.2	6.7	14.8	19.0	37.2
12.9	18.1	A		β	N	2	—	6.7	6.5	36.2	19.2	15.8
13.5	18.7	F	1	β	K=H	3	—	6.0	6.8	37.4	18.9	14.6
14.3	20.2	F	2	K	K=H	1	—	7.2	7.2	40.4	18.5	11.6
16.0	8.9	F	3	K	K=H	1	—	7.2	8.0	17.8	17.7	34.2
15.7	10.4	A		ζ	N	3	F line.	4.8	7.9	20.8	17.8	31.2
15.8	16.5	H		K	K=H	1		7.0 7.5	7.9	33.0	17.8	19.0
15.7	17.7	A		H	N	1	—	8.0	7.9	35.4	17.8	16.6
17.2	12.8	E		K	K=H	1	—	7.7	8.6	25.6	17.1	26.4
17.1	20.1	A		α	N	1	—	7.4	8.6	40.2	17.1	11.8
18.5	22.4	Kq		H	N	1	—	7.3 7.8	9.8	44.8	16.3 15.7	7.2
19.9	15.1	A		α	N	1	—	7.1	9.8	30.2	15.9	21.8
20.2	8.6	Kq		K	K=H	1	—	6.9 7.1	10.1	17.2	15.6	34.8
20.4	11.6	F	4	K	K=H	1	—	6.9	10.2	23.2	15.5	28.8
22.0	7.7	A		α	N	1	—	6.9	11.0	15.7	14.7	36.6
22.0	14.7	A		β	N	2	—	6.8	11.0	29.4	14.7	22.6

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DM positions entered are for epoch 1855.

cor.s	a.g.c. No.	1900 R.A. h m	1900 Dec. ° ′	Magn.	
-0.6	3588	3 13.9	-22 52	5.3	✓
-0.5	3607	3 15.1	-22 7	3.4	✓
-0.5	3897	3 29.4	-21 58	4.5	✓
-0.8	3459	3 7.7	-20 59	6.9	✓
+1.1	DM-20°700	3 38.9	-20 58	7.3	✓
-0.3	3644	3 17.2	-20 40	6.6	✓
-0.7	3519	3 10.7	-20 23	6.8	✓
+0.8	4067	3 36.9	-19 54	6.8	✓
+0.6	DM-19°708	3 29.9	-19 51	7.3	✓
+0.2	DM-19°689	3 24.1	-19 56	7.5	✓
-0.9	DM-19°617	3 2.3	-19 31	7.3	✓
+1.0	DM-19°733	3 37.4	-19 34	7.0	✓
+0.9	DM-19°732	3 36.2	-19 10	7.4	✓
-0.4	DM-19°654	3 13.2	-19 22	7.3	✓
-0.4	DM-18°622	3 12.6	-19 2	9.4	✓
	3591	3 14.1	-18 55	5.3	✓
	3592	3 14.1	-18 55	8.2	✓
-0.6	DM-18°569	3 8.9	-18 43	7.0	✓
+0.7	DM-17°707	3 33.0	-17 50	6.8	✓
+0.4	3958	3 31.7	-17 48	5.3	✓
-0.2	3671	3 18.7	-17 48	6.8	✓
-0.3	DM-18°393	3 14.1	-18 3	8.0	✓
-0.2	DM-17°685	3 24.8	-17 17	7.0	✓
-0.5	DM-17°631	3 9.1	-17 22	7.3	✓
-0.5	DM-16°587	3 4.3	-16 34	6.3	✓
-0.0	DM-15°578	3 19.7	-15 52	7.2	✓
+0.5	4034	3 35.6 40.0	-15 33	6.5	✓
-0.3	3891	3 29.2	-15 28	7.2	✓
+0.5	4066	3 37.9	-14 37	6.8 7.8	✓
-0.0	3760	3 23.1	-14 43	6.9	✓

No. DM.	RA	Dec	Magn.
559	3 12.0	-23 3	5.8
584	3 13.1	-22 17	4.0
628	3 27.4	-22 7	3.8
576	3 5.7	-21 10	7.0
625	3 15.2	-20 51	6.6
605	3 8.7	-20 34	6.7
687	3 34.9	-20 3	6.6
651	3 12.1	-19 0	5.9
699	3 29.7	-17 57	5.0
654	3 16.7	-17 57	6.0
634	3 33.5	-15 42	6.0
617	3 27.0	-15 37	6.3
732	3 35.2	-14 50	7.2
677	3 20.9	-14 52	6.8

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September, 26, 1890.

Plate 1748.

	V. H.	V. H.	Class	Rem.	Limit	K.	Intens.	Add. Lines	Br.	V. H	V. H.		
	22.6	16.1	A		α	K=.3	2		6.6	11.3	322	14.4	19.8
	23.7	12.9	A		H	K	1	—	·	11.8	25.8	13.7	26.2
L. 2.5	24.0	22.7	F	5	H	K	1	—	·	12.0	45.4	13.7	6.6

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DM. positions entered are for 1855.

	No A.G.C.	Ra 1900	Dec. 1900	Magn.	No. DM.	R.A.	Dec.	Magn.
.8 -0.1	3690	3h 19.8	- 14° 21′	6.9	6613	17.6	- 14 31′	6.3
.2 -0.2	Dm-13°674	3 24.4	- 13 60	7.5				
.6 -0.5	3426	3 6.4	- 13 38	6.4	6043	4.2	- 13 49	6.3

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8

St. Lt. 6.3, 6.7, 7.1, 7.8

Fog. moon & clouds 8.2 – 7.5

Fog. chr. 7.7

R.A. 14h 4m ½ Decl -25°

H. 1.40

September, 27, 1890

Plate 3561

V.	H.	Class.	Rem.	No. Limit	K	Intens.	Land Lines	End by K	Br.	V. H.	V. H.	
4.5	7.3	A		α	N	1	–	–	7.0	2.3	14.6	16.3 6 28.7	∓0.
4.3	17.9	F	6	K	K=H	1	–	–	7.0	2.2	35.8	16.2 5 49.9	∓0.
5.3	14.3	F	7	K	K=H	2	–	–	6.7	2.7 6	28.6	16.7 6 42.7	+0.
4.8	15.5	A		H	N	1	–	–	~~8.0~~ 7	2.4	31.0	16.4 7 45.1	+0.
5.3	18.7	K~~A~~		H	N	1	–	–	6.9 7.6	2.7 6	37.4	16.7 6 51.5	+0.
6.4	9.9	F	8	K	K=H	1	–	–	8.0	3.2	19.8	17.2 5 33.9	∓0.
6.1	15.6	G	9	K	K=H	2	–	0.7m	5.8	3.0	N.2	17.8 3 4 25.3	∓0.
8.0	11.1	F	10	K	K=H	1	–	–	8.0	4.0	22.2	18.0 3 36.3	∓0.
7.2	15.8	L		K	K=H	2	Reen	–	6.3 6.8	3.6	31.6	17.6 9 45.7	+0.
8.6	13.1	A		K	K=H	1	–	–	7.0	4.3	26.2	18.3 6 40.3	∓0.
8.5	17.9	F	11	K	K=H	1	–	–	6.9	4.3 2	35.8	18.3 5 49.9	+0.
9.2	11.6	K~~A~~		H	N	1	–	–	6.7 7.3	4.6	23.2	18.6 9 37.3	∓0
10.4	11.0	H		H	N	1	–	–	6.9 7.6	5.2	22.0	19.2 5 36.1	∓0
10.3	14.8	A		β	K=.4	2	F	–	6.0	5.2	29.6	19.2 5 43.7	∓0
10.4	16.6	A.		H	N	1	–	–	6.8	5.2	33.2	19.2 5 47.3	+0
10.5	17.3	K2		K	K=H	1	–	–	7.2 7.8	5.3	34.6	19.3 5 48.7	+0.
11.4	7.9	A		δ	N	3	F	–	5.4	5.7	15.8	~~19.7~~ 20.0 29.9	∓0
11.7	15.7	H		H	N	1	–	–	7.5 8.0	5.9 8	31.4	~~19.9~~ 20.2 45.5	+0
11.5	22.3	F	12	K	K=H	1	–	–	7.5	5.8	44.6	~~19.8~~ 20.1 58.7	+0
11.7	24.2	F	13	K	K=H	1	–	–	6.5	5.9 8	48.4	~~19.9~~ 20.2 62.5	+1.
12.1	6.1	H		K	K=H	1	F	–	6.8 7.1	6.0	12.2	20.0 3 26.3	∓1.
12.7	7.4	F	14	K	K=H	1	–	–	7.4	6.4	14.8	20.4 7 28.9	∓0.
12.8	13.3	G.	15	K	K=H	3	F	0.5m	5.6	6.4	26.6	20.4 7 40.7	∓0
13.0	13.8	K2		H	N	2	–	–	6.3 7.6	6.5	27.6	20.5 8 41.7	∓0
13.9	10.3	A		α	N	1	–	–	7.5	7.0 6.8	20.6	20.0 13 34.7	∓0
13.1	18.3	K2		K	K=H	3	–	–	6.2	5.2 6.6	36.6	20.6 9 50.7	+0
13.1	19.5	A		H	N	1	–	–	V8.0	6.6	39.0	20.6 9 53.1	+0
14.9	5.6	F	16	K	K=H	2			6.2	7.5 7	17.2	21.2 7 8 31.3	∓0.

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DM. positions entered are for 1855.

A. G. C. no.			Mag.	DM. No.	R.A. 1855	Dec. 1855	Mag.
∓0.5	DM -16 3892	14 26.0	-16 11 7.2 ✓				
∓0.4	DM -16 3970	14 48.2	-16 12 7.0 ✓				
+0.1	20068	14 43.0	-16 55 7.0 ✓	3939 L	14	40.4	-16 43 7.0
+0.0	DM -16° 3949	14 43.2	-16 23 8.6 ✓				
+0.6	20291	14 52.5	-16 58 6.9 ✓	3972	14	50.0	-16 46 6.8
∓0.6	DM -17° 4138	14 31.3	-17 16 7.8 ✓				
∓0.0	DM -17° 4196	14 43.5	-17 10 6.7 ✓				
∓0.7	DM -18° 3879	14 33.7	-18 3 8.0 ✓				
+0.0	20130	14 46.2	-17 56 6.5 ✓	4200	14	43.7	-17 45 6.4
∓0.4	DM -18 3891	14 37.9	-18 22. 8.4 ✓				
+0.4	DM -18° 3933	14 48.1	-18 20 7.5 ✓				
∓0.7	DM -18° 3882	14 34.6	-18 41 7.0 ✓				
∓0.7	DM -19 3939	14 33.3	-19 18 7.3 ✓				
∓0.0	DM -19 3966	14 41.3	-19 18 7.3 ✓				
+0.1	DM -19 3978	14 45.4	-19 22 7.5 ✓				
+0.2	DM -19 3979	14 46.9	-19 23 7.3 ✓				
∓0.3	19744	14 29.2	-20 0 6.8 ✓	3903	14	26.7	-19 48 6.7
+0.0	DM -20° 4107	14 43.3	-20 1 7.9 ✓				
+0.5	DM -19° 4019	14 57.5	-19 51 8.2 ✓				
+1.0	DM -19 4036	14 1.5	-19 58 7.3 ✓				
∓1.0	DM -20° 4043	14 22.7	-20 4 7.3 ✓				
∓0.4	DM -20° 4052	14 25.6	-20 24 8.3 ✓				
∓0.4	20010	14 40.5	-20 45 6.8 ✓	4087	14	38.0	-20 33 6.4
∓0.2	20037	14 41.5	-20 54 6.4 ✓	4093	14	39.0	-20 43 6.3
∓0.7	DM -21° 3942	14 31.6	-21 2 8.3 ✓				
+0.4	20256	14 51.6	-20 57 7.2 ✓	4123	14	49.0	-20 46 8.7
	20257	14 51.6	-20 57 6.3 ✓	4125	14	49.0	-20 46 6.0
+0.7	DM. -20 4134	14 51.5	-20 36 8.5 ✓				
∓0.5	19770	14 30.4	-21 45 7.5 ✓	3933	14	27.9	-21 33 7.5

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1889phae.proj..870F

L. 2.5

September, 27, 1890

Plate · 3561

δ	H.	class.	Rem.	Limit	K	Intens.	Cont. Lines	End Beyond K.	Br.	V.	H	N.	H.	
14.9	9.1	A		H	K	1	—	—	7.2 / 7.7	7.5	18.2	21.5	32.3	∓0.
14.5	22.6	K4		K	K=H	3	—	—	5.7 / 6.3	7.3	45.2	21.3	59.3	+0
15.5	6.1	A	17	β	K	2	—	—	6.0	7.8	12.2	21.8	26.3	∓1.
15.4	7.8	K		K	K=H	1	—	—	7.2 / 8.0	7.7	15.6	21.7	29.7	∓0
15.1	9.9	A		γ	K	2	F	—	6.2	7.6	19.8	21.6	33.9	∓0
15.7	10.9	A		α	K=H	2	—	—	6.1	7.9	21.8	21.9	35.9	∓0
15.2	13.1	A		β	K=.2?	1	—	—	6.3	7.6	26.2	21.6	40.3	∓0
15.2	13.4	F	18	K	K=H	1	F	—	6.4	7.6	26.8	21.6	40.9	∓0
15.2	19.0	F	19	K	K=H	1	—	—	7.2	7.6	38.0	21.6	52.1	+0
15.3	22.4	K		K	K=H	1	—	—	7.3 / 8.0	7.7	44.8	21.7	58.9	+0
16.6	13.3	K2		K	K=1.2	3	—	—	5.4 / 5.8	8.3	26.6	22.3	40.7	∓0
16.5	22.0	A		β	K	2	—	—	6.0	8.3	44.0	22.3	58.1	+0
17.5	x6.8	G	20	K	K=H	2	—	—	6.2	8.8	33.6	22.8	47.7	∓0
17.3	11.6	K		K	K	1	—	—	7.3 / 8.0	8.7	23.2	22.7	37.3	∓0
17.4	16.5	F	21	K	K=H	1	—	—	7.5	8.7	33.0	22.7	47.1	+0
17.2	22.5	F	22	K	K=H	1	—	—	6.4	8.6	45.0	22.6	59.1	+0
18.5	10.9	K?		K	K=H	1	—	—	6.7 / 7.2	9.3	21.8	23.3	35.9	∓0
18.6	12.5	K2		K	K=H	1	—	—	7.0 / 8.0	9.3	25.0	23.3	39.1	∓0
18.8	14.8	K		K	K=H	3	—	—	5.7 / 6.4	9.4	29.6	23.4	43.7	∓0
18.9	15.0	A		K	K	1	—	—	8.0	9.5	30.0	23.5	44.1	∓0
18.6	16.2	A		β	K	2	—	—	6.3	9.3	32.4	23.3	46.5	+0
18.3	16.7	A		δ	K=3	2	F	—	5.9	9.2	33.4	23.2	47.5	+0
19.0	17.6	A		K	K=H	1	—	—	7.6	9.5	35.2	23.3	49.3	+0
18.9	18.0	K		K	K=H	1	—	—	7.3 / 8.0	9.5	36.0	23.5	50.1	+0
18.8	22.4	K		K	K=H	2	F	—	6.7 / 7.0	9.4	44.8	23.4	58.9	+1.
18.9	22.9	K		K	K	1	—	—	7.2 / 7.6	9.5	45.8	23.5	59.9	+1.
18.5	24.0	K		K	K=H	1	—	—	6.9 / 7.6	9.3	48.0	23.3	62.1	+1.
19.4	11.8	F	23	K	K=H	1	—	—	7.5	9.7	23.6	23.7	37.7	∓0

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DM. positions entered are for 1855.

	A.G.C. No.	Ra. 1900 h m	Dec. 1900 ° ′	Magn	DM. No	Ra 1855	Dec. 1855	Mag.
3	∓0.5 DM-21°3935	14	28.8 -21	30′ 7.9 ✓				
3	+0.5 20492	15	0.6 -21	39′ 6.5 ✓	4030	14	58.1 -21	28 6.5
3	∓1.2 DM-21°3917	14	22.5 - 21	49 7.0 ✓	~~3917~~	~~14~~	~~22.5~~ ~~-21~~	~~49~~ 7.0
7	∓0.5 DM-213929	14	26.2 - 21	45 7.5 ✓				
9	∓0.6 DM-21°3941	14	30.7 - 21	42 8.0 ✓				
9	∓0.7 19885	14	35.4 - 22	11 7.8 ✓	3946	14	32.8 -21	59 7.3
3	∓0.4 DM-21°3959	14	37.5 - 21	48 7.8 ✓				
9	∓0.4 DM-21°3961	14	38.2 - 21	47 7.8 ✓				
.1	+0.6 DM-21°4004	14	50.3 - 21	49 7.5 ✓				
9	+0.5 DM-21°4028	14	57.7 - 21	50 7.6 ✓				
.7	∓0.4 20002	14	40.3 - 22	43 6.2 ✓	3844	14	37.8 - 22	32 6.3
.1	+0.5 DM-223897	14	56.9 - 22	27 7.5 ✓				
7.7	∓0.1 19682	14	26.4 - 23	0 8 ✓	3803	14	23.9 - 22	48 7.0
3	∓0.7 19910	14	36.6 - 22	59 8.2 ✓	3829	14	34.1 - 22	48 7.2
71	+0.1 DM-22°3858	14	45.0 - 22	52 8.3 ✓				
?.1	+0.5 20482	15	0.3 - 22	56 7.5 ✓	3901	14	57.8 - 22	45 8.0
9	∓0.7 19878	14	35.1 - 23	37 7.4 ✓	4510	14	32.5 - 23	26 7.3
?.1	∓0.4 19952	14	38.5 - 23	42 7.2 ✓	4520	14	36.0 - 23	31 6.9
37	∓0.0 20080	14	43.5 - 23	50 6.3 ✓	4543	14	41.0 - 23	39 5.4
+1	∓0.0 20093	14	44.1 - 23	48 8.8 ✓	4545	14	41.6 - 23	37 8.5
.5	+0.0 20145	14	46.8 - 23	42 8.5 ✓	4538	14	44.3 - 23	31 7.7
5	+0.1 20173	14	48.1 - 23	34 7.8 ✓	4565	14	45.5 - 23	23 7.2
3	+0.4 20219	14	50.0 - 23	52 9.5 ✓	4571	14	47.4 - 23	42 8.2
.1	+0.4 20236	14	50.7 - 23	51 8 ✓	4574	14	48.1 - 23	40 7.7
.9	+1.5 20480	15	0.4 - 23	46 7.2 ✓	4608	14	57.7 - 23	33 7.4
9.9	+1.2 20507	15	1.5 - 23	49 7.2 ✓	4614	14	58.8 - 23	38 7.2
2.1	+1.2 20557	15	4.1 - 23	36 6.8 ✓	4622	15	1.4 - 23	25 7.0
7.7	∓0.7 19923	14	37.1 - 24	3 8 ✓	4514	14	34.5 - 23	52 7.8

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September, 27, 1890

Plate 3561

	R.	H.	Class	Rem.	Limit	K	Intens.	Add. Lines	End. Beyond K	Br.	V	A.	V.	H	
	19.4	12.1	A		H	K	1	—	—	7.5	9.7	24.2	23.7 (40)	38.3	+0
	19.5	17.0	K		K	K=1.5	3	—	—	5.5 6.4	7.8	34.0	23.8 (41)	48.1	+0
	20.3	12.0	A		η	K	4	F	—	4.5	13.2	24.0	24.2 (5)	38.1	+0
4.3 5.0 6.2	20.9	21.4	K	24	K	K=H?	4	—	0.3	4.6 5.3	10.5	42.8	24.5 (8)	56.9	+0
	21.3	6.5	A		K	K	1	—	—	7.5	10.7	13.0	24.7 (50)	27.1	+1
	21.2	13.3	A?	24	ε	K=H	4	—	—	4.5	10.6	26.6	24.6 (9)	40.7	+0
	21.6	13.9	A		η	K	3	F	—	4.8	10.8	27.8	24.8 (51)	41.9	+0
	21.3	14.4	F	25	K	K=H	2	—	—	6.4	10.7	28.8	24.7 (50)	42.9	+0
	21.3	18.4	A		γ	K=2?	2	—	—	6.0	10.7	36.8	24.7 (50)	50.9	+0
	22.9	10.7	A		K	K	2	—	—	6.2	10.5	21.4	24.8 (8)	35.5	+0
	22.5	12.3	A		H	K	1	—	—	7.7	11.3	24.6	25.3 (6)	38.7	+0
	22.5	14.1	K2		K	K=1.5	3	—	—	5.3 5.7	11.3	28.2	25.3 (6)	42.3	+0
	23.0	18.1	A		δ	K	2	—	—	5.9	11.5	36.2	25.3 (8)	50.3	+0
	22.1	22.1	A	26	γ	K	2	—	—	5.7	11.0	44.2	25.8 (3)	58.3	+1
	24.0	10.5	F	27	K	K=H	2	—	—	6.5	12.0	21.0	26.0 (3)	35.1	+0
2.30	23.6	14.2	A		ε	K	3	F	—	5.5 7.8	11.8	29.4	26.1 (8)	43.5	+0

14.0 2

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nv. Z. C. position enclosed is for 1875

	A. G. C	Ra. 1900	Dec. 1900	Magn.
8.3	∓0.7	19936	14 37.7	−24 2 9 ✓
8.1	+0.3	20184	14 48.5	−24 14 5.8 ✓
8.1	∓0.7	19930	14 37.4	−24 34 5.8 ✓
6.9	+0.7	20431	14 58.3	−24 53 3.5 ✓
7.1	∓1.5	19653	14 25.2	−24 52 8 ✓
0.7	∓0.4	19997	14 40.2	−25 1 5.2 ✓
1.9	∓0.2	20035	14 41.5	−25 12 6.1 ✓
2.9	∓0.1	20063	14 42.6	−25 4 9 ✓
5.9	+0.6	20260	14 51.7	−25 2 7.1 ✓
3.5	∓0.7	19865	14 34.6	−25 50 6.9 ✓
8.7	∓0.6	Zone 6232	14 36.6	−25 28 8 ✓
2.3	∓0.1	20044	14 42.0	−25 40 5.8 ✓
0.3	+0.5	20243	14 51.1	−25 53 7.0 ✓
8.3	+1.2	20471	14 39.9	−25 24 7.0 ✓
5.1	∓0.7	19848	14 33.8	−26 18 6.9 ✓
3.5	∓0.0	20048	14 42.2	−26 13 6.3 ✓

D.M. No. Ra. 1855 Dec. 1855 Magn.
4517 h 14 35.2 −23° 50′ 8.6

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1889phae.proj..870F

St. Lt. 6.2 R.A. 5h 22m Dec. −18.2

Fog. moon & clouds R-8.0 Fog. ch. 6.9

L. 2.00

October, 1890

Plate 1750

	T. M.	Class	No. Rem	Limit	K.	Intens	Odd Lines	End Beyond	K.	Br.	V	M	V	M	
	5.4	20.1	A		B	N	1	—	—		6.7	2.7	40.2 10.0	22.8	12.9	−0.7
	6.5	6.9	F	28	K	K=1.5	4	F	1.2m		4.7	3.3	13.8	22.2 3	39.3	+1.2
	6.7	8.0	A		δ	K=.2	2	—	—		6.0	3.4	16.0	22.1	37.1	+0.3
	6.3	8.8	A		H	N	1	—	—		8.0	3.1	17.6	22.4	35.5	+0.4
	6.5	14.4	F	29	K	K=H	1	—	—		7.4	3.3	28.8	22.2	24.3	+0.4
	6.6	16.5	A		K	K=H	1	—	—		7.4	3.3	33.0	22.2	20.1	−0.4
	7.9	21.0	A		H	N	1	—	—		7.6	3.9	42.0	21.6	11.1	−0.8
	8.1	6.8	A		B	N	2	—	—		6.5	4.0	13.6	21.5	39.3	+1.0
	8.5	14.8	~~K~~ L		K	K=H	1	—	—		6.5 7.1	4.3	29.6	21.2	23.5	+0.4
δ	9.6	18.0	A		η	K=.1	4	F	—		4.7	4.8	36.0	20.7	17.1	−0.2
	9.5	13.2	A		δ	N	2	F	—		5.3	4.8	26.4	20.7	26.7	+0.2
	9.2	14.0	A		K	K=H	1	—	—		7.1	4.6	28.0 8	20.9	25.1	+0.4
	9.6	14.6	G		K	K=H	4	F	2.5m		4.1	4.8	29.2	20.7	23.9	+0.4
	9.8	15.3	A		H	N	1	—	—		7.5	4.9	30.6	20.6	22.5	−0.4
	9.5	14.8	A		H	N	1	—	—		8.0	4.8	29.6	20.7	23.5	+0.2
	9.1	17.9	A		B	N	1	—	—		7.1	4.5	35.8	21.0	17.3	−0.2
	9.5	22.6	A		H	N	1	—	—		7.0	4 2.8	45.2	20 15.7	7.9	−0.8
	10.4	9.2	A		γ	N	2	—	—		6.2	5.2	18.4	20.3	34.7	+0.4
	11.1	6.9	F	30	K	K=H	2	—	—		6.7	5.5	13.8	20.0	39.3	+1.2
	11.6	16.5	A		H	N	1	—	—		7.5	5.8	21.0	19.7	32.1	+0.4
	11.7	15.6	F	31	χ	K=H	2	—	—		5.7	5.8 8	31.2	19.7	21.9	−0.2
Double ?	11.4	17.2	A	32	α	N	1	—	—		6.8	5.7	34.4	19.8	18.7	−0.2
	12.9	15.0	A?		K	K=H	1	—	—		7.8	6.5	30.0	19.0	23.1	−0.2
	12.4	16.1	A		χ	N	2	—	—		6.4	6.2	32.2	19.3	20.9	−0.2
Double ?	13.9	18.8	A	33	χ	N	2	—	—		5.2	6.9	37.6	18.6	15.5	−0.2
	13.6	23.0	A		H	N	1	—	—		7.7	6.8	46.0	18.7	7.1	−0.8
	14.1	7.5	A		δ	N	2	—	—		5.4	7.0	15.0	18.5	38.1	+0.2
	14.5	11.9	A		δ	N	1	—	—		7.0	7.2	23.8	18.2 3	29.3	+0.2

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Nov. DM Pos. entirely are for 1855-

		A. G. C.	R.A. 1900	Dec. 1900	Magn.	DM No.	R.A. 1855-	Dec. 1855-	Magn.
2.9	-0.7	6045	5h 11.5	-23° 0′	6.9 ✓	1000	5h 9.7	-23 3	7.0
9.3	+1.2	6733	5 40.4	-22 28	3.6 ✓	1211	5 38.4	-22 30	4.0
7.1	+0.5	6681	5 38.1	-22 25	6.4 ✓	1194	5 36.1	-22 27	6.6
5.5	+0.5	DM-22° 1186	5 34.3	-22 44	8.0 ✓				
4.3	+0.1	DM-22° 1122	5 22.3	-22 34	6.6 ✓				
20.1	-0.1	6221	5 19.5	-22 23	8.2 ✓	1099	5 17.5	-22 27	7.3
1.1	-0.7	6013	5 9.9	-21 46	9.5 ✓	1108	5 8.0	-21 49	9.5
		6009	5 9.9	-21 46	7.5 ✓	1107	5 7.9	-21 49	7.5
39.3	+1.0	6742	5 40.6	-21 42	7.0 ✓	1252	5 38.7	-21 43	7.2
		6321	5 23.4	-21 28	6.5				
23.5	+0.0	DM-21 1173	5 21.4	-21 2	8.3 ✓	1174	5 21.4	-21 30	6.1
7.1	-0.4	6140	5 16.2	-21 20	9.8 ✓	1130	5 14.3	-21 23	5.0
		6141	5 16.2	-21 20	4.9 ✓				
6.7	+0.2	6404	5 26.9	-20 56	5.9 ✓	1105	5 24.9	-20 58	6.0
25.1	+0.1	DM-21 1179	5 23.3	-21 10	7.7 ✓				
13.9	+0.0	6344	5 24.0	-20 51	2.9 ✓	1096	5 22.0	-20 53	3
2.5	-0.0	DM-20° 1083	5 20.2	-20 51	7.5 ✓				
3.5	+0.0	DM-21° 1173	5 21.4	-21 2	8.3 ✓				
7.3	-0.5	DM-21° 1137	5 14.7	-21 11	8.0 ✓				
7.9	-0.5	DM-20° 1025	5 4.5	-20 56	7.3 ✓				
4.7	+0.5	DM-20 1147	5 33.5	-20 32	7.0 ✓				
9.3	+1.0	6725	5 40.2	-20 10	6.8 ✓	1171	5 38.2	-20 12	6.5
2.1	+0.7	DM-19° 1223	5 30.6	-19 44	8.3	Is it DM-20 1122 or -19° 1224 ?			
1.9	-0.0	6285	5 21.7	-19 47	6.1 ✓	1172	5 19.7	-19 48	8.5
						1173		-19 49	6.0
8.7	-0.3	DM-20° 1070	5 16.3	-20 11	7.6 ✓				
		DM-19° 1156	5 16.3	-19 59	8.8 ✓				
3.1	-0.0	DM-19 1182	5 20.9	-19 14	8.1 ✓	Is there superposition			
0.9	-0.0	6253	5 20.7	-19 27	7.5 ✓	1166	5 18.7	-19 30	7.5
5.5	-0.6	6118	5 14.9	-18 36	7	1055	5 12.9	-18 40	7.3
		6116	5 14.9	-18 37	6.8 ✓	1056	5 12.9	-18 40	7.0
7.1	-0.5	DM-18° 1018	5 4.2	-18 51	7.8 ✓				
8.1	+0.5	6695	5 89.0	-18 36	6.0 ✓	1172	5 37.0	-18 38	6.0
3	+0.7	DM-18 1126	5 27.9	-18 26	7.9 ✓				

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L.
2.20

October, 1, 1890.

Plate 1750

T.	H.	Class.	No. Rem.	Limit	K.	Intens.	Grad. Since	Grad. Ends Beyond K	Br.	V	H	V. H.	
14.6	19.1	G	34	K	K=H	2	—	0.6 m.	6.0	7.3	38.2	18.2	14.9	-0
15.9	8.4	A		H	N	1	—	—	7.7	7.9	16.8	17.6	36.3	+0
15.5	9.5	A		δ	N	2	—	—	5.7	7.8	19.0	17.7	34.1	+0
15.4	12.6	A	35	λ	K=H	5	F	—	B	7.7	25.2	17.8	27.9	+0
15.8	17.6	K		H	N	1	—	—	7.0 7.8	7.9	35.2	17.6	17.9	-0
15.9	19.2	G		K	K=H	1	—	—	7.8	7.9	38.4	17.6	14.7	-0
15.4	19.8	A			K=8	2	—	—	6.1	7.7	38.6	17.8	13.5	-0
16.1	8.1	K		H	N	1	—	—	7.1 8.0	8.0	16.2	17.5	36.9	+0
17.0	16.5	A		ε	K=1	3	F	—	5.3	8.5	33.0	17.0	20.1	-0
16.6	17.1	A		α	N	1	—	—	7.7	8.3	34.2	17.2	18.9	-0
16.6	20.1	B		δ	N	2	—	—	5.6	8.3	40.2	17.2	12.9	-0
16.0	22.1	A		H	N	1	—	—	7.8	8.0	44.2	17.5	8.9	-0
16.7	21.8	A?		H	N	1	—	—	7.7	8.3	43.6	17.2	9.5	-0
17.2	7.9	A		H	N	1	—	—	7.9	8.6	15.8	16.9	37.3	+0
17.7	8.3	A		ε	N	2	—	—	5.5	8.8	16.6	16.7	36.5	+0
17.1	9.0	A		H	N	1	—	—	8.0	8.6	18.0	16.9	35.1	+0
17.1	9.8	A		α	N	1	—	—	7.5	8.6	19.6	16.9	33.5	+0
17.5	11.0	A		H	N	1	—	—	7.9	8.8	22.0	16.7	31.1	+0
17.8	13.1	A		K	K=H	1	—	—	7.7	8.9	26.2	16.6	26.9	+0
18.1	15.2	F	36	K	K=H	1	—	—	7.1	9.0	30.4	16.5	22.7	-0
18.1	15.5	A		H	N	1	—	—	7.7	9.0	31.0	16.5	22.1	-0
18.4	15.4	A		H	N	1	—	—	7.5	9.2	30.8	16.3	22.3	-0
18.4	22.1	A		ϑ	N	5	F	—	B	9.2	44.2	16.3	8.9	-0
19.6	11.4	B		δ	N	2	—	—	6.0	9.8	22.8	15.7	30.3	+0
19.6	15.5	A?		K	K=H	1	—	—	7.8	9.8	31.0	15.7	22.1	-0
20.7	18.1	A		α	K=H	1	—	—	6.8	10.3	36.2	15.2	16.9	-0
20.4	19.9	A		δ	N	2	—	—	6.0	10.2	39.8	15.3	13.3	-0
21.5	5.8	A	37	ε	N	4	F	—	4.2	10.8	11.6	14.7	41.5	+1

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H.		A.G. No. 6	R.A. 1855	Dec. 1855	Magn.		DM. No.	R.A. 1855	Dec. 1855	Magn.
4.9	-0.7	DM-18 1057	5 12.4	-18	14	6.3 ✓	1051	5 12.4	-18 17	6.3
6.3	+0.5	DM-17 1211	5 35.1	-17	48	8.0 ✓				
4.1	+0.9	6696	5 34.9	-17	53	7.6	1200	5 32.9	-17 53	8.3
		6594	5 34.9	-17	54	6.7 ✓	1199	5 32.9	-17 56	6.7
2.7.9	+0.4	6436	5 28.3	-17	54	2.7 ✓	1166	5 26.3	-17 55	3
7.9	-0.4	6170	5 17.5	-17	42	6.6 ✓	1098	5 15.5	-17 45	6.8
4.7	-0.7	6106	5 14.3	-17	40	8 ✓	1081	5 12.3	-17 43	8.0
3.5	-0.7	6075	5 12.9	-17	53	7.0 ✓	1073	5 11.0	-17 56	7.0
6.9	+0.5	6670	5 37.8	-17	35	6.7 ✓	1214	5 35.8	-17 36	6.0
0.1	-0.1	6234	5 20.0	-17	3	5.9 ✓	1117	5 18.0	-17 7	6.3
8.9	-0.1	DM-17 1108	5 16.7	-17	21	8.3 ✓				
2.9	-0.7	6061	5 12.3	-17	15	6.7 ✓	1069	5 10.4	-17 18	7.0
8.9	-0.8	DM-17 1047	5 6.1	-17	38	8.6				
		DM-17 1046	5 6.1	-17	38	8.5 ✓				
9.5	-0.8	DM-17 1054	5 7.1	-17	16	7.3 ✓				
		DM-17 1215	5 36.1	-17	5	8.1 ✓				
7.3	+0.5	6671	5 37.9	-16	47	9.2				
6.5	+0.5	6658	5 37.2	-16	46	6.5 ✓	1208	5 36.2	-16 48	6.5
5.1	+0.5	DM-17 1206	5 33.8	-17	11	8.3 ✓				
3.5	+0.6	DM-17 1197	5 32.3	-17	9	8.0 ✓				
1	+0.6	DM-16 1180	5 29.6	-16	58	8.4				
		DM-16 1179	5 29.3	-16	41	8.5 ✓				
		DM-16 1165	5 25.5	-16	47	7.0 ✓				
6.9	+0.2	6432	5 28.2	-16	24	7.6				
2.7	-0.0	6306	5 22.7	-16	37	7.8 ✓	1147	5 20.7	-16 38	7.5
5.1	-0.0	DM-16 1145	5 20.4	-16	37	8.5 ✓				
3	-0.0	DM-16 1146	5 20.5	-16	27	8.0 ✓				
9	-0.9	5984	5 8.4	-16	19	3.4 ✓	1072	5 6.4	-16 23	3
3	+0.7	6500	5 30.9	-15	48	6.9 ✓	1089	5 28.9	-15 50	7.2
1	-0.0	DM-15 1040	5 20.2	-15	53	8.5				
		DM-15 1035	5 19.6	-15	36	8.2 ✓				
9	-0.3	DM-15 1018	5 14.7	-15	18	7.5 ✓				
							1000	5 11.0	-15 23	8.6
3	-0.7	6077	5 13.0	-15	19	6.8 ✓	1001	5 11.0	-15 23	7.2
5	+1.0	6778	5 42.4	-14	51	3.6 ✓	1232	5 40.4	-14 53	4.0

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L.
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October, 1, 1890

Plate 1750

v. H.	class	No. Rem.	Limit	K.	Intens.	Gold lines	Enc. temp. K.	Br.	V.	H	V	H.	
21.9	18.1	A		β	N	2	—	—	6.5	10.9	36.2	14.6	16.9	-
22.0	20.7	A		α	N	1	—	—	7.2	11.0	41.4	14.5	11.7	-
21.6	21.7	A		γ	K=H	2	—	—	6.0	10.8	43.4	14.7	9.7	-
23.3	15.6	A		β	K=3	2	—	—	6.7	11.7	31.2	13.8	21.9	-
23.1	17.1	B	38	∂	N	3	—	—	4.9	11.6	34.2	13.9	18.9	-
23.4	18.0	A		δ	N	2	—	—	6.0	11.7	36.0	13.8	17.1	-
23.9	20.0	~~K~~ L		K	K=H	2	—	—	6.1 / 6.5	11.9	40.0	13.6	13.1	-
24.0	15.2	A		H	N	1	—	—	7.5	12.0	30.4	13.5	22.7	-
2.55 24.6	19.1	B	39	R	N	4	F	—	·	12.3	38.2	13.2	14.9	-

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1889phae.proj..870F

Nos. DM. Pos. entered are for 1855.

	A.G.C.	R.A. 1900	Dec. 1900	Magn.	DM No.	R.A. 1855	Dec. 1855	Magn.
-0.5	6151	5 16.8	-14 39	7.5	1105	5 14.7	-14 42	7.8
-0.7	DM-14°1080	5 9.4	-14 40	7.8				
-0.8	6002	5 9.4	-14 43	6.5	1074	5 7.4	-14 46	6.0
-0.0	DM-13°1152	5 20.0	-13 59	7.5				
-0.3	6207	5 18.9	-14 1	5.7	-14° 1119	5 16.9	-14 4	5.8
-0.5	6164	5 17.2	-13 51	6.9	1135	5 15.2	-13 54	7.2
-0.7	6076	5 13.0	-13 37	6.0	1116	5 11.0	-13 40	6.0
-0.0	DM-13 1158	5 20.9	-13 42	7.5				
-0.7	6117	5 15.0	-13 16	4.1	-13° 1127	5 12.9	-13 20	5.0

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1889phae.proj..870F

St. Lt. 5.0 R.A. 5h 57m Dec. −18.°4

Fog moon & clouds. 6.3 − 6.0

Fog. ch. 6.9

h. 4.15

October, 3, 1890.

Plate 2962

V	H.	Class	Rem.	No. Limit	K.	Intens.	Lines	Grd. beyond K.	Bri.	V	H.	V	H.	
4.2	6.4	A		H	N	1	—	—	7.6	2.1	12.8	23.3	76.6	+
4.0	7.2	H		K	K=H	1	—	—	7.0 7.5	2.0	14.4	23.4	75.0	+
4.9	13.5	A		β	K=H	1	F	—	6.8	2.5	27.0	22.9	62.4	+
4.9	13.7	A		ε	K=2	3	F	—	5.1	2.5	27.4	22.9	62.4	+
4.7	15.2	H		K	K=H	1	—	—	7.5 8.0	2.9	30.4	23.1	59.0	+
4.7	18.1	H		K	K=H	2	—	—	6.5 7.2	2.3	36.2	23.1	53.2	-
4.2	20.6	F	40	K	K=H	1	—	—	7.1	2.1	41.2	23.3	48.2	-
5.8	8.8	F	41	K	K=H	2	—	—	6.0	2.9	17.6	22.5	71.8	+
5.6	11.5	A		α	N	1	—	—	7.2	2.8	23.0	22.6	66.4	+
5.6	12.2	F	42	γ K	K=H	2	F	—	5.5	2.8	24.4	22.6	65.0	+
5.4	18.4	K1		K	K=H	2	—	—	6.0 6.6	2.7	36.8	22.7	52.6	-
5.2	20.5	H		K	K=H	2	—	—	6.0 6.6	2.6	41.0	22.8	48.4	-
5.0	21.3	A		β	N	3	F	—	5.5	2.5	42.6	22.9	46.8	-
7.0	7.6	H		H	N	1	—	—	6.7 7.4	3.5	15.2	21.9	74.2	+
6.5	8.8	A		β	N	2	—	—	6.1	3.2	17.6	22.2	71.8	+
6.6	7.8	A		H	N	1	—	—	7.9	3.3	15.6	22.1	73.8	+
6.9	9.5	A		H	N	1	—	—	7.9	3.5	19.0	21.9	70.4	+
6.1	10.9	A:		H	N	1	—	—	6.9	3.0	21.8	22.4	67.6	+
6.9	12.2	H		K	K=H	1	—	—	7.0 7.5	3.4	24.4	22.0	65.0	+
6.3	12.6	A		ε	N	3	F	—	4.9	3.1	25.2	22.3	64.2	+
1 6.3	13.1	A		H	N	1	—	—	7.8	3.1	26.2	22.3	63.2	+
2 6.1	13.4	A		α	N	1	—	—	6.6	3.0	26.8	22.4	62.6	+
3 6.4	13.6	A		H	N	1	—	—	7.7	3.2	27.2	22.2	62.2	+
4 6.9	13.7	A		δ	N	2	—	—	6.6	3.4	27.4	22.0	62.0	+
6.4	19.8	F	43	K	K=H	1	—	—	7.2	3.2	39.6	22.2	49.8	-
6.0	23.8	G:		K	K=1.5	4	—	2.5m	B	3.0	47.6	22.4	41.8	-
7.2	7.9	A		β	N	1	—	—	6.6	3.6	15.8	21.8	73.6	+
6.3 6.8	7.5	13.5	Mb	H	N	2	—	—	6.5 7.0	3.8	27.0	21.6	62.4	+

h. 4.30

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DM. Nos. entered are for 1855.

	A.G.C. No	R.A.	Dec.	Magn.	DM No.	R.A. 1855	Dec. 1855	Magn.
	7721	6 18.2	-23 33	8.2				
+1.1	DM -23°1414	6 16.1	-23 12	8.3 ✓				
					1418	6 16.4	-23 33	7.2
+1.5	7675	6 16.4	-23 35	7 ✓	1396	6 14.6	-23 35	7.0
+0.3	7300	6 2.6	-23 5	7 ✓	1285	6 0.8	-23 5	8.1
+0.3	7286	6 2.3	-23 6	58 ✓	1281	6 0.5	-23 6	6.0
+0.0	7182	5 58.8	-23 13	75 ✓	1259	5 57.0	-23 13	7.7
-0.5	7014	5 52.4	-23 14	67 ✓	1223	5 50.6	-23 15	8.2
-0.7	DM -23° 1185	5 45.2	-23 28	8.2 ✓				
	7574	6 12.8	-22 40	66 ✓				
+1.0					1364	6 11.0	-22 39	7.0
+0.5	DM -22° 1336	6 5.1	-22 48	8.7 ✓				
	7376	6 5.6	-22 45	60				
+0.5				✓	1330	6 3.7	-22 45	6.5
-0.6	7004	5 52.0	-22 52	64 ✓	1269	5 50.2	-22 52	6.7
-0.8	6891	5 47.3	-22 58	6.5 ✓	1246	5 45.4	-22 58	6.9
-0.8	6855	5 45.7	-23 0	62 ✓	1177	5 43.8	-23 1	5.6
	7652	6 15.5	-22 3	6.9				
+1.0				✓	1379	6 13.5	-22 3	7.2
+0.5	7578	6 13.0	-22 20	8 ✓	1365	6 11.2	-22 19	8.0
+0.5	DM -22 1378	6 13.3	-22 17	8.7 ✓				
+0.6	7545	6 11.4	-22 9	8.5 ✓	1356	6 9.6	-22 9	8.7
+0.7	DM -22 1342	6 6.5	-22 21	8.5 ✓				
+0.5	DM -22° 1329	6 3.6	-22 5	8.1 ✓				
+0.4	7353	6 4.8	-22 24	5.9 ✓	1327	6 2.9	-22 24	6.2
+0.3	DM -22° 1309	6 1.1	-22 13	9.0 ✓	1322	6 1.8	-22 27	9.0
	1320		34	8.5	1323	6 1.9		9.6
+0.3	DM -22° 1314	6 1.2	-22	8.8 ✓				
	1314	6	24	8.5				
+0.2	DM -22 1313	6 0.5	-22 8	8.2 ✓				
+0.2	DM -22 1313	6 0.5	-22 8	8.2 ✓				
-0.2	DM -21 12946	4 47.1	-21 57	8.9 ✓				
-1.2	6733	5 40.4	-22 28	3.6 ✓	1210	5 38.4	-22 28	6.9
+0.5	DM -21 14118	6 12.8	-21 59	8.1 ✓				
	7302	6 2.8	-21 48	6.3				
+0.2				✓	1353	6 0.8	-21 48	6.1

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1889phae.proj..870F

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2.30

October 7, 1890

Plate 2962

ν	H.	Class.	Rem.	No. Limit	K	Intens.	Odd Lines	Ed. beyond K	Bro.	V.	H.	V. H.	
7.5	15.1	F	44	K	K=H	2	—	—	6.3	3.8	30.2	21.6	542
7.5	15.7	A		K	K=H	1	—	—	7.1	3.8	31.4	21.6	58.0
7.2	16.3	A		K	K=H	1	—	—	6.9	3.6	32.6	21.8	56.8
7.9	17.3	H		K	K=H	1	—	—	6.6 7.1	3.9	34.6	21.5	54.8
8.0	18.5	H		K	K=H	1	—	—	7.0 7.4	4.0	37.0	21.4	52.4
7.6	18.6	H		K	K=H	2	—	—	6.2 6.6	3.8	37.2	21.6	52.2
7.5	23.7	A		γ	K	2	—	—	5.8	3.8	47.4	21.6	42.0
8.6	10.5	A		α	K	2	—	—	6.6	4.3	21.0	21.1	68.4
8.2	11.4	A		H	K	1	—	—	6.9	4.1	22.8	21.3	66.6
8.2	10.9	A		H	K	1	—	—	7.6	4.1	21.8	21.3	67.6
9.0	16.3	A		H	K	1	—	—	6.4	4.5	32.6	20.9	56.8
8.7	16.3	A		h	K	1	—	—	6.8	4.3	32.6	21.1	56.8
8.1	17.6	A		K	K=H	1	—	—	7.3	4.0	35.2	21.4	54.2
8.7	18.5	A		β	K=2	2	F	—	5.8	4.3	37.0	21.1	52.4
8.9	23.0	F	45	K	K=H	1	—	—	7.2	4.5	46.0	20.9	43.4
9.2	7.9	A		δ	K	2	F	—	5.3	4.6	16.8	20.8	73.6
9.9	9.0	A		α	K	1	—	—	7.2	~~4.9~~ 5.0	18.0	20.5	71.4
9.4	11.5	A		H	K	1	—	—	7.1	4.7	23.0	20.7	66.4
9.3	12.4	A		H	K	1	—	—	7.3	4.6	24.8	20.8	64.6
9.8	14.1	A		H	K	1	—	—	7.4	4.9	28.2	20.5	61.2
9.9	14.9	A?		H	K	1	—	—	7.5	~~4.9~~ 5.0	29.8	20.4	59.6
9.9	17.1	A		H	K	1	—	—	7.4	~~4.9~~ 5.0	34.2	20.4	55.2
9.1	20.8	Ka		K	K=1.2	4	—	2mm 4.4 5.0	4.5		41.6	20.9	47.8
9.6	22.1	F	46	K	K=H	1	—	—	7.8	4.8	44.2	20.6	45.2
10.8	5.8	A		α	K	1	—	—	7.0	5.4	11.6	20.0	77.8
10.2	6.8	A		H	K	1	—	—	7.6	5.1	13.6	20.3	75.8
10.1	7.4	A		α	K	1	—	—	7.0	5.0	14.8	20.4	74.6
10.7	9.5	H		H	K	1	—	—	7.0 7.4	5.3	19.0	20.1	70.4

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1889phae.proj.0701

DM. Pos. entered are for 1855.

	A.G.C. Zon.	R.A. 1900	Dec. 1900	Magn.		DM. Pos. R.A. 1855	Dec. 1855	Magn.
+0.0	Dm-21°1333	6 5 57.3	-21 47.	7.6 *				
		5 57.3	-21 46	8.7 ✓	Combined light meas.?			
-0.0	DM-21°1330	5 55.9	-21 48	8.5 ✓	15.1 or 15.7 ?			
-0.1	Dm-21°1325	5 54.7	-21 57	8.4 ✓				
-0.3	Dm-21°1316	5 52.4	-21 34	7.8 ✓				
-0.4	Dm-21°1309	5 50.1	-21 31	8.3	Which one.			
-0.4	6988	5 51.7	-21 42	7.2 ✓		1304	5 49.7	-21 42 7.0
						1252	5 38.7	-21 43 7.2
-0.9	6742	5 40.6	-21 42	7.0 ✓		1252	5 38.7	-21 43 7.2
+0.6	DM-21 1391	6 7.3	-21 14	8.2 ✓	Are 2 small ones above it superposed?			
+0.6	7423	6 7.4	-21 13	8.8 ✓	Dm 21°1384 superposed	1383	6 5.4	-21 26 8.8
+0.6	Dm-21°1383	6 5.4	-21 26	8.8				
-0.1	Dm-20°1324 1260	5 55.3	-20 39	8.0 ✓	Spectra superposed?			
-0.1	Dm-21°1328 1324	5 54.7	-21 1	8.0 ✓				
-0.5	Dm-21°1314	5 51.9	-21 30	8.8 ✓				
-0.6	7000	5 51.9	-21 9	6.9 ✓		1307	5 50.0	-21 9 7.0
-0.9	Dm-21 1260	5 40.5	-21 5	8.0 ✓				
+0.5	7626	6 14.7	-20 53	6.2 ✓		1356	6 12.8	-20 52 6.3
+0.5	Dm-20°1347	6 10.4	-20 35	8.3 ✓				
+0.5	Dm-20°1316	6 5.1	-20 50	8.7 ✓				
+0.1	Dm-20° 1297	6 3.0	-20 40	8.8 ✓				
+0.0	Dm-20° 1279	5 59.2	-20 16	8.8 ✓				
+0.1	DM-20° 1271	5 57.9	-20 37	9.0 ✓				
-0.2	Dm-20 1244	5 52.9	-20 20	8.7 ✓				
-0.8	6884 6892	5 47.0 5 47.4	-20 57 -20 52	8.7 8.0 ✓		1211	5 45.1	-20 57 7.3
-0.9	DM-20°1191	5 42.4	-20 41	8.3 ✓				
+1.2	DM-20°1374	6 17.4	-20 6	8.1 ✓				
+1.1	DM-20°1365	6 15.1	-20 23	8.9 ✓				
+1.0	Dm-20°1359	6 13.8	-20 28	8.5 ✓				
+0.6	DM-20°1339	6 9.5	-20 9	8.2 ✓				

* Spectrum of Dm. 21°1337 superposed on this star.

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1889phae.proj..870F

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2.50

October, 7, 1890.

Plate 2962

V.	H.	Class.	No. Rem.	Limit	K.	Intens.	Odd Line	End beyond K	Brs.	V.	H.	V.	H.	
10.5	9.7	K_a		K	K=H	1	—	—	6.1 6.8	5.2	19.4	20.2	70.0	+
10.3	11.8	A		H	N	1	—	—	6.6	5.2	23.6	20.3	65.8	+
10.1	12.2	H		K	K=H	1	—	—	7.3 8.0	5.0	24.4	20.4	65.0	+
10.3	17.1	A		H	N	1	—	—	7.2	5.2	34.2	20.2	55.2	-
10.6	17.5	F	47	K	K=H	1	—	—	6.6	5.3	35.0	20.1	54.4	-
10.7	22.3	E		K	K=H	1	—	—	7.0	5.3	44.6	20.1	44.8	-
10.5	24.0	F	48	K	K=H	2	—	—	6.1	5.2	48.0	20.2	41.4	-
11.5	5.7	A		ɣ	N	1	—	—	5.8	5.8	11.4	19.6	78.0	+
11.0	8.3	B		ε	N	3	—	—	4.7	5.5	16.6	19.9	72.8	+
11.5	9.5	A		H	N	1	—	—	7.5	5.8	19.0	19.6	70.4	+
11.5	13.1	A		K	K=H	1	—	—	6.9	5.8	26.2	19.6	63.2	+
11.1	13.6	A		K	K=H	1	—	—	6.8	5.6	27.2	19.8	62.2	+
12.0	14.6	A		β	N	1	—	—	6.5	6.0	29.2	19.4	60.2	+
11.6	15.7	A		β	?	2	—	—	6.3	5.8	31.4	19.6	58.0	-
11.4	19.4	F	49	K	K=H	1	—	—	6.7	5.7	38.8	19.7	50.6	-
11.5	19.6	A		ɣ	K=.3	3	—	—	5.6	5.8	39.2	19.6	50.2	-
12.0	21.9	A		ɣ	N	2	—	—	6.3	6.0	43.8	19.4	45.6	-
12.0	23.4	A		K	K=H	1	—	—	7.8	6.0	46.8	19.4	42.6	-
12.9	6.3	A		H	N	1	—	—	7.7	6.4	12.6	19.0	76.8	+
13.0	5.8	H		K	K=H	1	—	—	7.2 7.8	6.5	11.6	18.9	77.8	+
12.7	8.5	A		ε	N	2	—	—	5.8	6.3	17.0	19.1	72.4	+
12.4	9.2	A		α	N	1	—	—	7.4	6.2	18.4	19.2	71.0	+
12.1	9.5	A		α	N	1	—	—	6.8	6.0	19.0	19.4	70.4	+
13.0	12.4	A		H	N	1	—	—	8.0	6.5	24.8	18.9	64.6	+
12.2	13.1	A		H	N	1	—	—	6.7	6.1	26.2	19.3	63.2	+
5.7 6.0	12.6	13.3	M^2	K	K=H	2	—	—	6.0 6.7	6.3	26.6	19.1	62.8	+
12.5	14.7	A		H	N	1	—	—	7.8	6.3	29.4	19.1	60.0	+
13.0	14.8	A		H	N	1	—	—	6.6	6.5	29.6	18.9	59.8	+

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1889phae.proj.87of

* Spectrum of DM. 20° 1310 superposed on DM-20° 1308 and combined light measured.

DM. Pos entered are for 1855.

	A.G.C. no.	R.A. 1900	Dec. 1900	Magn	DM No.	R.A. 1855	Dec. 1855	Magn
+0.6	7524	6 10.9	-20 14	6.5 ✓	1336	6 8.9	-20 14	6.3
+0.7	DM-20° 1308	6 4.4	-20 19	8.5 ✓ *				
+0.7	DM-20° 1303	6 3.6	-20 28	8.0 ✓				
-0.2	DM-20° ~~1242~~ 1244	5 52.2	-20 11	~~8.0~~ 8.7 ✓				
-0.4	DM-20° 1242	5 52.2	-20 11	8.0 ✓				
-0.9	DM-20° 1188	5 41.9	-20 3	8.2 ✓				
-0.9	~~DM-20° 1171~~ 6725	5 40.2	-20 12	~~6.5~~ 6.8 ✓	DM	1171	5 38.2 -20 12	6.5
+1.0	7757 ✓	6 19.5	-19 44	6.9 ✓		1435	6 17.5 -19 43	7.0
+0.5	7608 ✓	6 13.9	-19 55	5.9 ✓	-19°	1407 ✓	6 12.0 -19 55 ✓	6.5 ✓
+0.9	DM-19° 1398	6 9.3	-19 ~~27~~ 45	~~7.8~~ 8.2 ✓				
+0.3	DM-19° ~~1365~~ 1364	6 1.9	-19 ~~25~~ 46	~~8.3~~ 8.3 ✓				
+0.3	DM-19° 1355	6 0.6	-19 56	8.2 ✓				
+0.0	DM-19° ~~1341~~ 1345	5 ~~58.2~~ 58.5	-19 ~~17~~ 29	~~8.8~~ 8.3 ✓	is not 1341 superposed?			
-0.0	DM-19° 1329	5 55.9	-19 42	7.7 ✓				
-0.7	DM-19° ~~1293~~ 1297	5 ~~47.7~~ 48.2	-19 ~~40~~ 44	~~6.3~~ 7.5 ✓				
-0.7	6936	5 49.7	-19 40	6.8 ✓		1293	5 47.7 -19 40	6.3
-0.8	DM-19° 1278	5 42.9	-19 27	7.1 ✓				
-0.9	DM-19° 1263	5 39.7	-19 28	9.1 ✓				
+1.0	DM-19° 1427	6 16.0	-19 2	8.7 ✓				
+1.0	7747	6 19.2	-18 57	8.0 ✓		1405	6 17.2 -18 56	7.5
+0.5	7595	6 13.4	-19 9	6.9 ✓		1400	6 11.4 -19 8	7.0
+0.5	DM-19° 1400	6 10.1	-19 18	8.3 ✓				
+0.9	DM-19° 1398	6 9.3	-19 27	7.8 ✓				
+0.4	DM-18° 1319	6 3.3	-18 58	8.8 ✓				
+0.3	DM-19° ~~1365~~ 1361	6 ~~1.9~~ 1.4	-19 ~~9~~ 25	~~8.3~~ 8.3 ✓				
+0.3	DM-19° ~~1356~~ 1355	6 ~~0.7~~ 1.4	-19 ~~4~~ 9	~~8.5~~ 8.8 ✓				
+0.0	7215	6 0.0	-19 0	8.5	?			
+0.0	DM-18° 1289	6 08.0	-18 ~~19~~ 60	8.2 ✓				

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1889phae.proj..870F

October, 7, 1890

3.15 Plate 2962

T.	H.	Class.	Rem.	No.	Limit	K	Intens.	Gdd. Lines	Cond. beyond K.	Bv.	V.	H	V H.	
12.1	17.8	H			H	N	1	—	—	6.9 7.4	6.0	35.6	19.4 53.8	-0.
12.6	18.7	A			H	N	1	—	—	7.0	6.3	37.4	19.1 52.0	-0
12.9	18.9	H			H	N	1	—	—	7.0 7.5	6.5	37.8	18.9 51.6	-0
12.7	20.5	Ka			H	N	1	—	—	6.5 7.2	6.3	41.0	19.1 48.4	-0.
12.8	22.3	F		50	K	K=H	1	—	—	7.2	6.4	44.6	19.0 44.8	-0.
13.8	8.9	E			K	K=H	1	—	—	6.7	6.9	17.8	18.5 71.6	+0.
14.0	9.7	Ka			K	K=H	2	—	—	5.7 6.2	7.0	19.4	18.4 70.0	+0.
13.5	10.4	A			H	N	1	—	—	7.7	6.8	20.8	18.6 68.6	+0.
13.8	15.7	H			K	K=H	1	—	—	6.7 6.9	6.9	31.4	18.5 58.0	-0.
13.2	19.3	E			K	K=H	1	—	—	7.2	6.6	38.6	18.8 50.8	-0.
13.4	22.3	A			B	N	1	—	—	6.8	6.7	44.6	18.7 44.8	-0.
14.6	5.9	A			α	N	1	—	—	6.6	7.3	11.8	18.1 77.6	+1.
15.0	6.2	?		51	—	—	—	—	—	B	7.5	12.4	17.9 77.0	+0.
14.7	6.7	A			H	N	1	—	—	6.9	7.3	13.4	18.1 76.0	+0.
14.2	8.3	A			H	N	1	—	—	7.2	7.1	16.6	18.3 72.8	+0.
14.6	11.4	Ka			K	K=H	2	—	—	6.3 6.6	7.3	22.8	18.1 66.6	+0.
14.6	12.5	A			E	N	3	F	—	5.3	7.3	25.0	18.1 64.4	+0.
15.0	14.7	A			B	N	2	—	—	6.1	7.5	29.4	17.9 60.0	+0
14.1	15.6	A			α	N	1	—	—	6.7	7.0	31.2	18.4 58.2	-0
14.3	16.1	A			α	N	1	—	—	6.8	7.2	32.2	18.2 57.2	-0
14.8	16.0	H			α	N	1	—	—	7.3 7.9	7.4	32.0	18.0 57.4	-0
14.7	18.0	F		52	K	K=H	2	F	—	5.7	7.3	36.0	18.1 53.4	-0
14.2	18.4	A			B	N	1	—	—	6.5	7.1	36.8	18.3 52.6	-0
15.0	20.9	A			B	N	2	—	—	6.4	7.5	41.8	17.9 47.6	-0
15.0	21.5	A			H	N	1	—	—	7.8	7.5	43.0	17.9 46.4	-0
14.4	23.0	A			B	N	1	—	—	6.5	7.2	46.0	18.2 43.4	-0
15.1	6.9	A			B	N	1	—	—	6.7	7.5	13.8	17.9 75.6	+
15.7	7.5	A			H	N	1	—	—	7.5	7.8	15.0	17.6 74.4	+

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DM. Presented are for 1855.

H.	A.G.C. no.	R.A. 1900	Dec. 1900	Magn.	DM. No.	R.A. 1855	Dec. 1855	Magn.
3.8	-0.1 DM -19° 13145	5 51.5	- 19 24	7.8 ✓				
2.0	-07 DM -18° 12355	49.6	- 19 11	9.0 / 7.7	Is DM -19 1303 superposed on this?			
1.6	-07 DM -18° 12285	49.3	- 18 60	7.7 / 8.5 ✓				
8.7	-0.8 DM -19° 12895	48.4	- 18 53	8.5 ✓				
4.8	-0.9 DM -19° 12715	45.9	- 19 5	7.2 ✓				
1.6	+0.5 DM -18 13676	42.1	- 19 4	8.9 / 8.8 ✓				
2.0	+0.6 7524 6	10.6	- 18 34	7.7 / 8.9 ✓				
6	+0.7 DM -18 13436	10.9	- 18 26	6.5 ✓	1352	6	9.0 -18 26	6.2
0	-0.0 DM -18° 12726	7.4	- 18 43	9.0 ✓				
8	-0.7 DM -18° 12785	56.1	- 18 34	8.0 / 8.3 ✓				
8	-0.9 DM -18° 11905	48.4	- 18 53	8.5 ✓				
6	+1.0 DM -18° 14046	41.5	- 18 40	8.8				
0	+0.3 DM -17° 14676	16.9	- 18 9	8.3 ✓				
0	+0.3 DM -17° 14626	18.3 / 16.3	- 17 55 / - 17 53	2.2 / 3 ✓	1467	6	16.3 -17 53	3
8	+0.5 DM -18° 13746	15.3 / 14.3 / 12.0 / 11.9	- 18 6 / - 17 51 / - 18 22	7.8 / 8.9 ✓ / 8.3 ✓				
5	+0.7 7419 6	7.3	- 18 10	7.0 ✓	1334	6	5.4 -18 9	6.8
4	+0.4 7356 6	4.9	- 18 6	6.7 ✓	1316	6	3.0 -18 7	6.4
2	+0.0 DM -17° 13445	58.4	- 17 57	7.0 ✓				
2	-0.0 DM -18° 12785	56.3	- 18 24	8.3 ✓				
2	-0.0 DM -18 12695	55.1	- 18 18	8.3 ✓				
4	-0.0 DM -18 12705	55.4	- 18 4	8.0 ✓				
4	-0.6 7032 5	53.2	- 18 4	6.8 ✓	1247	5	51.2 -18 4	7.0
6	-0.7 DM -18 12405	50.4	- 18 19	7.8 ✓				
6	-0.8 DM -17 12675	45.1	- 17 57	8.0 ✓				
4	-0.8 DM -17 12605	44.0	- 17 59	8.8	Is star above superposed?			
4	-0.9 DM -18 11875	40.8	- 18 14	8.2 ✓				
6	+0.3 DM -17 14586	14.7	- 17 54	8.0 ✓				
4	+0.5 DM -17° 14465	13.6 / 13.3 / 13.2	- 17 28 / - 17 27	8.0 ✓ / 7.0 / 4.3				

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1889phae.proj..870F

October 7, 1890.

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Plate 2962

	S.	H.	Class.	Rem.	No.	Limit	K.	Intens.	Gold. lines	Lamb. beyond K	Br.	V	H.	V	H.	
	15.9	7.6	A			γ	n	2	—	—	6.0	7.9	15.2	17.5	74.2	+0
	15.2	9.2	F	53		K	K=H	1	—	—	7.3	7.6	18.4	17.8	71.0	+0
	15.4	10.9	A			ζ	n	2	—	—	5.3	7.7	21.8	17.7	67.6	+0
	15.9	16.3	A			α	n	1	—	—	7.0	7.9	32.6	17.5	56.8	−0
	15.2	19.5	H			H	n	1	—	—	7.4 8.0	7.6	39.0	17.8	70.4	+0
	15.6	20.6	H			K	K=H	1	—	—	6.4 6.6	7.8	41.2	17.6	48.2	−0
	17.0	7.0	H			K	K=H	1	—	—	6.9 7.1	8.5	14.0	16.9	75.4	+0
	16.5	8.4	A			H	n	1	—	—	7.1	8.3	16.8	17.1	72.6	+0
	17.0	8.7	A			K	K=H	1	—	—	7.3	8.5	17.4	16.9	72.0	+0
	16.9	9.4	H			K	K=H	1	—	—	6.6 7.0	8.4	18.8	17.0	70.6	+0
	16.1	10.1	A			α	n	1	—	—	6.8	8.0	20.2	17.4	69.4	+0
	16.1	10.2	E?			K	K=H	1	—	—	7.0	8.0	20.4	17.4	69.0	+0
	16.4	12.6	A			γ	n	2	—	—	6.3	8.2	25.2	17.2	64.2	+0.
	17.0	14.3	A			β	n	2	—	—	6.3	8.5	28.6	16.9	60.8	+0
	16.5	14.3	A			H	n	1	—	—	7.5	8.2	28.6	17.2	60.8	+0
	16.7	17.0	A			H	n	1	—	—	7.4	8.3	34.0	17.1	55.4	−0
	16.4	18.7	A?			K	K=H	2	—	—	6.5	8.2	37.4	17.2	52.4	−0.
	16.9	19.3	H			K	K=H	1	—	—	7.1 7.7	8.4	38.6	17.6	50.8	−0
	16.6	19.7	A?			H	n	1	—	—	7.1	8.3	39.4	17.1	50.0	−0
	17.4	6.8	A			α	n	2	—	—	6.3	8.7	13.6	16.7	75.8	+1
	18.7	6.9	A			β	K=.5	1	—	—	6.6	9.3	13.8	16.1	75.6	+1
	17.3	8.6	Ka			K	K=H	2	—	—	5.7 6.2	8.6	17.2	16.8	72.2	+0
	~~17.1~~	~~8.7~~	~~A~~			~~H~~	~~n~~	~~1~~	~~—~~	~~—~~	~~7.0~~	~~8.5~~	~~17.4~~	~~16.9~~	~~72.0~~	~~+0~~
	17.7	9.3	B			ε	n	3	—	—	5.3	8.8	18.6	16.6	70.8	+0
	17.8	10.1	A			H	n	1	—	—	7.8	8.9	20.2	16.5	69.2	+0
	17.3	11.6	A			β	n	2	—	—	6.5	8.6	23.2	16.8	66.2	+0
	17.8	13.9	Ka			K	K=H	2	—	—	5.8 6.3	8.9	27.8	16.5	61.6	+0
4.00	17.1	13.9	H			H	n	1	—	—	7.2 8.0	8.6	27.8	16.8	61.6	+0

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*Spectrum of DM.-16°1358 superposed on DM.-16°1357 and combined light measured.

ΦSpectrum of DM.-17°1410 superposed on DM.-17°1408 and combined light measured.

DM. Positions entered are for 1855.

	No.	A. G. C.		R.A. 1900	Dec. 1900	Magn.
		DM-17 1446	6	13.2	-17 27	9.3
+0.5		DM-17 1446	6	13.3	-17 28	7.0 ✓
+0.6		DM-17°1421	6	9.9	-17 5.4	8.3 ✓
+0.7		7449	6	8.4	-17 44	6.8 ✓
-0.0		DM-17°1327	5	54.8	-17 31	8.3 ✓
+0.7		DM-17 1284	5	48.1	-17 48	8.2 ✓
-0.8		DM-17°1271	5	45.8	-17 36	7.8 ✓
+0.5		DM-16°1458	6	14.7	-16 54	8.0 ✓
+0.5		DM-16 1424	6	11.0	-16 57	8.5 ✓
+0.5		DM.-16°14246	6	11.0	-16 57	8.5 ✓
+0.6		DM-16°14136	6	9.5	-16 59	7.8 ✓
+0.7		DM-17 1407	6	7.9	-17 26	8.2 Φ ✓
+0.7		DM-17 1407	6	7.9	-17 26	8.2 ✓
+0.4		DM-17 1377	6	2.9	-17 16	7.5 ✓
+0.1		DM-16 1354	5	59.4	-16 57	7.8 ✓
+0.1		DM-17 1349	5	59.2	-17 13	8.8 ✓
-0.1		DM-17 1321	5	55.4	-17 6	8.8 ✓
-0.7		-17 1300	5	49.9	-17 16	8.0 ✓
-0.7		DM-17 1281	5	47.7	-17 8	8.8 ✓
-0.7		DM-17 1281	5	47.7	-17 8	8.8 ✓
+1.0		DM-16 1448	6	14.9	-16 44	8.0 ✓
+1.0		DM-16 1447	6	14.9	-16 9	8.7 ✓
+0.5		7588	6	13.2	-16 46	5.8 ✓
+0.8		7548	6	11.7	-16 35	6.4 ✓
+0.7		DM-16°1409	6	8.4	-16 23	8.4 ✓
+0.7		DM-16 1387	6	5.0	-16 48	8.5 ✓
+0.1		DM-16°1357	6	0.2	-16 30	7.0 ✓ *
+0.1		DM-16 1356	6	0.1	-16 53	8.2 ✓

Is DM. 1285 superposed ?

DM. No.	R.A. 1855	Dec. 1855	Magn.
1398	6 6.4	-17 44	6.5
1426	6 11.2	-16 46	6.0
-16°1415	6 9.7	-16 34	6.8

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1889phae.proj..870F

1.15

October 9, 1890.

Plate 2962

R. H.	Class.	Rem.	No.	Limit	K.	Intens.	Odd Lines	End beyond K	Br.	V.	H.	V.	H.	
17.8	14.7	A		η	K=H	3	F	—	4.5	8.9	29.4	16.5	60.0	+
17.3	17.1	F	54	γ	K=H	2	Aeew	—	6.5	8.7	34.2	16.7	55.2	-
17.4	18.7	A		α	K	1	—	—	6.8	8.7	37.4	16.7	52.0	-
17.4	20.2	A		K	K=H	1	—	—	7.0	8.7	40.4	16.7	49.0	-
17.7	21.9	A		H	K	1	—	—	7.4	8.8	43.8	16.6	45.6	-
17.4	23.2	H		K	K=H	1	—	—	6.6 7.4	8.7	46.4	16.7	43.0	-
18.1	5.7	A	55	α	K=H	2	—	—	6.3	9.0	11.4	16.4	78.0	+
18.1	9.9	A		γ	K	2	—	—	6.7	9.0	19.8	16.4	69.6	+
18.2	8.0	E		K	K=H	1	—	—	7.5	9.1	16.0	16.3	73.4	+
18.7	10.6	F	56	K	K=H	1	—	—	7.6	9.4	21.2	16.0	68.2	+
18.9	11.0	A		H	K	1	—	—	7.1	9.4	22.0	16.0	67.4	+
18.4	14.3	H		K	K=H	1	—	—	7.1 7.6	9.2	28.6	16.2	60.8	+
18.8	15.4	F	57	K	K=H	2	—	—	6.2	9.4	30.8	16.0	58.6	+
17.9	16.2	Kb		K	K=H	2	—	—	6.5 7.2	8.9	32.4	16.5	57.0	-
18.2	20.0	F	58	K	K=H	2	—	—	6.4	9.1	40.0	16.3	49.4	-
18.2	23.1	Ka		K	K=H	2	—	—	5.7 6.2	9.1	46.2	16.3	43.2	-
19.7	6.4	Ka		K	K=H	1	—	—	6.6 7.0	9.8	12.8	15.6	76.6	+
19.7	11.4	A		H	K	1	—	—	7.2	9.8	22.8	15.6	66.6	+
19.3	11.6	A		β	K=.5	2	F	—	5.7	9.6	23.2	15.8	66.2	+
19.5	12.7	A		β	K	2	—	—	6.3	9.7	25.4	15.7	64.0	+
19.1	13.2	F	59	β	K=H	2	F	—	6.1	9.6	26.4	15.8	63.0	+
19.5	15.0	A		β	K	2	—	—	6.2	9.8	30.0	15.6	59.4	+
19.6	16.2	Ka		K	K=H	2	—	—	6.2 6.8	9.8	32.4	15.6	57.0	-
19.2	17.1	A		γ	K	2	—	—	6.2	9.6	34.2	15.8	55.2	-
19.9	18.1	A		δ	K	2	—	—	5.9	9.9	36.2	15.5	53.2	-
19.7	188	H?		K	K=H	1	—	—	7.9 7.5	9.8	37.6	15.6	51.8	-
19.3	19.7	A		γ	K=.2	2	F	—	6.0	9.6	39.4	15.8	50.0	-
19.8	20.5	A		K	K=H	1	—	—	7.2	9.9	41.0	15.5	48.4	-

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nv. DM. Pos. entered are for 1855.

A.G.C.	R.A. 1900	Dec. 1900	Magn.	DM No.	R.A. 1855	Dec. 1855	Magn.
+0.0 7226	6 0.5	-16 29'	5.5 ✓	1349	5h 58.5	-16 28	5.3
Dm -16° 1319	5 53.1	-16 48	7.2 } ✓				
-0.1 Dm-16° 1320	5 53.2	-16 48	8.0 }				
-0.7 DM-16 1302	5 49.7	-16 45	8.5 ✓				
-0.7 Dm.-16 1289	5 46.6	-16 45	9.0 ✓				
-0.8 Dm-16° ~~+259~~ 1263	~~5 42.4~~ 43.1	~~-16 39~~ 33	~~8.7~~ 8.8 ✓				
-0.9 DM-16° 1242	5 40.5	-16 42	7.7 ✓				
+1.0 7750	6 19.2	-16 25	6.9 ✓	1461	6 17.2	-16 24	7.2
+0.9 Dm-16° 1409	6 8.3	-16 23	8.4 ✓				
+0.5 DM-16° 1432	6 12.3	-16 23	8.7 ✓				
DM-16 1400	6 6.8	-16 6	9.2 } ✓				
+0.7 Dm-16 1401	6 6.9	-16 5	9.2 }				
+0.7 Dm-16° 1395	6 6.1	-16 2	8.7 ✓				
+0.1 Dm-16 1353	5 59.4	-16 14	8.2 ✓				
-16 1343	5 56.8	-16 1	9.1 }				
+0.0 Dm-16 1343	5 56.8	-16 2	8.0 } ✓				
-0.0 Dm-16 1333	5 55.1	-16 24	7.2 ✓				
-0.8 Dm-16 1292	5 47.2	-16 18	7.9 ✓				
-0.9 6783	5 42.6	-16 16	6.6 ✓	1246	5 40.7	-16 18	9.4
				1244	5 40.6	-16 17	6.4
+1.0 Dm-15° 1361	6 10.6	-15 36	7.3 ✓				
+0.7 Dm-15 1307	6 5.3	-15 37	8.7 ✓				
+0.7 7406	6 6.8	-15 46	6.9 ✓	1299	6 4.8	-15 46	7.0
+0.4 Dm-15° 1280	6 2.6	-15 41	8.0 ✓				
+0.4 Dm-15 1270	6 1.6	-15 52	7.8 ✓				
+0.0 DM-15 1261	5 57.	-15 40	8.4 ✓				
-0.0 Dm-15° 1249	5 55.1	-15 35	7.2 ✓				
-0.1 DM-15° 1238	5 53.3	-15 49	8.0 ✓				
-0.6 7028	5 53.1	-15 25	7.0 ✓	1226	5 51.1	-15 26	7.2
-0.7 DM-15° 1221	5 49.6	-15 32	8.3 ✓				
-0.7 6940	5 49.9	-15 45	7.8 ✓	1212	5 47.9	-15 45	7.7
-0.8 6905	5 48.1	-15 30	8.5 ✓	1200	5 46.1	-15 30	8.6

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1889phae.proj..870F

October, 9, 1890.

Plate 2962

R. A.	Dec.	Class	No.	Rem.	Limit	K.	Intens.	Addl. Lines	End beyond K	Br.	V.	H.	V	H.	
19.7	20.6	A			K	K=H	1	—	—	6.7	9.8	4.12	15.6	48.2	-0
19.7	20.8	A			ε	K=3	2	—	—	6.0	9.8	4.16	15.6	47.8	-0
19.8	21.8	F			K	K=H	1	—	—	7.0	9.9	4.36	15.5	45.8	-0
20.8	5.6	H			K	K=H	1	—	—	6.6 7.6	10.4	1.12	15.0	78.2	+0
20.9	8.0	H			K	K=H	1	—	—	6.3 6.8	10.5	1.60	14.9	73.4	+0
20.1	10.5	A			H	N	1	—	—	7.1	10.0	21.0	15.4	68.4	+0
20.2	10.6	H			K	K=H	1	—	—	6.4 6.8	10.1	21.2	15.3	68.2	+0
20.0	10.8	A			K	K=H	1	—	—	7.0	10.0	21.6	15.4	67.8	+0
20.6	10.8	F	60		K	K=H	1	—	—	7.3	10.3	21.6	15.1	67.8	+0
20.7	12.2	A			δ	N	2	F	—	5.7	10.4	24.4	15.0	65.0	+0
20.7	12.6	A			H	N	1	—	—	7.4	10.4	25.2	15.0	64.2	+0
20.9	14.2	A			ζ	K=2	4	F	—	4.1	10.4	28.4	15.0	61.0	+0
20.7	17.0	A			K	K=H	1	—	—	7.2	10.3	34.0	15.1	55.4	-0
20.0	17.8	F	61		K	K=H	1	—	—	7.4	10.0	35.6	15.4	53.8	-0
20.2	23.1	A	62		γ	N	2	—	—	5.8	10.1	46.2	15.3	43.2	-0
21.4	5.9	A	63		H	N	2	—	—	6.3	10.7	11.8	14.7	77.6	+1
21.8	8.2	A			α	N	1	—	—	7.2	10.9	16.4	14.5	73.0	+0
21.7	12.5	K	f		K	K=H	2	—	—	5.6 6.2	10.8	25.0	14.6	64.4	+0
21.8	15.8	K	a		K	K=H	2	—	—	5.8 6.3	10.9	31 6	14.5	57.8	-0
21.8	16.5	A			H	N	1	—	—	7.8	10.9	33.0	14.5	56.4	-0
21.4	17.2	F	64		K	K=H	1	—	—	7.3	10.7	34.4	14.7	55.0	-0
21.7	22.1	K	a		K	K=H	3	—	—	5.5 6.0	10.8	44.2	14.6	45.2	-0
21.0	23.3	A			ζ	K=2	5	F	—	7.3	10.5	46.6	14.9	42.8	-0
23.0	7.5	A	65		β	N	2	—	—	5.8	11.5	15.0	13.9	74.4	+0
22.3	8.1	A			H	N	1	—	—	7.5	11.2	16.2	14.2	73.2	+0
21.9	11.4	A			H	N	1	—	—	6.6	10.9	22.8	14.5	66.6	+0
22.8	12.7	F	66		K	K=H	2	—	—	6.4	11.4	25.4	14.0	64.0	+
22.8	14.8	A			K	K=H	1	—	—	6.5	11.4	29.6	14.0	59.8	+

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* Spectrum of DM -15° 1312 superposed on DM -15° 1311 and combined light measured.

DM. Pos. entered as for 1855

	A.G.C.	RA 1900	Dec. 1900	Magn.	DM No.	RA 1855	Dec. 1855	Magn.
-0.8	6902	5 48.0	-15 35	8.2 ✓	1199	5 46.0	-15 35	8.3
-0.8	6894	5 47.5	-15 32	7.0 ✓	1193	5 45.5	-15 33	7.3
-0.9	DM -15° 1182	5 43.5	-15 30	8.3 ✓				
+0.9	7749	6 19.2	-15 1	6.9 ✓	1428	6 17.2	-14 60	6.5
+0.5	7617	6 14.3	-14 59	6.7 ✓	1400	6 12.3	-14 58	6.5
+0.7	DM -15° 1315	6 7.1	-15 25	8.7 ✓				
+0.7	7466	6 8.9	-15 21	7.0 ✓	1314	6 6.9	-15 21	7.5
+0.7	DM -15 1311 / ~~7466~~	6 6.6 / ~~6 8.9~~	-15 27 / ~~-15 21~~	8.8 * / ~~7.0~~ ✓				
+0.7	DM -15° 1308	6 6.5	-15 11	9.0 ✓				
+0.3	7377	6 5.7	-15 2	7.0 ✓	1292	6 3.7	-15 2	7.3
+0.4	DM -15 1285	6 2.9	-15 5	9.2 ✓				
+0.0	7253	6 1.6	-14 56	5.2 ✓	1331	5 59.6	-14 55	5.0
-0.1	7095	5 55.5	-15 4	8.0 ✓	1239	5 53.5	-15 4	8.8
	DM -15 1230 / DM -15 01231	5 51.7	-15 27	8.9				
-0.1	DM -15 1226	5 51.1	-15 26	7.2 ✓				
-0.9	DM -15 1168	5 40.9	-15 18	7.8 ✓				
+1.0	7735	6 18.7	-14 47	7.8 ✓	1423	6 16.7	-14 46	7.4
+0.5	DM -14° 1396	6 11.9	-14 33	8.2 ✓				
+0.4	7358	6 5.0	-14 34	6.0 ✓	1738	6 3.0	-14 33	8.9
-0.0	7162	5 58.0	-14 30	6.7 ✓	1315	5 56.0	-14 30	7.0
-0.1	DM -14 1307	5 54.5	-14 31	9.0 ✓ ?				
-0.1	DM -14 1300	5 53.1	-14 43	8.5 ✓				
-0.9	6839	5 45.0	-14 30	5.8 ✓	1251	5 43.0	-14 31	5.5
-0.9	6778	5 42.4	-14 51	3.6 ✓	1232	5 40.4	-14 53	4.0
+0.5	DM -13° 1450	6 13.4	-13 56	7.0 ✓				
+0.5	DM -14° 1397	6 12.0	-14 18	8.6 ✓				
+0.7	DM -14° 1359	6 5.3	-14 25	8.2 ✓				
+0.4	DM -14° 1347	6 2.6	-14 3	8.2 ✓				
+0.0	DM -14° ~~1322~~ 1324	5 ~~57.6~~ 58.0	-14 ~~8~~ 2	~~7.8~~ 8.2 ✓				

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1889phae.proj..870F

October, 9, 1890.

Plate 2962.

R. H.	Class.	Rem.	No.	Limit	K.	Intens.	Grad. Lines	End beyond K	Br. V	H. V	H.	
22.7	15.0	F	67	α	K=H	2	—	—	6.2 11.3	30.0	14.1	59.7	+0.
23.0	17.0	A		H	n	1	—	—	7.9 11.5	34.0	13.9	55.1	-0.
22.4	17.6	H		K	K=H	1	—	—	7.5 8.0 11.2	35.2	14.2	54.2	-0.
22.4	18.1	H		K	K=H	1	—	—	7.5 8.0 11.2	36.2	14.2	53.2	-0.
22.4	18.8	A		δ	K=H	5	—	—	B 11.2	37.6	14.2	51.8	-0.
22.5	20.0	H		K	K=H	1	—	—	7.4 8.0 11.2	40.0	14.2	49.4	-0
22.1	22.5	H		K	K=H	2	—	—	6.4 6.7 11.0	45.0	14.4	44.4	-0
23.5	9.5	A		δ	n	3	F.	—	4.8 11.8	19.0	13.6	70.4	+0
23.7	11.1	A		α	K=.5	2	—	—	6.4 11.8	22.2	13.6	67.2	+0
23.5	15.0	A		δ	K=.2?	2	—	—	5.8 11.8	30.0	13.6	59.4	+0.

L. 2.00

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* Spectrum of DM-13° 1317 superposed on DM-13° 1316 and combined light-measured.

DM. Pos. entered as for 1855.

A.G.C.		Ra 1900 h m s	Dec. 1900 ° ′	Magn.		DM No.	Ra 1855 h m s	Dec. 1855 ° ′	Magn.
+0.0	7201	5 59.6	-14 5	7.5 ✓		1322	5 57.6	-14 5	7.8
-0.1	DM-13 1316	5 53.4	-13 58	9.0 ✓ *					
-0.1	DM-14° 1297	5 52.2	-14 13	8.5 ✓					
-0.6	7033	5 53.2	-14 14	8.2 ✓		1292	5 51.2	-14 13	8.0
-0.7	6992	5 51.8	14 12	3.8 ✓		1286	5 49.8	-14 12	4.0
-0.7	DM-14° 1272	5 47.4	-14 9	7.5 ✓					
-0.9	6816	5 44.1	-14 20	6.9 ✓		1243	5 42.1	-14 22	7.0
+0.7	7534	6 11.1	13 41	5.6 ✓		1411	6 9.1	-13 40	5.2
+0.7	DM-13° 1387	6 5.8	-13 36	7.3 ✓					
+0.0	DM-13° 1338	5 57.2	-13 31	8.8 ✓					

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1889phae.proj..870F

St. Light 5.2 R.A. 7h 40m Dec. −18° 3

Fog moon & clouds 6.8 – 6.6 Fog. chr. 7.0

L. 1.30

October 11, 1890.

Plate 2336

Vis.	Mag.	Class.	Class. No.	Perm.	Limit	K	Intens.	Grad. Lines	End beyond K	Bkgr.	V.	H.	V.	H.	
4.8	13.3	A		β	K=H	2	—	—		6.5	2.4	26.6	23.4	45.3	+0.
4.7	18.9	A		β	K=H	2	—	—		6.3	2.3	37.8	23.5	34.1	−0.
4.8	20.5	A		H	n	1	—	—		6.9	2.4	41.0	23.4	30.9	−0.
4.7	23.8	A		β	n	2	—	—		6.3	2.3	47.6	23.5	24.3	−1.
5.7	8.7	A		β	n	1	—	—		6.9	2.9	17.4	22.9	54.5	+1.
5.7	9.1	Ca		K	K=H	1	—	—		5.6 / 6.1	2.9	18.2	22.9	53.7	+1.
5.5	11.0	A		γ	n	2	—	—		6.3	2.8	22.0	23.0	49.9	+0.
5.7	11.6	A		Hδ	n	2	—	—		6.2	2.9	23.2	22.9	48.7	+0.7
6.0	11.6	A		β	n	2	—	—		6.3	3.0	23.2	22.8	48.7	+0.7
5.1	16.8	A		α	n	1	—	—		6.8	2.5	33.6	23.3	38.3	+0.3
6.8 / 6.9	5.1	19.6	Ma?		K	K=H	1	—	—	6.8 / 7.3	2.5	39.2	23.3	32.7	−0.7
	5.2	20.2	F	68	β	K=1.5	3	—	—		5.3	2.6	40.4	23.2	31.5	−0.
	5.9	23.7	B?		β	n	3	—	—		5.4	2.9	47.4	22.9	24.5	−1.
	5.9	23.8	A		K	K=H	1	—	—		7.4	2.9	47.6	22.9	24.3	−1.
	6.4	9.5	A		Hε	n	1	—	—		7.8	3.2	19.0	22.6	52.9	+0.
	6.5	10.1	G		Kε	K=1.5	3	F	2.0 mm		4.7	3.2	20.2	22.6	51.7	+0.
	6.4	10.3	A		α	n	1	—	—		7.3	3.2	20.6	22.6	51.3	+0.7
	6.3	10.8	A		κ	n	1	—	—		7.7	3.1	21.6	22.7	50.3	+0.7
	6.6	20.1	A		β	n	1	—	—		7.1	3.3	40.2	22.5	31.7	−0.6
	6.0	22.4	A		β	K=H	3	F	—		4.7	3.0	44.8	22.8	27.1	−1.1
	7.8	7.4	A		Hε	n	1	—	—		6.9	3.9	14.8	21.9	57.1	+1.2
	7.6	8.0	A			n	2	—	—		6.4	3.8	16.0	22.0	55.9	+0.5
	7.8	8.7	A		β	n	1	—	—		7.1	3.9	17.4	21.9	54.5	+0.5
	7.6	14.2	A		α	n	1	—	—		7.3	3.8	28.4	22.0	43.5	+0.1
	7.2	14.6	B		ε	n	3	F	—		5.3	3.6	29.2	22.2	42.7	+0.0
	7.9	16.0	A		γ	n	1	—	—		6.7	3.9	32.0	21.9	39.9	−0.0
	7.6	16.2	B?		K	K=H	1	—	—		6.6	3.8	32.4	22.0	39.5	−0.0
1.50	7.4	16.9	A		γ	K=H	2	—	—		6.3	3.7	33.8	22.1	38.1	−0.1

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1889phae.proj..870F

Dm. Pos. erythrid are for 1855. 1900 1950 GDm. 1875.

	A.G.C. No.	Ra	Dec.	Magn.	Photom Magn.	Vol.	Dm. No. Ra Dec. Magn
+0.3	10250	7h 45.8 33.1	23°33' - 23 33	7.3 6.9 ✓	6.64	54	6310 (1875) 7 48.8 -23 27 7.3
✱0.7	9827	7 33.1	- 23°33'	6.9 ✓	6.30	50	5791 (1875) 7 38.X - 23 29.6.9
✱0.9	9737 9744 9745	7 29.8 30.1	- 23 29 - 23 15	7.8 6.7 ✓			5698 8.7 26.1 8.6 (1875) 7 29.8 - 23 24 7.8
✱1.2	9551	7 22.5	- 23 31	7.0 ✓	6.50	50	5477 21.4 27.8 (1875) 7 20.6 - 23 26 7.0
+1.0	Dm-22°2144	7 32.8	- 22 55	7.8 6.2 ✓			
+1.0	Dm-22°2104	7 54.8 52.8	- 23 2 - 22 55	6.2 ✓	5.22	50	
+0.7	10394	7 50.8	- 23°12'	7.8 ✓	6.87	54	6497 65 49.7 8.8 7.5 (1875) 7 49.4 - 23 3 8.9
+0.7	10352	7 49.4 49.4	- 23°3' - 22 36	7.2 7 ✓	6.71	54	18552065 7 47.4 - 22 56 7.4
+0.7	10353	7 49.4	- 22°56'	7 ✓	7.09	54	* 18552066 7 47.5 - 22 48 7.5
+0.3	GDm-23°5966 Dm-23°2302	7 36.4 35.8	- 23°20' - 23 18	8.3 8 ✓			
✱0.7	Dm-23°2224 45	7 30.0 28.2	- 23.9 - 23 10	8.8 6.4 ✓			GDm. 23576B ?
✱0.8	9744 9745	7 30.1	- 23°15'	6¾ 7 ✓	5.86 6.01	50	5709 29.0 11.4 5 (1875) 22221 7 28.2 - 23 10 6.4
✱1.2	9555	7 22.8	- 22°53'	5.7 ✓	5.48	50	(1855) -22 1874 7 20.8 - 22 48 6.0
✱1.2	9596	7 24.3	- 23°8'	8 ✓			(1855) 1871 7 20.5 - 22 48 8.0
+0.9	Dm-22°2099	7 52.2	- 22 37	8.7 ✓			
+0.7	10450	7 52.6	- 22°37'	4.9 ✓	4.35	50	(1855) 2087 7 50.6 - 22 30 4.3
+0.7	10439	7 52.2	- 22°44'	8.0 ✓			(1855) 2084 7 50.3 - 22 37 8.0
+0.7	Dm-22°2066 74	7 49.0 47.5	- 22 37 - 22 48	9.0 7.5 ✓			
✱0.6	Dm-22°1938	7 28.6	- 22 28	8.4 ✓			
✱1.1	9632	7 20.6	- 22°49'	5.7 ✓	4.80	50	(1855) 1897 7 23.7 - 22 43 6.0
+1.2	Dm-21°2240 35	7 56.3	- 21°52'	8.1 ✓			
+0.5	Dm-21°2221 Dm-21°2220	7 55.1 55.0	- 21.56 - 21 56	8.4 7.7 ✓			
+0.5	Dm-21°2210	7 53.6	- 21 53	8.1 ✓			
+0.1	Dm-21°2125	7 41.8	- 21 59	8.5 ✓			
+0.0	10152	7 42.9	- 22°17'	6.5 ✓	5.84	50	(1855) -22° 2027 7 41.0 - 22 10 6.3
✱0.0	Dm-21°2046	7 37.5	- 2149	8.2 ✓			
✱0.0	Dm-21°2093	7 37.2	- 21 58	7.8 ✓			
✱0.1	Dm-22°1986	7 35.6	- 22°4'	7.7 ✓			

* Spectra of Dm. 2066 superposed on 2045 but does not affect brightness

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1889phae.proj..870F

October, 11, 1890.

1.50 Plate 2336

V.	H	class.	Res.	Limit	K	Intens.	Add. Line	Bond beyond K.	Bv.	V.	H.	V.	H.	
7.5	17.1	H		K	K=H	1	—	—	6.7 7.3	3.8	34.2	22.0	37.7	∓0.
7.8	17.8	A		β	N	1	—	—	6.9	3.9	35.6	21.9	36.3	∓0.
7.6	19.6	A		H	N	1	—	—	6.6	3.8	39.2	22.0	32.7	∓0.
7.7	19.5	A		H	N	1	—	—	6.8	3.8	39.0	22.0	32.9	∓0.
7.5	20.5	F	69	K	K=1.5	3	—	2m	4.6	3.8	41.0	22.0	30.9	∓0.
7.5	21.0	A		H	N	1	—	—	7.9	3.8	42.0	22.0	29.9	∓0.
8.5	11.6	A		H	N	1	—	—	7.5	4.2	23.2	21.6	48.7	+ 0
8.2	14.0	H		H	N	1	—	—	7.0 7.6	4.1	28.0	21.7	43.9	+ 0
8.6	15.7	A		α	N	1	—	—	7.6	4.3	31.4	21.5	40.5	∓0.
8.2	16.4	Ka		H	N	1	—	—	6.6 7.1	4.1	32.8	21.7	39.1	∓0
8.7	16.4	A		β	N	1	—	—	7.0	4.3	32.8	21.5	37.1	∓0.
8.3	16.6	A		α	N	1	—	—	6.9	4.2	33.2	21.6	38.7	∓0.
8.0	17.5	Ka		K	K=H	1	—	—	6.7 7.1	4.0	35.0	21.8	36.9	∓0.
8.5	18.5	A		α	N	1	—	—	7.1	4.2	37.0	21.6	34.9	∓0.
8.7	19.8	A		α	N	1	—	—	7.0	4.3	39.6	21.4	32.3	∓0.
8.4	22.1	A		α	N	1	—	—	7.0	4.2	44.2	21.6	27.7	∓0.
9.5	6.7	A		α	N	1	—	—	6.9	4.8	13.4	21.0	58.5	+ 1.
9.8	12.5	Ka		K	K=H	2	—	—	5.8 6.1	4.9	25.0	20.9	46.9	+ 0.
9.7	13.5	A		β	N	2	—	—	6.5	4.8	27.0	21.0	44.9	+ 0.
9.2	15.0	F	70	K	K=H	1	—	—	7.8	4.6	30.0	21.2	41.9	∓0.
9.6	16.1	A		γ	N	2	—	—	6.6	4.8	32.2	21.0	39.7	∓0.
9.7	17.1	A		α	N	1	—	—	7.6	4.8	34.2	21.0	37.7	∓0.
9.6	17.2	H		H	N	1	—	—	7.3 7.9	4.8	34.4	21.0	37.5	∓0.
9.3	19.7	Ka		K	K=H	1	—	—	6.4 6.7	4.7	39.4	21.1	32.5	∓0.
9.2	19.8	A		H	N	1	—	—	6.9	4.6	39.6	21.2	32.3	∓0.
9.5	20.3	A		β	N	2	—	—	6.5	4.8	40.6	21.0	31.3	∓0.
10.6	7.8	A		H	N	1	—	—	7.6	6.3	15.6	20.5	56.3	+ 0.
10.2	12.0	A		α	N	1	—	—	7.5	6.1	24.0	20.7	47.9	+ 0.

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DM. Pos. entered are for 1855.

	no A.G.C.	Ra. 1900 h	Dec. 1900 ° ′	Magn.	Photom. Magn.	Vol.	no. Dm.	Ra. 1855 h	Dec. 1855 ° ′	Magn.
×0.1	9957	7 37.1	- 22 6	6.9 ✓	6.43	50	2077	7 35.2	-21 60	6.8
×0.1	Dm-21°2069	4 36	52	8.2 73 ✓						
×0.7	Dm-21°2029	7 29.8	- 21 58	8.1						
×0.7	Dm-21°2030	7 29.9	- 21 50	6.7 * ✓						
		31.8	- 21 56	(1900)						
×0.7	Dm-21°2030	7 29.9	- 21 50	6.7 ✓	6.47	50				
×0.8	9733	7 29.8	- 22 5	5.2 ✓	4.52	50	2007	7 27.8	-21 59	5.4
×0.8	Dm-21°2000	7 26.8	- 21 58	8.5 ✓						
+0.7	Dm-21°2164	7 77.5	- 21 33	8.4 ✓						
		44.3	- 21 45	(1900)						
+0.1	Dm-21°2130	7 42.3	- 21 40	7.5 ✓	7.32	54				
×0.0	Dm-21°2103	7 38.1	- 21 28	90 ✓						
		38.6	- 21 45	(1900)						
×0.1	Dm-21°2091	7 36.7	- 21 39	7.3 ✓	6.93	54				
×0.1	Dm-21°2090	7 36.7	- 21 25	9.0 ✓						
×0.1	Dm-21°2086	7 36.2	- 21 36	8.5 ✓						
		36.1	- 21 49	(1900)						
×0.1	Dm-21°2069	7 34.2	- 21 43	7.3 ✓	7.14	54				
×0.6	Dm-21°2052	7 32.2	- 21 30	8.5 ✓						
×0.7	Dm-21°2024	7 29.3	- 21 22	8.7 ✓						
×0.9	Dm-21°1989	7 24.5	- 21 30	8.2 ✓						
		59.7	- 21 5	(1900)						
+1.2	Dm-21°2245	7 57.7	- 20 58	7.3	7.64	54	2365	7 57.7	-20 58	7.3
+0.1	10298	7 47.4	- 20 55	6.2 ✓	5.78	50	2235	7 45.4	-20 48	5.6
+0.1	Dm-20°2211	7 43.2	- 20 55	7.9 ✓						
+0.0	Dm-21°2115	7 40.2	- 21 12	9.0 ✓						
×0.6	Dm-20°2145	7 37.3	- 20 56	8.0 ✓						
×0.1	Dm-21°2077	35.2	- 20 55	8.7						
		7 35.3	- 21 0	8.6 ✓						
×0.1	Dm-20°2114	7 34.9	- 20 55	7.8 ✓						
×0.7	9818	7 32.7	- 21 10	7.2 ✓	6.72	54	2039	7 30.7	-21 47	7.0
×0.7	Dm-21°2026	7 29.4	- 21 10	8.7 ✓						
		28.3	- 20 60	7.7						
×0.7	Dm-20°2037	7 26.6	- 20 50	9.2 ✓						
		56.3	- 20 26	8.8						
+0.5	Dm-20°2346	7 55.7	- 20 28	8.4 ✓						
+0.2	Dm-20°2251	7 46.6	- 20 38	8.7 ✓						

* Spectra superposed of 2030 superposed on that of Dm-21°2029 making it hard to determine the class.

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1889phae.proj..870F

October, 11, 1890.

L 2.10 Plate 2336

V.	H.	Class.	No. Rem.	Limit	K.	Intens.	Add. Line	End beyond K	Br. V.	H. V.	H.	
10.7	12.5	F	71	β	K=H	2	—	—	5.9	5.3	25.0 20.5	46.9 +0.
10.5	14.9	A		δ	N	2	—	—	6.0	5.2	29.8 20.6	42.1 +0
10.8	15.1	A		H	N	1	—	—	6.9	5.4	30.2 20.4	41.7 +0
10.6	15.4	A		H	N	1	—	—	7.6	5.3	30.8 20.5	41.1 +0
10.7	17.1	A		H	N	1	—	—	7.6	5.3	34.2 20.5	37.7 -0
10.2	17.4	A		β	K=γ	1	—	—	6.8	5.1	34.8 20.7	37.1 -0
10.6	21.0	A		H	N	1	—	—	7.1	5.3	42.0 20.5	29.9 -0
10.4	21.2	A		H	N	1	—	—	7.2	5.2	42.4 20.6	29.5 -0.
10.9	21.5	A		K	K=H	1	—	—	7.0	5.4	43.0 20.4	28.9 -0.
10.2	21.6	A		β	N	1	—	—	6.7	5.1	43.2 20.7	28.7 -0.
10.3	22.3	A		β	N	2	—	—	6.5	5.2	44.6 20.6	27.3 -0
11.6	7.5	A		β	N	2	—	—	6.6	5.8	15.0 20.0	56.9 +0.
11.2	7.7	A		α	N	1	—	—	7.2	5.6	15.4 20.2	56.5 +0.
11.2	10.3	A		δ	N	2	F	—	5.7	5.6	20.6 20.2	51.3 +0.
11.7	13.5	F	72	K	K=H	2	F	—	5.7	5.8	27.0 20.0	44.9 +0.
11.2	16.5	A		H	N	1	—	—	7.4	5.6	33.0 20.2	38.9 -0
11.5	18.3	A		β	K=H	2	—	—	6.3	5.8	36.6 20.0	35.3 -0
11.1	20.0	A		H	N	1	—	—	7.3	5.5	40.0 20.3	31.9 -0
11.7	20.6	A		γ	N	2	—	—	5.8	5.8	41.2 20.0	30.7 -0
12.4	5.7	A		ε	N	2	—	—	6.4	6.2	11.4 19.6	60.5 +1.
12.7	6.4	A	73	γ	N	3	—	—	5.3	6.3	12.8 19.5	59.1 +0.
12.8	8.5	A		K	K=H	1	—	—	7.9	6.4	17.0 19.4	54.9 +0.
12.7	8.7	A		H	N	1	—	—	7.8	6.3	17.4 19.5	54.5 +0.
12.1	8.5	A		H	N	1	—	—	7.3	6.0	17.0 19.8	54.9 +0.
12.8	11.4	A		H	N	1	—	—	7.6	6.4	22.8 19.4	49.1 +0
12.6	12.1	A		β	N	2	—	—	6.6	6.3	24.2 19.5	47.7 +0
13.0	13.3	Kb		K	K=H	2	—	—	6.6 6.0	6.5	26.6 19.3	45.3 +0
13.0	13.5	Ka		K	K=H	2	—	—	6.4 6.8	6.5	27.0 19.3	44.9 +0

L 2.25

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1889phae.proj..870F

DM Pos. entered are for 1855.

No. A.G.C.	Ra 1900	Dec 1900	Imagn	Photom. magn.	Vol.	No. DM.	Ra. 1855	Dec. 1855	Imagn.
+04 Dm-20° 2235	7 45.4	−20 20.8 (1900)	5.6 ✓	6.88	54				
+0.0 Dm-20° 2172	7 39.8	−20 25	8.5 ✓	7.24	54				
+0.0 Dm-20° 2167	7 39.6	−20 20	8.5						
+0.0 Dm-20° 2159	7 38.9	−20 28	8.5 ✓						
−0.1 Dm-20° 2117	7 35.2	−20 23	8.7 ✓						
−0.1 Dm-20° 2109	7 34.5	−20 37	8.2 ✓						
−0.8 Dm-20° 2015	7 26.9	−20 29	8.7 ✓						
−0.8 Dm-20° 2011	7 26.5	−20 29	8.6 ✓						
−0.8 Dm-20° 2003	7 25.8	−20 14	8.3 ✓						
−0.8 Dm-20° 1999	7 25.6	−20 37	8.0 ✓						
−0.9 Dm-20° 1980	7 24.2	−20 31	7.7 ✓						
+0.5 Dm-20° 2044	7 55.5	−20 6 (1900)	8.5 ✓	7.48	54				
+0.5 Dm-20° 2336	7 54.8	−20 13 (1900)	8.5						
+0.7 Dm-20° 2284	7 49.9	−20 5	9.3 ✓	8.63	54				
+0.2 10236	7 45.4	−20 12 (1900)	7.1 ✓	6.76	54				
Dm-19° 2085	7 43.4	−19 57	6.9	6.48	50				
−0.1 Dm-20° 2133	7 36.5	−19 50	6.9 ✓			2085	7 43.4	−19 50	6.9
−0.7 Dm-19° 1993	7 32.6	−20 14 (1900)	8.5 ✓	8.55	54				
−0.7 Dm-20° 2048	7 29.1	−20 8	7.7 ✓	7.23	54				
−0.7 9738	7 29.9	−20 3 (1900)	8.5						
Dm-19° 1980	7 27.9	−19 55	7.0 ✓						
+1.0 Dm-19° 2240	7 59.6	−19 49	7.3 ✓	6.81	50	1950	7 27.9	−19 49	7.3
+0.3 10690	8 0.2	−19 29	7.0						
+0.5 Dm-19° 2185	7 53.8	−19 26	6.7 ✓	6.06	50	2228	7 58.2	−19 19	6.4
Dm-19° 2176	7 53.2	−19 21	9.0						
+0.5 Dm-19° 2176	7 53.2	−19 22	8.8 ✓						
+0.5 Dm-19° 2186	7 54.0	−19 40	8.6 ✓						
+0.7 Dm-19° 2127	7 47.8	−19 19	8.7 ✓						
+0.7 Dm-19° 2106	7 46.3	−19 25	8.0 ✓						
+0.2 10244	7 45.7	−19 17	6.7 ✓	6.40	50	2089	7 43.7	−19 10	6.4
+0.2 10230	7 46.5	−19 15	6.8 ✓	6.80	50	2083	7 43.3	−19 8	6.8

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1889phae.proj..870F

April 7, 1892

Plate 2336

	V.	H	Class	No Rem	Limit	K	Intens	Add. Line	End beyond K	Br.	V.	H.	V.	H.	
	12.1	14.4	B	74	B	N	2	Sam	—	6.7	6.0	28.8	19.8	43.1	+0
	12.2	14.6	A	—	B	N	2	—	—	6.7	6.1	29.2	19.7	42.7	+0
	12.6	17.7	K	—	K	K=H	3	—	—	8.2	6.3	35.4	19.5	36.5	-0
	12.6	19.5	B	75	E	N	4	—	—	5.3	6.3	39.0	19.5	32.9	-0
3:9	6.5	13.0	21.0	L		K	K=H	3	—	—	5.8	6.5	42.0	19.3	29.9	-0
	12.8	22.6	K	—	K	K=H	2	—	—	6.7	6.4	45.2	19.4	26.7	-0
	12.9	22.8	A	—	α	N	1	—	—	7.2	6.4	45.6	19.4	26.3	-0
	13.4	6.2	A		A	N	1	—	—	7.4	6.7	12.4	18.9	59.5	+0
	14.1	8.1	A		A	N	1	—	—	7.3	7.0	16.2	18.8	55.7	+0
	13.2	8.9	A		B	N	2	—	—	6.5	6.6	17.8	19.2	54.1	+0
	13.1	11.5	A		B	N	1	—	—	7.1	6.5	23.0	19.3	48.9	+0
	13.4	11.8	A		A	N	1	—	—	7.4	6.7	23.6	19.1	48.3	+0
	14.0	10.8	A		S	K=2H	2	—	—	6.0	7.0	21.6	18.8	50.3	+0
	13.9	11.2	A		A	N	1	—	—	7.6	6.9	22.4	18.9	49.5	+0
	13.9	12.4	A		A	N	1	—	—	7.2	6.9	24.8	18.9	47.1	+0
	13.7	13.9	A		A	N	1	—	—	7.6	6.8	27.8	19.0	44.1	+0
	13.3	14.3	A		γ	K=2H	2	—	—	6.6	6.6	28.6	19.2	43.3	+0
	13.6	15.8	A		A	N	1	—	—	7.6	6.8	31.6	19.0	40.3	-0
	13.8	16.8	A	76	K	K=H	2	A	—	6.6	6.9	33.6	18.9	38.3	-0
	14.0	17.3	A		α	N	1	—	—	6.7	7.0	34.6	18.8	37.3	-0
	14.0	23.1	H		H	N	1	—	—	6.7	7.0	46.2	18.8	25.7	-0
	13.6	23.5	A		B	N	2	—	—	6.5	6.8	47.0	19.0	24.9	-0
	15.0	7.1	A		H	N	1	—	—	7.2	7.5	14.2	18.5	57.7	+0
	14.7	7.9	H		K	K=H	1	—	—	7.1	7.3	15.8	18.5	56.1	+0
	14.7	9.3	A		H	N	1	—	—	7.3	7.3	18.6	18.5	53.3	+0
	14.3	10.2	A		B	N	2	—	—	7.0	7.1	20.4	18.7	51.5	+0
	14.2	13.1	A		H	N	2	—	—	6.8	7.1	26.2	18.7	45.7	+0
	14.2	15.1	H		K	K=H	1	—	—	7.1	7.1	30.2	18.7	41.7	+0

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DM. Pos. entered are for 1855.

A.G.C. no.		Ra 1900	Dec. 1900	Magn.	Photom. Magn.	Vol.	DM no.	Ra 1855	Dec 1855	Magn
+0.0	Dm-19° 2066	7h 41.4	- 19° 38'	8.2						
		42.9	- 19 41 (1900)							
+0.0	Dm-19° 2062	7 40.9	- 19 33	7.6	7.86	54	2003	7 33.8	-19 2	
-0.1	9913	7 35.8	- 19 26	6.7	6.08	50	2003	7 33.8	-19 20	6.4
-0.7	9811	7 32.3	- 19 29	6.2	5.66	50	1967	7 30.3	-19 23	5.8
-0.8	9715	7 28.9	- 19 12	6.2	5.76	50	1944	7 26.9	-19 6	6.2
-0.9	9630	7 25.6	- 19 19	7.5	6.99	50	1919	7 23.7	-19 14	7.0
-0.9	9620	7 25.2	- 19 19	8.8			1915	7 23.3	-19 14	8.4
		58.8	- 18 59	8.7						
+0.5	Dm-18° 2157	7 57.7	- 18 58	8.7						
+0.5	Dm-18° 2127	7 54.6	- 1844	8.7						
+0.5	Dm-19° 2175	7 52.9	- 194	8.0						
		47.3	- 19 9	8.7						
+0.7	Dm-19° 2127	7 47.8	- 1919	8.7						
		47.0	- 19 1	9.1						
+0.7	Dm-19° 2123	7 47.3	- 199	8.7						
		51.0	- 18 47 (1900)							
+0.7	Dm-18° 2082	7 49.0	- 1840	7.2	6.77	54				
+0.7	Dm-19 2075	7 48.0	- 1846	9.1						
+0.7	Dm-18° 2061	7 45.6	- 1845	8.8						
+0.1	Dm-18° 2029	7 42.3	- 1849	7.7						
+0.1	10170	7 43.6	- 1910	7.8			2069	7 41.6	-19 2	9.8
							2068	7 41.6	-19 3	7.8
-0.0	Dm-19° 2068	7 41.6	- 193	7.8						
-0.0	Dm-18 1976	35.9	- 1846	7.8						
	9920	35.9	18 36	8.2						
-0.1	Dm-18° 1967	7 34.8	- 1839	8.5						
	Dm-18 1859	22.8	- 1835	9.2						
-0.5	Dm-18° 1858	7 22.7	- 1835 (1900)	7.2	7.15	54				
		23.7	-18 55 (1900)							
-0.5	Dm-18° 1851	7 21.7	- 1850	7.5	7.25	54				
+0.4	Dm-18° 2147	7 56.8	- 1811	8.3						
+0.5	Dm-18° 2130	7 55.1	- 1815	7.8						
+0.5	Dm-18° 2110	7 52.2	- 1816	8.5						
+0.7	Dm-18° 2093	7 50.2	- 1831	8.7						
+0.1	Dm-18° 2049	7 44.2	- 1835	8.2						
+0.0	Dm-18° 2008	7 39.5	- 1833	8.2						

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1889phae.proj..870F

April 7, 1890.

Plate 2336

α	δ	Class.	No. Prev.	Limit	K	Intens.	Add. Line	Ext. beyond K	Br. V	H. V	H.	
14.7	15.4	A		α	H	1	—	—	7.0	7.3	308	18.5 41.1	+0
14.8	16.0	A		α	H	1	—	—	6.9	7.4	320	18.4 39.9	-0
14.7	16.6	A		α	H	1	—	—	7.0	7.3	332	18.5 38.7	-0.
14.3	17.7	K		K	K:H	1	—	—	7.2 7.6	7.1	354	18.7 36.5	-0.
14.6	18.3	A		ε	H	3	—	—	5.8	7.3	36.6	18.5 35.3	-0.
14.2	19.8	A		K	K:H	1	—	—	6.6	7.1	39.6	18.7 32.3	-0.
14.8	21.6	F	77	K	K:H	1	—	—	6.6	7.4	43.2	18.4 28.7	-0.
15.0	22.6	F	78	K	K:H	1	—	—	7.0	7.5	45.2	18.3 26.7	-0
14.9	22.9	K		K	K:H	1	—	—	7.5	7.4	45.8	18.4 26.1	-0
~~13.9~~	~~23.1~~	~~H~~		~~H~~	H	1	—	—	~~6.6 7.0~~ 7.2 7.0	6.9	46.2	~~18.7~~ 18.8 23.7	-0.
14.8	23.8	A		γ	H	2	—	—	6.0	7.4	47.6	18.4 24.3	-0
15.4	5.6	A		β	H	2	—	—	6.5	7.7	11.2	18.1 60.7	+1.
15.2	8.7	A		ζ	K=.2H		F	—	4.6	7.6	17.4	18.2 54.5	+0.
15.7	9.4	A		H	H	1	—	—	7.3	7.8	18.8	18.0 53.1	+0.
16.0	11.1	A		H	H	1	—	—	7.0	8.0	22.2	17.8 49.7	+0.
15.9	10.9	A		H	H	1	—	—	7.4	~~7.9~~ 8.0 7.8	21.8	18.8 50.1	+0.
15.6	11.2	A		H	H	1	—	—	7.2	7.8	22.4	18.0 49.5	+0.
15.8	11.4	K		H	H	1	—	—	7.2 7.6	7.9	22.8	17.9 49.1	+0.
15.4	11.4	K		H	H	1	—	—	6.8 7.2	7.7	22.8	18.1 49.1	+0
16.0	12.3	A		β	H	2	—	—	6.6	8.0	24.6	17.8 47.3	+0.
15.3	12.6	A		ε	H	2	—	—	6.2	7.6	25.2	18.2 46.7	+0.
15.5	12.9	O		K	K:H	2	—	—	6.4 7.4	7.8	25.8	18.0 46.1	+0.
15.2	17.0	P	79	?	H	1	—	—	7.5	7.6	34.0	18.2 37.9	-0.
16.0	24.1	F	80	K	K:H	3	—	0.1	3.6	8.0	48.2	17.8 23.7	-0
16.8	6.5	K		H	H	1	—	—	6.9 7.3	8.4	13.0	17.4 58.9	+1
16.2	8.4	O		K	K:H	1	—	—	7.2	8.1	16.8	17.7 55.1	+0
16.2	9.9	A		H	H	1	—	—	7.3	8.1	19.8	17.7 49.2	+0
16.3	11.3	A		H	H	1	—	—	7.3	8.2	22.6	17.6 49.3	+0

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DM. Pos. entered are for 1855.

A.G.C.		Ra 1900	Dec 1900	Magn.	Photom. Magn.	Vol.	no.	Dm. Ra 1855	Dec 1855	Magn
+0.0	Dm-18° 2003	7h 38.9	- 18 21	8.8 ✓						
-0.0	Dm-18° 1993	7 37.5	- 18 15	9.0 ✓						
-0.1	Dm-18° 1982	7 36.4	- 18.20	9.0 ✓						
-0.1	9920	7 35.9	- 18.36	8.2 ✓				1958	7 33.9	-18 30 8.4
-0.7	9875	7 34.7	- 18 27	6.8 ✓	6.44	50		1946	7 32.7	-18 21 7.3
-0.7	9785	7 31.5	- 18 37	8.0 ✓				1926	7 29.5	-18 32 8.0
-0.8	Dm-18° 1893	7 25.8	- 18 12	7.7 ✓						
-0.9	Dm-18° 1867	7 23.9	- 18 8	8.3 ✓						
-0.9	Dm-18° 1863	7 23.2	- 1810	9.0 ✓						
-0.9	~~Dm-18° 1858~~	~~7 22.7~~	~~- 1835~~	~~7.2~~	See preceding page					
-0.9	Dm-18° 1846	7 21.8	- 1812	7.6 ✓						
+1.0	Dm-17° 2331	7 57.8	- 17.58	7.8 ✓						
+0.5	10523	7 55.4	- 18 7	5.2 ✓	4.64	50		2118	7 53.4	-18 0 5.3
+0.4	Dm-17 2257	7 51.9	- 17 48	8.6 ✓						
+0.7	Dm-17° 2229	7 48.4	- 17 41	8.7 ✓						
+0.7	Dm-17° 2233	7 48.8	- 17 46	9.3 ✓						
+0.7	Dm-17° 2225	7 48.1	- 1753	8.7 ✓						
+0.7	Dm-17° 2220	7 47.7	- 1745	8.2 ✓						
+0.7	Dm-17° 2217	7 47.6	- 17 57	9.4 ✓						
+0.7	Dm-17° 2214	7 47.6	- 17 57	7.0 ✓	7.12	54		7 49.6	-18 4 (1900)	
+0.2	Dm-17° 2198	7 45.9	- 17 39	8.3 ✓						
+0.1	Dm-17° 2188	7 45.3	- 1754	7.9 ✓						
+0.1	~~Dm~~ 10272	7 46.6	- 18.0	7.5 ✓	6.66	54		2185	7 44.6	-17 52 6.5
-0.2	Dm-17° 2105	7 35.5	- 17 52	neb.						
	~~Dm-18° 1769~~	~~7 35.5~~	~~- 18 4~~	~~7.0 ✓~~						
-0.9	9553	7 22.7	- 1840	6.2 ✓	5.70	50		1980	7 20.7	-17 34 6.0
+1.0	10683	8 0.0	- 17 23	7.2 ✓	6.60	54		2311	7 58.0	-17 15 6.8
+0.5	Dm-17° 2276	7 53.9	- 17 32	8.0 ✓						
+0.7	~~Dm-17° 2246~~	~~7 47.5~~	~~- 17 37~~	~~9.2 ✓~~						
		50.9	- 17 34	8.8						
+0.7	Dm-17° 2221 2222	7 47.9	- 17 25	{9.1 9.0} ✓						

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1889phae.proj..870F

April 7, 1890.

Plate 2336

8. 76	Class	Rem. No.	Limit	K	Inters.	Gold. Lines	End beyond K	Br.	V	H.	V.	K.	
~~Mean on page 44 16.5 11.3~~	~~A~~		~~H~~	~~H~~	1	—	—	~~7.3~~	~~8.3~~	~~22.6~~	~~17.5~~	49.3	
16.8	15.1 A		H	H	1	—	—	7.4	8.4	30.2	17.4	41.7	
16.6	15.7 H		H	H	1	—	—	7.3 7.4	8.3	33.4	17.5	40.5	
16.3	15.9 A		B	H	2	—	—	6.6	8.2	31.8	17.6	40.1	
16.9	16.2 A		B	H	1	—	—	6.7	8.4	32.4	17.4	39.5	
16.1	16.2 A	81	H	H	1	—	—	7.0	8.0	32.4	17.8	39.5	
16.2	17.7 A		H	H	1	—	—	7.3	8.1	35.4	17.7	36.5	
16.2	18.1 A		B	H	2	—	—	6.3	8.1	36.2	17.7	35.7	
16.3	19.7 A		H	H	1	—	—	7.4	8.2	39.4	17.6	32.5	
16.8	20.2 G		K	K-H	2	—	—	6.7	8.4	40.4	17.4	31.5	
16.3	21.2 A		H	H	1	—	—	7.5	8.2	42.4	17.6	29.5	
17.2	12.0 A		α	H	1	—	—	7.2	8.6	24.0	17.2	47.9	
18.0	12.7 F	82	K	K-H	1	—	—	7.4	9.0	25.4	16.8	46.5	
17.5	13.6 K		K	K-H	3	—	—	5.6 6.0	8.8	27.2	17.0	44.7	
17.2	14.7 A		H	H	1	—	—	7.3	8.6	29.4	17.2	42.5	
17.2	14.0 F	83	K	K-H	1	—	—	7.2	8.6	28.0	17.2	43.9	
17.4	15.2 A		α	H	1	—	—	7.3	8.7	30.4	17.1	41.5	
17.4	15.8 F	84	K	K-H	1	—	—	7.1	8.7	31.6	17.1	40.3	
17.8	16.6 G		K	K-H	2	—	—	6.4	8.9	33.2	16.9	38.7	
17.7	17.4 A		B	H	2	—	—	6.7	8.8	34.8	17.0	37.1	
17.3	18.9 A		H	H	1	—	—	7.3	8.2	37.8	17.6	34.1	
17.1	19.1 A		H	H	1	—	—	7.3	8.6	38.2	17.2	33.7	
17.5	22.0 A		α	H	2	—	—	6.6	8.8	44.0	17.0	27.9	
17.2	22.5 A		α	K-H	1	—	—	7.1	8.6	45.0	17.2	26.9	
17.1	23.1 G		K	K-H	1	—	—	6.8	8.6	46.2	17.2	25.7	
17.9	23.1 A		α	H	1	—	—	7.1	8.9	46.2	16.9	25.7	
18.1	6.2 H		H	H	1	—	—	7.3 7.5	9.0	12.4	16.8	59.5	
18.8	7.1 A		α	H	1	—	—	7.2	9.4	14.2	16.4	57.7	

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1889phae.proj...0701

DM. Pos. entered are for 1855.

No H.G.C.		Ra 1855	Dec 1855	Magn.	Photom. Vol		No. DM.	Ra. 1855	Dec. 1855	Magn.
	~~Dm-17° 2221~~	~~7 47.4~~	~~- 17 26~~	~~7.6~~	Magn.					
	~~Dm-17° 2222~~	~~7 47.9~~	~~- 17 23~~	~~8.9~~						
+0.7	Dm-17° 2223	7 47.9	- 17 16	8.9 ✓	See note on opp. page.					
+0.0	Dm-17° 2144	7 39.6	- 17 16	7.1 ✓						
-0.0	Dm-17° 2130	7 38.2	- 17 21	7.8 ✓						
-0.0	Dm-17° 2126	7 37.8	- 17 31	8.2 ✓						
-0.0	Dm-17° 2118	7 37.1	- 17 13	8.2 ✓						
-0.0	Dm-17° 2120	7 37.3	- 17 36	8.6 ✓						
-0.1	Dm-17° 2091	7 ~~33.7~~ 33.4	- 17 32	9.4 ✓						
-0.2	Dm-17° 2081	7 33.2	- 17 32	7.6 ✓						
-0.7	Dm-17° 2058	7 29.8	- 17 30	8.5 ✓						
-0.8	Dm-17° 2048	7 28.7	- 17 14	7.7 ✓						
-0.8	Dm-17° 2029	7 26.7	- 17 31	9.0 ✓						
+0.4	Dm-17° 2205	7 46.4	- 17 8	7.0 ✓						
+0.4	Dm-16° 2163	7 44.9	- 16 40	8.5 ✓						
+0.1	10226	7 45.1	- 16 59	5.7 ✓	5.54	50	2146	7 43.2	-16 52	50
+0.0	Dm-17° 2158	7 40.9	- 17 8	9.1 ✓						
+0.1	Dm-17° 2171	7 42.3	- 17 3	8.1 ✓						
+0.0	Dm-16° 2116	7 39.2	- 16 59	9.0 ✓						
-0.0	Dm-16° 2105	7 38.~~8~~ 1	- 16 5~~7~~ 6	8.1 ✓						
	9990	7 38.4	- 16 49	7.0 ✓						
-0.1	~~Dm-16° 2073~~	~~7 36.5~~	~~- 16 43~~	~~6.8 ✓~~	6.65	50	2093	7 36.5	-16 43	65
-0.1	Dm-16° 2081	7 34.6	- 16 49	8.0 ✓						
-0.7	Dm-17° ~~2068~~ 2063	7 ~~31.3~~ 31.3	- 17 ~~6~~ 1	~~8.9~~ 8.8 ✓ *						
-0.7	Dm-17° ~~2063~~ 2059	7 29.9	- 17 ~~8~~ 6	~~7.1~~ 8.8 ✓						
-0.9	Dm-16° 1994	7 20.1	- 16 53	9.0						
-0.9	Dm-16° 1993	7 25.1	- 16 54	7.9						
	-16° 1997	7 25.2	- 16 54	9.0						
-0.9	Dm-17° 2006	7 24.0	- 17 1	8.6 ✓						
-0.9	Dm-17° 1996	7 ~~22.8~~ 24.8	- 17 ~~3~~ 8 (19m)	7.5 ✓	7.32	54				
-0.9	Dm-16° 1973	7 22.9	- 16 41	8.7 ✓						
+1.0	Dm-16° 2277	7 38.5	- 16 ~~38~~ 37	7.8 ✓						
+0.5	Dm-16° ~~2257~~ 2263	7 ~~36.2~~ 36.7	- 16 ~~18~~ 16	8.3 ✓						

*The spectrum of Dm-17° 2069 would be superposed on this star but no fault photographs that DM. would not be affected.

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1889phae.proj..870F

April 7, 1890.

Plate 2336

R.	H.	Class	No. Resn.	Limit	K	Intens.	Odd Lines	Ends beyond K	Br.	V.	H.	V.	H.
18.1	8.4	H		H	H	1	—	—	7.2	9.0	16.8	168	551
18.2	8.6	G		K	K=H	1	—	—	6.8	9.1	17.2	16.7	547
18.4	9.0	A		α	H	1	—	—	7.0	9.2	18.0	16.6	539
19.0	10.2	G		K	K=H	2	—	—	6.5	9.5	20.4	16.3	515
18.7	12.3	A		H	H	1	—	—	7.3	9.4	24.6	16.4	473
Meas. on page 46	18.0	12.7	G	K	K=H	1	—	—	7.5	9.0	25.4	16.8	465
	18.4	13.6	G	K	K=H	1	—	—	7.4	9.2	27.2	16.6	447
	18.9	14.1	A	α	H	1	—	—	7.1	9.5	28.2	16.3	437
	18.8	15.5	F	85 K	K=H	1	—	—	6.8	9.4	31.0	16.4	409
	18.1	16.1	A	86 β	H	2	—	—	6.7	9.0	32.2	16.8	397
	18.2	18.3	G	K	K=H	2	—	—	6.3 6.0	9.1	36.6	16.7	353
	18.1	19.9	H	H	H	1	—	—	7.5	9.0	39.8	16.8	321
	18.7	21.5	A	H	H	1	—	—	7.1	9.4	43.0	16.4	289
	19.6	12.9	A	H	H	1	—	—	6.9	9.8	25.8	16.0	461
	19.4	13.8	A	α	H	1	—	—	7.0	9.7	27.6	16.1	443
Recorded above	19.0	14.1	A	α	H	1	—	—	7.0	9.5	28.2	16.3	437
	19.9	14.5	H	H	H	1	—	—	7.2 6.6	9.9	29.0	15.9	429
	19.9	14.6	G	H	H	2	—	—	6.5 6.0	9.9	29.2	15.9	427
	19.5	15.7	A	H	H	1	—	—	7.5	9.8	31.4	16.0	375
	19.7	15.7	A	α	H	1	—	—	7.0	9.9	31.4	15.9	405
	19.6	16.2	A	β	H	2	—	—	6.6	9.8	32.4	16.0	395
	19.8	16.9	H	K	K=H	2	—	—	6.9 6.5	9.9	33.8	15.9	381
	19.8	18.9	H	K	K=H	1'	—	—	6.7	9.9	38.6	15.9	313
	19.8	19.3	A	H	H	1	—	—	7.0	9.8	41.6	16.0	303
	19.5	20.8	G	K	K=H	1	—	—	6.5	9.9	46.2	15.9	267
	19.9	22.6	F	87 K	K=H	1	—	—	7.1	9.9	46.2	15.9	267
	20.8	6.7	A	α	H	1	—	—	7.2	10.4	13.4	15.4	585
	20.6	8.2	A	α	H	2	—	—	6.5	10.3	16.4	15.5	555
	20.8	9.3	H	H	H	1	—	—	7.3	10.4	18.6	15.4	533

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↕ Spectrum of Dm -15° 1939 superposed and combined light measured.

DM. Pos. entered are for 1855.

No. A.G.C.	R.a. 1900	Dec. 1900	Magn.	Photom. magn.	Vol.	No. DM.	R.A. 1855	Dec. 1855	Magn.
+0.5 Dm-16°2240	7 33.9	-16 38	7.5 ✓	7.39	54				
+0.5 Dm-16°2237	7 33.5 (55.5)	-16 34 (-16 41)	7.0 ✓	7.09	54				
+0.6 Dm-16°2226	7 32.7	-16 27	8.1 ✓						
+0.7 Dm-16°2206	7 30.1 (52.2)	-16 9 (-16 1/6 (1900))	7.0 * ✓	7.19	54				
+0.3 Dm-16°2168	7 25.9	-16 19	8.7 ✓						
~~+0.4 Dm-16°2163~~	~~7 24.9~~	~~-16 40~~	~~8.5~~						
+0.2 Dm-16°2145	7 23.0	-16 30	8.5 ✓						
+0.1 Dm-16°2136	7 22.0	-16 11	8.7 ✓						
-0.0 Dm-16°2118	7 18.8	-16 33 (14)	9.2 (8.7) ✓						
-0.0 Dm-16°2101	7 17.6	-16 35	8.2 ✓						
-0.3 9884	7 14.9	-16 37	7.0 ✓						
~~-0.3 Dm-16°2069~~	~~7 12.7~~	~~-16 31~~	~~6.3~~	6.52	54	2069	7 12.9	-16 31	6.3
-0.7 Dm-16°2037	7 09.8 (6)	-16 34 (4)	7.9 ✓						
-0.9 Dm-16°2008	7 06.2	-16 17	8.3 ✓						
+0.3 Dm-15°2086	7 24.5	-15 53	8.6 ✓						
+0.2 Dm-15°2068	7 22.6	-15 39	8.5 ✓						
+0.1									
+0.0 Dm-15°2052	7 21.1 (43.2)	-15 40 (-15 46)	6.7 ✓	6.77	50	Q 16 10162			
+0.0 10162 Dm-15°2049	7 21.8	-15 46 (4)	6.8 ✓	6.78	50	2049	7 21.0	-15 38	6.2
~~+0.0 Dm-15°2049~~	~~7 21.0~~	~~-15 38~~	~~6.2~~ ✓			QYC 10 56			
-0.0 Dm-15°1984 (2017)	7 18.5 (38.4)	-15 37	8.8 ✓						
-0.0 Dm-15°2014	7 18.3	-15 47 (6)	8.1 ✓						
-0.1 Dm-15°2006	7 17.4	-15 50	7.7 ✓						
-0.1 Dm-15°1987	7 15.7 (37.7)	-15 44 (-15 50 (1900))	7.0 ✓	7.20	50				
Dm-15 1950	7 31.6	-15 43	7.2 ✓	7.36	54	7 33.6		-15 49 (1900)	
-0.7 Dm-15°1940	7 30.9	-15 45	8.6 ↕ ✓						
-0.6 Dm-15°1904	7 27.7 (29.7)	-15 53 (-15 59 (1900))	7.0 ✓	6.89	54				
-0.9 Dm-15°1868	7 24.1	-15 42	8.2 ✓						
+1.0 Dm-15°2233	7 57.4 (59.4)	-15 16 (-15 23 (1900))	7.8 ✓	8.35	54				
+0.5 Dm-15°2190	7 54.3 (56.4)	-15 21 (-15 28)	7.3 ✓	7.35	54				
+0.6 Dm-15°2161	7 52.4 (54.2)	-15 16 (-15 23 (1900))	7.5 ✓	7.70	54				

*Spectrum of Dm -16° 2205 superposed & combined light measured.

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1889phae.proj..870F

April, 7, 1892.

Plate 2336

V.	H.	Class.	No. Rem.	Limit	K	Intens.	Add. Lines	End beyond K	Br.	V.	H.	V.	H.	
20.6	9.5	A.		α	N	1	—	—	7.4	10.3	19.0	15.5	52.9	+
21.0	10.3	H		K	K-H	1	—	—	6.8 7.2	10.5	20.6	15.3	51.3	+
20.9	10.8	G		K	K-H	2	—	—	6.5	10.5	21.6	15.3	50.3	+
20.3	10.9	A		H	N	1	—	—	7.3	10.1	21.8	15.7	50.1	+
20.4	11.9	A		β	N	1	—	—	7.0	10.2	23.8	15.6	48.1	+
20.3	12.8	F	88	K	K-H	1	—	—	7.3	10.2	25.6	15.7	46.3	+
20.9	14.2	A		H	N	1	—	—	7.4	10.5	28.4	15.3	43.5	+
20.3	14.3	A		γ	N	1	—	—	6.8	10.1	28.6	15.7	43.3	+
20.7	14.8	F	89	β	K-H	1	—	—	7.0	10.4	29.6	15.4	42.3	+
20.4	17.0	A		H	N	1	—	—	7.2	10.2	34.0	15.6	37.9	-
20.6	19.3	A		H	N	1	—	—	6.6	10.3	38.6	15.5	33.3	-
20.2	22.8	A		α	N	1	—	—	6.8	10.1	45.6	15.7	26.3	-
21.2	12.2	A		δ	N	2	—	—	6.5	10.6	24.4	15.2	47.5	+
21.6	12.6	A		K	K-H	1	—	—	7.2	10.8	25.2	15.0	46.7	+
21.9	13.2	A		H	N	1	—	—	7.4	10.9	26.4	14.9	45.5	+
21.1	15.5	A		α	N	1	—	—	7.4	10.6	31.0	15.2	40.9	-
21.7	15.8	F	90	K	K-H	1	—	—	7.0	10.9	31.6	14.9	40.3	-
21.3	17.9	K		K	K-H	3	—	—	5.6 6.5	10.7	35.8	15.1	36.1	-
21.1	20.3	H		H	N	1	—	—	6.8 7.5	10.6	40.6	15.2	31.3	-
21.3	22.3	A		H	N	1	—	—	7.2	10.6	44.6	15.2	27.3	-
21.8	22.3	H		H	N	2	—	—	6.5 6.8	10.9	44.6	14.9	27.3	-
21.9	22.8	E		K	K-H	1	—	—	7.0	10.9	45.6	14.9	26.3	-
21.8	23.3	F	91	K	K-H	2	—	0.1	6.0	10.9	46.6	14.9	25.3	-
22.4	9.3	A		H	N	1	—	—	7.3	11.2	18.6	14.6	53.3	+
22.8	9.6	H		H	N	1	—	—	7.2 7.6	11.4	19.2	14.4	52.7	+
22.8	9.7	A		H	N	1	—	—	7.2	11.4	19.4	14.4	52.5	+
22.9	10.0	A		β	N	2	—	—	6.6	11.5	20.0	14.3	51.9	+
22.3	10.5	A		H	N	1	—	—	7.2	11.2	21.0	14.6	50.9	+

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* The spectra of DM. -14° 2299 & 2300 superposed on DM-14° 2301 ~~but combined light not much affected.~~

⊛ The spectrum of DM-14 2292 superposed on that of DM-14° 2293 and combined light measured.

DM. Pos. entered are for 1855.

No. G.C.		Ra. 1900	Dec. 1900	Magn.	Photom. Magn.	Vol.	No. DM	Ra. 1855	Dec. 1855	Magn.
+0.9	DM-15° 2157	7 51.8	-15 21	9.0 ✓						
		52.0	-15 15 (1900)	7.2						
+0.7	DM-15° 2143	7 49.9	-15 8	8.9 ✓	7.35	54				
		51.1	-15 19 (1900)							
+0.7	DM-15° 2133	7 48.9	-15 12	7.1 ✓	7.05	54				
	DM -15 2130	7 48.9	-15 28	8.7						
+0.7	DM-15° 2131 DM-15° 2128	7 48.8	-15 3	8.3 ✓						
+0.7	DM-15° 2110	7 46.7	-15 29	8.2 ✓						
+0.3	DM-15° 2070	7 44.8	-15 31	8.2 ✓						
+0.1	DM-15° 2054	7 41.7	-15 12	8.7						
+0.1	DM -15 2056 -15° 2039	7 41.7	-15 31	8.2 ✓						
+0.0	DM-15° 2043	7 40.6	-15 18	8.3 ✓						
-0.1	DM-15° 1986	7 35.7	-15 27	8.5 ✓						
-0.7	9823	7 33.0	-15 27	8.2 ✓			1941	7 30.9	-15 22	8.0
-0.9	DM-15° 1866 1853	23.7	33	84						
		7 22.9	-15 46	8.7 ✓						
		48.0	-15 10 (1900)							
+0.7	DM-15° 2102	46.8 7 45.9	-15 3	7.8 ✓	7.51	54				
		47.2	-15 0 (1900)							
+0.4	DM-14° 2245	7 45.1	-14 53	8.2 ✓	8.21	54				
	14° 2235	7 43.9	-14 43	9.1 *						
+0.2	DM-14° 2229	7 42.9	-14 39	7.8 ✓						
		41.0	-15 12 (1900)							
-0.0	DM-15° 2023	7 38.9	-15 6	8.6 ✓	8.85	54				
-0.0	DM-14° 2190	7 38.2	-14 44	8.0 ✓						
-0.4	9911	7 35.8	-15.2	5.4 ✓	5.15	50	2082	7 33.8	-14 56	5.4
		30.9	-15 10 (1900)							
-0.7	DM-15° 1914	7 28.8	-15 4	7.2 ✓	7.31	54				
		26.8	-15 5 (1900)							
-0.9	DM-15° 1875	7 24.7	-15 0	8.1 ✓	8.46	54				
		26.8	-14 45 (1900)							
-0.9	DM-14° 1944	7 24.7	-14 40	7.1 ✓	7.26	54				
-0.9	DM-14° 1932	7 23.7	-14 42	8.2 ✓						
-0.9	9608	7 24.8	-14 47	6.7 ✓	5.94	50	1925	7 22.8	-14 42	6.7
+0.6	DM-14° 2310	7 52.2	-14 28	8.5 ✓						
		4	4	15	7.8					
+0.6	DM-14° 2304	7 01.X	-14 13	8.3 ✓						
	2301	1		13	8.5 *					
+0.7	DM-14° 2299	7 51.2	-14 8	9.0 ✓						
+0.7	DM-14° 2293	7 50.6	-14 13	8.0 ⊛ ✓						
+0.7	DM-14° 2281	7 49.5	-14 31	8.2 ✓						

* Spectrum of DM-14° 2234 superposed on this star.

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April 7, 1890

Plate 2336

	V. H.	Class	Rem. No.	Limit	K	Intens.	Abd. Lines	End beyond K	Br.	V.	H.	V.	H.	
	22.3	12.4	A		ε	K=H	3	F	—	5.4	11.2	24.8	14.6	47.1	+
	22.7	13.6	A		H	N	1		—	7.5	11.4	27.2	14.4	44.7	+
	22.7	14.0	A		β	N	1			7.1	11.4	28.0	14.4	43.9	+
	22.5	14.8	A		α	N	1			7.4	11.2	29.6	14.6	42.3	+
	22.8	15.3	A		η	K.H	4	F		5.6	11.4	30.6	14.4	41.3	+
	22.5	15.5	A		ε	K.2	3	F		5.3	11.2	31.0	14.6	40.9	-
	22.3	17.5	A		K	K.H	1			7.2	11.2	35.0	14.6	36.9	-
	22.7	17.9	A		H	N	1			7.3	11.4	35.8	14.4	36.1	-
	23.0	19.3	A		ε	K.3	3			5.7	11.5	38.6	14.3	33.3	-
	22.7	19.7	A		H	N	1			7.1	11.4	39.4	14.4	32.5	-
	23.0	19.8	A		γ	N	2			6.5	11.5	39.6	14.3	32.3	-
	22.9	19.8	A		ζ	N	3			5.4	11.4	39.6	14.4	32.3	-
	22.7	19.9	A		ζ	N	2			6.5	11.4	39.8	14.4	32.1	-
	23.0	20.1	B	92	γ	N	3	F		5.4	11.5	40.2	14.3	31.7	-
	22.4	20.1	A		H	N	1			7.0	11.2	40.2	14.6	31.7	-
	22.6	20.3	A		H	N	1			7.4	11.3	40.6	14.5	31.3	-
	22.7	21.2	L		K	K.H	2			6.8	11.4	42.4	14.4	29.5	-
	23.9	8.1	A		K	K=H	2			6.9	11.9	16.2	13.9	55.7	+
6.7 6.9 7.3	23.8	13.7	Ma		K	K=H	1			6.9 7.4	11.9	27.4	13.9	44.5	+
	23.8	16.6	A		H	N	1			7.2	11.9	33.2	13.9	38.7	-
	23.3	16.9	A		H	N	1			7.1	11.7	33.8	14.1	38.1	-
	23.5	18.3	A		H	N	1			7.2	11.8	36.6	14.0	35.3	-
	23.2	18.8	A		α	N	1			7.0	11.6	37.6	14.2	34.3	-
	24.4	19.8	A		H	N	1			7.1	12.2	39.6	13.6	32.3	-
	23.6	20.7	A		β	N	1			7.0	11.8	41.4	14.0	30.5	-
	23.2	21.4	A		γ	N	3			5.7	11.6	42.8	14.2	29.1	-
	23.1	23.1	A		H	N	2			6.8	11.6	46.2	14.2	25.7	-
	24.4	8.8	A		H	N	1				12.2	17.6	13.6	54.3	+

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* Spectrum of Dm -14 2211 superposed and combined light measured.

DM. Pos. entered are for 1855.

No. A.G.C.	RA. 1900 h	Dec. 1900 ° '	Magn.	Photom. Magn.	Vol.	No. Dm.	RA. 1855-	Dec. 1855-	Magn.
+0.3 10303	7 47.8	-14 36	6.1 ✓	5.69	54	2250	7 45.6	-14 29	6.3
+0.2 Dm-14° 2223	7 42.3	-14 17	8.7 ✓						
+0.1 Dm-14° 2211	7 40.8	-14 15	8.5 ✓						
+0.0 Dm-14° 2211	7 39.8	-14 26	9.0 * ✓						
+0.0 10093	7 41.3	-14 19	5.5 ✓	5.11	50	2199	7 39.3	-14 13	6.0
-0.0 10075	7 40.9	-14 27	8.0 ✓	6.80	50	2193	7 38.8	-14 20	7.0
10077	7 40.9	-14 27	7.5 ✓	6.06		2194			7.0
-0.1 Dm-14° 2112	7 34.7	-14 29	8.5 ✓						
-14° 2111	7 34.7	-14 29	9.7						
-0.1 Dm-14° 2084	7 33.9	-14 19	8.5 ✓						
-0.7 9824	7 33.1	-14 13	7.5 ✓	6.42	50	2052	30.9	-14 6	9.1
						2053	31.0	7	7.5
-0.7 Dm-14° 2029	7 30.1	-14 15	8.6						
-0.7 Dm-14° 2021	7 29.9	-14 10	8.0						
-0.7 Dm-14° 2020	7 29.9	-14 10	8.0						
-0.7 Dm -14° 2016	7 29.8	-14 16	7.8						
-0.6 9778	7 31.4	-14 16	6.0	5.57	50	Dm -14° 1999	7 29.4	-14 10	6.9
-0.6 Dm-14° 1994	7 29.3	-14 23	8.5						
-0.7 Dm-14° 1987	7 28.9	-14 22	9.0						
-0.8 9722	7 29.2	-14 18	6.2 ✓	5.06	50	1971	7 27.1	-14 13	5.8
+0.3 Dm-13° 2345	7 54.3 (56.4)	-13 51 (1900)	7.3 ✓	7.21	54				
+0.2 Dm-13° 2247	7 42.9 (45.1)	-13 50 (1900)	7.2 ✓	6.64	54				
-0.1 Dm-13° 2189	7 36.6	-13 39	8.9 ✓						
-0.1 Dm-13° 2182	7 36.9	-13 57	8.8						
-0.6 Dm-13° 2160	7 33.2	-13 54	8.9 ✓						
-0.6 9825	7 33.1	-14 13	7.2						
-0.7 Dm-13 2111	7 28.9	-13 31	8.6						
-0.8 Dm-13° 2104	7 28.2	-13 51	8.2 ✓						
-0.8 9710	7 28.8	-14 7	7.0 ✓	6.24	50	1966	7 26.7	-14 2	6.8
-0.9 Dm-14° 1928	7 23.3	-14 4	7.7 ✓						
-14° 1929		-14 3	9.4						
+0.5 Dm-13 2338	7 53.5	-13 27	8.9 ✓						

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April, 7, 1890.

Plate 2336

R. H.	Class.	No. Rem.	Limit.	K.	Intens.	Add. Lines	Ends beyond K	Brs	V. H	V. H.	
24.49.1	A		H6	N	1			12.2	18.2	13.6	53.7	+0
24.6 10.7	A		K	K=H6	2			12.3	21.4	13.5	47.5	+0
24.3 12.4	H6		K	K=H6	2			12.2	24.8	13.6	471	+0
24.2 12.7	G		K	K=H6	3	F	0.15	12.1	25.4	13.7	46.5	+0
24.6 15.8	A		α	N	1			12.3	31.6	13.5	40.3	-0
24.3 17.0	A		B	N	2			12.2	34.0	13.6	37.9	-0
24.5 18.7	A		H6	N	1			12.2	37.4	13.6	34.5	-0
24.1 20.9	F	93	K	K	H6	2			12.0	41.8	13.8	30.1	-0

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Dm. Pos. entered are for 1855.

No. A.G.C.	R.A. h 1900	Dec 1903	Magn	Photom. Magn.	Vol.	No. Dm.	Ra 1855	Dec 1855	Magn
+0.6 Dm -13°2328	7 52.3	-13 30′	8.0 ✓						
~~+0.7 Dm -13° 2274~~	~~7 46.1~~	~~-13 31~~	~~8.5~~						
Dm -13° 2270	7 45.7	-13 29	7.2						
~~+0.3 10289~~	~~7 47.2~~	~~-13 38~~	~~5.7~~	6.87	54	10309	7 47.9	-13 36	(1900)
+0.4 10289	7 47.4	-13 38	5.7 ✓	5.34	50	2267	7 45.1	-13 31	6.7
-0.1 Dm -18°2204	7 38.2	-13 21	8.1 ✓						
-0.7 Dm -13°2172	7 35.1	-13 30	8.0 ✓						
-13 2181	7 35.8	-13 30	9.6						
-0.9 Dm -13°2148	7 37.6	-13 32	8.2 ✓						
9736	7 29.9	-13 39	7.5						
~~-0.8 Dm -13°2141~~	~~7 29.8~~	~~-13 33~~	~~7.2~~ ✓	6.70	54	2101	7 27.8	-13 33	7.2

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R.A. 15h 58m Dec. -21°

April 9, 1892.

Plate 3405 Sh. Li. 6.7 6.9 6.6 F. M. 6.8 0 7.5 F. b. h. 7.8

V. H.	Class.	Rem. No.	Limit	K.	Intens.	Lines	Grad.	End beyond K	Br.	V.	H.	V.	H.	
4.5 9.2	K	1	K	K-H.	3	F	.05			2.2	18.4	16.6	476	+0
4.1 12.3	F	94	B	K-H	2	F	—			2.0	24.6	16.4	538	+0
3.7 15.4	A		A	H	1	—			7.9	2.6	30.8	17.0	600	+0
5.3 23.0	A		A	K-H	1				6.9	2.6	46.0	17.0	752	+0
6.0 20.9	F	95	K	K-H	1				7.3	3.0	41.8	17.4	710	+0
6.9 7.3	A		K	K-H	1				6.8	3.4	14.6	17.8	438	+0
6.9 15.6	A		H	H	1				7.2	3.4	31.2	17.8	604	+0
8.0 14.6	A		A	K	2				6.5	4.0	29.2	18.4	584	+0
7.5 15.9	F	96	K	K-H	1				7.0	3.8	31.8	18.2	610	+0
7.6 16.8	A	97	A	K-H	2	F			6.3	3.8	33.6	18.2	628	+0
8.0 19.0	A		K	K-H	1				6.7	4.0	38.0	18.4	672	+0
9.0 16.3	A		H	H	1				7.1	4.5	32.6	18.9	618	+0
8.7 21.4	A		B	H	2				6.7	4.4	42.8	18.8	720	+0
9.7 9.8	B	98	S	H	3	F			5.6	4.8	19.6	19.2	488	+0
9.9 16.5	A		H	H	1				7.5	4.9	31.0	19.3	602	+0
9.1 17.8	A		H	H	1				7.5	4.6	35.6	19.0	648	+0
9.7 17.7	B	99	H	H	5	F			4.5	4.8	35.4	19.2	646	+0
10.0 18.1	A		A	H	1				6.8	5.0	36.2	19.4	654	+0
10 8 11.8	A		H	H	1				7.2	5.4	23.6	19.8	528	+0
10.6 13.7	A		A	K=3	1				6.8	5.3	27.4	19.7	566	+0
10.5 14.1	A		H	H	1				6.9	5.2	28.2	19.6	574	+0
10.3 14.8	B	100	A	H	5	F			4.2	5.2	29.6	19.6	588	+0
10.3 14.9	A		B	H	1				6.7	5.2	29.8	19.6	590	+0
10.1 17.9	A		Ka	H	1				7.0	5.0	35.8	19.4	650	+0
11.0 23.5	K		K	K-H	3		0.5		5.8	5.5	47.0	19.9	776	+1.0
11.2 9.1	B	101	H	H	3	F			5.0	5.6	18.2	20.0	482	+0
12.0 15.3	B	102	A	H	3	F			4.7	6.0	30.6	20.4	606	-0
11.1 22.1	H		K	K-H	1				6.5	5.6	40.2	20.0	702	+0

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DM. Pos. entered are for 1855

	A.G.C. No.	R.A. 1900	Dec. 1900	Magn.		No. DM.	R.A. 1855	Dec. 1855	Magn.
∓0.5	21534	15 48.1	−16 27	4.8		4174	15 45.6	−16 18	4.8
∓0.4	21692	15 54.7	−16 14	5.9		4196	15 52.2	−16 6	6.2
+0.0	Dm −16° 4222	15 58.8	−16 33	8.3					
+0.5	Dm −16° 4277	16 14.6	−16 40	6.8					
+0.7	Dm −17° 4532	16 10.1	−17 1	7.1					
∓0.5	Dm −17° 4431	16 41.6	−17 27	6.5					
+0.0	Dm −17° 4491	16 58.9	−17 32	7.3					
∓0.0	21797	15 59.2	−18 16	7.5		4228	15 56.7	−18 8	6.8
+0.0	Dm −17° 4494	15 59.8	−17 59	7.0					
+0.1	Dm −17° 4502	16 1.6	−17 57	6.3					
+0.7	22007	16 8.8	−18 17	7.0		4249	16 6.3	−18 9	6.5
+0.1	Dm −18° 4240	16 0.7	−18 36	7.6					
+0.8	Dm −18° 4260	16 11.2	−18 28	7.0					
∓0.6	21561	15 49.2	−19 6	6.4	−18°	4195	15 46.6	−18 57	6.3
+0.0	Dm −19° 4322	16 0.9	−19 4	8.2					
+0.4	Dm −18° 4243	16 3.7	−18 41	8.1					
+0.4	21954	16 6.1	−19 12	4.5	−19°	4332	16 3.6	−19 4	7.8
					−19°	4333	16 3.6	−19 4	4.5
+0.5	21966	16 6.9	−19 15	7.8		4337	16 4.3	−19 7	7.5
+0.7	Dm −19° 4282	16 5.1	−19 24	9.3					
∓0.2	21750	15 57.3	−19 33	8.0		4295	15 54.7	−19 26	7.5
∓0.1	21777	15 58.1	−19 29	8.0		4298	15 55.6	−19 21	8.0
+0.0	21805	15 59.6	−19 32	2.5		4307	15 57.0	−19 24	2
						4308			8.0
+0.0	21806	15 59.6	−19 31	7.5		4309	15 57.3	−19 17	8.0
+0.5	Dm −19° 4337	16 4.3	−19 7	7.5					
+1.0	22219	16 18.3	−19 49	4.8		4365	16 15.6	−19 42	5.0
∓0.5	21520	15 47.5	−19 52	5.5	−19°	4249	15 44.9	−19 44	5.4
−0.0	21841	16 1.0	−20 24	4.4		4405	15 58.3	−20 17	4.7
+0.7	Dm −19° 4350	16 8.5	−19 44	6.5					

Mem. I have compared this chart with chart plate # 1159 21 h mag = 7.5 the star does not appear on the latter one

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St. Light.

Fog morn

April 9,
October 1, 1890.

Plate 3405

H.	M.	Class	No. Rem.	Limit	K.	Intens.	Addl. Lines	Bnd. beyond K	Br.	V	H	V	H	
11.4	21.1	H6		A	K-H	2			6.7 7.1	5.7	42.2	20.1	~~71.6~~ 72.2	+
11.1	21.5	A		B	N	2			6.5	5.6	43.0	20.0	~~72.2~~ 73.0	+
11.2	21.7	A		B	N	1			6.8	5.6	43.4	20.0	~~72.6~~ 73.4	+
12.5	7.4	A		H6	N	1			7.3	6.2	14.8	20.6	~~44.6~~ 44.8	∓
12.2	8.2	A		H6	N	1			7.3	6.1	16.4	20.5	~~45.6~~ 46.4	∓
12.8	11.1	B	103	S	N	2	F		5.7	6.4	22.2	20.8	~~51.4~~ 52.2	∓
12.7	12.5	A		H6	N	1			6.8	6.4	25.0	20.8	~~54.2~~ 55.0	∓
12.5	15.5	K2		K	K-H	3	F		1.7 5.4	6.2	31.0	20.6	~~60.2~~ 61.0	+
13.8	10.9	A		H6	N	2			6.6	6.9	21.8	21.3	~~51.0~~ 51.8	∓
13.7	18.5	G		K	K-H	2			6.7	6.8	37.0	21.2	~~66.2~~ 67.0	+
12.9	18.9	A		B	N	2			6.6	6.4	37.8	20.8	~~67.0~~ 67.8	+
13.5	20.0	A		S	N	2	F		6.2	6.8	40.0	21.2	69.2 ~~70.0~~	+
14.8	20.1	A		B	N	2			6.6	7.4	40.2	21.8	~~69.4~~ 70.2	+
14.6	14.9	A		α	N	1			7.3	7.3	29.8	21.7	~~59.0~~ 59.8	∓
15.9	12.4	B	104	D	N	5	F		N	7.9	24.8	22.3	~~54.0~~ 54.8	∓
15.7	16.7	A		H6	N	1			7.4	7.8	33.4	22.2	~~62.6~~ 63.4	+
15.1	16.9	A		α	N	2			6.6	7.6	33.8	22.0	~~63.0~~ 63.8	+
15.8	18.7	A		H6	N	1			7.3	7.9	37.4	22.3	~~66~~ 67.4	+
15.6	19.0	A		α	N	1			6.7	7.8	38.0	22.2	~~67.2~~ 68.0	+
16.4	9.8	A		γ	N	2			6.3	8.2	19.6	22.6	~~48.8~~ 49.6	∓
16.2	13.3	A		α	N	2			6.7	8.1	26.6	22.5	~~55.8~~ 56.6	∓
17.2	10.8	A		H6	N	1			7.6	8.6	21.6	23.0	~~50.8~~ 51.6	∓
17.8	11.3	A		γ	N	2			6.2	8.9	22.6	23.3	~~51.8~~ 52.6	∓
17.2	13.5	A		H6	N	1			7.6	8.6	27.0	23.0	~~56.2~~ 57.0	∓
18.0	15.0	A		ε	N	3	F		5.7	9.0	30.0	23.4	~~59.2~~ 60.4	+
17.1	17.0	A		H6	N	1			7.3	8.6	34.0	23.0	~~63.2~~ 64.0	+
17.5	20.6	A		α	N	1			6.8	8.8	41.2	23.2	~~70.4~~ 71.2	+
17.2	22.7	A		H6	N	1			7.1	8.6	45.4	23.0	~~74.6~~ 75.4	+

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DM. Pos. entered as for 1855.

	A.G.C. No.	R.A. 1880 h	Dec. 1880 °	Magn.	DM. No.	R.A. 1855 h	Dec. 1855 °	Magn.
+0.7	22117	16 13.3	-19 59	6.9	4357	16 10.6	-19 52	6.0
+0.8	22138 / 22139	16 14.3	-19 48 / -19 49	8.0 / 7.2	4358	16 11.6	-19 41	8.5
					4359	16 11.6	-19 42	7.7
+0.8	~~22138~~ 22150 / 22151	16 14.3 / 16 14.7	-19 48 / -19 53	8.0 / 7.2	4361	16 12.0	-19 46	7.3
+1.0	Dm -20° 4332	15 41.2	-20 20	7.5				
+0.5	Dm -20 4344	15 43.1	-20 28	8.8				
+0.7	21621	15 51.9	-20 41	6.4	-20° 4364	15 49.2	-20 34	6.5
+0.4	Dm -20 4380	15 52.6	-20 45	7.5				
+0.0	21849	16 1.6	-20 36	4.6	4408	15 58.9	-20 28	5.0
+0.7	21609	15 51.4	-21 11	7.7	4233	15 48.7	-21 3	7.0
+0.6	21981	16 7.8	-21 9	7.0	4305	16 5.2	-21 2	7.0
+0.7	22000	16 8.6	-20 51	6.8	4444	16 5.9	-20 44	6.8
+0.7	22055	16 11.1	-21 3	7.0	4454	16 8.4	-20 56	6.8
+0.7	Dm -21° 4328	16 7.2	-21 32	8.4				
+0.0	Dm -21° 4269	15 57.2	-21 26	7.5				
+0.6	21685	15 54.4	-22 20	2.4	4068	15 51.8	-22 12	2
+0.1	Dm -22° 4104	16 1.4	-22 2	7.8				
+0.1	Dm -21° 4287	16 1.8	-21 46	7.3				
+0.7	Dm -22° 4122	16 5.7	-22 19	9.0				
+0.7	Dm -22° 4127	16 6.3	-22 0	7.3				
+0.6	Dm -22° 4046	15 46.1	-22 20	6.8				
+0.4	Dm -22° 4071	15 53.7	-22 16	7.7				
+0.7	Dm -22° 4057	15 48.8	-22 46	8.0				
+0.7	21622	15 51.9	-23 14	7.5	4800	15 49.2	-23 6	7.7
+0.2	Dm -22° 4072	15 ~~56.7~~ 54.1	~~-22 56~~ -22 47	~~8.4~~ 7.8				
+0.0	21816 / 21798	16 0.2 / 15 59.4	-23 20	6.2	~~4106~~	~~16 1.8~~	~~-22 43~~	~~8.0~~
+0.2	21890	16 3.5	-22 55	8.5	4106	16 1.8	-22 43	8.0
+0.7	22093	16 12.5	-23 2	8.2	4148	16 9.8	-22 55	7.3
+1.5	Dm -22° 4159	16 14.2	-22 46	7.3				

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April 9, 1890.

Plate 3405

V.	H.	Class	No. Rems	Limit	K	Distens.	Add. Lines	End. beyond K	Br.	V.	H	V	H		
17.9	23.8	Ȧ		α	n	1			6.7	9.0 8.9	47.6	23.4 23.3	77.6 76.8		
17.8	23.9	Ȧ	105	δ	n	3			5.3	8.9	47.8	23.3	77.8 77.0		
18.6	6.9	Ȧ		α	n	2			6.4	9.3	13.8	23.7	43.8 43.0		
18.7	9.5	B	106	ε	n	3	F		5.4	9.4	19.0	23.8	49.0 48.2		
18.1	14.7	Ȧ		H	n	1			7.2	9.0	29.4	23.4	59.4 58.6		
18.1	16.1	Ȧ		ε	n	3	F		5.8	9.0	32.2	23.4	62.2 61.4		
18.4	21.9	Ȧ		α	n	1			6.7	9.2	43.8	23.6	73.8 73.0		
19.8	9.5	Ȧ		ε	n	3	F		5.5	9.9	19.0	24.3	49.0 48.2		
19.7	15.7	Ȧ		ε	n	2	F		6.0	9.8	31.4	24.2	61.4 60.6		
19.9	16.8	Ȧ		δ	n	2	F		6.1	9.9	33.6	24.3	63.6 62.8		
19.6	18.4	Ȧ		δ	n	2	F		6.0	9.8	36.8	24.2	66.8 66.0		
19.4	19.7	Ȧ		β	n	2			6.5	9.7	39.4	24.1	69.4 68.6		
19.2	21.6	Ȧ		δ	n	3	F		5.4	9.6	43.2	24.0	73.2 72.4		
20.4	11.6	Ȧ		ζ	n	3	F		5.4	10.2	23.2	24.6	53.2 52.4		
20.8	13.6	Ȧ		α	n	1			6.6	10.4	27.2	24.8	57.2 56.4		
20.2	14.1	H		H.	n	1			6.9	10.1	28.2	24.5	58.2 57.4		
20.9	19.6	M?		K	K. H	1			7.4 7.6	10.4	39.2	24.8	64.2 63.4	7.4	7.7
21.4	6.8	Ȧ		H	n	1			6.9	10.7	13.6	25.1	43.6 42.8		
21.4	9.4	Ȧ		ζ	n	3	F		5.0	10.7	18.8	25.1	48.8 48.0		
21.2	9.9	Ȧ		ζ	n	2	F		5.8	10.6	19.8	25.0	49.8 49.0		
21.7	18.9	Ȧ		δ	n	2	F		5.9	10.8	37.8	25.2	67.8 67.0		
22.0	21.8	Ȧ?	107	η	n	3	F		n	11.0	43.6	25.4	73.6 72.8		
23.4	10.3	Ȧ		β	n	2	F		5.6	11.7	20.6	26.1	53.6 49.8		
22.9	6.7	Ȧ		H	n	1			6.9	11.4	13.4	25.8	43.4 42.6		
22.3	8.3	Ȧ		ζ	n	3			5.3	11.2	16.6	25.6	46.6 45.8		
22.9	11.8	Ȧ	108	D	n	5	F bright	R	11.4	23.6	25.8	53.8 52.8			
23.4	15.8	Mb		H	n	2			6.8 7.3	11.7	31.6	26.1	61.6 60.8	6.5	6.7

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DM. Pos. entered are for 1855.

	A.G.C. No.	Ra. 1900 h m s	Dec. 1900 ° ′	Magn.	DM. No.	R.A. 1855 h m s	Dec. 1855 ° ′	Magn.
±1.5	22239	16 19.4	-23 14	7.5	4894	16 16.7	-23 7	7.8
+1.5	22250	16 19.6	-23 13	5.5				
+1.5	22257	16 19.6	-23 14	5.8	4895	16 16.9	-23 6	5.7
±1.2	21408	15 42.5	-23 32	6.9 ✓	4779	15 39.8	-23 23	6.9
±1.0	21530	15 48.0	-23 41	5.8 ✓	4790	15 45.3	-23 32	5.5
±0.0	21798	15 59.4	-23 23	7.8 ✓	4839	15 56.7	-23 15	8.1
+0.0	21871	16 2.8	-23 25	6.3 ✓	4854	16 0.1	-23 18	6.2
+2.0	22161	16 15.3	-23 28	7.2 ✓				
±0.6	21529	15 47.9	-24 15	5.8 ✓				
+0.0	21856	16 1.9	-24 11	6.7 ✓				
+0.1	21902	16 4.2	-24 19	6.9 ✓				
+0.5	21976	16 7.7	-24 10	6.7 ✓				
+0.7	22039	16 10.4	-24 2	6.9 ✓				
+1.0	22146	16 14.6	-23 56	5.1 ✓				
±0.7	21632	15 52.6	-24 32	6.1 ✓				
±0.2	21737	15 56.9	-24 44	7.8 ✓				
±0.1	21768	15 57.9	-24 27	6.8 ✓				
±0.7		~~16 8.8~~	~~-25 13~~	~~6.4~~				
±1.2	21396	15 42.1	-24 55	7.8 ✓				
±1.5	21521	15 47.6	-25 2	5.5 ✓				
±1.0	21546	15 48.7	-24 57	6.7 ✓				
+0.6	22004	16 8.8	-25 13	6.4 ✓				
+1.2	22158	16 15.1	-25 21	3.4 ✓				
±0.7	21567	15 49.5	-25 59	6.3 ✓				
±1.2	21394	15 41.9	-25 41	7.3 ✓				
±1.2	21469	15 45.0	-25 27	5.3 ✓				
±0.7	21638	15 52.8	-25 49	3.4 ✓				
+0.1	21860	16 2.0	-26 3	6.0 ✓				

?

* Spectra superposed and combined light measured.

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R.A. $16^h\ 36^m$ Dec. $-20.^\circ 7$

April 14, 1893.

Plate 3570 Ll: Ll: 6.5 7.5 F.m. 6 8.1 7.3 F. 6h 8.0

V. H.		Class	No. Rem.	Limit	K	Intens.	Lines	add K	Br. V	H	V	H
4.7	8.5	L		K	K=1.2H	3	F	0.5	5.0 5.4	2.4	17.0	16.5	25.8
4.6	17.9	A		β	H	1			6.5	2.3	15.8	16.4	24.6
5.2	20.4	L		K	K=H	1			6.3	2.6	40.8	16.7	49.6
5.4	13.6	A		H	H	1			7.5	2.7	27.2	16.8	36.0
6.8	13.6	K		K	K=H	3	F	0.5	5.4 5.7	3.4	27.2	17.5	36.0
7.2 5.8	6.6	A		α	H	1			7.8	3.6 4.4	13.2	17.7 18.5	22.0
7.6	7.5	A		γ	H	1			6.7	3.8	15.0	17.9	23.8
7.0	8.8	A		β	H	1			7.2	3.5	17.6	17.6	28.4
7.9	12.1	A		γ	H	2	F		6.3	3.9	24.2	18.0	33.0
7.6	13.4	A		δ	K=1.5H	2	F		6.2	3.8	26.8	17.9	35.6
6.4	22.9	A		H	H	1			7.3	3.2	45.8	17.3	54.6
7.9	22.1	F	109	K	K=H	2	F		6.3	3.9	44.2	18.0	53.0
8.4	6.6	D	110	ζ	H	4	F		4.7	4.2	13.2	18.3	22.0
9.1	12.2	H		H	H	1			7.2 6.6	4.6	24.4	18.7	33.2
6.9 6.8	9.6	15.3	M?	H	H	1			7.0 7.3	4.8	30.6	18.9	39.4
9.4	19.3	A		H	H	1			7.5	4.7	38.6	18.8	47.4
9.2	19.9	A		β	H	1			6.7	4.6	37.8	18.7	48.6
9.3	23.1	L		K	K=H	2			6.7 7.0	4.6	46.2	18.7	55.0
10.4	20.8	A		S	H	2	F		5.4	5.2	41.6	19.3	50.4
11.5	5.4	G		K	K=1.5H	3		0.5	5.3	5.8	10.8	19.9	19.6
11.1	13.8	F	111	S	K=H	3	F		5.1	5.6	27.6	19.7	36.4
11.6	13.9	A		H	H	1			7.3	5.8	27.8	19.9	36.6
11.8	17.9	A		H	H	1			7.5	5.9	35.8	19.7 20.0	44.6
12.1	13.1	K		K	K=H	2	F		6.0 6.4	6.0	26.2	20.1	35.0
12.7	14.6	A		α	H	1			6.7	6.4	29.2	20.5	38.0
12.1	19.1	D?	112	K	K=H	3	F		5.6	6.0	38.2	20.1	47.0
12.3	22.7	A		γ	H	2			6.4	6.2	43.7	20.3	54.2
12.7	22.4	A		α	H	1			7.5	6.4	44.8	20.5	53.6

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DM. Pos. entered are for 1855.

	No. A.G.C.	RA. 1900 h	Dec. 1900	Magn.	No. DM.	RA. 1855	Dec. 1855	Magn.
	∓0.5 22858	16 25.4	−16 23′	4.6 ✓	4297	h 22.8	−16 16	10
					4298	16 22.9	−16 17	5.0
	∓0.5 Dm-16°4360	16 42.6	−16 17	6.9 ✓				
	+0.7 Dm-16°4371	16 47.7	−16 34	6.2 ✓				
	∓0.2 Dm-16°4332	16 33.9	−16 45	8.5 ✓				
	∓0.2 22588	16 35.7	−17 33	5.5 ✓	4318	16 33.2	−17 27	5.3
	∓1.0 Dm-17°4572	16 18.6	−17 26	7.0 ✓				
	∓0.5 Dm-17°4585	16 21.2	−17 55	8.7 ✓				
	∓0.5 22743	16 28.0	−18 5	8.5 ✓	4591	16 23.17	−17 24	8.0
	∓0.7 22512	16 32.6	−18 1	7.0 ✓	4606	16 30.1	−17 55	7.2
	∓0.3 22578	16 35.5	−17 52	7.0 ✓	4616	16 32.9	−17 46	7.3
	+0.5 Dm-17°4685	16 52.8	−17 7	7.2 ✓				
	+0.5 23008	16 54.0	−18 5	6.7 ✓	4677	16 51.8	−17 59	8.5
	∓1.0 22280	16 21.2	−18 14	4.6 ✓	4282	16 18.6	−18 7	5.2
	∓0.4 Dm-18°4302	16 32.1	−18 32	7.1 ✓				
	+0.0 Dm-18°4320	16 37.0	−18 52	6.7 ✓				
	+0.7 Dm-18°4350	16 45.5	−18 40	8.5 ✓				
	+0.7 Dm-18°4358	16 46.6	−18 38	7.7 ✓				
	+0.5 23054	16 56.0	−18 44	6.8 ✓	4391	16 55.1	−18 43	8.8
	+0.7 Dm-19°4471	16 48.6	−19 18	6.9 ✓				
	∓1.0 22219	16 18.3	−19 49	4.8 ✓	4365	16 15.6	−19 42	5.0
	∓0.2 22592	16 36.0	−19 44	6.0 ✓	4406	16 33.4	−19 39	6.0
	∓0.2 Dm-19°4409	16 33.9	−19 53	8.3 ✓				
	+0.4 Dm-19°4443	16 42.4	−19 35	8.3 ✓				
	∓0.4 Dm-20°4537	16 32.0	−20 7	6.5 ✓				
	∓0.0 Dm-20°4547	16 35.1	−20 25	7.5 ✓				
	+07 Dm-20°4572	16 44.9	−20 10	6.6 ✓				
	+0.0 Dm-20°4606	16 52.7	−20 13	7.0 ✓				
	+0.5 Dm-20 4640	16 57.9	−20 22	8.5 ✓				

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1889phae.proj..870F

April 14, 1892.

Plate 3570

V.	H6	class	Rem.	Limit	K	Intens.	Lines	gold end K.	Rz.	V	H	V	H	
12.7	23.1	H6		H6	n	1		7.1 7.5	6.4	46.2	20.5	55.0		+0
12.4	24.0	A		α	n	1		6.7	6.2	48.0	20.3	56.8		+1
12.4	24.4	A		γ	n	2		5.6	6.2	48.8	20.3	57.6		+1
14.2	9.2	A		δ	K.2H6	4	F	4.6	7.1	18.4	21.2	27.2		∓0
14.4	20.0	A		δ	n	2	F	5.8	7.2	40.0	21.3	48.8		+0
14.9	21.0	A		H6	n	1		7.5	7.9	42.0	22.0 21.5	50.8		+0
14.3	22.3	H6		K	K=H6	1		6.8 7.4	7.2	44.6	21.3	53.4		+0
15.7	7.0	E		K	K=H6	1		7.0	7.8	14.0	21.9	22.8		∓1
15.7	16.2	F	113	K	K=H6	1		7.6	7.8	32.4	21.9	41.2		+0
16.7	14.6	A		β	n	2		6.3	8.4	29.2	22.5	38.0		∓0
16.3	14.9	A		γ	n	2		6.3	8.2	29.8	23 20.4	38.6		∓0
17.1	12.1	A		K	K=H6	1		6.7	8.6	24.2	22.7	33.0		∓0
17.6	14.7	E		K	K=H6	1		7.5	8.8	29.4	22.9	38.2		∓0
17.6	15.2	F	114	β	K=H6	2		6.1	8.8	30.4	22.9	39.2		+0
17.1	18.4	A		H6	n	1		7.4	8.6	36.8	22.7	45.6		+0
17.6	20.5	A		ε	n	3	F	5.0	8.8	41.0	22.9	49.8		+0
18.4	6.1	A		α	n	1		6.5	9.2	12.2	23.3	21.0		∓1
18.3	6.3	A		γ	n	3		4.7	9.2	12.6	23.3	21.4		∓1
18.3	19.6	I		K	K=H6	2		6.3 6.8	9.2	39.2	23.3	48.0		+0
~~20.8~~ 19.3	16.4	A		α	n	1		7.1	10.4	32.8	24.5	41.6		+0
20.9	7.7	F	115	K	K=H6	1		6.8	10.4	15.4	24.5	24.2		∓1
20.4	7.9	A		H6	n	1		7.2	10.2	15.8	24.3	24.6		∓1
20.1	13.7	A		S	K=.5H6	2	F	5.5	10.0	27.4	24.1	36.2		∓0
20.3	16.6	H6		K	K=H6	2		7.2 7.7	10.2	33.2	24.3	42.0		+0
20.5	17.2	A		γ	n	2		5.8	10.2	34.4	24.3	43.2		+0
20.3	17.6	Tn?		H6	n	1		7.6	10.2	35.2	24.3	44.0		+0
20.9	18.0	F	116	K	K=H6	1		6.7	10.4	36.0	24.5	44.8		+0
20.4	20.9	A		H6	n	1		7.6	10.2	41.8	24.3	50.6		+0

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DM. Pos. entered are for 1855.

	no. A. G. C.	Ra. 1900 h	Dec. 1900 ° ′	Magn.	no. Dm.	Ra. 1855	Dec. 1855	Magn.
16								
5.0	+0.5 Dm-20°4612	16	53.4	-20 22	7.8 ✓			
6.8	+1.5 Dm-20°4627	16	56.2	-20 17	6.5 ✓			
7.6	+1.5 Dm-20°4627	16	56.2	-20 17	6.5 ✓	4627	16 56.2	-20 17 6.5
7.2	✱0.5 Dm-21°4381	16	23.6	-21 9	5.5 ✓	4381	16 23.6	-21 9 5.5
18.8	+0.7 Dm-21°4449	16	46.9	-21 20	6.5 ✓	4449	16 46.9	-21 20 6.5
9.8	+0.7 Dm-21°4462	16	49.1	-21 32	8.2 ✓			
13.4	+0.5 Dm-21°4478	16	51.8	-21 14	7.0 ✓			
2.8	✱1.2 Dm-21°4360	16	18.7	-21 47	7.5 ✓			
1.2	+0.0 Dm-21°4414	16	38.8	-21 54	8.8 ✓			
7.0	✱0.0 Dm-22°4199	16	35.6	-22 15	7.0 ✓			
8.6	✱0.0 Dm-22°4199	16	35.6	-22 15	7.0 ✓			
3.0	✱0.5	22505	16	32.3	-22 41	8.0 ✓	4182	16 29.6	-22 36 6.8
2.2	✱0.0	22620	16	37.8	-22 56	8.7 ✓	4197	16 35.1	-22 52 7.5
1.2	+0.0	22646	16	39.1	-23 0	7.2 ✓	4205	16 36.4	-22 54 6.5
7.6	+0.6 Dm-22°4232	16	43.3	-22 40	8.0 ✓			
9.8	+0.7	22936	16	50.8	-22 59	5.9 ✓	4249	16 48.1	-22 55 5.8
0	✱1.2	22252	16	19.6	-23 11	7.8 ✓	4894	16 16.7	-23 7 7.8
1.4	✱1.2	22257	16	19.6	-23 14	5.8 } ✱	4895	16 16.9	-23 6 5.7
		22250	16	19.6	-23 13	5.5 } ✓			
8.0	+0.7	22878	16	48.8	-23 21	7.2 ✓	4947	16 46.3	-23 1 8.9
6	+0.1	~~22704~~ 22692	16	41.7	-23 48	8.5	4935	16 41.8	-23 46 8.5
4.2	✱1.2	22308	16	22.9	-24 19	8.0 ✓			
4.6	✱1.2	22308	16	22.9	-24 19	8.0 ✓			
36.2	✱0.2	22576	16	35.5	-24 16	6.3 ✓			
42.0	+0.1	22704	16	42.1	-24 21	7.1 ✓			
43.2	+0.4	22733	16	43.6	-24 28	6.7 ✓			
3 44.0	+0.5	22749	16	44.4	-24 21	9.0 ✓			
5 44.8	+0.5	22766	16	45.2	-24 40	7.4 ✓			
50.6	+0.7	22950	16	51.5	-24 22	8.5 ✓			

✱Spectra superposed and combined light measured.

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1889phae.proj..870F

April 14, 1891.

Plate 3570

V. H	bl.	No. Rem.	Limit	K line	Int.	Addl. Lines	a K.	Br.	V	H	V	H.	
21.3	8.4	A	H	n	1			6.9	10.6	16.8	24.7	25.6	∓1
21.7	8.4	A	α	n	1			6.9	10.8	16.8	24.9	25.6	∓1
21.5	8.5	A	ε	n	3	H		5.0	10.8	17.0	24.9	25.8	∓1
21.5	19.2	A	α	n	1			7.2	10.8	38.4	24.9	47.2	+0
21.5	21.9	H	H	n	1			6.7 / 7.6	10.8	43.8	24.9	52.6	+1
21.3	22.0	F	117	β	K-H	2		5.6	10.6	44.0	24.7	52.8	+1
22.3	7.6	A		α	n	2		6.3	11.2	15.2	25.3	24.0	∓1
22.3	16.0	D		K	K-H	1		6.6 / 6.9	11.2	32.0	25.3	40.8	+0
22.3	16.9	A		K	K-H	1		7.5	11.2	33.8	25.3	42.6	+0
22.5	18.4	A		γ	n	2		5.9	11.2	36.8	25.3	45.6	+0
23.0	19.4	A		K	K-H	1	H	6.5	11.5	38.8	25.6	47.6	+0
22.4	20.0	A		α	n	1		6.5	11.2	40.0	25.3	48.8	+0
22.9	23.7	A		β	n	2		5.9	11.4	47.4	25.5	55.2	+1
22.8	24.1	A		α	n	1		6.1	11.4	48.2	25.5	57.0	+1
7.5 7.7 22.1	22.6	M?		H	n	1		7.5 / 7.5	11.0	45.2	25.1	54.0	+1
24.0	8.2	M?		K	K-H	4			12.0	16.4	26.1	25.2	∓1
23.4	13.0	A		H	n	1		7.0	11.7	26.0	25.8	34.8	∓0.4

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1889phae.proj..870F

Z. C. Rosenberg is for 1875

	A.G.C. nr.	h	1900	1900 °	Magn.	
∓1.2	22324	5 16	23.8	-24 46	8.0	! ?
∓1.2	22327	16	23.9	-24 56	7.5	✓
∓1.2	22331	16	24.1	-24 53	5.5	✓
+0.7	22849	16	47.8	-24 56	8.0	✓
+1.5	23004	16	53.8	-24 56	6.3	✓
+1.5	23009	16	54.0	-24 50	6.1	✓
∓1.2	22296	16	22.1	-25 14	7.1	✓
+0.0	22675	16	40.7	-25 21	8.0 7	✓
+0.1	227	16	42.7	-25 20	8.5	✓
+0.5	22753 94	16	46.1 44.6	-25 25 16 26	7.0 8.2	✓
+0.7	22866 61	16	48.2 48.4	-25 40 39	7.1 8.2	✓
+0.7	22903	16	49.6	-25 23	7.5	✓
+1.2	23092	16	57.8	-25 33	6.8	✓
+1.2	23106	16	58.5	-25 30	6.7	✓
+1.5	Z.C. 3846	16	53 8	-26 5	8.5	✓
∓1.2	22314	16	23.2	-26 13	1.4	✓
∓0.4	22549	16	33.9	-25 52	8.5	✓

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1889phae.proj..870F

R.A. 12h 00m Dec. −21°

April 16, 1891.

Plate 5261 St: Lt: 5.7 6.3 6.8 7.5 F Im 6 8.3 8.0 F Bl. 8.2

V	H	Cl.	Rev. Rem.	Limit	K Line	Int:	add Lines	a K	Br.	V	H	V	H.	
4.1	8.2	A		α	H	1			7.4	2.0	16.4	16.2	48.6	−
5.0	9.5	A		ζ	H	3	F		5.3	2.5	19.0	16.5	51.2	−
4.4	16.8	F	118	α	K-H	1	F		7.1	2.2	33.6	16.4	65.8	+
4.2	19.6	A		γ	K-3H	2	F		5.8	2.1	39.2	16.3	71.4	+
5.8	16.2	F	119	β	K-H	2	F		6.3	2.9	32.4	17.1	64.6	+
5.2	16.4	A		H	H	1			7.5	2.6	32.8	16.8	65.0	+
5.7	18.9	A	120	δ	H	3	F		B	2.8	37.8	17.0	70.0	+
7.1	14.9	H		K	K-H	1			7.2 7.6	3.6	29.8	17.8	62.0	−
7.9	15.4	A		H	H	1			7.3	4.0	30.8	18.2	63.0	+
7.5	15.5	F	121	K	K-H	2			6.5	3.8	31.0	18.0	63.2	+
9.2	7.8	A		α	K-H	1			6.7	4.6	17.6	18.8	49.8	−
9.9	11.9	B	122	ε	H	3	F		5.0	5.0	23.8	19.2	56.0	−
9.9	22.8	F	123	K	K-H	1			7.0	5.0	45.6	19.2	77.8	+
10.2	16.3	H		K	K-H	1			7.2 7.6	5.1	32.6	19.3	64.8	+
10.5	17.0	F		K	K-H	2			6.6	5.2	34.0	19.4	66.2	+
10.4	17.2	E		K	K-H	1			6.9	5.2	34.4	19.4	66.6	+
11.9	11.9	A		H	H	1			7.3	6.0	23.8	20.2	56.0	−
11.9	12.2	H		K	K-H	1			7.2 7.6	6.0	24.4	20.2	56.6	−
12.2	17.9	A		α	K-H	2			6.6	6.1	35.8	20.3	68.0	+
11.6	18.7	I		K	K-H	2			6.5 7.0	5.8	37.4	20.0	69.6	+
12.7	7.3	A		α	H	1			7.3	6.4	14.6	20.6	46.8	−
12.2	12.5	A		γ	K-2H	2	F		6.5	6.1	25.0	20.3	57.2	−
12.6	13.6	A		β	K-H	1			6.7	6.3	27.2	20.5	59.4	−
12.7	15.9	A		α	K-H	1			6.6	6.4	31.8	20.6	64.0	+
12.2	18.5	K		K	K-H	2			5.7 6.1	6.1	37.0	20.3	69.2	+
12.3	20.0	F	124	K	K-H	1			6.6	6.2	40.0	20.4	72.2	+
14.0	7.6	F	125	K	K-H	1			6.7	7.0	15.2	21.2	47.4	−
14.0	9.6	H		K	K-H	1			6.9 7.2	7.0	19.2	21.2	51.4	−

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DM. Pos. entered are for 1855.

No. A.G.C.	R.A. 1900	Dec. 1900	Magn.	No. DM.	R.A. 1855	Dec. 1855	Magn.
∓0.5 Dm-15 3375	11h 46.0	-15° 47′	7.7 ✓				
∓0.6 16284	11 50.9	-16 35	5.4 ✓	3358	11 48.6	-16 20	5.4
+ 0.1 Dm-16 3405	~~15 34 29~~ 12 3.9	~~-16 24~~ -16 0	~~8.2~~ 7.3 ✓				
+ 0.7 16752	12 10.9	-16 8	6.2 ✓	3442	12 9.6	-15 53	6.7
+ 0.0 16614	12 5.0	-16 58	6.7 ✓	3403	12 2.7	-16 44	7.0
+ 0.1 Dm-16 3403	12 ~~2.7~~ 3.0	-16 ~~44~~ 24	~~7.0~~ 8.2 ✓				
+ 0.6 16744	12 10.7	-16 59	2.5 ✓	3424	12 8.4	-16 44	2
∓0.0 16554	12 2.3	-17 38	7.0 ✓	3557	12 0.0	-17 23	6.9
+ 0.0 Dm-17 3559	12 0.9	-17 46	7.8 ✓				
+ 0.0 16585	12 3.6	-17 52	7.5 ✓	3562	12 1.3	-17 37	7.2
∓0.5 Dm-18 3265	11 44.8	-18 24	7.5 ✓				
∓0.7 16406	11 55.8	-19 6	5.5 ✓	-18° 3295	11 53.4	-18 5	5.7
+ 0.5 Dm-18 3380	12 16.5	-18 ~~54~~ 46	7.0 ✓				
+ 0.0 Dm-18 3337	12 2.~~9~~ 8	-18 58	7.7 ✓				
+ 0.2 16658	12 6.7	-19 22	7.5 ✓	3424	12 4.4	-19 7	7.2
+ 0.2 16668	12 7.2	-19 19	7.5 ✓	3426	12 4.9	-19 4	7.7
∓0.7 Dm-19 3390	11 53.5	-19 50	8.3 ✓				
∓0.6 Dm-19 3392	11 53.9	-19 51	7.5 ✓				
+ 0.5 Dm-20 ~~3549~~ 3578	12 6.1	-20 16 -20 7	8.0 8.0 ✓				
+ 0.7 16738	12 10.5	-19 58	7.0 ✓	3445	12 8.1	-19 43	7.2
∓0.5 Dm-20 3519	11 43.5	-20 11	7.7 ✓				
∓0.4 Dm-19 3395	11 54.6	-19 60	7.6 ✓				
∓0.2 Dm-20 ~~3568~~ 3569	11 ~~56.8~~ 56.9	-20 ~~14~~ 14	~~10~~ 7.5 ✓				
+ 0.0 Dm-20 3582	12 2.1	-20 15	7.8 ✓				
+ 0.7 16727	12 9.8	-20 17	6.2 ✓	3606	12 7.5	-20 2	6.1
+ 0.7 Dm-20 3618	12 10.8	-20 2	7.5 ✓				
∓0.5 Dm-20 3522	11 44.2	-20 50	7.2 ✓				
∓0.6 Dm-20 3535	11 48.5	-20 51	7.7 ✓				

* Spectrum authorized and combined light measured.

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April 16, 1891.

Plate 5261

V.	H6	Cl.	Rem.	Limit	K Line	Int.	add Lines	R	Br. V.	H6. V.	H6	
13.6	12.2	E		K	K-H6	1			7.5 6.8	24.4	21.0	56.6
13.3	13.7	A		K	K-H6	1			6.9 6.6	27.4	20.8	59.6
14.5	9.1	F	126	K	K-H6	1			7.1 7.2	18.2	21.4	50.4
14.9	9.7	H6		K	K-H6	1			7.1 7.6	8.4	19.4	21.6 51.6
14.4	11.8	A		α	N	1			7.2 7.2	23.6	21.4	55.8
14.2	11.9	K		K	K-H6	2			6.0 6.5	7.1	23.8	21.3 56.0
14.9	20.9	G		K	K-H6	2	F		5.8	7.4	41.8	21.6 74.0
14.9	21.1	A		α	N	3	F		5.0	7.4	42.2	21.6 74.4
15.7	10.3	F	127	K	K-H6	2			6.6	7.8	20.6	22.0 52.8
15.3	13.5	H6		K	K-H6	1			7.0 7.6	7.6	27.0	21.8 59.2
16.0	14.5	F	128	K	K-H6	1			6.6	8.0	29.0	22.2 61.2
15.1	15.3	A		H6	N	1			7.2	7.6	30.6	21.8 62.8
15.6	16.2	A2		K	K-H6	4		2.7	4.6 5.0	7.8	32.4	22.0 64.6
17.6	7.3	A		H6	N	1			7.4	8.8	14.6	23.0 46.8
17.7	9.2	F	129	K	K-H6	1			7.2	8.9	18.4	23.1 50.6
17.5	9.6	H6		H6	N	1			7.3 7.6	8.8	19.2	23.0 51.4
17.4	11.2	E		K	K-H6	1			6.7	8.7	22.4	22.9 54.6
~~18.0~~	14.8	F1		K	K-H6	2	F		1.0 6.3	8.5	29.6	22.7 61.8
17.5	16.7	A		S	K-2H6	3			5.0	8.8	33.4	23.0 65.6
17.2	18.8	F	130	B	K-H6	2	F		5.9	8.6	37.6	22.8 69.8
18.4	7.7	F	131	K	K-H6	1			7.2	9.2	15.4	23.4 47.6
18.4	15.1	G		K	K-H6	2			6.2	9.2	30.2	23.4 62.4
18.6	19.7	A		S	N	3	F		6.2	9.3	39.4	23.5 71.6
19.6	10.7	A		H6	N	1			7.5	9.8	21.4	24.0 53.6
19.5	11.9	A		α	N	1			7.1	9.8	23.8	24.0 56.0
19.5	15.4	H6		H6	N	1			7.4 7.7	9.8	30.8	24.0 63.0
19.8	15.4	A		S	K-H6	4	F		4.3	9.9	30.8	24.1 63.0
20.6	18.3	F	132	K	K-H6	1			6.8	10.0	36.6	24.2 68.8

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DM. Pos. entered are for 1855.

A.G.C. nr.		R.A. 1900	Dec. 1900	Magn.	DM nr.	R.A. 1855	Dec. 1855	Magn.
		20 35 60	11 54.0	-20 43	8.2			
−	+0.4	Dm-21 3212	11 54.7	-21 4	8.0 ✓			
−	+0.2	Dm-20 3571	11 57.3	-20 32	8.5 ✓			
		3414	11 47.2	-21 6	8.2			
−	+0.5	Dm-21 3418	11 47.8	-21 29	8.8 ✓			
−	+0.6	Dm-21° 3422	11 48.6	-21 22	7.7 ✓			
−	+0.7	Dm-21° 3442	11 53.1	-21 4	8.5 ✓			
−	+0.7	16401	11 55.6	-21 16	6.5 ✓	3443	11 53.3	-21 1 6.2
		16820	12 15.0	-21 37	6.5			
+	0.7	Dm-21 3508	12 12.4	-21 23	8.7 ✓	3511	12 12.7	-21 22 6.5
		4		9	6.3			
+	0.6	16820	12 15.2	-21 37	6.5 ✓	3514	12 13.1	-21 24 5.0
−	+0.7	Dm-21° 3432	11 49.9	-21 44	7.2 ✓			
−	+0.3	Dm-21° 3463	11 56.8	-21 34	7.7 ✓			
−	+0.0	16528	12 1.2	-22 14	7.5 ✓	3473	11 58.8	-21° 60′ -22 0 72
+	0.0	Dm-21 3478	12 0.6	-21 27	8.2 ✓			
+	0.1	16615	12 5.0	-22 3	3.3 ✓	3487	12 2.7	-21 49 2½
−	+1.2	Dm-22° 3226	11 43.3	-22 40	8.2 ✓			
−	+0.5	Dm-22° 3238	11 47.	-22 45	7.8 ✓			
−	+0.6	Dm-22° 3242	11 48.2	-22 38	8.0 ✓			
−	+0.7	Dm-22° 3257	11 51.6	-22 36	7.3 ✓			
		16558	12 2.5	-23 24	6.9			
−	+0.0	Dm-22 3291	11 59.6	-22 58	7.0 ✓	3291	11 59.6	-22 58 7.0
+	0.1	16634	12 5.9	-23 2	5.8 ✓	3305	12 3.6	-22 47 6.0
+	0.6	16740	12 10.6	-22 47	6.7 ✓	3322	12 8.3	-22 33 6.8
−	+1.5	16187	11 46.4	-23 17	8.8 ✓	3845	11 44.1	-23 2 7.8
+	0.0	16545	12 1.9	-23 12	6.9 ✓	3912	12 0.2	-23 10 7.4
+	0.7	16775	12 12.8	-23 27	7.0 ✓			
		16933	11 52.9	-23 56	9			
−	+0.7	Dm-23° 3879	11 50.6	-23 42	8.4 ✓	3879	11 50.6	-23 42 8.4
−	+0.7	Dm-23° 3890	11 53.1	-23 39	7.8 ✓			
+	0.0	Dm-23 3917	12 0.6	-23 42	8.4 ✓	3917	12 0.6	-23 42 8.4
+	0.0	16576	12 3.3	-24 10	4.2 ✓	3917	12 1.6	-23 55 4.0
+	0.4	16718	12 9.6	-24 13	8.6 ✓	3937	12 7.3	-23 59 7.3

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April 16, 1891

Plate 5.26 1

V	H.	Cl.	Rem.	Limit	K Line	Int:	Add'l Lines	K	Br.	V.	H.	V.	H.	
20.9	6.4	A		H	N	1			7.3	10.4	12.8	24.6	45.0	
20.3	9.6	I		K	K-H6	2			6.5 7.2	10.2	19.2	24.4	51.4	
20.9	9.9	A		H6	N	1			7.3	10.4	19.8	24.6	52.0	
20.5	9.8	H6		H6	N	1			7.3 7.6	10.2	19.6	24.4	51.8	
20.4	16.3	A		B	N	2			6.3	10.2	32.6	24.4	67.8	
20.3	22.0	I		H6	N	1			6.7 7.3	10.2	44.0	24.4	76.2	
20.2	22.2	I		K	K-H6	2			5.7 6.3	10.1	44.4	24.3	76.6	
22.0	9.3	I		K	K-12H6	2	F		5.5 5.7	11.0	18.6	25.2	50.8	
22.7	5.9	A		H6	N	1			7.0	11.4	11.8	25.6	44.0	
22.0	11.2	A		S	N	2	F		5.6	11.0	22.4	25.2	34.6	
22.6	23.0	F	133	K	K-H6	2			6.5	11.3	46.0	25.5	78.2	
24.2	6.6	M		H6	N	2				12.1	13.2	26.3	45.4	

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1889phae.proj..870F

	A.G.C. no.	R.A. 1900 h	Dec. 1900 ° ′	Magn.	
∓1.2	16132	11 43.5	24 31	8.8	✓
∓1.0	16272	11 50.5	−24 18	6.9	✓
∓0.6	16279	11 50.7	−24 35	8.5	✓
∓0.6	16283	11 50.9	−24 22	8.2	✓
+0.1	16620	12 5.3	−24 24	8.5	✓
+1.5	16876	12 17.8	−24 19	7.2	✓
+1.5	16887	12 18.2	−24 17	6.0	✓
∓1.6	16252	11 49.7	−25 9	5.8	✓
∓1.2	16115	11 42.3	−25 24	7.8	✓
∓0.7	16360	11 53.8	−25 21	6.7	✓
+1.2	16925	12 20.0	−25 26	7.0	✓
∓1.2	16139	11 43.7	−26 11	5.8	✓

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1889phae.proj..870F

R.A. 0h 38m Dec. −21.°7

Two exposures
11: 21: superposed

April 16, 1891.

Plate 3606 11: 21: 5.4 {6.5* 6.1 6.3} 6.5 7.0 Fhr. 6 8.3 8.4 Fbh. 8.4

V	H6.	bl.	Rem.	Limit	K Line	Int.	Added Lines	Int.	K	Br. V	H6	V	H6.
5.9	15.3	A		B	K=0.8 H6	2	F		6.2	3.0	30.6	17.2	40.4
6.1	6.7	H	134	K	K-H6	1			6.7	3.0	13.4	17.2	23.2
6.1	12.9	I		K	K-H6	2	F		6.5 6.8	3.0	25.8	17.2	35.6
6.4	15.5	F	135	K	K-H6	1			6.9	3.2	31.0	17.4	40.8
5.7	23.0	H6		K	K-H6	1			6.8 7.3	2.8	46.0	17.0	55.8
8.8	14.4	Q	136	K	K=1.2 H6	6		3.7	B	4.4	28.8	18.6	38.6
9.0	16.3	L		K	K-H6	2			6.1 6.7	4.5	32.6	18.7	42.4
8.4	18.9	A		K	K-H6	1			7.1	4.2	37.8	18.4	47.6
9.5	8.9	H6		H6	N	1			6.9 7.3	4.8	17.8	19.0	27.6
9.3	22.5	A		H6	N	1			7.3	4.6	45.0	18.8	54.8
10.5	6.2	Q		H6	N	2			6.7 7.3	5.2	12.4	19.4	22.2
10.3	8.3	F	137	K	K-H6	1			7.9	5.2	16.6	19.4	26.4
10.9	21.0	A		B	N	2	F		6.2	5.4	42.0	19.6	51.8
11.9	20.5	A		H6	N	1			7.0	6.0	41.0	20.2	50.8
13.0	6.0	F	138	K	K-H6	1			6.8	6.5	12.0	20.7	21.8
13.3	6.9	A		J	K=0.5 H6	2	F		5.9	6.6	13.8	20.8	23.6
13.7	7.3	G		K	K-H6	2	F		5.9	6.8	14.6	21.0	24.4
13.5	12.1	A		S	N	3	F		5.5	6.8	24.2	21.0	34.0
13.3	14.0	I		K	K-H6	1			6.9 7.1	6.6	28.0	20.8	37.8
14.4	11.0	E		K	K-H6	1			7.0	7.2	22.0	21.4	31.8
15.0	18.4	~~E~~ F	138a	K	K-H6	1			6.9	7.5	36.8	21.7	46.6
14.9	18.6	E		K	K-H6	1			7.3	7.4	37.2	21.6	47.0
15.1	17.0	I		K	K-H6	2			6.6 6.9	7.6	34.0	21.8	43.8
~~15.1~~	~~18.4~~	~~F~~		K	K-H6	1			7.0	7.6	36.8	21.8	46.6
16.3	6.1	A		B	N	2			6.3	8.2	12.2	22.4	22.0
16.4	6.4	H6		H6	N	1			7.2 7.5	8.2	12.8	22.4	22.6
16.7	15.0	A		I	K=0.8 H6	3	F		5.6	8.4	30.0	22.6	39.8
16.2	16.5	A		K	N	3	F		4.9	8.1	33.0	22.3	42.8

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DM. Pos. entered as for 1855.

	no. A.G.C.	RA 1900	Dec. 1900	Magn.		no. Dm	RA 1855 h m	Dec 1855 ° ′	Magn.
+0.0	688	0 40.7	-16 58	6.6 ✓		132	0 38.4	-17 13	6.5
∓1.0	Dm -17°61	0 20.3	-17 12	7.3 ✓					
∓0.4	607	0 35.5	-17 4	6.7 ✓		109	0 33.2	-17 19	6.5
+0.0	Dm -17°1340	38.7	-17 26	7.8 ✓					
+0.5	936	0 56.3	-16 50	7.7					
∓0.1	657	0 38.5	-18 32	2.3 ✓		115	0 36.3	-18 47	2
+0.1	725	0 42.7	-18 37	6.1 ✓		127	0 40.5	-18 51	6.5
+0.6	Dm -18°143	0 45.9	-18 26	7.1 ✓					
∓0.5	450	0 27.1	-18 47	8.2 ✓		74	0 24.8	-19 1	7.0
+0.5	Dm -18 163	0 53.5	-18 54	7.7 ✓					
∓1.0	352	0 21.4	-19 15	6.7 ✓		58	0 19.1	-19 30	7.0
∓0.5	Dm -19°68	0 23.3	-19 25	7.8 ✓					
	880	0 52.6	-19 33	5.8					
+0.6	881	0 52.7	-19 33	7.0 ✓		147	0 50.5	-19 48	7.2
+0.6	Dm -20°167	0 49.3	-20 14	7.8 ✓					
∓1.0	Dm -20°57	0 17.6	-20 45	8.3					
∓1.0	370	0 22.6	-20 42	6.8 ✓		67	0 20.3	-20 56	6.5
∓1.0	383	0 23.4	-20 53	6.4 ✓		57	0 21.1	-21 8	6.3
∓0.4	568	0 33.5	-20 51	7.0 ✓		84	0 31.3	-21 6	6.2
∓0.1	640	0 37.7	-20 45	8.0 ✓		123	0 35.5	-20 59	7.0
∓0.7	Dm -21 70	0 28.9	-21 33	7.5 ✓					
+0.5	Dm -21 129	0 45.1	-21 54	7.3 ✓					
+0.6	Dm -21 130	0 45.4	-21 47	8.0 ✓					
+0.3	Dm -21°119	0 41.9	-21 56	7.0 ✓					
~~+0.5~~	~~Dm -21~~	Same star measured above							
∓1.5	340	0 20.7	-22 11	~~8.8~~ 7.5 ✓		65	0 18.4	-22 26	7.0
∓1.5	350	0 21.3	-22 14	7.5 ✓		70	0 19.0	-22 29	7.5
+0.0	669	0 39.8	-22 34	5.3 ✓		127	0 37.6	-22 48	5.5
+0.1	731	0 43.0	-22 16	5.8 ✓		134	0 40.8	-22 30	6.2

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1889phae.proj..870F

April 16, 1891.

Plate 5606

V.	H.	Cl.	Nebulium	Limit	K Line	Int.	added Lines	K	Br.	V	H	V	H
17.8	15.6	K		K	K-H	2		0.5	5.7 5.9	8.9	31.2	23.1	41.0
18.0	18.4	Fl	139	K	K-H	1			6.6	9.0	36.8	23.2	46.6
18.5	11.1	A		δ	K-0.3H	2	Fl		5.6	9.2	22.2	23.4	32.0
20.0	12.3	Fl	140	α	K-H	2			6.6	10.0	24.6	24.2	34.4
19.2	17.4	A		K	K-H	1			6.8 7.1	9.6	35.8	23.8	45.6
19.5	17.2	A		γ	K-0.2H	3	Fl		5.8	9.8	34.4	24.0	44.2
20.4	18.5	A		γ	N	3	Fl		4.8	10.2	37.0	24.4	46.8
20.3	13.1	G		K	K-H	2		0.7	5.8	10.2	26.2	24.4	36.0
20.7	16.6	K		K	K-H	2			5.8 6.1	10.4	37.2	24.6	47.0
21.3	16.0	A		α	K-0.8H	1			6.6	10.6	32.0	24.8	41.8
21.0	17.1	K		K	K-H	1			5.9 6.2	10.5	34.2	24.7	44.0
22.3	7.8	A		α	N	1			6.7	11.2	15.6	25.4	25.4
22.3	9.5	Fl	141	K	K-H	1			7.0	11.2	19.0	25.4	28.8
22.3	11.6	G		K	K-1.2H	3	Fl	1.0	5.5	11.2	23.2	25.4	33.0
23.0	12.4	H		H	N	1			6.8 7.5	11.5	24.8	25.7	34.6
22.4	18.9	Fl	142	α	K-H	2			6.2	11.2	37.8	25.4	47.6
22.2	19.9	H		H	N	1			7.3 7.6	11.1	39.8	25.3	49.6
23.6	9.6	H		H	N	1			7.2 7.6	11.8	19.2	26.0	29.0
23.2	13.7	G		K	K-H	1			6.8 7.3	11.6	27.4	25.8	37.2
23.6	20.5	A		α	N	2			6.6	11.8	41.0	26.0	50.8
24.1	7.2	K		H	N	2				12.0	14.4	26.2	24.2
24.1	12.4	A		K	K-H	1				12.0	24.8	26.2	34.6

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	no. A.G.C.	Ra. 1900	Dec. 1900	Magn.
÷ 0.0	704	0 41.2	−23 4	5.8
	783	0 47.3	−23 9	9.5
+ 0.5	784	0 47.3	−23 9	8.8
− * 0.7	524	0 31.1	−23 24	6.1
− * 0.4	570	0 33.6	−24 9	7.5
+ 0.4	748	0 44.4	−23 46	7.2
+ 0.3	749	0 44.6	−23 55	6.5
	~~790~~	~~0 47.7~~	~~−24 33~~	~~7~~
+ 0.6	791	0 47.7	−24 33	5.8
− * 0.4	419	0 25.4	−24 21	5.2
	608	0 35.4	−24 21	6.3
	790	0 47.7	−24 33	9
+ 0.6	791	0 47.7	−24 33	5.8
+ 0.0	714	0 42.0	−24 46	7.8
+ 0.3	743	0 44.3	−24 41	6.1
− * 1.2	396	0 23.9	−25 12	7.0
− * 1.0	454	0 27.3	−25 12	7.3
− * 0.7	544	0 32.1	−25 19	5.8
− * 0.7	572	0 33.8	−25 40	6.5
	799	0 48.3	−25 19	6.8
+ 0.6	800	0 48.3	−25 19	8.5
+ 0.7	836	0 50.5	−25 12	7.3
− * 1.5	461	0 27.6	−25 55	6.9
− * 0.3	625	0 36.6	−25 48	6.8
+ 1.0	867	0 51.9	−25 54	7.2
− * 1.2	363	0 22.3	−26 6	6.5
	574	0 33.8	−26 9	9
− * 0.4	577	0 33.9	−26 9	8.8

no. Dm.	Ra. 1855	Dec. 1855	Magn.
96	0 39.0	−23 20	5.5
114	0 45.1	−23 24	7.7
69	0 28.9	−23 38	5.6

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R.A 23h 57m Dec. −21.°3

April 23, 1891

Plate 5 6 11 Sl. Sl. 5.9 6.3 6.8 7.4 F.M. 6 8.5 8.0 F. bl. 8.1

V.	H6	bl.	Prev. Rem.	Limit	K Line	Int.	Add'l Lines	% K	Br.	V.	H6	V	H6	
4.5	18.2	Fl	143	Y	K=H6	3	F			2.2	36.4	16.1	65.4	+0.
5.4	7.7	A		K	K=H6	2			6.6 7.3	2.7	15.4	16.6	44.9	− +
5.3	11.9	L		H6	N	2			6.6 7.3	2.6	23.8	16.5	53.3	− +
7.0	13.0	A		H6	N	1			7.1	3.5	26.0	17.4	55.5	− +
6.5	14.8	K		K	K-H6	2			6.3 6.8	3.2	29.6	17.1	59.1	− +
8.0	14.6	A		D	K=.2H6	3	F		4.7	4.0	29.2	17.9	58.7	− +
8.2	16.2	A		Y	K=.3H6	2	F		6.0	4.1	32.4	18.0	61.9	+
8.3	16.8	L		H6	N	1			6.6 7.3	4.2	33.6	18.1	63.1	+
8.5	19.4	A		B	N	2			6.7	4.2	38.8	18.1	68.3	− +
8.9	22.4	H6		K	K-H6	1			7.2 7.6	4.4	44.8	18.3	74.3	+
9.5	15.8	A		K	K=H6	1			6.9	4.8	31.6	18.7	61.1	+
9.2	18.6	K		K	K-H6	2			6.0 6.9	4.6	37.2	18.5	66.7	+
10.2	5.3	A		S	N	2	F		5.3	5.1	10.6	19.0	40.1	− +
10.9	6.2	A		Y	K-H6	2	F		5.3	5.4	12.4	19.3	41.9	− +
10.1	8.5	H6		H6	N	1			7.2 7.7	5.0	17.0	18.9	46.5	− +
10.6	9.4	A		B	K=.2H6	2			6.3	5.3	18.8	19.2	47.3	− +
10.2	9.9	H6		K	K=H6	1			7.2 7.6	5.1	19.8	19.0	49.3	− +
10.6	18.3	H6		H6	N	1			7.2 7.6	5.3	16.6	19.2	46.1	− +
11.2	8.8	A		H	N	3	F		5.0	5.6	17.6	19.5	47.1	− +
11.0	19.7	L		K	K-H6	3			5.7 6.7	5.5	39.4	19.4	68.9	+
11.4	21.1	F	144	A	K-H6	2			6.4	5.7	42.2	19.6	71.7	+
14.0	8.3	A		A	K=.3H6	2			6.3	7.0	17.0	20.9	46.5	− +
13.4	12.6	F	145	K	K=H6	1			7.3	6.7	25.2	20.6	54.7	− +
13.4	14.3	F	146	B	K=H6	2	F		5.9	6.7	28.6	20.6	58.1	− +
13.7	20.7	A		S	N	2	F		5.7	6.8	41.4	20.7	70.9	+
13.5	23.1	Wl?		H6	N	1			7.4 7.5	6.8	46.2	20.7	75.7	+
14.3	9.9	H6		H6	N	1			7.2 7.7	7.2	19.8	21.1	49.3	− +
15.0	11.6	K		K	K-H6	2			6.3 6.7	7.5	23.2	21.4	52.7	− +

7.4 7.6

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DM. Pos. entered are for 1855.

	no. A.G.C.	R.A. 1910 h	Dec. 1910 ′	Magn.		no. DM.	R.A. 1855 h	Dec. 1855 ′	Magn.
+0.5	88	0	6.2	-16 1	6.1 ✓	17	0	3.9	-16 16 5.2
∓0.5	32174	23	44.4	-16 23	6.8 ✓	6373	23	42.0	-16 40 6.3
∓0.7	32325	23	53.2	-16 25	6.8 ✓	6394	23	50.9	-16 39 6.2
∓0.4	Dm-17°6860	23	53.0	-17 30	7.3 ✓				
+0.0	32413	23	59.2	-17 3	5.9 ✓	6868	23	56.9	-17 20 6.2
∓0.0	32405	23	58.6	-17 54	4.3 ✓	6417	23	56.3	-18 8 4.7
+0.1	14	0	2.2	-17 57	6.3 ✓	6428	23	59.9	-18 12 6.5
+0.1	40	0	3.5	-18 8	6.2 ✓	3	0	1.1	-18 23 6.2
+0.7	Dm-18°25	0	6.6	-18 21	7.2 ✓				
+0.5	Dm-18°41	0	12.7	-18 30	6.7 ✓				
+0.0	Dm-18°6426	23	59.0	-18 50	7.5 ✓				
+0.6	101	0	7.1	-18 30	5.4 ✓	14	0	4.8	-18 44 5.7
∓1.0	32076	23	39.0	-18 50	5.2 ✓	6500	23	36.7	-19 5 6.8
∓1.0	32105	23	40.8	-19 14	5.5 ✓	6506	23	38.5	-19 29 5.0
∓0.5	Dm-19°6519	23	43.3	-19 6	7.3 ✓				
∓0.5	32224	23	47.5	-19 7	7.0 ✓	6527	23	45.2	-19 22 7.5
∓0.6	32245	23	48.6	-18 56	7.5 ✓	6533	23	46.3	-19 10 7.8
∓0.5	Dm-19°6519	23	43.3	-19 6	7.3 ✓				
∓0.5	32204	23	46.2	-19 28	5.1 ✓	6522	23	43.9	-19 43 5.0
+0.7	142	0	9.6	-19 30	4.3 ✓	21	0	7.3	-19 44 5.0
+0.6	194	0	12.5	-19 37	6.6 ✓	30	0	10.2	-19 51 7.0
∓0.5	Dm-21°6486	23	43.1	-21 2	6.8 ✓				
∓0.4	Dm-20°6685	23	51.9	-20 20	7.3 ✓				
∓0.1	32394	23	57.8	-20 37	7.0 ✓	6703	23	55.5	-20 51 5.8
+0.6	180	0	11.7	-20 46	6.5 ✓	24	0	9.4	-21 1 6.0
+1.0	266	0	16.7	-20 37	var. ✓	50	0	14.4	-20 61 5.5
∓1.0	Dm-21°6492	23	46.1	-21 19	7.2 ✓				
∓0.7	32306	23	52.0	-21 24	7.0 ✓	6500	23	49.7	-21 38 6.5

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1889phae.proj..870F

April, 23, 1891.

Plate 3·6 11

V.	H.	Cl.	No Rem.	Limit	K Line	Int:	Add Lines	♀ K	Br.	V	H	V	H	
14.5	19.1	A		He	K	1			7.0	7.2	38.2	21.1	67.7	+
15.4	10.9	A		He	K	1			7.3	7.7	21.8	21.6	51.3	−
16.0	15.4	A		α	K	1			7.2	8.0	30.8	28.9	60.3	+
15.7	17.1	He		K	K·He	1			7.0 7.6	7.8	34.2	21.7	63.7	+
15.7	19.6	F	147	α	K·He	2			6.5	7.8	39.2	21.7	68.7	+
15.5	21.4	A		γ	K	2	F		5.9	7.8	42.8	21.7	72.3	+
16.7	8.1	He		K	K·He	1			7.1 7.6	8.4	16.2	22.3	45.7	−
16.1	10.7	D		K	K·He	1			6.8 7.4	8.0	21.4	21.9	50.9	−
17.2	17.9	He		He	K	1			7.4 7.7	8.6	35.8	22.5	65.3	+
17.6	17.1	He		He	K	1			7.3 7.7	8.8	34.2	22.7	63.7	+
18.2	16.5	A		δ	K·2He	3	F		5.4	9.1	33.0	23.0	62.5	+
18.9	18.5	A		He	K	1			7.3	9.4	37.0	23.3	66.5	+
18.2	19.0	D		K	K·He	2			6.7 7.5	9.1	38.0	23.0	67.5	−
19.4	16.1	F	148	β	K·He	2	F		5.7	9.7	32.2	23.6	61.7	+
19.7	19.3	D		K	K·He	1			6.9 7.6	9.8	38.6	23.7	68.1	+
20.6	22.6	A		α	K·He	2			6.5	10.3	45.2	24.2	74.7	+
21.8	10.0	A		γ	K	2	F		5.9	10.9	20.0	24.8	49.5	−
21.7	12.4	A		He	K	1			7.5	10.8	24.8	24.7	54.3	−
21.5	14.5	K		K	K·He	1			6.8 7.5	10.8	29.0	24.7	58.5	−
21.4	16.9	E		K	K·He	1			7.4	10.7	33.8	24.6	63.3	+
22.7	11.5	D		K	K·He	2			6.5 6.8	11.4	23.0	25.3	52.5	−
23.3	9.8	He		He	K	1			7.3 7.7	11.6	19.6	25.5	49.1	−
24.1	8.5	A		α	K	2	F			12.0	17.0	25.9	46.5	−
24.0	16.4	F	149	K	K·He	1				12.0	32.8	25.9	62.3	+

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DM. Pos. entered are for 1855.

No. A.G.C.		Ra. 1900 h	Dec. 1900 °	′	Magn.		No. Dm.	Ra. 1855	Dec. 1855	Magn.
+ 0.7	Dm -21° 15	0	5.9	- 21	26	6.8 ✓				
∓ 0.7	Dm -21 6498	23	48.1	-21	45	7.8 ✓				
+ 0.0	Dm -22° 6257	23	57.9	- 22	7	7.4 ✓				
+ 0.2	Dm -22 8	0	1.6	22.	0	7.1 ✓				
+ 0.7	132	0	9.3	- 21	45	7.0 ✓	17	0	7.0 -21	60 7.0
+ 0.6	205	0	13.3	- 21	42	6.6 ✓	31	0	10.9 - 21	56 6.7
∓ 1.0	32170	23	44.3	- 22	11	7 ✓	6199	23	42.0 - 22	25 6.8
∓ 0.7	Dm -22° 6222	23	47.7	- 22	11	6.8 ✓				
+ 0.5	80	0	5.7	- 22	30	8.0 ✓	17	0	3.4 - 22	44 7.5
+ 0.3	46	0	3.8	- 22	45	7.5 ✓	7	0	1.5 - 22	59 7.2
+ 0.1	27	0	2.7	- 23	4	5.9 ✓	1	0	0.4 - 23	18 6.8
+ 0.5	96	0	6.8	- 23	23	8.0 ✓	8	0	4.5 - 23	37 8.4
+ 0.6	114	0	8.0	- 23	2	6.9 ✓	11	0	5.7 - 23	16 7.4
+ 0.0	7	0	1.7	- 23	40	6.3 ✓	6668	23	59.4 - 23	55 6.0
+ 0.6	123	0	8.7	- 23	46	7.0 ✓	Dm. -22° 16	0	6.7 - 23	60 9.1
+ 1.5	247	0	15.8	- 23	11	7.0 ✓				
∓ 0.7	32239	23	48.2	- 24	47	6.3 ✓				
∓ 0.7	32328	23	53.4	- 24	44	8 ✓				
∓ 0.0	32396	23	58.0	- 24	42	6.7 ✓				
+ 0.1	37	0	3.4	- 24	39	7.8 ✓				
∓ 0.7	32293	23	51.4	- 25	18	6.3 ✓				
∓ 1.0	32225	23	47.5	- 25	33	6.7 ✓				
∓ 1.2	32180	23	44.6	- 25	54	6.5 ✓				
+ 0.1	15	0	2.3	- 25	55	6.9 ✓				

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R.A 20h 37m Dec. −18°

May

April 19, 1891

Plate 2947 St. Lt. 5.1 F.M. 6.8.2 7.5 Hbk. 7.8

V.	H.	bl.	No Rem.	Limit	K Line	Int.	added Lines	a K	Br.	V	H	V	H	
7.2	14.8	A		S	K-2He	3	F		5.8	3.6	29.6	21.8	40.5	+0
7.7	12.6	E		K	K-He	1			6.8	3.8	25.2	21.4	44.8	+0
8.4	10.7	A		He	H	1			7.5	4.2	21.4	21.2	48.6	+0
8.2	18.3	He		He	H	1			7.3 7.7	4.1	36.6	21.3	33.5	−0
9.0	19.2	He		He	H	1			7.7 7.8	4.5	38.4	20.9	31.6	−0
8.7	21.9	He		He	H	1			7.3 7.8	4.4	43.8	20.8	26.2	−0
8.3	22.7	A		α	H	2			6.7	4.2	45.4	21.2	24.6	−0
9.1	19.0	A		α	H	1			7.4	4.6	38.0	20.8	32.0	−0
10.3	6.2	A		S	?	3	F		5.2	5.2	12.4	20.2	57.6	+1
10.9	11.9	A		α	H	2			6.5	5.4	23.8	19.8	46.3	+0
11.6	6.9	He		He	H	1			7.3 7.6	5.8	13.8	19.4	56.3	+1
12.0	8.4	A		γ	H	2	F		5.7	6.0	16.8	19.2	53.3	+0
11.9	11.3	H		K	K-H	1			6.8 7.0	6.0	22.6	19.2	47.5	+0
11.6	13.8	F	130	B	K-H	2			6.4	5.8	27.6	19.6	42.3	+0
11.3	14.6	A		K	K-H	1			6.8	5.6	29.2	19.8	40.9	+0
11.5	15.8	He		He	H	1			7.2 7.6	5.8	31.6	19.6	38.5	−0
11.3	20.2	A		B	H	1			7.0	5.6	40.4	19.8	29.6	−0
11.8	24.1	F	131	K	K-He	1			7.3	5.9	48.2	19.5	21.9	−1
13.0	10.2	A		α	H	1			7.3	6.5	20.4	18.9	49.6	+0
12.5	10.7	A		γ	K-He	2			6.2	6.2	21.4	19.2	48.6	+0
12.1	11.0	E		K	K-He	1			7.0	6.0	22.0	19.4	48.0	+0
12.9	22.4	A		S	K-2He?	3	F		5.4	6.4	44.8	18.9	25.2	−0
13.8	6.3	E		K	K-He	1			7.3	6.9	12.6	18.5	57.5	+1
14.0	13.3	K		He	H	2			7.3 7.5	7.0	26.6	18.4	43.5	+0
13.7	13.7	He		K	K-He	1			6.8 6.9	6.8	27.4	18.4	42.6	+0
13.8	16.4	A		α	K-He	1			6.7	6.9	32.8	18.5	37.2	−0
6.5 13.7	17.6	M		K	K-He	2			5.8 6.9	6.8	35.2	18.6	34.8	−0
13.5	23.7	A		S	H	3	F		5.1	6.8	47.4	18.4	22.6	−0

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1889phae.proj..870F

DM. Pos. entered are for 1855.

	no. A.G.C	Ra 1900 h	Dec 1900 ° ′	Magn.	no. Dm.	Ra. 1855	Dec. 1855	Magn.
+0.1	28462	20 40.4	-21 53′	6.0 ✓	5523	20 37.8	-22 2	5.9
+0.4	Dm-21° 5844	20 42.5	-21 50	6.8 ✓				
+0.6	Dm-21 5864	20 46.4	-21 30	7.5 ✓				
-0.7	28275	20 32.7	-21 21	7.8 ✓	5782	20 30.0	-21 30	6.8
-0.7	28224	20 30.7	-20 56	7.2 ✓	5768	20 28.0	-21 4	6.8
-0.5	28109	20 24.9	-21 3	7.5 ✓	5738	20 22.3	-21 11	7.0
-0.5	28074	20 23.2	-21 14	7.0 ✓	5729	20 20.6	-21 22	6.5
-0.7	Dm-21 5713 / Dm-21 5722 / 28224	20 28.6 / 20 28.6 / 20 30.7	-21 4 / -21 5 / -20 56	8.7 / 7.7 / 7.2 ✓				
+1.0	28879	20 58.7	-20 15	5.1 ✓	6115	20 56.1	-20 25	5.1
+0.7	28616	20 46.5	-20 1	6.9 ✓	6055	20 44.0	-20 11	7.0
+1.0	Dm-19° 5998	20 54.5	-19 49	7.0 ✓				
+0.5	28753	20 53.9	-19 25	6.4 ✓	5982	20 51.4	-19 36	6.2
+0.7	28648	20 47.8	-19 29	6.9 ✓	5950	20 45.3	-19 40	6.5
+0.3	28516	20 42.5	-19 38	6.9 ✓	5928	20 39.9	-19 47	6.5
+0.1	Dm-19 5921	20 38.3	-19 58	7.0 ✓				
-0.0	Dm-19 5905	20 35.6	-19 51	7.3 ✓				
-0.7	Dm-19 5852	20 26.1	-19 53	7.8 ✓				
-1.0	28011	20 20.6	-19 28	8.0 ✓	5813	20 18.0	-19 37	7.7
+0.7	Dm-19° 5966	20 47.6	-19 8	8.2 ✓				
+0.7	28674	20 49.1	-19 10	6.8 ✓	5960	20 46.5	-19 20	7.0
+0.7	28661	20 48.4	-19 22	7.5 ✓	5954	20 45.8	-19 32	7.3
-0.5	28099 / 28100	20 24.1 / 20 24.1	-18 55 / -18 55	7.5 / 6.2 ✓	5830 / 5831	20 21.6 / 20 21.6	-19 4 / -19 3	8.3 / 7.1
+1.0	28866	20 58.4	-18 30	7.8 ✓	5849	20 55.8	-18 41	8.0
+0.4	28530	20 43.6	-18 25	6.7 ✓	5783	20 41.1	-18 34	6.7
+0.3	28524 / 28526	20 42.7 / 20 42.7	-18 34 / -18 35	8 / 7.2 ✓	5778 / 5779	20 40.2 / 20 40.2	-18 44 / -18 44	8.5 / 8.1
-0.1	28376	20 37.0	-18 28	7.2 ✓	5754	20 34.4	-18 37	7.5
-0.4	28317	20 34.3	-18 30	5.6 ✓	5738	20 31.8	-18 38	5.5
-0.5	28036	20 21.6	-18 32	6.5 ✓	5685	20 19.0	-18 41	5.4

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May 19, 1891

Plate 2947

U. H. Cl.	no Rem.	Limit	K Line	Int.	add Lines	K̃	Br.	V	H	V	H	
14.9 7.8 I		K	K-H	2			6.3 7.8	7.4	15.6	17.8	54.3	+
14.2 10.7 I		K	K-H	2			6.6	7.1	21.4	18.3	48.7	+
14.5 17.2 A		He	N	1			7.0	7.2	34.4	18.2	35.7	-
14.5 19.8 A		H	N	1			7.0	7.2	39.6	18.2	30.5	-
14.2 22.9 H		H	N	1			6.9 7.5	7.1	45.8	18.3	24.3	-
14.3 23.0 Fl	152		K-H	3	Fl		5.1	7.2	46.0	18.2	24.0	-
15.5 5.4 A			N	4	Fl		4.7	7.8	10.8	18.4	59.3	+
15.7 X5.9 A		H	N	1			6.9	7.8	31.8	17.4	38.3	-
15.4 7.1 A		H	N	1			7.1	7.7	14.2	17.5	55.9	+
15.6 10.0 H		H	N	1			7.1 7.6	7.8	20.0	17.4	50.1	+
15.8 10.2 Fl	153	K	K-H	1			6.7	7.9	20.4	17.3	49.1	+
15.3 17.0 I		H	N	1			6.7 7.3	7.6	34.0	17.4	36.1	-
15.8 18.7 A			N	2			6.5	8.4	37.4	16.8	32.7	-
15.1 22.9 C?		He	N	1			6.8	7.6	45.8	17.4	24.3	-
16.6 13.8 Fl?	154	K	K-H	1			6.9	8.3	27.6	16.9	32.3	+
17.0 13.8 A		K	K-H	2			6.6	8.5	27.6	16.9	42.5	+
16.9 18.1 Fl	155	K	K-H	2			6.7	8.4	36.2	16.8	33.9	-
16.9 19.8 A			K-H	2	Fl		5.9	8.4	39.6	16.8	30.3	-
16.8 21.2 A		K	K-H	1			6.7	8.4	42.4	16.8	27.7	-
16.9 22.1 C		K	K-H	1			7.4	8.4	44.2	16.8	25.9	-
17.9 9.3 A		S	K-H	2	Fl		5.7	9.0	18.6	16.4	51.3	+
17.3 13.9 C		K	K-H	1			7.2	8.6	27.8	16.6	42.3	+
17.7 17.4 K		K	K-H	2			6.0 6.5	8.8	34.8	16.7	35.3	-
18.3 9.7 A		H	N	1			7.6	9.2	18.4	16.2	50.7	+
18.4 15.2 A	156	K	K-H	2			6.6	9.2	30.4	16.3	39.7	-
18.5 22.1 A		K	N	2			6.6	9.2	44.2	16.3	25.9	-
18.5 23.1 I		K	K-H	2			6.9	9.2	46.2	16.3	23.9	-
19.0 10.6 Fl	157	K	K-H	1			7.2	9.6	21.2	15.6	48.9	+

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DM. Pos. entered are for 1855.

	A.G.C. no.	Ra. 1900	Dec. 1900	Magn.	DM no.	Ra. 1855	Dec. 1855	Magn.
+0.5	28789	20h 55.2	-17 55	6.5 V	5831	20 52.7	-18 5	6.3
+0.7	28675	20 49.1	-18 18	6.1 V	5805	20 46.6	-18 28	6.3
-0.4	DM-18°5743	20 32.7	-18 18	8.7 V				
-0.7	DM-18 5714	20 27.1	-18 16	8.5 V				
-0.5	28380	20 23.3	-18 12	7.0 V	5681	20 20.7	-18 21	7.3
-0.5	28073	20 23.1	-18 9	5.3 V	5689	20 20.6	-18 17	5.1
+1.0	28921	21 0.3	-17 38	4.1 V	6174	20 57.8	-17 48	4.0
-0.1	28894	20 59.2	-17 33	7.0 V	6167	20 56.7	-17 44	7.7
+0.5	DM-17°6158	20 54.2	-17 52	8.2 V				
+0.7	28699	20 50.5	-17 37	7.2 V	6129 6127	20 48.0 20 47.6	-17 47 -17 40	7.8 7.3
+0.7	28696	20 50.1	-17 29	7.0 V	6127	20 47.6	-17 40	7.3
-0.4	28349	20 35.6	-17 44	7.2 V	6059	20 33.1	-17 53	7.5
-0.7	28267	20 32.1	-17 28	7.0 V	6039	20 29.6	-17 37	7.2
-0.5	28078	20 23.3	-17 46	7.0 V	5992	20 20.7	-17 54	7.3
+0.3	DM-17°6088	20 40.1	-17 16	8.0 V				
+0.3	28518	20 42.6	-16 54	7.0 V	6089	20 40.1	-17 2	7.0
-0.4	28293	20 33.4	-16 55	7.2 V	6046	20 30.9	-17 4	7.3
-0.7	28206	20 29.9	-16 52	6.6 V	6027	20 27.3	-17 1	6.2
-0.6	28145	20 26.8	-16 57	8.0 V	6014	20 24.3	-17 6	7.0
-0.3	DM-17 6003	20 22.4	-17 2	7.8 V				
+0.5	28725	20 52.1	-16 25	5.9 V	5741	20 49.6	-16 35	5.8
+0.3	~~28516~~ 28518	~~20 42.5~~ 20 42.6	~~-19 38~~ -16 54	~~6.9~~ 7.0 V	5702 ~~5628~~	20 40.0 ~~20 39.9~~	-16 52 ~~19 47~~	7.3 ~~6.5~~
-0.4	28335	20 34.9	-16 29	6.2 V	5663	20 32.4	-16 38	6.0
+0.6	28709	20 51.2	-16 14	8.0 V	5734	20 48.7	-16 24	8.0
-0.0	28445	20 39.6	-16 10	7.0 V	5691 5690	20 37.1 20 37.1	-16 18 -16 19	8.5 6.7
-0.0	DM-16 5616 DM-16 5617	20 22.6 20 22.6	-16 15 -16 16	9.8 7.0 V				
-0.5	28072	20 23.1	-16 4	6.8 V	5609	20 20.6	-16 13	6.0
+0.7	28680	20 49.4	-15 39	8.2 V	5833	20 46.8	-15 50	7.5

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1889phae.proj..870F

May 19, 1891

Plate. 2947

V.	H.	Cl.	Rem.	Limit	K Line	Int.	add. Lines	K	Br.	V.	H.	V.	H.	
19.9	15.1	F.	158	K	K-H6	1			7.5	10.0	30.2	15.2	39.9	-0
20.0	18.1	B.	159	C	N	4	f		5.2	10.0	36.2	15.2	33.9	-0
19.7	19.0	H6		H6	N	1			7.2 7.6	9.8	38.0	15.6	32.1	-0
19.8	22.0	G.		K	K-H6	2			6.3	9.9	44.0	15.5	26.1	-0
21.0	8.7	A		γ	K-1.5H6	2	f		5.6	10.5	17.4	14.7	52.7	+0
21.0	17.2	F	160	K	K-H6	1			7.2	10.5	34.4	14.7	35.7	-0
22.9	7.5	G?		H6	N	1			6.7	11.4	15.0	13.8	55.1	+0
22.1	12.3	A		K	K-H6	1			7.1	11.0	24.6	14.2	45.6	+0
23.0	17.1	H6		K	K-H6	1			7.3 7.7	11.5	34.2	13.7	35.9	-0
22.5	20.6	F	161	K	K-H6	2			6.3	11.2	41.2	14.2	28.9	-0
22.0	23.6	A		α	K-H6	1			7.1	11.0	47.2	14.2	22.9	-0
23.9	8.1	A		α	N	1			6.6	12.0	16.2	13.2	53.9	+0

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1889phae.proj..870F

DM. Ps. entered are for 1855

No. A.G.C.		Ra. 1900	Dec. 1900	Magn.	No. DM.	Ra 1855	Dec. 1855	Magn.
-0.0	DM -15 5781	20	37.3	-15 33	7.5			
-0.5	28298	20	33.7	-15 18	5.6	-15° 5743	20 31.2	-15 27 5.3
-0.7	28254	20	31.7	-15 30	7.0	5732	20 29.2	-15 38 6.8
-0.5	28122	20	26.5	-15 23	6.4	5696	20 22.9	-15 32 6.3
+0.5	28739	20	53.2	-14 52	6.1	5848	20 50.7	-15 2 6.0
-0.4	DM -15° 5755	20	32.9	-15 1	7.9			
+0.5	28772	20	54.8	-13 53	7.8	5908	20 53.1	-14 6 7.0
+0.6	DM -14 5866	20	43.3	-14 27	8.0			
-0.4	DM -14 5815	20	33.2	-14 1	7.7			
-0.6	28183	20	28.6	-14 4	6.4	5781	20 26.1	-14 13 6.0
-0.5	DM -14 5763	20	20.0	-14 28	7.8			
+0.5	28765	20	54.4	-13 26	6.8	5813	20 51.9	-13 37 6.8

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1889phae.proj..870F

R.A. 1h 41m Dec. −26.4

June 8, 1891

Plate 4654 St: 11.6 12.6 13.7 14.0 15.5 F.M. 6.7 7.7 7.4 Fldr. 7.8

V. H.	bl.	Rem. no.	Limit	K. Line	Int.	add'l Lines	K	Br.	V.	H.	V.	H.	
4.2	21.2	I		K	K-H6	2			—	2.1	42.4	21.4	54.1	+0.
4.6	21.3	m?		K	K-H	3			—	2.3	42.6	21.6	54.3	+0.
4.8	20.8	A		K	K-H	1			—	2.4	41.6	21.7	53.3	+0.
4.3	15.5	H		K	K-H6	1			—	2.2	31.0	21.5	42.7	+0
5.9	7.2	A		S	H	2			5.6	3.0	14.4	22.3	26.1	−1.
5.1	11.5	A		K	K-H	2		F	5.9	2.6	23.0	21.9	34.7	−0.
6.5	22.5	A		B	H	1			6.5	3.2	45.0	22.5	56.7	+1.
6.8	6.5	H		H	H	1			7.2 7.4	3.4	13.0	22.7	24.7	−1.
7.4	6.3	H		H	H	1			7.2 7.4	3.7	12.6	23.0	24.3	−1.
7.4	19.8	K		K	K-H	2			5.8 6.3	3.7	39.6	23.0	51.8	+0.
8.3	20.8	F	162	K	K-H	2			6.4	4.2	41.6	23.5	53.3	+0
9.9	8.6	A		B	K-H	1			7.0	5.0	17.2	24.3	28.9	−1.
9.9	9.9	H		K	K-H	1			7.0 7.4	5.0	19.8	24.3	31.5	−0
10.9	9.2	F	163	K	K-H	1			7.1	5.4	18.4	24.7	30.1	−1
10.1	16.1	A		H	H	1			7.4	5.0	32.2	24.3	43.9	+0
10.7	19.1	A		H	H	1			7.6	5.4	38.2	24.7	49.9	+0
10.2	22.6	H		K	K-H	1			6.9 7.3	5.1	45.2	24.4	56.9	+1.
12.2	7.2	A		B	K-H	1			6.7	6.1	14.4	25.4	26.1	−1
12.4	11.7	A		S	H	2			5.9	6.2	23.4	25.5	35.1	−0
12.4	14.8	F	164	S	K-H	3		F	5.4	6.2	29.6	25.5	41.3	−0
12.1	19.0	H		K	K-H	1			7.2 7.6	6.0	38.0	25.3	49.7	+0
13.8	7.7	I		K	K-H	1			6.7 7.2	6.9	15.4	26.2	27.1	−1
14.9	8.1	K		K	K-H	2			6.0 7.0	7.4	16.2	26.7	27.9	−1
14.8	16.1	A		B	K-H	2			6.4	7.4	32.2	26.7	43.9	+0
15.6	8.9	A		H	H	1			7.0	7.8	17.8	27.1	29.5	−1
15.2	20.9	A		S	H	2		F	6.0	7.6	41.8	26.9	53.5	+1.
17.0	15.0	F	165	S	K-H	2		F	6.0	8.5	30.0	27.8	41.7	+0
17.9	8.8	H		K	K-H	1			7.2 7.6	9.0	17.6	28.3	29.3	−1

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DM. Pos. entered are for 1855.

	A.G.C. no.	R.A. 1900 h	Dec. 1900	Magn.	DM No.	R.A. 1855 h	Dec. 1855	Magn.
+0.8	1962	1 55.1	-21 19	5.7 ✓	356	1 52.9	-21 32	6.0
+0.8	1965	1 55.3	-21 34	3.9 ✓	358	1 53.2	-21 47	4.1
+0.7	Dm-21 351	1 51.9	-21 33	8.5 ✓				
+0.0	1744	1 42.9	-21 20	6.8 ✓	300	1 40.8	-21 34	64
-1.2	1421	1 24.8	-22 9	5.3 ✓	254	1 22.6	-22 22	5.0
-0.7	1588	1 34.1	-21 47	5.7 ✓	272	1 31.9	-22 0	6.0
+1.0	2018	1 58.0	-22 27	7.0 ✓	341	1 55.8	-22 40	7.0
-1.5	1391	1 23.2	-22 33	6.7 ✓	251	1 21.0	-22 48	7.0
-1.2	1382	1 22.6	-22 51	6.6 ✓	213	1 20.5	-23 1	7.0
+0.7	1895	1 52.0	-23 1	5.0 ✓	301	1 49.9	-23 15	58
	1946	1 54.4	-23 26	8.2				
+0.7	1947	1 54.4	-23 25	7 ✓	307	1 52.3	-23 37	8.0
-1.2	1467	1 27.4	-24 9	7.0 ✓				
-0.6	1523	1 30.1	-24 12	6.7 ✓				
-1.0	1492	1 28.5	-24 41	7.0 ✓				
+0.1	1770	1 44.1	-24 22	8.5 ✓				
+0.7	1877	1 50.6	-24 39	8.2 ✓				
+1.5	2027	1 58.3	-24 22	6.2 ✓				
-1.2	1408	1 24.1	-25 19	6.9 ✓				
-0.7	1593	1 34.2	-25 32	6.6 ✓				
-0.1	1713	1 41.0	-25 33	5.4 ✓				
+0.7	1873	1 50.5	-25 23	6.9 ✓				
-1.2	1426	1 25.0	-26 8	6.6 ✓				
-1.2	1435	1 25.7	-26 43	6.2 ✓				
+0.1	1769	1 44.0	-26 45	7.8 ✓				
-1.5	1473	1 27.7	-27 4	7.8 ✓				
+1.0	1956	1 54.7	-26 55	6.6 ✓				
+0.0	1720	1 41.4	-27 50	6.4 ✓				
-1.2	1463	1 27.2	-28 13	7.5 ✓				

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1889phae.proj..870F

June 8, 1891.

Plate 4654

V.	H.	bl.	Rem.	Limit	R Line	Int.	2nd Lines	K Br.	V.	H.	V.	H.	
17.2	9.9	A		α	K=H	1		7.0	8.6	19.8	27.9	31.5	−1
18.8	10.0	H		K	K=H	1		7.2 7.6	9.4	20.0	28.7	31.7	−1
20.0	9.9	H		H	H	1		7.3 7.6	10.0	19.8	29.3	31.5	−1
19.7	14.7	H		K	K-18	1		7.0 7.5	9.8	29.4	29.1	41.1	−0
19.2	23.5	E		K	K=H	1		7.3	9.6	47.0	28.9	58.7	+2
20.4	12.3	F	166	α	K-H	1		6.9	10.2	24.6	29.5	36.3	−2
20.9	23.1	A		ζ	H	3	F	4.8	10.4	46.2	29.7	57.9	+2
21.6	22.2	A		β	H	2	F	6.2	10.8	44.4	30.1	56.1	+2
22.4	8.9	H		K	K=H	1		6.8 7.2	11.2	17.8	30.5	29.5	−1
22.1	10.9	A		S	K-H	2	F	5.5	11.0	21.8	30.3	33.5	−1
22.3	21.7	G		K	K-H	2		0.4 5.8	11.2	43.4	30.5	55.1	+1
23.0	9.0	I		K	K-H	2		6.3 6.8	11.5	18.0	30.8	29.7	−1

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1889phae.proj..870F

	No. A.G.C.	R.A. 1900	Dec. 1900	Magn.	
		h			
−1.2	1514	1	29.7 −27	52	8.2 v
−1.3	1518	1	29.8 −28	45	7 v
−1.4	1520	1	30.0 −29	9	8 v
−0.1	1701	1	40.3 −29	13	7.5 v
+2.2	2078	2	0.7 −28	52	7.5 v
−2.7	1602	1	34.7 −29	32	6.9 v
+2.1	2065	2	0.0 −29	47	4.9 v
+2.1	2024	1	58.0 −30	9	6.7 v
−1.6	1467	1	26.9 −30	30	6.8 v
−1.1	1546	1	31.6 −30	25	7.3 } v
	1547	1	31.6 −30	25	6.3 }
+1.5	1998	1	56.8 −30	29	5.5 v
−1.7	1461	1	27.1 −30	48	6 0 v

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1889phae.proj..870F

R.A. 19h 19m Dec. −27°.5

June 8, 1891.

Plate 368 28

St. 22 5.5 6.0 6 36.5 F.M. 6 8.0 7.5 F.Gr. 7.8

V.	H.	Cl.	Rem.	Limit	K Line	Int.	Add'l Lines	K	Br.	V.	H.	V.	H.	
4.0	10.3	A			K 0.5 H 2					2.0	20.6	16.3	72.2	
4.0	10.5	A			K H 1					2.0	21.0	16.3	72.6	
3.9	12.3	P2		A?	K=H 3		3.5	H?		2.0	24.6	16.3	76.2	
3.7	13.2	A		B	H 1					1.8	26.4	16.1	78.0	
4.1	16.2	A		A	H 1					2.0	32.4	16.3	84.0	
4.4	16.5	A		A	H 1					2.2	33.0	16.5	84.6	
4.6	21.4	I		K	K=H 2					2.3	42.8	16.3	94.4	
4.3	22.2	A		B	K=2H 3					2.2	44.4	16.5	96.0	
5.2	9.7	A		H	H 1					7.5	2.6	19.4	16.9	71.0
5.3	14.7	A		H	H 1					7.4	3.8	29.4	17.1	81.0
5.8	20.6	A		B	K=1.5 H 2					6.3	2.9	41.2	17.2	92.8
6.7	9.0	A		A	H 1					6.8	3.4	18.0	17.7	69.6
6.5	12.3	A	167	A	H 1					7.1	3.2	24.6	17.5	76.2
7.0	12.9	A		A	H 1					7.0	3.5	25.8	17.8	77.4
6.4	13.3	A		A	H 2					6.1	3.2	26.6	17.5	78.2
6.3	14.5	A		A	H 1					7.5	3.2	29.0	17.5	80.6
7.8	10.3	A		K	K=H 1					7.5	3.9	20.6	18.2	72.2
7.5	12.3	A		K	K=.8H 4					4.1	3.8	24.6	18.1	76.2
7.9	13.2	A		A	H 1					7.0	4.0	26.4	18.3	78.0
7.0	23.1	A		A	H 1					7.1	3.6	46.2	17.8	97.8
8.4	12.4	K		K	K=H 2					5.8 6.5	4.2	24.8	18.0	76.4
9.0	14.0	K	168	K	K=H 1					6.6	4.5	28.0	18.8	79.6
8.5	15.1	K	169	K	K=H 1					6.6	4.2	30.2	18.5	81.8
8.6	15.3	A		A	H 1					7.0 7.5	4.3	30.6	18.6	82.2
8.4	16.2	A		K	K=H 1					7.0	4.2	32.4	18.5	84.0
8.5	16.5	A		A	H 1					7.2 7.3	4.2	33.0	18.5	84.6
8.3	19.5	K		K	K=H 2					5.8 6.5	4.2	39.0	18.5	90.6
9.5	5.4	A		B	H 2					5.7	4.8	10.8	19.1	62.4

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1889phae.proj..870F

DM. Pos. entered are for 1855.

No. A.G.C.		R.A. 1900	Dec. 1900	Magn.		DM. No.	R.A. 1855	Dec. 1855	Magn.
	26419	h 19	21.9	-16 9	7.2 } ✓				
-0.7	26420	19	11.9	-16 9	8 } ✓	5253	19	9.3	-16 13 6.8
-0.7	DM-16°5256	19	9.8	-16 12	7.7 ✓				
-0.6	26570	19	16.0	-16 8	4.9 ✓	5283	19	13.4	-16 13 4.7
-0.4	DM-16°5293	19	15.3	-16 5	7.8 ✓				
+0.0	DM-16°5333	19	21.8	-16 16	7.5 ✓				
+0.0	DM-16°5337	19	22.5	-16 28	7.5 ✓				
						5400	19	32.5	-16 36 8.7
+0.6	26949	19	35.0	-16 32	5.5 ✓	5399	19	32.4	-16 37 0.5
+0.5	26989	19	36.8	-16 22	5.4 ✓	5413	19	34.2	-16 28 5.0
-0.6	DM-16°5232	19	8.0	-16 49	7.8 ✓				
-0.1	DM-17°5633	19	18.4	-17 4	7.9 ✓				
+0.7	DM-17°5699	19	30.9	-17 14	6.8 ✓				
-0.5	26363	19	9.0	-17 32	7.8 ✓	5535	19	6.4	-17 36 6.8
-0.6	DM-17°5698	19	13.3	-17 30	7.2 ✓				
-0.5	DM-17°5604	19	14.6	-17 47	8.2 ✓				
-0.4	DM-17°5611	19	15.4	-17 28	7.0 ✓				
-0.1	DM-17°5629	19	18.0	-17 25	8.0 ✓				
-0.7	DM-18°5291	19	9.2	-18 10	8.0 ✓				
-0.6	26508	19	15.9	-18 2	4.2 ✓	5322	19	13.3	-18 7 4.0
	DM-18°5338	19	15.6	-18 16	9.0 }				
-0.4	" -18°5339	19	15.0	-18 16	9.0 } ✓				
	" -18°5340	19	15.1	-18 16	9.0 }				
+0.5	DM-17 5732	19	36.2	-17 44	7.8 ✓				
-0.6	26509	19	16.1	-18 29	6.5 ✓	5325	19	13.4	-18 34 6.4
-0.1	DM-18°5361	19	16.4	-18 33	8.0 ✓				
+0.0	26642	19	21.9	-18 33	7.2 ✓	5373	19	19.2	-18 38 7.3
+0.0	26656	19	22.3	-18 34	7.0 ✓	5376	19	19.7	-18 39 7.0
+0.1	DM-18°5389	19	21.7	-18 32	7.7 ✓				
+0.1	DM-18°5396	19	22.2	-18 37	7.5 ✓				
+0.7	26855	19	31.3	-18 27	5.8 ✓	5432	19	28.6	-18 33 5.4
-1.0	26165	19	1.3	-18 54	6.7 ✓	5206	18	38.7	-18 57 6.5

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1889phae.proj..870F

June 8, 1891.

Plate 3683 Continued

R. A. 61		No.	Rem.	Limit	K Line	Int.	add Line	K	Br.		V.	H.	V.	H.	
9.8	6.2			H	H	N	1			7.0 7.3	4.9	12.4	19.2	64.0	−1.
9.4	6.2			H	H	N	1			6.6	4.7	12.4	19.0	64.0	−1.
9.7	10.4			K	K	K=H	2	H	0.5	5.3 5.5	4.8	20.8	19.1	72.4	−0.
9.6	10.7			H		N	2			6.1	4.8	21.4	19.1	73.0	−0.
9.3	10.8		170	K	K	K=H	1			6.8	4.6	21.6	18.9	73.2	−0.
9.5	19.2			H		K=.8H	3	H		5.6	4.8	38.4	19.1	90.0	+0.
10.5	6.0			H		N	3	H		5.1	5.2	12.0	19.5	63.6	−1.
10.8	6.6			H	K	N	1			7.3	6.4	13.2	19.7	64.8	−1.
10.5	11.5			H	H	N	1			7.2 7.5	5.2	23.0	19.5	74.6	−0.
10.2	12.3	B	171	E	E	N	3	H		5.5	5.1	24.6	19.4	76.2	−0.
11.9	6.7			H	α	N	1			7.1	6.0	13.4	20.3	65.0	−1.
11.5	6.7			D	K	K=H	2			6.3 6.9	5.8	13.4	20.1	65.0	−1.
11.4	9.4			H	K	K=H	1			6.9	5.7	18.8	20.0	70.4	−0.
11.4	23.9			K	K	K=1.5H	3			5.3 5.6	5.7	47.8	20.0	99.4	+1.
12.6	7.5			H	β	N	1			6.8	6.3	15.0	20.6	66.6	−0.
12.7	8.3			E	K	K=H	1			7.2	6.4	16.6	20.7	68.2	−0
13.0	12.8			D	K	K=H	2			6.3 6.7	6.5	25.6	20.8	77.2	−0
12.8	15.2		172	H	K	K=H	1			7.4	6.4	30.4	20.7	82.0	+0
12.6	19.5			H	H	N	1			7.5	6.3	39.0	20.6	90.6	+0
12.0	20.9			H	H	N	1			7.3	6.0	41.8	20.3	93.4	+0
13.7	6.7			2	K	K=H	5	H	3.7	B	6.8	13.4	21.1	65.0	−1.
13.9	10.3			H	H	N	1			7.1 7.5	7.0	20.6	21.3	72.2	−0
13.5	16.3			H	H	N	1			7.2	6.8	32.6	21.1	84.2	+0
13.8	16.8			H	K	K=H	1			7.2 7.6	6.9	33.6	27.2	85.2	+0
13.3	18.7		173	H	K	K=H	2			6.3	6.6	37.4	20.9	89.0	+0
15.0	8.1			D	K	K=H	2			6.3 6.6	7.5	16.2	21.8	67.8	−0.
14.6	11.9			A	α	N	1			6.7					
14.8	12.0			H	β	N	1			6.7	7.4	24.0	21.7	75.6	−0.
14.9	14.4			H	K	K=H	1			6.6	7.4	28.8	21.7	80.4	−0

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1889phae.proj.-870E

No. DM. Pos. entered are for 1855.

	A. G. C.	R.A. 1900	Dec. 1900	Magn.	DM. No.	R.A. 1855 h	Dec 1855 °	Mag.
-1.0	26204	19 2.9	-19 7	7.8 ✓	5317	19 0.2	-19 10	7.4
-1.0	DM-18 5219	19 0.5	-18 55	7.8 ✓				
-0.7	26414	19 11.8	-19 8	5.6 ✓	5379	19 9.2	-19 12	5.3
-0.7	26426	19 12.4	-19 3	7.0 ✓	5387	19 9.7	-19 7	8.0
-0.7	26436	19 12.7	-18 52	8 ✓	5298	19 10.0	-18 57	8.0
+0.8	26844	19 30.6	-19 5	6.4 ✓	5321	19 28.0	-19 10	5.8
-1.0	26187	19 2.4	-19 27	5.8 ✓	5312	18 59.7	-19 31	6.0
	DM-19° 5322	19 1.0	-19 38	7.5 ✓				
-1.0	DM-19° 5323	19 1.0	-19 38	8.5 ✓				
-0.7	DM-19 5398	19 11.5	-19 38	8.0 ✓				
-0.7	26505	19 15.8	-19 25	6.5 ✓	-19° 5412	19 13.1	-19 30	6.5
-1.0	DM-19°5413	19 1.1	-20 16	8.0 ✓				
-1.0	26228	19 3.9	-19 58	6.8 ✓	5415	19 1.3	-20 1	6.5
-0.5	26376	19 9.6	-19 58	7.5 ✓	5464	19 6.9	-20 2	7.3
+1.0	27075	19 40.6	-20 0	5.2 ✓	5698	19 37.9	-20 6	5.0
-0.5	26268	19 5.4	-20 31	7.8 ✓	5428	19 2.7	-20 35	7.8
-0.5	26313	19 7.2	-20 36	8 ✓	5448	19 4.6	-20 40	7.9
-0.4	DM-20°5516	19 14.1	-20 54	7.0 ✓				
+0.0	DM-20°5561	19 19.5	-20 48	8.2 ✓				
+0.7	DM-20°5623	19 28.6	-20 41	8.2 ✓				
+0.6	DM-20 5642	19 31.5	-20 20	8.0 ✓				
-1.0	26225	19 3.8	-21 11	3.1 ✓	5275	19 1.2	-21 15	3
-0.7	26405	19 11.3	-21 15	8 ✓	5326	19 8.6	-21 19	8.0
+0.1	DM-21°5408	19 21.8	-21 8	8.0 ✓				
+0.1	DM-21 5419	19 22.8	-21 20	7.8 ✓				
+0.7	26822	19 29.7	-21 0	7.0 ✓	5444	19 27.0	-21 5	6.8
-0.5	26296	19 6.5	-21 50	6.9 ✓	5292	19 3.8	-21 54	7.0
	DM-21°5351	19 12.3	-21 48	8.3 ✓				
-0.7	DM. 22506	5 19 12.3	-22 4	8.4 ✓				
-0.2	DM-21 5386	19 17.5	-21 49	8.2 ✓				

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1889phae.proj..870F

June 8, 1891

Plate 3683 Continued

V.	H.	bl.	No Rem.	Limit	K Line	Int.	add. Lines	K	Rx.	V.	H.	V.	H.
14.2	14.6	H		H	H	1			7.1 7.5	7.1	29.2	21.4	808
15.0	14.9	A		H	H	1			7.4	7.5	29.8	21.8	814
15.4	14.5	K		K	K=H	2			5.7 6.6				
14.3	16.5	A		S	K=0.3 H	3	7		5.3	7.2	33.0	21.5	846
15.0	16.8	A		H	H	1			7.1	7.5	33.6	21.8	852
14.8	17.2	A		B	K=0.5 H	2			6.3	7.4	34.4	21.8	860
14.4	20.9	A		α	H	1			6.8	7.2	41.8	21.5	934
15.0	23.8	A		H	H	1			6.8	7.5	47.6	21.8	992
16.2 15.1	8.2	A		H	H	1			7.5	8.1	16.4	22.4	680
16.9	8.7	A		α	H	1			6.7	8.4	17.4	22.7	690
16.4	11.9	A		ε	K=0.6 H	3	7		5.3	8.2	23.8	22.5	754
16.8	13.7	A		γ	H	2			6.5	8.4	27.4	22.7	790
16.6	14.2	A		H	H	1			6.6 7.2	8.3	28.4	22.6	800
17.8	14.0	H	174	K	K=H	1			6.9	8.9	28.0	23.2	796
17.9	16.9	A		α	H	1			6.8	9.0	33.8	23.3	864
17.2	17.2	H	175	K	K=H	1			6.8	8.6	34.4	22.9	860
17.6	22.9	H	176	K	K=H	1			6.9	8.8	40.8	23.1	974
18.2	6.4	A		K	K=H	2			6.4 6.7	9.1	12.8	23.4	644
18.2	6.8	A		B	K=H	1			6.6	9.1	13.6	23.4	652
18.4	18.1	A		H	H	1			7.4	9.2	36.2	23.5	878
18.4	18.7	A		K	K=H	1			7.9	9.2	37.4	23.5	890
18.6	20.6	A		S	H	3	7		5.7	9.3	41.2	23.6	938
18.6	20.8	A		K	K=H	2			6.2 6.5	9.3	41.6	23.6	932
19.3	8.0	A		H	H	1			7.0	9.6	16.0	23.9	676
19.5	11.1	A		K	K=H	1			7.4	9.8	22.2	24.1	738
19.5	14.2	K		K	K=H	3			5.8 6.3	9.8	28.4	24.1	800
19.8	14.8	A		α	K=0.5 H	1			6.8	9.9	29.6	24.2	812
19.4	18.2	H		H	H	1			6.7 7.4	9.7	36.4	24.0	880
20.9	5.8	A		H	H	1			7.1	10.4	11.6	24.7	632

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* Spectrum of DM-22 5092 superposed on that of these stars and combined light measured.

No. DM. Pos. entered are for 1855.

	A.G.C	R.A. 1900	Dec. 1900	Magn.		DM.	R.A. 1855	Dec. 1855	Mg.
-0.0	26617	19	20.5	-21 26	7.8 ✓	5388	19	17.9	-21 32 7.5
-0.0	-21° 5390	19	18.5	-21 54	8.3 ✓				
	26613	19	20.4	-21 58	5.9 ✓	5105	19	17.7	-22 3 6.0
+0.1	26724	19	25.0	-21 31	6.2 ✓	5410	19	22.3	-21 36 6.5
+0.1	DM-21 5420	19	22.9	-21 56	8.3 ✓				
+0.2	26754	19	26.3	-21 44	7.8 ✓	5425	19	23.6	-21 49 7.3
+0.6	DM-21° 5476	19	31.7	-21 38	8.0 ✓				
+1.	DM-21° 5510	19	37.9	-21 52	7.3 ✓				
-1.0	DM-22° 5011	19	3.9	-22 26	8.6 ✓				
-1.0	26318	19	7.6	-22 44	8 ✓	5014	19	4.9	-22 49 8.2
-0.7	26474	19	14.6	-22 35	5.9 ✓	5063	19	11.9	-22 40 6.4
-0.3	26579	19	18.6	-22 46	8 ✓	5093	19	15.9	-22 32 9.0
						*5094	19	15.9	-22 51 8.2
-0.1	26605	19	19.7	-22 39	7.0 ✓	5100	19	17.0	-22 44 7.7
-0.1	26590	19	19.1	-23 14	7.8 ✓	5854	19	16.9	-23 26 8.9
+0.1	-23° 5875	19	23.0	-23 23	8.2 ✓				
+0.2	26757	19	26.4	-22 57	8 ✓	5877	19	23.7	-23 28 0
+1.2	27027	19	38.6	-23 6	7.5 ✓	5926	19	35.9	-23 12 7.6
-1.2	26199	19	2.7	-23 21	7.1 ✓	5766	19	0.0	-23 24 7.7
-1.2	26217	19	3.5	-23 21	8.5 ✓	5772	19	0.8	-23 25 8.1
+0.4	26795	19	28.3	-23 33	8 ✓	5882	19	25.6	-23 39 8.4
+0.4	26821	19	29.6	-23 32	7 ✓	5888	19	26.9	-23 37 8.0
+0.7	26915	19	33.8	-23 40	6.7 ✓	5905	19	31.1	-23 45 6.6
+0.7	26921	19	34.1	-23 40	6.2 ✓	5908	19	31.4	-23 45 6.6
-1.0	26281	19	6.0	-23 55	8.5 ✓	5783	19	3.3	-23 58 8.2
-0.7	Z.C. 483	19	11.2	-24 6	8.5 ✓				
-0.1	26601	19	19.4	-24 9	5.6 ✓				
-0.0	26629	19	20.9	-24 15	8 ✓				
+0.5	26802	19	28 5	-24 5	6.9 ✓				
-1.2	26158	19	1.1	-24 41	8 ✓				

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1889phae.proj..870F

June 8, 1891.

Plate 3683 Continued

V.	H.	bl.	Rem	Limit	K Line	Int.	add. Lines	K	Br.	V.	H.	V.	H.	
20.8	8.4	A		B	N	1			6.6	10.4	16.8	24.7	68.4	
20.1	9.6	A	177	B	K-H	2			5.9	10.0	19.2	24.3	70.8	
20.6	14.1	A		D	K-0s H	3	F		4.8	10.3	28.2	24.6	79.8	
20.4	14.1	A		B	N	1			6.6	10.2	28.2	24.5	79.8	
20.7	21.9	A		α	N	1			7.2	10.4	43.8	24.7	95.4	
21.1	6.3	A		γ	N	2			5.7	10.6	12.6	24.9	64.2	
21.2	9.9	A		H	N	1			7.0	10.6	19.8	24.9	71.4	
21.1	18.9	A		S	N	3	F		5.4	10.6	37.8	24.9	89.4	
21.4	19.2	A		D	N	4	F		4.6	10.7	38.4	25.0	90.0	
21.5	21.8	A		B	N	2			6.2	10.8	43.6	25.1	95.2	
22.0	6.6	A		α	N	2			6.3	11.0	13.2	25.3	64.8	
22.2	9.7	A		γ	N	3	F		5.2	11.1	19.4	25.4	71.0	
23.3	8.6	A		K	K-H	2			6.9 (6.3)	11.6	17.2	25.9	68.8	
23.8	17.4	A		H	N	1			7.3	11.9	34.8	26.2	86.4	
24.4	14.7	A		H	N	1				12.2	29.4	26.5	81.0	

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1889phae.proj..870F

No. A.G.C.		RA. 1900	Dec. 1900	Magn.
-1.2	26299	19 6.6	-24 40	7.8 v
-0.6	26373	19 9.4	-24 21	6.7 v
-0.2	26592	19 19.2	-24 42	5.4 v
-0.2	26595	19 19.3	-24 36	8 v
+1.0	26982	19 36.6	-24 37	8.2 v
-1.5	26182	19 2.1	-24 49	6.7 v
-1.0	26385	19 9.9	-24 54	7.2 v
+0.7	26827	19 29.9	-24 56	Var v
+0.9	26843	19 30.6	-25 6	4.7 v
+1.2	26977	19 36.3	-25 6	6.8 v
-1.6	26211	19 3.1	-25 17	8.5 v
-1.0	26371	19 9.4	-25 26	5.4 v
-1.2	26309	19 7.0	-26 5	6.3 v
+0.2	26764	19 26.7	-26 15	7.2 v
-0.0	26615	19 20.5	-26 31	8.2 v

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1889phae.proj..870F

R.A 18h 43m Dec. −21.2

June 9, 1891.

Plate 3638 Cl: 2l 5.5 6.0 6.5 7.2 F.M. 6 7.6 8.0 F.6h. 7.9

V. H. 6l.	Rem.	Limit	K Line	Int.	add Lines	K Br.	V.	H.	V.	H.	
4.6	15.6	B	178	B	N	2			2.3	31.2	16.6	46.9	+0.
4.5	16.9	F	179	S	K-H	3	F	1.5	2.2	33.8	16.5	49.5	+0.
4.5	22.3	A		S	N	3			2.2	44.6	16.5	60.3	+0.
5.8	7.1	A		α	K-H	1		6.8	2.9	14.2	17.2	29.9	−0.
5.4	11.1	A		H	N	1		7.5	2.7	22.2	17.0	37.9	−0.
5.6	11.4	A		K	K-H	1		6.8	2.8	22.8	17.1	38.5	−0.
6.0	14.9	A		γ	K=0.4H	2		6.5	3.0	29.8	17.3	45.5	−0.
5.7	21.3	A		H	N	1		7.1	2.8	42.6	17.1	58.3	+0.
5.7	21.5	A		H	N	1		7.0	2.8	43.0	17.1	58.7	+0.
6.2	7.9	A		H	N	1		7.4	3.1	15.8	17.4	31.5	−0.
6.2	8.5	A		β	K-H	2	F	6.5	3.1	17.0	17.4	32.7	−0.
6.9	11.3	A		α	N	1		7.3	3.4	22.6	17.7	38.3	−0.
6.8	12.2	A		γ	N	2		6.6	3.4	24.4	17.7	40.1	−0.
6.9	17.0	A		α	N	1		7.2	3.4	34.0	17.7	49.7	+0.
6.8	19.2	F	180	K	K-α	1		7.2	3.4	38.4	17.7	54.1	+0
6.4	22.5	A		α	N	1		6.9	3.2	45.0	17.5	60.7	+0.
7.6	14.3	A		α	N	1		7.3	3.8	28.6	18.1	44.3	−0
7.3	14.7	A		β	K-H	1		7.2	3.6	29.4	17.9	45.1	−0
7.5	18.7	A		α	N	1		7.2	3.8	37.4	18.1	53.1	+0.
7.4	21.2	A		K	K-H	1		7.4	3.7	42.4	18.0	58.1	+0.
8.5	5.4	A		ε	N	3	F.	5.2	4.2	10.8	18.5	26.5	−0.
8.5	6.2	A2	181	H	N	2		6.6	4.2	12.4	18.5	28.1	−0.
8.8	7.4	A2	182	H	N	1		6.7	4.4	14.8	18.7	30.5	−0.
8.4	12.3	A		α	N	2		6.5	4.2	24.6	18.5	40.3	−0.
8.1	13.3	A2		H	N	1		6.9	4.0	26.6	18.3	42.3	−0.
8.5	13.4	A		α	N	1		6.8	4.2	26.8	18.5	42.5	−0.
8.8	13.7	A		β	K=0.5H	2	F	6.1	4.4	27.4	18.7	43.1	−0
8.9	13.8	A		β	N	1		6.5	4.4	27.6	18.7	43.3	−0.

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DM. Pos. entered are for 1855.

No. A.G.C.		Ra. 1900	Dec. 1900	Magn.	DM No.	Ra. 1855	Dec. 1855	Magn.
+0.0	DM-16°5060	18 44.6	-16 33	7.3 (1855)				
+0.1	25890	18 49.7	-16 30	5.8	5078	18 47.2	-16 34	5.2
	25894	18 49.8	-16 30	9.5	5079	18 47.2	-16 34	9.1
+0.5	26163	18 1.1	-16 23	6	5153	18 58.5	-16 27	6.2
	26164	18 1.1	-16 23	9				
-0.5	25372	18 29.3	-17 4	7.2	5245	18 26.7	-17 5	7.2
-0.7	DM-16 4998	18 35.0	-16 55	7.8				
-0.7	DM-17°5303	18 35.4	-17 4	7.7				
-0.8	DM-17°5347	18 42.9	-17 19	6.8				
+0.6	DM-17°5454	18 56.5	-17 4	8.0				
+0.6	DM-17°5459	18 56.9	-17 5	8.0				
-0.5	25408	18 30.9	-17 17	8	5259	18 28.3	-17 19	7.9
-0.5	25427	18 32.1	-17 19	7.2	5271	18 29.4	-17 21	7.0
-0.7	DM-17°5301	18 35.3	-17 41	8.2				
-0.7	DM-17°5310	18 37.2	-17 41	7.4				
+0.3	DM-17°5381	18 47.5	-17 45	8.4				
+0.7	DM-17°5409	18 52.0	-17 41	7.8				
+0.5	DM-17°5478	18 58.9	-17 27	7.1				
-0.1	DM-18°5093	18 41.6	-18 6	8.2				
	-17°5341	18 42.6	-17 57	9.2				
-0.8	DM-17°5342	18 42.6	-17 58	8.3				
+0.6	DM-18°5156	18 51.0	18 4	8.0				
+0.6	DM 18°5193	18 56.3	-18 1	8.3				
-0.0	25285	18 25.6	-18 28	5.5	4988	18 22.9	-18 30	6.0
-0.1	25331	18 27.3	-18 26	7.2	4994	18 24.7	-18 28	7.1
-0.5	DM-18°5008	18 27.1	-18 40	8.0				
-0.5	DM-18°5057	18 37.4	-18 30	8.0				
-0.7	DM-18°5070	18 39.6	-18 22	8.2				
-0.4	DM-18°5073	18 39.6	-18 34	8.3				
-0.3	25711	18 42.9	-18 42	6.8	5079	18 40.3	-18 45	7.0
-0.3	25717	18 43.0	-18 44	7.2	5080	18 40.3	-18 47	8.5

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1889phae.proj..870F

June 9, 1891.

Plate 3638 Continued.

V.	H.	Cl.	No Rem.	Limit	K Line	Int.	add Lines	K	Br.	V.	H.	V.	H.	
8.3	14.0	A		α	N	1			7.1	4.2	28.0	18.5	43.7	-0
8.2	14.9	A		α	N	1			6.9	4.1	29.8	18.4	45.5	-0
8.9	15.6	D		K	K-H	2			6.5 7.2	4.4	31.2	18.7	46.9	+0
8.8	16.9	A		H	N	1			7.2	4.4	33.8	18.7	49.5	+0
8.8	18.7	D		K	K-H	2			6.0 6.2	4.4	37.4	18.7	53.1	+0
9.3	7.9	A		B	N	1			6.7	4.6	15.8	18.9	31.5	-0
10.0	8.1	A		α	N	1			7.1	5.0	16.2	19.3	31.9	-0
10.0	13.5	H		H	N	1			7.0 7.3	5.0	27.0	19.3	42.7	-0
9.5	14.1	A		α	N	1			6.7	4.8	28.2	19.1	43.9	-0
9.9	14.1	A		S	K-0.2H	3	F		5.5	5.0	28.2	19.3	43.9	-0
9.6	14.4	A		H	N	1			7.3	4.8	28.8	19.1	44.5	-0
9.9	15.6	A		H	K-0.5H	1			6.7	5.0	31.2	19.3	46.9	+0
9.2	15.7	A		α	N	1			6.7	4.6	31.4	18.9	47.1	+0
9.6	16.7	A		K	K-H	1			7.0	4.8	33.4	19.1	49.1	+0
9.0	17.1	K		K	K-H	2			6.3 6.5	4.3	34.2	18.8	49.9	+0
10.0	17.8	D	183	α	N	2		1.0	6.0	5.0	35.6	19.3	51.3	+0
10.0	20.4	H	184	H	N	2			5.8	5.0	40.8	19.3	56.5	+0
9.3	22.3	A			N	3	F		5.6	4.6	44.6	18.9	60.3	+0
9.7	23.0	H		H	N	1			7.0 7.3	4.8	46.0	19.1	61.7	+0
9.2	23.2	H	185	α	K-H	1	F		6.5	4.6	46.4	18.9	62.1	+0
10.7	7.6	A		H	N	1			7.2	5.4	15.2	19.7	30.9	-0
10.5	8.2	A		K	K-H	1			7.3	5.2	16.4	19.7	32.1	-0
6.8 7.5	10.1	10.9	Inc	H	N	1			6.8 7.1	5.0	21.8	19.3	37.5	-0
	10.2	11.5	D	186	α	N	2	F	5.8	5.1	23.0	19.4	38.7	-0
6.5 7.3	10.7	12.4	Inb 50	H	N	1			6.6 7.0	5.4	24.8	19.7	40.5	-0
	11.0	13.6	A	H	N	1			7.5	5.5	27.2	19.8	42.9	-0
	10.9	15.0	E	K	K-H	1			7.5	5.4	30.0	19.7	45.7	+0
	11.6	15.7	A	H	N	1			7.4	5.5	31.4	19.8	47.1	+0

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No. DM. Pos. entirely are for 1855.

A.G.C.	R.A. 1900	Dec. 1900	Magn.	DM No.	R.A. 1855	Dec. 1855	Magn.
-0.1 DM-18°5086	18 40.9	-18 27	8.7 ✓				
-0.0 DM-18 5106	18 42.8	-18 26	8.6 ✓				
+0.0 DM-18°5115	18 44.6	-18 48	7.2 ✓				
+0.1 25899	18 50.0	-18 39	6.9 ✓	5132	18 47.3	-18 42	8.5
+0.6 25964	18 53.6	-18 42	6.8 ✓	5155	18 51.0	-18 46	7.0
-0.5 DM-18°5012	18 28.0	-18 54	8.2 ✓				
-0.5 DM-19°5094	18 28.4	-19 15	8.2 ✓				
-0.3 DM-19°5168	18 39.7	-19 22	7.0 ✓				
-0.3 DM-19°5181	18 41.0	-19 4	8.5 ✓				
-0.3 DM-19°5182	18 41.1	-19 18	7.1 ✓				
-0.1 DM-19 5186	18 41.8	-19 8	8.8 ✓				
+0.0 25835	18 47.1	-19 14	8.2 ✓	5202	18 44.4	-19 17	8.3 ✓
+0.0 DM-18°5119	18 44.8	-18 58	8.7 ✓				
+0.1 DM-19 5226	18 46.8	-19 9	9.0 ✓				
+0.2 DM-18 5134	18 47.7	-18 53	7.3 ✓				
+0.4 25925	18 51.7	-19 17	7.2 ✓	5242	18 49.1	-19 20	7.0
+0.7 26065	18 57.3	-19 15	6.8 ✓	5275	18 54.6	-19 18	7.0
+0.6 26165	19 1.3	-18 54	6.7 ✓	5206	18 58.7	-18 57	6.5
+0.5 26204	19 2.9	-19 7	7.8 ✓	5317	19 0.2	-19 10	7.4
+0.5 DM-18 5219	19 0.5	-18 55	7.8 ✓				
-0.5 DM-19°5080	18 27.3	-19 40	8.5 ✓				
-0.8 DM-19 5099	18 28.7	-19 31	8.3 ✓				
-0.7 25557	18 37.1	-19 23	7.0 ✓	5134	18 34.4	-19 25	6.5
±0.7 25586	18 38.3	-19 25	7.0 ✓	5142	18 35.6	-19 28	7.0
-0.6 25639	18 40.1	-19 43	6.9 ✓	5154	18 37.5	-19 45	6.8
-0.3 DM-19°5170	18 39.9	-19 51	8.8 ✓				
+0.0 DM-19°5198	18 42.9	-19 48	8.4 ✓				
+0.0 DM-19°5201	18 44.4	-19 50	8.7 ✓				

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1889phae.proj..870F

June 9, 1891

Plate 2638

	U.	H.	bl.	Rem.	Limit	K Line	Int:	add Lines	K	Br.	V	H.	V. - H.	
	10.6	15.9	A		H	N	1			7.5	5.3	31.8	19.6	47.5 0 0
6.7 7.4	10.2	18.6	M?		H	N	1			6.7 7.4	5.1	37.2	19.4	56.9
	11.0	19.2	H		H	N	1			7.0 7.4	5.5	38.4	19.8	54.1
	10.2	20.2	A		K	K=H	3			6.0 6.4	5.1	40.6	19.4	56.3
	10.4	22.8	A		E	N	3	F		5.0	5.2	45.6	19.5	61.3
	10.8	23.4	A		α	N	1			7.0	5.4	46.8	19.7	62.5
	11.2	6.9	H		K	K=H	1			7.0 7.5	5.6	13.8	19.9	29.5
	11.7	9.5	A			K=0.5H	3	F		6.1	5.8	19.0	20.1	34.7
	11.9	13.7	A		α	N	1			6.8	6.0	27.4	20.3	43.1
	12.0	15.3	A		H	N	1			6.8	6.0	30.6	20.3	46.3
	11.5	15.3	A		α	K=H	1			6.8	5.8	30.6	20.1	46.3
	11.1	16.0	D		K	K=H	2			6.5 6.9	5.6	32.0	19.9	47.7
	11.5	16.2	A		α	N	1			6.8	5.8	32.4	20.1	48.1
	11.5	16.3	A		H	N	1			6.9	5.8	32.6	20.1	48.3
	11.5	16.4	A		H	N	1			7.0	5.8	32.8	20.1	48.5
	11.6	16.9	A		α	N	1			6.6	5.8	33.8	20.1	49.5
	12.0	20.6	A		β	N	2			6.5	6.0	41.2	20.3	56.9
	12.0	20.9	A		H	N	1			7.0	6.0	41.8	20.3	57.5
	11.9	23.4	A		H	N	1			6.7	6.0	46.8	20.3	52.5
	11.4	23.5	D		K	K=H	2			6.3 6.8	5.7	47.0	20.0	62.7
	12.4	6.5	A		α	N	1			6.8	6.2	13.0	20.5	28.7
	12.3	8.0	A		β	K=0.5H	2	F		6.6	6.2	16.0	20.5	31.7
	12.2	10.7	A		S	N	2	F		6.2	6.4	21.4	20.7	37.1
	12.1	13.3	A		γ	N	2			6.0	6.0	26.6	20.3	42.3
	12.1	14.1	K		K	K=H	3			5.5 6.2	6.0	28.2	20.3	43.9
	12.1	14.7	H	187	K	K=H	2			6.5	6.0	29.4	20.3	45.1
	12.1	14.8	A		β	N	2			6.6	6.0	29.6	20.3	45.3
	12.3	15.1	A		α	N	1			6.7	6.2	30.2	20.5	45.9

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Spectrum of * DM -20° 5301 superposed on this star. 105

φ " " " " -20 5323 " " " " " .

No. DM. Pos. entered are for 1855.

	A.G.C.	RA. 1900	Dec. 1900	Magn.	DM No.	RA. 1855	Dec 1855	Magn.
+0.0	DM-19° 5209	18 45.1	-19° 38'	8.8 ✓				
+0.2	DM-19° 5256	18 50.9	-19 28	7.0 ✓				
+0.1	DM-19° 5262	18 52.0	-19 51	7.3 ✓				
+0.7	26064	18 57.2	-19 23	9 } ✓	5273	18 54.5	-19 27	6.1
	26063	18 57.2	-19 23	6.5 }				
+0.5	26187	19 2.4	-19 27	5.8 ✓	5312	18 59.8	-19 31	6.0
+0.5	DM-19 5322	19 1.0	-19 38	9.5 } ✓				
	DM-19 5323	19 1.0	-19 38	8.5 }				
-1.0	DM-19 5071	19 25.8	-19 53	7.5 ✓				
-0.6	25481	18 34.0	-20 10	7.0 ✓	5223	18 31.3	-20 12	6.5
-0.3	25712	18 42.9	-20 15	8 ✓	5272	18 40.2	-20 18	8.0
+0.0	DM-20° 5308	18 44.1	-20 24	8.5 ✓*				
+0.0	DM-20 5306	18 43.9	-20 9	8.3 ✓				
+0.1	DM-19° 5211	18 45.2	-19 58	7.8 ✓				
+0.1	DM-20° 5321	18 45.7	-20 7	8.3 ✓				
+0.1	DM-20° 5322	18 45.9	-20 6	9.2 ✓ φ				
+0.1	DM-20° 5326	18 46.2	-20 2	9.0 } ✓				
	DM-20 5327	18 46.2	-20 4	9.2 }				
+0.1	DM-20° 5333	18 47.1	-20 11	7.8 ✓				
+0.7	DM-20 5381	18 55.0	-20 20	7.8 ✓				
+0.7	DM-20° 5388	18 55.7	-20 21	8.3 ✓				
+0.6	DM-20° 5413	19 1.1	-20 16	8.0 ✓				
+0.5	26228	19 3.9	-19 58	6.8 ✓	5415	19 1.3	-20 1	6.5
-1.0	DM-20° 5179	18 24.9	-20 28	8.0 ✓				
-0.5	DM-20° 5196	18 28.0	-20 26	7.3 } ✓				
	DM-20° 5197	18 28.1	-20 27	9.0 }				
-0.7	DM-20 5240	18 33.8	-20 26	7.4 ✓				
-0.4	25688	18 42.0	-20 22	7.8 ✓	5268	18 39.3	-20 25	7.0
-0.1	25735	18 43.8	-20 26	5.5 ✓	5277	18 41.1	-20 28	5.3
-0.0	DM-20° 5286	18 42.4	-20 28	7.8 ✓				
-0.0	DM-20 5288	18 42.5	-20 28	8.3 ✓				
+0.0	DM-20 5295	18 43.4	-20 33	8.2 ✓				

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June 11, 1891.

Plate 3638

V.	H	bl.	Rem.	Limit	K Line	Int.	add Lines	K	Br.	V.	H.	V.	H.	
12.1	15.5	F	188	K	K=H	1			7.2	6.0	31.0	20.3	46.7	+0.4
12.1	16.6	A		α	N	1			6.8	6.0	33.2	20.3	48.9	+0.1
12.9	17.7	A		δ	K=0.2H	4	F		4.9	6.4	35.4	20.7	51.1	+0.4
12.4	18.0	B	189	β	N	2			5.9	6.2	36.0	20.5	51.7	+0.6
12.5	20.1	F	190	K	K=H	1			7.3	6.2	40.2	20.5	55.9	+0.7
12.6	24.2	A		χ	N	1			6.6	6.3	48.4	20.6	64.1	+1.0
13.3	7.4	A		γ	K=0.5H	2	F		6.1	6.6	14.8	20.9	30.5	-1.6
13.6	9.1	G		K	K=1.2H	2			1.0 5.7	6.8	18.2	21.1	33.9	-0.3
13.6	9.6	A		H	N	1			7.6	6.8	19.2	21.1	34.9	-0.6
13.3	11.2	H		K	K=H	1			7.0 7.3	6.6	22.4	20.9	38.1	-0.7
13.5	11.8	H		K	K=H	1			7.3 7.3	6.8	23.6	21.1	39.3	-0.7
13.5	12.1	F	191	β	K=H	2	F		5.8	6.8	24.2	21.1	39.9	-0.3
13.7	17.8	L		K	K=H	4			2.5 4.6 5.1	6.8	35.6	21.1	51.3	+0.5
13.7	23.4	A²	192	η	K=H	5	F		B	6.8	46.8	21.1	62.5	+0.3
14.3	8.6	A		S	K=0.5H	3	F		5.5	7.2	17.2	21.5	32.9	-0.3
14.5	8.4	A		K	K=H	1			7.6	7.2	16.8	21.5	32.5	-0.5
14.6	9.9	A		H	N	1			7.0	7.3	19.8	21.5	35.5	-0.6
14.2	16.0	R		K	K=H	2			5.8 6.1	7.1	32.0	21.4	47.7	+0.1
14.1	18.5	F	193	K	K=H	1			7.5	7.0	37.0	21.3	52.7	+0.7
14.7	20.8	F	194	K	K=H	1			6.6	7.4	41.6	21.7	57.3	+0.6
15.0	21.0	G		K	K=H	3			2.5 4.8	7.5	42.0	21.8	57.7	+0.6
14.5	22.1	A		H	N	1			7.6	7.2	44.2	21.5	59.9	+0.5
15.8	7.5	A²		α	N	1			7.2	7.9	15.0	22.2	30.7	-1.0
15.5	9.4	A		β	N	2			7.0	7.8	18.8	22.1	34.5	-0.3
15.9	10.8	A		H	N	1			7.6	8.0	21.6	22.3	37.3	-0.7
15.8	14.7	F	195	S	K=H	2	F		5.8	7.9	29.4	22.2	45.1	-0.6
15.3	15.2	A		S	K=0.3H	3	F		5.9	7.6	30.4	21.9	46.1	+0.0
16.7	7.2	A		α	N	1			7.3	8.4	14.4	22.7	30.1	-1.0

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1889phae.proj..870F

No. DM. Nos. entered are for 1855

A.G.C.		RA. 1900	Dec. 1900	Magn.		DM. No.	RA. 1900	Dec. 1900	Magn.
+0.0	DM-20°5308	18	44.1	-20 24	8.5 v				
+0.1	DM-20°5329	18	46.6	-20 26	8.0 v				
+0.4	25919	18	51.4	-20 47	5.7 v	5339	18	48.7	-20 50 5.5
+0.6	25943	18	52.3	-20 33	7.5 v	-20° 5344	18	49.6	-20 36 7.8
	-20 5376	18	54.1	-20 38	8.8				
+0.7	DM-20°5377	18	54.1	-20 36	8.5 v				
+1.0	26268	19	5.4	-20 31	7.8 v	5428	19	2.7	-20 35 7.8
-1.0	25373	18	29.4	-20 53	6.8 v	5189	18	26.7	-20 57 6.5
						(5084	18	30.3	-21 10 9.4
-0.5	25455	18	32.9	-21 8	6.0 v	5081	18	30.2	-21 10 6.0
-0.6	DM-21°5090	18	31.4	-21 5	8.2 v				
-0.7	DM-21°5118	18	34.9	-21 3	7.5 v				
-0.7	DM-21 5127	18	36.0	-21 6	8.2 v				
-0.5	25615	18	39.3	-21 7	6.7 v	5131	18	36.6	-21 8 6.8 v
+0.3	25927	18	51.8	-21 14	3.5 v	5201	18	49.1	-21 17 4.0 v
+0.5	26225	19	3.8	-21 11	3.1 v	5275	19	1.2	-21 15 3
-0.5	25424	18	31.9	-21 29	6.2 v	5076	18	29.2	-21 31 6.3
-0.5	DM-21°5070	18	28.7	-21 36	8.5 v				
-0.6	DM-21°5096	18	32.0	-21 37	8.5 v				
+0.1	25849	18	48.0	-21 29	6.0 v	5176	18	45.3	-21 32 6.2 v
+0.7	DM-21°5207	18	50.6	-21 25	8.3 v				
+0.6	26096	18	58.4	-21 41	7.5 v	5233	18	55.7	-21 44 7.0 v
+0.6	26102	18	58.7	-21 53	3.8 v	5237	18	56.0	-21 57 4.2 v
+0.5	DM-21°5255	18	58.4	-21 39	8.5 v				
-1.0	DM-22°4790	18	26.6	-22 12	8.0 v				
-0.5	DM-22°4817	18	30.8	-22 5	8.0 v				
-0.7	DM-22°4833	18	33.9	-22 18	8.6 v				
-0.6	25767	18	44.8	-22 16	6.7 v	4881	18	42.1	-22 19 6.9 v
+0.0	25803	18	46.1	-22 2	7.0 v	4992	18	43.4	-22 5 6.8 v
-1.0	DM-22°4783	18	25.9	-22 39	8.5 v				

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1889phae.proj..870F

June 11. 1892

Plate 3638

V	H	bl.	Rem. no.	Limit	K Line	Int.	add'l lines	K	Br.	V.	H.	3	K.	H	
16.3	11.2	A		B	H	1			6.6	8.2	22.4		22.5	38.1	-0.
16.8	11.3	F	196	K	K=H	1			7.2	8.4	22.6		22.7	38.3	-0.
16.2	12.6	K		K	K=H	3			5.7 6.7	8.1	25.2		22.4	40.9	-0.
16.2	14.9	H		H	H	1			7.2	8.1	29.8		22.4	45.5	-0.
16.1	15.4	F	197	K	K=H	1			7.0	8.0	30.8		22.3	46.5	+0.
16.7	16.1	A		α	H	2			6.6	8.4	32.2		22.7	47.9	+0.
16.9	16.1	L		K	K=H	3			5.3 5.8	8.4	32.2		22.7	47.9	+0.
16.8	16.5	K		K	K=H	3			5.7 6.0	8.4	33.0		22.7	48.7	+0.1
16.6	18.1	A		ε	K=0.2H	3	F		5.5	8.3	36.2		22.6	51.9	+0.6
16.9	19.5	I		K	K=H	1			6.5 7.3	8.4	39.0		22.7	54.7	+0.7
16.8	20.7	A		H	H	1			7.4	8.4	41.4		22.7	57.1	-0.7
16.7	22.0	I		K	K=H	1			6.7 7.3	8.4	44.0		22.7	59.7	+0.
17.8	9.2	F	198	K	K=H	2			6.5	8.9	18.4		23.2	34.1	-1.0
17.2	14.3	H		H	H	1			7.2 7.5	8.6	28.6		22.9	44.3	-0.
17.8	16.9	A		H	H	3	F		5.3	8.9	33.8		23.2	49.5	+0.
17.8	17.2	F	199	K	K=H	1			6.9	8.9	34.4		23.2	50.1	+0.
18.0	17.3	A		H	H	1			7.2	9.0	34.6		23.3	50.3	+0.
17.4	19.1	A		α	H	1			7.6	8.7	38.2		23.0	53.9	+0.
17.4	20.7	A			H	2			6.0	8.7	41.4		23.0	57.1	+0.
18.5	9.0	A			H	3	F		5.4	9.2	18.0		23.5	33.7	-0.
18.2	21.7	H		H	H	1			7.1 7.5	9.1	43.4		23.4	59.1	+0.
18.1	22.8	G		K	K=H	1			6.6	9.0	45.6		23.3	61.3	+1.
18.2	23.2	A		α	H	1			6.8	9.1	46.4		23.4	62.1	+1.
19.7	6.6	A		β	H	2			6.2	9.8	13.2		24.1	28.9	-1.2
19.9	6.8	A		α	H	1			6.7	10.0	13.6		24.3	29.3	-1.
19.6	6.9	H		H	H	2			6.4 6.9	9.8	13.8		24.1	29.5	-1.
19.9	7.2	A		β	K=H	2			6.3	10.0	14.4		24.3	30.1	-1.
19.1	10.5	A		S	K=0.3H	3	F		5.7	9.6	21.0		23.9	36.7	-0.

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1889phae.proj..870F

Nos. DM. Nos. entered are for 1855.

	A.G.C.	DM.	Ra. 1900	Dec. 1900	Magn.	DM No.	Ra. 1855	Dec. 1855	Magn
-0.7		DM-22 3827	18 35 34.2	-22 33 73					
-0.7	25571		18 37.7	-22 46	8.2 ✓	3837	18 35.0	-22 48	7.8
-0.5	25642		18 40.3	-22 30	5.6 ✓	4854	18 37.6	-22 32	6.2
-0.0		Dm-22°4887	18 42.7	-22 30	8.5 ✓				
+0.0		Dm-22 4897	18 43.9	-22 28	8.0 ✓				
+0.0		Dm-22 4906	18 45.4	-22 45	8.5 ✓	~~4906~~	~~18 45.4~~	~~-22 45~~	~~8.5~~
+0.0	25853		18 48.1	-22 52	5.0 ✓	4907	18 45.4	-22 55	6.0
+0.1	25876		18 49.1	-22 47	5.1 ✓	4915	18 46.3	-22 51	6.2
+0.6	25944		18 52.4	-22 40	6.6 ✓	4928	18 49.7	-22 43	7.0
+0.7	26022		18 56.6	-22 50	6.8 ✓	4946	18 52.9	-22 54	6.5
-0.7		DM-22°4961	18 55.5	-22 45	8.7 ✓				
+0.5	26154		19 1.0	-22 39	7.5 ✓	4977	18 58.3	-22 43	7.2
-1.0	25456		18 32.9	-23 16	7 ✓	5543	18 30.2	-23 18	7.4
-0.1	25745		18 44.1	-22 57	7.0 ✓	5635	18 41.4	-23 0	7.3
+0.1	25895		18 49.9	-23 18	6.4 ✓	5678	18 47.2	-23 22	6.8
+0.3	25904		18 50.5	-23 16	7.8 ✓	5683	18 47.8	-23 19	8.2
+0.3	25910 25909		18 50.8 18 50.7	-23 26 -23 23	9.5 9 } ✓	5685	18 48.1	-23 29	8.9
+0.7	25990		18 54.6	-23 0	8.8 ✓	5720	18 51.8	-23 4	8.5
+0.6	~~26078~~ 26094		~~18 57.7~~ 18 58.2	~~-22 51~~ -23 3	~~7.2 ✓~~ 7	5745	18 53.5	-23 6	7.0
-0.5	25435		18 32.4	-23 36	6.1 ✓	5539	18 29.7	-23 38	6.1
+0.6	26146		19 0.5	-23 25	7.8 ✓	5754	18 57.8	-23 28	8.1
+1.0	26199		19 2.7	-23 21	7.1 ✓	5766	18 0.0	-23 24	7.7
+1.2	26217		19 3.5	-23 21	8.5 ✓	5772	19 0.8	-23 25	8.1
-1.2	25329		18 27.1	-24 11	7.2 ✓				
-1.2	25340		18 27.7	-24 12	8.5 ✓				
-1.2	25344		18 27.8	-24 6	5.9 ✓				
-1.5	25355		18 28.4	-24 18	7.2 ✓				
-0.7	25526		18 35.7	-23 56	6.6 ✓	5565	18 33.0	-23 57	7.2

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1889phae.proj..870F

June 11, 1892

Plate 3638

V. H.	bl.	Rem.	Limit	K Line	Int.	Gold Lines	K	Br.	V.	H	V.	H	
19.4	11.0	F	200	K	K-H	1			6.8	9.7	22.0	24.0	37.7	-0
20.2	10.5	A		K	K-H	1			6.9	10.1	21.0	24.4	36.7	-0
21.0	16.1	B	201	γ	H	2			6.5	10.5	32.2	24.8	47.9	+0
20.7	17.2	A		H	H	1			7.2 7.6	10.4	34.4	24.7	50.1	+0
20.7	22.0	A		B	H	1			6.9	10.4	44.0	24.7	59.7	+1
21.0	22.5	A		γ	H	2			5.6	10.5	45.0	24.8	60.7	+1
Dentist 5-6? 21.4	5.4	A		δ	H	1			7.0	10.7	10.8	25.0	26.5	-1
21.4	11.9	A		ζ	H	3	F		6.3	10.7	23.8	25.0	39.5	-0
21.6	16.9	F	202	K	K-H	1			6.8	10.8	33.8	25.1	49.5	+0
21.3	17.9	A		S	H	2	F		5.8	10.6	35.8	24.9	51.5	+0
21.4	18.9	I		K	K-H	1			6.5 7.2	10.7	37.8	25.0	53.5	+0
21.2	19.8	L		K	K-H	2			5.8 6.6	10.6	39.6	24.9	55.3	+0
22.6	6.8	A		H	H	1			7.5	11.3	13.6	25.6	29.3	-1
22.1	20.8	A		γ	H	2			6.4	11.0	41.6	25.3	57.3	+0
23.9	16.5	A	203	γ2	H	5			B	12.0	33.0	26.3	48.7	+0

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1889phae.proj..870F

No. A.G.C.	RA 1900	Dec 1900	Magn.	
-0.7	25550	18 36.8	-24 4	7.8 ✓
-0.7	25524	18 35.7	-24 27	8.2 ✓
+0.0	25858	18 48.2	-24 53	8 ✓
+0.3	25906	18 50.6	-24 45	7.2 ✓
+1.2	26158	19 1.1	-24 41	8 ✓
+1.5	26182	19 2.1	-24 49	6.7 ✓
-1.2	25269	18 24.8	-24 57	8 ✓
-0.7	25600	18 38.6	-25 7	6.2 ✓
+0.1	25891	18 49.8	-25 10	8 ✓
+0.6	25941	18 52.2	-25 0	6.7 ✓
+0.7	25986	18 54.2	-25 5	6.6 ✓
+0.7	26040	18 56.3	-24 59	6.1 ✓
-1.6	25837	18 47.5	-25 31	8.5 ✓
+0.9	26099	18 58.6	-25 23	7.5 ✓
+0.1	25874	18 49.1	-26 25	2.4 ✓

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1889phae.proj..870F

R.A. 3h 1m Dec. −26.5°

June 22, 1891

Plate 5610 Sl. Lt. 5.8, 6 3.6 8, 7.4 F.M. 6 8.2 7.9 F bl. 8.0

	V.	H.	bl.	Rem.	Limit	K Line	Int.	Odd Lines	K Br.	V.	H.	V.	H.	
	4.4	18.0	A			N	2			2.2	36.0	21.2	67.2	+ 0
	5.2	8.2	G		K	K=1.5 H	3	F	0.5 5.2	2.6	16.4	21.6	47.6	- 0
	5.7	9.9	A		H	N	1		7.3	2.8	19.8	21.8	51.0	- 0
	6.8	6.1	F	204	K	K=H	1		6.8	3.4	12.2	22.4	43.4	- 1.
	6.7	6.2	F	203	K	K=H	2		6.3	3.4	12.4	22.4	43.6	- 1.
	6.8	13.8	A		α	K=H	1		6.7	3.4	27.6	22.4	58.8	- 0
	6.5	21.4	Imb		K	K=H	3		6.3 6.0	3.2	42.8	22.2	74.0	+ 0.
5.4, 5.7, 7.0	7.4	9.4	I		K	K=H	1		6.8 7.2	3.7	18.8	22.7	50.0	−0.
	8.0	9.5	I		K	K=H	2		6.2 6.8	4.0	19.0	23.0	50.2	- 0.
	7.9	20.9	A		K	K=1.2H	3		1.0 5.4	4.0	41.8	23.0	73.0	+ 0.
	8.3	6.5	F	206	β	K=H	2		6.3	4.2	13.0	23.2	44.2	- 1.
	9.3	8.3	A		α	N	1		7.0	4.6	16.6	23.6	47.8	- 1.
	10.7	11.3	A		ζ	K=0.5H	3	F	5.0	5.4	22.6	24.4	53.8	- 0.
	10.2	11.6	I		K	K=H	2		6.2 6.8	5.1	23.2	24.1	54.4	- 0.
	10.1	13.6	A		ι	K=0.5H	4	F	7.2	5.0	27.2	24.0	58.4	- 0.
	10.4	17.3	G		K	K=H	2		6.4	5.2	34.6	24.2	65.8	+ 0.
	10.0	20.4	Im?		H	N	1		7.2 7.6	5.0	40.8	24.0	72.0	+ 0.
	10.2	22.3	G		K	K=H	2		5.7	5.1	44.6	24.1	75.8	+ 1.
6.4, 7.0	11.1	21.4	Im		H	N	2		6.3 7.4	5.6	42.8	24.6	74.0	+ 0.
	12.2	8.0	I		K	K=H	2		6.3 6.5	6.1	16.0	25.1	47.2	- 1.
	12.9	11.4	I		K	K=H	1		6.8 7.0	6.4	22.8	25.4	54.0	- 0.
	12.7	16.5	K	207	K	K=H	1		6.8	6.4	33.0	25.4	64.2	+ 0.
	13.9	6.4	H		H	N	1		6.9 7.2	7.0	12.8	26.0	44.0	- 1.
	13.6	10.6	I		K	K=H	2		6.3 6.9	6.8	21.2	25.8	52.4	- 0.
	13.4	12.4	H	208	K	K=H	3	H	5.4	6.7	24.8	25.7	56.0	- 0.
	14.3	5.5	K		K	K=H	1		6.6	7.2	11.0	26.2	42.2	- 1.
	14.4	14.8	H		H	N	1		7.0 7.2	7.2	29.6	26.2	60.8	- 0.
	15.0	19.3	& A		ε	K=0.2H	3	H	5.6	7.5	38.6	26.6	69.8	+ 0

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1889phae.proj..870F

DM. Pos. entered are for 1855.

	No. A.G.C.	RA 1900	Dec. 1900	Magn.		DM No.	R.A. h 1855	Dec m 1855	Mag.
+0.6	3459	2	7.7	-20 59	8.9 ✓				
-0.5	3034	2	46.5	-21 25	4.9 ✓	509	2	44.5	-21 36 5.0
-0.6	DM-21°518	2	48.2	-21 47	8.1 ✓				
-1.0	2953	2	41.9	-22 5	7 ✓	477	2	39.8	-22 16 7.3
-1.0	2962	2	42.2	-22 4	6.7 ✓	479	2	40.2	-22 15 6.6
-0.3	DM-22 535	2	56.4	-22 25	7.7 ✓				
+0.5	3607	3	15.1	-22 7	3.4 ✓	584	3	13.1	-22 17 4.0
-0.5	3082	2	48.8	-22 30	6.9 ✓	502	2	46.8	-22 41 7.2
-0.6	3091	2	49.1	-22 47	6.3 ✓	503	2	47.1	-22 58 6.3
+0.7	3588	3	13.9	-22 52	5.3 ✓	559	3	12.0	-23 3 5.8
-1.0	2970	2	42.7	-22 55	6.5 ✓	452	2	40.7	-23 6 7.1
-1.0	3031	2	46.3	-23 27	7 ✓	464	2	44.3	-23 38 7.7
-0.7	3185	2	52.9	-24 16	6.7 ✓				
-0.7	3206	2	53.6	-24 1	6.2 ✓				
-0.3	3284	2	58.0	-24 1	4.1 ✓				
+0.4	3423	3	6.2	-24 7	6.6 ✓				
+0.7	3567	3	12.9	-23 53	6.8 ✓				
+1.0	3641	3	17.0	-23 59	5.7 ✓				
+0.9	3609	3	15.2	-24 29	5.9 ✓				
-1.2	3017	2	45.4	-24 59	6.4 ✓				
-0.7	3182	2	52.8	-25 22	7.0 ✓				
+0.1	3392	3	4.5	-25 16	7.5 ✓				
-1.5	2946	2	41.7	-25 46	7.2 ✓				
-0.7	3140	2	51.1	-25 43	6.9 ✓				
-0.6	3237	2	55.2	-25 41	5.9 ✓				
-1.2	2911	2	39.8	-25 56	7.5 ✓				
-0.0	3325	3	0.4	-26 10	8.2 ✓				
+0.7	3520	3	10.7	-26 28	6.3 ✓				

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1889phae.proj..870F

June 22, 1891

Plate 5610

V	H.	bb.	Rem.	Limit	K Line	Int.	2d Lines	K.	Br.	V.	H.	V.	H.	
14.1	22.6	A		S	N	2	F	5.8		7.0	45.2	26.0	76.4	+1.
15.4	7.3	A		A	N	1		7.5		7.7	14.6	26.7	45.8	-1.6
15.4	9.8	A		α	N	1		6.8		7.7	19.6	26.7	50.8	-1.0
15.4	10.9	A		α	K=0.8 H	2		6.3		7.4	21.8	26.4	53.0	-0.7
15.6	20.6	A		A	N	1		7.0		7.8	41.2	26.8	72.4	+1.0
15.4	21.9	A		K	K=H	1		6.6		7.7	43.8	26.7	75.0	+1.2
16.0	21.9	F	209	α	K=H	2		6.0		8.0	43.8	27.0	75.0	+1.2
16.2	16.8	A		α	K=0.3 H	2		6.5		8.1	33.6	27.1	64.8	+0.2
17.1	18.6	A		β	K=0.2 H	2	F	6.1		8.6	37.2	27.6	68.4	+0.7
18.9	8.3	A		ε	N	3	F	4.8		9.4	16.6	28.4	47.8	-1.5
18.9	9.5	A		A	N	1		7.5		9.4	19.0	28.4	50.2	-1.0
18.2	13.1	F	210	K	K=H	1		6.9		9.1	26.2	28.1	57.4	-0.4
18.9	13.5	G		K	K=1.2 H	3		5.7	0.7	9.4	27.0	28.4	58.2	-0.
18.4	16.2	A		ε	K=0.3 H	3	F	5.4		9.2	32.4	28.2	63.6	+0.
19.2	13.5	A		α	K=H	1		7.0		9.8	27.0	28.8	58.2	-0.
20.6	12.5	K		K	K=H	2		6.5		10.3	25.0	29.3	56.2	-0.
20.6	18.1	G		K	K=H	4	F	4.0	3.0	10.3	36.2	29.3	67.4	+0.
20.3	20.7	A		β	K=H	2	F	5.8		10.2	41.4	29.2	72.6	+1.
22.6	11.7	A		β	N	2	F	6.0		11.3	23.4	30.3	54.6	-1.0
22.3	18.8	D		K	K=H	2		6.8		11.2	37.6	30.2	68.8	+1.
23.4	16.3	A		α	N	1		6.7		11.7	32.6	30.7	63.8	+0.
24.6	9.5	F	211	K	K=H	2		—		12.3	19.0	31.3	50.2	-1.
24.5	19.9	A		γ	N	2	F			12.2	39.8	31.2	71.0	+1.

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No. A.G.C	RA 1900	Dec. 1900	Magn.	
+1.5	3656	3 18.0	-25 56	6.5√
-1.6	2987	2 43.6	-26 31	8√
-1.0	3097	2 49.3	-26 34	8√
-0.7	3161	2 51.8	-26 36	7.2
	53	52.0	-26 30	8√
+1.0	3580	3 13.6	-26 43	7.2√
+1.2	3632	3 16.5	-26 39	7√
+1.2	3633	3 16.5	-26 58	6.6√
+0.2	3401	3 5.0	-27 6	7.5√
+0.7	3488	3 9.1	-27 57	6.8√
-1.5	3022	2 45.6	-28 22	5.6√
-1.0	3070	2 48.2	-28 22	7.5√
-0.4	3258	2 56.5	-28 2	7.5√
-0.3	3273	2 57.3	-28 28	6.0√
+0.1	3380	3 3.6	-28 13	6.2√
-0.3	3272	2 57.2	-28 50	7.5√
-0.5	3229	2 54.9	-29 18	6.3√
+0.6	3462	3 2 7.9	-29 23	3.6√
+1.6	3585	3 13.8	-29 9	5.9√
-1.0	3188	2 53.0	-30 16	6.3√
+1.0	3496	3 9.4	-30 10	6.4√
+0.1	3383	3 3.7	-30 42	7√
-1.7	3061	2 47.7	-31 14	6.4√
+1.3	3555	3 12.0	-31 11	6.4√

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1889phae.proj..870F

R.A. 2h 22m Dec. −26°5

June 24, 1891.

Plate 4619 St. Li: 6.3 7.0 7.5 8.0 Fil. 6 7.5 7.4 Fil. 8.2

V.H.	Cl.	Rem.	Limit	K Line	Int:	Gdd. Lines	K.	Br.	V.	H.	V.	H.	
4.9	8.5		G²	K	K=H	2				2.4	17.0	21.5	69.4	−0.5
4.8	16.0	Fr	212	α	K=H	2				2.4	32.0	21.5	84.4	+0.1
3.7	23.5	A		α	H	2				1.8	47.0	20.9	99.4	+1.0
5.5	19.1	A		K	K=H	1			6.8	2.8	38.2	21.9	90.6	+0.7
6.3	14.3	Fr	213	K	K=H	1	Fr		6.8	3.2	28.6	22.3	81.0	−0.
6.0	24.1	Fr	214	K	K=H	1			6.5	3.0	48.2	22.1	100.4	+1.2
7.9	11.0	Fr	215	K	K=H	1			7.1	4.0	22.0	23.1	74.4	−0.7
7.9	16.4	A		γ	K=0.5H	2	Fr		5.9	4.0	32.8	23.1	85.2	+0.
7.7	16.6	L		K	K=H	2			6.5 / 7.2	3.8	33.2	22.9	85.6	+0.
7.1	23.4	Fr	216	K	K=H	1			6.8	3.6	46.8	22.7	99.2	+1.0
7.7	24.4	Fr	217	K	K=H	1			6.5	3.8	48.8	22.9	101.2	+1.2
8.9	6.8	A		K	K=H	1			7.1 / 7.6	4.4	13.6	23.5	66.0	−1.2
7.3 7.5	8.8	10.2	M²	H	H	1			7.3 / 7.3	4.4	20.4	23.5	72.8	−0.7
8.8	17.3	Fr	218	β	K=H	1			6.8	4.4	34.6	23.5	87.0	+0.3
8.6	20.0	G		K	K=H	1			6.5	4.3	40.0	23.4	92.4	+0.7
9.8	9.6	Fr	219	K	K=H	2			6.4	4.9	19.2	24.0	71.6	−0.9
10.0	11.0	Fr	220	K	K=H	2			6.4	5.0	22.0	24.1	72.4	−0.7
10.9	16.6	E		K	K=H	1	Fr		7.2	5.4	21.2	24.5	73.6	−0.7
10.2	13.1	G		K	K 1.2 H	3	Fr	2.0	5.2	5.1	26.2	24.2	78.6	−0.
10.3	14.6	Fr	221	K	K=H	1			6.9	5.2	29.2	24.3	81.6	−0.
10.8	16.2	K		K	K=H	1			6.8 / 7.2	5.4	32.4	24.5	84.8	+0.
10.5	21.0	Fr	222	K	K=H	1			7.4	5.2	42.0	24.3	94.4	+0.9
10.9	21.2	Fr	223	α	K=H	1			6.7	5.4	42.4	24.5	94.8	+0.9
11.5	7.2	A		γ	K=H	2	Fr		5.8	5.8	14.4	24.9	66.8	−1.5
11.3	20.6	A		H	H	1			7.1	5.6	41.2	24.7	93.6	+0.
12.3	9.1	Fr	224	K	K=H	1			7.0	6.2	18.2	25.3	70.6	−1.
13.0	13.0	H		K	K=H	1			7.3 / 7.6	6.5	26.0	25.6	78.4	−0.
12.9	16.6	A		γ	K=H	3	Fr		5.3	6.4	33.2	25.5	85.6	+0.2

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No. A.G.C.		Ra. 1900 h	Dec. 1900 °	Magn.		DM No	Ra 1855 h	Dec. 1855 °	Magn.
−0.5	2234	2	8.4	−21 28	5.9 ✓	396	2	6.3	−21 41 6.2
+0.1	2583	2	24.7	−21 29	6.9 ✓	439	2	22.6	−21 41 7.0
+1.0	2929	2	40.7	−20 50	7.0 ✓	493	2	38.7	−21 1 7.0
+0.7	2739	2	31.4	−21 50	7.2 ✓	445	2	29.4	−22 2 7.0
	2741	2	31.4	−21 50	9				
−0.7	2503	2	20.8	−22 15	7.2 ✓	409	2	18.7	−22 28 7.8
+1.2	2953	2	41.9	−22 5	7 ✓	477	2	39.8	−22 16 7.3
−0.7	2346	2	13.7	−23 3	8.2 ✓	360	2	11.6	−23 16 8.2
+0.1	2398	2	25.3	−23 7	6.7 ✓	392	2	23.3	−23 20 6.7
+0.1	2618	2	25.9	−22 59	6.3 ✓	395	2	23.9	−23 11 6.3
+1.0	2926	2	40.5	−22 36	7 ✓	474	2	38.5	−22 47 7.2
+1.2	2970	2	42.7	−22 33	6.5 ✓	273	2	40.8	−23 8 8.8
−1.2	2150	2	4.5	−23 28	7.2 ✓	330	2	2.4	−23 41 7.8
−0.7	2301	2	11.6	−23 30	8.5 ✓	354	2	9.6	−23 42 8.6
+0.3	2645	2	27.4	−23 31	7.5 ✓	399	2	25.4	−23 44 7.8
+0.7	2779	2	33.2	−23 25	6.8 ✓	420	2	31.2	−23 37 7.4
−0.9	2269	2	10.4	−24 0	7 ✓				
−0.7	2341	2	13.2	−24 11	8.5 ✓				
−0.7	2327	2	12.5	−24 32	8.8 ✓				
−0.4	2433	2	17.9	−24 16	5.4 ✓				
−0.0	2579	2	21.3	−24 17	7.2 ✓				
+0.1	2592	2	25.0	−24 33	7.5 ✓				
+0.9	2822	2	35.4	−24 22	8.5 ✓				
+0.9	2837	2	36.0	−24 34	8 ✓				
−1.5	2164	2	5.0	−24 49	6.4 ✓				
+0.6	2809	2	34.6	−24 46	8 ✓				
−1.2	2248	2	9.0	−25 16	8 ✓				
−0.4	2429	2	17.6	−25 39	8.5 ✓				
+0.2	2608	2	25.7	−25 38	6.5 ✓				

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1889phae.proj..870F

June 24, 1891

Plate 4619

U.	H.	Cl.	Rem.	Limit	K Line	Int.	Gold Lines	K	Br.	V.	H.	V.	H.	
12.6	19.5	F	225	K	K=H	1			6.9	6.3	39.0	25.4	91.4	+0
13.3	20.4	A		H	H	1			7.0	6.6	40.8	25.7	93.2	+1
14.0	20.5	I		K	K=H	1			6.7 7.0	7.0	41.0	26.1	93.4	+1
13.7	20.7	I		K	K=H	1			6.9 7.3	6.8	41.4	25.9	93.8	+1
13.6	22.9	G		K	K=H	2			6.3	6.8	45.8	25.9	98.2	+1
14.4	11.6	G		K	K=1.2H	2	F		5.7	7.2	23.2	26.3	75.6	-0
14.2	14.0	K		K	K=H	2			6.3 6.7	7.1	28.0	26.2	80.4	-0
15.3	15.7	A		H	H	1			6.9	7.6	31.4	26.7	83.8	+0
16.0	19.0	A		H	H	1			7.2	8.0	38.0	27.1	90.7	+0
15.6	22.5	A		α	H	1			7.4	7.8	45.0	26.9	97.4	+1
16.4	13.6	I		K	K=H	2			6.2 6.6	8.2	27.2	27.3	79.6	-0
16.8	14.7	A		H	H	1			7.0	8.4	29.4	27.5	81.8	-0
16.4	17.6	A		β	K=0.8H	2	F		6.2	8.2	35.2	27.3	87.6	+0
17.9	6.9	A		α	K=H	2	F		6.4	9.0	13.8	28.1	66.2	-1
17.5	17.2	A		β	H	2			6.5	8.8	34.4	27.9	86.8	+0
18.0	17.5	2	226	2	H	1			7.3	9.0	35.0	28.1	87.4	+0
18.0	20.5	G		K	K=H	1			6.7 7.3	9.0	41.0	28.1	93.4	+1
18.5	9.7	F	227	K	K=H	1			6.7	9.2	19.4	28.3	71.8	-1
18.2	13.1	G		K	K=H	1			6.6	9.1	26.2	28.2	78.6	-0
18.8	18.2	A		δ	H	1/2	F		4.5	9.4	36.4	28.5	88.8	+0
19.0	19.2	A		H	H	1			7.4	9.5	18.4	28.6	70.8	-1
18.4	21.9	A		H	H	1			7.2	9.2	43.8	28.3	96.2	+1
18.8	22.2	G		K	K=H	2			6.5	9.4	44.4	28.5	96.8	+1
19.6	5.8	F	228	K	K=H	1			7.2	9.8	11.6	28.9	64.0	-1
19.2	8.1	I		K	K=H	1			6.6 6.8	9.6	16.2	28.7	68.6	-1
19.3	11.3	A		H	H	1			7.2	9.6	22.6	28.7	75.0	-0
19.8	14.3	F	229	K	K=H	1			6.7	9.9	28.6	29.0	81.0	-
19.8	16.8	A		H	H	1			7.5	9.9	33.6	29.0	86.0	+0

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1889phae.proj..870F

No. Z.C. Pos. entered is for 1875.

	A.G.C.	R.A. 1900 h	Dec. 1900	Magn.	
+0.7	2735	2	32.3	-25° 27′	7.8 V
+1.0	2801	2	34.4	-25 47	8.8 V
+1.0	2805	2	34.5	-26 10	7.2 V
+1.0	2818	2	35.0	-26 1	7.2 V
+1.5	2910	2	39.8	-25 56	9 } V
	2911	2	39.8	-25 56	7.5 }
-0.7	2362	2	14.5	-26 25	6.5 V
-0.1	2483	2	19.8	-26 18	6.6 V
+0.0	2563	2	23.8	-26 53	7.2 V
+0.7	2738	2	31.3	-27 8	8.5 V
+1.5	2889	2	39.0	-26 57	8.8 V
-0.6	2461	2	18.9	-27 27	6.8 V
-0.0	2517	2	21.2	-27 36	8 V
+0.5	2658	2	28.1	-27 26	7.5 V
-1.6	2138	2	3.6	-28 3	7.0 V
+0.4	2638	2	27.1	-27 57	8.2 V
+0.5	2654	2	27.8	-28 14	8 V
+1.0	2812	2	34.7	-28 15	7.2 V
-1.2	2259	2	9.8	-28 22	8.2 V
-0.4	2426	2	17.6	-28 19	7.2 V
+0.6	2692	2	29.5	-28 40	8 } V
	2693	2	29.5	-28 40	5 }
-1.5	2751	2	31.8	-28 39	8 V
+1.5 Z.C.	999	2	36.5	-28 29	8.5 V
+1.5	2880	2	38.5	-28 35	7.5 V
-1.2	2078	2	0.7	-28 52	7.5 V
-1.6	2191	2	6.2	-28 42	7.5 V
-0.9	2345	2	13.5	-28 50	8.2 V
-0.1	2488	2	20.3	-29 6	8.5 V
+0.2	2620	2	26.1	-29 5	8.5 V

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1889phae.proj..870F

June 24, 1891

Plate 4619

V. H.	Cl.	Rem.	Limit	K Line	Int.	add'l Lines	K	Br.	V.	H.	V.	H.	
19.9	18.8	A		γ	N	1		6.7	10.0	37.6	29.1	90.0	+
20.6	6.7	H		K	K=H	1		7.2 7.6	10.3	13.4	29.4	65.8	-
20.7	7.8	H		K	K=H	1		7.2 7.6	10.3	15.6	29.4	68.0	-
20.6	13.6	E		K	K=H	1		7.4	10.3	27.2	29.4	79.6	-
20.4	19.7	F	230	K	K=H	1		6.7	10.2	39.4	29.3	91.8	+
21.5	5.5	A		S	N	3	F	5.2	10.8	11.0	29.9	63.4	-
22.2	18.1 (3)	F	231	K	K=H	1		7.1	10.6	24.2	29.7	76.6	-
21.8	13.6	A		H	N	1		7.1	10.9	27.2	30.0	79.6	-
22.2	13.7	F	232	α	K=H	1		6.6	11.1	27.4	30.2	79.8	-
22.3	14.4	F	233	K	K=H	1		7.0	11.2	28.8	30.3	81.2	-
22.3	18.2	F	234	α	K=H	1		6.6	11.2	36.4	30.3	88.8	+
22.5	19.2	G		K	K=1.2H	2		5.9	11.2	38.4	30.3	90.8	+
22.8	20.2	F	235	β	K=H	2	F	5.7	11.4	40.4	30.5	92.8	+
23.2	16.7	F	236	K	K=H	1		7.3	11.6	33.4	30.7	85.8	+
24.1	9.3	A		S	N	3			12.0	18.6	31.1	71.0	-
23.8	20.9	G		K	K=H	1		6.8	11.9	41.8	31.0	94.2	+

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1889phae.proj.:870F

	No. A.G.C.	R.A. 1900	Dec. 1900	Magn.	
+0.9	2727	2 30.8	-29 8	8	✓
-2.0	2123	2 2.9	-29 22	8.5	✓
-1.8	2171	2 5.2	-29 29	8	✓
-0.3	2458	2 18.8	-29 30	8.5	✓
+1.0	2771	2 32.7	-29 25	7.2	✓
-2.0	2065	2 0.0	-29 47	4.9	✓
-0.9	2425	2 17.6	-29 48	8.5	✓
	2427	2 17.6	-29 48	10	
-0.3	2450	2 18.5	-30 22	8	✓
-0.3	2460	2 18.9	-30 19	7.2	✓
	2490	2 20.4	-30 19	8.8	
-0.2	2491	2 20.4	-30 19	9	✓
+0.9	2694	2 29.5	-30 22	8	✓
+1.0	2752	2 31.9	-30 28	5.7	✓
+1.5	2797	2 34.0	-30 37	5.7	✓
	2616	2 26.0	-30 47	9.5	
+0.2	2618	2 26.0	-30 47	8.2	✓
-1.7	2237	2 8.5	-31 12	5.4	✓
+1.2	2834	2 35.8	-31 4	6.6	✓

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1889phae.proj..870F

July 2, 1891.

Plate 4530 St. Li. 5.8, 6.1, 6.5 6.8 F.M 6.8.2 7.8 F.Gh. 8.0

V.	H.	bl.	No. Rem.	Limit	K Line	Int	Added Lines	K	Bv.	V.	H.	V.	H.	
4.5	13.0	B	237	ε	N	2			6.2	2.2	26.0	21.5	55.2	−0.
5.2	10.3	A		H	N	1			7.6	2.6	20.6	21.9	49.8	−0.
5.4	11.2	A		B	N	2			6.5	2.7	22.4	22.0	51.6	−0.
5.7	11.9	B	238	B	N	2			6.5	2.8	23.8	22.1	53.0	−0
5.5	13.4	B	239	B	N	2			6.3	2.8	26.8	22.1	56.0	−0.
5.0	14.2	A		H	N	1			7.6 6.8	2.5	28.4	21.8	57.6	−0
5.3	15.3	K		K	K=H	1			6.8 7.3	2.6	30.6	21.9	59.8	+0
A ? 5.0	18.4	A		B	N	1			6.6	2.5	36.8	21.8	66.0	+0
A ? 5.3	22.1	A		H	N	1			7.1	2.6	44.2	21.9	73.4	+0
6.5	19.4	L		K	K=H	1			7.0 7.6	3.2	38.8	22.5	68.0	+0
7.1	19.5	B	240	γ	N	2			5.8	3.6	39.0	22.9	68.2	+0
6.9	22.8	A		B	N	2	F		6.4	3.4	45.6	22.7	74.8	+0
7.0	24.4	A		B	N	2			6.3	3.5	48.8	22.8	78.0	+1.
7.5	10.0	A		H	N	1			7.3	3.8	20.0	23.1	49.2	−0
7.1	11.3	B	241	η	N	3	F		5.3	3.6	22.6	22.9	57.8	−0
8.0	16.1	A		γ	N	1			7.4	4.0	32.2	23.3	61.4	+0
7.7	20.8	M?	N			2			2	3.8	41.6	23.1	70.8	+0
Spectra superposed & combined light measured 7.8	20.8	A		B	K=0.6 H N	2			5.5	3.9	41.6	23.2	70.8	+0
6.7; 6.6	8.5	6.6	Ma?	H	N	1			6.8 7.4	4.2	13.2	23.5	42.4	−1.
	9.0	9.5	A	α	N	1			7.0	4.5	19.0	23.8	48.2	−1.
	8.2	12.3	A	H	N	1			7.6	4.1	24.6	23.4	53.8	−0
	9.0	12.7	A	B	N	2			6.5	4.5	25.4	23.8	54.6	−0
	8.1	14.1	A	B	N	1			6.9	4.0	28.2	23.3	57.4	−0
	8.7	14.7	B	242	L	N	3	F	1.2 B	4.4	29.4	23.7	58.6	−0
A ?	8.7	16.6	A		S	N	2			5.5	4.4	33.2	23.7	62.4 +5
	8.6	17.2	ε		K	K=H	1			7.6	4.3	34.4	23.6	63.6 +0
	8.1	20.0	A		α	N	1			6.8	4.0	40.0	23.3	69.2 +0
	8.5	20.5	A		γ	N	2	F		6.0	4.2	41.0	23.5	70.2 +0

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Spectrum of DM-21° 1711 superposed on this star and combined light measured.

DM. Pos entered are for 1855.

A.G.C.		Ra. 1900	Dec. 1900	Magn.	DM No.	Ra. 1855	Dec. 1855	Magn.
-0.4	8768	6 55.4	-21 28	6.7	-21° 1689	6 53.5	-21 24	6.7
-0.7	DM-21°1640	6 47.7	-21 42	8.0				
-0.7	DM-21°1655	6 49.4	-21 51	7.2				
-0.7	8707	6 53.0	-22 4	7.6	-22° 1616	6 51.1	-22 1	7.1
-0.4	8787	6 56.1	-21 59	7.2	1695	6 54.2	-21 55	6.7
-0.2	DM-21°1710	6 56.2	-21 32	8.6 *				
+0.0	8918	7 0.6	-21 53	6.7	1732	6 58.6	-21 49	6.3
+0.2	DM-21°1791	7 5.2	-21 34	7.1				
+0.5	DM-21°1871	7 13.1	-21 47	7.3				
+0.7	9149	7 9.2	-22 30	6.8	1756	7 7.2	-22 25	6.0
+0.7	~~9163~~ 9165	~~7 9.6~~ 7 9.6	~~-22 44~~ -22 44	~~9.7~~ 7.2	-22° ~~1760~~ 1761	~~7 7.7~~ 7 7.7	~~-22 40~~ -22 40	~~9.2~~ 6.8
+0.5	9366	7 16.7	-22 40	7.0	1823	7 14.7	-22 35	6.8
+1.0	9472	7 20.1	-22 43	6.7	1855	7 18.1	-22 38	6.7
-0.7	8584	6 48.5	-22 56	8	1574	6 46.7	-22 53	8.2
-0.7	8671	6 51.6	-22 49	5.9	1602	6 49.7	-22 46	6.0
+0.1	8967	7 2.1	-23 16	8.5	1920	7 0.3	-23 13	7.4
+0.6	9247	7 12.4	-23 9	5.2	1995	7 10.5	-23 3	5.0
+0.6	9250	7 12.5	-23 9	7	1998	7 10.6	-23 3	6.7
-1.2	8365	6 41.2 ~~41.3~~	-23 22 ~~-23 29~~	6.6 ~~8~~	1657	6 39.3	23 19	7.0
-1.0	8556	6 47.5	-23 41	7.8	1717	6 45.6	-23 38	8.4
-0.5	DM-23°1804	6 51.3	-23 ~~18~~ 16	8.6 5				
-0.5	8746	6 54.4	-23 45	7.5	1824	6 52.6	-23 41	7.4
-0.2	8831	6 57.4	-23 21	7.5	1863	6 55.6	-23 18	7.7
-0.0	8873	6 58.8	-23 41	3.4	1881	6 57.0	-23 37	3.8
+0.1	8991	7 3.2	-23 41	6.3	1924	7 1.3	-23 38	6.5
+0.1	9027	7 4.5	-23 37	8.5	1932	7 2.7	-23 34	8.3
+0.6	9172	7 9.8	-23 30	7.8				
+0.6	9226	7 11.5	-23 33	6.8	1991	7 9.7	-23 30	6.6

Is it O.K?

Is Star on plate 10.5 ft. or 9.7?

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1889phae.proj..870F

July 2, 1891.

Plate 4530 (Continued)

	U.	H.	Cl.	Rem.	Limit	K Line	Int.	add Lines	K.	Br.	U.	H.	V.	H.	
A?	8.8	28.8	A		α	N	1			7.0	4.4	43.6	23.7	72.8	+0
	9.7	8.6	A		β	N	1			6.6	4.8	17.2	24.1	46.4	-1
	9.5	8.7	A		γ	N	2	F		6.0	4.8	17.4	24.1	46.6	-1
	9.7	10.6	A		H	N	1			7.0	4.8	21.2	24.1	50.4	-0
	9.6	10.7	L		K	K-H	3			5.3 6.0	4.8	21.4	24.1	50.6	-0
	9.1	10.7	O	243	V				Bright-	6.8	4.6	21.4	23.9	50.6	-0
	9.3	17.1	A		H	N	1			7.3	4.6	34.2	23.9	63.4	+0
	9.2	17.3	A		β	N	2			6.0	4.6	34.6	23.9	63.8	+0
A?	9.8	21.1	A		H	N	1			7.1	4.9	42.2	24.2	71.4	+0
	10.0	22.4	A		H	N	1			7.5	5.0	44.8	24.3	74.0	+1
	10.6	10.4	A		β	K-0.3H	2	F		6.0	5.3	20.8	24.6	50.0	-0
	10.3	10.6	A		S	K-0.2H	2	F		5.7	5.2	21.2	24.5	50.4	-0
	10.4	12.3	A		γ	K. H	2	F		5.5	5.2	24.6	24.5	53.8	-1
	10.2	13.8	A		α	K-H	1			7.2	5.1	27.6	24.4	56.8	-0
A?	10.2	14.7	A		β	N	1			6.6	5.1	29.4	24.4	58.6	-0
	10.5	16.1	F	244	K	K-H	1			7.4	5.2	32.2	24.5	61.4	+0
	11.0	16.4	I		K	K-H	1			6.7 7.3	5.5	32.8	24.8	62.0	+0
	10.1	21.8	A	245	β	N	3			5.1	5.0	43.6	24.3	72.8	+
Recorded above	~~10.2~~	~~22.4~~	~~A~~		~~H~~	~~N~~	1			7.3	5.1	44.8	24.4	74.0	+1
	11.3	7.8	A		H	N	1			7.3	5.6	15.6	24.9	44.8	-1
	11.9	12.8	B	246	ε	N	3	F		5.2	6.0	25.6	25.3	54.8	-0
	11.5	13.9	B	247	ζ	N	3	F		5.3	5.8	27.8	25.1	57.0	-0
	11.3	15.0	B	248	β	N	2			6.3	5.6	30.0	24.9	59.2	+0
	11.5	17.7	B	249	ε	N	3	F		5.1	5.8	35.4	25.1	64.6	+0
	11.7	19.9	A		β	N	1			6.7	5.8	39.8	25.1	69.0	+0
	11.4	21.0	A		α	K-H	1			6.6	5.7	42.0	25.0	71.2	+1
	10.9	21.8	B	250	ε	N	4			4.5	5.4	43.6	24.7	72.8	+1
A?	11.0	22.0	A		β	N	2	F		6.3	5.5	44.0	24.8	73.2	+1

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	A.G.C.	Ra. 1900	Dec. 1900	Magn.		DM. No.	Ra. 1855	Dec. 1855	Magn.
+0.8	9249	7 12.4	-23 39	8 ✓		1997	7 10.5	-23 35	7.8
-1.0	8496	6 45.5	-24 2	8.5	} Should remark to write up?				
-1.0	8495	6 45.6	-24 22	7.8 ✓		1701	6 43.6	-23 59	8.5
-1.0	8500	6 45.5	-23 58	6.6 ✓		1703	6 43.7	-23 55	6.7
-0.7	8619	6 49.6	-24 7	8 ✓					
-0.7	8629	6 49.9	-24 4	3.9 ✓					
-0.7	8631	6 50.0	-23 48	7.2 ✓		1761	6 48.2	-23 45	8.2
+0.2	9018	7 4.2	-23 55	8 ✓		1930	7 2.4	-23 51	8.0
+0.2	9031	7 4.6	-23 53	7.0 ✓		1934	7 2.8	-23 49	8.0
+0.9	9263	7 13.0	-24 11	8 ✓					
+1.0					J.C.				
-0.7	8607	6 49.2	-24 34	7.2 ✓					
-0.7	8624	6 49.8	-24 25	7 ✓					
-1.0	8724	6 53.4	-24 30	5.9 ✓					
-0.3					J.C.				
-0.0	8872	6 58.7	-24 26	8.2 ✓					
+0.1	8963	7 2.0	-24 32	8 ✓					
+0.1	8979	7 2.7	-24 48	6.7 ✓					
+1.0	9311	7 14.5	-24 23	5.6 ✓					
+1.0									
-1.2	8435	6 43.5	-24 30	8.2 ✓					
-0.5	8747	6 54.5	-24 17	6.0 ✓					
-0.2	8815	6 57.0	-24 4	6.0 ✓					
+0.0					J.C.				
+0.5	9057	7 5.6	-24 4	6.3 ✓					
+0.9	9191	7 10.4	-25 7	8 ✓					
+1.0	9258	7 12.7	-24 59	8 ✓					
+1.0	~~9314~~ 9313	~~7 14.5~~ 7 14.5	~~-24 47~~ -24 47	~~9.2~~ 4.6 ✓					
+1.2	9319	7 14.6	-24 46	8.5 ✓					

magn. 7½

✓ J.C. 6h 30.67 6 58 34.18 -24 54 17.1

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1889phae.proj..870F

July 2, 1891.

Plate 453d (Continued.)

	V.	H.	Cl.	Rem.	Limit	K Line	Int.	odd Lines	K	Br.	V.	H.	V.	H.	
H?	12.5	6.2	A		K	K=H	1			6.7 6.8	6.2	12.4	25.5	41.6	-1.
	12.8	6.8	A		H	n	1			7.4	6.4	13.6	25.7	42.8	-1.
	12.8	7.8	A		K	K=H	1			7.3	6.4	15.6	25.7	44.8	-1.
A?	12.8	9.2	A		S	n	2	F		5.6	6.4	18.4	25.7	47.6	-1.
	12.3	11.6	F	251	K	K=H	1			7.1	6.2	23.2	25.5	52.4	-0
	12.4	13.8	A		α	n	1			6.6	6.2	27.6	25.5	56.8	-0.
H?	13.0	14.0	A		K	K=H	1			6.8 7.1	6.5	28.0	25.8	57.2	-0
	12.4	15.0	A		K	K=H	1			7.3	6.2	30.0	25.5	59.2	+0
	12.4	16.7	A		H	n	1			7.4	6.2	33.4	25.5	62.6	+0
	12.3	17.3	A		α	K=H	1			7.0	6.2	34.6	25.5	63.8	+0
	13.0	18.3	A		H	n	1			7.5	6.5	3 36.6	25.8	6 45.8	+1
	12.9	18.8	B	252	S	n	2	F		5.4	6.4	37.6	25.7	66.8	+0
	13.0	20.3	A		H	n	1			7.5	6.5	40.6	25.8	69.8	+1
	12.2	22.0	A		H	n	1			7.0	6.1	44.0	25.4	73.2	+1
?	12.9	22.9	A?		K	K=H	1			6.8 7.5	6.4	45.8	25.7	75.0	+1
	13.3	13.8	A		H	n	1			7.0	6.6	27.6	25.9	56.8	-0
	13.7	17.1	G		K	K=1.3H	5	F	3.0	B	6.8	34.2	26.1	63.4	+0
	13.6	19.7	B	253	n	n	4			4.2	6.8	39.4	26.1	68.6	+0
A?	14.6	20.6	A		B	n	1			7.0	7.3	41.2	26.6	70.4	+1.
	14.5	21.4	A		S	n	2	F		6.0	7.2	42.8	26.5	72.0	+1.
	14.1	21.8	G		K	K=H	1			5.9	7.0	43.6	26.3	72.8	+1.
	14.4	22.6	A		α	K=H	1			6.4	7.2	45.2	26.5	74.4	+1.
	14.9	22.8	B	254	S	n	3			5.6	7.4	45.6	26.7	74.8	+1.
	14.4	8.1	A		H	n	1			7.5	7.2	16.2	26.5	45.4	-1.
A?	14.3	9.8	A		α	n	1			6.9	7.2	19.6	26.5	48.8	-1.
A?	14.3	9.9	A		H	n	1			6.8	7.2	19.8	26.5	49.0	-1.
6.9 7.1	15.0	10.4	M		H	n	1			6.9 7.4	7.5	20.8	26.8	50.0	-1.
	14.3	13.7	A		K	K=H	1			7.3	7.2	27.4	26.5	56.6	-0.

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1889phae.proj...870F

	No. A.G.C.	R.A. 1900 h	Dec. 1900 ° ′	Magn.	
-1.7	8327	6 39.8	-25 26	7.1	✓
-1.7	8360	6 41.2	-25 33	8.5	✓
-1.5					
-1.2	8522	6 46.5	-25 40	6.6	✓
-0.7	8678	6 51.8	-25 23	7.5	✓
-0.3	~~8830~~	~~6 57.4~~	~~-25~~	~~8.8~~	
-0.2	8818	6 57.1	-25 48	7.5	✓
+0.0	8895	6 59.7	-25 30	7.8	✓
+0.1	8996	7 3.3	-25 27	8.5	✓
+0.3	9033	7 4.6	-25 27	8.5	✓
+1.3	9098	7 7.1	-25 44	8	
+0.7	9123	7 8.1	-25 46	6.5	✓
+1.0					
+1.2	9332	7 15.0	-25 23	8	✓
+1.5	9378	7 16.9	-25 43	6.7	✓
-0.3	8807	6 56.7	-25 57	8.2	✓
+0.3	9021	7 4.3	-26 14	2.1	✓
+0.9	9181	7 10.2	-26 10	5.4	✓
+1.0	9239	7 12.0	-26 38	8	✓
+1.0	9287	7 13.7	-26 37	7.0	✓
+1.0	9323	7 14.8	-26 25	6.0	✓
+1.5	9364	7 16.5	-26 31	7.5	✓
+1.5	9374	7 16.8	-26 47	6.7	✓
-1.5	8449	6 43.9	-26 26	8.8	✓
-1.0	8567	6 47.8	-26 28	~~8~~ 7.8	✓
-1.0	8567	6 47.8	-26 28	8	✓
-1.0	8597	6 49.0	-26 50	7.0	✓
-0.3	8797	6 56.3	-26 24	8.2	✓

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1889phae.proj..870F

July 2, 1891.

Plate 45-30 (Continued)

V.	H.	Cl.	Rem.	Limit	K Line	Int.	add. Lines	K.	Br. V.	H.	V.	H.	
14.1	14.4	A		H	N	1			7.2	7.0	28.8	26.3	55.0
14.5	14.4	A		α	N	2			6.5	7.2	28.8	26.5	58.0
14.3	16.5	B	255	γ	N	3			6.0	7.2	33.0	26.5	62.2
15.4	12.7	B	256	δ	N	2			5.9	7.7	25.4	27.0	54.6
15.5	14.2	B	257	β	N	2			6.3	7.7	28.4	27.0	57.6
16.0	15.3	A		H	N	1			7.5	8.0	30.6	27.3	59.8
15.2	15.7	A		α	N	1			6.8	7.6	31.4	26.9	60.6
15.9	18.0	K		K	K=H	3	H		5.8 6.1	8.0	36.0	27.3	65.2
15.6	18.8	B	258	β	N	2			6.3	7.8	37.6	27.1	66.8
15.9	18.9	A		β	K=0.8H	2			6.1	8.0	37.8	27.3	67.0
15.6	19.5	B	259	ε	N	3			5.5	7.8	39.0	27.1	68.2
16.6	6.4	A		α	N	1			6.8	8.3	12.8	27.6	42.0
16.0	6.8	H	260	K	K=H	2			6.4	8.0	13.6	27.3	42.8
16.1	8.5	A		α	N	1			7.0	8.0	17.0	27.3	46.2
A ? 16.7	10.9	A		H	N	1			7.5	8.4	21.8	27.7	51.0
16.1	12.5	B	261	δ	N	3	H		5.6	8.0	25.0	27.3	54.2
16.9	13.4	A		α	N	1			6.9	8.4	26.8	27.7	56.0
16.4	14.1	A		H	N	1			7.3	8.2	28.2	27.5	57.4
16.7	14.2	A		H	N	1			7.3	8.4	28.4	27.7	57.6
16.7	14.3	A		K	K=H	3			5.2 5.8	8.4	28.6	27.7	57.8
5.8; 6.2 16.6	20.8	M		H	N	3			6.0 6.5	8.3	41.6	27.6	70.8
16.7	23.9	I.		K	K=H	2			6.4 7.0	8.4	47.8	27.7	77.0
17.7	8.6	A		β	N	2			6.5	8.8	17.2	28.1	46.4
17.8	13.5	A		γ	N	2			6.2	8.9	27.0	28.2	56.2
18.0	13.9	H	262	β	K=H	2			1.0 6.1	9.0	27.8	28.3	57.0
17.6	16.8	A		H	N	1			7.5	8.8	33.6	28.1	62.8
17.4	17.1	A		H	N	1			7.5	8.7	34.2	28.0	63.4
17.3	17.5	A		α	N	1			6.9	8.6	35.0	27.9	64.2

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1889phae.proj..870F

Nv. A.G.C	R.A. 1900	Dec. 1900	Magn.	
-0.2	88476	57.9	-26° 22′	8.2 √
-0.2	88446	57.9	-26 33	8 √
+0.1	8983 7	2.9	-26 30	7 √
-0.5	87426	54.1	-27 2	6.6 √
-0.2	88356	57.5	-27 5	7.8 √
+0.0				
+0.0	89327	1.0	-26 58	8 √
+0.6	9080 7	6.3	-27 19	6.3 √
+0.8	9121 7	8.1	-27 10	7 √
+0.9	9131 7	8.4	-27 18	7.2 √
+1.0	9168 7	9.6	-27 11	6.8 √
-2.0	83296	39.9	-27 29	7.2 √
-1.9	83556	40.9	-27 14	6.8 √
-1.5	84686	44.6	-27 17	8 √
-1.0	86336	50.1	-27 38	8.2 √
-0.5	87326	53.7	-27 24	6.6 √
-0.6	87776	55.6	-27 45	7.8 √
-0.8	88266	57.2	-27 33	8 √
-0.8	88366	57.6	-27 43	8.5 √
-0.9	8839 6	57.7	-27 47	3.6 √
+1.2	92557	12.6	-27 43	5.4 √
+1.8	94587	19.5	-27 39	6.0 √
-1.5	84706	44.7	-28 7	8 √
-0.3	87836	55.8	-28 16	7.5 √
-0.3	88086	56.8	-28 21	7.2 √
+0.2				
+0.3				
+0.5	9045 7	5.0	-28 0	8 √

{ Superposition?

J.C.

J.C.

J.C.

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1889phae.proj..870F

July 15, 1891

Plate 4530

	V.	H.	Cl.	Rem.	No.	Limit	K Line	Int.	add. Lines	K	Br.	V.	H.	V.	H.	
	17.8	17.7	A?			H	N	1			7.3	8.9	35.4	28.2	64.6	+0.
	17.3	19.8	A			α	N	1			7.0	8.6	39.6	27.9	68.8	+ 0
	17.6	21.4	A			H	N	1			7.4	8.8	42.8	28.1	72.0	+ 1
	18.1	6.2	A			β	N	1			6.7	9.0	12.4	28.3	41.6	- 2
	18.9	7.5	A?			H	N	1			6.9	9.4	15.0	28.7	44.2	- 1.
	18.4	8.1	A			H	N	1			6.7	9.2	16.2	28.5	45.4	- 1.
	18.6	9.7	A			α	N	1			7.1	9.3	19.4	28.6	48.6	- 1.
	18.1	10.8	Fl-G	263		K	K=H	2			6.1	9.0	21.6	28.3	50.8	- 1.
	18.8	13.0	AB	264		D	N	5	Fl		B	9.4	26.0	28.7	55.2	- 0.
	18.9	13.2	A			β	K=H	2			6.6	9.4	26.4	28.7	55.6	- 0
	18.1	17.3	Fl	265		K	K=H	1			7.3	9.0	34.6	28.3	63.8	+ 0
A?	18.4	17.9	A			β	N	2			6.5	9.2	35.8	28.5	65.0	+
	18.9	20.1	A			β	N	1			6.7	9.4	40.2	28.7	69.4	+ 1
	18.1	21.1	A			β	N	1			6.5	9.0	42.2	28.3	71.4	+ 1
	18.7	24.1	A			β	N	2			6.4	9.4	48.2	28.7	77.4	+ 2
	19.9	6.3	A			α	N	1			6.7	10.0	12.6	29.3	41.8	- 2
	19.1	9.0	A			α	N	1			6.7	9.6	18.0	28.9	47.2	- 1.
	19.2	11.6	Fl	266		K	K=H	1			6.7	9.6	23.2	28.9	52.4	- 1.
	19.1	16.0	A			H	N	1			7.5	9.6	32.0	28.9	61.2	+ 0
	19.6	18.2	A			H	N	1			7.5	9.8	36.4	29.1	65.6	+ 0
	19.3	19.5	A			H	N	1			6.9	9.6	39.0	28.9	68.2	+ 1.
	19.2	21.2	A			β	N	1			6.6	9.6	42.4	28.9	71.6	+ 1.
	19.6	24.1	A			α	N	2			6.5	9.8	48.2	29.1	77.4	+ 2
	19.5	24.2	A?			D?	N	5			F4.0	9.8	48.4	29.1	77.6	+ 2
	20.4	21.0	A			K	K=H	1			7.4	10.2	42.0	29.5	71.4	+ 1.
	20.7	22.7	A			K	K=H	1			7.4	10.4	45.4	29.7	74.6	+ 1.
	21.1	18.1	A			H	N	1			7.3	10.6	36.2	29.9	65.4	+ 0
	21.6	19.7	A			C	N	2			6.0	10.8	39.4	30.1	68.6	+ 1.

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No. A.G.C.	R.A. 1900	Dec. 1900	Magn.	
+0.5				
+0.9	9189	7 10.3 - 27 59	8.2	✓
+1.2	9292	7 13.8 - 28 7	8.5	✓
-2.0	8311	6 39.2 - 28 15	7.8	✓
-1.5	8390	6 42.1 - 28 43	7.5	✓
-1.5	8436	6 43.5 - 28 27	7.8	✓
	8438	6 43.6 - 28 28	8.5	
-1.2				
-1.0	8617	6 49.6 - 28 24	6.5	✓
-0.5	8752	6 54.7 - 28 50	1.8	✓
-0.6	8764	6 55.2 - 28 50	8	✓
+0.4				
+0.5	9073	7 6.1 - 28 35	7.5	✓
+1.0	9211	7 11.0 - 28 47	8.5	✓
+1.0	9268	7 13.2 - 28 26	7.8	✓
+2.0	9477	7 20.2 - 28 38	7.2	✓
-2.1	8310	6 39.2 - 29 8	7.3	✓
-1.5	8493	6 45.4 - 28 52	7.5	✓
-1.0	8661	6 51.3 - 28 55	7.2	✓
+0.1	8947	7 1.6 - 28 55	8	✓
+0.8	9086	7 6.6 - 29 11	8	✓
+1.0	9166	7 9.5 - 29 0	8.5	✓
+1.2	9279	7 13.4 - 28 57	7.5	✓
+2.0	9471	7 19.9 - 29 6	7.8	✓
+2.0	9476	7 20.2 - 29 7	2.9	✓
+1.2				
+1.7	9377	7 16.9 - 29 41	8.5	✓
+0.8	9084	7 6.5 - 29 53	8.5	✓
+1.0	9180	7 10.1 - 30 10	6.8	✓

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July 15, 1891

Plate 4530 Cont-

V.	H.	bl.	Rem.	hor. Limit	K Line	Int.	add Lines	K	Br. V.	H. V.	H.	
21.8	20.6	A		α	N	1			6.7 10.9	41.2 30.2	70.4	+
22.0	23.9	A		H	N	1			6.9 11.0	47.8 30.3	77.0	+
21.5	24.0	A		β	N	2			6.2 10.8	48.0 30.1	77.2	+
22.6	5.6	A		α	N	1			6.8 11.3	11.2 30.6	40.4	-
22.4	7.3	A		α	K-H	2			6.2 11.2	14.6 30.5	43.8	-
22.0	10.3	A		H	N	1			7.0 11.0	20.6 30.3	49.8	-
22.3	11.2	A		H	N	1			7.3 11.2	22.4 30.5	51.6	-
23.0	13.2	B	267	γ	N	2			6.3 11.5	26.4 30.8	55.6	-
22.3	14.3	A		H	N	1			7.4 11.2	28.6 30.5	57.8	-
22.6	15.5	A		H	N	1			7.4 11.3	31.0 30.6	60.2	+
22.2	16.2	B	268	δ	N	2			6.0 11.1	32.4 30.4	61.6	+
22.3	18.2	A		β	N	1			6.7 11.2	36.4 30.5	65.6	+
22.5	18.9	A		β	K-0.5 H	2			6.1 11.2	37.8 30.5	67.0	+
22.9	19.4	A		H	N	1			7.5 11.4	38.8 30.7	68.0	+
23.0	19.6	B	269	β	N	2			6.2 11.5	39.2 30.8	68.4	+
22.2	20.3	A		δ	N	2	7		5.3 11.1	40.6 30.4	69.8	+
22.7	21.0	A		β	N	2			6.1 11.4	42.0 30.7	71.2	+
22.5	21.7	A		β	N	1			6.6 11.2	43.4 30.5	72.6	+
23.5	7.1	A	2	β	N	3			5.1 11.8	14.2 31.1	43.4	-
23.1	7.5	A		β	N	3			5.5 11.6	15.0 30.9	44.2	-
23.3	13.9	A		K	K-H	1			6.8 11.6	27.8 30.9	57.0	-
23.8	17.2	A		H	N	1			7.4 11.9	34.4 31.2	63.6	+
A 24.2	19.7	A		H	N	1			12.1	39.4 31.4	68.6	+

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No. A.G.C.	RA 1900	Dec. 1900	Magn.	
+1.3	9245	7 12.3	-30 16	7.5 ✓
+2.0	9466	7 19.8	-30 15	7.3 ✓
+2.2	9473	7 20.0	-30 2	6.9 ✓
-2.0	8260	6 37.4	-30 33	8 ✓
-2.0	8363	6 41.3	-30 29	6.9 ✓
-1.2	8578	6 48.4	-30 19	8.5 ✓
-1.5				
-0.8	8759	6 54.9	-30 52	6.7 ✓
-0.2	8829	6 57.4	-30 31	7.4 ✓
+0.0				
+0.1	8968	7 2.2	-30 30	6.8 ✓
+0.8				
+1.0	9128	7 8.3	-30 39	6.6 ✓
+1.0	9158	7 9.4	-30 47	8.2 ✓ 2 or 9169 ?
+1.0	9159	7 9.4	-30 47	9.2 ✓ 2
+1.0	9175	7 10.0	-30 54	6.9 ✓
+1.2	9221	7 11.5	-30 30	6.1 ✓
+1.4	9265	7 13.1	-30 44	8 ✓
	9266	7 13.1	-30 43	6.7 ✓
+1.5	9320	7 14.7	-30 37	8.5 ✓
	9321	7 14.7	-30 37	9.2 ✓
-2.0	8351	6 40.7	-30 58	5.7 ✓
	8381	6 41.8	-30 51	8.5 ✓
-2.0	8382	6 41.8	-30 51	6.2 ✓
-0.3	8800	6 56.5	-30 56	7.8
+0.7	9024	7 4.4	-31 16	7.3 ✓
+1.2	9186	7 10.3	-31 28	7.8 ✓

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July 15, 1891.

Plate 5.26.2 Sl.-Lt 5.9 6.5 6.9 F.M. 6.8.2 8.3 F.Hh. 8.1

V.	H.	bl.	No Rem.	Limit	K Line	Int.	add. Lines	K. Br.	V.	H.	V.	H.	
4.9	11.8	K		K	K=H	2		6.5	2.4	23.6	21.6	75.5	-0.
4.9	12.0	A		d	N	3	F.	5.3	2.4	24.0	21.6	75.9	-0.
4.9	17.5	A		H	N	1		7.5	2.4	35.0	21.6	86.9	+0.
5.8	7.2	L		K	K=1.5H	3		0.5 5.0 5.3	2.9	14.4	22.1	66.3	-1.0
5.4	15.0	A		H	N	1		7.5	2.7	30.0	21.9	81.9	+0.
7.8	7.7	A	270	C	N	3	F	5.6	3.9	15.4	23.1	67.3	-1.0
7.3	9.9	F	271	B	K=H	2		6.5	3.6	19.8	22.8	71.7	+0.
7.8	16.4	K		K	K=H	1		6.3 7.3	3.9	32.8	23.1	84.7	+0.
7.1	18.3	G		K	K=1.3H	4	F	2.7 4.0	3.6	36.6	22.8	88.5	+0
8.3	8.8	A		d	N	1		7.5	4.2	11.6	23.4	63.5	-1.2
8.6	6.1	A		H	N	1		7.3	4.3	12.2	23.5	64.1	-1.
8.5	10.9	A		γ	N	2		6.5	4.2	21.8	23.4	73.7	-0.
8.9	12.9	I		K	K=H	1		6.7 7.3	4.4	25.8	23.6	77.7	-0.
9.0	14.7	A		H	N	1		7.5	4.5	29.4	23.7	81.3	-0
8.8	17.5	A		d	K=1.5H	1		6.5	4.4	35.0	23.6	86.9	+0
8.2	20.7	A		K	K=H	1		6.9	4.1	41.4	23.3	93.3	+0
10.0	6.5	A		d	K=H	3	F	4.5	5.0	13.0	24.2	64.9	-1.
10.0	9.4	A		H	N	1		7.4	5.0	18.8	24.2	70.7	-1
10.4	13.4	K		K	K=H	2		5.8 6.0	5.2	26.8	24.4	78.7	-0
9.9	15.2	K		K	K=H	1		6.7 7.4	5.0	30.4	24.2	82.3	+0
10.5	7.5	A		d	N	1		6.7	5.2	15.0	24.4	66.9	-1
10.1	13.2	K		K	K=H	1		6.7 7.5	5.0	26.4	24.2	78.3	-0
10.8	13.8	F	272	K	K=H	1		7.3	5.4	27.6	24.6	79.5	-0
10.5	22.3	L		?	?	?		7.2	5.2	44.6	24.4	96.5	+1
10.3	24.4	A		γ	N	2		6.0	5.2	48.8	24.4	100.7	+1
11.8	13.2	A		H	N	1		7.5	5.9	26.4	25.1	78.3	-0
11.6	13.8	A		α	N	1		7.0	6.8	27.6	25.0	79.5	-0
12.3	14.2	F	273	B	K=H	2		6.2	6.2	28.4	25.4	80.3	-0

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*Spectrum of A.G.C 17425 superposed on this star and combined light measured.

No. DM. Pos. entered are for 1855.

	A.G.C	R.A. 1900 h	Dec. 1900 ° ′	Magn.	Dm no	R.A. 1855 h	Dec. 1855 ° ′	Magn
-0.7	16820	12	15.0 - 21 37	6.5 ✓	3511	12	12.7 - 21 22	6.5
-0.6	16824	12	15.4 - 21 39	5.3 ✓	3514	12	13.1 - 21 24	5.0
+0.5	Dm-21°3557	12	24.8 - 21 22	7.8 ✓				
-1.0	16615	12	5.8 - 22 3	3.3 ✓	3487	12	2.7 - 21 49	2.5
+0.0	Dm-21°3541	12	19.5 - 21 35	7.7 ✓				
-1.0	16634	12	5.9 - 23 2	5.8 ✓	3305	12	3.6 - 22 47	6.0
+0.6	16740	12	10.6 - 22 47	6.7 ✓	3322	12	8.3 - 22 33	6.8
+0.1	17039	12	26.1 - 23 8	6.2 ✓	3383	12	22.7 - 22 54	6.0
+0.5	17129	12	29.1 - 22 50	2.6 ✓	3401	12	26.8 - 22 35	2
-1.2	~~16558~~ 16545	12	~~2.5 - 23 24~~ 1.9 - 23 12	~~6.9~~ 6.9 ✓	3291	11	59.6 - 22 58	7.0
-1.2	Dm-23 3916	12	~~2.5 - 23 24~~ 0.7 - 23 34	~~6.9~~ 8.3 ✓	3912	12	0.2 - 23 10	7.4
-0.7	16775	12	12.8 - 23 27	7.0 ✓	3948	12	10.4 - 23 23	8.0
-0.4	16863	12	17.2 - 23 41	7.8 ✓	3966	12	14.9 - 23 26	8.0
-0.0	16947	12	21.1 - 23 43	9 ✓	3979	12	18.8 - 23 28	8.0
+0.5	17096	12	27.4 - 23 39	8.2 ✓	4000	12	25.0 - 23 24	8.0
+0.6	17231	12	34.3 - 23 15	8.5 ✓	4028	12	32.0 - 23 0	7.9
-1.2	16576	12	3.3 - 24 10	4.2 ✓	3917	12	1.0 - 23 55	4.0
-1.0	16718	12	9.6 - 24 13	8.0 ✓	3937	12	7.3 - 23 59	7.3
-0.3	16887	12	18.2 - 24 17	6.0 ✓				
+0.0	16975	12	22.4 - 24 10	8 ✓				
-1.0	16620	12	5.3 - 24 24	8.5 ✓				
-0.4	16876	12	17.8 - 24 19	7.2 ✓				
-0.2	16904	12	19.2 - 24 39	8.0 ✓				
+1.0	17319	12	37.9 - 24 26	7 ✓				
+1.5	17427	12	42.6 - 24 18	6.4 ✓ *				
-0.4								
-0.2								
-0.1	16925	12	20.0 - 25 26	7.0 ✓				

C.Dm. (1875)
-25°9201 12h 16.3m -25° 0′ 8.8
-24 10322 12 17.8 -24 52 8.2

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July 15, 1891

Plate 5262

V.	H.	Cl.	Rem.	Limit	K Line	Int.	Odd Lines	K.	Bx.	V.	H.	V.	H.	
13.6	10.1	A		H	N	1		7.5	6.8	20.2	26.0	72.1		-0
13.6	10.5	A		K	K=H	1		7.1 7.4	6.8	21.0	26.0	72.9		- 1
13.8	11.8	A		H K	K=H	1		6.8 7.0	6.9	23.6	26.1	74.9		- 0
13.3	13.4	A		H	N	1		6.8	6.6	26.8	25.8	78.7		- 0
14.0	14.4	F	273	K	K=H	1		6.8	7.0	28.8	26.2	80.7		- 0
13.8	18.5	A		H	N	1		7.2	6.9	37.0	26.1	88.9		+ 0
13.1	22.4	A		H	N	1		7.2 7.6	6.6	44.8	25.8	96.7		+ 1
14.6	10.3	A		α	N	1		7.1	7.3	20.6	26.5	72.5		- 1
15.0	9.1	F	274	K	K=H	1		7.3	7.5	18.2	26.7	70.1		- 1
14.9	12.6	A		H	N	1		7.3	7.4	25.2	26.6	77.1		- 0
14.6	19.7	A		ζ	K=H	3	F	5.3	7.3	39.4	26.5	91.3		+ 0
13.8	14.3	K		K	K=H	2		6.3 6.9	7.9	28.6	27.1	80.3		- 0
15.5	17.2	A		H	N	1		6.9 7.5	7.8	34.4	27.0	86.3		+ 0
15.8	21.1	A		γ	N	2		6.5	7.9	42.2	27.1	94.1		+1.0
16.6	17.9	A		H	N	1		7.2 7.6	8.3	35.8	27.5	87.7		+ 0
16.9	10.9	A		K	K=H	1		7.2 7.5	8.4	21.8	27.6	73.7		- 1
16.6	17.3	A		H	N	1		7.5	8.3	34.6	27.5	86.5		+ 0
16.2	21.2	A		H	N	1		6.7 7.5	8.1	42.4	27.3	94.3		+ 1
17.4	11.9	F	275	K	K=H	1		7.0	8.7	23.8	27.9	75.7		- 0
17.7	15.1	A		α	K=H	2		6.5	8.8	30.2	28.0	82.1		+ 0
17.3	19.6	A		H	N	1		7.5	8.6	39.2	27.8	91.1		+ 1
18.0	23.0	A		β	N	2		6.1	9.0	46.0	28.2	97.9		+ 1
18.7	6.5	A		H	N	1		7.3	9.4	13.0	28.6	64.9		- 2
18.8	9.8	A		K	K=H	2		6.5 6.9	9.4	19.6	28.6	71.5		- 1
18.9	16.1	A		K	K=H	1		7.3 7.6	9.4	32.2	28.6	84.1		+ 0
19.5	10.3	A		H	N	1		7.2	9.8	20.6	29.0	72.5		- 1
19.2	16.0	A		H	N	1		7.4	9.6	32.0	28.8	83.9		+ 0
19.4	20.3	A		K	K=H	1		6.7	9.7	40.6	28.9	92.5		+ 1

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A.G.C	R.A. 1900	Dec. 1900	Magn.	
-0.9				
-1.0	16757	12 11.7	-26 2	7.8v
-0.7	16811	12 14.7	-26 11	7 v
-0.4	16888	12 18.2	-25 55	8.8v
-0.1	16934	12 20.4	-26 15	7.8v
+0.7	17136	12 29.7	-26 9	8.5v
+1.5	17324	12 38.2	-25 45	7.2v
-1.0	16759	12 11.9	-26 36	8.5
-1.2	16692	12 8.5	-26 46	7.8v
-0.5				
+0.8	17185	12 32.4	-26 35	5.6v
-0.1	16927	12 20.1	-27 11	6.6v
+0.4	17089	12 26.9	-27 1	7.5v
+1.0	17255	12 35.5	-27 10	7.2v
+~~0.6~~ 1.5	16628	12 5.7	-27 30	7.8
-1.0	16773	12 12.6	-27 43	9v
+0.5				
+1.0	17267	12 35.9	-27 21	7.2v
-0.9				
+0.0	16969	12 22.2	-28 9	7.8v
+1.0	17182	12 32.2	-27 52	8.5v
+1.6	17378	12 39.9	-28 13	7.0v
-2.0	16543	12 1.8	-28 34	8.5
-1.2	16731	12 9.9	-28 40	6.7v
+0.1	17017	12 24.5	-28 45	8.2v
-1.2	16751	12 10.9	-29 4	7.8v
+0.1	17010	12 24.1	-28 53	9
+1.0	17222	12 34.1	-28 59	7.5v

g. b. another near.

C.DM. R.a. 1875 Dec. Magn.

-25°9131 12 9.5 -25°51.8 8.3

~~-26 9100 12 15.2 -26°34.9 8.0~~

-26 9100 12 15.2 -26°34.9 8.0

-27°8744 12 25.8 -27 25.4 8.7

-27 8623 12 13.5 -27 49.5 7.7

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July 15, 1891

Plate 5262

V.	H.	bl.	Rem.	Limit	K Line	Int.	add Lines	K Br.	V.	H.	V.	H.	
19.6	20.7	A.		α	N	1		7.1	9.8	41.4	29.0	933	+1.
20.9	13.6	A		K	K=H	2		6.4 7.5	10.4	27.2	29.6	791	-0
20.3	17.4	G		K	K=H	2		6.3	10.2	34.4	29.4	863	+0
21.6	16.6	A		α	K=0.5H	1		6.6	10.8	33.2	30.0	851	+0
21.1	20.1	K		K	K=H	2		6.2 6.6	10.6	40.2	29.8	921	+1
22.2	16.9	G		K	K=H	1		6.7 7.2	11.1	33.8	30.3	857	+0
23.3	6.7	F	2/6	K	K=H	1		6.7	11.6	13.4	30.8	653	-2
23.6	16.7	A		A	N	1		7.2	11.8	33.4	31.0	853	+0
24.5	16.0	A		α	N	2			12.2	36.0	31.4	879	+0

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A.G.C.	R.A. 1900	Dec. 1900	Magn.
+1.2	17235 12	34.5 -29 6	7.8√
-0.4	16897 12	18.6 -29 47	6.8√
+0.4	17100 12	27.5 -29 29	7√
+0.2	17050 12	25.6 -30 7	8.5√
+1.2	17216 12	33.7 -29 52	6.4√
+0.3	17071 12	26.3 -30 25	7.0√
-2.1	16556 12	2.5 -30 51	6.9√
+0.2	17058 12	25.8 -31 5	8√
+0.6	17126 12	28.9 -31 32	7√

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1889phae.proj..870F

July 20, 1891.

Plate 5180 Sl: Lt. 5.3, 6.8 6.5 7.0 F.M. 6 8.0 7.9 Fbh 8.2

V.	H.	Cl.	No Rem.	Limit	K Line	Int.	add Lines	K	Br.	V.	H.	V	H.	
3.8	12.0	K		K	K=H	1				1.9	24.0	21.1	53.7	−0.
3.8	14.7	A		B	K=0.5H	1				1.9	29.4	21.1	59.1	−0.
4.0	20.5	A		H	N	1				2.0	41.0	21.2	70.7	+0
5.2	6.4	A		H	N	1			7.0	2.6	12.8	21.8	42.5	−1.
5.1	11.1	A		Y	K=0.3H	2			6.7	2.6	22.2	21.8	51.9	−0.
4.8	15.0	F	277	K	K=H	1			6.8	2.4	30.0	21.6	59.7	+0
5.1	16.9	A		H	N	1			7.0	2.6	33.8	21.8	63.5	+0
5.4	18.9	A		K	K=H	1			7.4	2.7	37.8	21.9	67.5	+0
5.6	12.2	A2		K	K=H	1			7.2 7.5	2.8	34.4	22.0	54.1	−0.
6.1	6.0	A		H	N	1			7.2	3.0	12.0	22.2	41.7	−1.
7.0	9.1	A		H	N	1			7.2 7.6	3.5	18.2	22.7	47.9	−0.
7.0	9.6	A		H	N	1			7.5 6.4	3.5	19.2	22.7	48.9	−0.
6.1	11.4	K		K	K=H	2			6.7	3.0	22.8	22.2	52.5	−0.
6.7	11.7	A		Y	K=H	2			6.5	3.4	23.4	22.6	53.1	−0.
6.8	16.5	I		K	K=H	1			6.6 6.9	3.4	33.0	22.6	62.7	+0
6.7	16.6	K2		K	K=H	3		0.5	5.4 5.7	3.4	33.2	22.6	62.9	+0
6.9	21.1	Y2		K	K=H	5		3.1	4.0	3.4	42.2	22.6	71.9	+0

July 24, 1891.

Plate 5180 Continued

V.	H	Cl.	No Rem.	Limit	K Line	Int.	add Lines	K	Br.					
6.4	22.8	A		K	K=H	1				6.7	32	44.6	22.4	74.3	+0.
7.7	16.2	A		H	N	1				7.3	3.8	32.4	23.0	62.1	+0
7.4	17.1	A		α	N	1				7.0	3.7	34.2	22.9	63.9	+0.
7.8	17.2	A		E	N	2	F.			6.6	3.9	34.4	23.1	64.1	+0.
8.4	12.6	A		B	K=0.3H	2				6.5	4.2	25.2	23.4	54.9	−0.
8.2	16.4	F	278	B	K=H	2				6.7	4.1	32.8	23.3	62.5	+0.
8.9	17.4	A		H	N	1				7.3	4.4	34.8	23.6	64.5	+0.

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No. DM. Pos. entered are for 1855.

	A.G.C.	R.A. 1900	Dec. 1900	Magn.	D.M. No.	R.A. 1855	Dec. 1855	Magn.
−0.6	17661	12	53.6	−21 0′	6.8 v	3757	12 57.2	−20 45′ 6.8
−0.0	DM-20°3771	12	57.1	−20 44	7.5 v			
+0.6	DM-20°3802	13	9.6	−20 46	7.8 v			
−1.0	DM-21 3805	12	39.4	−21 20	7.7			
	~~DM-21 3806 12 39.5 − 21 34 7.1~~				v			
−0.7	17619	12	51.8	−21 38	8 v	3634	12 49.5	−21 23 7.0
+0.0	DM-21°3650	12	57.8	−21 17	7.7 v			
+0.2	DM-21°3660	13	1.9	−21 24	7.4 v			
+0.7	DM-21 3673	13	6.2	−21 36	7.7 v			
−0.7	DM-21°3700	13	13.2	−21 37	7.3 v			
−1.2	DM-21°3600	12	38.2	−21 50	7.5 v			
	DM-22 3462	12	44.9	−22 21	7.0			
−0.8	~~DM-22 3465 12 45.4 − 22 23 8.7~~				v			
−0.6	DM-22 3470	12	46.0	−22 19	8.0 v			
−0.7	17628	12	52.2	−22 13	6.6 v	3635	12 49.8	−21 58 6.3
−0.7	17645	12	52.8	−22 31	7.0 v	3482	12 50.4	−22 16 7.2
+0.1	17881	12	3.2	−22 34	7.6 v	3513	13 0.9	−22 20 6.9
+0.1	17889	12	3.6	−22 35	5.3 v	3515	13 1.2	−22 20 5.0
+0.6	18121	13	13.0	−22 39	3.2 v	3554	13 11.0	−22 24 3
+0.8	DM-22°3564	13	13.5	−22 2	7.0 v			
+0.1	17866	13	2.7	−23 3	9 v	3503	13 0.3	−22 48 8.0
+0.3	DM-22°3521	13	2.3	−22 38	7.5 v			
+0.3	DM-22°3522	13	2.5	−22 51	7.5 v			
−0.5	17690	12	54.8	−23 22	8.2 v	4103	12 52.5	−23 7 8.0
+0.1	17880	13	3.2	−23 17	7.8 v	4129	13 0.9	−23 2 7.6
+0.3	17926	13	5.4	−23 39	8 v	4138	13 3.0	−23 25 7.8

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1889phae.proj..870F

July 24, 1891

Plate 5180 Continued

V.	H.	bl.	Rem.	Limit	K Line	Int.	Lines	K	Br.	V.	H.	V.	H.	
8.6	19.5	A		H	N	1			7.4	4.3	39.0	23.5	68.7	+0.
8.2	21.9	A		H	N	1			7.3 7.7	4.1	43.8	28.3	73.5	+1.
9.9	13.3	A	279	B	K-H	2	F		6.3	5.0	26.6	24.2	56.3	-0
9.6	14.3	A		K	K=H	1			7.0 7.5	4.8	28.6	24.0	58.3	-0.
9.1	19.1	A		S	K=0.5H	2	F		5.8	4.6	38.2	23.8	67.9	+0.
9.8	21.3	A		H	N	1			7.3	4.9	42.6	24.1	72.3	+0
9.6	22.1	A		H	N	1			7.1 7.6	4.8	44.2	24.0	73.9	+1
10.7	6.1	A		H	N	1			7.3	5.4	12.2	24.6	41.9	-1.
10.3	7.1	A		E	N	3	F		5.3	5.2	14.2	24.4	43.9	-1.
10.4	10.4	A		K	K=H	1			7.0 7.5	5.2	20.8	24.4	50.5	-0.
10.9	11.8	A		H	N	1			7.1 7.5	5.4	2 33.6	24.6	5 73.3	+1.
10.6	17.2	F	280	K	K=H	1			7.3	5.3	34.4	24.5	64.1	+0.
10.5	22.3	A		α	K=H	1			7.2	5.2	44.6	24.4	74.3	+1.
10.1	23.1	A		H	N	1			7.1	5.0	46.2	24.2	75.9	+1.
10.9	23.5	A		H	N	1			7.3 7.6	5.4	47.0	24.6	76.7	+1.
11.2	7.8	A		H	N	1			7.3	5.6	13.6	24.8	45.3	-1.
11.5	17.2	A		H	N	1			7.3	5.8	34.4	25.0	64.1	+0.
11.8	21.1	A		H	N	1			7.3	5.9	42.2	25.1	71.9	+1.
12.1	9.9	A		H	N	1			7.4	6.0	19.8	25.2	49.5	-0.
12.1	14.4	F	281	B	K-H	1			6.6	6.0	28.8	26.2	58.5	-0.
12.3	17.3	A		H	N	1			7.5	6.2	34.6	25.4	64.3	+0.
12.3	22.7	F	282	K	K=H	2	F		6.1	6.2	45.4	25.4	75.1	+1.
13.9	8.4	A		H	N	1			7.5	7.0	16.8	26.2	46.5	-1.
13.9	9.1	A		E	N	3	F		5.1	7.0	18.2	26.2	47.9	-1.
13.4	11.1	G		K	K=H	2			05	5.9	6.7	22.2	25.9	51.9	-0.
13.4	14.2	A		H	N	1			7.6	6.7	28.4	25.9	58.1	-0.
13.4	14.6	A	2	H	N	1			7.2 7.4	6.7	29.2	25.9	58.9	-0
13.5	17.8	A		E	K=0.4H	3	F		5.4	6.8	35.6	26.0	65.3	+0

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*Spectrum of A.G.C 17425 superposed on this star and combined light measured.

	No. A.G.C	Ra. 1900	Dec. 1900	Magn.	DM No.	R.A. 1855-1883	Dec. 1855-1883	Magn.
						h	°	
+0.7	18033	13 10.0	- 23 28	8.5√	4153	13 7.5	- 23 14	8.2
+1.0	18159	13 15.4	- 23 14	7.8√	4169	13 12.9	23 1	7.4
-0.5	17723	12 56.2	24 8	7√	4110	12 53.8	-23 54	8.2
-0.2	17766	12 58.5	- 23 59	8√	4118	12 56.1	- 23 45	7.7
+0.7	18011	13 9.1	- 23 45	6.9√	4149	13 6.6	- 23 31	7.2
+0.9	~~18128~~ 18167	~~13 14.0~~ 13 15.7	~~24 6~~ - 23 57	~~8.5√~~ 7.2	4164	13 11.5	- 23 52	7.8
+1.0	~~18128~~	~~13 14.0~~	~~24 6~~	~~8.0√~~	4170	13 13.2	- 23 43	7.2
-1.2	17888	12 40.4	- 24 26	8.0√				
-1.5	17427	12 42.6	- 24 18	6.4*√				
-0.7	17570	12 49.8	- 24 25	7.8√				
+1.0	17647	12 52.9	- 24 37	8.2√				
+0.3	17918	13 4.9	- 24 30	8.5√				
+1.0	18179	13 16.1	- 24 24	8.2√				
+1.5	18215	13 17.7	- 24 13	8				
+1.3	18242	13 18.8	- 24 37	8√				
-1.5	17451	12 44.1	- 24 45	8√				
+0.3	17911	13 4.8	- 25 0	8.5√				
+1.0	~~18122~~ 18103	~~13.6~~ ~~12.9~~ 13	- 25 ~~0~~ 4	~~8.2√~~ 5				
-0.9	~~18122~~							
-0.1	17764	12 58.4	- 25 16	7.2√				
+0.4	17919	13 5.1	- 25 21	9√				
+1.5	18201	13 17.0	- 25 19	7.1√				
-1.5								
-1.2	17494	12 46.6	- 26 12	6.3√				
-0.9	17601	12 51.1	- 25 55	6.9√				
-0.1	17756	12 58.2	- 25 50	9√				
-0.0	17780	12 59.0	- 25 57	7.8√				
+0.5	17945	13 6.3	- 26 1	6.6√				

Could it be A.G.C 18221?

J.C.

J.C.

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July 24, 1891.

Plate 5780

V.	H	Cl.	Rem.	Limit	K Line	Int.	add Lines	K.	Bx.	V.	H	V.	H	
14.6	23.0	A		H	N	1			7.6	7.3	46.0	26.5	73.7	+1.
15.7	7.6	K		K	K=1.2H	3			5.3 5.5	7.8	15.2	27.0	44.9	-1.
15.3	9.9	H	283	K	K=H	1			6.9	7.6	19.8	26.8	49.5	-1.
15.4	10.8	A		H	N	1			7.5	7.7	21.6	26.9	51.3	-1.
15.2	11.2	H		K	K=H	1			7.0 7.6	7.6	22.4	26.8	52.1	-1.0
15.2	13.3	H	284	K	K=H	1			7.0	7.6	26.6	26.8	56.3	-0.
15.9	16.8	H	285	K	K=H	1			7.2	8.0	33.6	27.2	63.3	+0
15.8	18.7	A		α	N	1			6.7	7.9	37.4	27.1	67.1	+0
16.2	8.6	H		K	K=H	1			6.8 7.2	8.1	17.2	27.3	46.9	-1.
16.4	10.2	H	286	K	K=H	2			6.5	8.2	20.4	27.4	50.1	-1.
16.9	13.8	H		K	K=H	2			6.5 7.3	8.4	27.6	27.6	57.3	-0.
16.8	16.3	H		K	K=H	1			7.2 7.6	8.4	32.6	27.6	62.3	+0
17.2	5.7	K		K	K=H	2			5.4 6.0	8.6	11.4	27.8	41.1	-2
17.2	8.6	A		H	N	1			7.3	8.6	17.2	27.8	46.9	-1.
17.9	19.5	A		H	N	1			7.0	9.0	39.0	28.2	58.2	+1.
17.2	14.7	A		γ	N	2	H		6.0	8.6	29.4	27.8	59.1	-0.
17.4	15.0	H	287	K	K=H	1			7.1	8.7	30.0	27.9	59.7	+0
17.2	20.8	γ		K	K=α	2			6.3	8.6	41.6	27.8	71.3	+1.
17.6	19.0	A		H	N	1			7.4	8.8	38.0	28.0	67.7	+0.
18.1	6.3	A		β	N	3	H		5.5	9.0	12.6	28.2	42.3	-2.
18.3	8.0	A		H	N	1			7.5	9.2	16.0	28.4	45.7	-1.6
18.9	8.9	A		H	N	1			7.0	9.4	17.8	28.6	47.5	-1.6
18.2	11.6	A		β	N	2			6.5	9.1	23.2	28.3	52.9	-0.
18.9	13.8	A		γ	N	2	H		5.8	9.4	27.6	28.6	57.3	-0.
18.6	18.3	A		β	K=0.3H	2			6.5	9.3	36.6	28.5	66.3	+0.
19.1	10.1	A		H	N	1			7.2	9.6	20.2	28.8	49.9	-1.
19.3	10.2	A		H	N	1			7.2	9.6	20.4	28.8	50.1	-1.
19.7	14.2	H		β	K=H	2			6.5	9.8	28.4	29.0	58.1	-0

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1889phae.proj.. 870F

	No. A.G.C.	R.A. 1900	Dec. 1900	Magn.
+1.5	18222	13 17.9	- 26° 27′	8.8 ✓
-1.5	17436	12 43.1	- 27 3	6.0 ✓
-1.0	17532	12 48.3	- 26 51	8.2 ✓
-1.0				
-1.0	17610	12 51.3	- 26 50	7.8 ✓
-0.5	17720	12 56.1	- 26 50	8 ✓
+0.2	17893	13 3.9	- 27 12	8.2 ✓
+0.7	17996	13 8.4	- 27 6	8.8 ✓
-1.6	17475	12 45.3	- 27 18	8 ✓
-1.0	17750	12 48.8	- 27 26	8.5 } ✓
	17751	12 48.9	- 27 25	9 }
-0.4	17731	12 57.0	- 27 45	6.9 ✓
+0.1	17865	13 2.8	- 27 40	8.5 ✓
-2.0	17343	12 38.7	- 27 46	5.9 ✓
-1.5				
+1.0				
-0.0	17778	12 59.0	- 27 52	7.2 ✓
+0.0	17796	12 59.8	- 27 59	7.7 ✓
+1.0	18104	13 12.9	- 27 48	7.0 ✓
+0.9				
-2.0	17373	12 39.9	- 28 13	7.0 ✓
-1.6	17442	12 43.8	- 28 18	8.8 ✓
-1.6	17481	12 46.7	- 28 38	8.2 ✓
-0.9	17621	12 51.9	- 28 19	7.8 ✓
-0.3	17733	12 57.0	- 28 44	6.9 ✓
+0.5	17967	13 7.5	- 28 34	10.2 } ✓
	17968	13 7.5	- 28 34	7.2 }
-1.2	17535	12 48.5	- 28 46	8.5 } ✓
	17536	12 48.5	- 28 46	10 }
-1.2	17556	12 49.1	- 28 54	9 ✓
-0.1	17752	12 58.0	- 29 8	7.2 ✓

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Omit

Omit in Computation
Identify from Chart
Check from Chart

July 24, 1891.

Plate 5180

V.	H.	Cl	Rem	Limit	K Line	Int.	add Lines	K	Br.	V.	H.	V.	H.	
20.5	10.8	A		γ	N	3			5.7	10.2	21.6	29.4	51.3	-1
21.3	16.1	A		β	N	2			6.5	10.6	32.2	29.8	61.9	+0
21.0	18.1	A		H	N	1			7.3	10.5	36.2	29.7	65.9	+0
21.6	20.0	F	289	K	K=H	2			6.4	10.8	40.0	30.0	69.7	+1
21.2	21.2	A		H	N	1			7.1	10.6	42.4	29.8	72.1	+1
21.4	23.6	A		H	N	1			7.2	10.7	47.2	29.9	76.9	+2
22.9	9.3	A		S	N	3			5.7	11.4	18.6	30.6	48.3	-1
23.4	11.1	A		γ	N	2			5.9	11.7	22.2	30.9	51.9	-1
23.2	13.2	A		H	N	1			7.5	11.6	26.4	30.8	56.1	-0
24.2	13.0	A		H	N	1				12.1	26.0	31.3	55.7	-0
23.6	15.6	I		K	K=H	2			6.7 / 7.1	11.8	31.2	31.0	60.9	+0
24.1	18.2	F	290	K	K=H	1				12.0	36.4	31.2	66.1	+0
23.4	20.0	K		K	K=H	3		0.5	5.3 / 5.5	11.7	40.0	30.9	69.7	+1

Remarks — The only stars to have a remark on the spectrum will be B, D, F, ~~H & K~~.

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1889phae.proj.-870E

	No. A.G.C.	R.A. 1900	Dec. 1900	Magn.	
-1.2	17574	12 50.1	-29 31	6.9	√
+0.1	17855	13 2.2	-29 54	7.2	√
+0.7	17974	13 7.8	-29 34	9	√
+1.2	18063	13 11.4	-30 4	7.4	√
+1.4					
+2.0	18256	13 19.6	-29 51	8.5	√
-1.7	17490	12 46.4	-30 39	6.8	√
-1.2	17583	12 50.6	-30 5.6	7.0	√
-0.7					
-0.7	17692	12 55.1	-31 23	8.2	√
+0.0	17829	13 1.2	-31 4	6.9	√
+0.7	17962	13 7.3	-31 20	6.9	√
+1.2	18060	13 11.3	-30 5.9	5.7	√

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1889phae.proj.870F

November 13 14, 1892

Plate 3696

23 5

V.	H.	bl.		Rem	Line	Int.
4.6	14.4	A			N	1
4.6	16.3	Pl	291		K=H	1
5.5	9.7	A			N	1
6.0	14.1	K			K=H	2
5.3	17.7	A			N	1
6.5	11.8	A			N	1
6.8	11.9	A			N	2
6.4	12.4	A			N	1
6.9	17.9	A			N	2
6.4	18.5	I			K=H	2
7.9	6.7	A			N	1
7.2	15.4	A			N	1
7.9	17.1	A			N	1
8.0	19.2	B?			N	2
7.2	21.2	A			N	1
7.2	23.0	A			N	1
7.4	23.6	A			N	3
8.7	15.5	Pl	292		K=H	1
8.4	16.3	A			N	1
8.4	16.7	A			N	2
8.7	17.4	Pl	293		K=H	2
9.9	17.6	A			K=0.4H	3
8.6	18.5	A			N	2
8.8	19.1	A			N	2
9.9	6.7	A			N	2
9.2	8.4	A			N	3
9.6	13.6	A			N	1
9.6	14.5	A			N	1

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1889phae.proj..870F

DM Positions ext. for 1855. Adj. C. for 1900

1855.

		No.	Rct.	Dec.	Magn.
h m.	° ′		h m	° ′	
18 0.1	−16.4	−16°4720	18 0.1	−16 26	8.0
18 4.1	−16.4	−16°4752	18 4.1	−16 24	7.5
17 50.4	−16.8	−16°4671	17 50.3	−16 50	7.0
17 59.3	−17.2	−17°5028	17 59.4	−17 10	5.7
18 6.9	−17.9	−16°4771	18 7.0	−16 52	7.3
17 54.5	−17.4	−17°4999	17 54.7	−17 24	7.8
17 55.0	−17.6	−17°5001	17 54.9	−17 36	7.0
17 55.9	−17.4	−17°5005	17 55.9	−17 21	7.3
18 7.5	−17.7	−17°5094	17 7.5	−17 39	7.5
18 8.9	−17.4	−17°5112	18 8.8	−17 25	6.0
17 43.9	−18.1	−18°4666	17 43.9	−18 3	7.3
18 2.2	−17.7	−17°5048	18 2.1	−17 47	8.3
18 6.0	−18.2	−18°4851	18 5.9	−18 12	8.3
18 10.2	−18.2	−18°4900	18 10.3	−18 13	8.2
18 14.5	−17.3	−17°5171	18 14.6	−17 44	8.0
18 18.1	−17.4	−17°5194	18 18.2	−17 44	8.2
18 19.5	−17.8	−17°5203	18 19.4	−17 53	6.7
18 2.5	−18.6	−18°4824	18 2.6	−18 34	7.9
18 4.1	−18.4	−18°4834	18 4.1	−18 26	8.9
18 5.1	−18.4	−18°4843	18 5.2	−18 25	8.0
18 6.5	−18.6	−18°4858	18 6.5	−18 35	8.3
18 6.8	−18.7	−18 4864	18 7.0	−18 42	6.8
18 9.0	−18.5	−18 4886	18 9.0	−18 31	6.7
18 10.2	−18.7	−18 4896 −18 4897	18 10.2	−18 40	7.3 9.0
17 43.8	−19.1	−19 4728	17 43.8	−19 4	6.7
17 47.4	−18.8	−18°4686	17 47.4	−18 46	6.0
17 58.1	−19.0	−19°4841	17 58.0	−19 5	8.8
18 0.3	−19.0	−18°4801	18 0.3	−18 59	8.3

*B.D. −16°4721 Rubberhosed *² B.D. −18°4852 [illegible]

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1889phae.proj...870F

November 13, 1892
~~November~~ 14

Plate 3696

V.	H	bl.	Rem	K Line	Int.
9.3	15.0	A		N	2
9.2	16.9	A		K=0.5H	2
9.5	17.4	Cont		N	1
9.6	17.5	A		N	2
9.5	17.7	Cont		N	1
9.6	18.3	E		K=H	K
9.2	18.7	A		N	2
9.3	20.4	G		K=1.5H	3
10.7	6.5	A		N	2
10.5	12.3	A		N	1
11.0	13.0	A		N	2
10.3	14.9	A		N	1
10.4	16.0	E		K=H	1
10.5	18.5	E		K=H	1
10.9	18.6	A	294	N	1
10.9	20.2	A		N	1
10.8	21.7	A		N	1
11.7	5.5	A		N	1
11.3	14.7	A		N	1
11.2	15.6	A		K=0.3H	3
11.6	17.8	Ma?		N	1
12.2	10.4	J		K=H	2
12.9	11.7	B	295	N	2
12.3	15.9	A	296	N	2
12.3	17.4	B	297	N	3
12.6	18.1	G		K=H	1
12.7	22.2	G		K=H	3

1855

	m		
18	2.4	–	18.8
18	5.3	–	18.9
18	6.4	–	18.9
18	7.9	–	19.0
18	7.3	–	19.0
18	8.5	–	19.0

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1889phae.proj..870E

1855 ZM. Positions ent. for 1855 a G.C. for 1900

	No.	R.A.	Dec.	Magn.
h m s		h m		
18 2.4 – 18.8	– 18° 4822	18 2.4	– 18° 54	8.8
18 5.3 – 18.9	– 18° 4845	18 5.4	– 18 48	8.2
18 6.4 – 18.9	– 18° 4857	18 6.5	– 18 59	8.7
18 7.0 – 19.0	– 19° 4928	18 6.8	– 19 1	8.2
18 7.2 – 19.0	– 18° 4864	18 7.0	– 18 42	6.8
18 8.5 – 19.0	– 19° 4944	18 8.5	– 19 1	8.0
18 9.3 – 18.9	– 18° 4888	18 9.3	– 18 51	7.3
18 13.0 – 18.9	– 18° 4826	18 12.8	– 18 55	6.0
17 43.2 – 19.5	– 19° 4725	17 43.2	– 19 28	6.8
17 55.5 – 19.5				
~~17 57.0 – 19.8~~	– 19° 4819	17 55.4	– 19 28	8.0
17 57.0 – 19.8	– 19° 4832	17 57.0	– 19 45	6.9
18 2.2 – 19.4	– 19° 4882	18 2.1	– 19 12	8.8
18 3.6 – 19.5	– 19° 4895	18 3.7	– 19 28	7.3
18 9.0 – 19.6	– 19° 4952	18 8.9	– 19 32	7.8
18 9.1 – 19.7	– 19 4953	18 9.1	– 19 43	7.6
18 12.5 – 19.7	– 19° 4970	18 12.4	– 19 43	7.8
18 15.6 – 19.7	– 19° 4988	18 15.6	– 19 39	8.2
17 41.0 – 19.9	– 19° 4711	17 41.0	– 19 57	7.4
	– 19° 4712		– 19 58	10
18 0.5 – 19.9	– 19° 4863	18 0.5	– 19 53	8.2
	4864	0.6	52	8.6
18 2.6 – 19.8	– 19° 4886	18 2.6	– 19 52	6.7
18 ~~10.0~~ 7.3 – 20.1	– 20° 5065	18 7.4	– 20 3	9.2
17 51.5 – 20.3	– 20° 4942	17 51.6	– 20 44	9.5
	4943	51.7		9.7
17 54.0 – 20.7	– 20° 4952	17 54.0	– 20 44	6.5
18 3.3 – 20.4	– 20° 5027	18 3.3	– 20 27	7.5
18 6.7 – 20.4	– 20° 5055	18 6.6	– 20 26	6.5
18 7.9 – 20.6	– 20° 5068	18 8.0	– 20 35	7.3
18 16.8 – 20.6	– 20° 5134	18 16.7	– 20 37	5.4

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1889phae.proj..870F

November 13, 1892

Plate 3696

V.	H.	bl.	Rem	K line	Int.	
14.0	14.4	O		N	2	
13.5	16.7	a		K=0.5H	4	
13.7	22.3	a		N	1	
13.4	23.5	a		N	1	
13.7	24.3	a		N	1	
14.5	21.6	a		N	1	
14.3	13.8	a		N	2	
14.2	15.4	a		N	1	
14.1	16.5	a		N	1	
14.8	17.0	K		K=H	2	
14.5	19.2	a		N	1	
15.4	8.8	a		N	2	
15.7	11.2	a	298	N	1	
15.6	14.0	E		K=H	1	
16.0	14.2	A		N	1	
15.8	14.5	D	299	K=H	1	
15.6	20.5	a		N	1	
16.9	6.9	a		N	2	
16.5	10.0	a		N	2	
16.4	10.2	a		N	1	
16.5	10.5	a		N	2	
16.9	11.4	a		N	3	
16.8	11.9	a		N	2	
16.7	12.0	a		N	1	
16.4	12.4	a		N	2	
16.2	15.7	H		K=H	1	
16.2	20.6	a		N	2	
17.4	6.3	a		N	1	

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1889phae.proj..870F

1855 W.M. Positions ent. for 1855 A.G.C. for 1900.

	No.	R.A.	Decl.	Magn.
17	59.9	−21.5	−21° 4866	
17	59.9	− 21	28′	6.8
18	5.2	−21.1	−21 4907	
			−21 4908	
			−21 4909	
18	5.1			
18	5.1	− 21	5	9.5
	5.2		5	4.0
			6	9.0
18	17.1	−21.2	−21° 4992	
18	17.0	− 21	6	8.5
18	19.5	−20.9	−20° 5147	
18	19.5	− 20	53	8.7
18	21.2	−21.1	−21° 5025	
18	21.2	− 21	2	7.5
17	54.0	−21.5	−21° 4826	
17	54.0	− 21	30	8.0
17	58.5	−21.5	−21° 4855	
17	58.5	− 21	27	6.4
18	2.2	−21.4	−21° 4884	
18	2.1	− 21	20	8.5
18	4.6	−21.3	−21° 4904	
18	4.5	− 21	17	8.5
18	5.6	−21.8	−21° 4916	
18	5.6	− 21	45	6.3
18	10.2	−21.5	−21° 4943	
18	10.2	− 21	31	8.9
17	47.6	−21.9	−21° 4779	
17	47.6	− 21	55	7.2
17	53.0	−22.2	−22 4560	
17	52.9	− 22	7	8.0
17	59.0	−22.1	−22° 4571	
17	58.9	− 22	5	8.9
17	59.5	−22.3	−22° 4576	
17	59.4	− 22	17	8.4
18	0.0	−22.2	−22° 4581	
18	0.0	− 22	10	8.5
18	13.3	−22.1	−22° 4692	
18	13.2	− 22	5	8.4
17	43.6	−22.6	−22° 4441	
17	43.5	− 22	38	7.3
17	50.4	−22.5	−22° 4474 4475	
17	50.2	− 22	30 22	6.8 8.5
17	50.8	−22.4	−22° 4478	
17	50.7	− 22	27	7.3
17	51.2	−22.6	−22° 4484	
17	51.2	− 22	32	7.5
17	53.2	−22.8	−22° 4503	
17	53.1	− 22	46	6.0
17	54.2	−22.7	−22° 4516	
17	54.2	− 22	43	7.3
17	54.7	−22.6	−22° 4522	
17	54.6	− 22	36	8.3
17	55.5	−22.5	−22° 4535	
17	55.3	− 22	34	8.6
18	9.3	−22.4	−22° 4655	
18	9.2	− 22	23	8.2
18	13.4	−22.4	−22° 4694	
18	13.3	− 22	21	7.8
17	42.5	−22.8	−22° 4436	
17	42.3	− 22	52	7.0

see chart plate

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1889phae.proj..870F

November 13, 1892.

Plate 3696

V	H	bl	No Rem.	K line	Int.	
17.5	11.6	a		N		2
17.3	11.7	a		N		1
17.3	12.0	a		N		1
17.8	12.1	a		N		1
17.6	14.0	a		N		2
17.2	14.1	F	300	K=H		1
17.6	16.4	F	301	K=H		2
17.4	20.5	a		N		2
17.6	23.4	H		N		1
18.4	5.6	a		N		1
18.9	6.6	a		N		1
19.0	10.4	a		N		4
~~18.5~~ 18.7	11.0	a		N		1
18.6	14.9	a		N		2
18.8	15.0	E		K=H		1
18.9	15.1	a		N		1
18.7	15.8	K		K=0.1H		3
18.5	22.7	a		N		1
20.0	10.6	H		K=H		1
19.8	11.3	a		N		1
19.9	11.7	a	302	N		2
19.9	11.8	F	303	K=H		3
20.0	~~12.8~~ 12.3	a		N		3
19.9	13.3	a		N		1
19.4	14.7	a		N		2
19.5	17.3	a		N		1
19.2	18.0	F	304	K=H		2
20.2	12.5	a		N		2

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1889phae.proj..870F

1855

Z.M. Positions for 1855 A.G.C. for 1900

h m s	No.	R.A.	Dec.	Magn.	A.G.C. No.	R.A. 1900	Dec. 1900	Magn.
17 53.6		−23.1						
17 54.0		−22.9	−22°	4510	17 53.7	−22 54	8.0	
17 54.5		−22.9	−22°	4520	17 54.5	−22 53	8.3	
1900								
17 57.7		−23.2						
1855								
17 59.0		−23.1						
17 59.1		−22.9	−22°	4573	17 57.0	−22 54	8.7	
18 6.9		−23.3						
~~18 13.3~~		~~−22.9~~						
18 13.3		−22.9	−22	4693	18 13.3	−22 59	7.2	
18 19.5		−23.1						
1900								
17 42.5		−23.4						
17 45.5		−23.7			24243	17 45.5	−23 39	7.5
17 53.6		−23.9			24438	17 53.7	−23 48	5.4
17 55.1		−23.8			24475	17 55.1	−23 33	8.2
18 3.5		−23.7			24704	18 3.5	−23 35	8
18 3.6		−23.8						
18 4.0		−23.9			24718	18 4.0	−23 48	7.5
18 5.5		−23.8						
18 21.0		−23.6						
17 54.5		−24.5						
17 55.7		−24.3			24495	17 55.7	−24 22	8
17 56.1		−24.3						
17 56.5		−24.4			24519	17 56.5	−24 15	7.5
17 57.5		−24.4			24550	17 57.7	−24 22	6.1
18 0.0		−24.3			24621	18 0.3	−24 10	9.5
18 3.5		−24.1			24695	18 3.2	−24 0	7.8
18 ~~4.5~~ 4.0		−24.2			24847	18 9.0	−24 2	8.2
18 10.5		−24.1						
17 58.1		−24.4			24560	17 58.1	−24 11	9.2

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1889phae.proj..870F

November 13, 1892

Plate 3696

V	H	bb.	No Rem.	K line	Int.	
20.2	12.9	a		N	2	17
20.8	12.7	a		N	2	17
21.2	8.2	F	305	K=H	2	17
21.0	10.9	a		N	1	17
21.8	16.5	a		N	1	18
21.4	20.2	H		N	1	18
22.9	8.9	a		N	1	1
22.7	12.7	F	306	K=H	1	17
22.3	14.6	e		N	2	1
22.9	15.5	H		N	1	1
22.7	19.0	H		N	1	18
22.3	23.2	g		K=H	4	18
23.2	10.2	a		N	1	1
23.5	15.3	a		N	1	18
23.7	20.1	a		N	2	18
24.2	12.1	a		N	2	17
24.3	16.0	a		N	2	18

Plate 5696

4.4	18.9	g		K=H	2	2
5.1	5.6	a		K=0.3H	4	2
5.8	15.9	a		N	1	2
6.5	7.2	L		N	2	2
6.2	8.9	a		N	1	21
6.6	13.8	a		K=0.5H	2	2
6.2	21.3	F	307	K=H	1	2
no stars at 16.0 assumed to be 6.0	7.5	X6.0	a		N	1	2

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1889phae.proj..870F

1900 h m °
17 58.9 −24.4
17 58.5 −24.8
17 48.8 −24.9
17 54.7 −24.9
18 7.0 −25.2
18 15.0 −24.9
17 50.0 −25.8
17 58.0 −25.6
18 2.0 −25.4
18 4.5 −25.8
18 12.2 −25.7
18 21.7 −25.5
17 52.9 −26.1
18 4.4 −26.2
18 15.0 −26.2
17 56.6 −26.6
18 5.5 −26.6

a.g.c. No	1900 R.A. h m	1900 Dec. ° ′	Magn.
24587	17 59.0	−24 24	6.5
24584	17 58.8	−24 41	7.8
24312	17 48.7	−24 51	6.6
24798	18 7.2	−25 11	7.8
25007	18 15.3	−24 58	var.
24656	18 1.9	−25 22	9
24737	18 4.8	−25 47	7.2
24937	18 12.5	−25 39	6.9
25171	18 21.8	−25 28	2.7
24726	18 4.4	−26 3	7.5
24998	18 15.0	−26 8	7.0

1855					
22 6.8	−16.5	−16° 6046	22 6.8	−16 31	6.5
21 39.1	−16.8	−16° 5943	21 39.0	−16 47	3
22 0.5	−17.3	−17° 6451	21 0.5	−17 15	7.0
21 42.2	−17.5	−17° 6389	21 42.2	−17 31	6.7
21 45.9	−17.4	−17° 6398	21 45.7	−17 26	8.2
21 54.5	−17.7	−17° 6422	21 54.5	−17 40	6.8
22 12.0	−22.8	−22° 5888	22 12.0	−22 44	8.0
21 39.5	−17.9	−17° 6373	21 39.6	−17 58	7.5

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1889phae.proj..870F

November 13. 1892

Plate 5676

V	H.	bl.	No Rem.	K line	Int	
8.0	9.2	a		N	1	21
7.5	12.1	a		N	1	21
7.2	19.7	a		N	1	2
8.4	10.4	a		N	3	2
8.4	13.0	y		K=H	3	2
8.3	15.8	F	308	K=H	1	2
9.2	6.1	a		N	2	2
9.5	6.9	a		N	2	21
9.9	8.1	F	309	K=H	3	2
9.9	14.7	a		K=0.5H	2	21
9.6	16.2	B	310	N	3	2
11.8	6.2	F	311	K=H	1	2
11.0	10.6	y		K=H	2	2
11.7	15.5	y		K=H	2	2
11.0	18.7	F	312	K=H	2	2
11.5	22.4	a		N	1	2
12.7	9.1	F	313	K=H	1	2
12.2	14.8	a		N	1	21
12.6	19.9	a		K=0.3H	2	2
13.7	7.8	F	314	K=H	2	2
13.4	14.1	a		K=H	1	2
14.0	15.5	J		N	1	2
13.1	20.7	a		N	1	2
13.2	24.2	F	315	K=H	2	2
14.8	10.1	Na		N	1	2
14.8	11.5	Na		N	2	2
14.9	17.1	F	316	K=H	3	2
14.3	18.0	F	317	K=H	1	2

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ZC M. Positions ent'd for 1855 a G.C for 1900

1855	No.	R.a.	Dec.	Magn.	h	m	°	′	
~~1855~~									
21	46.2	−18.3	−18°	6029	21	46.2	−18	16	8.5
~~1855~~									
21	52.4	−18.1	−18°	6052	21	52.4	−18	4	7.8
22	8.4	−17.9	−17°	6478	22	8.4	−17	56	8.3
21	49.0	−18.6	−18°	6037	21	48.8	−18	35.	6.8
21	54.2	−18.6	−18°	6056	21	54.2	−18	36	6.8
22	0.3	−18.6	−18°	6075	21	0.3	−18	32	7.8
21	39.6	−18.9	−18°	6013	21	39.7	−18	53	7.7
21	41.3	−19.1	−19°	6169	21	41.3	−19	4	7.8
21	43.6	−19.3	−19°	6176	21	43.6	−19	18	6.6
21	58.0	−19.4	−19°	6217	21	57.8	−19	22	7.5
22	1.1	−19.3	−19°	6227	22	1.0	−19	13	6.0
21	39.6	−20.2	−20°	6293	21	39.6	−20	14	7.5
21	49.1	−19.8	−19°	6190	21	49.0	−19	52	8.0
21	59.5	−20.3	−20°	6362	21	59.4	−20	16	7.3
22	6.4	−19.9	−19°	6249	21	6.4	−19	57	6.5
22	14.2	−20.2	−20°	6411	22	14.1	−20	10	7.3
21	45.7	−20.7	−20°	6313	21	45.7	−20	41	8.1
21	58.0	−20.5	−20°	6356	21	57.8	−20	28	8.2
22	9.0	−20.8	−20°	6401	22	8.9	−20	44	7.7
21	42.6	−21.2	−21°	6102	21	42.7	−21	13	8.0
21	56.5	−21.1	−21°	6154	21	56.4	−21	6	8.0
21	59.7	−21.4	−21°	6166	21	59.6	−21	28	7.3
22	10.6	−20.9	−20°	6405	22	10.6	−20	59	8.6
22	18.0	−20.9	−20°	6423	22	17.8	−20	58	7.3
21	47.5	−21.8	−21°	6120	21	47.5	−21	49	7.2
21	50.6	−21.9	−21°	6131	21	50.6	−21	52	6.2
22	3.1	−21.9	−21°	6173	21	3.0	−21	56	6.0
22	4.7	−21.6	−21°	6175	22	4.8	−21	36	7.3

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1889phae.proj..870F

November 18. 1892

Plate 5676

V.	H.	bl.	Rem.	Kline	Int.		
14.6	18.6	G		K=1.5H	3		
14.0	20.7	H		N	1		
16.0	14.0	a		K=0.6H	2		
15.6	15.6	F	318	K=H	1		
15.3	18.2	a		N	1		
15.3	18.6	a		K=0.2H	2		
15.6	22.1	G		K=1.5H	3		
15.8	23.3	H		N	1		
16.8	15.5	G		K=1.2H	2		
17.0	20.5	a		K=0.5H	2		
16.8	17.3	H		N	1		
16.5	21.3	H		N	1		
15.2	11.5	F	319	K=H	2		
15.9	12.5	H		N	1		
18.5	19.5	a		K=H	2		
16.7	19.9	G		K=H	2		
19.1	8.2	F	320	K=H	2		
19.7	13.2	H		N	1		
19.7	16.4	G		K=1.2H	2		
19.1	20.6	F	321	K=H	1		
19.3	23.4	a		N	2		
19.9	24.2	a		N	2		
20.1	11.8	a		N	2		
20.5	18.9	a		K=H	2		
20.8	6.7	a		N	1		
21.2	15.6	H		N	1		
22.4	5.9	a		N	1		
22.2	12.9	a		N	1		

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1855	No.	R.A.	Dec.	Magn.	a.g.C for 1900 No.	R.A	Dec.	Magn.
					1900	1900		
22h 6.4m	−21.8′	−21°	6180		22h 6.3m	−21° 48′		5.5
22 10.6	−21.5	−21°	6197		22 10.6	−21 27		7.7
21 56.1	−22.5	−22°	5823 5824		21 56.0	−22 30 28		9.3 8.0
21 57.6	−22.3	−22°	5836		21 57.8	−22 18		8.0
22 5.2	−22.1	−22°	5860		22 5.1	−22 7		8.2
22 6.2	−22.1	−22°	5864		22 6.1	−22 7		8.0
22 13.7	−22.3	−22°	5897		22 13.6	−22 19		5.7
22 16.4	−22.4	−22°	5904		22 16.3	−22 20		7.5
21 57.2	−22.9	−22	5833		21 59.2	−22 57		6.8
22 10.1	−23.1							
22 3.2	−22.9							
22 1950	−22							
21 53.7	−23.4				30068	21 53.7	−23 21	7.7
21 55.3	−23.8				30102	21 55.1	−23 47	8
22 10.2	−23.6				30410	22 10.6	−23 31	7.1
22 11.5	−23.7				30424	22 11.4	−23 39	6.7
21 45.2	−23.8							
21 56.6	−24.2				30134	21 56.6	−24 6	7.5
22 3.9	−24.2				30287	22 3.9	−24 9	6.6
22 13.1	−23.9				30455	22 12.9	−23 50	7.2
22 18.6	−23.9							
22 20.7	−24.3				30610	22 20.7	−24 11	6.3
21 53.5	−24.3							
22 9.2	−24.5				30390	22 9.2	−24 30	6.9
21 42.0	−24.6							
22 2.0	−24.9				30246	22 2.0	−24 53	8.5
21 40.2	−25.4							
21 56.2	−25.4							

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1889phae.proj..870F

November 18, 1892

Plate 5676

V	H.	bl	Rem.	K line	Int.
22.1	13.9	E		K=H	1
22.7	18.4	F	322	K=H	3
22.2	22.8	G		K=1.2H	2
24.0	16.1	A		N	2
23.2	17.2	A		N	1
24.2	14.2	G		K=H	2
24.2	19.7	K		K=H	2

Plate 5677

5.8	10.2	B	323	N	2
5.8	15.4	A		N	1
4.6	19.2	A		K=0.2H	4
5.6	19.2	J		N	2
6.7	5.7	F	324	K=H	2
8.0	10.2	J		N	2
8.0	15.7	F	325	K=H	2
7.5	16.2	A		N	1
7.3	21.3	A		N	1
8.4	20.8	A		N	1
9.5	14.1	A		N	1
9.5	15.3	A		N	1
10.4	14.0	K		K=1.2H	3
10.9	18.2	F	326	K=H	2
10.0	23.0	A		K=0.5H	2
11.3	12.3	F	327	K=H	2
11.6	14.3	A		N	1
11.9	15.8	G		K=1.2H	3

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DM. Pos. entered for 1855.

	1900		
	h m		
21	58.0	−25.4	
22	8.2	−25.7	
22	17.5	−25.3	
22	3.0	−26.4	
22	5.5	−25.8	
21	58.5	−26.4	
22	11.0	−26.4	

asc. No	1900 R.A.	1900 Dec.	Mag.
	h m	° ′	
30172	21 58.2	− 25 20	8
30374	22 8.1	− 25 41	5.9
30555	22 17.9	− 25 16	5.9
30274	22 3.1	− 26 16	7.3
30322	22 5.6	− 25 52	8.8
30183	21 58.8	− 26 22	6.9
30414	22 11.0	− 26 24	6.5

	1855						
	h m						
22	28.2	−17.1	−17° 6554	22	28.3	−17 8	7.0
22	39.3	−17.2	−17° 6591	22	39.2	−17 10	8.0
22	47.0	−16.6	−16° 6173	22	46.9	−16 35	3
22	47.2	−17.1	−17° 6619	22	47.1	−17 2	5.6
22	18.6	−17.5	−17° 6520 6521	22	18.7	−17 29	6.2 6.5
22	28.0	−18.2	−18° 6154	22	28.0	−18 12	6.5
22	39.6	−18.3	−18° 6192	22	39.6	−18 19	6.9
22	40.9	−18.0	−18° 6196	22	40.8	−18 1	8.0
22	51.5	−17.9	−17° 6638	22	51.5	−17 56	8.2
22	50.5	−18.4	−18° 6225	22	50.4	−18 28	8.1
22	36.1	−19.1	−19° 6326	22	36.2	−19 2	8.8
22	38.9	−19.1	−19° 6336	22	38.7	−19 3	8.0
22	35.7	−19.6	−19° 6324	22	35.8	−19 35	5.1
22	45.0	−19.8	−19° 6351	22	44.8	−19 48	7.5
22	55.0	−19.3	−19° 6388	22	54.9	−19 19	7.0
22	32.2	−19.9	−19° 6316	22	32.2	−19 57	6.7
22	36.5	−20.1	−20° 6475	22	36.4	−20 6	8.0
22	39.9	−20.4	−20° 6486	22	39.8	−20 22	5.4

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1889phae.proj..870F

November 13, 1892

Plate 5677

N	H.	bl.	No Rem.	K. line	Int.
11.8	18.9	H		N	1
12.7	9.7	Of	328	K=H	1
13.0	19.6	H		N	2
13.5	5.7	Of	329	K=H	2
13.9	7.2	a		N	1
13.6	11.2	a		K=0.5H	2
13.3	16.9	a		K=0.4H	2
14.2	9.9	Of	330	K=H	3
14.7	10.5	H		N	1
15.0	10.9	a		N	2
14.4	15.6	Of	331	K=H	1
14.5	23.0	g		K=H	2
16.0	13.8	Of	332	K=H	2
16.2	18.1	Of	333	K=H	1
17.1	7.2	Of	334	K=H	2
17.4	19.3	Of	335	K=H	2
17.6	22.4	a		N	1
18.9	16.7	H		N	1
18.3	22.3	a		K=0.2H	3
19.8	13.0	Of	336	K=H	2
20.3	6.2	a		N	3
20.7	7.9	a		N	1
20.7	10.5	K		K=H	2
20.3	14.5	a		N	1
20.2	17.7	H		N	1
21.3	13.1	a		N	1
20.6	16.6	a		N	1
22.2	16.7	a		N	1

Is H. right?

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1889phae.proj..870F

1855	W.M. Positions for 1855				A.G.C. 1900			
	No.	R.A.	Dec.	Magn.	No	R.A	Dec.	Magn.
h m		h m						
22 46.5	-19.9	-19° 6357	22 46.3	-19° 5.7				6.4
22 27.0	-20.6	-20° 6454	22 26.8	-20 36				8.5
22 47.8	-20.9	-20° 6507	22 47.7	-20 55				6.3
22 17.8	-20.9	-20° 6423	22 17.8	-20 58				7.3
22 21.2	-21.1	-21° 6234	22 21.2	-21 8				8.3
22 29.6	-21.1	-21° 6261	22 29.6	-21 8				7.0
22 42.0	-21.1	-21° 6310	22 42.1	-21 3				7.3
22 26.8	-21.4	-21° 6251	22 26.8	-21 27				5.7
22 28.0	-21.7	-21° 6253 6254	22 28.0	-21 41				9.2 7.3
22 29.0	-21.8	-21° 6257	22 28.9	-21 50				7.8
22 39.1	-21.6	-21° 6303	22 39.0	-21 33				7.9
22 55.1	-21.6	-21° 6354	22 55.0	-21 38				6.4
22 35.2	-22.4	-22° 5982	22 35.1	-22 25				7.0
22 44.6	-22.4	-22° 6011	22 44.6	-22 28				8.0
22 20.9	-22.8	-22° 5920	22 20.8	-22 49				7.8
~~22 49.5~~	~~-22.9~~	1900			31167	22	49.6 - 22	54 6.8
22 56.2	-23.1				31290	22	56.0 - 23	20 6.7
22 43.9	-23.7				31072	22	43.9 - 23	37 7.0
22 56.0	-23.4				31290	22	56.0 - 23	20 6.7
22 35.4	-24.0				30894	22	35.6 - 24	2 6.9
22 20.7	-24.3				30610	22	20.7 - 24	11 6.3
22 24.5	-24.5							
22 30.1	-24.5				30797	22	30.1 - 24	30 6.2
22 39.0	-24.5				30961	22	39.0 - 24	17 8.5
22 46.0	-24.4				31106	22	45.9 - 24	18 7.8
22 35.6	-24.7				30895	22	35.7 - 24	45 8.5
22 48.1	-24.5				31141	22	48.0 - 24	27 8
22 43.6	-25.5				31065	22	43.6 - 25	27 8.2

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1889phae.proj..870F

November 13, 1892

Plate 5677

	V	H.	bl.	Rem	K line	Int.
	23.2	15.1	à		K=0.2H	3
	23.1	18.5	à		N	1
	23.0	21.7	K		K=H	2
	23.5	13.2	Ph	337	K=H	1
	24.1	11.8	A		N	1
	24.5	16.2	ỳ		K=H	2
0 48	24.0	21.8	H		N	1

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1889phae.proj..870F

1855	D.M. Positions for 1855			A.G.C for 1900	A.G.C	1900	1900	
	No.	R.A.	Dec.	Magn	No	R.A	Dec.	Magn.
22h 40.1m −25.8°					30985	22h 40.1m	−25° 46′	6.5
22 47.7 −25.8					31134	22 47.7	−25 41	8.5
22 54.6 −25.7					31257	22 54.7	−25 42	6.1
22 35.6 −26.0								
22 32.5 −26.3					30844	22 32.7	−26 10	7.8
22 42.4 −26.4					31046	22 42.5	−26 26	6.5
22 55.0 −26.2					31267	22 55.0	−26 10	6.6

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1889phae.proj..870F

November 16, 1892

Plate 5714

	V	H	Cl.	No. Rem.	K line	Int.
23 15						
	5.7	10.1	B	338	N	2
	8.7	13.3	Of	339	K=H	1
	8.6	21.8	g		K=1.5H	3
	9.0	21.7	K		K=H	2
	9.6	10.1	H		K=H	1
	9.3	11.2	g		K=H	2
	9.5	23.0	a		N	3
	10.1	8.3	Of	340	K=H	1
	10.9	10.1	g		N	1
	10.9	10.8	g		K=H	1
	10.3	11.2	E		K=H	1
	10.2	11.9	g		K=H	2
	10.4	13.5	g		K=1.5H	2
	10.3	23.8	a		K=H	2
	11.1	12.0	Of	341	K=H	1
	11.3	13.3	H		N	1
	11.0	21.2	a		N	1
	12.6	8.8	a		N	2
	13.1	13.0	g		K=1.3H	3
	13.2	17.7	Of	342	K=H	1
	14.5	10.3	a		K=H	2
	14.1	14.5	K?		K=H	3
	14.6	17.8	a		K=1.02H	H
	15.5	6.8	g		K=1.5H	3
	15.5	10.2	H		N	1
	15.8	13.7	H		N	1
	15.6	17.1	a		K=H	2
	15.4	17.2	a		K=H	1

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D.M. Positions for 1855 A.G.C. for 1900

1855	No.	R.A.	Dec.	Magn.				
h m		m			h	m		
23 9.9	−16.9		−16°	6254	23	9.8	16° 58′	6.5
23 16.2	−18.6		−18°	6295	23	16.2	−18 35	7.8
23 34.2	−18.6		−18°	6358	23	34.2	−18 37	4.3
				6359			35	8.5
23 34.0	−18.8		−18°	6357	23	34.0	−18 50	5.3
23 9.5	−18.9		−18°	6280	23	9.5	−18 57	7.8
23 11.9	−18.9		−18°	6283	23	11.8	−18 52	6.0
23 36.6	−19.1		−19°	6500	23	36.7	−19 5	5.8
23 5.5	−19.2		−19°	6425	23	5.6	−19 10	7.3
23 9.3	−19.7		−19°	6429	23	9.3	−19 40	7.0
23 11.0	−19.6		−19°	6433	23	10.8	−19 38	7.0
23 11.9	−19.4		−19°	6438	23	11.8	−19 21	8.6
23 13.3	−19.4		−19°	6445	23	13.3	−19 20	7.3
23 16.5	−19.5		−19°	6450	23	16.5	−19 29	6.7
23 38.5	−19.5		−19°	6506	23	38.5	−19 29	5.0
23 13.2	−19.8		−19°	6444	23	13.3	−19 47	7.5
23 16.1	−19.9		−19°	6448	23	16.1	−19 54	8.2
23 33.1	−19.8		−19°	6489	23	33.0	−19 48	7.8
23 6.5	−20.5		−20°	6557	23	6.4	−20 29	7.0
23 15.4	−20.9		−20°	6587	23	15.4	−20 54	4.5
23 25.3	−20.9		−20°	6613	23	25.5	−20 53	8.0
23 9.5	−21.5		−21°	6398	23	9.5	−21 28	7.8
23 18.5	−21.4							
23 25.7	−21.7							
23 1.7	−21.9		−21°	6368	23	1.7	−21 57	4.4
23 9.2	−22.0							
23 17.1	−22.3		−22°	6121	23	17.2	−22 14	8.2
23 24.1	−22.2		−22°	6141	23	24.1	−22 10	7.0
23 24.2	−22.1		−22°	6142	23	24.2	−22 3	7.8

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1889phae.proj..870F

November 16 1892

Plate 5714

v	H	Obl.	No. Rem	Kline	Int	
16.5	13.6	Tr.	343	K=H	2	
16.4	14.8	I		K=H	2	
16.4	16.4	a		K=H	1	
16.5	20.6	Tr	344	K=H	1	
18.0	17.1	Tr	345	K=H	3	Should this be 18.0 7.1 ?
18.0	14.1	H		N	1	
17.2	16.0	Tr	346	K=H	1	
17.9	20.8	k		N	2	
18.7	10.6	A		N	1	
18.7	11.8	A		K=H	2	
18.4	15.0	H		N	1	
16.2	16.4	a		N	1	
19.5	10.2	a		K=H	2	
19.9	13.2	Tr	347	K=H	2	
20.7	5.8	y		K=1.5H	3	
20.8	8.3	a		N	1	
20.9	16.1	a		K=0.5H	2	
20.3	22.5	Tr	348	K=H	1	
21.4	8.7	Tr	349	K=H	1	
21.3	16.7	Tr	350	K=H	1	
21.2	21.5	H		N	1	
22.5	9.8	a		K	2	
22.4	10.4	a		N	1	?
22.2	13.4	a		N	1	
22.6	18.3	Tr	351	K=H	1	
22.6	20.0	a		N	1	?
23.6	12.5	a		N	1	
23.7	15.6	a		K=0.5H	2	

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1855 h m °	N.G.C. No	1900 R.a	1900 Decr.	Magn.
23 16.3 −22.6				
23 19.0 −22.6				
23 22.7 −22.7				
23 31.7 −22.7				
1900 23 4.5 −23.0	31442	23 4.5	−23 0	4.9
23 19.9 −23.1	31716	23 19.7	−23 3	7
1855 23 21.5 −22.9				
1900 23 34.6 −23.2	31986	23 34.5	−23 5	7.5
23 12.2 −23.4	31571	23 12.1	−23 22	8.8
23 14.9 −23.5	31620	23 14.7	−23 22	7.8
23 22.0 −23.3				
23 25.0 −23.3				
23 11.4 −23.8	31554	23 11.1	−23 46	7.5
23 17.6 −24.1	31669	23 17.5	−24 0	7.5
23 1.5 −24.3	31385	23 1.3	−24 17	4.4
23 7.1 −24.5	31483	23 7.1	−24 22	7.2
23 24.2 −24.7	31790	23 24.1	−24 36	8.2
23 38.5 −24.4				
23 8.0 −24.8	31495	23 7.7	−24 39	8
23 25.5 −24.8	31815	23 25.4	−24 45	7.2
23 36.3 −24.8				
23 10.0 −25.6	31533	23 9.9	−25 24	7.2
23 11.5 −25.3 ?				
23 18.0 −25.4				
23 28.9 −25.6	31887	23 28.7	−25 25	7.7
23 32.7 −25.5	31958	23 32.6	−25 26	7.2
23 15.5 −25.9	31640	23 15.7	−25 48	8.2
23 23.0 −25.9	31775	23 23.1	−25 58	6.4

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1889phae.proj..870F

November 16, 1892

Plate 5714

r	H	bl.	Rem.	Kline	Dat.	
?	25.0	7.0	F	352	K=H	2
	24.4	17.4	G		K=H	2

Plate 4655

4.5	9.2	A			K=0.3H	2
4.7	11.9	F		353	K=H	1
5.8	6.8	A			N	1
5.2	12.0	F		354	K=H	2
6.6	14.5	G			K=1.2H	2
8.0	6.3	A			K=0.5H	2
7.3	8.7	A			K=0.3H	2
7.8	16.3	A			K=H	1
7.7	20.0	A			N	2
8.8	20.5	F		355	K=H	2
10.0	8.3	F		356	K=H	3
9.6	10.9	A			K=H	2
9.6	11.7	F		357	K=H	1
9.2	22.3	A			K=H	1
10.5	23.3	A			N	2
10.8	23.7	H			N	1
11.7	9.1	G			K=H	2
11.5	19.2	A			K=0.3H	2
11.6	23.7	F		358	K=H	2
12.9	6.7	A			K=H	1
12.5	11.5	A			N	1
12.1	23.9	A			K=H	2
13.6	10.3	A			N	2

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1875.

1900			A.G.C.	1900	1900	
			No.	R.A.	Dec.	Magn
h m °				h m ° ′		
2 3 40	-26.6		31424	2 3 3.5	-26 22	7.1
2 3 26.5	-26.4		31844	23 26.6	-26 18	6.7
1900						
h m						
3 10.6	-26.5		3520	3 10.7	-26 28	6.3
3 16.5	-26.7		3632	3 16.5	-26 39	7
3 4.9	-27.2		3401	3 5.0	-27 6	7.5
3 16.6	-26.9		3633	3 16.5	-26 58	6.6
3 22.1	-27.7		3743	3 22.2	-27 40	6.1
3 3.5	-28.2		3380	3 3.6	-28 13	6.2
3 9.1	-27.9		3488	3 9.1	-27 57	6.8
3 26.5	-28.3		3837	3 26.4	-28 16	7
3 34.4	-28.3		4022	3 34.6	-28 16	5.8
3 36.5	-28.8	Chron. -28°1235 h 3 m 34.7		-28° 54.8		7.1
3 7.9	-29.4		3462	3 7.9	-29 23	3.6
3 13.6	-29.2		3585	3 13.8	-29 9	5.9
3 16.0	-29.3		3620	3 15.8	-29 12	7.5
3 39.9	-28.9		4133	3 39.8	-28 56	7.2
3 42.2	-29.7		4184	3 42.4	-29 39	5.7
3 43.1	-29.8		4207	3 43.3	-29 46	7.2
3 9.3	-30.2		3496	3 9.4	-30 10	6.4
3 33.0	-30.2		3987	3 33.0	-30 10	7.2
3 43.1	-30.2		4205	3 43.2	-30 12	6.9
3 3.9	-30.9		3383	3 3.7	-30 42	7
3 16.0	-30.7		3617	3 15.7	-30 35	8.5
3 43.9	-30.5		4219	3 43.9	-30 28	5.6
3 12.0	-31.3		3555	3 12.0	-31 11	6.4

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1889phae.proj..870F

November 16, 1892

Plate 4653

V	H	Cl.	No. Rem.	K line	Int.	
13.1	14.6	E		K=H	1	3*
13.1	17.8	H		K=H	1	3
13.9	17.9	F	359	K=H	2	3
13.8	21.8	H		K=H	1	3
14.3	8.8	H		K=H	1	3
14.6	10.7	a		K=0.2H	1	3
14.1	12.7	a		N	1	3
14.1	13.9	F	360	K=H	1	3
15.5	6.9	a		N	1	3
15.1	16.9	a		K=0.5H	1	3
15.4	15.2	K		K=H	2	3
15.5	20.9	a		N	1	3
15.5	21.4	a		N	3	3
15.4	24.2	a		N	1	3
16.5	8.9	H		N	1	3
16.4	17.2	a		K=H	1	3
17.2	13.7	J		K=H	2	3
19.0	15.8	K		N	1	3
18.8	16.9	E		K=H	1	3
19.2	19.2	F	361	K=H	2	3
19.8	12.2	a		N	1	3
19.6	19.4	a		N	1	3
20.8	20.5	a		N	1	3
21.8	12.0	F	362	K=H	2	3
21.4	18.2	F	363	K=H	2	3
23.0	7.8	F	364	K=H	1	3
23.0	10.2	F	365	K=H	1	3
22.1	20.0	K		N	1	3

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1900 1875.

1900								
h m °								
3 22.0 −31.1								
3 30.0 −31.1								
3 29.6 −31.5								
3 39.5 −31.5	C. Dm. −31°1514	h 3	m 38.1	−31°	25.4	7.3		
3 8.5 −31.6								
3 13.0 −31.8								
3 17.9 −31.7								
3 20.5 −31.6								
3 3.5 −32.4	−32 1162	h 3	m 2.9	−32°		7.6	8.2	
3 27.2 −32.1	−							
3 30.5 −32.3								
3 37.1 −32.4								
3 38.2 −32.3								
3 44.8 −32.3								
3 8.3 −32.8								
3 28.5 −32.8	−32 1039	h 3	m 27.2	−32	43.8	7.9		
3 19.9 −33.1								
3 25.1 −34.1								
3 27.5 −34.1								
3 33.1 −34.2								
3 16.1 −34.5								
3 34.0 −34.3								
3 36.9 −35.1								
3 15.2 −35.4								
3 30.6 −35.2								
3 4.9 −35.8								
3 10.9 −35.9								
3 35.0 −35.6								

N.G.C. No	1900 R.A.	1900 Decl.	Magn.
	h m	° ′	
3742	3 22.0	−30 59	8.2
3910	3 29.8	−30 58	7.1
3913	3 29.9	−31 25	6.4
~~4118~~	3 39.1	−31 20	7
3479	3 8.5	−31 30	7
3566	3 12.8	−31 43	7.5
3657	3 17.9	−31 27	9.8
3709	3 20.3	−31 29	8
3863	3 27.6	−32 1	8.5
3931	3 30.5	−32 13	6.7
4070	3 37.0	−32 11	8
4101	3 38.3	−32 15	4.9
? 4233	3 44.6	−32 5	8.2
3478	3 8.4	−32 46	7
3694	3 19.7	−33 4	6.7
3809	3 25.0	−34 0	7.5
3860	3 27.5	−33 53	7.5
3983	3 33.0	−34 7	6.8
3624	3 16.0	−34 22	7.5
4007	3 33.6	−34 17	8.2
4068	3 36.8	−35 25	8.5
3615	3 15.4	−35 21	6.9
3935	3 30.7	−35 10	6.8
3399	3 4.8	−35 48	7
3522	3 10.8	−35 55	6.7
4027	3 34.9	−35 32	7

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1889phae.proj..870F

November 16, 1892

Plate 4655

			Nr. Rem	K line Int.	
23.2	11.0	a		K=0.5H	2
23.6	14.8	a		N	2
23.0	15.4	g		K=H	2
23.4	15.6	a		K=0.5H	2
23.2	16.4	a		N	1
23.9	9.6	a		N	2
24.3	12.0	a		N	1
24.3	19.2	a		N	1
24.0	23.5	a		N	2

Plate 5667

4.3	15.7	g		K=H	2
5.4	16.0	K		K=H	2
6.1	16.9	a		K=0.5H	1
7.2	15.0	b		K=H	1
7.7	17.8	a		N	1
7.7	23.1	a		K=H	2
8.3	16.7	g		K=H	1
9.5	11.5	Hb		N	1
10.0	13.5	Hb		N	1
9.1	15.0	g	366	K=H	1
9.2	16.5	A		N	1
9.4	17.8	A		N	1
10.5	10.9	Hb		K=Hb	1
10.9	11.8	Hb		K=H	2
10.5	12.2	a		N	1
10.5	14.1	a		N	2

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1875.

1900 R								
3	13.0	−36.1						
3	22.0	−36.4						
3	23.9	−36.1	−36	C.D.M. 1306	3	22.7	−36	7.2 5.6
3	24.1	−36.3						
3	26.0	−36.1						
3	9.1	−36.4						
3	15.2	−36.5	−36	1250	3	14.0	−36	344 8.0
3	33.6	−36.6						
3	44.0	−36.5	−36	1453	3	43.1	−36	29.4 6.7

1900 R								
1	25.0	−26.2						
1	25.7	−26.8						
1	27.9	−27.2						
1	23.0	−27.6						
1	29.5	−27.9						
1	41.2	−27.8						
1	27.0	−28.3						
1	14.5	−28.8	−28°	com. 407	1	13.8	−28°	53.6 7.6
1	19.5	−29.1						
1	23.2	−28.6						
1	26.5	−28.6						
1	29.5	−28.8						
1	13.2	−29.4	−29	411	1	12.6	−29	23.0 7.5
1	15.0	−29.6	−29	422	1	14.5	−29	38.5 7.4
1	16.6	−29.5						
1	20.7	−29.4						

A.G.C. No	1900 R.A.	1900 Dec.	Magn.
? 3572	3 13.0	−36° 4′	9
3744	3 22.1	−36 17	6.2
3792	3 24.3	−36 16	9
3833	3 26.2	−36 6	7
3490	3 9.1	−36 19	6.1
3999	3 33.2	−36 37	7.5

1425	1 25.0	−26 8	6.6
1435	1 25.7	−26 43	6.2
1476	1 27.8	−27 2	9.5
1396	1 23.3	−27 38	7.5
1514	1 29.7	−27 52	8.2
1720	1 41.4	−27 50	6.4
1463	1 27.2	−28 13	7.5
1338	1 19.7	−29 1	8.2
1401	1 23.4	−28 34	8.2
1451	1 26.6	−28 37	8.8
1518	1 29.8	−28 45	7
1281	1 16.7	−29 19	8.5
1353	1 20.8	−29 18	8.8

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1889phae.proj..870F

November 16, 1892

Plate 566

V.	H	cl	Rem.	Kline Int	
10.6	16.0	Hb		N	1
10.4	17.7	I		N	1
10.9	20.0	A		K=H	2
10.4	22.5	Hb		N	1
11.8	14.6	A		N	1
11.6	19.0	F	367	K=H	1
12.5	6.5	F	368	K=H	1
12.2	11.8	A		K=H	1
12.9	15.8	B		K=H	1
12.7	16.6	G		K=1.2H	2
12.3	17.0	A		N	1
12.7	17.4	Hb		N	1
12.6	18.1	G		K=H	2
12.6	18.6	Gh	369	K=H	3
13.4	14.5	Hb		K=H	1
13.3	14.8	G		K=H	2
13.3	16.7	G		K=1.2H	3
14.6	8.5	F	370	K=H	3
14.8	10.5	F	371	K=H	1
14.7	13.3	I		K=H	2
14.3	22.0	A		N	1
15.0	24.3	A		N	2
15.3	9.1	G		K=H	1
15.4	13.2	E		K=H	1
15.8	15.3	A		K=H	2
15.6	18.2	Hb		N	1
15.6	22.5	A		N	2
16.4	13.6	F	372	K=H	2

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1900				A.G.C.	1900	1900	
h m	°			No	R.A.	Dec.	Magn.
1 25.6	−29.5			1433	h m 1 25.6	− 29° 23′	8
1 29.5	− 29.4			1510	1 29.5	− 29 18	7.5
1 34.6	− 29.6			1602	1 34.7	− 29 32	6.9
1 40.9	− 29.3	− 29 56	4				
1 39.2	− 29 22.0		7.2				
1 22.0	− 30.1			1374	1 22.2	− 29 59	8.8
1 32.5	− 29.9			1566	1 32.5	− 29 54	8.5
1 3.2	− 30.4	− 30° 36	0				
1 2.9	− 30 17.1		7.7				
1 15.1	− 30.3	− 30 43	4				
1 14.5	− 30 15.3		7.6				
1 25.0	− 30.7			1426	1 25.1	− 30 34	8.5
1 27.0	− 30.5			1464	1 27.3	− 30 40	9.2
1 27.6	− 30.4			1481	1 27.9	− 30 14	8
1 28.5	− 30.6			1502	1 28.8	− 30 27	8.2
1 30.2	− 30.6			1529	1 30.4	− 30 25	8
1 31.2	− 30.5	− 30 54	0				
1 30.4	− 30 32.7		6.5				
1 21.6	− 30.8			1369	1 21.9	− 30 48	7.5
1 22.5	− 30.8			1379	1 22.5	− 30 45	7
1 27.0	− 30.9			1461	1 27.1	− 30 48	6.0
1 7.9	− 31.4			1123	1 7.7	− 31 20	6.6
1 12.5	− 31.7			1205	1 12.4	− 31 27	8.8
1 19.0	− 31.5			1323	1 18.9	− 31 28	6.1
1 39.3	− 31.3			1689	1 39.4	− 31 13	8.8
1 45.0	− 31.7			1782	1 44.8	− 31 34	6.5
1 9.1	− 31.8			1145	1 9.1	− 31 39	8
1 18.2	− 31.9	− 31 56	0				
1 17.5	− 31 55.0		7.6				
1 23.9	− 32.1			1405	1 23.8	− 32 1	7.6
1 30.4	− 31.9			1532	1 30.5	− 31 54	8.5
1 40.6	− 31.9			1704	1 40.5	− 31 53	8.5
1 19.4	− 32.4			1334	1 19.6	− 32 20	6.9

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1889phae.proj..870F

November 16/17, 1892

Plate 5667

V.	H.	Cl.	Rem.	Klinc	Int.	
16.5	18.1	g		K=H	3	1
17.8	14.8	N		N	1	1
17.3	18.9	fb		N	1	1
17.1	19.7	F.	3/3	K=H	1	1
17.4	21.2	g?		K=1.2H	3	1
19.2	21.2	fb		K=H	1	1
19.3	12.6	g		K=H	2	1
19.9	13.3	g		K=H	2	1
19.4	15.8	a		N	1	1
19.8	20.0	g		K=H	2	1
19.6	20.8	fb		K=H	1	1
21.0	14.0	g		K=H	2	1
20.2	15.6	a		K=0.8H	3	1
21.2	10.4	a		N	1	1
21.2	11.2	a		K=0.5H	2	1
21.6	22.2	fb		N	1	1
21.9	11.8	F	3/4	K=H	1	1
22.1	13.0	fb		N	1	1
23.4	9.2	fb		N	1	1
24.5	6.6	a		N	2	1
24.5	9.3	a		N	1	1

Plate 4035

3.7	6.5	a		N	2	2
4.3	15.7	a		N	1	
4.5	17.3	g		N	2	
5.7	10.0	fb		N	2	2

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1999phae.proj..870F

1900	C.D.M. R.A. 1875	Dec.	Magn.	A.G.C. No.	1900 R.A.	1900 Dec.	Magn.
h m °					h m	° ′	
1 30.0		−32.4		1527	1 30.2	−32 24	6.4
1 22.2		−33.1		1377	1 22.4	−33 3	var.
1 32.4		−32.9		1561	1 32.2	−32 48	7
1 34.0		−32.8		1587	1 34.0	−32 45	9
1 37.6		−32.9		1660	1 37.6	−32 49	5.6
1 37.0		−33.9		1642	1 36.7	−33 54	7
1 17.1		−33.8		1287	1 17.1	−33 45	6.9
1 18.7		−34.1		1317	1 18.7	−34 4	6.7
1 25.0		−33.9	−33 54	1384	1 23.7	−33 58.5	8.3
1 35.0		−34.1		1609	1 35.1	−33 53	9.5
1 37.0		−33.9		1642	1 36.7	−33 54	7
1 20.0		−34.8		1344	1 20.0	−34 40	6.6
1 24.1		−34.4		1414	1 24.1	−34 17	6.7
1 11.4		−34.9		1188	1 11.5	−34 41	7.8
1 13.5		−34.9		1220	1 13.5	−34 40	7.8
1 40.4		−34.9		1699	1 40.1	−34 54	6.8
1 14.9		−35.3		1244	1 14.7	−35 1	8
1 17.9		−35.4		1305	1 17.9	−35 11	7.8
1 8.1		−35.8		1132	1 8.2	−35 44	6.9
1 1.6		−35.2		1023	1 1.6	−35 20	7.5
1 8.9		−36.5		1150	1 9.3	−36 43	8.5
h m °					h m	° ′	
2 3 44.5		−25.9		32180	23 44.6	−25 54	6.5
0 5.0		−26.6		66	0 4.9	−26 26	7.2
0 8.7		−26.6		122	0 8.7	−26 35	6.0
2 3 52.0		−27.3		32304	23 52.0	−27 11	6.4

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1889phae.proj..870F

November 16, 17, 1892

Plate 4035

H.	H. b.	Rem. No.	Kline	Int.	
5.6	11.0	a	K=H	1	
5.0	17.3	I	N	2	
6.7	8.8	a	K=0.2H	3	
6.8	12.3	F	375 K=H	1	
6.2	16.8	a:	N	1	
7.9	16.4	I	K=H	2	
8.0	16.7	E	K=H	1	
7.5	17.6	F	376 K=H	1	
8.0	22.7	b	K=H	1	
8.9	6.4	a	N	3	
8.4	6.6	F	377 K=H	2	
8.6	10.2	a	N	1	
8.1	10.8	b	N	1	
8.3	11.7	a	N	1	
8.3	15.4	F	378 K=H	3	
9.0	23.4	F	379 K=H	1	
9.9	12.0	G	K=H	2	
9.3	13.0	a	N	2	
9.2	13.1	F	380 K=H	1	
10.8	9.9	b	N	1	
10.8	10.8	b	N	1	
10.8	13.3	a	N	2	
11.0	13.4	a	N	1	
10.6	14.1	a	N	1	
10.2	20.8	G	K=1/2H	3	
10.4	22.0	a	N	1	
10.5	23.7	I	K=H	2	
11.0	23.8	F	381 K=H	2	

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1889phae.proj.:870E

1900	C.D.K. R.A.	1875 Dec.	Magn.	N.G.C. No.	R.A.	Dec.	Magn.
	h m	°			h m	° ′	
23	54.4	−27.2		32338	23 54.4	−27 5	8.2
0	8.6	−26.9		124	0 8.7	−26 51	6.3
23	49.5	−27.6		32251	23 49.2	−27 36	6.8
23	57.1	−27.8	−27 16522	23 55.9	−27 50.0	7.8	
0	7.5	−27.5		107	0 7.6	−27 25	7.8
0	6.7	−28.4		91	0 6.5	−28 22	5.4
0	7.5	−28.4	−28 32	0 5.9	−28 29.1	8.3	
0	9.5	−28.2		131	0 9.3	−28 5	8
0	20.5	−28.4		341	0 20.8	−28 16	6.8
23	43.8	−28.8		32161	23 43.7	−28 41	4.6
23	44.2	−28.5		32169	23 44.1	−28 25	6.8
23	52.0	−28.7		32314	23 52.4	−28 36	9
23	53.5	−28.4	−28 18423	23 52.4	−28 28.6	8.0	
23	55.5	−28.6	−28 18431	23 54.3	−28 372	7.8	
0	4.4	−28.6		56	0 4.3	−28 33	5.5
0	22.2	−28.7		368	0 22.4	−28 48	6.8
23	56.4	−29.4		32373	23 56.2	−29 17	6.9
23	58.1	−29.0		32403	23 58.5	−28 59	7.6
23	58.7	−28.9		32404	23 58.5	−28 57	7.4
23	51.2	−29.9		32296	23 51.4	−30 4	8.5
23	53.4	−29.9	−29 18903	23 52.1	−29 54.1	8.4	
23	59.1	−29.9		32414	23 59.2	−29 50	6.3
23	59.5	−29.7		32415	23 59.3	−29 57	7.4
0	1.4	−29.8	−29 18964	23 59.8	−29 50.7	7.5	
0	16.5	−29.6		263	0 16.5	−29 32	5.3
0	19.5	−29.7		313	0 19.3	−29 32	8.5
0	23.1	−29.6		381	0 23.2	−29 36	6.7
0	23.5	−29.9		387	0 23.4	−29 51	6.9

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1889phae.proj..870F

November 16/17, 1892

Plate 4035

δ	H.6h	Rem	K-line	Int.	
11.4	7.2	F	352	K=H	1
11.3	8.7	h		N	1
11.4	9.9	h		K=H	1
11.3	11.2			K=H	2
11.7	12.5		363	N	3
11.6	13.6	a		N	1
11.5	17.3	a		N	1
11.7	20.5	a		N	1
12.0	21.5	h		K=H	1
12.5	11.9	a		K=0.5H	2
12.6	12.7	a		N	1
12.5	13.3	a		N	2
12.8	13.6	a		K=0.8H	1
13.0	14.0	a		K=H	1
12.7	18.1	a		N	1
12.2	19.5	a		N	1
13.6	6.0	a		N	1
13.2	8.9	K	384	K=H	1
13.3	10.6	a		N	1
13.7	12.4	a		N	1
13.4	14.6	a		K=0.6H	1
13.8	22.2	e		K=H	1
13.9	22.6	e		K=H	1
14.6	8.2	a		N	1
14.5	9.1	a		N	1
14.7	12.9	a		K=0.5H	1
14.5	13.1	F	385	K=H	2
14.8	16.0	g		K=H	2

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1889phae.proj..870E

1900	C.D.M.	R.A. 1875	Dec.	Magn.	A.G.C. No.	1900 R.A.	1900 Dec.	Magn.
h m 23 44.6	° −30.2				32186	h m 23 45.0	° ′ −29 58	7.8
23 48.5	−30.2	−30°	19728	23 47.2	−30	5.0		7.5
23 51.5	−30.2				32296	23 51.4	−30 4	8.5
23 54.4	−30.1				32337	23 54.3	−30 3	5.8
23 57.5	−30.3				32389	23 57.2	−30 17	5.2
0 0.0	−30.3	−30	19818	23 58.4	−30	19.6		8.0
0 8.6	−30.2				120	0 8.5	−30 8	8.5
0 16.0	−30.4				248	0 15.9	−30 14	8
0 18.5	−30.4				300	0 18.4	−30 24	6.8
23 56.0	−30.8	−30	19776	23 54.5	−30	45.8		8.3
23 57.9	−30.8				32393	23 57.8	−30 43	8.5
23 59.0	−30.8				32411	23 59.1	−30 42	6.9
0 0.0	−30.9	−30°	19820	23 58.5	−30	57.0		8.3
0 1.0	−31.0	−31°	19594	23 59.5	−31	3.6		7.5
0 10.2	−30.7				158	0 10.4	−30 44	8.5
0 13.8	−30.7				215	0 13.7	−30 31	8
23 41.6	−31.4	−31	19445	23 ~~42.2~~ 40.7		−31	7.8	7.8
23 48.9	−31.2				32247	23 48.8	−30 55	7.5
23 53.0	−31.2	−31	19526	23 51.4	−31	8.3		8.0
23 57.0	−31.4				32386	23 57.0	−31 15	8.5
0 2.0	−31.3	−31	10	0 0.7	−31	15.7		7.9
0 20.3	−31.4				331	0 20.1	−31 15	8
0 21.0	−31.4				346	0 21.0	−31 18	7.2
23 47.0	−31.9	−31	19478	23 45.6	−31	46.7		7.7
23 49.5	−31.9				32254	23 49.2	−31 35	9.8
23 58.0	−31.9	−31	19571	23 56.8	−31	55.2		7.8
23 58.6	−31.8	−31	19578	23 57.2	−31	47.3		7.3
0 5.4	−31.9				76	0 5.6	−31 50	7

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1889phae.proj..870F

November 16/17, 1892

Plate 40.35

α	δ	Rem.	K line	Int	
15.0	18.4	d	K=H	3	0
14.4	21.4	a	N	3	0
14.5	23.2	a	N	1	0
15.3	7.1	b	N	1	2
15.3	11.1	b	N	1	2
15.7	11.4	F	386 K=H	2	2
16.1	9.6	B?	387 N	3	2
16.7	11.5	b	K=H	1	2
16.3	13.7	b	N	1	0
17.0	16.3	a	K=05H	2	0
16.9	16.7	A	N	1	0
16.5	17.8	F	388 K=H	2	0
17.0	18.1	Q?	N	1	0
16.1	23.2	F	389 K=H	2	0
16.7	24.2	g	K=H	2	0
17.3	8.1	a	K=H	2	2
17.3	9.3	a	N	1	2
17.2	13.8	g	K=H	2	0
17.9	14.3	b	N	1	0
17.6	15.1	a	N	1	0
17.8	16.3	a	N	1	0
17.7	18.5	E	K=H	1	0
17.5	18.6	g	K=12H	2	0
17.6	24.1	F	390 K=H	1	0
18.4	5.8	a	N	1	2
18.6	8.3	g	K=H	2	2
18.6	10.7	F	391 K=H	2	2
18.9	19.5	a	N	1	0

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1889phae.proj.870E

1900	C.D.M.	R.A. 1875	Dec.	Magn.
h m °				
0 11.0	−32.0			
0 18.2	−31.7			
0 22.5	−31.8			
23 44.5	−32.2	−32	17682	23 43.0 −32 6.4 7.5
23 54.1	−32.2			
23 55.0	−32.4			
23 50.4	−32.5			
23 54.9	−32.9			
0 0.0	−32.6	−32	17805	23 58.5 −32 41.4 7.5
0 6.1	−33.1	−33	36	0 5.0 −33 6.5 8.2
0 7.2	−33.0	−33	42	0 6.2 −33 0.8 8.8
0 9.9	−32.8			
0 10.5	−33.1			
0 22.5	−32.6			
0 25.0	−32.8			
23 46.1	−33.2			
23 49.5	−33.2	−33	16755	23 48.0 −33 9.5 8.3
0 0.1	−33.1	−33	16~~755~~836	23 ~~48.0~~ 58.8 −33 9.8 ~~8.3~~ 7.0
0 1.3	−33.5			
0 3.4	−33.4			
0 6.4	−33.5	−33	35	0 5.0 −33 29.9 8.4
0 11.2	−33.4			
0 11.7	−33.3			
0 24.8	−33.4			
23 40.4	−33.8			
23 46.5	−33.8			
23 52.6	−33.8			
0 14.1	−34.1	−34	88	0 12.6 −34 1.1 8.5

A.G.C.	1900	1900		
No.	R.A	Dec.		Magn.
167	h m ° ′ 0 11.1	−32 0		5.9
296	0 18.3	−31 36		6.6
364	0 22.2	−31 36		8.5
~~32341~~	~~23 54.4~~	~~−32 15~~		~~7.5~~
32341	23 54.4	−32 15		7.5
32265	23 50.1	−32 29		6.0
32266			27	6.7
32345	23 54.6	−32 46		8.5
148	0 9.9	−32 43		7.2
369	0 22.5	−32 23		7.5
416	0 24.9	−32 50		8.2
32206	23 46.3	−33 0		7.5
3	0 1.5	−33 9		8.8
36	0 3.2	−33 16		8
178	0 11.5	−33 19		7.5
183	0 11.7	−33 15		6.5
411	0 24.6	−33 8		7.5
32100	23 40.6	−33 29		7.2
32215	23 46.7	−33 41		6.8
32316	23 52.5	−33 45		6.7

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1889phae.proj..870F

November 16/17, 1892

Plate 4035

Ir.	Hr.	Sel.	Nr. Name	Klinic	Int
15.8	16.9	A.		N	1
18.5	20.4	A		N	1
19.0	22.0	A		N	1
18.3	23.4	Hca		K=1.2H	3
19.3	8.3	G		K=H	1
19.4	9.5	A		N	1
19.8	12.3	Fr	392	K=H	1
19.2	15.0	J		K=1.2H	3
20.6	8.6	Hb		N	1
21.0	13.5	Fr	393	K=H	1
20.4	15.6	Fr	394	K=H	1
21.0	16.5	Hb		N	1
20.6	19.2	A		N	1
20.1	19.6	Fr	395	K=H	1
20.6	20.5	A		N	1
21.8	8.3	G		K=H	2
20.9	11.1	A.		N	1
21.4	13.0	Fr	396	K=H	1
21.8	15.3	Fr	397	K=H	2
21.9	16.1	G		K=H	2
21.9	17.5	J		K=H	2
22.3	15.4	A.		K=H	2
22.4	16.5	Fr	398	K=H	3
22.2	20.3	A.		N	1
23.0	20.5	A		N	1
23.9	17.5	Hb		N	1
23.8	20.4	Hb		N	1
23.1	21.0	Fr	399	K=H	1

1 2

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1889phae.proj.. 870E

1900	GDM. R.A. 1875	Dec.	Magn.	A.G.C.	1900.	1900	
				No.	R.A.	Dec.	Magn.
0hr 7.9	−34.0	−33 43	0 6.3	− 33 59.1	8.4	not in A.G.C.	
0 16.5	−33.9	−33 109	0 15.3	− 33 47.2	8.5	not in A.G.C.	
0 19.9	−34.1	−34 126	0 18.4	− 34 2.1	8.7	not in A.G.C.	
0 22.9	−33.7					377 0 22.9 − 33 34	5.2
23 46.5	−34.2					32212 23 46.6 − 34 1	8.2
23 49.8	−34.3	−34 16228	23 48.3	−34 20.0	8.5		
23 56.8	−34.5	−34 16269	23 55.1	−34 29.0	8.3		
0 3.0	−34.1					30 0 3.0 − 34 6	5.7
23 47.2	−34.8	−34 16212	23 46.1	− 34 47.6	8.0		
23 58.9	−35.2	−35 16055	23 57.9	− 35 6.6	7.7		
0 4.4	−34.8					63 0 4.8 − 34 21	8.8
0 6.2	−35.2	−35 41	0 5.2	− 35 9.3	7.5		
0 13.5	−34.9	−34 81	0 12.0	− 34 52.3	8.3		
0 14.3	−34.6	−34 93	0 13.0	− 34 35.9	8.5		
0 16.7	−34.9	−34 104	0 15.3	− 34 51.4	8.0		
23 46.0	−35.3					32209 23 46.4 − 35 15	6.5
23 53.4	−35.0	−34 16251	23 52.0	− 34 59.2	7.7		
23 58.0	−35.5	−35 16047	23 56.6	− 35 26.4	7.3		
0 3.6	−35.5					42 0 3.7 − 35 21	7.8
0 5.6	−35.6					82 0 5.7 − 35 25	7.2
0 9.7	−35.5					149 0 10.0 − 35 28	6.4
0 4.0	−35.8					49 0 4.0 − 35 39	7.8
0 5.5	−35.8	−35 42	0 5.4	− 34 (35) 49.6	5.4		
0 16.5	−35.7	−35 98	0 14.7	− 35 37.8	7.4		
0 16.6	−36.2					258 0 16.3 − 36 22	7.5
0 9.4	−36.5					129 0 9.2 − 36 22	7.2
0 16.7	−36.5	−36 104	0 15.0	− 36 29.6	7.1		
0 18.0	−36.2					287 0 17.8 − 35 57	7.5

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1889phae.proj..870F

November 20 1892

Plate 4680

23h 5m

δ	H	bl.	No. Rem	K line	Int.	
4.4	6.6	F	400	K=Hδ	1	
3.8	13.3	F		K=H	1	
4.1	20.3	A		N	1	
3.7	21.3	A		K=H	2	
5.0	6.2	A		N	2	
5.2	12.2	F	401	K=H	1	
7.4	9.2	A		K=0.4Hδ	2	
7.1	12.9	F	402	K=Hδ	1	
7.2	14.3	A		K=Hδ	3	
6.9	15.0	A		N	1	
9.0	12.6	F	403	K=Hδ	1	
8.6	13.9	F	404	K=Hδ	1	
9.0	17.4	E		K=Hδ	1	
10.8	5.9	A		N	2	
11.0	6.3	Hδ		K=Hδ	1	
9.8	15.7	F	405	K=Hδ	1	
9.7	19.2	F	406	K=Hδ	1	
11.9	6.3	F	407	K=Hδ	2	
11.3	10.2	A		N	1	
12.0	17.9	Hδ		K=H	1	
12.0	18.3	A		N	2	
11.6	24.2	F	408	K=Hδ	1	
12.4	6.7	G		K=1.2Hδ	3	
12.8	12.2	A		K=0.2Hδ	3	
12.3	14.0	A		N	1	
13.4	7.9	Hδ		N	1	
13.8	8.2	Hδ		N	1	
13.9	14.4	F	409	K=Hδ	2	

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1889phae.proj. 8705

1875

h m 1900	° ' 1900							
3 45.0	-26.4	-26	1440	3	43.8	-26	24.5	7.0
3 59.4	-26.2	-26	1535	3	58.4	-26	11.4	7.1
4 15.7	-26.3							
4 17.5	-25.9							
3 43.5	-26.8							
3 57.1	-26.9							
3 50.3	-28.1							
3 59.0	-27.8	-27	1517	3	57.6	-27	50.1	7.4
4 1.4	-27.9							
4 3.0	-27.8							
3 58.4	-28.9							
4 0.7	-28.7							
4 9.0	-28.9							
3 42.2	-29.7							
3 43.5	-29.8							
4 5.0	-29.3							
4 13.2	-29.2							
3 43.2	-30.2							
3 52.5	-30.0							
4 10.1	-30.5							
4 11.4	-30.4							
4 25.0	-30.0							
3 43.8	-30.5							
3 56.7	-30.8							
4 0.7	-30.6							
3 46.6	-31.1							
3 47.6	-31.4							
4 1.6	-31.4							

N.G.C.	h m 1900	° ' 1900	Magn
4843	4 15.4	-26 12	8
4883 4884	4 17.3 17.4	-25 57	6.2 8.5
4214	3 43.7	-26 38	6.8
4478	3 57.1	-26 48	7.5
4351	3 50.1	-27 58	7.2
4580	4 1.5	-27 56	5.8
4609	4 3.2	-27 41	8.8
4502	3 58.3	-28 49	7.2
4559	4 0.7	-28 37	8.5
4714	4 8.9	-28 48	10 ? magn.*
4184	3 42.4	-29 39	5.7
4207	3 43.3	-29 46	7.2
4636	4 4.9	-29 10	7.8
4799	4 12.9	-29 8	8
4205	3 43.2	-30 12	6.9
4397	3 52.5	-30 18	8.8
4745	4 10.1	-30 22	7
4763 4764	4 11.1	-30 19	8.2 9.2
50211	4 24.~~7~~6	-2~~4~~9 59	7.5
4219	3 43.9	-30 28	5.6
4468	3 56.7	-30 47	5.9
4567	4 0.9	-30 30	8
4275	3 46.6	-30 59	7.2
4299	3 47.4	-31 10	7
4584	4 1.7	-31 19	6.9

* Probably an error in magn in A.G.C. See L.D.W's note book No. 2 Page 29.

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1889phae.proj.870F

November 20, 1892

Plate 4680

T.	Hb	Obs.	Rem. No.	Klinc	Int.
13.6	18.8	A		N	1
14.4	13.2	F	410	H=Hb	1
14.9	17.2	F	411	H=Hb	1
14.4	17.5	A		N	1
14.5	20.0	A		N	1
15.6	7.1	A		H=Hb	1
15.3	10.5	A		N	1
15.8	17.9	G		K=Hb	2
~~17.6~~ 16.6	7.9	Hb		N	1
16.1	21.8	a		K=0.2H	2
16.8	23.7	F	412	K=Hb	2
16.9	24.1	F	413	K=Hb	1
17.5	15.5	a		K=Hb	2
17.7	16.0	E		K=Hb	1
17.3	17.5	a		K=0.5Hb	2
17.5	23.2	F	414	K=Hb	2
19.3	19.5	a		N	4
19.6	20.0	a		K=0.2Hb	2
19.8	22.0	I		K=Hb	3
19.5	8.5	a		N	1
20.7	13.0	F	415	K=Hb	2
20.7	16.2	Hb		N	1
20.1	19.5	F	416	K=Hb	2
21.3	9.6	a		N	3
21.3	20.7	F	417	K=Hb	1
21.6	21.2	a		N	1
21.3	22.4	F	418	K=Hb	2
22.6	14.2	F	419	K=Hb	1

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1999phac.proj.:070r

1875

1900			C.D.M.				A.G.C. No.	1900 R.A	1900 Dec.	Magn.
4 12.5	−31.1	−31	1774	4	11.3	−31 10.6	85			
3 58.7	−31.8	−31	1658	3	57.9	−31 35.3	80			
4 8.5	−31.9							4705	4 8.5	−31 50 7.5
4 9.5	−31.7							4722	4 9.3	−31 32 8.5
4 15.7	−31.6	−31	1794	4	14.2	−31 38.3	7.7			
3 44.2	−32.2							4231	3 44.6	−32 5 7.5
								4233		8.2
3 52.6	−32.1							4398	3 52.6	−32 0 8.2
4 10.2	−32.3							4746	4 10.1	−32 18 8
3 46.4	−32.7							4270	3 46.4	−32 35 7
4 19.8	−32.4							4924	4 19.4	−32 28 6.9
4 23.9	−32.7							5006	4 23.9	−32 38 7.0
4 24.9	−32.9							5025	4 24.8	−32 42 7.8
4 4.1	−33.2							4627	4 4.5	−33 7 7.5
4 5.5	−33.3							4652	4 5.8	−33 14 7
4 9.0	−33.2							4717	4 9.1	−33 24 8.5
4 23.0	−33.1							4983	4 22.8	−33 2 7.0
4 14.1	−34.1							4821	4 14.1	−34 2 3.3
4 15.1	−34.2							4841	4 15.2	−34 8 6.8
4 20.1	−34.3							4940	4 20.2	−34 14 4.0
3 47.4	−34.3							4300	3 47.5	−34 3 8.2
3 58.1	−34.8							4501	3 58.2	−34 46 6.7
4 6.0	−34.9							4660	4 6.3	−34 46 7
4 14.0	−34.2							4819	4 14.1	−34 26 7.2
3 49.7	−35.1							4346	3 49.9	−35 2 5.3
4 17.1	−35.2	−35	1666	4	16.2	−35 1.9	7.8			
4 18.0	−35.3							4902	4 18.3	−35 8 7.8
4 21.0	−34.9	−35	1704	4	20.3	−35 2.6	6.7			
4 0.5	−35.8	−35	1544	4	0.3	−35 47.8	7.6			

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1889phae.proj..870F

November 20 D. 1892

Plate 4680

				K	Hb Cl Rem. Klumpke
22.3	16.5	Ȯ		K=Hb	2
22.8	21.6	Ȯ		K=Hb	2
23.4	10.1	F	420	K=Hb	1
24.0	13.1	ȧ		N	1
23.5	14.2	F	421	K=Hb	1
24.2	7.3	ȧ		N	2
24.3	8.0	Ȯ		N	3
24.0	17.3	F	422	K=Hb	2

Plate 4659

4.4	8.5	ȧ		N	1
4.3	19.8	ȧ		N	1
4.7	21.2	ȧ		N	1
4.7	23.4	ȧ		N	1
4.0	24.0	Ȯ		K=1.5Hb	4
6.0	13.6	F	423	K=Hb	1
6.0	15.8	Ȧ		N	2
5.6	19.4	Ȧ		N	2
5.7	20.9	Ȧ		N	1
5.5	22.5	Ȧ		N	1
6.4	8.2	Ȧ		N	1
6.5	13.2	Ȧ		N	1
6.2	15.1	Ȧ		N	1
6.2	19.2	B	424	N	2
7.0	20.1	ȧ		N	1
6.9	21.0	Ȯ		K=Hb	3
7.1	7.4	B	425	N	2

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1889phae.proj. 8705

C.D.M. 1875.

1900					A.G.C. 1900. 1901.			
					No.	R.A.	Dec.	Magn.
4h 7.0	−35.6				4678	4h 7.0m	−35° 32′	6.6
4 19.1	−35.8				4926	4 19.4	−35 46	6.7
3 51.2	−36.4	−36 1508	3h 50.1	−36 4.7	7.5			
		~~is this 51.0 −36 1 or~~		51.7 −36 37?				
3 58.7	−36.7	−36 1569	3	57.3 −36 27.2	8.0			
4 1.4	−36.3	−36 1587	4	0.3 −36 10.7	8.3			
3 44.0	−36.5					4225	3 44.0 −36 24	6.7
3 45.5	−36.6	−36 1467	3	44.8 −36 35.0	4.1			
		~~Lacks Mus. Fr.~~						
4 9.0	−36.5					4713	4 8.8	7
						4715	8.9	7.8

1900								
h	m	m						
6 29.2	−26.4					8037	6 29.6 −26 15	7.8
6 55.4	−26.3	−26 3743	6h	56.9 −26 31.0	7.6	8772	6 55.4 −26 32	6.9
6 58.4	−26.6	~~Could this be~~	6	57.9 −26 33?				
7 2.8	−26.7					8983	7 2.9 −26 30	7
7 4.1	−26.3					9021	7 4.3 −26 14	2.1
6 40.7	−27.3					8355	6 40.9 −27 14	6.8
6 46.0	−27.2					8515	6 46.1 −27 13	7.0
6 54.1	−27.1					8742	6 54.1 −27 2	6.6
6 57.7	−27.2					8835	6 57.5 −27 5	7.8
7 1.2	−27.1	−26 3624	7.0	−26 55.7	8.0			
		~~Could this be~~	1.7	−27 8 ?				
6 29.0	−27.4					8024	6 29.1 −27 31	8.5
6 39.9	−27.6					8329	6 39.9 −27 29	7.2
6 44.5	−27.4					8468	6 44.6 −27 17	8
6 54.0	−27.5					8732	6 53.7 −27 24	6.6
6 55.9	−27.8					8777	6 55.6 −27 45	7.8
6 57.9	−27.8					8839	6 57.7 −27 47	3.6
6 26.9	−27.8					7964	6 26.8 −27 42	6.1

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1889phae.proj..870F

November 20 21, 1892

Plate 4659

F.	Hb	Cl.	Rem.	K-line Int.	
8.0	12.9	A		N	1
7.7	15.2	A		N	1
7.9	20.1	A	426	N	1
8.0	20.6	F	427	K=Hb	2
8.9	14.2	A		N	1
8.4	14.8	A		N	1
8.6	16.3	A		N	1
8.8	19.6	A		N	5
9.1	11.9	A		N	1
9.7	12.9	A		N	2
9.1	15.5	A		K=Hb	1
9.2	18.2	F	426	K=Hb	1
10.7	9.1	A		N	2
10.3	14.4	Hb		N	1
10.6	15.4	Hb		N	1
12.1	11.6	G		K=Hb	2
12.5	12.2	A		N	2
12.3	13.9	A		N	2
12.9	14.1	B	429	N	2
12.4	14.8	A		N	1
13.0	19.7	B	430	N	2
12.5	20.7	A		N	1
12.7	22.1	A		N	1
12.5	22.8	B	431	N	2
13.9	7.5	A		N	1
13.2	13.7	B	432	N	3
13.7	16.2	Hb		N	1
13.3	20.3	F	433	K=Hb	2

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1875.

1900								A.G.C.	1900	1900	
								No.	R.A.	Dec.	Magn.
h	m	°							h m	° ′	
6	39.2	−28.3						8311	6 39.2	−28 15	7.8
6	44.7	−28.2						8470	6 44.7	−28 7	8
6	56.0	−28.4						8783	6 55.8	−28 16	7.5
6	57.0	−28.5						8808	6 56.8	−28 21	7.2
6	42.0	−28.8						8390	6 42.1	−28 43	7.5
6	43.6	−28.5						8438	6 43.6	−28 28	8.5
			C.D.M.		h.						
6	47.1	−28.7	−28 3510	6	46.1	− 28°	33.8	8.0			
6	54.7	−28.8						8752	6 54.7	−28 50	1.8
6	36.9	−28.9	−28 3278	6	35.9	− 28	44.6	8.0			
6	39.2	−29.2						8310	6 39.2	−29 8	7.3
6	45.5	−28.9						8493	6 45.4	−28 52	7.5
6	51.5	−28.9	−28 3591	6	50.3	− 28 53.0		7.1			
			Could this be 6 51.5 −28 32?								
6	30.0	−29.6						? 8055	6 30.3	−29 39	9
6	42.5	−29.5						8401	6 42.4	−29 28	7.5
6	45.0	−29.7						8479	6 45.0	−29 38	8
6	35.9	−30.4						8212	6 35.9	−30 22	5.9
6	37.4	−30.6						8260	6 37.4	−30 33	8
6	41.2	−30.5						8363	6 41.3	−30 29	6.9
6	41.3	−30.5	−30 3505	6	40.8	− 30	49.1	6.3			
			Not Wm Wells two in A.G.C. 418 −30 51								
6	50.2	−30.6	−30 3654	6	49.4	− 30	27.3	7.9			
6	55.0	−30.9						8759	6 54.9	−30 52	6.7
6	57.2	−30.6						8829	6 57.4	−30 31	7.4
7	0.5	−30.7						? 8906	7 0.0	−30 51	9
7	2.1	−30.6						8968	7 2.2	−30 30	6.8
6	26.0	−31.2						7948	6 26.2	−31 6	7.5
6	40.7	−30.9						8351	6 40.7	−30 58	5.7
6	47.0	−31.3						8536	6 46.9	−31 10	7.5
6	56.5	−31.1						? 8798	6 56.4	−31 0	6.9

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1889phae.proj..870F

November ~~21~~ 20, 1892

Plate 4659

Ꝗ	H	Cl.	Rein. No.	K line	Int
14.0	23.8	F	434	K = H	1
14.6	9.9	A		N	1
15.0	10.3	A		K = H	2
~~15.~~ 14.9	11.5	A		N	1
14.5	12.8	A		K = H	1
14.4	14.0	A		N	1
14.6	14.1	F	435	K = H	2
14.4	16.2	B	436	N	2
15.0	17.0	A		N	1
14.6	17.8	A		K = 0.5 H	2
14.5	18.5	B	437	N	2
15.0	22.2	A		N	1
14.9	22.3	A		N	1
15.0	24.2	A		N	1
15.3	8.7	B	438	N	2
15.8	10.9	I		K = H	2
15.9	9.7	A		N	1
15.9	16.0	B	439	N	4
15.4	16.6	A		K = H	1
16.5	6.9	A		N	3
16.1	7.1	A		N	2
16.6	9.6	A		N	2
17.0	11.9	A		N	1
16.5	13.0	A		K = H	2
16.1	15.8	A		N	2
H 20.2 ? 16.4	19.2	E		K = H	1
17.2	18.6	A		N	1
17.9	20.1	A		K = H	2

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1889phae.proj--870F

1900	1875					N.G.C. 1900	1900		
						No.	R.A.	Dec.	Magn
7h 4.7m – 31.4°						9024	7h 4.4m	– 31° 16′	7.3
6 28.9 – 31.6									
6 32.9 – 31.9						8118	6 32.7	– 31 48	7.2
6 35.6 – 31.9	– 31 3520	6	34.6	– 31	43.6	7.9			
6 38.4 – 31.8						8297	6 38.5	– 31 34	8
6 41.2 – 31.6						8370	6 41.3	– 31 34	7.5
6 41.6 – 31.8						8379	6 41.6	– 31 41	6.5
6 46.5 – 31.7	– 31 3717	6	45.7	– 31	33.4	6.3	8528	6 46.6	– 31 36 6.3
6 48.5 – 31.9						8587	6 48.5	– 31 54	8
6 50.5 – 31.8						8645	6 50.5	– 31 41	6.9
6 52.1 – 31.8						8689	6 52.1	– 31 40	6.7
7 1.0 – 32.0						8930	7 0.8	– 31 51	8.2
7 1.2 – 31.9	– 31 3997	7	0.0	– 31	45.1	7.5			
7 5.5 – 31.9						9052	7 5.3	– 31 46	8
6 28.7 – 31.9						8016	6 28.8	– 31 57	8.2
						8017	28.9		6.2
6 34.0 – 32.3						8160	6 34.0	– 32 15	5.7
6 31.1 – 32.3	– 32 3171	6	30.3	– 32	12.2	8.3			
6 46.0 – 32.5						8518	6 46.1	– 32 24	4.0
6 47.6 – 32.2						8564	6 47.6	– 32 4	7.8
6 24.1 – 32.6						7904	6 24.4	– 32 31	4.7
6 24.5 – 32.5						7914	6 24.9	– 32 18	6.5
6 30.9 – 32.7						8068	6 30.9	– 32 38	6.1
6 36.1 – 32.9						8228	6 36.3	– 32 48	8
						8229		47	9
6 39.0 – 32.7						8306	6 39.0	– 32 36	7.2
6 45.7 – 32.6						8509	6 45.8	– 32 26	7
6 55.0 – 32.7						8769	6 55.2	– 32 35	7.5
6 52.4 – 33.2	– 32 3491	6	51.3	– 32	54.5	8.0			
6 56.0 – 33.4						8793	6 56.0	– 33 20	6.9

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1889phae.proj.870F

November 20, 21, 1892

Plate 4659

				K line Int.	
17.9	20.6	Hδ		K=Hδ	1
18.3	6.4	A		N	1
18.7	16.2	A		N	1
18.8	16.9	A		N	1
19.3	9.8	A		K=Hδ	2
19.6	12.3	A		K=Hδ	1
19.5	14.6	A		N	2
19.7	16.5	Hδ		K=Hδ	2
19.4	17.9	A		N	1
19.1	19.6	B	440	N	3
20.9	15.7	A		N	2
20.5	22.6	F	441	K=Hδ	2
21.4	6.4	A		K=Hδ	1
21.8	6.6	F	442	K=Hδ	2
21.6	19.0	Nba?		N	1
22.0	19.2	F	443	K=Hδ	2
21.9	19.6	A		N	1
22.1	21.0	A		N	2
23.7	9.7	Nba		N	1
23.8	10.5	A		K=Hδ	1
23.4	10.6	F	444	K=Hδ	1
23.4	16.9	A		K=0.2Hδ	2

Plate 5870

4.4	14.8	Hδ		N	1
5.6	16.0	A		N	1
7.6	23.2	A		N	2

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1900	1875	A.G.C No.	1900 R.A.	1900 Dec.	Magn.
6h 57m.0 −33°.4		8823	6h 57m.1	−33° 20′	6.9
6 22.9 −33.6		7858	6 22.7	−33 46	9.2
6 47.0 −33.9		8526	6 46.5	−33 47	7.2
6 48.4 −33.9		8583	6 48.4	−33 48	7.5
6 31.5 −33.9		8077	6 31.1	−33 56	7.0
6 37.4 −34.2, −34	6.D.M. 3026 6h 36m.0 −34° 5′.9 7.7				
6 42.5 −34.2		8414	6 42.6	−34 9	7.8
6 47.3 −34.3		8551	6 47.2	−34 15	5.5
6 50.7 −34.2		8647 8648	6 50.6	−34 6	10 8 ?
6 54.9 −33.9		8757	6 54.7	−33 59	5.4
6 45.4 −34.9		8491	6 45.2	−34 50	7.2
7 1.9 −34.7		8961 8962	7 1.9	−34 37	6.8 7.8
6 27.5 −35.1		79~~92~~79	6 27.~~7~~3	−~~35~~34 ~~11~~56	~~6.5~~ 7.8
6 27.7 −35.2		7992	6 27.7	−35 11	6.5
6 53.4 −35.2		8720	6 53.2	−35 13	6.7
6 53.7 −35.5		8736	6 53.7	−35 23	6.5
6 54.1 −35.4		8743	6 54.0	−35 20	7.5
6 58.2 −35.4		8863	6 58.2	−35 24	6.8
6 30.2 −36.1		8057	6 30.3	−36 9	5.9
6 32.1 −36.2		8095	6 32.1	−36 10	7.5
6 33.0 −36.1		8135	6 33.2	−36 6	8.2
6 48.1 −36.2		8577	6 48.2	−36 7	6.2

1900					
10h 39m.9 −23°.5		14666	10 39.7	−23 28	7.0
10 ~~42~~.4 −24.1		14748	10 42.4	−24 1	8.5
10 58.3 −25.2		15111	10 58.2	−25 2	6.7

1889phae.proj..870F

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1889phae.proj..870F

November 20, 21, 1892

Plate 5870

δ	Hδ	Cl.	Rem.	K line Int.	
7.9	22.1	A		N 1	
8.7	8.7	A		N 1	
8.0	12.4	F	445	K=Hδ 2	
8.4	13.7	A		K=0.4Hδ 2	
8.3	15.7	G		K=Hδ 2	
9.3	8.7	F	446	K=Hδ 2	
9.1	10.3	A		N 1	
9.6	11.1	F	447	K=Hδ 2	
9.9	11.2	A		N 1	
9.7	15.6	K		N 1	
9.5	16.9	F	448	K=Hδ 1	
9.7	19.0	A		N 2	
9.9	21.5	A		N 1	
10.0	22.9	A		K=Hδ 3	
10.1	9.9	A		N 1	
11.0	10.1	Hδ		N 1	
11.0	11.7	Hδ		K=Hδ 3	
10.2	19.7	Hδ		N 1	
10.9	24.1	F	449	K=Hδ 3	
11.0	24.4	A		N 2	
11.6	11.4	Hδ		N 1	
12.0	16.5	A		K=0.4Hδ 2	
11.4	23.2	K		K=Hδ 1	
12.7	9.3	F	450	K=Hδ 3	
12.4	11.8	A		K=0.5Hδ 1	
12.5	15.7	A	451	N 1	
13.7	11.5	A		K=0.2Hδ 3	
14.8	6.6	Hδ		N 1	

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1889phae.proj..870F

1875.

1900 h m °	A.G.C. No.	1900 R.A. h m	1900 Dec. ° ′	Magn.
10 56.3 −25.4	15057	10 55.9	−25 11	8
10 26.2 −25.7	14346	10 26.2	−25 35	8.5
10 34.5 −25.4	14537	10 34.4	−25 20	7.8
10 37.0 −25.6	14608	10 37.1	−25 32	7.8
10 42.0 −25.6	14736	10 42.0	−25 32	6.9
10 26.1 −25.9	14344	10 26.2	−25 59	6.6
10 29.9 −25.9	14428	10 30.3	−25 52	8
10 31.2 −26.2	14455	10 31.4	−26 10	6.6
10 31.9 −26.3	14467	10 31.7	−26 13	8
10 41.7 −26.3	14725	10 41.5	−26 12	7.5
10 44.5 −26.4	14799	10 44.5	−26 17	7.8
10 49.0 −26.4	14892	10 49.2	−26 13	7.8
10 54.7 −26.4	15022	10 54.6	−26 14	7.8
10 57.7 −26.4	15090	10 57.6	−26 17	6.5
C.V.Mb.				
10 28.8 −26.4 −26 8000	10h.	27.5	−26°	9.1 8.3
10 29.2 −26.9	14401	10 29.2	−26 50	7.8
10 32.6 −26.9	14493	10 32.6	−26 54	5.3
10 50.6 −26.6	14938	10 50.7	−26 27	7.8
11 0.5 −26.7	15166	11 0.5	−26 45	4.8
11 1.1 −26.8	15183	11 1.1	−26 45	6.4
10 32.0 −27.2	14479	10 32.0	−27 9	7.0
10 44.1 −27.4	14792	10 44.2	−27 23	7
10 58.4 −27.1	15117	10 58.5	−26 59	8.2
10 27.0 −27.8	14357	10 27.2	−27 44	6.4
10 32.8 −27.7 −27 7576	10	31.8	−27 24.6	7.8
10 41.7 −27.8	14732	10 41.8	−27 37	8.2
10 31.9 −28.3	14475	10 31.9	−28 15	7
10 20.6 −28.8	14227	10 20.8	−28 42	6.9

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1889phae.proj..870F

November 20 21, 1892

Plate 5670

			No.		
D.	Hb	Cl.	Rem.	Klinic	Int.
14.4	12.0	A		K=Hb	2
14.5	11.1	A		N	1
14.3	14.5	E		K=Hb	1
15.7	5.9	Pl	452	K=Hb	2
15.6	8.4	K		K=Hb	2
15.5	18.0	Pl	453	K=Hb	1
16.7	5.7	A		K=Hb	3
16.7	8.0	A		N	1
16.6	7.3	A		N	1
16.1	17.1	Pl	454	K=Hb	1
16.4	18.7	Pl	455	K=Hb	1
16.1	18.9	A		N	1
16.9	18.3	A		K=Hb	1
17.4	8.5	A		N	3
17.2	13.6	A		N	1
17.6	13.8	A		N	2
17.8	14.6	Hb		N	1
17.5	16.8	Hb		N	1
17.3	16.9	A		N	1
17.2	17.0	A		N	1
18.3	6.0	A		K=Hb	1
18.3	7.6	K		K=1 2 Hb 3	
18.8	10.8	Pl	456	K=Hb	2
18.3	14.6	A		K=Hb	1
18.2	16.9	E		K=Hb	1
18.5	20.2	Pl	457	K=Hb	1
19.3	11.5	A		N	1
19.6	11.9	Hb		K=Hb	1

H 19.3?

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1889phae.proj..870F

1875.

1900.							A.G.C. No.	1900 R.A.	1900 Decl.	Magn.
h m °										
10 33.1	−28.7						14510	10 33.1	−28° 35′	8.5
10 31.2	−28.8						14448	10 31.3	−28 37	9
		C.D.M.								
10 38.9	−28.6	−28 8394	10 37.6	−28° 24.9	7.5					
10 19.4	−29.3						14195	10 19.3	−29 9	7.2
10 24.8	−29.3						14314	10 24.9	−29 10	6.0
10 47.0	−29.3						14847	10 47.1	−29 7	8.5
10 18.5	−29.8						14171	10 18.6	−29 40	6.6
10 21.5	−29.9	−29 8337	10 20.5	−29 29.4	8.3					
10 22.2	−29.8						14258	10 22.2	−29 34	8.5
10 44.7	−29.7	−29 8636	10 43.7	−29 20.2	7.4					
10 48.5	−29.8						14877	10 48.5	−29 34	8.5
10 49.0	−29.6	−29 8694	10 47.8	−29 14.9	8.2					
10 50.1	−29.9						14927	10 50.1	−29 48	8.5
10 25.0	−30.2						14318	10 24.9	−30 6	9.5
							14319			6
10 36.7	−30.1						14597	10 36.8	−30 1	9.2
10 37.0	−30.4	−30 8634	10 35.9	−30 6.1	7.6					
10 39.0	−30.5						14652	10 39.0	−30 21	8.5
10 44.2	−30.4						14793	10 44.3	−30 32	7.8
10 44.4	−30.3	−29 8631	10 43.3	−29 58.4	8.0					
10 44.9	−30.2	−29 8634	10 43.5	−29 53.0	8.0					
10 19.1	−30.6						14186	10 19.0	−30 26	7.5
10 23.5	−30.6						14266	10 22.5	−30 34	4.4
10 30.0	−30.9						14427	10 30.2	−30 50	7.8
10 39.0	−30.8						14654	10 39.0	−30 34	8.5
10 44.2	−30.7	−30 8738	10 43.1	−30 23.7	7.5					
10 52.2	−30.8						14964	10 52.2	−30 40	7.5
10 31.9	−31.2	−30 8567	10 30.7	−30 55.0	8.3					
10 32.6	−31.3						14497	10 32.6	−31 15	7

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1889phae.proj..870F

November 20/21, 1892

Plate 5870

I.	Hb	Cl.	Char.	Klinc	Int.
19.6	14.5	Lo		K=Hb	2
17.3	16.2	Nba.		N	1
19.4	16.5	A		K=0.2Hb	3
19.7	19.8	A		N	2
19.4	20.8	A		N	1
19.8	21.8	Of	456	K=Hb	3
20.3	14.5	A		N	2
20.8	18.9	A		N	1
20.3	20.3	A		N	1
20.1	23.0	Hb		N	1
21.4	10.0	Hb		N	1
21.4	14.3	A		K=0.2Hb	3
22.7	11.7	A		K=0.3Hb	2
23.0	16.0	A		N	1
22.4	21.3	A		N	1
23.1	8.7	A		N	1
23.4	13.1	Hb		N	1
23.4	14.2	A		N	1
24.1	17.2	A		N	3
23.6	21.2	Of	459	K=Hb	2

Plate 5879

4.3	6.4	Nbl		N	2
4.9	10.4	Of	460.	K=Hb	1
5.0	18.7	A		K=Hb	1
4.3	20.4	Hb		N	1
5.4	7.8	O		K=Hb	2

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1875.

1900							A.G.C. 1900.	1900		
							No.	R.A.	Dec.	Magn.
h m s	° ′							h m s	° ′	
10 38.6	−31 3						14644	10 38.7	−31 14	6.8
10 42.7	−31 2						14762	10 42.9	−31 5	7.8
10 43.5	−31 3						14778	10 43.6	−31 10	6.2
10 51.1	−31 4						14949	10 51.1	−31 15	8
10 53.4	−31 2						14993 14994	10 53.5	−31 1 2	9.8 8.5
10 56.0	−31 4						15061	10 56.0	−31 18	6.3
10 38.6	−31 8						14647	10 38.8	−31 37	8.2
10 49.0	−31 9						14891	10 49.1	−31 48	8
10 52.5	−31 7	C.D.M. −31 8660	10 51.3	−31 22	8.1					
10 58.5	−31 5						15119	10 58.5	−31 25	6.8
10 28.1	−32 2	−31 8330	10 27.0	−31 55.2	7.5					
10 38.4	−32 3						14635	10 38.1	−32 12	5.9
10 32.0	−32 9						14480	10 32.0	−32 45	6.9
10 42.5	−33 1	−32 7635	10 41.1	−32 44.7	8.1					
10 55.0	−32 7						15024	10 54.8	−32 32	8.2
10 25.0	−33 2						14317	10 24.9	−32 54	8.5
10 35.2	−33 3						14563	10 35.2	−33 6	7.8
10 38.0	−33 3	−32 7567	10 36.7	−32 59.6	7.7					
10 45.2	−33 6						14820	10 45.3	−33 32	5.8
10 54.5	−33 2						15020	10 54.5	−33 12	6.0
1900										
h m	° ′									
11 43.5	−26 2						16139	11 43.7	−26 11	5.8
11 52.5	−26 5						16318	11 52.5	−26 29	7.0
12 10.9	−26 6									
12 14.7	−26 2						16811	12 14.7	−26 11	7
11 45.5	−26 8						16167	11 45.6	−26 43	6.8

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1889phae.proj..870F

November 20 21, 1892

Plate 5179

δ	Hδ	Cl.	Rem.	Klinic Int.	
6.0	10.7	Hδ		N	1
5.4	14.6	Of	461	K-Hδ	1
6.8	16.3	Hδ		K=Hδ	1
6.3	22.7	9		K=Hδ	2
7.5	6.2	a		K-Hδ	1
7.6	9.7	b		K=Hδ	2
8.0	13.9	Of	462	K=Hδ	1
7.3	19.4	A		N	1
7.7	20.3	Of	463	K=Hδ	1
8.7	14.9	A		K=Hδ	2
9.0	18.1	K		K=Hδ	2
8.3	23.6	A		K=Hδ	1
9.9	6.1	A		N	1
9.1	13.0	E		K-Hδ	1
9.8	16.2	A		N	1
9.8	18.6	A		N	2
10.6	11.4	Hδ		N	1
10.6	14.1	A		N	1
10.8	16.3	A		N	1
10.5	19.7	A		N	1
10.9	23.5	A		N	1
11.3	6.2	G		K-1-2Hδ	2
11.2	11.8	A		K=Hδ	2
11.9	14.8	A		K-Hδ	1
11.7	16.6	A		N	1
11.6	20.5	E		K-Hδ	1
11.7	20.6	Of	464	K=Hδ	1
11.3	21.9	b		N	2

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1889phae.proj..870F

1900	A.G.C. No.	1900 R.A.	1900 Dec.	Magn.
h m 11 52.9			° ′ -27.2	
12 8.4	16692	12 8.5	-26 46	7.8
12 5.4	16628	12 5.7	-27 30	7.8
12 20.5	16927	12 20.1	-27 11	6.6
11 42.7	16123	11 42.9	-27 46	7.8
11 50.6	16277	11 50.6	-27 55	6.5
11 59.6	16487	11 59.8	-28 6	8.5
12 12.7	16773	12 12.6	-27 43	9
12 15.0			-28.1	
12 2.5	16557	12 2.5	-28 30	8.5
12 9.7	16731	12 9.9	-28 40	6.7
12 22.4	16969	12 22.2	-28 9	7.8
11 42.0			-29.2	
11 58.2	16454	11 58.1	-28 42	8.2
12 4.9			-29.2	
12 11.0	16751	12 10.9	-29 4	7.8
11 54.2	16369	11 54.3	-29 30	7.0
12 0.5			-29.5	
12 5.5			-29.7	
12 13.7	16792	12 13.6	-29 24	8
12 22.5	16971	12 22.2	-29 32	8.5
11 42.2	16114	11 42.3	-29 43	6.8
11 55.5	16396	11 55.3	-29 46	8
12 2.0			-30.2	
12 6.2	16654	12 6.5	-30 2	8.5
12 15.1			-30.0	
12 15.5			-30.2	
12 18.6	16897	12 18.6	-29 47	6.8

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1889phae.proj..870F

November 20 21, 1892

Plate 5179

		D.	He	Cl. Rem.	Klinic Int.
12.2	8.1	Fr.	465	K=He	3
12.4	9.2	He		N	1
12.8	13.7	Fr	466	K=He	2
12.8	15.0	A		K=He	2
12.5	14.4	A		N	1
12.7	16.5	A		N	1
13.0	19.2	Fr.	467	K=He	1
13.0	21.2	Fr	468	K=He	1
13.0	22.5	A		N	1
13.2	6.3	A		N	2
13.8	10.9	Fr.	469	K=He	2
13.9	13.0	G		K=He	1
13.5	13.1	G		K=He	1
13.2	14.9	Fr	470	K=He	2
13.1	17.1	A		N	1
13.5	17.2	G		K=He	1
13.5	17.5	Fr	471	K=He	1
15.0	10.3	Fr	472	K=He	2
14.9	12.5	A		N	1
14.9	13.2	He		K=He	1
14.6	13.5	A		K=He	1
14.4	21.0	A		N	1
14.1	22.7	A		N	1
14.0	23.0	A		N	1
15.5	7.3	Fr	473	K=He	1
15.4	13.3	A		N	1
16.0	13.7	G		K-He	1
~~14.7~~ 15.7	14.7	A		K=2.2H	2

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1889phae.proj..870F

1900		A.G.C.	1900	1900	
		No.	R.A.	Dec.	Magn.
h m s	°		h m s	° ′	
11 46.5	−30.3	16192	11 46.7	−30 16	6.2
11 49.4	−30.5	16243	11 49.2	−30 21	7.5
11 59.2	−30.7	16480	11 59.5	−30 37	8
12 2.9	−30.6	16564	12 2.9	−30 35	8.5
12 1.0	−30.5	16530	12 1.2	−30 51	9.5
12 10.5	−30.6	16749	12 10.8	−30 33	8.8
12 12.6	−30.8	16771	12 12.6	−30 38	8.2
12 17.0	−30.9				
12 20.4	−30.8	16930 16931	12 20.1	−30 33 −30 34	9 8.2
11 42.4	−30.9	16117 16119	11 42.5	−30 42 −30 37	7.8 8.5
11 53.1	−31.1	16336	11 53.0	−31 5	7.0
11 58.1	−31.2	16447	11 57.9	−31 8	8
11 58.6	−31.1				
12 2.2	−30.9	16556	12 2.5	−30 51	6.9
12 8.5	−30.9				
12 8.8	−31.2				
12 13.2	−31.2	16786	12 13.2	−30 56	8
11 51.9	−31.8	16299 16300	11 51.7	−31 42	7.2 7.5
11 57.0	−31.7				
11 59.0	−31.7				
11 59.5	−31.6				
12 16.9	−31.6				
12 20.2	−31.3				
12 20.5	−31.2	16938	12 20.8	−31 13	8.5
11 44.6	−32.0	16149	11 44.7	−31 53	8.2
11 58.9	−31.9				
11 59.9	−32.3				
12 2.5	−32.2	16553	12 2.3	−32 6	8

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1889phae.proj..870F

November ~~21~~ 20, 1892

Plate 5179

V.	Hδ	Cl.	Remr.	Klinc Int.	
~~15.7~~ 15.7	16.5	A		N	1
15.2	17.6	G		K-Hδ	2
15.6	19.9	A		K=0.5Hδ	2
15.0	22.6	A		N	1
16.8	17.8	Fl.	434	K=Hδ	2
17.0	10.5	A		N	3
16.4	10.7	Hδ		N	1
16.3	14.3	G		K=Hδ	3
16.2	23.0	A		N	3
17.8	6.4	A		N	1
17.4	6.8	A		N	1
17.4	15.5	A		K=0.2Hδ	2
16.9	15.9	A		N	1
17.3	16.2	G		K=Hδ	1
17.2	16.9	A		K=0.5Hδ	1
17.1	17.2	Hδ		K=Hδ	1
17.1	19.6	G		K=Hδ	1
18.2	8.8	A		N	5
18.5	12.4	Hδ		K=Hδ	2
18.8	13.9	Hδ		N	1
18.5	17.2	Neb.		K=Hδ	2
18.0	17.4	A		K=0.2Hδ	3
18.0	17.7	A		K=Hδ	2
17.9	19.6	Fl.	435	K=Hδ	1
17.7	21.2	Fl.	436	K=Hδ	1
19.7	12.6	Fl.	437	K=Hδ	2
19.7	12.8	Fl.	438	K=Hδ	1
19.7	15.3	G		K=Hδ	2

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1889phae.proj..870F

1900	A.G.C. No.	1900 R.A.	1900 Dec.	Magn.
12h 6.0m −32.1°				
11 44.4 −32.0	16140	12h 6.2m	−32° 4′	8.5
12 14.0 −32.0	16149	11 44.7	−31 53	8.2
12 20.5 −31.6	16802	12 14.3	−32 2	8
11 45.5 −32.7	16170	11 45.7	−32 35	7.8
11 52.0 −32.8				
11 52.8 −32.5	16323	11 52.5	−32 24	8.2
12 1.0 −32.7	16521	12 1.0	−32 23	6.8
12 21.0 −32.4	16957	12 21.6	−32 16	6.6
11 42.0 −33.2				
11 43.0 −33.0				
12 4.4 −33.0	16609	12 4.6	−32 55	7.3
12 4.5 −32.7	16611	12 4.8	−32 40	9.5
12 5.5 −32.9	16627	12 5.7	−32 54	8
12 7.3 −32.9	16669	12 7.3	−32 51	7.2
12 8.0 −32.8	16685	12 8.0	−32 46	8
12 13.4 −32.8	16794	12 13.8	−32 44	8.2
11 47.9 −33.4	16217	11 47.9	−33 21	4.5
11 56.4 −33.6	16414	11 56.3	−33 29	7.2
12 0.1 −34.3				
12 8.0 −33.6	16684	12 8.0	−33 34	6.9
12 8.3 −33.2	16690	12 8.4	−33 14	6.5
12 9.0 −33.3	16711	12 9.1	−3.3 13	7.0
12 14.0 −33.3	16795	12 13.9	−33 11	8.5
12 17.0 −33.2	16868	12 17.4	−33 0	9.5
11 56.9 −34.1	16423	11 56.7	−34 5	6.9
12 0.1 −34.3				
12 2.2 −34.2				

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1889phae.proj..870F

November 20/21, 1892

Plates 5179

V.	Hδ	Cl.	Rem.	No.	K line	Int.
19.7	15.9	A			K=0.2Hδ	3
19.0	23.1	A			N	1
20.2	6.2	A			N	2
21.0	6.9	F		479	K=Hδ	1
20.6	9.2	A			N	3
21.0	11.7	Hδ			K=Hδ	1
20.5	16.0	A			N	1
20.9	16.1	A			N	1
20.5	17.0	A			K=Hδ	2
20.5	15.1	A			N	1
20.4	21.5	A			N	1
20.9	22.2	A			N	3
20.3	23.5	Hδ			N	1
21.4	6.6	F		480	K=Hδ	2
21.7	14.3	A			N	3
21.5	20.8	G			K=Hδ	1
21.3	21.4	A			N	3
22.4	6.6	G			K=Hδ	2
22.7	7.3	A			N	1
22.5	9.5	A			K=Hδ	2
23.0	12.0	Hδ			N	1
22.8	17.9	A			K=Hδ	2
22.6	19.0	A			N	3
22.9	20.2	A			N	1
23.6	9.2	A			K=Hδ	2
23.6	12.0	A			K=Hδ	2
24.1	16.1	A			N	1
23.5	17.5	A			N	1

for changed by M.C.S. tell Mrs. Fabert

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1900	N.G.C. No.	1900 R.A.	1900 Dec.	Magn
h m		h m		
12 5.0 −34.2	16612	12 4.9	−34° 9′	6.4
12 22.0 −33.8	16964	12 21.9	−33 34	8.8
	16965			10 Magn?
11 41.2 −34.4	16092	11 41.3	−34 11	7.2
11 43.0 −34.9	16128	11 43.0	−34 40	7.3
11 48.4 −34.6	16225	11 48.4	−34 30	6.4
11 54.7 −34.9	16375	11 54.5	−34 45	7.6
12 5.1 −34.7	16616	12 5.1	−34 30	8.5
12 5.1 −34.9	16618	12 5.2	−34 40	8.5
12 7.5 −34.6				
12 10.4 −34.6				
12 16.4 −34.6				
12 20.2 −34.7	16929	12 20.1	−34 38	5.8
12 24.2 −34.5	17002	12 23.8	−34 16	7.2
11 42.0 −34.9	16112	11 42.1	−34 50	8
12 0.7 −35.2	16512	12 0.8	−35 8	6.2
12 17.0 −35.1	16853	12 16.9	−34 57	7.3
12 18.4 −34.9	16894	12 18.3	−34 51	5.5
11 41.6 −35.4	16110	11 42.0	−35 21	6.6
11 43.5 −35.6	16138	11 43.6	−35 26	7.2
11 49.0 −35.5	16242	11 49.1	−35 26	8.5
11 55.3 −35.7	16391	11 55.2	−35 43	8
12 9.9 −35.8	16725	12 9.8	−35 40	8
	16772	12 12.6	−35 32	6.5
12 12.5 −35.6	~~16770~~	~~12 12.6~~	~~−35 46~~	~~8.2~~
12 15.8 −35.8				
11 48.1 −36.1	16221	11 48.3	−36 1	6.9
11 55.4 −36.2	16393	11 55.3	−36 0	7.8
12 5.3 −36.4	16623	12 5.4	−36 16	8
12 8.9 −36.2	16705	12 8.9	−36 10	7.8

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1889phae.proj..870F

November 20 ~~21~~, 1892

Plate 5179

V. 16 cl Prism Kline

h	m			
		23.8	17.5 Å	N 2
		24.1	23.2 Å	N 1
1	1	24.5	5.4 Å	N 1

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1900

h	m	°
12	8.6	-36.3
12	22.6	-36.4
11	46.0	-36.6

A.G.C. 1900 1900

No. R.A. Dec. Magn

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1889phae.proj..87

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1889phae.proj..870F

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1993plac.proj..67GF

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1888phae.proj..870F

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