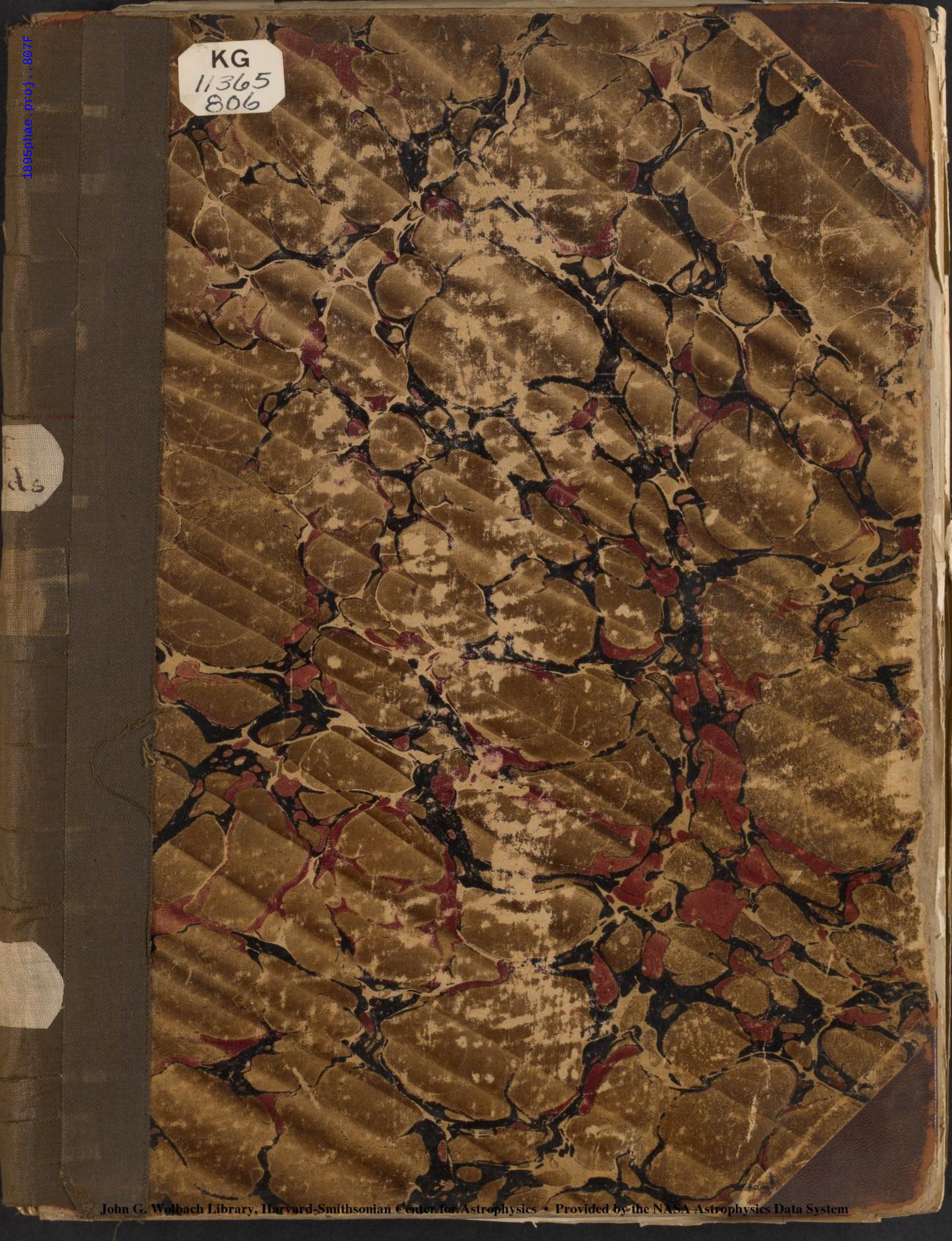

KG
11365
806

KG 11365.F06

Greek Alphabet.

α alpha
β betā
γ gamma
~~ε delta~~
δ delta
ε ∈ epsilon
ζ zeta
η eta
θ ϑ ~~theta~~
ι iota
κ ϰ kappa
λ lamda
μ mu
ν nu
ξ xei
ο omicron
π pi
ρ ρ ϱ rho
σ ς sigma
τ tau
υ upsilon
ϕ φ phi
χ chi
ψ psi ψ ψ
ω omega

KG 11365.806

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Date	Object		Page
	Measures of Spectra in Coma Berenices	Pl. I 8483	4 – 13
	" " " " "	I 2751	14 – 23
	" " Cluster in Scorpius	Pl. 6638	24 – 33
	Small Cluster in "	Pl. 6638	44 – 47
	Measures. Cluster in Scorpius	Pl. 9836	48 – 65
	" Small " " "	Pl. 9762	66 – 71
	" " " "	Pl. B 13829	72 – 81
	" Meas. made to determine the correction, if any, to be applied to the scale chart images used in measuring the photographs	Pl. C 8836	82 –
	" " " "	I 14442	83
	" " " "	I 14443	84 – 85
	Measure of A B plates taken with Iceland spar prisms		86 – 92
	Measures to det. magns. of comp stars for var. in ω Centauri		94 – 131
Sept. 30, 1898	" of br. of Planet D. 2. Comp. stars for T. Aquarii		132 – 135
Nov. 4 "	Exam. of plates of supposed regions of Witt's planet D2.		136 – 144
" 22 "	" " " for meteors		145 – 153
Dec. 8 "	" " " " star of Type IV announced by Espin Nov. 29, 1898.		154
" " "	" " " for D. 2. (from Chandlers new Ephemeris)		155 - 200
April 13, 1899 1899	Search for Comet (Holmes and Rollins)		210
Jan. 16 & 19	Estimated positions of Eros.		200 – 201
" 25, 1899	Search for Coddington Comet. 1898		202 – 203
Feb. 3, "	Exam of Plates for Eros		204 – 207
March 27, "	Meas. to det. orientation of Saturn's Satellite Plate		208 – 209
Apr. 14 "	Meas. to det. identification of line H β in π Gruis		211
" 30 "	Exam. of Plates A 3304–13 for		212
Jan. 12, 1901	Meas. to det position of new variable in Pos. 20 9.3 – 53 0 (Approx 1875)		214 – 215
Feb. 7 "	" " " " " " star in $18^h\ 58^m.2 - 48^\circ\ 46'$ (1875)		216 – 217

May 23 1895.
Measures of Spectra in Coma Berenices.

Plate I 8483

		v.	H.	Cl.	Rem	Limit	K line	Intens.	F line	Obs. Br.	Col. XIII Table XIV	Dif	Resid
	1	5.6	21.9	K		K	K = H	3	✓F	5.5 6.1			
	2	5.7	14.9	H		K	K = H	2	—	6.3 6.8			
(410,5; 434,5)	3	5.8	11.3	A	F	K	K = H	2	✓F	5.6			
(410,2; 434,2.)	4	6.8	11.3	F		K	K = H	1	—	7.0			
	5	6.6	12.2	G	G_5K	K	K = H	2	—	5.5			
	6	6.9	15.1	K		K	K = H	4	—	5.2 5.5			
	7	6.1	18.3	H		K	K = H	1	—	6.8 7.0			
	8	6.9	19.6	K	K	K	K = H	5	F	4.9 5.2			
	9	6.4	20.6	Ma?	G G	K	K = H	2	—	5.7 6.1			
	10	7.6	10.3	H		K	K = H	1	—	6.6 7.1			
	11	7.7	10.9	A		)	N	4	F	4.8			
(410,1; 434,1.)	12	7.8	12.7	F		K	K = H	2	F	6.2			
410,2; 434,2	13	7.3	13.0	F		β	K = H	5	F	4.8			
	14	7.1	15.7	H		K	K = H	1	—	7.0 7.3			
	15	7.6	17.4	H		K	K = H	1	—	7.1 7.4			
410,1; 434,1	16	7.7	18.0	16F		K	K = H	1	—	7.0			
(410,2; 434,2;)	17	7.7	22.7	F		K	K = H	1	—	6.9			
	18	8.3	10.3	H		K	K = H	1	—	6.9 7.2			
	19	8.1	11.0	Ma	Ma?	K	K = H	2	—	6.5 7.0			
	20	8.3	12.2	A		ζ	N	5	F	4.4			
	21	8.3	12.7	H		K	K = H	1	—	7.2 7.5			
410,6; 434,6	22	8.5	13.0	A	F	α	K = H	2	F	6.4			
	23	8.4	16.0	K		K	K = H	2	—	6.0 6.5			
	24	18.8	16.7	A		ζ	N	5	F	4.7			
410,2; 434,2.	25	18.2	17.0	F		K	K = H	1	—	6.7			
410,1 434,1.	26	9.0	18.2	F		K	K = H	1	—	6.7			

		1855. No. Dm.	R.A.	Dec.	Magn			1900 R.A	1900 Dec.
		°	h m	° ′		✓		h m	° ′
1	✓	+24 2436	12 4.4	+24 8	6.6		10~~7~~8	12 6.7	+23° 53′
2	✓	+24 2458	12 18.4	+24 10	7.5	✓	65	12 20.7	+23 55
3	✓	+24 2470	12 25.5	+24 14	8.0	✓	10~~1~~2	12 27.7	+23 59
4	✓	+24 2471	12 25.7	+24 39	8.7	✓	10~~2~~3	12 27.9	+24 24
5	✓	+24 2466	12 23.8	+24 36	7.5	✓	93	12 26.1	+24 21
6	✓	+24 2455	12 18.0	+24 44	6.0	✓	64	12 20.3	+24 29
7	✓	+24 2445	12 11.6	+24 22	8.3	✓	30	12 13.9	+24 7
8	✓	+24 2443	12 9.0	+24 47	5.3	✓	21	12 11.3	+24 32
9	✓	+24 2441	12 7.1	+24 29	7.5	✓	17	12 9.4	+24 14
10	✓	+25 2526	12 27.6	+25 2	7.7	✓	~~109~~ 110	12 29.8	+24 47
11	✓	+25 2523	12 26.4	+25 5	6.3	✓	10~~6~~4	12 28.6	+24 50
12	✓	+25 2513	12 22.7	+25 8	7.7	✓	88	12 25.0	+24 53
13	✓	+24 2464	12 22.2	+24 54	5.7	✓	85	12 24.5	+24 39
14	✓	+24 2452	12 16.8	+24 46	8.8	✓	60	12 19.1	+24 31
15	✓	+25 2492	12 13.5	+25 2	8.4	✓	42	12 15.8	+24 47
16	✓	+25 2488	12 12.2	+25 5	8.8	✓	36	12 14.5	+24 50
17	✓	-25 2468	12 2.7	+25 3	8.4	✓	4~~6~~	12 5.0	+24 48
18	✓	+25 2528	12 27.7	+25 18	7.8	✓	11~~2~~3	12 29.9	+25 3
19	✓	+25 2522	12 26.3	+25 15	7.3	✓	10~~4~~5	12 28.5	+25 0
20	✓	+25 2517	12 23.8	+25 22	5.3	✓	92	12 26.1	+25 7
21	✓	+25 2514	12 22.7	+25 21	8.3	✓	87	12 25.0	+25 6
22	✓	+25 2507	12 20.2	+25 28	8.0	✓	75	12 22.5	+25 13
23	✓	+25 2501	12 16.2	+25 24	7.0	✓	56	12 18.5	+25 9
24	✓	+25 2498	12 14.9	+25 34	6.5	✓	51	12 17.2	+25 19
25	✓	+25 2496	12 14.2	+25 19	8.5	✓	47	12 16.5	+25 4
26	✓	+25 2486	12 11.7	+25 39	8.4	✓	32	12 14.0	+25 24

Plate I 8483 Continued

		v	H	Cl.	Rem	Limit.	K line.	Intens.	F line	Obs Br.	Vol XIV Table LXII	Dif	Resid
	27	8.5	19.2	H		K	K=H	1	—	{6.7 7.0			
	28	8.8	22.2	H	G5 K	K	K=H	2	—	{5.8 6.2			
(410,1; 434,1.)	29	9.4	13.6	F		K	K=H	1	—	6.7			
410,6; 434,6	30	9.3	17.0	A	F	γ	K=.5	3	F	5.6			
	31	9.3	17.2	K	K	γK	K=H	2	F	{5.7 6.1			
410.5; 434,5	32	9.4	18.1	A	F	β	K=H	2	F	{5.9			
410,2; 434,2.	33	9.4	18.9	F		K	K=H	1	—	6.5			
	34	10.3	9.8	H	H	K	K=H	2	—	{6.2 6.6			
	35	10.8	14.8	H		K	K=H	2	—	{6.5 7.0			
410,1; 434.1.	36	10.5	15.2	F		K	K=H	2	F	6.2			
410,5; 434,5	37	10.5	15.5	A	F	ζ	K=.8	4	F	4.8			
	38	10.9	17.2	I		K	K=H	2	—	{6.4 7.0			
410,1; 434,1.	39	11.0.	17.4	F		K	K=H	1	—	7.0			
410,3; 434,3.	40	10.5	18.8	F		β	K=H	2	F	6.0	2nd		
*⊙	41	11.0	19.7	F		β	K=H	2	F	6.3	~~6.9~~ (5.9) ✓		
410,1; 434,1;	42	11.0	22.0	F		K	K=H	1	—	6.8			
)	42 a	11.2	21.8	K		K	K = H	4	—	{4 5:7.5			
* 410,2; 434,2.	43	10.3	23.8	F		K	K=H	1	F	6.6			
410,1; 434,1	43 a	~~11.9~~ 10.1	21.5	F		K	K = H	1	F	7.0	6.4 ✓		
410,2; 434,2)	44	11.1	9.5	F		K	K=H	1	—	7.0			
	45	11.5	11.3	H		K	K=H	1	—	{7.0 7.3			
410,1; 434,1	46	11.5	11.7	F		K	K=H	1	—	7.1			
	47	11.2	12.0	A			N	3	F	5.8			
	48	11.8	12.8	G		γK	K=H	2	—	6.4			
*	49	11.3	13.3	A		ε	N	5	F	4.0	4.0 ✓ * On edge of scale, too Br. for accurate measurement		
	50	11.2	13.4	A		ζ	N	4	F	5.2			
	51	11.9	13.5	A		ζ	K=.2	4	F	5.0			
	52	11.3.	14.0	A		ζ	K=.2	4	F	5.1			
410,1, 434,1 410,2; 434,2.	53	11.8	14.4	F	~~H~~ F	K	K=H	1	—	7.1			
410,2; 434,2	54	11.4	14.8	F		K	K=H	1	—	7.0			

		No D.M.	R.A. h m	Dec. ° '	Magn.		1900 R.A. h m	1900 Dec. ° '
27	√	+25° 2481	12 9.8	+25 26	8.5	√23	12 12.1	+25° 11'
28	√	+25 2471	12 3.9	+25 34	7.7	√8 ~~14~~	12 6.2	+25 19
29	√	+25 2510	12 21.0	+25 50	8.3	√79	12 23.3	+25 35
30	√	+25 2495	12 14.1	+25 49	7.5	√46	12 16.4	+25 34
31	√	+25 2493	12 13.8	+25 50	7.2	√45	12 16.1	+25 35
32	√	+25 2487	12 11.9	+25 52	7.5	√34	12 14.2	+25 37
33	√	+25 2482	12 10.5	+25 50	8.7	√27 ~~25~~	12 12.8	+25 35
34	√	+26 2369	12 28.8	+26 13	7.8	√11~~4~~5	12 31.0	+25 58
35	√	+26 2350	12 18.7	+26 29	8.5	√68	12 21.0	+26 14
36	√	+26 2347	12 17.8	+26 19	8.9	√63	12 20.1	+26 4
37	√	+26 2345	12 17.2	+26 24	~~7~~6.3	√62	12 19.5	+26 9
38	√	+26 2332	12 13.8	+26 32	8.2	√44	12 16.1	+26 17
39	√	+26 2330	12 13.4	+26 34	8.7	√41	12 15.7	+26 19
40	√	+26 2323	12 10.5	+26 23	8.2	√26 ~~24~~	12 12.8	+26 8
41	√	+26 2321	12 8.8	+26 34	7.1	√20	12 11.1	+26 19
42	√	+26 2315	12 4.3	+26 32	8.6	√9 ~~16~~	12 6.6	+26 17
42ª	√	+26 2316	12 4.5	+26 40	5.7	√11 ~~22~~	12 6.8	+26 25
43	√	+26 2307	12 0.6	+26 11	8.3	√1.	12 2.9	+25 56
43ª	√	+26 2313	12 3.0	+26 9	88	√5 ~~8~~	12 5.3	+25 54
44	√	+26 2372	12 29.5	+26 35	8.6	√11~~5~~6	12 31.7	+26 20
45	√	+26 2361	12 25.8	+26 46	8.7	√10~~3~~4	12 28.0	+26 31
46	√	+26 2360	12 25.0	+26 46	8.8	√9~~8~~9	12 27.2	+26 31
47	√	+26 2359	12 24.3	+26 40	8.2	√9~~6~~7	12 26.6	+26 25
48	√	+26 2356	12 22.7	+26 56	8.3	√86	12 25.0	+26 41
49	√	+26 2354	12 21.7	+26 43	6.0	√83	12 2~~4.0~~ 3.9	+26 28
50	√	+26 2353	12 21.5	+26 42	7.2	√81	12 23.8	+26 27
51	√	+27 2138	12 21.4	+27 2	6.5	√80	12 23.7	+26 47
52	√	+26 2352	12 20.4	+26 42	6.5	√77	12 22.7	+26 27
53	√	+26 2351	12 19.5	+26 57	8.8	√70	12 21.8	+26 42
54	√	+26 2349	12 18.6	+26 46	9.1	√67	12 20.9	+26 31

Plate I 8483 Continued.

		&c.	H.	Col.	Rem.	Limit	Kline	Intens.	Fline	Obs. Ex.	Vol. XIV Table LXIV	Diff.	Resid.
	55	11.7.	15.6	A		η	A	5	F	4.2			
410,5; 434,5	56	11.1	15.7	A	F	γ	K=.5 K=.5	3	F	5.2			
	57	11.1	16.5	A?		ε	K=.5	5	—	4.0			
	58	11.3	17.3	A		α	A	2	F	6.6			
410,6; 434,6.	59	11.5	17.6	F		γ	K=H	3	F	4.7			
	60	11.5	18.2	A		δ	K=.3	4	F	5.1			
410,1; 434,1.	61	11.9	18.4	F		α	K=H	3	F	5.8			
410,2; 434,2.	62	[illegible]	10.6	F		α	K=H	2	F	6.0			
	63	12.4	12.1	H	H	H K	A K=H	1 1	—	7.1 7.4	7.0 7.4		
410,1; 434,1.	64	12.8	15.9	F		K	K=H	1	—	7.1			
410,1 434,1.	65	12.7	16.0	F		K	K=H	1	—	7.1			
	66	12.9	16.5	H		K	K=H	2	—	6.3 6.9			
410,2; 434,2.	67	12.7	16.8	F		K	K=H	1	—	7.2			
	68	12.8	16.9	G	H	K	K=H K=H	1	—	6.8			
	69	12.8	17.6	K		K	K=1.2	4	—	4.7 5.0			
	70	12.6	20.6	G		K	K=H	2	—	5.8			
	71	12.7	13.4	G		K	K=H	3	—	5.6			
410,2; 434,2.	72	13.3	10.8	F		K	K=H	1	—	6.9			
410,4; 434,4.	73	13.2	11.7	F		K	K=H	1	—	6.6			
	74	13.7	12.0	G	G	K	K=H	2	—	6.4			
	75	13.8	12.1	K		K	K=H	3	—	5.9 6.4			
410,2; 434,2.	76	13.[illegible]	12.5	F		K	K=H	1	—	7.1			
	77	13.[illegible]	14.2	K		K	K=H	2	—	6.4 6.9			
	78	13.3	14.3	A		ε	A	5	F	4.0			
410,2; 434,2	79	13.3	14.4	H	F	K K	K=H K=H	1	—	6.8			
410,1; 434,1	80	13.2	14.8	F		K	K=H	2	F	6.2			
410,2; 434,2	81	13.6	15.9	F		K	K=H	2	F	6.3			
*	82	14.0	16.4	H		K	K=H	1	—	6.7 7.2	6.7 7.2		

‡ DM. +27° 2149 has dec. trans. with that of DM +27° 2147

		D.M. No.	R.A.	Dec.	Magn		R.A. 1900 h m	Dec. 1900
55	√ ·	+26 2344	12 17.0	+26 54	5.3	√61	12 19.3	+26° 39′
56	√ ·	+26 2343	12 16.8	+26 38	7.0	√59	12 19.1	+26 23
57	√ { ·	+26 2337 ~~+26 2338~~	12 15.2 ~~12 15.2~~	+26 40 ~~+26 38~~	5.0 } ~~8.5~~ }	√52	12 17.5	+26 25
58	√ ·	+26 2331	12 13.6	+26 44	8.3	√43	12 15.9	+26 29
59	√ ·	+26 2329	12 13.0	+26 49	6.3	√39	12 15.3	+26 34
60	√ ·	+26 2326	12 11.7	+26 49	6.6	√31	12 14.0	+26 34
61	√ ·	+26 2324	12 11.4	+26 60	7.3	√29	12 13.7	+26 45
62	·	+27 2150	12 27.2	+27 6	8.5	√10~~8~~ 9	12 29.4	+26 51
63	√ ·	+27 2142	12 24.2	+27 14	8.9	√95	12 26.5	+26 59
64	√ ·	+27 2121	12 16.4	+27 24	9.0	√58	12 18.7	+27 9
65	√ ·	+27 2120	12 16.2	+27 22	8.8	√55	12 18.5	+27 7
66	* √ ·	+27 2118	12 15.3	+27 24	7.8	√53	12 17.6	+27 9
67	√ ·	+27 2117	12 14.5	+27 19	9.1	√49	12 16.8	+27 4
68	* √ ·	+27 2116	12 14.4	+27 25	8.0	√48	12 16.7	+27 10
69	√ ·	+27 2114	12 13.0	+27 25	5.0	√38	12 15.3	+27 10
70	√ ·	+27 2105	12 7.0	+27 18	7.3	√16	12 9.3	+27 3
71	√ ·	+27 2100	12 1.2	+27 18	6.8	√2	12 3.5	+27 3
72	‡ √ ·	+27 2149	12 26.8	+27 39	9.1	√10~~7~~ 8	12 29.0	+27 24
73	√ ·	+27 2145	12 25.1	+27 34	8.7	√~~99~~ 101	12 27.3	+27 19
74	√ ·	+27 2144	12 24.5	+27 48	8.8	√99 ~~98~~	12 26.8	+27 33
75	√ ·	+27 2143	12 24.3	+27 53	8.2	√9~~5~~ 6	12 26.6	+27 38
76	√ ·	+27 2140	12 23.4	+27 51	9.2	√91	12 25.7	+27 36
77	√ ·	+27 2135	12 20.0	+27 51	8.3	√74	12 22.3	+27 36
78	√ ·	+27 2134	12 19.7	+27 38	5.2	√73	12 22.0	+27 23
79	√ ·	+27 2133	12 19.6	+27 38	8.7	√71	12 21.9	+27 23
80	√ ·	+27 2129	12 18.6	+27 34	8.7	√66	12 20.9	+27 19
81	√ ·	+27 2122	12 16.4	+27 48	8.6	√57	12 18.7	+27 33
82	√	+27 2119	12 15.4	+27 56	8.1	√54	12 17.7	+27 41

* DM. +27° 2118 & DM. +27° 2116 have dec. transposed in DM. cat.

Plate I 8483 Continued

		v	H	Cl.	Rem.	Limit	Kline	Intens.	Time	Obs. Br.	
H10,4; 434,4.	83	13.8	17.4	F		β	K=H	4	F	4.8	
* H10,2; 434,2.	84	14.7	10.4	F		K	K=H	1	—	6.6	2nd ″ 6.7
	85	14.9	12.7	H		K	K=H	1	—	{6.8 7.2}	
	86	14.6	13.9	A		γ	K=.8	2	F	5.8	
H10,5; 434,5	87	14.2	14.6	A?	F	ε	K=H K=H	5	F	B.	
	88	14.4	16.8	F		K	K=H	2	F	6.4	
	89	14.4	18.6	A		β	K=.4	2	F	5.6	
H10,2; 434,2.	90	14.6	21.5	F		K	K=H	2	F	5.9	
	91	14.4	22.3	A		ε	N	5	F	4.3	
H10,1; 434,1	92	15.3	12.3	E	F	K	K=H K=H	2	—	6.2	
	93	16.0	18.2	E	E	K	K=H	1	—	6.8	
	94	15.4	19.2	Ma		K	K=H	2	—	{6.5 7.0}	
H10,1; 434,1.	95	16.0	19.7	F		K	K=H	2	—	6.1	
H10,2; 434,2.	96	16.1	11.1	F		K	K=H	2	F	6.3	
	97	16.1	11.6	H	H	K K	K=H K=H	1 1	—	{6.8 7.1}	{6.8 7.0}
H10,1; 434,1	98	16.9	12.1	E	F F	K K	K=H K=H	1	—	7.0	6.8
	99	16.8	12.8	H	H	H K	N K=H	1 1	—	{7.1 7.3}	{7.0 7.2}
	100	16.5	13.3	H	H	H H	N N	1 1	—	{6.9 7.3}	{6.8 7.2}
	101	16.1	14.0	K		K	K=H	3	—	{5.5 5.9}	
	102	16.5	14.3	K		K	K=1.5	5	F	B	
	103	16.9	17.8	A		γ	K=.3	3	F	5.0	
H10,1; 434,1.	104	16.3	17.9	F		β	K=H	4	F	5.0	
	105	16.6	20.7	H		H	N	1	—	{7.0 7.4}	
H10,2; H34,2.	106	16.5	22.9	F		K	K=H	1	—	7.1	
H10,1; 434,1	107	17.8	10.2	G	G	K	K=H	2	F	6.0	
H10,1; 434,1	108	17.8	13.4	F	F	α	K=H	2	F	6.4	
	109	17.9	18.9	A		ε	N	5	F	4.3	
H10,1; 434,1 H10,2; H34,2	110	17.5	19.0	F	F	K	K=H K=H	1	—	6.8	

No		DM.		R.A. h	m	Dec. °	'	Magn.		1900 R.A. h	m	1900 Dec. °	'
83	√.	+27°	2115	12	13.4	+27	52	6.0	√40	12	15.7	+27°	37'
84	√.	+28	2134	12	27.7	+28	15	8.5	√11~~70~~2	12	29.9	+28	0
85	√.	+28	2123	12	23.0	+28	22	8.9	√90	12	25.3	+28	7
86	√.	+28	2118	12	20.6	+28	13	8.2	√78	12	22.9	+27	58
87	√.	+28	2115	12	19.2	+28	5	5.1	√69	12	21.5	+27	50
88	√.	+28	2109	12	14.7	+28	6	8.5	√50	12	17.0	+27	51
89	√.	+28	2100	12	10.9	+28	7	7.5	√28	12	13.2	+27	52
90	√.	+28	2087	12	5.1	+28	10	7.8	√13 ~~24~~	12	7.4	+27	55
91	√.	+28	2084	12	3.4	+28	6	5.9	√7 ~~12~~	12	5.7	+27	51
92	√.	+28	2125	12	23.9	+28	32	8.4	√94	12	26.2	+28	17
93	√.	+28	2103	12	11.8	+28	51	9.0	√33	12	14.1	+28	36
94	√.	+28	2097	12	9.6	+28	33	8.2	√22	12	11.9	+28	18
95	√.	+28	2095	12	8.7	+28	52	8.1	√19	12	11.0	+28	37
96	√.	+28	2133	12	26.4	+28	53	8.4	√10~~5~~6	12	28.6	+28	38
97	√.	+28	2128	12	25.3	+28	54	8.7	√10~~0~~1	12	27.5	+28	39
98	√.	+29	2296	12	24.4	+29	14	9.0	√9~~7~~8	12	26.7	+28	59
99	√.	+29	2294	12	23.0	+29	12	9.0	√89	12	25.3	+28	57
100	√.	+29	2293	12	21.9	+29	5	9.0	√84	12	24.2	+28	50
101	√.	+28	2116	12	20.3	+28	55	7.8	√76	12	22.6	+28	40
102	√.	+29	2288	12	19.7	+29	5	4.7	√72	12	22.0	+28	50
103	√.	+29	2280	12	12.6	+29	16	7.0	√37	12	14.9	+29	1
104	√.	+28	2106	12	12.2	+28	58	6.5	√35	12	14.5	+28	43
105	√.	+29	2268	12	6.6	+29	6	8.5	√15 ~~18~~	12	8.9	+28	51
106	√.	+29	2258	12	2.1	+29	1	8.8	√3	12	4.4	+28	46
107	√.	+29	2303	12	28.3	+29	38	7.6	√115	12	30.5	+29	23
108	√.	+29	2292	12	21.7	+29	41	8.5	√82	12	24.0	+29	26
109	√.	+29	2275	12	10.2	+29	45	5.8	√25	12	12.5	+29	30
110	√.	+29	2274	12	10.0	+29	32	8.5	√24	12	12.3	+29	17

Plate I 8483 Continued.

	v	H.	Class	Gen Limit	K line	Intens	F line	Obs. Br.
111	17.3	20.2	H	K	K = H	2	—	6.8 7.1
112	17.3	21.1	H	K	K = H	2	—	6.3 6.8
113	17.2	21.6	Gr F	K	K = H K = H	4	F	4.7
114	18.3	10.6	G H	K	K = H K = H.	2	F	6.3 6.2 6.5
115	18.4	22.3	K K	K	K = H K = H	3		5.8 6.2

410,3 ; 434,3
~~K = H~~

		D.M. No.	R.A.	Dec.	Magn.		R.A. 1900	Dec. 1900
			h				h m	° '
111	✓	+29° 2269	12 7.5	+29 26	8.4	✓18	12 9.8	+29° 11'
112	✓	+29 2267	12 5.7	+29 26	7.9	✓14 ~~26~~	12 8.0	+29 11
113	✓	+29 2265	12 4.6	+29 21	6.7	✓12 ~~22~~	12 6.9	+29 6
114	✓	+29 2301	12 27.7	+29 53	7.8	✓ 11~~0~~7	12 29.9	+29 38
115	✓	+29 2263	12 3.1	+29 52	7.2	✓6 ~~12~~	12 5.4	+29 37

May 24, 1895.

Plate I 2751.

		v	H	Cl.	Cm. Limit	K line	Intens.	F line	Ob Br.
	1	21.3	12.0	K	K	K = H	3	—	5.6 6.0
	2	21.1	19.0	H	K	K = H	2	—	6.3 6.8
410,3; 434,3.	3	20.9	22.6	F	K	K = H	2	—	5.6
410,2; 434,2.	4	22.0	22.6	F	K	K = H	1	—	6.8
~~410,1; 434,1.~~	5	20.2	21.7	F	K	K = H	3	—	5.6
	6	19.9	18.8	K	K	K = 1.2	3	—	5.3 5.7
	7	20.7	15.6	H	K	K = H	1	—	6.6 6.9
	8	19.9	14.3	G	5K	K = 1.2	4	—	4.8 4.9
~~410,2; 434,2.~~	9	20.5	13.5	F	β	K = H	2	F	5.8
	10	19.1	23.6	H	K	K = H	2	—	6.5 7.0
	11	19.0	23.0	A	δ	A	4	F	4.7
	12	18.9	21.1	F	α	K = H	2	—	6.0
410,2; 434,2.	13	19.4	20.1	F		K = H	4	F	4.6
	14	19.8	18.1	H	H	A	1	—	7.2 7.3
~~410,2; 434,2~~	15	19.8	16.0	H	K	K = He	1	—	6.8 7.2 ~~Too faint.~~
410, 2; 434, 2	16	19.2	15.9	F	K	K = H	1	—	7.0
410,1; 434,1.	17	19.2	11.1	F	K	K = H	1	—	6.8
	18	18.5	23.6	H	K	K = H	1	—	6.9 7.1
	19	18.6	23.0	H	K	K = H	2	—	6.2 6.8
	20	18.4	21.6	A	ε	A	5	F	4.5
	21	18.5	21.1	H	F	A	1	—	7.3 7.5
410,6; 434,6.	22	18.2	19.9	F	β	K = H	2	F	6.2
	23	18.4	17.9	I	K	K = H	2	—	5.8 6.2
	24	18.0	17.2	A	δ	A	4	F	4.6
410,2; 434,2.	25	18.7	16.9	F	K	K = H	1	—	6.8
	26	17.9	15.6	F	K	K = H	1	—	6.7
	27	18.4	14.7	H	K	K = H	1	—	6.8 7.0
	28	18.1	11.7	G	K	K = H	3	—	5.8

No D.M.	R.A.	Dec.	Magn.		1900 R.A.	1900 Dec.
°	h m	°		✓	h m	° '
+24 2436	12 4.4	+24 8	6.6		12 6.7	+23° 53'
+24 2458	12 18.4	+24 10	7.5	✓	12 20.7	+23 55
+24 2470	12 25.5	+24 14	8.0	✓	12 27.7	+23 59
+24 2471	12 25.7	+24 39	8.7	✓	12 27.9	+24 24
+24 2466	12 23.8	+24 36	7.5	✓	12 26.1	+24 21
+24 2455	12 18.0	+24 44	6.0	✓	12 20.3	+24 29
+24 2445	12 11.6	+24 22	8.3	✓	12 13.9	+24 7
+24 2443	12 9.0	+24 47	5.3	✓	12 11.3	+24 32
+24 2441	12 7.1	+24 29	7.5	✓	12 9.4	+24 14
+25 2526	12 27.6	+25 2	7.7	✓	12 29.8	+24 47
+25 2523	12 26.4	+25 5	6.3	✓	12 28.6	+24 50
+25 2513	12 22.7	+25 8	7.7	✓	12 25.0	+24 53
+24 2464	12 22.2	+24 54	5.7	✓	12 24.5	+24 39
+24 2452	12 16.8	+24 46	8.8	✓	12 19.1	+24 31
+25 2492	12 13.5	+25 2	8.4	✓	12 15.8	+24 47
+25 2488	12 12.2	+25 5	8.8	✓	12 14.5	+24 50
+25 2468	12 2.7	+25 3	8.4	✓	12 5.0	+24 48
+25 2528	12 27.7	+25 18	7.8	✓	12 29.9	+25 3
+25 25~~44~~ 22	12 26.3	+25 15	7.3	✓	12 28.5	+25 0
+25 2517	12 23.8	+25 22	5.3	✓	12 26.1	+25 7
+25 2514	12 22.7	+25 21	8.3	✓	12 25.0	+25 6
+25 2507	12 20.2	+25 28	8.0	✓	12 22.5	+25 13
+25 2501	12 16.2	+25 24	7.0	✓	12 18.5	+25 9
+25 2498	12 14.9	+25 34	6.5	✓	12 17.2	+25 19
+25 2496	12 14.2	+25 19	8.5	✓	12 16.5	+25 4
+25 2486	12 11.7	+25 39	8.4	✓	12 14.0	+25 24
+25 2481	12 9.8	+25 26	8.5	✓	12 12.1	+25 11
+25 2471	12 3.9	+25 34	7.7	✓ ~~15~~	12 6.2	+25 19

Plate I 2751 Continued

	v	H.	Cl.	Cem.	Limit	K line	Intens	F line	Ob Br.	
410,2; 434,2.	29	17.4	20.2	F	K	K=H	1	—	7.0	
410,5; 434,5	30	17.6	16.8	F	γ	K=H	3	—	5.7	
	31	17.5	16.6	G	γK	K=H	3	—	5.8	
410,3; 434,3	32	17.4	15.7	F	γ	K=H	3	F	5 5.8	
410,2, 434,2.	33	17.5	15.0	F	γK	K=H	2	—	6.7	
	34	16.4	24.1	Ma?	K	K=H	2	—	{5.9 6.5	
	35	16.0	19.1	H	K	K=H	1	—	{6.7 7.0	
410,1; 434,1.	36	16.3	18.6	F	K	K=H	2	F	6.3	
410,6; 434,6.	37	16.2	18.3	F	β	K=H	3	F	4.8	
	38	16.0	16.6	K	K	K=H	2	—	{6.5 7.0	
410,2; 434,2.	39	15.9	16.4	F	K	K=H	1	—	7.0	
⊗	40	16.3	15.0	F	β	K=H	2	F	5.8	
* 410,3; 434,3.	41	15.9	14.2	F	β	K=H	2	F	5.9	2nd " 5.9 ✓
	42	16.9	11.9	F	K	K=H	1	—	6.6	
(a)	42	15.6	12.0	K	K	K=H	3	—	(5.1-5.7)	
410,1; 434,1.	43	16.9	11.3	F2	K	K=H	1	—	7.2	
410,2; 434,2 *	a 43	16.8	10.1	F	K	K=H	2	F	6.1	2nd " 6.2 ✓
410,1; 434,1.	44	15.6	24.3	F	K	K=H	1	—	~~7.3~~ 7.3	
	45	15.3	22.5	H	H	A	1	—	(7.3-7.5)	
410,1; 434,1	46	15.3	22.1	F	K	K=H	1	—	7.1	
	47	15.5	21.8	A	γ	A	2	—	5.7	
	48	15.0	21.0	G	γK	K=H	2	—	6.5	
*	49	15.4	20.5	A	ζ	A	5	F	4.7	2nd " 4.0
	50	15.5	20.4	A	δ	A	3	F	5.2	
	51	14.8	20.3	A	δ	A	3	F	5.1	
	52	15.5	19.9	A	δ	K=.2	3	F	5.2	
	53	15.8	19.4	H	H	A	1	—	(7.1-7.4)	
410,2; 434,2.	54	15.4	19.0	F	K	K=H	1	—	7.0	
	55	15.1	18.2	A	ζ	K=,2	5	F	4.0	
410,6; 434,6.	56	15.7	18.1	F	δ	K=,5	3	F	5.2	

D.M. No.	R.A.	Dec.	Magn.	R.A. 1900 h m	Dec. 1900 ° '
+25 2510	12 21.0	+25 50	8.3	✓12 23.3	+25 35
+25 2495	12 14.1	+25 49	7.5	✓12 16.4	+25 34
+25 2493	12 13.8	+25 50	7.2	✓12 16.1	+25 35
+25 2487	12 11.9	+25 52	7.5	✓12 14.2	+25 37
+25 2482	12 10.5	+25 50	8.7	✓12 12.8	+25 35
+26 2369	12 28.8	+26 13	7.8	✓12 31.0	+25 58
+26 2350	12 18.7	+26 29	8.5	✓12 21.0	+26 14
+26 2347	12 17.8	+26 19	8.9	✓12 20.1	+26 4
+26 2345	12 17.2	+26 24	6.3	✓12 19.5	+26 9
+26 2332	12 13.8	+26 32	8.2	✓12 16.1	+26 17
+26 2330	12 13.4	+26 34	8.7	✓12 15.7	+26 19
+26 2323	12 10.5	+26 23	8.2	✓12 12.8	+26 8
+26 2321	12 8.8	+26 34	7.1	✓12 11.1	+26 19
+26 2315	12 4.3	+26 32	8.6	✓~~17~~ 12 6.6	+26 17
+26 2316	12 4.5	+26 40	5.7	✓~~21~~ 12 6.8	+26 25
+26 2313	12 3.0	+26 9	8.8	12 25.3	+25 546
~~+26 2316~~	~~12 4.5~~	~~+26 40~~	~~5.7~~		
+37 +26 2307	12 3.6	+26 11	8.3	✓~~9~~ 12 2.9	+25 54
+26 2372	12 29.5	+26 35	8.6	✓12 31.7	+26 20
+26 2361	12 25.8	+26 46	8.7	✓12 28.0	+26 31
+26 2360	12 25.0	+26 46	8.8	✓12 27.2	+26 31
+26 2359	12 24.3	+26 40	8.2	✓12 26.6	+26 25
+26 2356	12 22.7	+26 56	8.3	✓12 25.0	+26 41
+26 2354	12 21.7	+26 43	6.0	✓12 24.0	+26 28
+26 2353	12 21.5	+26 42	7.2	✓12 23.8	+26 27
+27 2138	12 21.4	+27 2	6.5	✓12 23.7	+26 47
+26 2352	12 20.4	+26 42	6.5	✓12 22.7	+26 27
+26 2351	12 19.5	+26 57	8.8	✓12 21.8	+26 42
+26 2349	12 18.6	+26 46	9.1	✓12 20.9	+26 31
+26 2344	12 17.0	+26 54	5.3	✓12 19.3	+26 39
+26 2343	12 16.8	+26 38	7.0	✓12 19.1	+26 23

Plate I 2751 Continued.

	v.	H	Cl.	Pecu.	Limit	K line	Satur.	F line	Ch Dr.	
410,2; 434,2.	57	15.6	17.4	(A5F)	ε	K=.5	5	F	4.1	
	58	15.5	16.6	A	K	K=H	1	—	6.7	
410,4; 434,4.	59	15.3	16.3	F	γ	K=H	3	F.	4.7	
	60	15.3	15.7	A	δ	K=.3	3	F	5.0	
410,2; 434,2.	61	15.0	15.5	F	β	K=H	2	F	5.8	
410,2; 434,2.	62	14.5	23.2	F	K	K=H	2	—	6.1	
	63	14.3	21.7						Too faint	
410,1; 434,1	64	14.0	17.9	F	K	K=H	1	—	7.0	
410,1; 434,1.	65	14.1	17.8	F	K	K=H	1	—	6.9	
	66	14.0	17.4	H	K	K=H	2	—	(6.4–7.0)	
410,2; 434,2,	67	14.2	17.0	F	K	K=H	2	—	7.0	
	68	14.0	16.9	H	K	K=H	1	—	{6.8 7.0	
	69	14.0	16.2	K	K	K=1.2	4	—	{4.8 5.0	
	70	14.3	13.2	G	K	K=H	2	—	5.8	
	71	14.3	16.4	K	K	K=H	3	—	{5.5 5.7	
410,2; 434,2.	72	13.3	22.9	F	K	K=H	2	—	6.9	
410,3; 434,3.	73	13.5	22.1	F	K	K=H	1	F	6.8	
~~410,1; 434,1.~~	74	13.0	21.8	F	K	K=H	2	—	6.5	
	75	12.9	21.7	I	K	K=H	2	—	{6.1 6.5	
410,3; 434,3.	76	12.9	21.2	F	K	K=H	1	—	7.2	
	77	13.0	19.6	H	K	K=H	2	—	{6.4 7.0	
	78	13.4	19.5	A	3	K=.2	5	F	B	
410,1; 434,1.	79	13.5	19.4	F	K	K=H	1	F	6.8	
410,2; 434,2.	80	13.6	18.9	F	K	K=H	2	—	6.2	
410,2; 434,2.	81	13.2	17.8	F	K	K=H	2	—	6.2	
*	82	12.9	17.3	H	H	N	1	—	{7.2 7.6	6.8} 7.4}
410,5; 434,5.	83	13.0	16.4	F	β	K=H	3	F	5.1	
* 410,2; 434,2.	84	11.9	23.3	F?	K	K=H	1	F	7.2	2nd 7.0

D.M. No.	R.a.	Dec.	Magn.	1900 R.a	1900 Dec.
				h m	° ′
+26 2337	12 15.2	+26 40	5.0 }	✓12 17.5	+26° 25
~~+26 2338~~	~~12 15.2~~	~~+26 38~~	~~8.5~~ }	~~12 14.5~~	~~+26 23~~
+26 2331	12 13.6	+26 44	8.3	✓12 15.9	+26 29
+26 2329	12 13.0	+26 49	6.3	✓12 15.3	+26 34
+26 2326	12 11.7	+26 49	6.6	✓12 14.0	+26 34
+26 2324	12 11.4	+26 60	7.3	✓12 13.7	+26 45
+27 2150	12 27.2	+27 6	8.5	✓12 29.4	+26 51
+27 2142	12 24.2	+27 14	8.9	✓12 26.5	+26 59
+27 2121	12 16.4	+27 24	9.0	✓12 18.7	+27 9
+27 2120	12 16.2	+27 22	8.8	✓12 18.5	+27 7
+27 2118	12 15.3	+27 24	7.8	✓12 17.6	+27 9
+27 2117	12 14.5	+27 19	9.1	✓12 16.8	+27 4
+27 2116	12 14.4	+27 25	8.0	✓12 16.7	+27 10
+27 2114	12 13.0	+27 25	5.0	✓12 15.3	+27 10
+27 2105	12 7.0	+27 18	7.3	✓12 9.3	+27 3
+27 2100	12 1.2	+27 18	6.8	✓12 3.5	+27 3
+27 2149	12 26.8	+27 39	9.1	✓12 29.0	+27 24
+27 2145	12 25.1	+27 34	8.7	✓12 27.3	+27 19
+27 2144	12 24.5	+27 48	8.8	✓12 26.8	+27 33
+27 2143	12 24.3	+27 53	8.2	✓12 26.6	+27 38
+27 2140	12 23.4	+27 51	9.2	✓12 25.7	+27 36
+27 2135	12 20.0	+27 51	8.3	✓12 22.3	+27 36
+27 2134	12 19.7	+27 38	5.2	✓12 22.0	+27 23
+27 2133	12 19.6	+27 38	8.7	✓12 21.9	+27 23
+27 2129	12 18.6	+27 34	8.7	✓12 20.9	+27 19
+27 2122	12 16.4	+27 48	8.6	✓12 18.7	+27 33
+27 2119	12 15.4	+27 56	8.1	✓12 17.7	+27 41
+27 2115	12 13.4	+27 52	6.0	✓12 15.7	+27 37
+28 2134	12 27.7	+28 15	8.5	✓12 29.9	+28 0

Plate I 2757 Continued.

		I.	H.	Cl.	Arm. Longt	K line	Intens	F line	Obs Br.
	85	11.8	21.0	H	H	H	1	—	7.2 7.5
	86	12.1	19.8	A	β	K=H	2	F	5.7
410,2; 434,2.	87	12.5	19.1	F	ε	K=H	5	F	4.4
410,1; 434,1.	88	12.4	17.0	F	K	K=H	2	—	6.5
	89	12.5	15.1	A	β	K=.2	3	F	5.7
410,3; 434,3.	90	12.4	12.3	F	K	K=H	2	F	6.2
	91	12.5	11.5	A	δ	K=.2	4	F	4.6
410,2; 434,2.	92	11.4	21.4	F	K	K=H	2	—	6.5
~~410,1; 434,1.~~	93	10.9	15.5	F?	K	K=H	1	—	7.0
	94	11.5	14.5	Ma.	H	V	1	—	(6.8-7.4)
410,5; 434,5.	95	10.9	14.1	F	K	K=H	2	F	6.2
410,3; 434,3.	96	10.6	22.6	F	K	K=H	2	—	6.5
	97	10.6	22.6						Too faint
	98	9.8	21.6						Too faint
	99	9.9	20.9						Too faint
	100	10.2	20.4						Too faint
	101	10.6	19.7	I	K	K=H	3	—	5.7 6.2
	102	10.2	19.4	K	K	K= 1.2	5	—	4.2 4.7
	103	9.9	15.9	A	δ	K = 2	3	F	5.1
410,2; 430,2; 434,2	104	10.6	15.8	F	K	K=H	3	F	5.1
	105	10.3	13.0	H	H	N	1	—	7.0 7.5
[illegible]0,2; 434,2.	106	10.5	10.8	F	K	K=H	1	—	7.1
~~410,1; 434,1.~~	107	8.9	23.5	F	K	K=H	2	—	6.3
	108	8.9	20.3	E	K	K=H	1	—	6.5
	109	8.9	14.8	A	δ	A	4	F	4.3
	110	9.4	14.7	E	K	K=H	1	—	6.8
	111	9.6	13.5	H	K	K=H	1	—	7.0 7.2
	112	9.6	12.6	H	K	K=H	2	—	6.5 7.3

No D.M.	R.A.	Dec.	Magn.	1900 R.A.	1900 Dec.
				h m	
+28 2123	12 23.0	+28 22	8.9	✓12 25.3	+28° 7'
+28 2118	12 20.6	+28 13	8.2	✓12 22.9	+27 58
+28 2115	12 19.2	+28 5	5.1	✓12 21.5	+27 50
+28 2109	12 14.7	+28 6	8.5	✓12 17.0	+27 51
+28 2100	12 10.9	+28 7	7.5	✓12 13.2	+27 52
+28 2087	12 5.1	+28 10	7.8	✓12 7.4	+27 55
+28 2084	12 3.4	+28 6	5.9	✓12 5.7	+27 51
+28 2125	12 23.9	+28 32	8.4	✓12 26.2	+28 17
+28 2103	12 11.8	+28 51	9.0	✓12 14.1	+28 36
+28 2097	12 9.6	+28 33	8.2	✓12 11.9	+28 18
+28 2095	12 8.7	+28 52	8.1	✓12 11.0	+28 37
+28 2133	12 26.4	+28 53	8.4	✓12 28.6	+28 38
+28 2128	12 25.3	+28 54	8.7	✓12 27.5	+28 39
+29 2296	12 24.4	+29 14	9.0	✓12 26.7	+28 59
+29 2294	12 23.0	+29 12	9.0	✓12 25.3	+28 57
+29 2293	12 21.9	+29 5	9.0	✓12 24.2	+28 50
+28 2116	12 20.3	+28 55	7.8	✓12 22.6	+28 40
+29 2288	12 19.7	+29 5	4.7	✓12 22.0	+28 50
+29 2280	12 12.6	+29 16	7.0	✓12 14.9	+29 1
+28 2106	12 12.2	+28 58	6.5	✓12 14.5	+28 43
+29 2268	12 6.6	+29 6	8.5	✓12 8.9	+28 51
+29 2258	12 2.1	+29 1	8.8	✓12 4.4	+28 46
+29 2303	12 28.3	+29 38	7.6	✓12 30.5	+29 23
+29 2292	12 21.7	+29 41	8.5	✓12 24.0	+29 26
+29 2275	12 10.2	+29 45	5.8	✓12 12.5	+29 30
+29 2274	12 10.0	+29 32	8.5	✓12 12.3	+29 17
+29 2269	12 7.5	+29 26	8.4	✓12 9.8	+29 11
+29 2267	12 5.7	+29 26	7.9	✓12 8.0	+29 11

Plate I 2751 Continued

		v	H.	Cl.	Rem.	Limit	K line	Intens.	F line	Ok. Be.
410.4; 434.4	113	9.8:	12.1	F		β	K=H	3	F	5.1
	114	8.3	23.1	H		K	K=H	2	—	{6.4 {6.9
	115	8.6:	11.4	G5K		K	K=H	3	—	{5.8 {5.9

D.M. No	R.A.	Dec.	Magn
. +29 2265	12 4.6	+29 21	6.7
. +29 2301	12 27.7	+29 53	7.8
. +29 2263	12 3.1	+29 52	7.2

	1900 R.A.	1900 Dec.
	h m	
✓ ~~23~~	12 6.9	+29° 6′
✓	12 29.9	+29 38
✓ ~~11.~~	12 5.4	+29 37

May 29, 1895

Pl. 66~~44~~ 38 Cluster in Scorpius.

		&	H	Cl.	Rem	Limit	Kline	Intens	Fline	Ob. Br.	
	1	18.5	19.9	a		f	N	2	F	5.9	
	2	19.3	15.6	a		H	N	1	—	7.2	
*	3	19.6	16.1	G5K	G	K	K=H	3	—	5.4 5.6	5.5
410,1 434,1	4	19.7	16.4	F		K	K=H	1	–	7.0	
	5	19.3	16.4	a		α	N	1	–	6.5	
	6	19.8	16.7	a		α	N	1	–	6.5	
	7	20.0	17.2	a		f	K=2	3	F	5.8	
	8	19.2	16.9	a		H	N	1	–	7.2	
	9	19.0	17.3	H		K	K=H	2	–	6.5 6.8	
	10	19.5	17.3	a		H	N	1	–	7.3	
	11	19.3	17.5	a		α	N	2	F	6.4	
	12	19.6	17.5	H		H	N	1	–	7.3 7.5	
	13	19.8	18.1	K		K	K=H	3	–	5.1 5.7	
	14	20.0	17.6	a		H	N	1	–	7.3	
	15	19.2	18.3	a		H	N	1	–	6.8	
	16	19.0	18.8	E		K	K=H	1	–	6.8	
	17	19.5	18.8	a		H	N	1	–	6.7	
	18	19.5	18.9	a		δ	N	3	F	5.8	
	19	19.4	18.9	a		f	N	3	F	5.7	
	20	19.7	19.2	a		H	N	1	–	6.9	
	21	19.3	19.2	a		α	N	1	–	6.8	
	22	18.9	19.5	a		K	K=H.	1	–	6.8	
	23	19.6	20.2	a		β	N	2	F	5.8	
	24	20.8	15.5	a		δ	N	3	F	5.5	
	25	20.3	15.5	a		β	N	2	F	6.5	
	26	20.2	16.0	a		ε	N	4	F	4.8	4. ~~5~~.8
	27	20.8	16.1	a		δ	N	3	F	5.5	
	28	20.5	16.3	a		K	K=H	1	–	6.8	

	CDM	R.a (1875) h	m	Dec. °	′	Magn.	R.A (1900) Dec	R.A. (1900) hrs.	m	Dec °	′
1	33 12646	17	48.8	−33	24	8.3		17	50.4	−33	24
2	−33 12454	17	38.6	−33	46	9.3		17	40.2	−33	47
3	−33 12476 −33 12477	17 17	39.7 39.7	−33 −33	57 58	7.3 9.0 ?		17 17	41.4 41.4	−33 −33	58 59
4	−34 12100	17	40.4	−34	0	9.3		17	42.1	−34	1
5	−33 12490	17	40.6	−33	49	8.5		17	42.2	−33	50
6	−34 12108	17	41.1	−34	4	9.3		17	42.8	−34	5
7	−34 12134	17	42.5	−34	10	8.5		17	44.2	−34	11
	−33 12514	17	41.7	−33	46	9.4		17	43.3	−33	47
8	~~−33 12510~~	~~17~~	~~41.6~~	~~−33~~	~~45~~	~~9.6~~		~~17~~	~~43.2~~	~~−33~~	~~46~~
9	−33 12533	17	42.6	−33	40	6.9		17	44.2	−33	40
10	−33 12534	17	42.6	−33	54	9.5		17	44.3	−33	55
11	−33 12540	17	43.1	−33	48	8.3		17	44.7	−33	49
12	−33 12543	17	43.2	−33	58	8.5		17	44.9	−33	59
13	−34 12186	17	44.5	−34	4	7.1		17	46.2	−34	5
14	−34 12151	17	43.5	−34	5	9.7 ?		17	45.2	−34	6
15	−33 12579	17	45.1	−33	44	8.9		17	46.7	−33	45
16	−33 12603	17	46.2	−33	35	8.3		17	47.8	−33	36
17	−33 12608	17	46.4	−33	56	8.0		17	48.1	−33	56
18	−33 12606	17	46.3	−33	54	8.5	P	17	48.0	−33	54
19	−33 12609	17	46.4	−33	53	7.7		17	48.0	−33	53
20	−33 12618	17	47.1	−33	59	9.7		17	48.8	−33	59
21	−33 12623	17	47.3	−33	48	9.0		17	48.9	−33	48
22	−33 12632	17	47.8	−33	36	9.3		17	49.4	−33	36
23	−33 12661	17	49.7	−33	56	8.5		17	51.4	−33	56
24	−34 12051	17	38.3	−34	32	8.4		17	40.0	−34	33
25	−34 12052	17	38.3	−34	18	8.7		17	40.0	−34	19
26	−34 12073	17	39.5	−34	16	7.2		17	41.2	−34	17
27	−34 12080	17	39.9	−34	32	8.5		17	41.6	−34	33
28	−34 12088	17	40.1	−34	25	9.3		17	$41.\overset{8}{7}$	−34	26

May 29, 1895

Pl. 66~~46~~ 38

		V.	H.	Cl.	Limit	K line	Int.	F line	br Obs	
	29	20.0	16.7	a	H	N, —	X1	—	7.1	
	30	21.0	17.0	a	H	N	1	—	7.0	
	31	20.5	17.1	a	j	N	2	F	5.8	
	32	20.2	17.1	a	j	N	2	F	6.2	
410,5 434,5	33	20.5	17.2	F	K	K = H	1	—	7.1	
	34	20.8	17.4	a	H	N	1	—	7.3	
	35	20.7	17.5	a	K	K = H	1	—	6.9	
	36	20.7	17.7	a	β	N	2	F	6.3	
	37	20.9	17.8	A	H	N	1	—	6.9	
	38	20.8 4	17.9	A	α	N	1	—	6.7	
	39	20.4	17.9	K	K	K = 1.2 H	4	—	4.9} 5.6}	4.7 5.1 }
	40	20.3	18.0	A	β	N	2	F	6.3	
	41	20.7	18.1	A	H	N	1	—	7.2	
	42	20.8	18.1	A	α	N	1	—	6.8	
	43	20.5	18.1	A	α	K = .2	2	F	6.6	
	44	20.9	18.2	A	β	N	3	F	5.2	
	45	21.0	18.3	A	j	N	3	F	5.6	
	46	20.4	18.3	H	H	N	1	—	6.8} 7.4}	
	47	20.6	18.6	A	β	N	2	F	6.4	
	48	20.9	18.7	A	H	N	1	—	7.0	7.0
	49	20.5	18.8	A	ε	N	4	F	4.4	4.4
	50	20.7	18.9	A	δ	N	3	F	5.1	
	51	20.1	19.1	A	δ	N	3	F	5.5	
410,3 434,3	52	20.4	19.1	F	K	K = H	1	—	6.9	
	53	20.2	19.4	A	j	N	2	F	5.9	
	54	20.7	19.5	A	β	N	2	F	6.7	
	55	20.7	19.7	A	β	K = H	2	F	6.5	
	56	20.2	19.9	A	H	N	1	—	6.8	

		C.D.M.	R.A.	Dec.	Magn.		R.A. (1900) h. m	Dec. ° '
	29	-34 12112	17 41.3	-34 10	9.4	^	17 43.0	-34° 11'
	30	-34 12121	17 41.9	-34 39	9.2	^	17 43.6	-34 40
	31	-34 12123	17 42.0	-34 26	8.5	^	17 43.7	-34 27
	32	-34 12127	17 42.1	-34 16	9.0	^	17 43.8	-34 17
	33	-34 12133	17 42.4	-34 24	9.7	^	17 44.1	-34 25
Not on chart	34	-34 12139	17 42.9	-34 34	9.5	^	17 44.6	-34 35
	35	44 -34 121~~39~~	3 1 17 4~~2~~.~~9~~	0 -34 3~~4~~	9.0 ~~9.5~~	^	8 17 44.~~7~~	-34 31
	36	52 -34 121~~74~~	17 43.5	-34 30	8.7 ~~9.0~~	^	17 45.2	-34 31
		-34 12158	17 43.8	-34 37	9.6			
	37	~~-34 12164~~	~~17 43.9~~	~~-34 38~~	~~9.9~~ 7.7	m	5 17 45.~~6~~	8 -34 3~~9~~
		-34 12164	9 17 43.~~4~~	-34 38	9.9			
	38	~~-34 12169~~	~~17 43.0~~	~~-34 35~~	~~9.7~~ 7.7	^	6 17 45.~~7~~	9 -34 3~~8~~
	39	-34 12170	17 44.0	-34 23	7.1	^	17 45.7	-34 24
	40	-34 12177	17 44.3	-34 18	8.9	^	17 46.0	-34 19
	41	-34 12183	17 44.4	-34 29	9.3	^	17 46.1	-34 30
	42	-34 12188	17 44.6	-34 33	9.0	^	17 46.3	-34 34
	43	-34 12190	17 44.6	-34 24	9.3	^	17 46.3	-34 25
	44	-34 12198	17 45.0	-34 36	7.6	^	17 46.7	-34 37
	45	8 -34 1220~~2~~	2 17 45.~~2~~	39 -34 ~~41~~	8.5	^	17 46.9	-34 40
	46	-34 12207	17 45.1	-34 22	8.8	^	17 46.8	-34 23
	47	-34 12227	17 45.6	-34 28	9.5	^	17 47.3	-34 29
	48	12242 -34 ~~12238~~	1 17 46.~~0~~	38 -34 ~~32~~	9.7 9.9	^	8 17 47.~~7~~	9 -34 3~~3~~
	49	-34 12244	17 46.1	-34 27	7.3	^	17 47.8	-34 28
	50	-34 12253	17 46.5	-34 31	7.4	^	17 48.2	-34 31
	51	62 -34 122~~73~~	17 47.0	3 -34 1~~6~~	8.5	^	17 48.7	-34 13
	52	63 -34 122~~72~~	17 47.0	-34 20	4 9.~~7~~	^	17 48.7	-34 20
	53	7 -34 1227~~2~~	17 47.6	-34 16	8.5	^	9 17 4~~8~~.3	-34 16
	54	-34 12283	17 48.1	-34 28	9.0	^	17 49.8	-34 28
	55	-34 12289	17 48.4	-34 30	8.5	^	17 50.1	-34 30
	56	-34 12297	17 48.9	-34 14	9.0	^	17 50.6	-34 14

May 29, 1895

Pl. 66~~76~~38

		V.	H.	Cl.	Limit	K line	Int.	F line	Obs Br.	
410,4 434,4	57	21.9	15.4	F	K	K = H	1	—	7.1	
*	58	21.4	15.4	A	δ	N	3	F	5.3	5,5
	59	21.3	15.8	H	H	N	1	—	6.5 7.1	
	60	21.0	15.8	H	H	N	1	—	7.0 7.4	
	61	20.9	15.9	a	H	N	1	—	7.3	
	62	21.6	16.1	A	H	N	1	—	7.2	
	63	21.4	16.2	E	K	K = H	1	—	7.3	
	64	21.5	16.4	A	K	K = H	1	F	6.8	
	65	21.7	16.4	A	β	K = 2	2	F	5.7	
	66	21.9	16.9	H	K	K = H	1	—	6.8 7.3	
	67	21.7	17.3	A	δ	N	3	F	5.5	
	68	21.3	17.4	A	H	N	1	—	6.9	
	69	21.7	17.5	A	α	N	1	—	6.8	
	70	21.9	17.6	A	H	N	1	—	7.0	
	71	21.8	17.7	A	β	N	2	—	6.4	
	72	21.2	17.7	A	δ	N	3	F	5.8	
*	73	21.5	17.7	A	α	N	2	—	6.4	6.7
	74	21.6	17.8	A	β	N	2	—	6.2	
	75	21.2	17.8	A	ε	N	5	F	4.0	4.6
	76	21.6	17.9	A	J	K = 2	3	F	6.2	
	77	21.3	17.9	A	K	K = H	1	—	6.8	
	78	21.5	18.0	A	ζ	N	2	F	6.1	
	79	21.7	18.1	A	δ	N	3	F	4.9	
	80	22.0	18.1	A	K	K = H	1	—	6.7	
/	81	21.2	18.2	A	α	N	1	—	6.8	
	82	21.1	18.3	A	ε	K = .1	4	F	4.5	
	83	21.4	18.3	K	K	K = H	4	—	4.6 ~~5.5~~ 5.0	
	84	21.1	18.4	A	H	N	1	—	6.4	

		CDM		R.A.		Dec.		Magn		R.A. (1900) hrs.	m.	Dec. °	'
	57	-35	11910	17	38.0	-35	5	9.7	∧	17	39.7	-35	6
	58	-34	12050	17	38.1	-34	50	8.0	∧	17	39.8	-34	51
	59	-34	12062	17	38.9	-34	48	8.3	∧	17	40.6	-34	49
	60	-34	12063	17	39.0	-34	41	8.6	∧	17	40.7	-34	42
	61	-34	12071	17	39.2	-34	35	9.6	∧	17	40.9	-34	36
	62	-34	12075	17	39.6	-34	58	9.8 ?	∧ ?	17	41.3	-34	59
	63	-34	12081	17	39.9	-34	50	9.6 ?	∧ ?	17	41.6	-34	51
	64	-34	12099	17	40.4	-34	54	8.7	∧	17	42.1	-34	55
	65	-34	12102	17	40.4	-34	60	7.7	∧	17	42.1	-35	1
	66	-35	11964	17	41.8	-35	7	8.3	∧	17	43.5	-35	8
	67	-35	11977	17	42.7	-35	2	8.0	∧	17	44.4	-35	3
Not on chart	68	-34	12141	17	43.0	-34	47	9.5	∧	17	44.7	-34	48
	69	-34	12143	17	43.1	-34	59	9.0	∧	17	44.8	-35	0
	70	-35	119~~84~~ 91	17	43.~~6~~ 5	-35	~~2~~ 4	9.~~4~~ 6 ?	∧ ?	17	45.2	-35	5
	71	-35	119~~85~~ 94	17	43.~~7~~ 6	-35	~~4~~ 2	~~10~~ 9.4 ?	∧ ?	17	45.3	-35	3
	72	-34	1215~~6~~ 4	17	43.6	-34	45	8.3 ✓	∧	17	45.3	-34	46
	73	-34	12161	17	43.8	-34	51	9.0	∧	17	45.5	-34	52
	74	-34	12162	17	43.8	-34	57	8.8	∧	17	45.5	-34	58
	75	-34	12165	17	43.9	-34	46	7.2	∧	17	45.6	-34	47
	76	-34	12168	17	44.0	-34	56	9.3	∧	17	45.7	-34	57
	77	-34	12172	17	44.1	-34	49	9.6	∧	17	45.8	-34	50
	78	-34	12179	17	44.3	-34	54	8.7	∧	17	46.0	-34	55
	79	-34	12187	17	44.6	-34	58	7.4	∧	17	46.3	-34	59
	80	-35 ~~-35~~	12015 ~~12012~~	17 ~~17~~	44.7 ~~44.6~~	-35 ~~-35~~	8 ~~11~~	9.0 ~~9.0~~	∧	17	46.4	-35	9
	81	-34	12194	17	44.8	-34	43	9.5	∧	17	46.5	-34	44
	82	-34	12200	17	45.0	-34	41	7.5	∧	17	46.7	-34	42
	83	-34	12203	17	45.1	-34	51	6.8	∧	17	46.8	-34	52
	84	-34 ~~-34~~	12215 ~~12206~~	17 17	45.3 45.1	-34 -34	42 55	9.6 ? ~~10~~ ?	∧	17 ~~17~~	47.0 ~~46.8~~	-34 ~~-34~~	43 ~~56~~

May 29, 1895

Pl 66 ~~46~~ 38

	V	H	Cl.	Limit	K line	Int	F line	Obs Br.	3rd meas.
85	21.3	18.4	A	f	N	3	F	6.0	
86	21.7	18.3	A	δ	N	3	F	5.5	
87	21.2	18.4	A	f	N	4	F	4.8	
88	21.3	18.4	A	δ	N	3	F	5.9	6.0
89	21.1	18.5	A	f	N	4	F	4.8	
90	21.3	18.5	A	ε	N	3	F	4.9	
91	21.1	18.6	A	H	N	2	—	6.5	6.5
92	21.3	18.5	A	f	N	3	F	3.7	
93	21.1	18.7	A	δ	N	3	F	5.4	
94	21.4	18.7	A	δ	N	3	F	5.4	
95	21.1	18.8	A	H	N	1	—	7.2	
* 96	21.3	18.8	A	H	N	1	—	7.0	7.0
97	22.0	18.6	H	K	K=H	3	—	5.8 6.2	
98	21.8	18.9	A	f	N	2	F	6.1	
99	21.1	18.9	A	β	N	2	F	6.1	
100	21.9	20.0	A	α	N	1	—	6.8	6.7
101	21.7	19.3	A	β	N	2	—	6.4	
102	21.7	19.4	A	δ	N	3	F	5.2	
103	21.2	19.6	A	H	N	1	—	7.0	
104	21.2	19.8	A	α	N	2	—	6.5	
105	21.5	20.0	A	α	N	2	—	6.4	
106	21.8	20.4	H	H	N	1	—	7.0 7.3	7.0 7.3
107	22.2	15.7	A	α	N	1	—	6.9	6.8
108	22.0	15.9	A	δ	N	3	F	5.4	
109	22.7	16.2	A	α	N	1	—	6.8	
110	22.1	16.2	G	K	K=H	1	—	6.8	
111	22.4	16.7	A	δ	N	3	F	5.3	
112	22.3	17.0	E	K	K=H	1	—	7.1	6.8

		R.A. (1900) hrs.	m.	Dec.	
85	-34 12213 17 45.2 -34 50 8.5	17	46.9	-34°	51'
86	-34 12201 17 45.0 -34 58 7.7	17	46.7	-34°	59'
√ 87	-34 12219 17 45.4 -34 45 7.7 ~~-34 12217 17 45.4 -34 46 8.3~~	17	47.1	-34	4~~6~~5'
88	~~-34 12219 17 45.4 -34 45 7.7~~ -34 12220 17 45.4 -34 49 8.5	17	47.1	-34	50
89	-34 12226 17 45.6 -34 43 7.5	17	47.3	-34	44
90	-34 12228 17 45.6 -34 49 7.5	17	47.3	-34	50
91	———				
92	-34 12236 17 45.9 -34 48 8.3	17	47.6	-34	49
93	-34 12237 17 45.9 -34 42 7.7	17	47.6	-34	43
94	-34 12239 17 46.0 -34 51 7.9 ~~-34 12237 17 45.9 -34 42 7.7~~	17	47.7	-34	52'
95	-34 12248 17 46.3 -34 43 9.9	17	48.0	-34°	43'
96	-34 12245 17 46.3 -34 50 9.5 -34 12247 17 46.3 -34 50 9.5	17 17	48.0 48.0	-34 -34	50 50
97	-35 12029 17 45.7 -35 10 8.0	17	47.4	-35	11
98	-35 12053 17 46.5 -35 4 8.5	17	48.2	-35	4
99	-34 12254 17 46.5 -34 44 8.8	17	48.2	-34	44
100	-35 $1205\overset{6}{\cancel{7}}$ 17 $46.\overset{8}{\cancel{7}}$ -35 $\overset{8}{\cancel{10}}$ $\overset{8.7}{\cancel{9.7}}$	17	48.5	-35	8
101	-35 12067 17 47.7 -35 1 8.5	17	49.4	-35	1
102	-35 12070 17 47.8 -35 1 7.2	17	49.5	-35	1
103	$-3\overset{4}{\cancel{5}}$ 12284 17 48.1 -34 44 9.2	17	49.8	-34	44
104	-34 12293 17 48.6 -34 44 9.0	17	50.3	-34	44
Not on chart 105	-34 12304 17 49.1 -34 54 9.1 ~~-35 12093 17 49.0 -35 4 9.7~~	17	50.8	-34	54
106	-35 12113 17 50.1 -35 2 8.3	17	51.8	-35	2
107	-35 11920 17 38.9 -35 16 9.5	17	40.6	-35	17
108	-35 11929 17 39.4 -35 10 8.4	17	41.1	-35	11
109	-35 11936 17 39.9 -35 30 8.5	17	41.6	-35	31
110	-35 11935 17 39.9 -35 12 9.7	17	41.6	-35	13
111	-35 11954 17 41.1 -35 20 7.5	17	42.8	-35	21
112	-35 11965 17 41.9 -35 19 8.7	17	43.6	-35	20

May 29, 1895

Pl 6638.

		V.	H.	Cl.	Limit	Kline	Int.	Fline	Obs Br.	3rd " mean.
	113	23.0	17.1	H	H	N	1	–	6.9 7.3 }	
	114	22.7	17.2	A	f	K=2	3	F	5.8	
	115	22.3	17.5	A	δ	N	4	F	5.2	
	116	22.3	17.7	A	δ	N	3	F	5.5	
	117	22.7	18.0	A	H	N	1	–	7.2	
	118	22.1	18.1	A	L	N	1	–	6.9	
	119	22.8	18.1	A	δ	K=H	4	F	4.7	
	120	22.7	18.3	A	H	N	1	–	7.3	
	121	22.7	18.8	A	β	N	2	F	6.5	
	122	22.3	19.4	H	H	N	1	–	7.1 7.3 }	
	123	22.1	19.7	A	δ	N	3	F	5.7	
	124	22.2	20.1	A	H	N	1	–	7.2	
410,2 434,2	125	23.2	15.9	F	K	K=H	1	–	7.2	7.3
	126	23.4	16.2	A	f	N	3	F	5.2	
	127	23.1	16.3	A	L	N	1	–	6.9	6.9
	128	23.1	17.1	A	H	N	1	–	6.9	
	129	23.4	17.4	A	K	K=H	1	–	6.8	6.8
	130	23.9	17.5	A	H	N	1	–	7.0	
	131	23.8	18.2	A	H	N	1	–	7.4	7.3
	132	23.4	18.6	A	f	N	2	F	6.0	
	133	23.1	18.9	A	H	N	1	–	7.0	
	134	23.2	19.2	A	H	N	1	–	7.2	7.0
	135	23.7	20.1	A	δ	N	4	F	5.2	
	136	23.8	20.6	H	K	K=H	2	–	6.6 6.7 }	
	137	23.8	20.6	A	H	N	1	–	6.7	
	138	23.9	20.6	A	H	N	1	–	7.0	
	139	23.8	20.7	G	K	K=H	2	F	5.9	
410,5 434,5	140	23.0	21.0	F	K	K=H	1	–	7.0	7.0

								R.A. 1900		Dec.	
								h.	m	°	'
113	-35	11968	17	42.0	-35	40	8.5	17	43.7	-35°	41'
114	-35	11974	17	42.4	-35	30	7.7	17	44.1	-35	31
115	-35	11979	17	42.7	-35	19	7.5	17	44.4	-35	20
116	-35	11992	17	43.5	-35	20	7.5	17	45.2	-35	21
117	-35	12007	17	44.3	-35	29	9.3	17	46.0	-35	30
118	-35	12012	17	44.6	-35	11	9.0	17	46.3	-35	12
119	-35	12013	17	44.6	-35	35	7.1	17	46.3	-35	36
120	-35	12020	17	45.1	-35	29	9.5	17	46.8	-35	30
121	-35	12047	17	46.2	-35	28	9.5	17	47.9	-35	29
122	-35	12065	17	47.6	-35	16	8.5	17	49.3	-35	16
123	-35	12084	17	48.4	-35	10	8.3	17	50.1	-35	10
124	-35	12101	17	49.4	-35	15	9.0	17	51.1	-35	15
125	-35	119~~42~~ 28	17	~~40.1~~ 39.2	~~-35~~ -35	~~42~~ 45	8.7	17	~~41.8~~ 40.9	-35	~~43~~ 46
126	-35	11934	17	39.8	-35	51	7.7	17	41.5	-35	52
127	-35	119~~28~~ 42	17	~~39.2~~ 40.1	-35	~~45~~ 42	8.7	17	~~40.9~~ 41.8	-35	~~46~~ 43
128	-35	11973	17	42.3	-35	41	9.3	17	44.0	-35	42
129	-35	11981	17	42.8	-35	50	8.7	17	44.5	-35	51
130	-36	11951	17	43.2	-36	5	8.7	17	44.9	-36	6
131	-36	1197~~6~~ 8	17	44.~~8~~ 7	-36	x 2	~~[illegible]~~ 9.6	17	46.~~3~~ 4	-36	~~2~~ 3
132	-35	12034	17	45.8	-35	51	8.3	17	47.5	-35	52
133	-35	12054	17	46.6	-35	41	9.4	17	48.3	-35	41
134	-35	12061	17	47.2	-35	42	9.1	17	48.9	-35	42
135	-35	12103	17	49.5	-35	60	7.1	17	51.2	~~-35~~ 36	~~6~~0 0
136	-3~~5~~ 6	12~~121~~ 063	17	50.~~5~~ 7	-3~~5~~ 6	~~59~~ 1	~~9.9~~ 7.7	17	52.~~2~~ 4	~~-35~~ 36	~~59~~ 1
137	-35	12129	17	50.8	-35	60	8.3	17	52.5	~~-35~~ 36	~~6~~0
138	-36	12066	17	50.9	-36	5	9.0	17	52.6	-36	5
139	-36	12072	17	51.0	-36	1	7.5	17	52.7	-36	1
140	-35	12142	17	51.8	-35	38	8.5	17	53.5	-35	38

Plate 9843

	V. H.	Cl.	Limit	K line.	Int.	F line	Obs Br.
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May 29, 1895

Plate 6638

		V.	H.	Cly.	Limit	Kline	Int	Fline	Obs Br.
✓ ✓ 410,3 434,3 X	1	12.6	13.6	F✓	K	K=H ✓	1	–	6.8 ✓
* X	2	13.5	15.1	H✓	K	K=H ✓	1	–	7.0} 7.3} ✓
X	3	13.7	15.1	H✓	H	N✓ K=H	1	–	7.2} 7.5} ✓
X	4	14.1	14.4	H✓	K	K=H ✓	1	–	7.0} 7.3} ✓
X	5	15.0	14.0	A✓	α	N✓	1	–	6.9 ✓
✓ * ✓ 410,3 434,3 X	6	15.4	12.9	F✓ a	K	K=H ✓	1	–	6.9 ✓
X	7	15.6	12.9	A	H	N	1	–	7.3
X	8	15.7	12.7	A	H	N	1	–	6.8
X	9	15.9	12.4	A	H	N	1	–	7.2
X	10	16.0	12.5	A	H	N	1	–	7.2
X	11	16.3	12.6	A	H	N	1	–	7.0
X	12	16.2	12.6	A	j	N	3	F	5.2
X	13	15.9	12.7	A	H	N	1	–	7.0
X	14	16.3	12.7	A	α	N	2	F	6.2
X	15	16.5	12.8	A	j	N	2	F	5.9
X	16	16.0	12.8	A	j	N	4	F	5.0
X	17	15.9	12.8	A	α	N	2	–	6.1
X	18	16.2	12.8	A	j	N	2	F	6.1
X	19	16.1	12.8	A	β	N	3	F	5.2
X	20	15.9	12.9	A	α	N	2	–	6.3
X	21	16.1	12.9	A	α	N	2	–	6.0
X	22	16.2	12.9	A	α	N	1	–	6.5
X	23	16.0	13.0	A	α	N	1	–	6.3
X	24	16.3	13.0	A	α	~~K=H~~ N	1	–	6.4
X	25	15.9	15.1	A	j	N	4	F	5.4
X	26	16.2	13.2	H	K	K=H	2	–	5.7} 6.2} 6.2} 6.6}
X	27	16.0	13.1	A	α	N	2	–	6.3
X	28	15.9	13.2	A	H	N	1	–	6.5

	CDM		R.A.		Dec		Magn.		R.A. (1900)		Dec.	
									h.	m	°	'
1	-30	14595	17	34.0	-30	26	8.2	*	17	35.6	-30	27
2	-30	14663	17	37.5	-30	56	8.5	*	17	39.1	-30	57
3	-31	14505	17	37.4	-31	~~10~~ :	8.7	*	17	39.0	-31	1
4	-31	14471	17	36.0	-31	13	8.4	*	17	37.6	-31	14
5	-31	14446	17	34.8	-31	40	8.7	*	17	36.4	-31	41
6	-31	14381	17	32.2	-31	49	9.4	*	17	33.8	-31	50
7	-31	14384	17	32.3	-31	56	9.4	*	17	33.9	-31	57
8	-31	14369	17	$31.\overset{8}{\cancel{7}}$	-31	58	9.2	*	17	33.4	-31	59
9	-32	13059	17	31.1	-32	3	9.5	*	17	32.7	-32	4
10	-32	13066	17	31.3	-32	8	9.0	*	17	32.9	-32	9
11	-32	13068	17	31.3	-32	17	9.4 ?	*	17	32.9	-32	18
12	-32	13072	17	31.5	-32	15	7.3	*	17	33.1	-32	16
13	-32	13084	17	31.7	-32	6	9.2	✓	17	33.3	-32	7
14	~~-32~~	~~13095~~	~~17~~	~~32.0~~	~~-32~~	~~17~~	~~9.0~~					
15	-32	13085	17	31.8	-32	22	8.0	*	17	33.4	-32	23
16	-32	13086	17	31.9	-32	8	7.2	*	17	33.5	-32	9
17	-32	13090	17	31.9	-32	5	8.5	*	17	33.5	-32	6
18	-32	13101										
19	-32	13102	17	32.0	-32	11	7.5	✓	17	33.6	-32	12
20	-32	13113	17	32.2	-32	6	9.3					
21	-32	13115	17	32.2	-32	12	9.0					
22	-32	13114	17	32.2	-32	15	9.3					
23	-32	13130	17	32.6	-32	10	9.6 ?					
24	-32	13149					?					
25	-32	13142	17	32.8	-32	8	6.8	*	17	34.4	-32	9
26	-32	$1315\overset{2}{\cancel{8}}$	17	33.0	-32	12	9.0	✓	17	33.6	-32	13
27	-32	13147	17	32.9	-32	14	9.5 ?	*	17	34.5	-32	15
28	-32	13148										

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May 29, 1895

		V	H	Cl.	Limit H δ	K line	Int	F	Obs Br.	
		6638								
	29	16.2	13.3	A	A	N	∠	—	7.0	
	30	15.8	13.2	A	j	N	3	F	5.6	
*	31	15.8	13.5	Na a	—	N	1	?	7.4	7.4
	32	16.0	14.2	A	α	N	2	F	6.1	
	33	16.3	14.3	A	H	N	2	—	6.5	
*	34	16.4	14.5	~~K~~ a	H	N	1	—	7.2 ~~7.5~~	
	35	16.3	14.6	H	H	N	1	-	7.1 7.2	
* 410,6;434,6	36	16.6	13.7	A F	α r	K=H	3	F	5.7	
	37	16.9	14.3	Mb	K	K=H	3	—	5.7 6.3	
*	38	16.8	14.5	E	K	K=H	1	-	6.8	
	39	17.3	12.0	A	j	N	3	F	5.6	
	40	17.7	12.2	A	β	N	2	F	6.3	
	41	17.6	12.2	A	K	~~K=H~~ o	1	—	6.5	
	42	17.9	12.7	A	H	N	1	—	7.3	
	43	17.9	12.7	A	β	N	2	—	6.2	
	44	17.1	13.0	A	α	N	2	F	5.8	
	45	17.3	13.2	A	β	N	2	F	6.0	
*	46	17.2	13.3	~~K~~ a	H	N	1	—	7.1 ~~7.3~~	
	47	17.3	13.4	H	H	~~N~~ K=H	1	—	6.8 7.2	
	48	17.7	14.9	Ma	K	K=H	3	—	5.4 6.4	
	49	17.5	14.3	A	α	N	3	F	5.9	
	50	18.7	12.6	Ä	α	N	2	—	6.2	
*	51	18.6	13.6	G	K	K=H	3	—	5.6	
	52	18.8	14.1	Ȧ	H	N	1	—	7.3	
*	53	18.2	14.7	E a	K	~~K=H~~ n	1	-	7.0	
	54									
	55									
	56									

R. A. (1900) Dec.

								h. m	° '	
29	~~-32~~	~~13169~~	~~17~~	~~33.5~~	~~-32~~	~~2~~	~~8.0~~			
30	-32	13$\overset{169}{\cancel{172}}$	17	33.$\overset{5}{\cancel{6}}$	-32	2	$\overset{8.0}{\cancel{9.0}}$	17 $\overset{3}{\cancel{4}}$5.1	-32°	3'
31	-32	13172	17	33.6	-32	2	9.0	17 35.2	-32°	3'
32	-32	13221	17	35.3	-32	10	8.5	17 36.9	-32°	11
33	-32	13228	17	35.5	-32	17	8.8	17 37.1	-32	18
34	-32	13239	17	35.8	-32	19	10.?	17 37.4	-32	20
35	-32	13256	17	36.2	-32	19	9.1	17 37.8	-32	20
36	-32	13185	17	34.1	-32	28	7.8	17 35.7	-32	29
37	-32	13223	17	35.4	-32	36	7.2	17 37.0	-32	37
38	-32	13243	17	35.9	-32	33	8.8	17 37.5	-32	34
39	-32	13037	17	30.1	-32	48	7.8	17 31.7	-32	49
40	-32	13044	17	30.4	-32	59	8.3.	17 32.0	-33	0
41	-32	13046	17	30.5	-32	55	8.4	17 32.1	-32	56
42	-33	12$\overset{3}{\cancel{2}}$23	17	31.5	-33	4	9.6.?	17 33.1	-33	5
43	-33	12328	17	31.7	-33	4	8.5	17 33.3	-33	5
44	-32	13121	17	32.3	-32	41	8.0	17 33.9	-32	42
45	-32	13140	17	32.8	-32	46	8.0	17 34.4	-32	47
46	-32	13159	17	33.1	-32	43	9.1	17 34.7	-32	44
47	-32	13164	17	33.4	-32	51	8.3	17 35.0	-32	52
48	-32	13208	17	34.9	-32	59	6.7	17 36.5	-33	0
49	-32	13225	17	35.5	-32	52	8.7	17 37.1	-32	53
50	-32	12319	17	31.3	-32	28	8.5.?	17 32.9	-32	29
51	-3$\overset{3}{\cancel{2}}$	1236$\overset{1}{\cancel{8}}$	17	$\overset{3.8}{\cancel{34.2}}$	-3$\overset{3}{\cancel{2}}$	2$\cancel{4}$	$\overset{6}{\cancel{6.9}}$	17 35.4	-3$\overset{2}{\cancel{3}}$	27
52	-3$\overset{3}{\cancel{2}}$	12385	17	35.0	-3$\overset{3}{\cancel{2}}$	33	9.3	17 36.6	-33	34
53	-33	12$\cancel{4}$10	17	36.3	-33	15	9.4	17 37.9	-33	16
								~~17~~		
								~~17~~		

Measures in Blue ink are made from B 13829.

May 31, 1895

Plate 9836

	×	V	H	Cl.	Limit	Kline.	Int.	Fline	Obs Br.	
	1	5.3	15.7	a	j	N	3	F✓	5.9 ..	
	2	6.1	11.5	A	β	N	1	–	7.0	
✳	3	6.4	11.9	G G	K	K=H	3	F✓	5.7	5.3
×	4	6.5	12.2	A a	α β	N N	1 2	– –	6.8	6.2
	5	6.1	12.3	A	j	N	2	F✓	6.5	
		6.6	12.5	A	H	N	2		6.2	
	6	6.0	12.7	~~A~~	~~H~~	~~N~~	~~1~~	~~–~~	~~6.9~~	
	7	6.8	13.1	A	j	K=3✓	2	F✓	5.8	
	8	6.0	12.7	A	H	N	1	–	6.9	
	9	5.8	13.1	H	K	K=H	1	–	6.5} 6.8}	
	10	6.3	13.1	A	α	N	1	–	6.9	
	11	6.1	13.3	A	j	N	2	F✓	6.0	
	12	6.4	13.4	H K	H	K=H K=H	1 2	– –	6.7} 7.1}	6.5} 6.8}
	13	6.6	13.9	K	K	K=H	4	–	5.2} 5.8}	
× 410,5 434,5	14	6.8	13.5	A a	K γ	K=H N	1 2	– –	6.7	6.5
	15	6.0	14.2	A	α	N	2	–	6.5	
	16	5.7	14.6	E	K	K=H	2	–	6.5	
	17	6.3	14.6	A	H	N	2	–	6.5	
	18	6.3	14.7	A	δ	A	3	F✓	5.9	
	19	6.2	14.7	A	j	N	3	F✓	5.8	
	20	6.4	15.0	A a	K β	K=H K=.5	1 2	F F✓	6.5	6.0
	21	6.1	15.1	A	j	N	2	F✓	6.5	
410,6;434,6. 410,5 434,5	22	5.7	15.3	F F	K β	K=H K=H	2 2	– –	6.4	6.1
	23	6.3	16.1	A	j	N	3	F✓	5.8	
	24	7.6	11.4	A	j	N	3	F✓	5.6	
	25	7.1	11.4	A	β	N	2	F✓	6.0	
+	26	7.0	11.9	A	j	N	3	F✓	5.3	5.2
	27	7.6	12.0	A	j	N	2	F✓	5.7	
	28	7.4	12.1	A	β	N	2	F✓	6.6	

R.
R.A.(1900) Dec.

		C.DM.		R.A.		Dec.		Magn.			hrs.	m	Dec.	
	1	-33	12646	17	48.8	-33	24	8.3	✓	✓	17	50.4	-33°	24′
	2	-33	12454	17	38.6	-33	46	9.3	✓	✓	17	40.2	-33	47
	3	-33	12476	17	39.7	-33	57	7.3	✓	✓	17	41.4	-33	58
		-33	12477	17	39.7	-33	58	9.0	✓	✓	17	41.4	-33	59
✓	4	-34	12100	17	40.4	-34	0	9.3	✓	✓	17	42.1	-34	1
	5	-33	12490	17	40.6	-33	49	8.5	✓	✓	17	42.~~2~~3	-33	50
	6	-34	12108	17	41.1	-34	4	9.3	✓	✓	17	42.8	-34	5
	7	-34	12134	17	42.5	-34	10	8.5	✓	✓	17	44.2	-34	11
	8	-33	12514	17	41.7	-33	46	9.4	✓	✓	17	43.3	-33	47
	9	-33	12533	17	42.6	-33	40	6.9	✓	✓	17	44.2	-33	41
	10	-33	12534	17	42.6	-33	54	9.5	✓	✓	17	44.~~2~~3	-33	55
	11	-33	12540	17	43.1	-33	48	8.3	✓	✓	17	44.~~7~~8	-33	49
✓	12	-33	12543	17	43.2	-33	58	8.5	✓	✓	17	44.9	-33	59
	13	-34	12186	17	44.5	-34	4	7.1	✓	✓	17	46.2	-34	5
✓	14	-34	12151	17	43.5	-34	5	9.7	✓	✓	17	45.2	-34	6
	15	-33	12579	17	45.1	-33	44	8.9	✓	✓	17	46.7	-33	45
	16	-33	12603	17	46.2	-33	35	8.3	✓	✓	17	47.8	-33	36
	17	-33	12608	17	46.4	-33	56	8.0	✓	✓	17	48.1	-33	56
	18	-33	12606	17	46.3	-33	54	8.5	✓	✓	17	~~47.9~~ 8.0	-33	54
	19	-33	12609	17	46.4	-33	53	7.7	✓	✓	17	48.~~0~~1	-33	53
✓	20	-33	12618	17	47.1	-33	59	9.7	✓	✓	17	48.8	-33	59
	21	-33	12623	17	47.3	-33	48	9.0	✓	✓	17	~~48.9~~ 49.0	-33	48
✓	22	-33	12632	17	47.8	-33	36	9.3	✓	✓	17	49.4	-33	36
	23	-33	12661	17	49.7	-33	56	8.5	✓	✓	17	51.4	-33	56
	24	-34	12051	17	38.3	-34	32	8.4	✓	✓	17	~~39.9~~ 40.0	-34	33
	25	-34	12052	17	38.3	-34	18	8.7	✓	✓	17	40.~~x~~0	-34	19
	26	-34	12073	17	39.5	-34	16	7.2	✓	✓	17	41.2	-34	17
	27	-34	12080	17	39.9	-34	32	8.5	✓	✓	17	41.6	-34	33
	28	-34	12088	17	40.1	-34	25	9.3	✓	✓	17	41.8	-34	26

May 31, 1895

Plate 9836

		V	H	Cl.	Limit	K line	Int.	F line	3rd "	Obs Br	3rd "
	29	6.8	12.6	A	α	N	1	—		6.7	
	30	7.8	12.9	A	β	N	2	F ✓		6.6	
	31	7.4	12.9	A	γ	N	3	F ✓		5.8	
	32	7.0	13.0	A	γ	N	2	F ✓		6.0	
410, 3 434, 3	33	7.3	13.1	F	K	K = H	1	–		6.7	
+410. 2 434, 2 ✓	33a	7.3	13.2	F a	K β	K = H η	1 1	– –	7.4	7.0 7.0	7.0
	34	7.6	13.3	A	K	K = H	1	–		6.8	
	35	7.5	13.4	A	β	K = H	2	F ✓		6.5	
	36	7.5	13.6	A	β	K = .2 H	2	F ✓		6.3	
	37	7.7	13.7	A	β	N	2	F ✓		6.5	
	38	7.6	13.8	A	γ	N	2	F ✓		6.3	
+	39	7.2	13.8	K	K	K = H	4	–		5.2 } 5.4 }	5.1 } 5.4 }
	40	7.1	13.9	A	γ	N	3	F ✓		6.2	
✓	40a	6.9	13.9	A	H	N	1	–		7.0	
	41	7.4	13.9	A	H	N	1	–		6.7	
✓	41a	7.7	13.9	A	H	N	1	–		7.0	
	42	7.6	14.0	A	β	N	2	–		6.4	
	43	7.3	14.0	A	β	N	2	F ✓		6.4	
	44	7.6	14.1	A	β	N	4	F ✓		5.1	
	45	7.8	14.2	A	β	N	3	F ✓		5.7	
	46	7.2	14.2	H K	K K	K = H K=H	1 2	–		6.4 } 6.0 }	
✓	46a	7.1	14.1	A	K ~~A~~	K = H ~~K=H~~	1 ~~2~~	– –		7.0 } 6.6 } 7.1	
	47	7.5	14.5	A	β	N	2	–		6.1	
+	48	7.7	14.6	A	α	N	1	–		6.3	6.7
+	49	7.3	14.6	A	δ	N	4	F ✓		4.8	4.7
	50	7.5	14.8	A	γ	K = 2	3	F ✓		5.3	
	51	6.9	15.0	A	γ	N	3	F ✓		5.7	
×	52	7.2	15.0	A a	K γ	K = H η	2 2	– –		6.3 6.0	
	53	7.0	15.2	A	γ	N	3	F ✓		5.8	
	54	7.4	15.4	A	β	N	3	F ✓		6.2	
	55	7.5	15.6	A	α	K = H	2	F ✓		6.0	
✓	55a	7.6	15.6	A	H	N	1			7.0	
	56	6.9	15.8	A	α	K = H	2	F ✓		6.6	

		C.D.M.		R.A.		Dec.		Magn.			R.A. (1900) h.	m	Dec. °	'
	29	-34	12112	17	41.3	-34	10	9.4	✓	*	17	43.0	-34	11
	30	-34	12121	17	41.9	-34	39	9.2	✓	*	17	43.6	-34	40
	31	-34	12123	17	42.0	-34	26	8.5	✓	*	17	43.7	-34	27
	32	-34	12127	17	42.1	-34	16	9.0	✓	*	17	43.8	-34	17
	33	-34	12133	17	42.4	-34	24	9.7	✓	*	17	44.1	-34	25
✓	33a													
Not on chart.	34	-34	12139	17	42.9	-34	34	9.5	✓	^	17	44.6	-34	35
	35	-34	12144	17	43.1	-34	30	9.0	✓	*	17	44.8	-34	31
	36	-34	12152	17	43.5	-34	30	8.7	✓	*	17	45.2	-34	31
	37	-34	121~~64~~ 58	17	43.~~9~~ 8	-34	~~38~~ 37	9.6	✓	*	17	45.5	-34	38
	38	-34	12164	17	43.9	-34	38	9.9	✓	*	17	45.6	-34	39
	39	-34	12170	17	44.0	-34	23	7.1	✓	*	17	45.7	-34	24
	40	-34	12177	17	44.3	-34	18	8.9	✓	*	17	46.0	-34	19
	41	-34	12183	17	44.4	-34	29	9.3	✓	*	17	46.1	-34	30
	42	-34	12188	17	44.6	-34	33	9.0	✓	*	17	46.3	-34	34
	43	-34	12190	17	44.6	-34	24	9.3	✓	*	17	46.3	-34	25
	44	-34	12198	17	45.0	-34	36	7.6	✓	*	17	46.7	-34	37
	45	-34	12208	17	45.2	-34	39	8.5	✓	*	17	46.9	-34	40
✓	46	-34	12207	17	45.1	-34	22	8.8	✓	*	17	46.8	-34	23
	47	-34	12227	17	45.6	-34	28	9.5	✓	*	17	47.3	-34	29
	48	-34	~~12238~~ 12242	17	46.1	-34	38	9.7	✓		17	47.8	-34	39
	49	-34	12244	17	46.1	-34	27	7.3	✓	*	17	47.8	-34	28
	50	-34	12253	17	46.5	-34	31	7.4	✓	*	17	48.2	-34	31
	51	-34	12262	17	47.0	-34	13	8.5	✓	*	17	48.7	-34	13
✓	52	-34	12263	17	47.0	-34	20	9.4	✓	*	17	48.7	-34	20
	53	-34	12277	17	47.6	-34	16	8.5	✓	*	17	49.3	-34	16
	54	-34	12283	17	48.1	-34	28	9.0	✓	*	17	49.8	-34	28
	55	-34	12289	17	48.4	-34	30	8.5	✓	*	17	50.1	-34	30
	56	-34	12297	17	48.9	-34	14	9.0	✓	*	17	50.6	-34	14

May 31, 1895

Pl. 9836

			V.	H.	Cl.	Limit	K line	Int.	F line	Obs Br	
×		57	8.7	11.3	A a	H β	N n	1 2	– –	6.6	6.4
	✓	57a	8.6	11.3	A	H	N	1		6.9	
		58	8.2	11.4	A	H	N	3	F ✓	5.5	
	✓	58a	7.9	11.4	A	H	N	1	–	7.0	
	✓	58b	8.6	11.3	A	H	N		–	7.2	
×		59	8.1	11.7	H K	K K	K=H K=H	2 2	– –	6.3 } 6.8 }	5.8 } 6.5 }
		60	7.9	11.7	H	H	N	1	–	6.6 } 7.1 }	
		61	7.7	11.8	A	H	N	1	–	7.1	
×	✓	61a	7.5	11.7	E	K K	K=H K=H	1 1	–	6.9	6.5
		62	8.4	12.0	A	H	N	1	–	6.8	
×		63	8.2	12.1	A a	K ~~K~~ α	K=H K=H	1 1	– F ✓	6.9	6.6
	✓	63a	8.1	12.2	A	H	N	1	–	7.0	
		64	8.3	12.3	A	K	K=H	2	F ✓	6.3	
	✓	64a	8.1	12.4	A	H	N	1	–	6.6	
		65	8.5	12.3	A	β	K=2	3	F ✓	5.6	
×	✓	65a	8.5	12.4	A a	K β	~~n K=H~~ n	1 1	– –	6.9	6.7
		66	8.7	12.9	H	K	K=H	2	–	6.3 } 6.8 }	
		67	8.5	13.2	A	J	N	3	F ✓	5.5	
		68	8.1	13.3	A	β	N	2	F ✓	6.6	
		69	8.5	13.4	A	β	N	2	F ✓	6.4	
		70	8.6	13.5	A a	α β	K=H n	1 2	– –	6.6	6.4
		71	8.6	13.6	A	β	N	2	F ✓	6.3	
		72	8.0	13.6	A	J	N	3	F ✓	5.7	
		73	8.3	13.7	A	α	N	2	F ✓	6.5	
		74	8.4	13.7	A	J	N	3	F ✓	6.1	
* +		75	8.0	13.3	A	J	N	5	F ✓	4.7	4.8
		76	8.4	13.8	A	J	N	3	F ✓	6.0	
		77	8.1	13.8	A	α	K=H	2	F ✓	6.4	
	✓	77a	7.9	13.7	A a	K α	K=H K=.5	1 2	–	7.0	6.6
		78	8.3	13.9	A	J	N	3	F ✓	6.1	
		79	8.4	14.0	A	H	N	4	F ✓	4.9	
	✓	79a	8.3	14.0	A	H	N	1		6.9	
		80	8.7	14.1	A	α	K=H	2	F ✓	6.3	
		81	7.9	14.0	A	H	N	1	–	6.6	
	✓	81a	7.9	14.1	A	H	N	1	–	7.0	
	✓	81b	8.0	14.1	A	H	K=H	1	–	6.8	
		82	7.8	14.2	A	J	N	4	F ✓	4.5	
		83	8.2	14.2	K	K	K=H	4	–	4.7 } 4.9 }	
		84	7.9	14.3	~~H~~ A	H	N	2	F ✓	6.2	

	C.Dm.										R.A. (1900)		Dec.	
											hrs.	m	°	'
✓	57	-35	11910	17	38.0	-35	5	9.7	✓	✱	17	39.7	-35	6
	57a	-35	11911	17	38.1	-35	2	9.6	✓	✱	17	39.8	-35	3
	58	-34	12050	17	38.1	-34	50	8.0	✓	✱	17	39.8	~~-35~~ -34	51
	58a	-34	12048	17	38.1	-34	42	9.5	✓	✱	17	39.8	-34	43
	58b	-34	12046	17	38.0	-34	45	9.5	✓	✱	17	39.7	-34	46
✓	59	-34	12062	17	38.9	-34	48	8.3	✓	✱	17	40.6	-34	49
	60	-34	12063	17	39.0	-34	41	8.6	✓	✱	17	40.7	-34	42
	61	-34	12071	17	39.2	-34	35	9.6	✓	✱	17	40.9	-34	36
✓	61a	-34	12064	17	39.1	-34	29	9.0	✓	✱	17	40.8	-34	30
	62	-34	12075	17	39.6	-34	58	9.8	✓	✱	17	41.3	-34	59
✓	63	-34	12081	17	39.9	-34	50	9.6	✓	✱	17	41.6	-34	51
	63a	-34	12087	17	40.1	-34	46	9.7	✓	✱	17	41.8	-34	47
	64	-34	12099	17	40.4	-34	54	8.7	✓	✱	17	42.1	-34	55
	65	-34	12102	17	40.4	-34	60	7.7	✓	✱	17	42.1	-35	1
✓	65a	~~-34~~ -35	~~12106~~ 11947	~~17~~ 17	~~40.7~~ 40.6	~~-34~~ -35	~~48~~ 0	~~9.6~~ 10	✓	✱	17	~~42.7~~ 42.3	~~-34~~ -35	~~17~~ 1
	66	-35	11964	17	41.8	-35	7	8.3	✓	✱	17	43.5	-35	8
	67	-35	11977	17	42.7	-35	2	8.0	✓	✱	17	44.4	-35	3
Not on chart	68	~~-35~~ -34	~~11981~~ 12141	17	43.0	-34	47	9.5	R ✓	ʌ	17	44.7	-34	48
	69	-34	12143	17	43.1	-34	59	9.0	✓	✱	17	44.8	-35	0
✓	70	~~-34~~ -35	11991	17	43.5	~~-34~~ -35	4	9.6	✓	✱	17	45.2	-35	5
	71	~~-34~~ -35	11994	17	43.6	~~-34~~ -35	2	9.4	✓	✱	17	45.3	-35	3
	72	-34	12154	17	43.6	-34	45	8.3	✓	✱	17	45.3	-34	46
	73	-34	~~12150~~ 12161	~~17~~ 17	~~43.5~~ 43.8	~~-34~~ -34	~~55~~ 51	~~10~~ 9.0	✓	✱	17	~~45.2~~ 45.5	-34	~~56~~ 52
	74	-34	12162	17	43.8	-34	57	8.8	✓	✱	17	45.5	-34	58
	75	-34	12165	17	43.9	-34	46	7.2	✓	✱	17	45.6	-34	47
	76	-34	12168	17	44.0	-34	56	9.3	✓	✱	17	45.7	-34	57
	77	-34	12172	17	44.1	-34	49	9.6	✓	✱	17	45.8	-34	50
✓	77a	-34	121~~78~~81	17	44.4	-34	43	9.9	R ✓	ʌ	17	46.1	-34	44
	78	-34	12179	17	44.3	-34	54	8.7	✓	✱	17	46.0	-34	55
	79	-34	12187	17	44.6	-34	58	7.4	✓	✱	17	46.3	-34	59
	79a	-34	12191	17	44.6	-34	55	9.8	✓	✱	17	46.3	-34	56
	80	-35	120~~42~~15	17	44.~~6~~7	-35	~~4~~8	9.0	✓	✱	17	46.4	-35	9
	81	-34	12194	17	44.8	-34	43	9.5	✓	✱	17	46.5	-34	44
	a	-34	12195	17	44.8	-34	43	9.5	R ✓	ʌ	17	46.5	-34	44
	b	-34	12196	17	44.8	-34	48	9.6	✓	ʌ	17	46.5	-34	49
	82	-34	12200	17	45.0	-34	41	7.5	✓	✱	17	46.7	-34	42
	83	-34	12203	17	45.1	-34	51	6.8	✓	✱	17	46.8	-34	52
	84	-34	12215	17	45.3	-34	42	9.6	✓	ʌ	17	47.0	-34	~~42~~ 43

May 31, 1895

3rd 〃 meri

Pl. 9836

		V.	H.	Cl.	Limit	K line	Int	F line	Obs Br.		
	85	8.1	14.3	A	γ	N	3	F✓	5.7		
	86	8.4	14.2	A	γ	N	3	F✓	5.3		
	87	8.0	14.3	A		N	4	F✓	4.8		
+	✓ 87a	7.9	14.4	A	β	N	4	—	5.0 5.1		3rd 〃
* *	88	8.0	14.4	A	γ	N	3	—	5.3	6.1	5.9
	89	7.9	14.4	A	γ	N	4	F✓	4.6		
	90	8.0	14.4	A	γ	N	4	F✓	4.7		
+	91	7.9	14.5	A a	K H	K=H N	2 2	— —	6.5 6.4	6.4	6.0
	92	8.1	14.5	A	γ	N	3	—	5.4		
	93	7.8	14.6	A	γ	N	3	—	4.9		
	94	8.1	14.6	A	γ	N	4	—	4.9		
	95	7.9	14.7	A	α	N	2	—	6.6		
*	96	8.1	14.7	A	α	N	2	—	6.5		
	97	8.8	14.5	K K	K	K= H K=H	3 3	—	5.7	5.5	
	✓ 97a	8.7	14.4	A	H	N	1	F	6.0	5.8	
	98	8.6	14.8	A	γ	N	3	F✓	6.8		
	✓ 98a	8.4	14.8	A	H	N	1	F	7.0		
	99	7.9	14.8	A	γ	N	3	F✓	5.9		3rd 〃
* * +	100	8.7	14.9	A	β	N	2	F✓	6.0	6.4	6.3
*	✓ 100a	8.8	15.0	A	H	N	1	—	7.9	7.8	7.7
	101	8.5	15.3	A	β	N	2	—	6.0		
	102	8.5	15.3	A	δ	N	4	F✓	5.2		
	✓ 102a	8.1	15.4	A	H	N	1	—	6.8		
	103	7.9	15.5	A	β	N	2	—	6.5		
	104	7.9	15.7	A	γ	N	3	F✓	6.1		
	105	8.3	15.9	A	β	N	3	F✓	6.0		
? +	106	8.6	16.3	H K	K	K=H K=H	2 2	—	6.6 6.4	5.8	6.1
α	✓ 106a	8.7	16.2	H H	H K	N K=H	1 1	—	6.9 6.8	6.4	6.4
+	107	9.0	11.7	A	β	N	2	F	6.8 7.0	6.5 6.7	
	108	8.8	11.9	A	γ	N	3	F✓	6.1 5.5	6.5	
	109	9.9	12.1	A	α	N	2	F✓	6.3		
410,3,430,1;434,2. 410,1 434,1	110	8.9	12.1	F F	K K	K=H K=H	2 2	— —	6.4	5.8	
	111	9.1	12.6	A	β	N	3	F✓	5.4		
410,3;434,3. 410,1 434,1 +	112	9.1	12.9	F F	K α	K= H K=H	2 2	—	6.6 6.5	6.0	6.0

1895phae.proj..807E

1875

								R.A. (1900)		Dec.	
	85	-34 12213	17 45.2	-34 50	8.5	✓	*	17	46.9	-34°	51′
	86	-34 12201	17 45.0	-34 58	7.7	✓	*	17	46.7	-34	59
	87	-34 12219	17 45.4	-34 45	7.7	✓	*	17	47.1	-34	~~46~~ 5
	87a	a.G.C. 24270	17 45.4	-34 46	8	✓	^	17	47.1	-34	47
	88	-34 12~~217~~ 220	17 45.4	-34 49	8.5	✓	*	17	47.1	-34	50
	89	-34 122~~26~~ 36	17 45.~~9~~ 6	-34 ~~8~~ 43	~~83~~ 7.5		*	17	47.3	-34	44
	90	-34 12~~219~~ 228	17 45.6	-34 49	7.5		*	17	47.3	-34	50
✓	91	approx. Pos.	17 45.8	-34 42	—	✓		17	47.5	-34	43
	92	-34 1223~~7~~ 6	17 45.9	-34 ~~42~~ 8	~~77~~ 83	✓	*	17	47.6	-34	49
	93	-34 12237	17 45.9	-34 42	7.7	✓	*	17	47.6	-34	~~5~~ 43
	94	-34 122~~20~~ 39	17 46.~~4~~ 0	-34 ~~49~~ 51	~~8.5~~ 7.9	✓	*	17	47.7	-34	52
	95	-34 12248	17 46.3	-34 43	9.9	✓	*	17	48.0	-34	43
	96	-34 12245	17 46.3	-34 50	9.5	✓	*	17	48.0	-34	50
		-34 12247	17 46.3	-34 50	9.5		*	17	48.0	-34	50
✓	97	-35 12029	17 45.7	-35 10	8.0	✓	*	17	47.4	-35	11
	97a	-35 12026	17 45.6	-35 8	9.8	✓	^	17	47.3	-35	9
		~~-34 12251~~		~~-34 58~~	~~9.5~~						
	98	~~-35 12053~~	17 46.~~2~~	~~-35 4~~	~~8.5~~	✓	*	17	48.2	-35	4
	98a	-34 12251	17 46.4	-34 58	9.5	✓	^	17	48.1	-34	58
	99	-34 12254	17 46.5	-34 44	8.8	✓	*	17	48.2	-34	44
	100	-35 12056	17 46.8	-35 8	8.7	✓	*	17	48.5	-35	8
	a	-35 12059	17 46.9	-35 10	9.7	✓	*	17	48.6	-35	10
	101	-35 12067	17 47.7	-35 1	8.5	✓	*	17	49.4	-35	1
	102	-35 12070	17 47.8	-35 1	7.2	✓	*	17	49.5	-35	1
	102a	-34 12282	17 48.0	-34 49	9.7	✓	*	17	49.7	-34	49
	103	-34 12284	17 48.1	-34 44	9.2	✓	*	17	49.8	-34	44
	104	-34 12293	17 48.6	-34 44	9.0	✓	*	17	50.3	-34	44
Not on chart.	105	-34 12304	17 49.1	-34 54	9.1	✓	*	17	50.8	-34	~~57~~ 54
✓	106	-35 12113	17 50.1	-35 2	8.3	✓	*	17	51.8	-35	2
✓	106a	-35 12112	17 50.1	-35 8	9.0	✓	*	17	51.8	-35	8
	107	-35 11920	17 38.9	-35 16	9.5	✓	*	17	40.6	-35	~~16~~ 17
	108	-35 11929	17 39.4	-35 10	8.4	✓	*	17	41.1	-35	~~10~~ 11
	109	-35 11936	17 39.9	-35 30	8.5	✓	*	17	41.6	-35	~~30~~ 31
✓	110	-35 11935	17 39.9	-35 12	9.7	✓	*	17	41.6	-35	~~12~~ 13
	111	-35 11954	17 41.1	-35 20	7.5	✓	*	17	42.8	-35	~~20~~ 21
✓	112	-35 11965	17 41.~~9~~ 8	-35 19	8.7	✓	*	17	43.~~0~~ 5	-35	~~19~~ 20

} For both these stars adopt the a.G.C. Position

May 31, 1895

Pl. 9836

		V.	H.	Cl.	Limit	K line	Int	F line	Ob Br.
	113	9.8	13.0	H K	K	K = H K=H	2 2	— —	6,3} 6.4} 5.9} 6.2}
	114	9.4	13.1	A a	β γ	N n	3 3	F ✓F	5,6 5.2
	115	9,1	13.3	A	J	N	4	F ✓	5,2
	116	9,1	13,6	A	J	N	3	F ✓	5,4
	117	9.4	13.9	A a	K β	K = H K=H	1 2	— —	6,7 6.2
	118	8.9	14.0	A	β	N	2	F	6,3
+ 410,6 434,6	119	9.6	14.0	F a F.	J γ	K = H n	4 4	F F.	4.8 4.2
410,7; 434,7.	120	9.4	14.2	A	H	N	1	—	6.8
	121	9,4	14.7	A	β	N	3	F ✓	6,1
×	122	9,0	15,2	A? a	H α	N n	1 2	— —	6,7 6.5
	123	8.8	15,6	A	J	N	3	F ✓	5,4
	124	9.0	16.0	A	H	N	1	—	6,7
+ 410,2 434,2	125	10.0	11.8	F	K	K = H	2	F ✓	6,4 6.6
	126	10.2	12.1	A	J	N	4	F ✓	5,2
+	127	9.9	12,2	A	β	N	2	F ✓	6,2 6.4
430.1.	128	10.0	13,1	A	α	N	2	F ✓	6,4
× 410,2 ; 434,2. 410,2 434,2 +	129	10.2	13.3	F F	K α	K = H K=H	2 2	F — 6.2	6,1 5.9 6.0
	130	10.7	13.5	A	α	N	2	F ✓	6,5
+	131	10,5	14.1	A	H	N	1	—	6,6 6.6
	132	10,2	14.5	A	β	N	3	F ✓	5.6
	133	9.8	14.8	A	α	N	2	F ✓	6,7
+	134	9.9	15.1	A	H	N	2	F ✓	6.3 6,5
	135	10,4	16.0	A	J	N	3	F ✓	5.2
×	136	10,5	16,5	G G	K K	K = H K=H	2 3	— —	6,2 5.5
	137	10,4	16.6	A	β	N	3	F ✓	6,1
	138	10,6	16,6	A	α	N	2	F ✓	6,5
Hydrogen lines narrow + Hydrogen lines narrow	139	10.5	16,7	A Q	α α	N n Br. line at 476	3 4	F ✓	5.4 5.2
× +	140	9.7	16,9	A a	β β	N n	2 2	F – 6.5	6,3 5.8 5.8

										R. A. 1900 hrs.	m	Dec. °	'
✓	113	-35	11968	17	42.0	-35	40	8.5	✓	17	43.7	-35	41
✓	114	-35	11974	17	42.4	-35	30	7.7	✓	17	44.1	-35	31
	115	-35	11979	17	42.7	-35	19	7.5	✓	17	44.4	-35	20
	116	-35	11992	17	43.5	-35	20	7.5	✓	17	45.2	-35	21
✓	117	-35	12007	17	44.3	-35	29	9.3	✓	17	46.0	-35	30
	118	-35	12012	17	44.6	-35	11	9.0	✓	17	46.3	-35	12
✓	119	-35	12013	17	44.6	-35	35	7.1	✓	17	46.3	-35	36
	120	-35	12020	17	45.1	-35	29	9.5	✓	17	46.8	-35	30
	121	-35	12047	17	46.2	-35	28	9.5	✓	17	47.9	-35	29
✓	122	-35	12065	17	47.6	-35	16	8.5	✓	17	49.3	-35	16
	123	-35	12084	17	48.4	-35	10	8.3	✓	17	50.1	-35	10
	124	-35	12101	17	49.4	-35	15	9.0	✓	17	51.1	-35	15
	125	-35	11928	17	39.2	-35	45	8.7	✓	17	40.9	-35	46
	126	-35	11934	17	39.8	-35	51	7.7	✓	17	41.5	-35	52
	127	-35	11942	17	40.1	-35	42	8.7	✓	17	41.8	-35	43
	128	-35	11973	17	42.3	-35	41	9.3	✓	17	44.0	-35	42
✓	129	-35	11981	17	42.8	-35	50	8.7	✓	17	44.5	-35	51
	130	~~-35~~ -36	11951	17	43.2	~~-35~~ -36	5	8.7	✓	17	44.9	-3~~5~~6	6
	131	-36	1197~~6~~8	17	44.~~6~~7	-36	~~1~~ 2	~~10~~ 9.6	~~1~~ 1 ✓	17	46.~~3~~4	-36	~~2~~ 3
	132	-35	12034	17	45.8	-35	51	8.3	✓	17	47.5	-35	52
	133	-35	12054	17	46.6	-35	41	9.4	✓	17	48.3	-35	41
	134	-35	12061	17	47.2	-35	42	9.1	✓	17	48.9	-35	42
	135	-35	12103	17	49.5	-35	60	7.1	✓	17	51.2	-36	0
✓	136	3~~5~~6	120~~66~~63	17	~~49.5~~ 50.7	-36	~~5~~ 1	~~9.0~~ 7.7	✓	17	52.4	-36	1
	137	~~-36~~ -35°	~~12066~~ 12129	17	50.~~9~~8	~~-36~~ -35	~~5~~ 60	~~9.0~~ 8.3	✓	17	52.~~6~~5	~~-35~~ ~~-36~~ 36	~~60~~ ~~5~~ 0
	138	~~-35~~ -36°	~~12129~~ 12066	17	50.~~8~~9	~~-35~~ -36	~~60~~ 5	~~8.3~~ 9.0	✓	17	~~51.5~~ 52.6	-36	~~0~~ 5
✓	139	-36	12072	17	51.0	-36	1	7.5	✓	17	52.7	-36	1
✓	140	-35	12142	17	51.8	-35	38	8.5	✓	17	53.5	-35	38

May 31, 1895

Pl. 9836

		V.	H.	Cl.	Limit	Kline	Int	Fline	Obs Br.	3rd
+	✓ 33a	7.3	13.2	A	H	N	1	–	7.2	7.4
	✓ 40a	6.9	13.8	A	H	N	1	–	7.0	
	✓ 41a	7.7	13.9	A	H	N	1	–	7.1	
	✓ 46a	7.1	14.1	A	K	K-H	1	–	7.0	
	✓ 55a	7.6	15.6	A	H	N	1	–	7.1	
	✓ 57a	8.6	11.3	A	H	N	1	–	7.0	
	✓ 58a	7.9	11.3	A	H	N	1	–	6.9	
	✓ 58b	8.0	11.3	A	H	N	1	–	7.2	
	✓ 61a	7.5	11.7	A	K	K = H	1	–	6.9	
	✓ 63a	8.1	12.1	A	H	N	1	–	7.0	
	✓ 64a	8.1	12.4	A	H	N	1	–	6.8	
	✓ 65a	8.5	12.4	A	α	N	1	–	6.9	
	✓ 77a	7.9	13.9	A	H	N	1	–	6.8	
	✓ 79a	8.3	14.0	A	H	N	1	–	6.9	
	✓ 81a	7.9	14.1	A	H	N	1	–	6.8	
	✓ 81b	8.1	14.1	A	H	N	1	–	6.6	
	✓ 87a	7.9	14.3	A	H	N	3	–	5.5	
	✓ 97a	8.7	14.4	A	H	N	1	–	6.9	
	✓ 98a	8.4	14.3	A	H	N	1	–	6.9	
	✓ 100a	8.8	15.0	A	H	N	1	–	7.0	7.8
	✓ 102a	8.1	15.4	A	α	N	1	–	6.8	
	✓ 106a	8.8	16.2	A H	H	N	1	–	6.9	

CDM		R.A		Dec		Magn.			R.A. (1900)		Dec.	
									h.	m	°	'
-34	12135	17	42.5	-34	24	10	✓	*	17	44.2	-34	25
-34	12176	17	44.3	-34	11	9.7	✓	*	17	46.0	-34	12
-34	12192	17	44.7	-34	34	10	✓	*	17	46.4	-34	35
-34	12199	17	45.0	-34	18	9.7	✓ ✓	^	17	46.7	-34	19
-34	12291	17	48.4	-34	34	9.5	✓	*	17	50.1	-34	34
-34	12106	17	40.7	-34	48	9.6	✓	*	17	42.4	-34	49
-35	1202~~8~~7	17	45.6	-35	8	9 9.8	✓	^	17	47.3	-35	9
									17	48.6	-35	10

May 31, 1895

Pl. 9836

		V.	H.	Cl.	Limit	K line	Int.	F line	Obs Br.			3rd "
× +	141	5.4	13.4	A A a	K H β	K = H N n	1 1 1	— —	7.1	7.1	7.0	6.9
	142	5.6	15.9	A A	H H	N N	1 1	—	7.1	7.0		
×	143	5.9	16.6	E H H	K K K	K = H K=H K=H	1 1 2	—	6.9	6.8 6.9	6.6 7.0	
	144	6.9	12.1	A A	K K	K = H K=H	1 1	—	6.8	6.9		
	145	6.6	13.1	A A	α α	N N	1 1	—	7.0	7.0		
	146	6.8	13.3	A A	H H	N N	1 1	—	7.2	7.3		
	147	6.1	13.9	H A H	H H K	N N K=H K=H	1 1	—	6.9 7.1	6.9	6.7 6.9	
	148	6.9	14.5	A A	H K	N n K=H	1 1	—	7.2	7.0		
	149	7.0	14.6	A A	H H	N N	1 1	—	7.3	7.3		
	150	6.8	14.7	A A	H H	N N	1 1	—	6.8	6.8		
	151	7.0	14.7	A A	K K	K = H K=H	1 1	—	6.8	6.9		
	152	6.7	15.1	H H	H H	N N	1 1	—	6.8 7.3	6.9 7.2		
	153	6.8	15.3	A A	H H	N N	1 1	—	6.8	7.0		
	154	6.5	15.3	A A	H H	N N	1 1	—	6.9	7.1		
	155	6.8	15.5	A A	α α	N N	1 1	—	6.7	6.7		
	156	6.6	15.5	A A	H H	N N	1 1	—	6.8	6.8		
	157	6.6	15.8	H H	H H	N N	1 1	—	7.1 7.3	7.0 7.2		
	158	6.0	15.4	H H	H H	N N	1 1	—	7.0 7.3	6.9 7.2		
	159	6.1	16.0	H H	K K	K = H K=H	1 1	—	6.8 7.1	6.8 7.0		
	160	6.5	16.6	A A	K H	K = H K=H	1 1	—	6.9	6.9		
	161	7.4	11.1	A A	H H	N N	1 1	—	6.8	6.8		
	162	7.4	12.2	A A	H H	N N	1 1	—	7.2	7.2		
	163	7.0	12.3	A A	H H	N N	1 1	—	6.9	7.0		
	164	7.1	12.7	A A	α H	N N	1 1	—	6.7	6.8		
	165	7.2	12.8	A A	H H	N N	1 1	—	7.2	7.2		
	166	6.9	14.2	A A	H H	N N	1 1	—	7.1	7.2		
	167	7.4	15.1	A A	H H	N N	1 1	—	7.3	7.3		
	168	7.8	15.2	A A	H H	N N	1 1	—	7.2	7.2		

		C.D.M.									R.A. (1900) hrs.	m	Dec. °	'
/	141	-33	12541	17	43.2	-33	27	9.3	✓	✱	17	44.8	-33°	28'
	142	-33	12655	17	49.3	-33	31	9.2	✓	✱	17	50.9	-33	31
✓	143	-33	12687	17	51.0	-33	43	8.7	✓	✱	17	52.6	-33	43
	144	-34	12084	17	39.9	-34	11	9.7	✓	✱	17	41.6	-34	12
	145	-34	12131	17	42.3	-34	2	9.6	✓	✱	17	44.0	-34	3
	146	-34	12142	17	43.0	-34	8	9.7	✓	✱	17	44.7	-34	9
✓	147	-33	12567	17	44.5	-33	49	8.8	✓	✱	17	46.2 ~~46.1~~	-33	50
	148	-34	12234	17	45.8	-34	11	9.7	✓	✱	17	47.5	-34	12
	149	-34	12241 ~~12233~~	17	46.1 ~~45.5~~	-34	17 ~~13~~	9.8 ~~9.7~~	✓	✱	17	47.8 ~~47.2~~	-34	18 ~~14~~
	150	-34	12249	17	46.3	-34	10	9.5	✓	✱	17	48.0	-34	10
	151	-34	12250	17	46.4	-34	15	9.5	✓	✱	17	48.1	-34	15
	152	-34	12269	17	47.2	-34	9	8.7	✓	✱	17	48.9	-34	9
	153	-34 ~~-33~~	12278 ~~12631~~	17 ~~17~~	47.8 ~~47.8~~	-34 ~~-33~~	9 ~~60~~	9.8 ~~9.7~~	? ✓	✱	17	49.5	-34	9 ~~8~~
	154	-33	12631 ~~12637~~	17 ~~17~~	47.8 ~~48.0~~	-33 ~~-33~~	60 ~~58~~	9.7 ~~9.7~~	✓	✱	17	49.5 ~~49.7~~	34 ~~-33~~	60 ~~58~~
	155	-34	12285 ~~12297~~	17	48.2 ~~48.9~~	-34 ~~-34~~	10 ~~14~~	9.6 ~~9.0~~	✗	✱	17 ~~17~~	49.9 ~~50.6~~	-34 ~~-34~~	10 ~~14~~
	156	-34	12286 ~~12301~~	17	48.3 ~~49.0~~	-34	3 ~~8~~	9.6 ~~9.7~~	✗	✱	17 ~~17~~	50.0 ~~50.7~~	-34 ~~-34~~	3 ~~8~~
		~~-33°~~	~~12631~~	~~17~~	~~47.8~~	~~-33~~	~~60~~	~~9.7~~	✓					
	157	~~-34~~	~~12286~~	~~17~~	~~48.3~~	~~-34~~	~~3~~	~~9.6~~	✓	✱	17 ~~17~~	50.6 ~~50.0~~	-34 ~~-34~~	4 ~~3~~
		-34	12299	17	48.9	-34	4	9.7	✓					
	158	-33	12638 ~~12642~~	17 ~~17~~	48.1 ~~48.4~~	-33 ~~-33~~	48 ~~44~~	9.4 ~~10~~	? ✓	✱	17	49.8 ~~50.0~~	-33	48 ~~44~~
	159	-33	12656	17	49.3	-33	50	9.0	✓	✱	17	51.0	-33	50
	160	-33	12686	17	50.9	-33	60	9.4	✓	✱	17	52.6	-34	0
	161	-34 ~~-34~~	12038 ~~12040~~	17 ~~17~~	37.6 ~~37.7~~	-34 ~~-34~~	27 ~~32~~	9.4 ~~9.3~~	? ✓	✱	17	39.3 ~~39.4~~	-34	28 ~~33~~
	162	-34	12089	17	40.1	-34	26	9.5	? ✓	✱	17	41.8	-34	27
	163	-34	12103	17	40.6	-34	15	9.2	? ✓	✱	17	42.3	-34	16
	164	-34	12114	17	41.4	-34	17	9.4	✓	✱	17	43.1	-34	18
	165	-34	12119	17	41.7	-34	19	9.8	✓	✱	17	43.4	-34	20
	166	-34	12223 ~~12218~~	17	45.5 ~~45.4~~	-34	13 ~~14~~	9.7 ~~10~~	? ✓ ✗	✱	17	47.2 ~~47.1~~	-34	14 ~~15~~
	167	-34	12271	17	47.4	-34	29	9.7	✓	✱	17	49.1	-34	29 ~~30~~
	168	-34	12274	17	47.5	-34	40	9.8	? ✓	✱	17	49.2	-34	40

May 31, 1895

Pl. 9836

		V.	H.	Cl.	Limit	K line,	Int.	F line	Obs Br.
	169	7.4	16.3	A A	H α	N N	1 2	–	6.7 6,7
	170	8.0	16.4	H H	H H	N N	1 1	–	7.0 } 7.2 } 7,0 } 7.3 }
410,5 434,5 410,4 434,4	171	8.2	16.7	F F	K K	K=H K=H	1 1	–	7.1 6.9
	172	8.8	12.5–	A A	H H	N N	1 1	–	7.2 7.0
	173	8.3	12.7	A A	α α	N N	2 2	–	6,5– 6.6
	174	8.9	13.7	A A	H H	N N	1 1	–	6.7 6,7
	175	8.4	14.9	A A	α α	N N	2 1	–	6,5– 6.5–
	176	8.3	15.0	A A	H H	N N	1 1	–	6.9 6.9
	177	8.4	15.7	A A	K K	K=H K=H	1	–	7.0 6.8
	178	8.7	16.4	H H	K K	K=H K=H	1 1	–	6.8 } 7.1 } 6.8 } 7.2 }
	179	9.7	11.6	A A	H H	N N	1 1	–	7.1 7.0
	180	9.2	12.1	A A	α α	N N	2 2	–	6,5– 6.5–
410,2 434,2 410,5 434,5	181	9.1	12.2	F F	K K	K=H K=H	1	–	6,9 6.9
410,3 434,3 410,2 434,2	182	9.5	13.5–	F F	K K	K=H K=H	1 1	–	6,9 6.8
410, 4 434, 4 410,5 434,5	183	9.2	13.9	F F	K K	K=H K=H	1 1	–	7.0 7.0
	184	9.4	14.5	A A	H H	N N	1 1	–	7.2 7.3
	185	9.1	15.2	A A	K K	K=H K=H	1 1	–	6,7 6.7
	186	9.8	15.7	E E	K K	K=H K=H	1	–	7.0 6.9
	187	9.1	16.5–	A A	H H	N N	1 1	–	7,2 7.3
	188	9.3	16.7	A A	K K	K=H K=H	1	–	7.0 6.9
	189	9.8	11.8	Na? Na?	=	=	11	=	7.0 6.9
	190	10.8	11.5–	A A	H H	N N	1 1	–	7.2 7.2
	191	10.4	11.8	H H	K K	K=H K=H	1 1	–	6.9 } 7.1 } 6.8 } 7.0 }
	192	10.6	11.9	A A	α α	N N	2 2	F F ✓	6.6 6.3
	193	10.5	12.0	A A	α β	N N	2 2	F ✓	6.5– 6,3
	194	10.4	12.2	G G	K K	K=H K=H	2 2	–	6.4 6,3
	195	10.2	12.5–	A A	K K	K=H K=H	1	–	6.9 6,9
	196	10.6	12.7	A A	K K	K=H K=H	2 1	–	6.4 6.6

									R.A. (1900) hr.	m.	Dec	
169	-34	12314	17	50.1	-34	26	9.4	✓	17	51.8	-34°	26′
170	34	12320	17	50.3	-34	48	9.3	✓	17	52.0	-34	48
171	-34	12337	17	51.2	-34	51	9.6	✓	17	52.9	-34	51
172	-35	1195~~[illegible]~~1	17	40.8	-35	8	9.8	✓ #	17	42.5	-35	9
173	-34	12117	17	41.5	-34	54	9.4	✓	17	43.2	-34	55
174	-35	11996	17	43.9	-35	13	9.5	✓	17	45.6	-35	14
175	-34	~~12261~~ 12257	17	46.~~9~~ 7 .8	-34	~~54~~ 58	~~9.7~~ 9.4	✓	17	48.~~6~~ .4	-34	~~54~~ 58
176	-34	~~12268~~ 12261	17	~~47.2~~ 46.9	-34	~~50~~ 54	~~9.9~~ 9.7	✓	17	48.~~7~~ .6	-34	~~50~~ 54
177	-34	12295	17	48.8	-34	56	9.7	✓	17	50.5	-34	56
178	-35	~~12112~~ 12119	17	50.~~1~~ .4	-35	~~8~~ 6	9.0	✓	17	~~51.8~~ 52.1	-35	~~8~~ 6
179	-35	11917	17	38.6	-35	35	9.7	✓	17	40.3	-35	36
180	-35	11939	17	39.9	-35	20	9.5	✓	17	41.6	-35	21
181	-35	~~11946~~ 11943	17	40.~~4~~ .2	-35	~~19~~ 18	~~10.1~~ 9.9	✓	17	~~42.1~~ 41.9	-35	~~20~~ 19
182	-35	~~12011~~ 11989	17	~~44.6~~ 43.4	-35	~~39~~ 31	~~9.7~~ 9.5	✓	17	~~46.3~~ 45.1	-35	~~40~~ 32
183	-35	1200~~6~~ 8	17	44.~~2~~ 4	-35	~~27~~ 24	~~10~~ 9.7	✓	17	~~45.9~~ 46.1	-35	~~28~~ 25
184	-35	~~12036~~ 12033	17	45.~~7~~ .8	-35	~~34~~ 29	9.9	✓	17	47.~~8~~ 5	-35	~~35~~ 30
185	-35	12062	17	47.4	-35	18	9.6	✓	17	49.1	-35	18
186	-35	12085	17	48.6	-35	40	9.5	✓	17	50.3	-35	40
187	35	12123	17	50.6	-35	20	9.9	✓	17	52.3	-35	20
188	-35	12135	17	51.2	-35	26	9.9	✓	17	52.9	-35	26
189	-35	11923	17	39.1	-35	39	8.0	✓	17	40.8	-35	40
190	-36	~~11880~~ 11877	~~17~~ 17	~~38.4~~ 38.4	~~-36~~ -36	~~5~~ 6	~~9.6~~ 9.7	✓	17	40.1	-36	~~6~~ 7
191	-35	11922	17	39.0	-35	55	9.0	✓	17	40.7	-35	56
192	-3~~5~~ 6	11890	17	39.3	-3~~5~~ 6	2	9.2	✓	17	41.0	-3~~5~~ 6	3
193	-35	11931	17	39.5	-35	58	9.4	✓	17	41.2	-35	59
194	-35	11940	17	40.0	-35	55	8.7	✓	17	41.7	-35	56
195	-35	11948	17	40.7	-35	51	9.8	✓	17	42.4	-35	52
196	-36	11919	17	41.2	-36	2	9.0	✓	17	42.9	-36	3

May 31, 1895

Pl. 9836

		V.	H.	Cl.	Limit	K line	Int	F line	Obs Br.
	197	10.4	12.7	A A	H H	N N	11	-	6.8 6.9
	198	10.9	12.8	A A	H H	N N	11	-	6.9 7.0
	199	10.7	13.1	A A	H H	N N	11	-	6.8 6.8
	200	10.0	14.9	A A	H H	N N	11	-	6.6 6.6
	201	10.1	15.4	A A	K K	K=H K=H	11	-	6.9 6.8
410, 2 434, 2	202	10.1	16.8	A A	H H	N N	11	-	7.0 7.0
410, 24342	203	10.1	16.9	F F	K K	K=H K=H	11	-	6.9 7.0
	204	10.4	17.0	A A	H H	N N	11	-	6.6 6.5

For measures of additional faint stars see p. 72

-35	11958	17	41.3	-35	54	9.3	✓
-36	11922	17	41.5	-36	11	9.7	✓
-36	~~11958~~ 11936 ×	17	~~43.2~~ 42.2	-36	~~7~~ 6'	~~9.2~~ ~~8.7~~ 9.5 ×	✓
-35	12055	17	46.7	-35	45	9.6	✓
-35	12071	17	47.8	-35	48	9.7	✓
-35	12139	17	51.5	-35	48	9.7	?. ✓
-35	12141	17	51.7	-35	49	9.3	?, ✓
-35	12144	17	51.9	-35	55	9.4	✓

	R. A. (1900) hrs.	m.	Dec.	
✓	17	43.0	-35°	55'
✓	17	43.2	-36°	12'
✓	17	~~44.7~~ 43.9	-36	~~6~~ 7
✓	17	48.4	-35	45
✓	17	49.5	-35	48
✓	17	53.2	-35	48
✓	17	53.4	-35	49
✓	17	53.6	-35	55

The A.G.C. positions a

June 1, 1895.

Pl. 9762

	No.	V.	H.	Cl.	Limit	K Line	Int.	F. Line	Ob. Br.	No. in cluster in A.G.C.	1875 pos. R.A.	Dec.	mag.	h
410,1; 434,1	1	10.2	19.7	F	K	K=H	2	—	6.5		17h	–		
* ✓	2	11.2	21.2	a H	K	K=H	2	—	6.6 {6.3 6.5}			–		
	3	11.4	21.2	H	K	K=H	1	—	{6.7 7.0			–		
	4	11.8	20.5	H	K	K=H	2	—	{6.6 6.9			–		
	5	12.7	20.0	a	β	n	2	F	6.5			–		
* ✓	6	13.0	18.9	a a	K	K=H	2	F	6.6		17	–		
	7	13.3	19.0	a	α	n	1	—	6.9	36	17 32.3	– 31 56.8	9	17
	8	13.3	18.7	a	β	n	2	F	6.5	18	17 31.8	– 31 57.~~8~~ 9	9	17
	9	13.5	18.4	a	β	n	2	—	6.5	5	17 31.1	– 32 3.2	9¼	17
	9a ~~10~~	13.5	18.5	a	K	K=H	1	—	6.9	7	17 31.2	– 32 3.4	9¾	17
	10	13.6	18.5	a	H	n	1	—	6.6	9	17 31.3	– 32 8.0	9	17
	11	13.9	18.5	a	β	n	2	—	6.5	10	17 31.4	– 32 16.6	8¾	17
	12	13.8	18.6	a	β	n	3	F	4.9	11	17 31.5	– 32 12.7	7¼	17
	13	13.6	18.7	a	α	n	2	F	6.5	17	17 31.8	– 32 6.0	8¾	17
	13a	13.4	18.6	a	H	n	1	—	6.8	approx pos.	17 31.6	– 32 1.5		17
	14	13.9	18.7	a	α	n	2	F	6.0	14	17 31.7	– 32 18.1	8½	17
	14a	13.8	18.7	a	H	n	1	—	6.7	16	17 31.7	– 32 12.6	9¼	17
	15	14.1	18.8	a	β	n	2	F	5.7	19	17 31.8	– 32 22.2	7¾	17
	16	13.6	18.8	a	γ	n	4	F	4.8	21	17 31.9	– 32 7.7	6¾	17
	17	13.7?	18.8	a	H	n	3	F	5.7	23	17 31.9	– 32 5.2	8¼	17
	18	13.9	18.8	a	γ	n	3	F	5.8	27	17 32.0	– 32 16.1	8¼	17
	19	13.8	18.9	a	β	n	3	F	5.2	30	17 32.0	– 32 11.0	7¼	17
	20	13.5	18.9	a	H	n	2	—	5.8	32	17 32.2	– 32 6.6	8¾	17
										33	17 32.2	– 32 11.5	8¼	17
	21	13.7	18.9	a	β	n	2	—	5.6	~~32~~	~~17 32.2~~	~~– 32 6.6~~	~~8¾~~	
	22	13.9	18.9	a	H	n	2	—	6.2	35	17 32.2	– 32 14.7	9	17
	23	13.6	18.9	a	β	n	2	F	6.3	37	17 32.4	– 32 7.7	8½	17
	24	13.9	19.0	a	H	n	×3	~~F~~	5.9	39	17 32.5	– 32 15.3	8½	17
	25	13.5	19.1	a	β	n	4	F	4.9	41	17 32.6	– 32 5.1	7¼	17
	~~25a 26~~	~~13.7~~	~~19.0~~	~~a~~	~~α~~	~~n~~	~~2~~	~~—~~	~~6.2~~					17
	26	13.6	19.2	H	K *	K=H	2	—	{6.2 6.6} 6.2	45	17 32.8	– 32 6.4	8¾	
	27	13.7	19.0	a	α	n	2	—	6.4	44	17 32.7	– 32 9.2	8½	17
	27a	13.9	19.2	a	H	n	1	—	6.2	approx	17 32.8	– 32 ~~16.9~~ 10 —		17
	28	13.5	19.2	a	α	n	1	—	6.7 6.3	47	17 32.9	– 32 5.4	8½	17

ns are correct — *= agreeing with chart plates — better than the C.DM. Cat. positions which have many slight errors → Notes have not been made of all. as the errors are slight but the differences will be seen by comparing the C.DM. 1875 pos^ns (given) with those of the A.G.C. on preceding page.

1900 pos. — 1875 pos. — (1900 pos of stars superposed entered in green ink.) — 1900 pos.

C.DM.

	1900 pos.	No.	C.DM. 1875 pos.	Notes	R.A. (1900) hr. m.	Dec.
		1	-30 14595 17 34.0 -30 26 8.2 ✓		* 17 35.6	-30° 27
		2	-30 14663 17 37.5 -30 56 8.5 ✓		* 17 39.1	-30 57
		3	-31 14505 17 37.4 -31 0 8.7 ✓		* 17 39.0	-31 1
		4	-31 14471 17 36.0 -31 13 8.4 ✓		* 17 37.6	-31 14
		5	-31 14446 17 34.8 -31 40 8.7 ✓		* 17 36.4	-31 41
		6	-31 1438~~x~~2 17 32.2 -31 ~~49~~ 50 ~~9.4~~ 9.7 ✓	✓ {C.DM. -31° 14381 17 32.2 -31 ~~49~~ ~~9.7~~ 50 9.4 superposed; Both Class A. (17 33.3 -31 50)	* 17 33.8	-31 ~~50~~ 51
9	17 33.9 -31 ~~57~~ 58′	7	-31 14384 17 32.3 -31 56 9.4		* 17 33.9	-31 57
9	17 33.4 -31 59	8	-31 14369 17 31.8 -31 58 9.2	✓	* 17 33.4	-31 59
			-32° 13059 17 31.1 -32 2.7 9.5		17 31.7	
9¼	17 32.7 -32 4	9	~~-32 13063 17 31.2 -32 3 9.8~~	Cluster No. 6 17 31.2 -32 3 10 superposed (17 32.8 -32 4)	* ~~17 32.8~~	-32 4
			-32 13063 17 31.2 -32 3 9¾		17 32.8	-32 4
9¾	17 32.8 -32 4	9a				
9	17 32.9 -32 9	~~10~~	~~-32 13066 17 31.3 -32 8 9.0~~		* 17 32.9	-32 9
		10	-32 13066 17 31.3 -32 8 9.0			
8¾	17 33.0 -32 18	11	-32 13068 17 31.3 -32 17 9.4		* 17 32.9	-32 18
7¼	17 33.1 -32 16	12	-32 13072 17 31.5 -32 15 7.3		* 17 33.1	-32 16
8¾	17 33.4 -32 7	13	-32 13084 17 31.7 -32 6 9.2		17 33.3	-32 7
	17 33.2 -32	13a ~~13~~	~~-32 13074 17 31.5 -32 14 9.2~~	✓	~~17 33.1~~	~~-32 15~~
			-32 13076 17 31.6 -32 1.5 9.4	C.DM. -32° 13080 17 31.7 -32 13.1 9.6 (same) ~~superposed~~ (17 33.3 -32 14; 15)	17 33.2	-32 3
8½	17 33.3 -32 19	14	-32 13081 17 31.7 -32 18 9.2		17 33.3	-32 19
9¼	17 33.3 -32 14		-32 13083 17 31.7 -32 12.9 9.7	Cluster A.G.C. No. 15 17 31.7 -32 13.6 9½ superposed.	17 33.3	-32 14
7¾	17 33.4 -32 23	15	-32 13085 17 31.8 -32 22 8.0		* 17 33.4	-32 23
6¾	17 33.5 -32 9	16	-32 13086 17 31.9 -32 8 7.2	✓	* 17 33.5	-32 9
8¼	17 33.5 -32 6	17	-32 13090 17 31.9 -32 5 8.5		* 17 33.5	-32 6
8¼	17 33.6 -32 17	18	-32 1310~~x~~0 17 32.0 -32 16 10	C.DM. -32° ~~13101~~ 13101 17 32.0 -32 15 9.4 ~~superposed~~ (same); A.G.C. Cluster No. 28 17 32.0 -32 15 8¾ superposed (17 33.6 -32 16)	17 33.6	-32 17
7¼	17 33.6 -32 12	19	-32 13102 17 32.0 -32 11 7.5	✓	17 33.6	-32 12
8¾	17 33.8 -32 8	20	-32 13113 17 32.2 -32 6 9.3	C.DM. -32° 13111 17 32.2 -32 6. 9.9 (same); Star at about 17 32.2 -32 6 superposed (17 33.8 -32 7)	17 33.8	-32 7
8¼	17 33.8 -32 13					
~~8¾~~		21	~~-32 13115 17 32.2 -32 12 9.0~~ ?		17 33.8	-32 13
9	17 33.8 -32 16	22	-32 13114 17 32.2 -32 15 9.3		17 33.8	-32 16
			-32° 13123 17 32.4 -32 8 9.3 8	✓	17 34.0	-32 9
8½	17 34.0 -32 9	23	~~-32 13130 17 32.6 -32 10 9.6~~		* ~~17 34.2~~	~~-32 11~~
8½	17 34.1 -32 16	24	- 32° 13125 ~~-32 13149~~ 17 32.4 -32 14.7 9.5	8. {slight error in dec. in C.DM. cat; see card catalogue of Errata in C.DM.	17 34.0	-32 16
				→	17 34.2	-32 5
7¼	17 34.2 -32 6 ~~Dec in~~ ?	~~25~~	~~-32 13142 17 32.8 -32 8 6.8~~		* ~~17 34.4~~ ~~34.8~~	-32 9
		25	-32 13129 17 32.6 -32 4.5 8.0			
8¾	17 34.4 -32 7	26	~~-32 13153 17 33.1 -32 12 9.9~~	(17 34.4 -32 10)	* ~~17 34.6~~	~~-32 13~~
			-32 13138 17 32.8 -32 6 7.8	A.G.C. Cluster No. 46 17 32.8 -32 8.6 6.8 (same) superposed	17 34.4	-32 7
			-32° 13134 17 32.7 -32 9 9.3	C.DM. -32° 13142 17 32.8 -32 8.5 6.8	17 34.3	-32 10
8½	17 34.3 -32 10	27	~~-32 13147 17 32.9 -32 14 9.5~~	(17 34.3 -32 15)	* ~~17 34.5~~	~~-32 15~~
	17 34.4 -32 18	27a	-32 13146 17 32.9 -32 5 9.3	Star at about 17 32.7 -32 ~~4.~~ 9 15.0 superposed	17 34.5	-32 6
8½	17 34.5 -32 6	28	~~-32 13148 17 32.9 -32 10 9.9~~		* ~~17 34.5~~	~~-32 11~~

1900 pos. entered in green ink above each star

June 1, 1895.

Pl. 9762

No. Cluster in A.G.C.

49 17 33.0 −32° 12.5 2 3/4
50 17 33.5 −32 2.6 7 1/2
52 * 17 33.6 −32 1.5 ✓ 9 1/2

1900 pos. entered in green ink above each star

		V.	H.	Cl.	Limit	K Line	Int.	F Line	Obs. By	C.D.M. No. 1875 pos.	
X	29	13.8	19.2	a	K	K=H N	1	—	6.6	17 34.6 −32 13 −32 ~~13166~~ 13152 17 33.0 −32 ~~17~~ 12 10. 9.9	✓ 17
X	30	13.4	19.5	a	y	n	3	F	5.3	17 35.1 −32 3 −32 13169 17 33.5 −32 2 8.0	✓
X	31	13.4	19.5	a	α *	n	2	—	6.8 6.6	17 35.2 −32 3 −32 13172 17 33.6 −32 2 9.0	✓
X	32	13.7	20.2	a	y	n	3	F	5.8	17 36.9 −32 11 −32 13221 17 35.3 −32 10 8.5	✓
X	33	13.9	20.2	a	β	n	3	F	6.2	17 37.1 −32 18 −32 13228 17 35.5 −32 17 8.8	✓ 17
* ✓ X	34	14.0	20.5	a a	H	n	1		6.8	17 37.7 −32 22 ✓ −32 13249 17 36.1 −32 21 9.6	✓ 17
X	35	14.0	20.5 6	~~a~~ 76	H	n	1		6.7 7.2	17 37.8 −32 20 ✓ −32 13256 17 36.2 −32 19 9.1	✓ 17
* ✓ X 410,3; 434,3.	36	14.2	19.7	F	y	K=H	3	F	5.7	17 36.7 −32 29 ✓ −32 13185 17 34.1 −32 28 7.8	✓ 17
X	37	14.5	20.2	Mb	K	K=H	3	—	5.7 6.2	17 37.0 −32 37 ✓ −32 13233 17 35.4 −32 36 7.2	✓ 17
* ✓ X	38	14.4	20.5	~~a~~ E	K	K=H	2	—	6.1	17 37.6 −32 34 ✓ −32 13243 17 35.9 −32 33 8.8	✓ 17
X	39	~~15.1~~ 14.9	~~20.3~~ 18.0	a	y	n	3	F	~~5.8~~ 5.3	17 31.7 −32 49 ✓ −32 13037 17 30.1 −32 ~~47~~ 48 7.8	✓ 17
X	40	15.3	~~20.1~~ 18.1	~~a~~ a	~~H~~ β	n	x 2	F	~~7.4~~ ~~7.6~~ 6.	17 32.0 −32 −33 0 a ✓ −32 13044 17 30.4 −32 59 8.3	✓ 17
X	41	~~15.3~~ .2	~~20.0~~ 18.2	~~Ma~~ a	~~K~~ β	~~K=H~~ n	~~3~~ 2	F	~~5.5~~ 6.1	17 32.1 −32 56 ✓ −32 13046 17 30.5 −32 55 8.4	✓ 17
X	42	15.5	18.6	a	H	n	1	—	6.8	17 33.1 −33 5 ✓ −33 12323 17 31.5 −~~32~~ 33 4 9.6	✓ 17
X	43	15.4	18.7	a	y	n	3	F	6.2	17 33.3 −33 6 ✓ −33 12328 17 31.7 −33 4 8.5	✓ 17
X	44	14.7	18.9	a	β	n	3	F	5.6	17 33.9 −32 42 ✓ −32 13121 17 32.3 −32 41 8.0	✓ 17
X	45	14.8	19.1	a	y	n	3	F	5.6	17 34.4 −32 47 ✓ −32 13140 17 32.8 −32 46 8.0	✓ 17
* ✓ X	46	14.9	19.3	a	K	~~K=H~~ n	1	—	6.7	17 34.7 −32 44 ✓ −32 13159 17 33.1 −32 43 9.1	✓ 17
X	47	15.0	19.4	H	K	K=H	2	—	6.5 6.6	17 35.0 −32 52 ✓ −32 13164 17 33.4 −32 51 8.3	✓ 17
X	48	15.3	20.0	Ma	K	K=H	3	F	5.3 6.0	17 36.5 −33 0 ✓ −32 13208 17 34.9 −32 59 6.7	✓ 17
X	49	15.1	20.3	a	y	n	3	F	5.9	17 37.1 −32 53 ✓ −32 13225 17 35.5 −32 52 8.7	✓ 41 41
* ✓ X	50	16.3	18.5	a	β	n	3	F	6.1	17 32.9 −33 29 ✓ −33 12319 17 31.3 −33 28 8.5	✓ 17
~~H lines narrow~~	51	16.2	19.5	~~a~~ g	y	~~n~~ K=H	3	F	5.4	17 35.4 −33 27 ✓ −33 12361 17 33.8 −33 26 6.9	✓ 17
X	51a ~~52~~	16.5	19.6	a	H	n	1	—	7.0	~~Identified wrongly for No. 52~~ ~~−33 12363 17 33.9 −33 3? 9.7~~	17
* ✓ X	52	16.4	20.0	a	α	n	1	F	6.7	17 36.6 −33 34 −33 12385 17 35.0 −33 33 9.3	✓ 17
X	53	15.8	20.6	H a	K	~~K=H~~ n	2	—	6.5 6.8	17 37.0 −33 14 ✓ −33 ~~12413~~ 12418 17 36.~~3~~4 −33 ~~15~~ 13 9.4	✓ 17
X	54										17
X	55										17
X	56										17

C.D.M. No. h m ° ' mag. h m ° ' mag

17 35.5 −33 33 — 17 35.6 −33

→ −33° 12365 17 33.9 −33 32 9.9 ✓ with − C.D.M. −33° 12366* 17 34.0 −33 ~~34~~ 33.6 9.7 superposed ✓

* Error in C.D.M. of −33 12366? ~~Should it~~ Is not its dec. −33° ~~33.6~~ 33.9' instead of −33° 33.6' − see note in card catalogue of "Errata in C.D.M. found at H.C.O".

June 3, 1895.

P 9762

1900 pos.	Ga	D. H.		Cl.	Limit	K Line	Int.	F Line	Obs. Br.	C.D.M. No. 1875 pos.
17 33.2 -32 3	9a	13.5	18.5	a	H	n	1	—	7.1	~~-32 13076 17 31.6 -32 2 9.4~~
	13a	13.4	18.6	a	H	n	1	—	6.9	See page 66
	14a	13.8	18.7	a	α	n	2	—	6.6	
	27a	14.9	19.2	a	H	n	1	—	6.8	
17 35.5 -33 33	51a	16.5	19.6	a	H	n	1	—	6.8	-33° 12365 17 33.9 -33 32 9.9
17 36.2 -30 40	54	10.6	20.1	H H	K K	K=H K=H	1 2	—	{6.6 7.1 {6.6 7.0	-30 14~~393~~ 606 17 3~~8~~4.6 -30 39 ~~9.7~~ 8.5
17 32.3 -31 2	55	11.3	18.4	a a	α H	n n	1 1	—	6.7 6.7	-31 14340 17 30.7 -31 1 9.6
17 32.9 -31 2	56	11.4	18.6	a a	α H	n n	1 1	F	6.5 6.6	-31 14357 17 31.3 -31 1 9.3
17 34.8 -31 6	57	11.5	19.4	a a	H α	n n	1 1	—	6.7 6.6	-31 14411 17 33.2 -31 5 9.5
17 35.2 -30 59	58	11.3	19.6	a a	H H	n n	1 1	—	6.6 6.6	-30 14587 17 33.6 -30 58 9.1 ~~-31 14393 17 32.6 -31 1 9.7~~
17 35.5 -31 18	59	11.9	19.7	Hα H	K K	K=H K=H	1 1	—	{6.8 7.0 {6.6 6.9	-31 14423 17 33.9 -31 17 8.7
17 32.4 -31 27	60	12.2	18.4	a a	H H	n n	1	—	6.8 6.8	-31 14342 17 30.8 -31 26 9.0
17 33.4 -31 40	61	12.6	18.8	a a	H H	n n	1	—	6.9 6.9	-31 14370 17 31.8 -31 39 9.6
17 37.4 -31 30	62	12.3	20.5	a a	H H	n n	1	—	7.0 6.9	-31 14467 17 35.8 -31 29 9.5
17 37.4 -31 22	63	12.0	20.5	H H	H K	~~41~~ K=H K=H	1	—	{6.8 7.2 {6.9 7.2	-31 14468 17 35.8 -31 21 9.0
17 31.5 -31 47	64	12.9	18.0	a a	H H	n n	1	—	6.9 6.9	-31 14326 17 29.9 -31 46 9.3
17 36.4 -32 8	65	13.6	20.1	a a	H H	n n	1	-	6.7 6.6	-32° 13202 17 34.8 -32 7 9.3 ~~-32 13197 17 34.6 -32 7 10~~
17 36.5 -32 2	66	13.4	20.1	H H	H H	n n	1	—	{6.8 7.3 {6.8 7.2	-32 13207 17 34.9 -32 1 9.0
17 32.0 -32 22	67	14.0	18.2	a a	H H	n n	1	—	6.7 6.7	-32 13043 17 30.4 -32 21 9.4
17 32.9 -32 30	68	14.3	18.6	a a	H H	n n	1	—	6.6 6.8	-32 13065 17 31.3 -32 29 9.5
410,1; 434,1. 17 33.8 -32 28	69	14.2	19.0	F F	K K	K=H K=H	1	—	6.6 6.6	-32 13117 17 32.2 -32 27 9.3
17 33.8 -32 35	70	14.5	19.0	a a	H H	n n	1	—	6.7 6.7	-32 13116 17 32.2 -32 34 9.4
17 34.4 -32 32 *	71	14.3	19.3	a a	H H	n n	2 2	—	6.5 6.4	-32 13143 17 32.8 -32 31 9.3
17 36.1 -32 21	72	14.0	19.9	H H	~~H~~ K K	K=H K=H	1	—	{6.6 7.1 {6.7 7.1	-32 13193 17 34.5 -32 20 8.9
17 36.7 -32 22	73	14.1	20.2	a a	H H	n n	1	—	7.0 7.1	-32 13212 17 35.1 -32 21 9.7
17 38.1 -32 16	74	13.9	20.8	H H	H H	n n	1	—	{6.7 7.2 6.8 7.2	-32 13266 17 36.5 -32 15 9.0
17 39.5 -32 22	75	14.1	21.4	ε ε	K K	K=H K=H	2 2	—	6.4 6.4	-32 13294 17 37.9 -32 21 9.0
17 39.8 -32 41	76	14.7	21.5	a a	H H	n n	1	—	6.7 6.6	-32 13299 17 38.2 -32 40 9.3 ~~-32 13294 17 37.9 -32 21 9.0~~

* According to chart plate this star is slightly wrong in dec. in C.D.M. catalogue - it is nearer -~~31~~ 32° 30' (1875 pos.) than -~~31~~ 32° 31. See Card Cat. of Errata in C.D.M. cat.

June. 3, 1895.

Pl. 9762.

H10,2 : 434,3.

H10,3 ; 434,3.

	δ.	H	Cl.	Limit	K Line	Int. F Line	Obs. Br
77	16.2	18.0	F F	K K	K = H K = H	1' —	6.7 6.7
78	16.4	18.1	a a	K H	n n	1' —	6.6 6.5
79	16.6	19.3	H H	H K	~~n~~ K = H K = H	1' —	{6.5 7.0 {6.6 7.0
80	16.~~7~~2	19.7	a a	H H	n n	1' —	6.7 6.8
81	15.5	19.7	a a	H H	n n	1' —	7.1 7.1
82	15.7	20.0	a a	K H	K = H ~~n~~ K = H	1' —	6.7 6.6
83	16.3	20.3	a a	H H	n n	1' —	7.1 6.9
84	16.0	20.7	a a	β H	n n	1' —	6.6 6.6
85	15.9	21.0	ε ε	K K	K = H K = H	1 2 —	6.6 6.5
86	15.7	21.3	a a	H H	n n	1' —	6.7 6.8

C.D.M.

✓	-33	12290	17	29.9	-33	24	9.0	
	~~-33~~	~~12345~~	~~17~~	~~33.1~~	~~-33~~	~~38~~	~~8.7~~	
✓	-33	12296	17	30.1	-33	32	9.7	
✓	-33	12345	17	33.1	-33	38	8.7	
✓	-33	12368	17	34.0	-33	24	9.1	
✓	-33	12362	17	33.9	-33	5	9.6	
	~~-33~~	~~12373~~	~~17~~	~~34.2~~	~~-33~~	~~4~~	~~9.6~~	
✓	-33	12379	17	34.7	-33	10	9.6	8
	~~-33~~	~~12374~~	~~17~~	~~34.4~~	~~-33~~	~~13~~	~~9.3~~	
✓	-33	12392	17	35.4	-33	28	9.6	
✓	-33	12412	17	36.4	-33	21	9.4	
✓	-33	12423	17	37.1	-33	15	9.4	
✓	-33	12437	17	37.7	-33	9	9.1.	

	R.A. (1900)		Dec.	
	hrs.	mi.		
*	17	31.5	-33°	25′
*	17	31.7	-33	33
*	17	34.7	-33	39
*	17	35.6	-33	25
	17	35.5	-33	6
~~*~~	~~17~~	~~35.8~~	~~-33~~	~~5~~
	17	36.3	-33	11
~~*~~	~~17~~	~~36.0~~	~~-33~~	~~14~~
*	17	37.0	-33	29
*	17	38.0	-33	22
*	17	38.7	-33	16
*	17	39.3	-33	10

Second Measures of this plate. made in blue ink.

Oct 16, 1895

	Pl. B 13829	V	H	Cl.		Limit		K line		Int		F line		Obs Br.	
410,2, 434,2. 410,2 434,2	205	8.0	11.2	F	F	K	K	K = H	K=H	2	2	—	–	6.7	6.7
410, 1 ; 434, 1. 410, 1 434, 1	206	8.3	11.4	F	F	K	K	K = H	K=H	1	1	–	–	7.0	7.0
	207	8.6	11.4	A	A	~~H~~ L	α	K = H	K=H	1	1	–	-	7.2	7.3
410, 1; 434, 1 } 410, 2; 434.2 }	208	8.2	11.8	F	F	K	K	K = H	K=H	1	1	-	-	7.1	7.4
410,2; 434,2. 410,2 434,2	209	7.7	12.6	F	F	K	K	K = H	K=H	1	1	–	–	7.2	7.4
	210	8.0	12.6	A	A	L	H	N	n	1	1	–		6.8	~~7.4~~ 7.1
410,3; 434.3. 410,5 434,5	211	7.5	13.0	F	F	K	K	K = H	K=H	1	1	–	–	7.0	7.3
410,5;434,5. 410,5 434,5	212	8.2	13.1	F	F	K	α	K = H	K=H	1	1	–	–	7.1	7.3
	213	7.7	13.4	A	A	L	β	N	n	1	1	–	–	7.2	7.2
410,2 ; 434,2. 410,2 434,2	214	8.3	14.0	F	F	K	K	K = H	K=H	1	1	–	–	7.2	7.1
	215	8.5	14.2	A	A	L	α	N	n	1	1	–	–	7.0	7.1
	216	7.8	14.1	A	A	L	H	N	n	2	2	–	–	6.6	6.8
	217	8.2	14.4	A	A	H	H	N	n	1	1	–	–	7.4	7.5
	218	8.2	14.5	A	A	L	α	K = H	K=H	1	2	–	–	6.8	6.9
	219	8.7	14.7	A	A	L	H	N	n	1	1	–	–	7.0	7.0
	220	8.7	14.9	H	H	H	H	N	n	1	1	–	–	6.9 } 7.3 }	6.9 } 7.2 }
	(221	8.7	15.1	H	H	K	H	K = H	n	1	1	–	–	6.8 } 7.2 }	6.7 7.1
	222	8.0	14.7	a	a	H	K	N	n K=H	1	1	–	–	7.1	7.1
	223	7.6	15.7	A	a	H	K	N	K=H K=H	1	1	–	–	7.0	7.1
	224	8.7	15.8	A	a	L	H	N	n	1	1	–	–	6.8	6.9
410,3 ; 434,3. 410,2,434,2	225	8.2	16.7	F	F	K	K	K - H	K=H	1	1	–	–	7.2	7.0
	226	8.6	16.8	A	A	L	α	N	n	1	1	–	–	7.2	7.0
	227	8.7	11.0	A	A	H	H	N	n	1	1	–	–	7.1	7.1
	228	9.0	11.1	A	A	H	H	N	n	1	1	–	–	7.2	7.2
	229	9.0	11.2	A	A	.L	α	N	n	1	1	–	–	6.9	6.8
410,2;434,2. 410,1 434,1	230	9.6	11.1	F	F	K	K	K = H	K=H	2	2	–	–	6.5	6.5
	231	9.8	11.5	A	A	H	α	N	n	1	1	–	–	.6.9	7.0
	232	9.3	11.5	A	A	H	H	N	n	1	1	–	–	7.4	7.3
	233	9.2	13.0	A	A	H	H	N	n	1	1	–	–	6.8	6.6

	CDM	R.A.	Dec.	Magn.		R.A.	1900. Dec.
						h m	° ′
205	-33 12443	17 38.1	-33 43	9.4 ✓		17 39.7	-33 4~~2~~4
206	-33 12~~443~~451	17 38.4	-33 ~~43~~ 55	~~9.4~~ 9.6 ✓		17 40.1	-33 56
207	~~-33~~ -34 12~~451~~ 05~~5~~7	17 38.4	~~-33~~ -34 ~~55~~ ~~8~~ 3	~~9.6~~ 9.9 ✓		17 40.1	-34 4
208	~~-34~~ -33 12~~055~~ 470	17 ~~38.x~~ 39.5	~~-34~~ -33 ~~8~~ 52	9.6 ✓		17 41.~~1~~2	-33 53
209	-33 12507	17 ~~42.2~~ 41.4	-33 36	9.5 ✓		17 43.0	-33 37
210	-33 12510	17 ~~42.x~~ 41.6	-33 ~~36~~ 45	9.6 ✓		17 43.2	-33 46
211	-33 12525	17 42.4	-33 31	9.5 ✓		17 44.0	-33 32
212	-33 12526	17 42.4	-33 51	9.7 ✓		17 44.1	-33 52
213	-33 12545	17 43.3	-33 38	9.6 ✓		17 44.9	-33 39
214	-3~~4~~3 12569	17 44.8	-33 58	~~58~~ 10 ✓		17 46.5	-33 59
215	-34 12214	17 45.3	-34 3	9.9 ✓		17 47.0	-34 4
216	-33 12~~602~~580	17 45.1	-33 43	9.4 ✓		17 46.7	-33 44
217	-33 12593	17 45.6	-33 52	9.9 ✓		17 47.3	-33 5~~2~~3
218	-33 12602	17 46.0	-33 53	9.6 ✓		17 47.7	-33 5~~3~~4
219	-34 12252	17 46.5	-34 7	10 ✓		17 48.2	-34 7
220	-34 12260	17 46.8	-34 9	9.6 ✓		17 48.5	-34 9
(221	-34 12269 ~~-34 12267~~	17 47.2 ~~17 47.2~~	-34 9 ~~-34 16~~	8.7 ~~10~~)	{this star is No. 152 on plate B9836. so will not be included in the extra measured.	17 48.9	-34 9
222	-33 12611	17 46.5	-33 46	9.9 ✓		17 48.~~1~~2	-33 46
223	-33 12647	17 48.8	-33 37	9.9 ✓		17 50.4	-33 37
224	-34 12301	17 49.0	-34 8	9.7 ✓		17 50.7	-34 8
225	-33 12691	17 51.1	-33 56	9.9 ✓		17 52.8	-33 56
226	-34 12340	17 51.3	-34 6	10 ✓		17 53.0	-34 6
227	-34 12033	17 37.5	-34 6	9.8 ✓		17 39.2	-34 7
228	-34 12034	17 37.5	-34 15	9.8 ✓		17 39.2	-34 16
229	-34 1204~~2~~1	17 37.8	-34 ~~17~~ 16	~~11~~ 9.8 ✓		17 39.5	-34 17
230	-34 12040	17 37.7	-34 32	9.3 ✓		17 3~~8~~9.4	-34 33
231	-34 12058	17 38.5	-34 41	9.8 ✓		17 40.2	-34 42
232	-34 12060	17 38.6	-34 26	10 ✓		17 40.3	-34 27
233	-34 12130	17 42.3	-34 20	9.7 ✓		17 44.0	-34 21

Oct 16, 1895

Plate 13,829

		V.	H.	Cl.		Limit		K line		Int.		F line		Obs. Br.	
	234	9.6	13.1	A	A	H	H	N	n	1	1	—	—	7.4	7.5
	235	9.1	13.5	A	A	α	α	N	n	2	2	—	—	6.6	6.7
	236	9.3	13.6	H	H	H	H	N	n	1	1	—	—	6.8 } 7.3 }	6.9 } 7.2 }
	237	9.0	13.6	A	A	H	H	N	n	1	1	—	—	7.4	7.4
	238	9.2	14.1	A	A	H	α	N	n	1	1	—	—	6.8	6.8
	239	9.2	14.8	A	A	H	H	N	n	1	1	—	—	7.1	7.0
	240	9.3	15.2	H	H	H	H	N	n	1	1	—	—	6.8 } 7.4 }	6.7 } 7.1 }
	241	9.2	15.3	A	A	H	H	N	n	1	1	—	—	6.9	7.0
	242	9.0	15.6	A	A	H	α	N	n	1	1	—	—	7.0	6.9
	243	9.2	15.6	A	A	α	α	N	n	1	1	—	—	7.0	6.9
	244	9.0	15.9	A	A	H	α	N	n	1	1	—	—	7.0	6.9
	245	9.0	16.1	A	A	H	H	N	n	1	1	—	—	7.3	7.2
	246	9.3	16.0	A	A	H	H	N	n	1	1	—	—	7.5	7.4
	247	9.4	16.4	A	A	H	H	N	n	1	1	—	—	7.3	7.2
	248	9.3	16.7	A	A	H	H	N	n	1	1	—	—	7.2	7.0
	249	9.3	16.8	A	A	H	α	N	n	1	1	—	—	7.0	6.9
410,5 ; 434,5. 410,2 434, 2	250	10.0	12.2	F	F	K	K	K = H	K = H	1	1	—	—	6.8	6.7
410.1 , 434,1 410,1 434,1	251	10.3	12.6	F	F	K	K	K = H	K = H	2	2	—	—	6.7	6.8
	252	10.4	13.3	A	A	H	α	N	K=H K = H	1	1	—	—	6.8	6.7
	253	10.5	14.5	A	A	K	K	K = H	K = H	1	1	—	—	6.9	6.9
	254	10.0	14.8	A	A	β	β	N	n	2	2	—	—	6.6	6.5
	255	10.2	15.0	A	A	H	H	N	n	1	1	—	—	7.0	6.9
	256	9.9	15.1	A	A	H	H	N	n	1	1	—	—	7.1	7.0
410,1 434,1	257	10.3	15.2	F	F.	K	K	K = H	K = H	1	2	—	—	6.7	6.4
	258	10.1	15.2	A	A	H	H	N	n	1	1	—	—	7.2	7.1
	259	10.2	15.4	A	A	H	H	N	n	1	1	—	—	6.9	7.0
	260	10.3	15.6	A	A	H	H	N	n	1	1	—	—	6.8	6.8
	261	9.5	15.7	A	A	H	α	N	n	1	1	—	—	6.9	6.8

		CDM	R.A.	Dec.	Magn			1900 R.A. h m	Dec. ° '
	234	-34 12132	17 42.4	-34 34	10	✓	✓	17 44.1	-34 35
	235	-34 12153	17 43.5	-34 21	9.8	✓	✓	17 45.2	-34 22
	236	-34 12155	17 43.~~6~~7	-34 27	9.5	✓	✓	17 45.4	-34 28
	237	-34 12159	17 43.8	-34 16	10	✓	✓	17 45.5	-34 17
	238	-34 12197	17 44.8	-34 24	10	✓	✓	17 46.5	-34 25
	239	-34 12256	17 46.6	-34 25	9.9	✓	✓	17 48.3	-34 25
	240	-34 12270	17 47.2	-34 27	9.8	✓	✓	17 48.9	-34 27
	241	-34 12276	17 47.5	-34 25	9.9	✓	✓	17 49.2	-34 25
	242	-34 12290	17 48.4	-34 18	10	✓	✓	17 50.1	-34 18
	243	-34 12292	17 48.5	-34 25	9.9	✓	✓	17 50.2	-34 25
	244	-34 12306	17 49.2	-34 19	9.9	✓	✓	17 50.9	-34 19
	245	-34 ~~12308~~ 12310	17 49.7	-34 ~~22~~ 20	~~10~~ 9.9	✓	✓	17 5~~0.9~~1.4	-34 20
✓ Not in Cat	246		17 49.5	-34 29	(approx)	✓	✓	17 51.2	-34 29
	247	-34 12323	17 50.6	-34 30	10	✓	✓	17 52.3	-34 30
	248	-34 12335	17 51.1	-34 27	10	✓	✓	17 52.8	-34 27
	249	-34 12342	17 51.4	-34 29	9.6	✓	✓	17 53.1	-34 29
	250	-34 12097	17 40.3	-34 46	9.7	✓	✓	17 42.0	-34 47
	251	-34 12109	17 41.1	-34 55	9.6	✓	✓	17 42.8	-34 56
	252	-3~~4~~5 11978	17 42.7	-3~~4~~5 0	9.3	✓	✓	17 44.4	-35 1
	253	-35 12032	17 45.8	-35 1	10	✓	✓	17 47.5	-35 2
Not in Cat.? ✓	254	~~-34 12261~~	~~17 46.9~~ 17 46.5	~~-34 54~~ -34 47	~~9.7~~	✓	✓	17 48.2	-34 47
	255	-34 12265	17 47.1	-34 54	10	✓	✓	17 48.8	-34 54
	256	-34 12268	17 47.2	-34 50	9.9	✓	✓	17 48.9	-34 50
	257	-34 12275	17 47.5	-34 58	9.7	✓	✓	17 49.2	-34 58
	258	-34 12273	17 47.4	-34 51	10	✓	✓	17 49.1	-34 51
	259	-34 12279	17 47.9	-34 54	9.9	✓	✓	17 49.6	-34 54
	260	-34 12287	17 48.3	-34 58	9.9	✓	✓	17 50.0	-34 5~~9~~8
	261	-34 12296	17 48.8	-34 33	9.6	✓	✓	17 50.5	-34 33

Oct 16, 1895

Pl. 13829

		V.	H.	Cl.		Limit		K line		Int.		F line		Obs. Br.	
	262	10.5	15.7	A	A	α	α	N	n	1	1	–	–	7.0	6.8
	263	10.7	15.8	H	H	H	K	K=H	K=H	1	1	–	–	6.9 } 7.1 }	6.8 } 7.0 }
	264	10.6	15.8	A	A	H	H	N	n	1	1	–	–	6.8	7.0
	265	10.7	16.7	A	A	H	H	N	n	1	1	–	–	6.8	6.9
410,2 ; 434,2. 410,2 434,2	266	11.3	11.5	F	F	K	K	K=H	K=H	1	1	–	–	7.0	7.0
	267	11.5	11.7	A	A	H	H	N	n	1	1	–	–	7.3	7.4
	268	11.8	12.0	H	H	K	K	K=H	K=H	1	1	–	–	6.9 } 7.1 }	6.8 } 7.0 }
	269	11.8	12.1	A	A	H	H	N	n	1	1	–	–	7.2	6.9
	270	11.7	12.3	A	A	H	H	N	n	1	1	–	–	6.9	6.8
410,3 ; 434,3. 410,2 434,2	271	11.2	11.9	F	F	K	K	K=H	K=H	1	1	–	–	7.1	6.8
	272	10.7	12.6	A	A	K	α	K=H	K=H n	1	1	–	–	6.9	6.8
	273	11.0	12.8	A	A	H	α	N	n	1	1	–	–	6.8	6.7
	274	11.8	12.7	A	A	H	H	N	n	1	1	–	–	7.2	7.3
	275	11.4	13.3	A	A	H	H	N	n	1	1	–	–	7.3	7.3
	276	12.1	13.2	H	H	K	K	K=H	K=H	1	1	–	–	6.8 } 7.0 }	6.8 } 7.1 }
	277	12.1	13.5	A	A	H	H	N	n	1	1	–	–	7.0	7.2
	278	11.9	13.6	A	A	H	H	N	n	1	1	–	–	7.0	7.2
	279	11.5	14.3	A	A	H	H	N	n	1	1	–	–	7.1	6.9
410,2 ; 434.2. 410,3 434,3	280	11.7	14.3	F	F	K	K	K=H	K=H	1	1	–	–	7.0	6.8
	281	11.2	14.5	A	A	H	H	N	n	1	1	–	–	7.3	7.2
410,5 ; 434,5. 410,4 434,4	282	11.0	14.6	F	F	K	K	K=H	K=H	1	1	–	–	6.8	6.8
410,3 434,3	283	10.9	14.6	F	F	K	K	K=H	K=H	1	1	–	–	6.8	6.8
	284	11.5	15.3	A	A	H	H	N	n	1	1	–	–	7.1	7.1
	285	11.2	15.4	A	A	H	H	N	n	1	1	–	–	7.0	6.9
	286	11.4	15.6	A	A	H	H	N	n	1	1	–	–	6.8	6.9
	287	11.1	15.4	A	A	H	H	N	n	1	1	–	–	7.2	7.0
	288	11.1	15.5	A	A	H	H	N	n	1	1	–	–	7.1	6.8
	289	10.9	15.6	A	A	H	H	N	n	2	1	–	–	6.8	6.6

		C.DM.	R.A.	Dec.	Magn.		1900 R.A. h m	1900 Dec. ° ′
	262	-~~34~~35 1208~~1~~6	17 48.7	-~~34~~35 4	10	✓	17 50.4	-~~34~~35 4
	263	-~~34~~35 12090	17 48.9	-~~34~~35 8	9.7	✓	17 50.6	-~~34~~35 8
	264	-35 12093	17 49.0	-35 4	9.7	✓	17 50.7	-35 4
	265	-35 12130	17 51.1	-35 8	9.8	✓	17 52.8	-35 8
	266	-35 11915	17 38.4	-35 23	9.9	✓	17 40.1	-35 24
	267	-35 11924	17 39.1	-35 29	10	✓	17 40.8	-35 30
	268	-35 11932	17 39.6	-35 40	9.9	✓	17 41.3	-35 41
	269	-35 11938	17 39.9	-35 39	9.7	✓	17 41.6	-35 40
	270	-35 11945	17 40.3	-35 36	10	✓	17 42.0	-35 37
	271	-35 11930	17 39.5	-35 21	9.9	✓	17 41.2	-35 22
	272	-35 1195~~5~~7	17 41.2	-35 ~~10~~ 8	~~10~~ 9.9	✓	17 42.9	-35 9
	273	-35 1196~~3~~2	17 41.6	-35 ~~17~~ 17	~~9.6~~ 10	✓	17 43.3	-35 18
Not on Chart or in Cat.? →	274		17 41.3	-35 40		✓ (approx.	17 43.~~3~~0	-35 41
Not in Cat. }	275		17 42.7	-35 ~~[illegible]~~ 29		✓ (approx.	17 44.4	-35 30
	276	-35 1198~~6~~7	17 42.5	-35 50	9.3	✓	17 44.2	-35 51
	277	-35 11986	17 43.2	-35 50	10	✓	17 44.9	-35 51
	278	-35 1198~~9~~8	17 43.3	-35 43	10	✓	17 45.0	-35 44
Not in Cat.	279	~~-35 12024~~	17 45.2 ~~17 45.2~~	-35 ~~38~~ 31 ~~-35 41~~	~~9.9~~ ~~10~~	✓ (approx).	17 46.9	-35 32
	280	~~-35 12023~~ -35 12023	~~17 45.2~~ 17 45.2	~~-35 38~~ 41 -35 38	~~9.9~~ 10 9.9	✓	17 46.9	-35 39
Not Cat. Star	281		17 45.7	-35 ~~26~~ 25		✓ (approx)	17 47.4	-35 26
	282	-35 12040	17 46.1	-35 20	10	✓	17 47.8	-35 21
	283	-35 12041	17 46.1	-35 18	9.5	✓	17 47.8	-35 19
	284	-35 12066	17 47.6	-35 33	10	✓	17 49.3	-35 33
	285	-35 12073	17 48.0	-35 25	10	✓	17 49.7	-35 25
	286	-35 12081	17 48.3	-35 30	9.9	✓	17 50.0	-35 30
Not in Cat. *	287	approx pos. ~~-35 12072~~	17 48.0 ~~17 48.0~~	-35 17 ~~-35 20~~	 ~~9.9~~	✓	17 49.7	-35 17
Not in Cat. *	288	approx pos. ~~-35 12075~~	17 48.1 ~~17 48.1~~	-35 17 ~~-35 19~~	 ~~10~~	✓	17 49.8	-35 17
	289	-35 12080	17 48.3	-35 17	9.5	✓	17 50.0	-35 17

~~In these two stars wrongly checked~~

Oct 16, 1895

Pl 13,829

		V	H	Cl.	Limit	K line.	Int.	F line	Obs Br.	
	290	10.8	15.7	A A	H H	N N	1 1	– –	6.9	6.8
	291	11.5	15.9	H H	K K	K = H K=H	1 1	– –	6.8 7.1	6.9 7.1
	292	11.4	16.0	H H	K K	K = H K=H	1 1	– –	6.9 7.1	6.9 7.1
	293	11.7	16.5	A A	H α	N N	1 1	– –	6.6	6.8
	294	11.6	16.7	A A	H H	N N	1 1	– –	6.9	7.0
	295	11.5	17.1	A A	H H	N N	2 1	– –	6.5	6.7
	296	12.1	11.3	A A	H α	N N	1 1	– –	6.9	6.9
410, 1; 434, 1 410, 1 434, 1	297	12.9	11.9	F F	K K	K = H K=H	1 1	– –	7.1	7.0
	298	12.6	12.3	A A	H H	N N	1 1	– –	6.8	7.0
	299	12.7	12.5	A A	H H	N N	1 1	– –	7.1	7.3
	300	12.8	12.2	H H	H H	N N	1 1	– –	7.2 7.6	7.0 7.4
	301	12.4	12.5	A A	H H	N N	1 1	– –	7.3	7.2
410,2; 434,2. 410,2 434,2	302	12.2	13.1	F F	K K	K =, H K=H	1 1	– –	7.1	7.2
410,1; 434,1. 410,1; 434,1.	303	12.7	13.3	F ~~A~~ F	K K	K = H K=H	1 1	– –	7.0	7.0
	304	12.7	13 ~~7.4~~	A A	H α	N N	1 1	– –	6.9	6.9
	305	12.3	13.8	A A	H α	N N	1 1	– –	6.7	6.8
	306	12.8	13.9	A A	α H	N N	1 1	– –	6.7	6.6
	307	12.6	14.3	A A	H H	N N	1 1	– –	6.8	7.0
	308	12.9	14.3	A A	H H	N N	1 1	– –	6.4	6.7
410, 2; 434.2.	309	12.8	14.5	F F	K K	K = H K=H	1 1	– –	6.6	6.9
	310	12.2	14.3	A A	H H	N N	1 1	– –	7.3	7.3
	311	12.6	14.6	A A	H K	N K=H K=H	1 1	– –	6.9	7.1
	312	12.4	14.7	A A	H H	N N	1 1	– –	6.7	7.0
	313	12.9	14.9	A A	H H	N N	1 1	– –	7.0	7.2
	314	12.8	14.9	A A	H H	N N	1 1	– –	6.9	7.0
	315	12.4	15.2	A A	H H.	N N	1 1	– –	7.0	7.0
	316	12.6	15.4	A A	H H	N N	1 1	– –	7.4	7.1
	317	12.7	15.4	A A	H H	N N	1 1	– –	7.3	7.3

		C.D.M.	R.A.	Dec.	Magn			1900 R.A.	Dec.
~~Not in C~~	290	-35 ~~12083~~ 12088	17 48.~~4~~7	-35 ~~22~~ 13	10	✓		17h 50.4m	-35° 13'
	291	-35 12097	17 49.3	-35 35	9.7	✓		17 51.0	-35 35
	292	-35 12098	17 49.3	-35 30	10	✓		17 51.0	-35 30
	293	-35 12125	17 50.7	-35 40	9.8	✓		17 52.4	-35 40
	294	-35 12132	17 51.2	-35 36	9.9	✓		17 52.9	-35 36
	295	-35 12145	17 52.0	-35 35	9.9	✓		17 53.7	-35 36
	296	-35 11907	17 37.9	-35 48	10	✓		17 39.6	-35 49
	297	-36 11889	17 39.2	-36 12	9.7	✓		17 40.9	-36 13
Not Cat. Star	298		17 40.3	-36 3		✓	(approx.) ?	17 42.0	-36 3
	299	-36 11909	17 40.9	-36 8	10*	✓		17 42.6	-36 9
	300	-36 11900	17 40.1	-36 8	9.6	✓		17 41.8	-36 9
	301	-36 119~~07~~17	17 40.6	-36 0	10	✓		17 42.3	-36 1
	302	-35 11971	17 42.1	-35 52	10	✓		17 43.8	-35 53
	303	-36 11945	17 42.8	-36 7	9.9	✓		17 44.5	-36 8
	304	-36 11947	17 43.0	-36 7	10	✓		17 44.7	-36 8
	305	-35 119~~8~~98	17 43.9	-35 56	9.7	✓		17 45.6	-35 57
	306	-36 11970	17 44.3	-36 12	9.7	✓		17 46.0	-36 13
	307	-36 11987	17 45.2	-36 6	9.9	✓		17 46.9	-36 7
	308	-36 11986	17 45.2	-36 16	9.5	✓		17 46.9	-36 17
	309	-36 119~~83~~93	17 45.7	-36 12	9.7	✓		17 47.4	-36 13
	310	-35 12022	17 45.2	-35 52	10	✓		17 46.9	-35 53
	311	-36 11997	17 46.0	-36 5	10	✓		17 47.7	-36 6
~~Not in Cat.~~	312	-35 ~~12042~~ 12038	17 46.~~1~~0	-35 ~~60~~ 58	9.9	✓		17 47.7	-35 59
Not in Cat.	313		17 46.7	-~~35 18~~ 36 15		✓	(approx.	17 48.4	-36 15
	314	-36 12006	17 46.7	-36 11	9.8	✓		17 48.4	-36 11
	315	-36 12017	17 47.4	-36 1	10	✓		17 49.1	-36 1
	316	-36 12021	17 47.7	-36 8	10	✓		17 49.4	-36 8
Not in Cat.	317		17 47.9	-36 7		✓	approx.	17 49.6	-36 7

* Star C.D.M. -36° 11911 is superposed on -36° 11909.

Oct 16, 1895

Pl. 13,829

		V.	H.	Cl.		Limit		K line		Int.		F line		Obs. Br.	
	318	12.7	15.6	A	A	H	H	N	N	1	1	-	-	6.7	6.9
410,2; 434,2.	319	12.9	15.7	G	y G5K	K	K	K = H	K=H	2	2	-	-	6.3	6.3 6.5
410,2 434,2.	320	12.3	15.9	F	F	K	K	K = H	K=H	2	1	–	–	6.5	6.6
	321	12.0	16.2	E	E	K	K	K = H	K=H	1	1	-	-	7.0	7.0
	322	12.0	16.3	E	E	K	K	K = H	K=H	1	1	-	-	7.0	7.0
	323	12.0	16.4	E	E	K	K	K = H	K=H	1	1	-	-	7.0	7.1

	C.D.M.		R.A.		Dec.		Magn.		R.A. (1900)		Dec.	
									h	m	°	'
318	-36	1203~~3~~2	17	48.3	-36	10	10	?✓	17	50.0	-36	10
319	-36	12039	17	48.5	-36	15	9.0	✓	17	50.2	-36	15
320	-35	12096	17	49.~~2~~3	-35	57	9.3	✓	17	51.0	-35	57
321	-35	12109	17	49.8	-35	49	9.7	✓	17	51.5	-35	49
322	-35	12115	17	50.3	-35	48	9.7	✓	17	52.0	-35	48
323	-35	12118	17	50.~~3~~4	-35	48	9.9	✓	17	52.1	-35	48

Feb. 18, 1896.

~~23h 50m~~ Measure of Plate C 8836.
(Plate taken with 2 prisms of Iceland Spar. Measures are made to determine the correction, if any, to be applied to the scale chart images used in meas.ing the photographs.)

No. of pl. in lower right hand corner. Order of images = $3\cdot\overset{2}{\underset{4}{\vdots}}\cdot 1$

		Scale for I Plates used.				Scale for C Plates.			
a	1	2.2 2.5	2.2 2.5			3.7 4.0			
B.D.+23° 557	2	4.3 4.6	4.3 4.6	+2.1	+2.1	5.7	+~~2.0~~ 1.7	3.7 0 17 19	17 19
Magn. 4.0	3	2.3 2.6	2.3 2.6	+0.1	+0.1	3.7 4.0	0.0	4.2 6 24 25	18 19
	4	4.3 4.6	4.2 4.5	+2.1	+2.0	5.9	+~~2.2~~ 1.9	7.9 0 19 18	19 18
								{2d meas.} 9.0 0 16 15	16 15
b	1	3.2 3.5	3.3 3.6	~~+2.1~~		4.2 4.5		4.6 4.9 (not +.3) cannot be 4.2	1.75 1.78
B.D.+23° 558	2	5.6	5.7	+2.1	+2.1	6.9	+2.4		
Magn. 6.2	3	3.3 3.6	3.4 3.7	+0.1	+0.1	4.8 5.1	+0.6	4.8 5.1	
	4	5.7	5.7	+2.2	+2.1	7.0	+2.5		
B.D.+23° 562	1	7.0	7.3	+		7.9			
Magn. 7.8	2	9.2	9.3	+2.2	+2.0	9.8	+1.9		
	3	7.2	7.3	+0.2	0.0	7.9	0.0		
	4	9.2	9.3	+2.2	+2.0	9.7	+1.8		
d	1	8.1	8.3			9.0			
B.D.+23° 565	2	10.3	10.4	+2.2	+2.1	10.6	+1.6		
Magn. 8.5	3	8.2	8.2	+0.1	−0.1	9.0	0.0		
	4	10.4	10.4	+2.3	+2.1	10.5	+1.5		

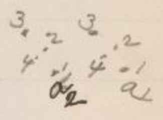
Measures brighter than 5.0 are made with ~~brighter~~ scale D and will have to be made 0.3 ~~fainter~~ ~~brighter~~ (~~+0.3~~ −0.3) or ~~increased~~ ~~diminished~~ by ~~0.3~~ ~~.03~~ to make all ~~the~~ measures comparable. M.F. Feb. 18, 1896.

M.F. June 9, 1896. See B. [illegible] M.F. May 22, 1896

Feb. 18 1896.

Plate I14442.

No. of pl in upper ~~right~~ left hand corner.



a1	1	7.2		B1	1	8.4	
	2	9.4	+2.2		2	~~9.9~~ ~~8.8~~ 10.3	+1.9
	3	7.2	0.0		3	8.0	−0.4
	4	9.3	+2.1		4	10.4	+2.0
a2	1	6.6		B2	1	8.2	
	2	9.0	+2.4		2	~~9.6~~ ~~8.1~~ 9.9	+1.7
	3	7.1	+0.5		3	8.1	−0.1
	4	9.0	+2.4		4	9.2	+1.0.
a3	1	6.8		B3	1	8.0	
	2	8.8	+2.0		2	~~9.8~~ ~~8.2~~ 9.6	+1.6
	3	7.2	+0.4		3	8.2	+0.2
	4	8.7	+1.9		4	9.4	+1.4
a4	1	7.1		B4	1	7.9	
	2	8.9	+1.8		2	~~10.2~~ ~~8.4~~ 9.8	+1.9
	3	7.2	+0.1		3	8.4	+0.5
	4	8.9	+1.8		4	9.6	+1.7
a5	1	7.4		B5	1	8.0	
	2	9.1	+1.7		2	10.2	+2.2
	3	7.5	+0.1		3	8.7	+0.7
	4	9.2	+1.8		4	10.0	+2.0

0	22	21	22	21
5	24	24	19	19
4	20	19	16	15
1	18	18	17	17
1	17	18	16	17
			1.67	1.63
−4	19	20	23	24
−1	17	10	18	11
+2	16	14	14	12
+5	19	17	14	12
+7	22	20	15	12
			1.47	1.20

a = B.D. +22° 563   3h 39.8m +22° 58.′8   6.9 (1855)

b = B.D. +23 553   3 39.9 +23 57.0   7.8 (1855)

Feb. 18, 1896. W 146$^{2\ 1\ 4}_{3}$

N. in lower left hand corner

Plate I 14443. Measures of Iceland Spar images cont.

Wolff No.						
146			1	2.0	2.3	
B.D. +23° 522	4.5		2	4.5	4.8	+2.5
			3	3.0	3.3	+1.0
			4	4.8	5.1	+2.8
62			1	3.5	3.8	
B.D. +23° 505	6.5		2	7.2		+3.4
			3	4.2	4.5	+0.7
			4	6.2		+2.4
129			1	4.2	4.5	
B.D. +24° 556	7.0		2	7.7		+3.2
			3	5.6		+1.1
			4	7.0		+2.5
182			1	5.0		
B.D. +24° 562	7.5		2	8.3		+3.3
			3	6.1		+1.1
			4	7.5		+2.5
151			1	5.6		
B.D. +23° 523	8.0		2	8.5		+2.9
			3	6.6		+1.0
			4	8.0		+2.4
120			1	6.2		
B.D. +23° 517	8.2		2	8.7		+2.5
			3	7.0		+0.8
			4	8.3		+2.1

Feb. 18, 1896.

91		1	6.3	
B.D. +23° 510	8.2	2	8.9	+2.6
		3	7.2	+0.9
		4	8.5	+2.2
143		1	6.9	
B.D. +23° 520	8.1	2	9.1	+2.2
		3	7.5	+0.6
		4	8.7	+1.8
141		1	7.4	
B.D. +23° 519	8.0	2	9.4	+2.0
		3	7.8	+0.4
		4	9.0	+1.6
169		1	8.5	
B.D. +23° 526	9.1	2	9.6	+1.1
		3	8.1	−0.4
		4	9.5	+1.0
196		1	8.8	
B.D. +23° 529	9.2	2	9.8	+1.0
		3	8.4	−0.4
		4	9.8	+1.0
146 p.c.		1	7.9	
		2	9.1	+1.2
		3	7.9	0.0
		4	9.0	+1.1
62 p.c.		1.	8.8	
		2	10.1	+1.3
		3	8.8	0.0
		4	10.0	+1.2

1	3-1	2-1	4-1	2-4	2-3	4-3
✓2.3	10	25	28	-3	15	18
✓3.8	7	34	24	+10	27	17
4.5	11	32	25	+7	21	14
5.0	11	33	25	+8	22	14
5.6	10	29	24	+5	19	14
6.2	8	25	21	+4	17	13
6.3	9	26	22	+4	17	13
6.9	6	22	18	+4	16	12
7.4	4	20	16	+4	16	12
✓7.9	0	12	11	+1	12	11
8.5	-4	11	10	+1	15	14
8.8	-4	10	10	0	14	14
✓8.8	0	13	12	+1	13	12
					62	29
					1.62	1.29
					1.4	

9	9
10	11
11	13
12	15
13	17

♃ May 21, 1896.

(Measure of AB Plates taken with Iceland Spar prisms.)

✓ Pl. AB 690 No. in upper right-hand corner.

		May 22, 1896
1	4.6	4.6
2	6.2	6.3
3	~~5~~4.8	4.7
4	6.5 (22.1)	6.4 (22.0)

✓ Pl. AB 721 No. in upper right-hand corner

1	4.8	4.5
2	6.2	6.0
3	4.5	4.6
4	6.4 (21.9)	6.0 (21.1)

✓ Plate AB 720. No. in upper right-hand corner.

1.	5.1	5.3
2	6.7	6.7
3	5.2	5.3
4	6.8 (23.8)	6.7 (24.0)

✓ Plate AB $\overset{\times}{7}24$ No. in upper right-hand corner.

a 1	5.7	
2	6.5	
3	5.6	
4	6.4	24.2

May 21, 1896.

Measure of Iceland Spar Plates.

Plate aB 724 (Cont.)

b 1 6.0
2 6.7
3 6.0
4 6.8 25.5

Plate aB 717 No. in upper right-hand corner.

		May 22, 1896
1	6.0	6.3
2	6.9	7.0
3	6.0	6.2
4	7.0 25.9	7.0 26.5

Image very poor.

Plate aB 725 No. in upper right-hand corner.

a 1 ~~6~~4.7
2 5.7
3 4.9
4 5.8 21.1

b 1 5.3
2 6.1
3 5.3
4 6.0 22.7

c 1 5.8
2 6.5
3 5.9
4 6.7 24.9

May 21, 1896.

Measure of Iceland Spar Plates

Plate $\overset{aB\times}{725}$ (Cont.)

d	1	6.4	
	2	7.3	
	3	6.5	
	4	7.4	27.6

Plate $\overset{aB}{722}$ No in upper right hand corner

May 22, 1896.

1	6.0	5.8
2	7.5	7.3
3	6.2	5.9
4	7.5	7.3

Plate aB $\overset{\times}{734}$ No. in upper right hand

a	1	6.5	
	2	7.3	
	3	6.5	
	4	7.5.	27.8
b	1	6.0	
	2	6.8	
	3	6.0	
	4	6.9	25.7
c	1	5.5	
	2	6.3	
	3	5.5	
	4	6.3	23.6

May 21, 1896.

Measure of Iceland Spar Plates.

✓ Plate AB 7$\overset{\times}{3}$4 (Cont.)

d	1	5.0	
	2	~~6~~5.8	
	3	5.0	
	4	5.9	21.7
e	1	4.4	
	2	5.3	
	3	4.5	
	4	5.3	19.5

✓ Plate AB 7$\overset{\times}{3}$5 No. in upper right-hand corner.

a	1	6.5	
	2	7.3	
	3	6.5	
	4	7.4	27.7
b	1	5.9	
	2	6.7	
	3	5.9	
	4	6.8	25.3
c	1	5.1	
	2	5.9	
	3	5.0	
	4	6.0	22.0

May 21, 1896.

Measure of Iceland Spar Plates.

Plate AB 723 No. in upper right-hand corner.

			May 22, 1896	
1	4.8		5.0	
2	5.7		5.8	
3	4.8		5.0	
4	5.6	20.9	5.8	21.6

Plate AB 743 No. in upper right-hand corner.

1	6.5		6.5	
2	7.4		7.5	
3	6.5		6.5	
4	7.5	27.9	7.4	27.9

Plate AB 744 No. in upper right-hand corner

a	1	4.8	
	2	5.8	
	3	4.7	
	4	5.7	21.0
b	1	5.8	
	2	6.7	
	3	5.9	
	4	6.8	25.2
c	1	5.4	
	2	6.3	
	3	5.3	
	d	6.4	23.4

May 21, 1896.

Measure of N Iceland Spar Plates.

Plate AB 745. No. in upper right-hand corner

a	1	4.7	
	2	5.5	
	3	4.6	
	4	5.5	20.3
b	1	5.1	
	2	6.1	
	3	5.1	
	4	6.0	22.3
c	1	5.7	
	2	6.6	
	3	5.7	
	4	6.7	24.7
d	1	6.4	
	2	7.3	
	3	6.5	
	4	7.3	27.5

Plate AB 719 No. in upper right hand corner

		May 22, 1896.
1	5.3	5.4
2	7.5	7.3
3	5.4	5.4
4	7.7	7.3

May 21, 1896.

Measure of Iceland Spar Plates.

Plate ^{aB}718

Shows only brighter images. Not measured

Continued in Bk. 9, 92

July 20, 1898

~~June 20, 1898.~~

Meas. to determine magns. of comp. stars for vars. in ω Centauri.

		X 6693.	X ~~6715~~ 5712 July 27, 1898	X ~~6771~~ 7894 July 29, 1898	X ~~7788~~ 6716 July 29, 1898
	a	5.1	4.6	4.8	4.8
	b	5.4	5.1	5.4	5.7
	c	6.0	5.4	5.3 wrong star 5.7	5.8 image out of focus –
	d	6.8	5.8	6.3	6.5
	e	6.8	6.1 6.2	6.7	6.7
	f	7.7	~~6.7~~ 7.1	7.5	7.0
	g	8.1	~~7.1~~ 8.0 ~~8.3~~	7.9	7.9
	h	8.7	8.1 ~~9.1~~	~~9.0~~ 8.6	~~9.3~~ 8.3
	k	8.9	8.6	8.8	8.6
	l	9.0	8.8	8.9	9.0
	m	9.5	9.1	9.2	9.1
	n	9.7	9.5	9.5	9.4
	o	9.7	9.6	9.6	9.5
	p	9.9	9.7	9.7	9.8
	q	10.0 10.0	9.8	9.8	9.6
	r	10.3	10.0	10.0	10.0
	s	~~10.5~~ 10.4	10.7 ?	10.2	10.2
	t	10.7 ?	10.5	10.5 ?	10.6
S.I.B.	s	10.5	10.4	10.3	10.3
	t	10.7	~~10.4~~ 10.6	10.6	10.5

The images of the above stars were observed out of order, the recorder (E. G. Wolffe) giving the name of the star to be measured. The same was done with the estimates on pages 96 and 97. The scale used was the scale marked E, cut from an X plate and is successive images of BD+23°539.

M. Fleming
July 29, 1898.

July 23, 1898
~~June 20, 1898.~~

Meas. to determine magns. of comp. stars for vars. in ω Centau

	λ 6693	λ ~~6615~~ 5712 July 27, 1898	λ ~~6774~~ 7394 July 29, 1898	λ ~~7086~~ 6716 July 29, 1898
l'	9.0	8.8	8.9	9.0
m'	9.4	9.3	9.3	9.3
n'	9.6	9.5	9.5	9.5
o'	9.7	9.6	9.5	9.6
p'	9.7	9.6	9.~~7~~6	9.7
q'	10.0	9.7	9.8	9.8
r'	10.2	9.7	9.9	10.0
s'	10.3	10.2	10.2	10.3
t'	10.6	10.5	10.4	10.5

l^2	8.9	8.7	9.1	8.8
m^2	9.4	9.3	9.3	9.1
n^2	9.7	9.4	9.6	9.3
o^2	9.6	9.4	9.5	9.5
p^2	9.8	9.6	9.7	9.6
q^2	10.0 10.0	9.9	9.8	9.8
r^2	10.3	10.0	10.1	10.0
s^2	10.4	10.5	10.4	10.2
t^2	10.7 ?	10.7 ? defect ?	10.7	10.6 ?

July 23 8
~~June~~ 20, 189~~7~~.

Est. by Argelander's method to determine diff. in gr. of comp. stars for ω Centauri.

	X 6693	5712 ~~X 6715~~ July 27, 1898	X 7394 ~~X 6774~~ July 29, 1898	6716 X ~~7788~~ July 29, 1898
a, b	a 4 b	a 4 b	a 6 b	a 8 b
b, c	b 2 c	b 2 c	b 2 c	b 2 c
c, d	c 4 d	c 3 d	c 4 d	c 3 d
d, e	d 2 e	d 4 e	d 4 e	d 4 e
e, f	e 4 f	e 6 f	e 3 f	e 4 f
f, g	f 4 g	f 8 g	f 5 g	f 6 g
g, h	g 3 h	g 3 h	g 3 h	g 3 h
h, k	h 2 k	h 3 k	h 2 k	h 3 k
k, l	k 4 l	k 3 l	k 3 l	k 3 l
l, m	l 3 m	l 3 m	l 3 m	l 2 m
m, n	m 3 n	m 3 n	m 3 n	m 2 n
n, o	n 1 o	n 2 o	n 2 o	n 1 o
o, p	o 3 p	o 3 p	o 2 p	o 1 p
p, q	p 2 q	p 2 q	p 2 q	p 1 q
q, r	q 1 r	q 2 r	q 2 r	q 1 r
r, s	r 2 s	r 2 s	r 2 s	r 1 s
s, t	s 2 t	s 2 t	s 3 t	s 3 t
S.I.B. { r, s	r 2 s	r 2 s	r 3 s	r 3 s
s, t	s 1 t	s 3 t	s 3 t	s 2 t

July 23. 1898

~~June 20, 1898.~~

Est. by Argelander's method to determine diff. in gr. of comp. stars for ω Centauri.

	X 6693	X ~~6715~~ 5712 July 27, 1898	X ~~6774~~ 7394 July 29, 1898	X ~~7788~~ 6716 July 29, 1898
l', m'	l'3m'	l'4m'	l'3m'	l'3m'
m', n'	m'2n'	m'3n'	m'3n'	m'2n'
n', o'	n'2o'	n'2o'	n'2o'	n'1o'.
o', p'	o'2p'	o'3p'	o'2p'	o'2p'
p', q'	p'3q'	p'3q'	p'1q'	p'1q'
q', r'	q'2r'	q'1r'	q'2	
r', s'	r'2s'	r'2s'	r'2s	
s', t'	s'2t'	s'2t'	s8t	

ω Centauri
l - l'

l^2, m^2	$l^2 3 m^2$	$l^2 4 m^2$	$l^2 3$
m^2, n^2	$m^2 3 n^2$	$m^2 1 n^2$	$m^2 3$
n^2, o^2	$n^2 2 o^2$	$n^2 2 o^2$	n^2
o^2, p^2	$o^2 3 p^2$	$o^2 3 p^2$	o^2
p^2, q^2	$p^2 2 q^2$	$p^2 1 q^2$	p
q^2, r^2	$q^2 1 r^2$	$q^2 2 r^2$	q
r^2, s^2	$r^2 2 s^2$	$r^2 2 s^2$	r^2
s^2, t^2	$s^2 2 t^2$	$s^2 2 t^2$	$s^2 2$

Oct. 10, 1898.

kl' 3323	k3l'	l'1l	l1l'	k3l'	kl' 2.~~0~~ 0010
ll' 1101	l0l'	k2l'	k3l'	l1l'	ll' .02 1101
kl^2 2233	$k2l^2$	$k2l^2$	$k3l^2$	$k3l^2$	kl^2 .25 0011
ll^2 1011	$l^2 1 l$	$l0l^2$	$l1l^2$	$l1l^2$	ll^2 .02 1011

July 23 8
~~June 20~~, 189~~7~~.

Est. by Argelander's method to determine diff in pr. of comp. stars for ω Centauri

	X 6693	5712 ~~X 6715~~ July 27, 1898	X 7394 ~~X 6774~~ July 29, 1898	6716 X ~~7788~~ July 29, 1898
a, b	a4b	a4b	a6b	a8b
b, c	b2c	b2c	b2c	b2c
c, d	c4d	c3d	c4d	c3d
d, e	d2e	d4e	d4e	d4e
e, f	e4f	e6f	e3f	e4f
f, g	f4g	f8g	f5g	f6g
g, h	g3h	g3h	g3h	g [illegible] h
h, k	h2k	h3k	h2k	
k, l	k4l	k3l	k3l	
l, m	l3m	l3m	l3m	
m, n	m3n	m3n	m3	
n, o	n1o	n2o		
o, p	o3p	o3p		
p, q	p2q	p2q		
q, r	q1r	q2		
r, s	r2s	r		
s, t	s2t			
S.I.B. { r, s	r2s			
s, t	s1t			

July 23. 1898

~~June 20, 1898.~~

Est. by Argelander's method to determine diff. in gr. of comp stars for ω Centauri

	X 6693	X 5712 ~~X 6715~~ July 27, 1898	7394 ~~X 6774~~ July 29, 1898	6716 ~~X 7788~~ July 29, 1898
l', m'	l' 3 m'	l' 4 m'	l' 3 m'	l' 3 m'
m', n'	m' 2 n'	m' 3 n'	m' 3 n'	m' 2 n'
n', o'	n' 2 o'	n' 2 o'	n' 2 o'	n' 1 o'
o', p'	o' 2 p'	o' 3 p'	o' 2 p'	o' 2 p'
p', q'	p' 3 q'	p' 3 q'	p' 1 q'	p' 1 q'
q', r'	q' 2 r'	q' 1 r'	q' 2 r'	q' 2 r'
r', s'	r' 2 s'	r' 2 s'	r' 2 s'	r' 2 s'
s', t'	s' 2 t'	s' 2 t'	s 3 t	s' 2 t'

l^2, m^2	$l^2\ 3\ m^2$	$l^2\ 4\ m^2$	$l^2\ 3\ m^2$	$l^2\ 3\ m^2$
m^2, n^2	$m^2\ 3\ n^2$	$m^2\ 1\ n^2$	$m^2\ 3\ n^2$	$m^2\ 2\ n^2$
n^2, o^2	$n^2\ 2\ o^2$	$n^2\ 2\ o^2$	$n^2\ 2\ o^2$	$n^2\ 3\ o^2$
o^2, p^2	$o^2\ 3\ p^2$	$o^2\ 3\ p^2$	$o^2\ 2\ p^2$	$o^2\ 1\ p^2$
p^2, q^2	$p^2\ 2\ q^2$	$p^2\ 1\ q^2$	$p^2\ 2\ q^2$	$p^2\ 2\ q^2$
q^2, r^2	$q^2\ 1\ r^2$	$q^2\ 2\ r^2$	$q^2\ 3\ r^2$	$q^2\ 2\ r^2$
r^2, s^2	$r^2\ 2\ s^2$	$r^2\ 2\ s^2$	$r^2\ 3\ s^2$	$r^2\ 2\ s^2$
s^2, t^2	$s^2\ 2\ t^2$	$s^2\ 2\ t^2$	$s^2\ 2\ t^2$	$s^2\ 2\ t^2$

Oct. 10, 1898.

kl' 3323	k 3 l'	l' 1 l	l 1 l'	k 3 l'	kl' 2.~~8~~ 0010
ll' 1101	l 0 l'	k 2 l'	k 3 l'	l 1 l'	ll' .02 1101
kl^2 2233	$k\ 2\ l^2$	$k\ 2\ l^2$	$k\ 3\ l^2$	$k\ 3\ l^2$	kl^2 .25 0011
ll^2 1011	$l^2\ 1\ l$	$l\ 0\ l^2$	$l\ 1\ l^2$	$l\ 1\ l^2$	ll^2 .02 1011

Ch.✓ = entered in list of stars in more than one class
Ch.✓ = " " " " one plate in one class

Date	Design	Cl	Obj No.	Pl. No.	Bright hydrogen lines	R.A.	M
× Aug. 7, 1898	✓ R Lyncis	Md' Ma	409	I 1051 ✓	$H\beta = 0.5$, $H\gamma = \underline{1.0}$, $H\delta = 0.1$, (?)	6^h	7.8-
" 7 "	✓ T Sagittarii	Md' Ma	8421	B 14200 ✓	$H\beta = 1.5$, ~~H~~ $H\gamma = 1.0$, $H\delta = 0.3$	19	7.6-
Aug. 8 1898	✓ - V Cancri	Md' Ma	3636	I 5985 ✓	H~~γ~~β = 0.6, $H\gamma = 1.0$, $H\delta = 0.1$(?)	8	6.8-
" 8 "	✓ - R Can. Min.	Md' Ma	4542	I 17245 ✓	$H\beta = 0.4$, $H\gamma = 1.0$	7	7.2-
" 8 "	✓ - S Cassiopeia	Md' Ma	3763	I 12006 ✓	$H\beta = 1.5$ $H\gamma = 1.0$	1	6.7-
" ~~13~~ "		Md'			$H\beta$		

These two stars are apparently intermediate between Md 1 and Md 2

Date	Design	Cl	Obj No.	Pl. No.	Bright hydrogen lines	R.A.	M
Aug 8, 1898	✓ S Urs. Maj.	Md? Ma	3901	I ~~17534~~ 12724	✓ $H\beta = 1.5$, $H\delta = 1.0$ ($H\beta$ 3 $H\delta = 2.0$)	12	6.7
* 16 1898	✓ S Carinae	Md	Ma	1748	I 7416	✓ $H\beta = 1.0$ $H\gamma = 1.0$ $H\delta = 1.0$ $H\zeta = 0.2$	10.	6.

R.A.	Max.	Min.	Period.	Redness.	Remarks.
6^h	7.8-8.0	<13	+380.0 E	4.8	Ch. pl. I 1068 used to identify $H\beta$ and $H\gamma$
19	7.6-8.1	<11	+384 E	6.5	On edge of plate
8	6.8-7.7	<12	+272.1 E	4.3	
7	7.2-7.9	9.5-10.0	+337.7 E	5.5	
1	6.7-8.6	<13.5	+610.5 E + 50 sin (10° E + 50°)	6.7	Hydrogen line identified by Chart Pl. I 17036
12	6.7-8.2	10.2-11.5	+226.1 E + 43 sin(5°.76 E + 181°.5)	3.2	Image very faint. Sp Md' peculiar, lines ident on I 17537
10	6.0	9.0-9.2	+148.7 E	5	

Date	Design.	Cl	Obj. No.	Pl. No.	Bright hydrogen lines	R.A.	
+Aug. 7, 1898	✓ – R Androm.	Md² Ma?	3018	I 7919	✓ $H\beta=1.2$, $H\gamma=1.0$, $H\delta=1.2$, $H\zeta=0.2$, $H\eta=0.1$,	0ʰ	5.6
" 8 "	✓ R Androm.	Md² Ma?	788	I 1814	$H\beta=1.0$, $H\gamma=1.0$, $H\delta=1.0$,	0ʰ	5.6
" 8 "	✓ – Hydrae	Md² Ma.	6859	B 13149	$H\beta=0.3$ $H\gamma=1.0$ $H\delta=0.4$		
" 8 "	✓ – V Monoc –	Md² Ma	1648	I 3412	✓ $H\beta=\overset{1.5}{\cancel{1.2}}$ $H\gamma=1.0$ $H\delta=1.4$ (Hβ & Hγ = 1.5)	6ʰ	6.3
" ~~8~~ 12 "	– R Andromedae	Md² Ma	803	– I 1822	✓ $H\beta=1.2$ $H\gamma=1.0$ $H\delta=1.0$	0	
" 12 "	✓ – R Cygni	Md² Ma	1182	I 2396	✓ $H\beta=0.8$; $H\gamma=1.0$ $H\delta=0.8$;	–19	5.
Same star – " 13 "	✓ – Hydrae	Md² Ma	6859	B 13149	$H\beta=0.\overset{4}{5}$; $H\gamma=1.0$ $H\delta=0.5$;		
" 16 "	✓ R Cygni?	Md² Ma	1066	I 2286	✓ $H\beta=0.5$ $H\gamma=1.0$ $H\delta=0.6$	19	
" 16 "	✓ T Sagittarii	Md² Ma	$\overset{8357}{\cancel{8357}}$	B 14181	✓ $H\beta=1.2$ $H\gamma=1.0$ $H\delta=0.5$	19	7.
" 16 "	✓ – T Gem –	Md² Ma	8032	– I 8035	✓ $H\beta=0.2$ $H\gamma=1.0$ $H\delta=1.5$ –	7	8.
" 16 "	4	Md² Ma			$H\beta=$ $H\gamma=1.0$ $H\delta=$		

Max.	Min.	Period.	Remarks.	Redness.
5.6-8.6	<12.8	+410.7 E+25 sin(12° E+90°)	Image poor —	5.0
5.6-8.6	<12.8	+410.7 E+25 sin(12° E+90°)		5.0
6.3-6.9	10.7<	+332.0 E	Aβ G Hγ = .15 may be edge of band.	3.4
5.9-8.0	<14	+425.7 E		6.0
			Image poor —	
7.6-8.1	<11	+384 E	On edge of plate - Image poor —	6.5
8.1-8.7	<13.5	+288.1 E	Image very poor —	3.0

Date.	Design	Cl	Obj No.	Plate No.	Bright hydrogen lines	R.A. h	M
Aug. 8, 1898	T Pavonis.	Md³ Ma	7401	B13777 ✓	Hγ = 1.0, Hδ = 1.0, (Hβ.25 Hγ = 0.3) *	19	
" 8 "	RT Cygni	Md³ Ma	3460	I11229 ✓	Hγ = 1.0; Hδ = 1.0,	19	7.0
+ " 8 "	S Ceti	Md³ Ma	8756	B14807 ✓	Hγ = 1.0; Hδ = 0.8	0	7.0
" 8 "	S Urs. Maj.	Md³ Ma	1310	I2498 ✓	H = 1.0; Hδ = 0.4 (?)	12	6.7
" 8 "	U Virginis	Md³ Ma	3006	I 7974 ✓	H = 1.0; Hδ = 1.0	12	7.7
+ " 8 "	R Phoenicis	Md³ Ma	8736	B14881 ✓	Hγ = 1.0; Hδ = 0.9	23	8
" 8 "	T Aquarii	Md³ Ma	4434	I16689 ✓	Hγ = 1.0; Hδ = 0.6	20	6.7
" 8 "	S Tucanae	Md³ Ma	4911	B11532 ✓	Hγ = 1.0; Hδ = 0.5	0	8
" 8 "	RW Scorpii.	Md³ Ma	780X°	B14152 ✓	Hγ = 1.0; Hδ = 1.0	17	9
" 8 "	T Herculis²	Md³ Ma	892	I 1991 ✓	Hγ = 1.0; Hδ = 0.9	18	6.9
" 8 "	R Virginis?	Md³ Ma	298	I 887 ✓	Hγ = 1.0; Hδ = 1.1	12	6.5
" 8 "	S Hydrae	Md³ Ma	275	I 842 ✓	Hγ = 1.0; Hδ = 0.9	8	7.5
" 8 "	T Herculis¹	Md³ Ma.	423	I 1057 ✓	Hγ = 1.0; Hδ = 0.9	18	6.9
" 8 "	R Boötis	Md³ Ma	362	I 1011 ✓	Hγ = 1.0; Hδ = 0.9?	14	5.9
" 8 "	T Urs. Maj.	Md³ Ma	473	I 1215 ✓	Hγ = 1.0; Hδ = 0.8	12	6.0
" 8 "	R Micros.	Md³ Ma	3602	B9814 ✓	Hγ = 1.0; Hδ = 0.6	20	8
" 8 " ?	"	Md³? Ma	875	I 1966	Hγ = 1.0; Hδ = 0.4	–	
" 8 "	T Herculis	Md³ Ma	859	I 1905 ✓	Hγ = 1.0; Hδ = 1.0	18	6.9
" 8 "	RT Cygni.	Md³ Ma	351	I 907 ✓	Hγ = 1.0; Hδ = 0.7	19	7.0
" 8 "	R Sagittarii	Md³ Ma	3456	I11228 ✓	Hγ = 1.0; Hδ = 0.6	19	7.0
" 8 "	V Virginis	Md³ Ma	4590	B ~~433~~ 11366 ✓	Hγ = 1.0; Hδ = 1.0	13	8.0
" 8 "	R Arietis.	Md³ Ma	4370	I16095 ✓	Hγ = 1.0; Hδ = 0.9	2	7.6
" 8 "	S Ceti.	Md³ Ma	4226	I13731 ✓	Hγ = 1.0; Hδ = 0.6	0	7.0
" 8 "	T Centauri	Md³ Ma	4597	B11295 ✓	Hγ = 1.0; Hδ = 0.9 Hζ = 0.2	13	
" 8 "	W Puppis	Md³ Ma	6245	B12659 ✓	Hγ = 1.0; Hδ = 0.9	7	
x " 8 "	R Eridani²	Md³ Ma	5825	B12243 ✓	Hγ = 1.0 Hδ = 0.9	3	
" 8 "	T Gruis.	Md³ Ma	8684	B13855 ✓	Hγ = 1.0 Hδ = 0.6	22	
" 8 "	S Pyxidis	Md³ Ma	9720	B 18977 ✓	Hγ = 1.0 Hδ = 0.7	9	
" 8 "	RT Cygni¹	Md³ Ma	3677	I 12139 ✓	Hγ = 1.0 Hδ = 1.6	19	7.

Continued on Page 110

R.A. h	Max	Min	Period	Remarks	
19	7.6	12.1	+243E	Very ft. * Probably, br. edge of band.	—
19	7.0-7.5	10.0-11.15	+191.4E		3.8*
0	7.0-8.0	12	+320.2 E		2.0
12	6.7-8.2	10.2-11.5	+226.1 E+43 sin(5°.76 E+181°.5)	Very poor.	3.2
12	7.7-8.1	12.2-12.8	+207.0 E		1.1
23	8.5?	11?	----		—
20	6.7-8.7	12.4-13.0	+203.3 E+8 sin(7°.5 E+255°)		1.2
0	8.7	<11.6	+233 E?		—
7	9.4	14.1	+387E?		—
18	6.9-8.5	9.8-12.7	+164.85 E+8 sin(7°E+59°)		1.4
2	6.5-8.0	9.7-11.0	+145.47 E+etc.	Image poor —	1.3
8	7.5-8.7	<12.2	+257.0 E	Image poor —	2.1
18	6.9-8.5	9.8-12.7	+164.85 E+8 sin(7°E+59°)		$1.\overset{4}{3}$
14	5.9-7.8	11.3-12.2	+223.4 E+10 sin(10°E+80°)	Image poor ——	2.7
12	6.0-8.5	12.2-13.0	+257.2 E+20 sin(9°E+90°)		2.0
20	8.0	12.0	+138.8 E		—
				Image poor —	
18	6.9-8.5	9.8-12.7	+164.85 E+8 sin(7°E+59°)		1.4
9	7.0-7.5	10.0-11.15	+191.4 E		3.8*
9	7.0-8.0	12.5	+268.7 E+20 sin(10°E+330°)	Image poor —	3.6
3	8.0-9.0	<13·	+250.5 E		2.7
2	7.6-9.0	11.7-13.0	+186.55 E+7 sin(5°E+235°)	Image poor ——	1.8
0	7.0-8.0	12	+320.2 E		2.0
3	5.9	9.2	+91.2 E	On edge of plate —	—
7	9.5	12.0	---		—
3	7.2	11.0	+253 E		—
2	8.6	11.0	---		—
9	7.0-7.5	10.0-11.15	+191.4 E		3.8*

Date	Desig.	Cl.	Obj No.	Pl No.	Bright hydrogen lines	R.A.
Aug. 8 1898	T Hydrae	Md^4, Masb	3899	I 12723	$H\gamma = 1.0$; $H\delta = 1.0$;	8^h
" 8 "	S Bootis	Md^4, Masb	3412	I 11138	$H\gamma = 1.0$; $H\delta = 1.0$;	14
" 8 "	S Pis. Austr.	Md^4, Masb	9355	B 17059	$H\gamma = 1.0$; $H\delta =$ ~~1.0~~ 0.9;	21
" 8 "	T Herculis	Md^4, Masb	4358	I 15829	$H\gamma = 1.0$; $H\delta = 0.9$;	18
" 8 "	R Pictoris	Md^4 Masb	5511	B 12616	$H\gamma = 1.0$; $H\delta = 0.9$ (?)	4
" 8 "	R Virginis	Md^4 Masb	3008	I 7974	$H\gamma = 1.0$; $H\delta = 0.9$ (?)	12
" 8 "	R Delphini	Md^4 Masb?	3543	I 1$\overset{1}{\cancel{3}}$301	$H\gamma = 1.0$; $H\delta = 1.2$	20
" 8 "	X Aquarii	Md^4 Masb	7711	B 13841	$H\gamma = 1.0$; $H\delta = 1.0$	22
" 8 "	X Aquarii	Md^4 Masb	7664	B 13832	$H\gamma = 1.0$; $H\delta = 1.0$	22
" 8 "	RU Sagittarii	Md^4 Masb	1032	B 3427	$H\gamma = 1.0$; $H\delta = 0.8$	19
" 8 "	X Monocer.	Md^4 Masb	11699	B ~~2895~~ 20895	$H\gamma = 1.0$; $H\delta = 1.1$	
" 8 "	R Bootis	Md^4 Masb	254	I 870	$H\gamma = 1.0$; $H\delta = 1.2$	14
" 8 "	S Hydrae?	Md^4 Masb	250	I 878	$H\gamma = 1.0$; $H\delta = 1.2$	8
" 8 "	U Arietis?	Md^4 Masb?	3669	I 12112	$H\gamma = 1.0$; $H\delta = 1.2$	3
" 8 "	U Arietis?	Md^4 Masb	3734	I 11972	$H\gamma = 1.0$; $H\delta = 1.2$	3
" 8 "	R Bootis	Md^4 Masb	335	I 903	$H\gamma = 1.0$; $H\delta = 1.1$	14
" 8 "	R Sagittarii	Md^4 Mast	1862	I 3801	$H\gamma = 1.0$; $H\delta = 1.2$	19
" 8 "	W Herculis?	Md^4 Masb	4279	I 15081	$H\gamma = 1.0$; $H\delta = 0.8$	16
" 8 "	S Hydrae	Md^4 Masb	1139	I 2340	$H\gamma = 1.0$; $H\delta = 1.2$	8
" 8 "	T Sagittarii	Md^4 Masb	7827	B 14208	$H\gamma = 1.0$; $H\delta = 0.8$	19
" 8 "	R Arietis	Md^4 Masb	3611	I 11492	$H\gamma = 1.0$; $H\delta = 1.0$	2
" 8 "	R Phoenicis	Md^4 Masb	8750	B 14806	$H\gamma = 1.0$; $H\delta = 0.8$	23
" 8 "	S Octantis	Md^4 Masb	10192	B 19406	$H\gamma = 1.0$; $H\delta = 1.2$	17
" 8 "	R Phoenicis	Md^4 Masb	8765	B 14812	$H\gamma = 1.0$; $H\delta = 0.8$	23
" 8 "	T Pavonis	Md^4 Masb	9462	B 17398	$H\gamma = 1.0$; $H\delta = 1.0$	19
" 8 "	R Phoenicis	Md^4 Masb	9260	B 17030	$H\gamma = 1.0$; $H\delta = 1.0$	23
" 8 "	U Arietis	Md^4 Masb	3650	I 11814	$H\gamma = 1.0$; $H\delta = 1.5$	3
" 8 "	S Octantis	Md^4 Masb	2088	B 7991	$H\gamma = 1.0$; $H\delta = 0.5$	17
" 8 "	RU Sagittarii	Md^4 Masb	2199	B 8393	$H\gamma = 1.0$; $H\delta = 1.2$	19

Continued on page 114

R.A. h	Max	Min	Period,	Remarks.	Redness.
8	7.0-8.1	<13	$+288.8\mathcal{E}$		1.8
14	7.7-8.5	12.5-13.2	$+268.2\mathcal{E}+0.246\mathcal{E}^2-0.005\mathcal{E}^3$		2.8
21	8.7-9.2	<11	$+272\mathcal{E}$		–
18	6.9-8.5	9.8-12.7	$+164.85\mathcal{E}+8\sin(7°\mathcal{E}+59°)$		1.4
4	8.1	9.5	– – –	Very poor	–
12	6.5-8.0	9.7-11.0	$+145.4^{8}_{7}\mathcal{E}$ + etc.	Image poor may be IIId^5 would be IIIa 8 b –	1.3
20	7.6-9.0	11.1-12.8	$+285.5\mathcal{E}$		4.0
22	8.3	13	$+311\mathcal{E}$		–
22	8.3	13	$+311\mathcal{E}$		–
19	8	<12.6	– – –	Image poor –	–
14	5.9-7.8	11.3-12.2	$+223.4\mathcal{E}+10\sin(10°\mathcal{E}+80°)$		2.7
8	7.5-8.7	<12.2	$+257.0\mathcal{E}$	Image poor –	2.1
3	7.0-8.5	<11	$+361\mathcal{E}$	Image poor	–
3	7.0-8.5	<11	$+361\mathcal{E}$	Image poor –	–
14	5.9-7.8	11.3-12.2	$+223.4\mathcal{E}+10\sin(10°\mathcal{E}+80°)$		2.7
19	7.0-8.0	12.5	$+268.7\mathcal{E}+20\sin(10°\mathcal{E}+330°)$	Image poo	3.6
16	8.0-8.4	11.5-14	$+280.0\mathcal{E}+25\sin(15°\mathcal{E}+330°)$		3.2
8	7.5-8.7	<12.2	$+257.0\mathcal{E}$		2.1
19	7.6-8.1	<11	$+384\mathcal{E}$		6.5
2	7.6-9.0	11.7-13.0	$+186.55\mathcal{E}+7\sin(5°\mathcal{E}+235°)$		1.8
23	8.5?	11?	– – –		–
17	8.2	<11.7	– – –	Image poor	–
23	8.5?	11?	– – –		–
19	7.6	12.1	$+243\mathcal{E}$		–
23	8.5?	11?	– – –		–
3	7.0-8.5	<11	$+361\mathcal{E}$		–
17	8.2	<11.7	– – –	May be IIId 3.	–
19	8	<12.6	– – –	Image poor	–

see "

β Gruis Pg. 108.

L Puppis Pg 122.

ν^2 Cassiop "

$B_8$223 on Pg. 124

Max	Min	Period,	Remarks.	Redness.
7.0-8.1	<13	$+288.8E$		1.8
7.7-8.5	12.5-13.2	$+268.2E+0.246E^2-0.005E^3$		2.8
8.7-9.2	<11	$+272E$		—
6.9-8.5	9.8-12.7	$+164.85E+8\sin(7°E+59°)$		1.4
8.1	9.5	---	Very poor	—
6.5-8.0	9.7-11.0	$+145.4E$ + etc.	Image poor may be IIId 5 would be IIIa 8b —	1.3
7.6-9.0	11.1-12.8	$+285.5E$		4.0
8.3	13	$+311E$		—
8.3	13	$+311E$		—
8	<12.6	---	Image poor —	—
5.9-7.8	11.3-12.2	$+223.4E+10\sin(10°E+80°)$		2.7
7.5-8.7	<12.2	$+257.0E$	Image poor —	2.1
7.0-8.5	<11	$+361E$	Image poor —	—
7.0-8.5	<11	$+361E$	Image poor —	—
5.9-7.8	11.3-12.2	$+223.4E+10\sin(10°E+80°)$		2.7
7.0-8.0	12.5	$+268.7E+20\sin(10°E+330°)$	Image poor —	3.6
8.0-8.4	11.5-14	$+280.0E+25\sin(15°E+330°)$		3.2
7.5-8.7	<12.2	$+257.0E$		2.1
7.6-8.1	<11	$+384E$		6.5
7.6-9.0	11.7-13.0	$+186.55E+7\sin(5°E+235°)$		1.8
8.5?	11?	---		—
8.2	<11.7	---	Image poor —	—
8.5?	11?	---		—
7.6	12.1	$+243E$		—
8.5?	11?	---		—
7.0-8.5	<11	$+361E$		—
8.2	<11.7	---	May be IIId 3.	—
8	<12.6	---	Image poor	—

Date	Design.	Cl.	Obj. No.	Pl. No.	Bright hydrogen lines		R.A.	
Aug. 8, 1898	✓ S Sculptoris	Md^5 Ma8b	4262	B 10582	✓ $H\gamma = 1.0$;	$H\delta = 1.5$	0^h	
" 8, "	✓ U Arietis	Md^5 Ma8b	3645	I 11789	✓ $H\gamma = 1.0$;	$H\delta = 1.2$	3	7.
" 8 "	✓ X Aquarii	Md^5 Ma8b	8687	B 13856	✓ $H\gamma = 1.0$	$H\delta = 1.0$	22	
" 8 "	✓ RT Sagittarii	Md^5 Ma8b	7458	B 13787	✓ $H\gamma = 1.0$	$H\delta$ 1.0	20	
" 8 "	✓ R Corvi	Md^5 Ma8b	317	I 868	✓ $H\gamma = 1.0$	$H\delta = 1.2$	12	6.
" 8 "	✓ U Arietis	Md^5 Ma8b	3722	I 11953	✓ $H\gamma = 1.0$	$H\delta = 1.5$	3	7.
" 8 "	✓ S Sculptoris	Md^5 Ma8b	4256	B 10584	✓ $H\gamma = 1.0$	$H\delta = 1.3$	0	
" 8 "	✓ U Centauri	Md^5 Ma8b	3265	B 9520	✓ $H\gamma = 1.0$	$H\delta = 1.2$	12	
" 8 "	✓ T Capricorni	Md^5 Ma8b	7950	B 14376	✓ $H\gamma = 1.0$	$H\delta = 1.3$	21	8.
" 8 "	✓ V Capricorni	Md^5 Ma8b	10855	B ~~2258~~ 20258	✓ $H\gamma = 1.0$	$H\delta = 1.0$	21	
" 8 "	✓ R Virginis	Md^5 Ma8b	1402	I 2752	✓ $H\gamma = 1.0$	$H\delta = 1.0$	12	6.
" 8 "	✓ T Aquarii?	Md^5 Ma8b	2254	I 4867	✓ $H\gamma = 1.0$	$H\delta = 1.2$	20	6.7
" 8 "	✓ T Columbae	Md^5 Ma8b	10920	B 20128	✓ $H\gamma = 1.0$	$H\delta = 1.2$	5	
" 8 "	✓ T Columbae	Md^5 Ma8b	9619	B 18441	✓ $H\gamma = 1.0$	$H\delta = 1.0$	5	
" 9 "	✓ T Urs. Maj	Md^5 Ma8b	3900	I 12724	✓ $H\gamma = 1.0$	$H\delta = 2.0$	12	6.
" 12, "	✓ RX Sagit.	Md^5 Ma8b	8039	B 14380	✓ $H\gamma = 1.0$	$H\delta = 1.2$	19	9
" 12 "	✓ RU Scorpii	Md^5 Ma8b	7342	B 13766	✓ $H\gamma = 1.0$	$H\delta = 1.2$	17	9
" 12 "	✓ R Scorpii	Md^5 Ma8b	2324	B 8618	✓ $H\gamma = 1.0$	$H\delta - 1.0$	16	
" 15 "	✓ X Ophiuchi	Md^5 Ma8b	2359	B 8512	✓ $H\gamma = 1.0$	$H\delta = 7.0$	18	6.8
" 16 "	✓ χ Cygni?	Md^5 Ma8b	2011	I 3989	✓ $H\gamma = 1.0$	$H\delta = 5.0$	19	4.0
" 16 "	✓ R Hydrae	Md^5 Ma8b	2242	B 8550	✓ $H\gamma = 1.0$	$H\delta = 5.0$	13	3.
" 16 "	✓ X Ophiuchi	Md^5 Ma8b	2612	B 8643	✓ $H\gamma = 1.0$	$H\delta = 5.0$	18	
" 16 "		Md^5 Ma8b			$H\gamma = 1.0$	$H\delta =$		

R.A.	Max.	Min.	Period	Remarks	Redness
0h	6.5	10.0	+183 E?		—
3	7.0-8.5	<11	+361 E	Image poor.	—
22	8.3	13	+311 E		—
20	7.5	<11.0	+311 E		—
12	6.8-7.7	<11.5	+318.5 E	On edge of plate —	3.7
3	7.0-8.5	<11	+361 E		—
0	6.5	10.0	+183 E?		—
12	9.2	11.3	---	Image poor —	—
21	8.8-9.7	13.5	+269.2 E	Image poor —	2
21	9	14?	$+157.1\,E + 15 \sin(10^\circ E + 100^\circ)$		—
12	6.5-8.0	9.7-11.0	+145.4~~7~~3 E + etc.		1.3
20	6.7-8.7	12.4-13.0	$+203.3\,E + 8 \sin(7.5^\circ E + 255^\circ)$	Image poor —	1.2
5	7.6	11.3	+218 E	Image poor —	—
5	7.6	11.3	+218 E		—
12	6.0-8.5	12.2-13.0	$+257.2\,E + 20 \sin(9^\circ E + 90^\circ)$		2.0
19	9.9	<13.3	— — —		—
17	9.4	14.1	+387 E?		—
16	7.0	11.4	+307 E?		—
18	6.8-7.0	9.0	+335 E	Image very poor —	5
19	4.0-6.5	13.5	$+406.02\,E + 0.0075\,E^2 + 25 \sin(5^\circ E + 272^\circ)$		6.5
13	3.5-5.5	9.7	+		5.9
18					

Date	Design.	Cl.	Dry No.	Pl. No.	Bright Hydrogen lines				
Aug. 8, 1898	R Piscium	Md^6 Mb	4454	I 16905	$H\gamma$ = 1.0	$H\delta$ = 0.8		1	7
" 8 "	~~R~~ S Lacertae	Md^6 Mb	1876	I 3802	$H\gamma$ = 1.0	$H\delta$ = 1.2		22	7.
" 8 "	S Serpentis	Md^6 Mb	1753	I 3708	$H\gamma$ = 1.0	$H\delta$ = 1.0		15	7.6
" 8 "	S Geminorum?	Md^6 Mb	3047	I 8072	$H\gamma$ = 1.0	$H\delta$ = 1.5		7	8.
" 8 "	S Aquarii?	Md^6 Mb	2806	I 7579	$H\gamma$ = 1.0	$H\delta$ = 1.2		22	7.
" 8 "	o Ceti	Md^6 Mb	4	B 188	$H\gamma$ = 1.0	$H\delta$ = 2.0		2	1.
" 8 "	L2 Puppis	Md^6 Mb	361	B 4465	$H\gamma$ = 1.0	$H\delta$ = 1.3		7	
" 8 "	T Columbae?	Md^6 Mb	9659	B 18523	$H\gamma$ = 1.0	$H\delta$ = 1.0		5	
" 8 "	T Columbae	Md^6 Mb	11478	B ~~2642~~ 20642	$H\gamma$ = 1.0	$H\delta$ = 0.8		5	
" 8 "	R Carinae	Md^6 Mb	1153	B 5869	$H\gamma$ = 1.0	$H\delta$ = 1.2	$H\zeta$ = 0.2 $H\eta$ = 0.1	9	4.
" 8 "	R Virginis	Md^6 Mb	400	I 1045	$H\gamma$ = 1.0	$H\delta$ = 1.5		12	6.
" 8 "	R Corvi	Md^6 Mb	261	I 851	$H\gamma$ = 1.0	$H\delta$ = 1.5		12	6.
+ " 8 "	χ Cygni	Md^6 Mb	583	I 1326	$H\gamma$ = 1.0	$H\delta$ = 1.4		19	4.
* " 8 "	S Herculis	Md^6 Mb	1738	I 3681	$H\gamma$ = 1.0	$H\delta$ = 1.2		16	5.
" 8 "	R Carinae	Md^6 Mb	7306	B 13761	$H\gamma$ = 1.0	$H\delta$ = 1.3	$H\zeta$ = 0.5 $H\eta$ = 0.4 $H\theta$ = 0.2 $H\iota$ = 0.1	9	4.
" 8 "	R Pavonis	Md^6 Mb	5016	B 11661	$H\gamma$ = 1.0	$H\delta$ = 1.2		18	7
" 8 "	U Arae	Md^6 Mb	11225	B ~~2522~~ 20522	$H\gamma$ = 1.0	$H\delta$ = 1.0			
" 8 "	U Arietis	Md^6 Mb	3662	I 11990	$H\gamma$ = 1.0	$H\delta$ = 1.3		3	7.
" 8 "	RT Scorpii	Md^6 Mb	2033	B 8294	$H\gamma$ = 1.0	$H\delta$ = 1.2		16	
" 8 "	S Herculis	Md^6 Mb	1770	I 3718	$H\gamma$ = 1.0	$H\delta$ = 1.2		16	5.9
" 8 "	U Arietis	Md^6 Mb	3666	I 12086	$H\gamma$ = 1.0	$H\delta$ = 1.3		3	7.
+ " 8 "	~~X~~ RU Librae?	Md^6 Mb	3935	I 12897	$H\gamma$ = 1.0	$H\delta$ = 1.0		15	8
" 8 "	X Ophiuchi	Md^6 Mb	8305	B 14170	$H\gamma$ = 1.0	$H\delta$ = 4.0		18	6.8
" 8 "	RR Sagittarii	Md^6 Mb	8159	B 14137	$H\gamma$ = 1.0	$H\delta$ = 4.0		19	
" 8 "	RS Scorpii	Md^6 Mb	7183	B 13450	$H\gamma$ = 1.0	$H\delta$ = 4.0		16	
" 8 "	R S Scorpii	Md^6 Mb	7516	B 13800	$H\gamma$ = 1.0	$H\delta$ = 4.0		16	
" 8 "	R S Scorpii	Md^6 Mb	7437	B 13784	$H\gamma$ = 1.0	$H\delta$ = 4.0		16	
" 8 "	B Gruis	Md^6 Mb	864	B 5584	$H\gamma$ = 1.0	$H\delta$ = 3.0			
" X12 "		~~Md^6 Mb~~	~~7342~~	~~B 18766~~	~~$H\gamma$ = 1.0~~	~~$H\delta$ = 1.2~~			

Continued on page 120

	Max.	Min.	Period	Remarks.	Redness.
1	7-8.8	<13	$+344.15E+13\sin(12^\circ E+180^\circ)$		2.0
22	7.6-8.2	<12	$+233E$		—
15	7.6-8.7	12.5?	$+365.4E+60\sin(6.5E+347^\circ)$	Image poor —	4.1
7	8.2-8.7	<13.5	$+294E$		3
22	7.7-9.1	<12.5	$+279.7E$		4.0
2	1.7-5.0	8-9.5	$+331.6E$	Image poor —	5.9
7	3.5	6.3	$+140.0E$		8
5	7.6	11.3	$+218E$		—
5	7.6	11.3	$+218E$	Image poor —	—
Δy=0.1 9	4.3-5.7	9.3-10.0	$+309.5E+25\sin(9^\circ E+279^\circ)$		5
12	6.5-8.0	9.7-11.6	$+145.47E$+etc		1.3
12	6.8-7.7	<11.5	$+318.5E$	Image poor —	3.7
19	4.0-6.5	13.5	$+406.02E+0.0075E^2+25\sin(5^\circ E+272^\circ)$		6.5
~~9~~ 16	5.9-7.5	11.5-13	$+308.1E$		5.6
Δ=0.2 9 =0.1	4.3-5.7	9.3-10.0	$+309.5E+25\sin(9^\circ E+279^\circ)$		5
18	7.5	=9.8	---	Image poor —	—
				Image very poor —	
3	7.0-8.5	<11	$+361E$		—
16	9.2	129<	---		—
16	5.9-7.5	11.5-13	$+308.1E$	Image very faint —	5.6
3	7.0-8.5	<11	$+361E$		—
15	8.5	<12	$+320E$?	Image poor-	—
18	6.8-7.0	9.0	$+335E$		5
19	7.5	<12.5	$+338E$		—
16	7.0	11.4	$+307E$?		—
16	7.0	11.4	$+307E$?		—
16	7.0	11.4	$+307E$?		—
				Image burned out -	

Carried from Page 102

Date	Design.	Class.	Obj No.	Plate No.	Bright hydrogen lines –			
Aug. 8, 1898	R Persei ?	Md^3 Ma	4375	I 16114	✓ $H\gamma = 1.0$	$H\delta = 1.0$	3	7.
" 8 "	RX Sagittarii	Md^3 Ma	8039 ~~8035~~	B 14380	✓ $H\gamma = 1.0$	$H\delta = 1.0$	19	
" 8 "	R Böötis	Md^3 Ma	269	I 856	✓ $H\gamma = 1.0$	$H\delta = 0.5$	14	5.
" 8 "	R Cameli ?	Md^3 Ma	463	I 1181	✓ $H\gamma = 1.0$	$H\delta = 0.5$	14	7
" 8 "	R Bootis	Md^3 Ma	301	I 888	✓ $H\gamma = 1.0$	$H\delta = 0.8$	14	5.
" 8 "	S Urs. Maj.	Md^3 Ma	3091	I 8545	✓ $H\gamma = 1.0$	$H\delta = 0.2$	12	6.
" 12 "	R Pavonis	Md^3 Ma	2481	B 8583	✓ $H\gamma = 1.0$	$H\delta = 0.8$	18 ~~23~~	8
" 15 "	T Octantis	Md^3 Ma	5306	B 11729	✓ $H\gamma = 1.0$	$H\delta = 0.5$	20	
" 15 "	U Cass	Md^3 Ma	4373	I 16113	✓ $H\gamma = 1.0$	$H\delta = 1.0$	0	8.0
		Md^3 Ma			$H\gamma = 1.0$	$H\delta =$		

	Max.	Min.	Period		Redness
—					
3	7.7-9.2	12.8-13.5	$+210.1E+20\sin(7.5^\circ E+135^\circ)$		2.3
19	9.9	<13.3	---		—
14	5.9-7.8	11.3-12.2	$+223.4E+10\sin(10^\circ E+80^\circ)$	Image very poor —	2.7
14	7.2-8.6	11.8-13.5	$+269.5E$	Image poor —	2.1
14	5.9-7.8	11.3-12.2	$+223.4E+10\sin(10^\circ E+80^\circ)$	Image very poor —	2.7
12	6.7-8.2	10.2-11.5	$+226.1E+43\sin(5.^\circ 76E+181.^\circ 5)$	Image poor —	3.2
18 ~~23~~	~~8.5~~ ?7.5	~~11~~ ?9.8	---	Image poor —	—
20	9.0	<12.5	---		—
0	8.0-8.8	<15	$+276.0E$	Image poor —	6

Date	Design.	Class	Obj. No.	Pl. No.	Bright hydrogen lines	R.A. h	M
Aug. 8, 1898	S Virginis	Md^7 Mb5c	8291	B 14167	$H\gamma = 1.0$ $H\delta = 2.0$	13	5.7
" 8 "	X Centauri	Md^7 Mb5c	7024	B 13389	$H\gamma = 1.0$ $H\delta = 1.5$	11	7
" 8 "	S Micros.	Md^7 Mb5c	7784	B 13853	$H\gamma = 1.0$ $H\delta = 2.0$	21	
" 8 "	R Pegasi	Md^7 Mb5c	3553	I 11304	$H\gamma = 1.0$ $H\delta = 1.4$	23	6.9
" 8 "	V Monocerotis	Md^7 Mb5c	6302	B 12682	$H\gamma = 1.0$ $H\delta = 2.5$	6	6.
" 8 "	RR Sagittarii	Md^7 Mb5c	5486	B 12001	$H\gamma = 1.0$ $H\delta = 5.0$	19	7.
" 12 "	S Can. Min.	Md^7 Mb5c	4134	I 14154	$H\gamma = 1.0$ $H\delta = 1.5$	7	7.
" 12 "	R Tauri?	Md^7 Mb5c	911	I 2019	$H\gamma = 1.0$ $H\delta = 3.0$	4	7.
" 12 "	X Ophiuchi	Md^7 Mb5c	3440	I 11174	$H\gamma = 1.0$ $H\delta = 4.0$	18	6.8
" 12 "	S Pegasi	Md^7 Mb5c	2209	I 4807	$H\gamma = 1.0$ $H\delta = 4.0$	23	7.
" 12 "	S Pegasi	Md^7 Mb5c	2304	I 5190	$H\gamma = 1.0$ $H\delta = 4.0$	23	
" 12 "	RV Sagittarii	Md^7 Mb5c	8505	B 14634	$H\gamma = 1.0$ $H\delta = 1.5$	18	8
" 12 "	X Aquilae.	Md^7 Mb5c	3872	B 10129	$H\gamma = 1.0$ $H\delta = 1.5$	19	8.
" 12 "	RR Carinae	Md^7 Mb5c	2963	B 9374	$H\gamma = 1.0$ $H\delta = 2.0$	9	8.
" 12 "	S Sculptoris	Md^7 Mb5c	8743	B 15712	$H\gamma = 1.0$; $H\delta = 5.0$	0	6
" 12 "	RS Scorpii	Md^7 Mb5c	7521	B 13805	$H\gamma = 1.0$; $H\delta = 4.0$	16	7.
" 12 "	R Carinae	Md^7 Mb5c	522	B 4863	$H\gamma = 1.0$; $H\delta = 3.0$	9	4.
" 12 "	R Cancri	Md^7 Mb5c	11594	B 20710	$H\gamma = 1.0$; $H\delta = 5.0$ $H\zeta = 0.2$ $H\eta = 0.1$	8	6.0
" 12 "	S Gruis.	Md^7 Mb5c	10567	B 19922	$H\gamma = 1.0$; $H\delta = 5.0$ $H\zeta = 0.2$; $H\eta = 0.1$ $H\theta = 0.1$ $H\iota = 0.1$	22	
" 12 "	o Ceti	Md^7 Mb5c	11714	B 20986	$H\gamma = 1.0$; $H\delta = 5.0$; $H\zeta = 0.8$; $H\eta = 0.5$ $H\theta = 0.3$; $H\iota = 0.2$	2	1.
" 12 "	R Aquarii	Md^7 Mb5c	9497	B 17425	$H\gamma = 1.0$; $H\delta = 5.0$; $H\zeta = 0.5$; $H\eta = 0.1$; $H\theta = 0.3$, $H\iota = 0.3$	23	5.
" 12 "	R Aquarii	Md^7 Mb5c	9491	B 17396	$H\gamma = 1.0$; $H\delta = 5.0$;-	23	
" 12 "	R Aquarii	Md^7 Mb5c	9431	B 17538	$H\gamma = 1.0$ $H\delta = 5.0$; $H\zeta = 0.6$; $H\eta = 0.4$; $H\theta = 0.2$; $H\iota = 0.1$;	23	
" 12 "	R Carinae?	Md^7 Mb5c	9044	B 15444	$H\gamma = 1.0$; $H\delta = 5.0$, $H\zeta = 0.5$ $H\eta = 0.2$	9	
" 12 "	V Cassiopeiae	Md^7 Mb5c	4119	I 13696	$H\gamma = 1.0$, $H\delta = 5.0$	23	7.1
" 12 "	V Cassiopeiae	Md^7 Mb5c	4093	I 13534	$H\gamma = 1.0$; $H\delta = 5.0$	23	
" 12 "	X Ophiuchi	Md^7 Mb5c	3539	I 11300	$H\gamma = 1.0$; $H\delta = 5.0$	18	6.
" 12 "	V Monoc.	Md^7 Mb5c	4390	I 16432	$H\gamma = 1.0$; $H\delta = 5.0$	6	6.3
" 12 "	V Monoc.	Md^7 Mb5c	6273	B 12671	$H\gamma = 1.0$; $H\delta = 4.0$	6	

Continued on page 122

R.A.	Max.	Min.	Period.		Redness.
013	5.7-8.0	12.5	$+376.4E+20\sin(7^\circ.5E+180^\circ)$		2.6
11	7.8	12.4	$+314E$?		—
21					
23	6.9-7.9	<13	$+380.0E+30\sin(10^\circ E+200^\circ)$	Image very poor —	4
6	6.3-6.9	10.7<	$+332.0E$		3.4
19	7.5	<12.5	$+338E$		—
7	7.2-8.0	10.5-12.7	$+330.3E+20\sin(12^\circ E+30^\circ)$		4.1
4	7.$\overset{4}{5}$-9.2	12.4-13.5	$+325E$	Image poor —	4.5
18	6.8-7.0	9.0	$+335E$		5
23	7.3-8.0	12-<13	$+317.5E$		1.7
23					
18	8.2	12.3	$+316E$		—
19	8.4-8.8	<12	$+348E$		—
9	8.2	9.6	- - -		—
0	6.5	10.0	$+183E$?		—
16	7.0	11.4	$+307E$?		—
9	4.3-5.7	9.3-10.0	$+309.5E+25\sin(9^\circ E+279^\circ)$		5
8	6.0-8.3	<11.7	$+352.81E+0.207E^2$		5.3
22	7.2	12.3	$+400E$		—
2	1.7-5.0	8-9.5	$+331.6E$		5.9
23	5.8-8.5	11?	$+387.16E+35\sin(10^\circ E+235^\circ)$		4.3
23					
23					
9					
23	7.1-8.0	12.4	$+229E$		—
23					
18	6.8-7.0	9.0	$+335E$		5
6	6.3-6.9	10.7<	$+332.0E$		3.4
6					

Carried over from Page 104 -

Date	Desig.	Class.	Obj. No.	Pl. No.	Bright Hydrogen lines	R.A.	M
Aug. 8, 1898	R U Sagittarii	Md^4 Ma5b	2016	B 8418	$H\gamma = 1.0$ $H\delta = 1.2$	19^h	
" 8 "	R Sagittarii	Md^4 Ma5b	1246	B 6545	✓ $H\gamma = 1.0$ $H\delta = 1.0$	19	7.0
" 8 "	T Urs. Maj.?	Md^4 Ma5b	450	I 1142 ~~H 432~~	✓ $H\gamma = 1.0$ $H\delta = 0.8$	12	6.0
" 8 "	R Virginis	Md^4 Ma5b	381	I 1030	✓ $H\gamma = 1.0$ $H\delta = 1.0$	12	6.
" 8 "	R Phoenicis	Md^4 Ma5b	3735	B 10276	✓ $H\gamma = 1.0$ $H\delta = 0.9$	23	8
" 8 "	S Carinae	Md^4 Ma5b	7303	B 13761	✓ $H\gamma = 1.0$ $H\delta = 0.9$	10	
" 8 "	X Aquarii	Md^4 Ma5b	5405	B 11794	✓ $H\gamma = 1.0$ $H\delta = 1.0$	22	8
" 8 "	R Pegasi	Md^4 Ma5b	7237	B 13512	✓ $H\gamma = 1.0$ $H\delta = 0.9$ $\boxed{H\zeta = 0.1}$	21	8
" 8 "	S Micros.	Md^4 Ma5b	10856	B 20258 ~~2256~~	$H\gamma = 1.0$ $H\delta = 0.4$?		
" 8 "	T Sagittarii	Md^4 Ma5b	8035	B 14380	$H\gamma = 1.0$ $H\delta = 0.5$		
" 8 "	U Pavonis	Md^4? Ma5b	7400	B 13776	✓ $H\gamma = 1.0$ $H\delta = 1.0$	20	9.
" 8 "	T Urs. Maj.?	Md^4 Ma5b	3900	I 12724	✓ $H\gamma = 1.0$ $H\delta = 1.3$	12	6.0
" 8 "	U Ceti	Md^4 Ma5b	867	I 1947	✓ $H\gamma = 1.0$ $H\delta = 0.8$	2	6.8
" ~~8~~ 12 "	V Capric.	Md^4 Ma5b	10855	B 20258	✓ $H\gamma = 1.0$ $H\delta = 1.0$	21	
" 12 "	R Sagittarii	Md^4 Ma5b	3508	I 11252	✓ $H\gamma = 1.0$ $H\delta = 0.5$	19	7.0
" 12 "	R Sagittarii	Md^4 Ma5b	3511	I 11252	✓ $H\gamma = 1.0$ $H\delta = 0.5$	19	7.6
" 12 "	R Virginis	Md^4 Ma5b	331	I 902	✓ $H\gamma = 1.0$ $H\delta = 1.0$	12	6.5
" 1~~5~~6 "	S Aquarii	Md^4 Ma5b	9457	B 17400	✓ $H\gamma = 1.0$ $H\delta = 1.0$	22	7.7
" 16 "	R [illegible]	Md^4 Ma5b	2620	B 8715	$H\gamma = 1.0$ $H\delta = 1.0$	—	
" 16 "	R Triang.	Md^4 Ma5b Md^4	895	I 2000	✓ $H\gamma = 1.0$ $H\delta = 1.0$	2	5.8

Rl	Max.	Min.	Period		Redness.
19	8	<12.6	---	Image poor —	-
19	7.0-8.0	12.5	+268.7 E + 20 sin(10° E + 330°)		3.6
12	6.0-8.5	12.2-13.0	+257.2 E + 20 sin (9° E + 90°)		2.0
12	6.5-8.0	9.7-11.0	+145.47 E + etc.		1.3
23	8.5?	11?	---		—
10	6.0	9.0-9.2	+148.7 E		5
22	8.3	13	+ 311 E		—
21	8.2	<13	---		—
20	9.6	<12.3	+290 E ?	Image *very* faint –	—
12	6.0-8.5	12.2-13.0	+257.2 E + 20 sin (9° E + 90°)		2.0
2	6.8-7.3	12	+235.8 E		3
21	9	14?	+157.1 E + 15 sin (10° E + 100°)		—
19	7.0-8.0	12.5	+268.7 E + 20 sin(10° E + 330°)		3.6
19	7.6-8.1	<11	+384 E	Image poor —	6.5
12	6.5-8.0	9.7-11.0	+145.47 E + etc.	Image poor —	1.3
22	7.7-9.1	<12.5	+279.7 E		4.0
—					
2	5.8-7.1	11.7	+268.6 E		5.4*

Date	Design.	Class	Obj. No.	Pl. No.	Bright hydrogen lines	RA.	
Aug. 8, 1898	S Octantis	Md^{8} Mb5c	9938	B19036	✓Hγ = 1.0 Hδ = 1.0	17h	
" 12 "	RU Sagittarii	Md^{8} Mb5c	3441	B9601	✓Hγ = 1.0 Hδ = 1.2	19	
" 12 "	W Centauri	Md^{8} Mb5c	7309	B13762	✓Hγ = 1.0 Hδ = 1.0	11	
" 12 "	RS Scorpii	Md^{8} Mb5c	2364	B8619	✓Hγ = 1.0 Hδ = 1.2	16	
" 12 "	RS Scorpii	Md^{8} Mb5c	2505	B8596	✓Hγ = 1.0 Hδ = 1.0	16	
" 12 "	U Ceti	Md$^{8?}$ Mb5c	973	I 2201	✓Hγ = 1.0 Hδ = 1.0	2	6.8
" 12 "	R Pavonis	Md^{8} Mb5c	5120	B 11662	✓Hγ = 1.0 Hδ = 1.1	18	
" 12 "	R Pavonis	Md^{8} Mb5c	5162	B11673	✓Hγ = 1.0 Hδ = 1.0	18	
" 12 "	S Phoenicis	Md^{8} Mb5c	5172	B11677	✓Hγ = 1.0 Hδ = 1.0	23	7.
" 12 "	R Piscium	Md^{8} Mb5c	4520	I 17189	✓Hγ = 1.0 Hδ = 1.0	1	7
" 12 "	R Virginis	Md^{8} Mb5c	4511	I 17067	✓Hγ = 1.0 Hδ = 1.0	12	6.
" 12 "	R R Sagittarii	Md^{8} Mb5c	3890	B 10137	✓Hγ = 1.0 Hδ = 1.2	19	7
" 12 "	R R Sagittarii	Md^{8} Mb5c	3886	B10136	✓Hγ = 1.0 Hδ = 1.0	19	
" 12 "	T Aquarii?	Md^{8} Mb5c	3958	B10172	✓Hγ = 1.0 Hδ = 1.0	20	6.7
" 12 "	Y Librae	Md^{8} Mb5c	4593	I 17546	✓Hγ = 1.0 Hδ = 1.0	15	8.2
" 12 "	R Corvi	Md^{8} Mb5c	308	I 881	✓Hγ = 1.0 Hδ = 1.0	12	6.8
" 12 "	R Urs. Maj.	Md^{8} Mb5c	553	I 1313	Hγ = 1.0 Hδ = 1.0	-	
" 12 "	RU Sagittarii	Md^{8} Mb5c	3380	B 9574	✓Hγ = 1.0 Hδ = 1.0	19	
" 12 "	- RS Scorpii	Md^{8} Mb5c	3793	B 10105	✓Hγ = 1.0 Hδ = 1.2	16	
" 12 "	RS Scorpii	Md^{8} Mb5c	4787	B11493	✓Hγ = 1.0 Hδ = 1.0	16	
" 12 "	W + Pavonis	Md^{8} Mb5c	9319	B 17043	Hγ = 1.0 Hδ = 1.0		
" 12 "	R Ophiuchi?	Md^{8} Mb5c	1826	B 7701	✓Hγ = 1.0 Hδ = 1.0	17	7.0
" 12 "	u + Serpentis	Md^{8} Mb5c	9842	B 18999	Hγ = 1.0 Hδ = 1.0		
" 13 "	RT Sagittarii	Md^{8} Mb5c	8058	B 14386	✓Hγ = 1.0 Hδ = 1.2	20	
" 13 "	R R Aquilae	Md^{8} Mb5c	7105	B13416	✓Hγ = 1.0 Hδ = 1.2	19	8
" 13 "	V Bootis	Md^{8} Mb5c	3038	I 8067	✓Hγ = 1.0 Hδ = 1.0	14	6.9
" 16 "	S Octantis	Md^{8} Mb5c	1697	B6831	✓Hγ = 1.0 Hδ = 1.0	17	8
" "		Md^{8}					

Ra	Max.	Min.	Period		Redness
17h	8.2	<11.7	---		—
19	8	<12.6	--		—
4	8.6	13.0	+370 E?		—
16	7.0	11.4	+307 E?		—
16					
2	6.8-7.3	12	+235.8 E		3
18	7.5	9.8	---		—
18					
23	7.2	8.7	---		—
1	7-8.8	<13	+344.15 E+13 sin(12° E+180°)		2.0
12	6.5-8.0	9.7-11.0	+145.47 E+etc.		1.3
19	7.5	<12.5	+338 E		—
19					
20	6.7-8.7	12.4-13.0	+203.3 E+8 sin(7.5 E+255°)		1.2
15	8.2-8.7	12	+272 E		—
12	6.8-7.7	<11.5	+318.5 E	Image poor —	3.7
—					
19					
~~16~~					
16					
17	7.0-8.1	<12	+302.7 E		4.5
				Image poor —	
20	7.5	<11.0	+311 E		—
19	8.4	<12	+403 E?	on edge of plate	6
14	6.9-7.6	9.0-10.5	+256 E		5.6
17	8.2	<11.7	---	Image poor —	—

Date	Design-	Class	Obj. No.	Plate No.	Bright hydrogen lines		M
Aug. 12, 1898	R ~~Carinae~~ Cancri	Md^9 Mc	4521	I 17195	✓ $H\gamma = 1.0$; $H\delta = 3.0$	8	6.0
" 12 "	S Pegasi	Md^9 Mc	2295	I 4997	✓ $H\gamma = 1.0$; $H\delta = 4.0$	23	7.3
" 12 "	R Caeli.	Md^9 Mc	2707	B 8919	✓ $H\gamma = 1.0$; $H\delta = 4.0$	4	7.
" 12 "	X Centauri	Md^9 Mc.	6889	B 13157	✓ $H\gamma = 1.0$; $H\delta = \overset{5.0}{\cancel{2.0}}$	11	7
* " 12 "	R Aquarii	Md^9 Mc	7835	B 14211	✓ $H\gamma = 1.0$; $H\delta = 5.0$	23	5.8
" 12 "	RR Sagittarii	Md^9 Mc	1663	B 7012	✓ $H\gamma = 1.0$; $H\delta = 5.0$	19	7.
" 12 "	RS Virginis	Md^9 Mc	2533	I 6187	✓ $H\gamma = 1.0$; $H\delta = 3.0$	14	8.
" 12 "	o Ceti	Md^9 Mc	3838	I 12257	✓ $H\gamma = 1.0$; $H\delta = 4.0$	2	1.7–
" 12 "	R Can~~cri~~um Venat	Md^9 Mc	4335	I 15480	✓ $H\gamma = 1.0$; $H\delta = 5.0$	13	6.1–
" 13 "	S Orionis.	Md^9 Mc	4565	I 17445	✓ $H\gamma = 1.0$; $H\delta = 5.0$	5	8.3
" 13 "	T Cassiopeia	Md^9 Mc	3051	I 8214	✓ $H\gamma = 1.0$; $H\delta = 5.0$	0	7.0
× " 13 "	T Cephei	Md^9 Mc	3690	I 11747	✓ $H\gamma = 1.0$; $H\delta = 5.0$	21	5.2
× " 13 "	R Cancri	Md^9 Mc	4457	I 16907	✓ $H\gamma = 1.0$; $H\delta = 5.0$ $H\zeta = 0.5$	8	6.0
" 13 "	S Aquarii	Md^9 Mc	2781	I 7573	✓ $H\gamma = 1.0$; $H\delta = 4.0$	22	7.7
" 13 "	U Orionis	Md^9 Mc	12	B 220	$H\gamma = 1.0$; $H\delta = 5.0$	5	6.4
" 13 "	U Orionis?	Md^9 Mc	14	B 227	$H\gamma = 1.0$; $H\delta = 4.0$	5	
" 13 "	U Orionis?	Md^9 Mc	17	B 251	($H\gamma = 1.0$; $H\delta = 5.0$ ($H\zeta = 0.5$; $H\eta = 0.3$	5	
" 13 "	U Orionis?	Md^9 Mc	21	B 263	{$H\gamma = 1.0$; $H\delta = 5.0$) $H\zeta = 0.5$; $H\eta = 0.3$)	5	
" 13 "	R Hydrae	Md^9 Mc	641	B 4961	✓ $H\gamma = 1.0$; $H\delta = 5.0$	13	3.5
" 13 "	U Orionis.	Md^9 Mc	1434	I 2819	$H\gamma = 1.0$; $H\delta = 5.0$;	5	
" 13 "	R Cancri	Md^9 Mc	4487	I 16997	✓ $H\gamma = 1.0$; $H\delta = 5.0$, $H\zeta = 0.5$	8	
" 13 "	χ^1 Hydrae	Md^9 Mc	4543	I 17246	✓ $H\gamma = 1.0$; $H\delta = 5.0$	9	8.
" 13 "	T Cephei	Md^9 Mc.	4224	I 13812	✓ $H\gamma = 1.0$; $H\delta = 5.0$ $H\zeta = 0.5$; $H\eta = 0.3$	21	
" 13 "	S Pictoris	Md^9 Mc	6150	B 12421	✓ $H\gamma = 1.0$; $H\delta = 3.0$	5	8.
" 13 "	S Virginis	Md^9 Mc	4592	B 11366	✓ $H\gamma = 1.0$; $H\delta = 5.0$	13	5.7
" 13 "	R Hydrae.	Md^9. Mc	33	B 3633	✓ $H\gamma = 1.0$; $H\delta = 5.0$, $H\zeta = 0.5$	13	
" 13 "	S Sculptoris	Md^9 Mc	6007	B 12332	✓ $H\gamma = 1.0$; $H\delta = 7.0$;	0	6.
" 13 "	S Gruis	Md^9 Mc	11105	B 20454	✓ $H\gamma = 1.0$; $H\delta = 5.0$; $H\zeta$ 1.0, $H\eta = 1.5$	22	7
" 15 "	R Hydrae	Md^9 Mc	1044	B 3631	✓ $H\gamma = 1.0$; $H\delta = 5.0$, $H\zeta = 0.5$, $H\eta = 0.3$	13	

~~transferred~~ continued on page 128

Max.	Min.	Period	Remarks	
6.0-8.3	<11.7	$+352.81E+0.207E^2$		5.3
7.3-8.0	12-<13	$+317.5E$	Image poor —	1.7
7.5	10.0-10.5	- - -		—
7.8	12.4	$+314E$		—
5.8-8.5	11?	$+387.16E+35\sin(10^{\circ}E+235^{\circ})$		4.3
7.5	<12.5	$+338E$		—
8.2	12?	$+360E$		—
1.7-5.0	8-9.5	$+331.6E$		5.9
6.1-7.0	11.5	$+338E$	Image poor —	—
8.3-9.5	11.0-13.0	$+413E$		6.4
7.0-8.0	11.0-12.0	$+445E$		7.3
5.2-6.8	8.6-10.7	$+387E$		6.3
6.0-8.3	<11.7	$+352.81E+0.207E^2$		5.3
7.7-9.1	<12.5	$+279.7E$	Image poor —	4.0
6.4-7.5	<12	$+375E$	Image poor —	7
			Image poor —	
3.5-5.5	9.7	$+425.15E\star-0.36E^2+\sin(7^{\circ}.5E+202^{\circ})$	Near edge of plate —	5.9
8.4	11.8	$+296E$	Image very poor —	—
8.6	<13.3	$+410E$?		—
5.7-8.0	12.5	$+376.4E+20\sin(7^{\circ}.5E+180^{\circ})$		2.6
6.5	10.0	$+183E$?		—
7.2	12.3	$+400E$		—

Continued from Page 108

Date	Design	Class	Ob. No	Plate No.	Bright hydrogen lines	
Aug. 12, 1898	W Herculis	Md^6 Mb	4287	I 1511~~X~~^{5}	✓ $H\gamma = 1.0$ $H\delta = 0.8$	16
" 12 "	R Virginis ?	Md^6 Mb	3383	B 9575	✓ $H\gamma = 1.0$ $H\delta = 1.0$	12
" 12 "	S Carinae ?	Md^6 Mb	6429	B 12818	✓ $H\gamma = 1.0$ $H\delta = 1.0$	10
" 12 "	R Columbae	Md^6 Mb	2737	B 9054	✓ $H\gamma = 1.0$ $H\delta = 1.0$	5
" 12 "	R Triang.	Md^6 Mb	883	I 1981	✓ $H\gamma = 1.0$ $H\delta = 1.0$	~~15~~ 2
" 12 "	R Centauri	Md^6 Mb	4997	B 11659	✓ $H\gamma = 1.0$ $H\delta = 1.0$	14
" 12 "	R Hydrae	Md^6 Mb	4190	I 14658	✓ $H\gamma = 1.0$ $H\delta = 3.0$	13
" 12 "	R Hydrae	Md^6 Mb	4274	I 14858	✓ $H\gamma = 1.0$ $H\delta = 5.0$	13
" 12 "	U Arietis	Md^6 Mb	3660	I 11961	✓ $H\gamma = 1.0$ $H\delta = 2.0$	3
" 12 "	U Arietis	Md^6 Mb	3663	I 11999	✓ $H\gamma = 1.0$; $H\delta = 2.0$	3
" 12 "	U Arietis	Md^6 Mb	3689	I 12005	✓ $H\gamma = 1.0$; $H\delta = 4.0$	3
" 12 "	RS Scorpii	Md^6 Mb	3765	B 10100	✓ $H\gamma = 1.0$; $H\delta = 1.0$	16
" 12 "	R Hydrae	Md^6 Mb	4188	I 14594	✓ $H\gamma = 1.0$; $H\delta = 4.0$	13
" 12 "	R Hydrae	Md^6 Mb	4191	I 14609	✓ $H\gamma = 1.0$; $H\delta = 4.0$	13
" 12 "	R Hydrae	Md^6 Mb	4193	I 1462~~X~~^{5}	✓ $H\gamma = 1.0$; $H\delta = 4.0$	13
" 12 "	R Reticuli	Md^6 Mb	10854	B 20249	✓ $H\gamma = 1.0$; $H\delta = 2.0$	4
" 12 "	U Persei.	Md^6 Mb	1071	I 2291	✓ $H\gamma = 1.0$; $H\delta = 1.0$	1
" 12 "	R Draconis	Md^6 Mb	794	I 1818	✓ $H\gamma = 1.0$; $H\delta = 3.0$	16
" 1~~2~~^{3} "	R Hydrae	Md^6 Mb	824	B 5357	✓ $H\gamma = 1.0$; $H\delta = 5.0$ $\{H\epsilon = 0.5$; $H\eta = 0.2$ $H\theta = 0.1$ $H\nu = 0.05$	13
" 13 "	R Hydrae	Md^6 Mb	772	B 5^{5}201	✓ $H\gamma = 1.0$; $H\delta = 5.0$, $H\zeta = 0.5$ $H\eta = 0.3$; $H\theta = 0.1$; $H\nu = 0.2$	13
" 13 "	R Hydrae	Md^6 Mb	715	B 5131	✓ $H\gamma = 1.0$; $H\delta = 5.0$; $H\zeta = 0.5$	13
" 13 "	X Ophiuchi	Md^6 Mb	3450	I 11226	✓ $H\gamma = 1.0$; $H\delta = 4.0$; ~~$H\zeta =$~~	18
" 13 "	T Can. Min.	Md^6 Mb	3~~2~~^{3}28	I 10604	$H\gamma = 1.0$, $H\delta = 5.0$;	—
" 13 "	U Puppis	Md^6 Mb	3351	× I 10742	✓ $H\gamma = 1.0$; $H\delta = 4.0$;	7
" 13 "	U Arietis	Md^6 Mb	3740	I 11977	✓ $H\gamma = 1.0$ $H\delta = 4.0$;	3
" 13 "	S Piscium	Md^6 Mb	4242	I 13842	✓ $H\gamma = 1.0$ $H\delta = 5.0$	1
" 13 "	V Cassiop.	Md^6 Mb	4^{7}15 ?	I 13843	$H\gamma = 1.0$ $H\delta = 3.0$	—
" 13 "	S Orionis	Md^6 Mb	4587	I 17461	✓ $H\gamma = 1.0$ $H\delta = 4.0$	5
" 13 "	RR Sagittarii	Md^6 Mb	3646	B 9830	✓ $H\gamma = 1.0$ $H\delta = 3.0$	19

Continued on page 124

Max.	Min.	Period	Remarks —	
8.0-8.4	11.5-14	$+280.0E+25\sin(15^\circ E+330^\circ)$	Image poor —	3.2
6.5-8.0	9.7-11.0	$+145.47E$ + etc.		1.3
6.0	9.0-9.2	$+148.7E$		5
7.9	11.4<	$+164E$?		—
5.8-7.1 ~~6.6-6.8~~	11.7 ~~7.5-8.0~~	$+268.0E$ ~~$+3.38922E$~~		5.4* ~~#~~
6.0-6.3	8.7-9.8	$+160.5E$		6
3.5-5.5	9.7	$+425.15E-0.36E^2+15\sin(7^\circ.5E+202^\circ)$		5.9
3.5-5.5	9.7	$+425.15E-0.36E^2+15\sin(7^\circ.5E+202^\circ)$		5.9
7.0-8.5	<11	$+361E$		—
7.0	11.4	$+307E$?		—
7	<13	$+280E$		—
7.2-8.2	11.6	$+318E$?		6.4*
6.5-8.7	12-13	$+245.6E$		2.0
			On edge of plate	
6.8-7.0	9.0	$+335E$	Image poor —	5
8.5-9.0	<14	$+315E$		3.2
8.2-9.3	<14.7	$+404.3E$	Image very poor —	1.0
8.3-9.5	11.0-13.0	$+413E$		6.4
7.5	<12.5	$+338E$		—

Continued from Page 112

Date	Design.	Class	Ob. No.	Plate No.	Bright hydrogen lines	
Aug. 12, 1898	L_2 Puppis	Md^7 Mb5c	2779	B 908✓^{3}	✓ $H\gamma = 1.0$; $H\delta = 3.0$	7
12 "	V Cassiopeia	Md^7 Mb5c	4000	I 13697	$H\gamma = 1.0$; $H\delta = 4.0$	23
" 13 "	V Sculptoris	Md^7 Mb5c	7926	B 14371	✓ $H\gamma = 1.0$; $H\delta = 5.0$	0
" 13 "	S Pegasi	Md^7 Mb5c	2235	I 4826	✓ $H\gamma = 1.0$; $H\delta = 5.0$	23
" 13 "	RS Virginis	Md^7 Mb5c	4716	B 11385	✓ $H\gamma = 1.0$; $H\delta = 2.0$	14
" 13 "	T Cephei	Md^7 Mb5c	513	I 1269	✓ $H\gamma = 1.0$; $H\delta = 5.0$	21
" 13 "	R Delphini	Md^7 Mb5c	3502	I 11244	✓ $H\gamma = 1.0$; $H\delta = 5.0$	20
" 13 "	T Colombia	Md^7 Mb5c	8603	B 14690	$H\gamma = 1.0$; $H\delta = 3.0$	-
" 1~~3~~5 "	R Cassiop.	Md Mb5c	1437	I 2940	✓ $H\gamma = 1.0$; $H\delta = 7.0$	23
" 15 "	RS Scorpii	Md^7 Mb5c	4083	B 10347	✓ $H\gamma = 1.0$; $H\delta = 5.0$	16
" 15 "	R Cass -	Md^7 Mb5c	4561	I 17400	✓ $H\gamma = 1.0$; $H\delta = 5.0$	23
" 15 "	RR Sag -	Md^7 Mb5c	7131	B 13436	✓ $H\gamma = 1.0$; $H\delta = 6.0$	19
" 15 "	RT Sagittarii	Md^7 Mb5c	5760	B 12196	✓ $H\gamma = 1.0$; $H\delta = 7.0$	20
" 15 "	S Indi	Md^7 Mb5c	9467	B 17390	✓ $H\gamma = 1.0$; $H\delta = 9.0$	20
" 15 "	S Virginis	Md^7 Mb5c	2777	B 9081	✓ $H\gamma = 1.0$; $H\delta = 7.0$	13
" 15 "	T Cephei	Md^7 Mb5c	479	I 1228	✓ $H\gamma = 1.0$; $H\delta = 7.0$	21
" 15 "	S Can. Min.	Md^7 Mb5c	3059	I 8230	✓ $H\gamma = 1.0$; $H\delta = 7.0$	7
" 15 "	S Can. Min	Md^7 Mb5c	4428	I 16487	✓ $H\gamma = 1.0$; $H\delta = 9.0$	-7
" 16 "	RR Sagit.	Md^7 Mb5c	5432	B 11965	✓ $H\gamma = 1.0$; $H\delta = 5.0$	19
" 16 "	R Cancri	Md^7 Mb5c	1141	I 2337	✓ $H\gamma = 1.0$; $H\delta = 5.0$	8
" 16 "	U Aurigae	Md^7 Mb5c	2454	I 5919	✓ $H\gamma = 1.0$; $H\delta = 5.0$	5
" 16 "	RS Librae	Md^7 Mb5c	3390	I 11053	✓ $H\gamma = 1.0$; $H\delta = 7.0$	15
" 16 "	χ Cygni	Md^7 Mb5c Md^7	765	I 1668	$H\beta = 0.5$ ✓ $H\gamma = 1.0$; $H\delta = 11.0$ $H\zeta = 1.5$ $H\eta = 0.8$;	19

Max.	Min.	Period	Remarks	
3.5	6.3	$+140.0E$		8
8.9	<12.1	$+295E$	Image poor —	–
7.3-8.0	12–<13	$+317.5E$	Image poor —	1.7
8.2	12?	$+360E$		–
5.2-6.8	8.6-10.7	$+387E$		6.3
7.6-9.0	11.1-12.8	$+285.5E$		4.0
			Image poor —	
4.8-7.0	9.7-12	$+429.5E+25\sin(15^\circ E+0^\circ)$		6.5
7.0	11.4	$+307E$?		–
7.5	<12.5	$+338E$		–
7.5	<11.0	$+311E$	Image poor —	–
8.4	<12.4	---	Image poor —	–
5.7-8.0	12.5	$+376.4E+20\sin(7^\circ5E+180^\circ)$		2.6
~~8.6~~ 5.2-6.8	8.6-10.7	$+387E$		6.3
7.2-8.0	10.5-12.7	$+330.3E+20\sin(12^\circ E+30^\circ)$		4.1
			Image poor —	
8.6	12	$+407E$	Image poor —	* 7.5
8.2	13	$+221E$	Image poor —	–
4.0-6.5	13.5	$+406.02E+0.0075E^2+25\sin(5^\circ E+272^\circ)$		6.5

Continued from page ~~108~~ 120 120

Date	Design	Class	Ob. No.	Plate No.	Bright hydrogen	
Aug. 13, 1898	✓ S Sculptoris	Md^6 Mb	4283	B 10583	✓ { $H\gamma = 1.0$. $H\delta$ 4.0 $H\zeta = 0.5$, $H\eta = 0.2$;	0
" 13 "	✓ R Cassiopeia	Md^6 Mb	4472	I 16947	✓ $H\gamma = 1.0$; $H\delta = 5.0$	23
" ~~13~~ 15 "	✓ χ Cygni	Md^6 Mb	3194	I 9896	{ $H\beta = 0.5$ ✓ $H\gamma = 1.0$; $H\delta = 5.0$ $H\zeta = 1.0$ $H\eta = 0.5$; $H\theta = 0.4$, $H\iota = 0.3$ }	19
" 15 "	✓ R Aquarii	Md^6 Mb	9433	B 17331	✓ $H\gamma = 1.0$; $H\delta = 5.0$	23
" 15 "	✓ RV Sag	Md^6 Mb	9168	B 16725	✓ $H\gamma = 1.0$; $H\delta = 5.0$	18
" 15 "	✓ R Draconis	Md^6 Mb	7985	B 14364	✓ $H\gamma = 1.0$, $H\delta = 1.2$	21
" 16 "	✓ χ Cygni	Md^6 Mb	2025	I 4090	✓ $H\gamma = 1.0$; $H\delta = 7.0$	19
" 16 "	χ Cygni	Md^6 Mb	2014	I 4006	✓ $H\gamma = 1.0$; $H\delta = 7.0$	19
" 16 "		Md^6 Mb	2444	B 8223	$H\gamma = 1.0$, $H\delta = 4.0$	–
~~" 16 "~~		~~Md^6 Mb~~	transferred ~~to group~~ Md^8 ~~3038~~	~~X~~ ~~I 8067~~	~~$H\gamma = 1.0$; $H\delta = 1.0$~~	
" 16 "	✓ S Can Ven	Md^6 Mb	1375	I 6081	$H\gamma = 1.0$ $H\delta = 4.0$	–
" 16 "		Md^6 Mb			$H\gamma$ $H\delta$	

Max.	Min.	Period-	Remarks -	
6.5	10.0	$+183E$?		—
4.8-7.0	9.7-12	$+429.5E+25\sin(15^\circ E+0^\circ)$		6.5
4.0-6.5	13.5	$+406.02E+0.0075E^2+25\sin(5^\circ E+272^\circ)$	Enl-	6.5
5.8-8.5	11?	$+387.16E+35\sin(10^\circ E+235^\circ)$		4.3
8.2	12.3	$+316E$		—
8.4	<12.5	$+350E$?		—

(Val. not confirmed).

	Design.	Class		Ob. No.	Plate No.	Bright Hydrogen lines	
Aug. 13, 1898	✓ γ Cassiop.	Md^{10}	Mc	4474	I 16947	$H\gamma = 1.0$; $H\delta = 1.0$?	
" 13 "	✓ R Aquilae	Md^{10}	Mc	8308	B 14171	✓ $H\gamma = 1.0$; $H\delta = 10.0$	19
× * " 13 "	✓ R Hydrae	Md^{10}	Mc	6857	B 13149	✓ $H\gamma = 1.0$; $H\delta = 10.0$	13
× " 13 "	✓ R Leonis	Md^{10}	Mc	3193	B 9463	$H\gamma = 1.0$; $H\delta = 10.0$	9
" 13 "	✓ o Ceti	Md^{10}	Mc	1288	I 2474	✓ $H\gamma = 1.0$; $H\delta = 7.0$	2
" 13 "	✓ T Leporis	Md^{10}	Mc	6095	B 12370	✓ $H\gamma = 1.0$; $H\delta = 10.0$	5
" 13 "	W Hydrae	Md^{10}	Mc	8235	B 14151	$H\gamma = 1.0$; $H\delta = 10.0$	
~~" ~~13~~ 15 "~~	~~R Hydrae?~~	~~Md^{10}~~	~~Mc~~	trans. to Md 9 ~~1044~~	~~B 9634~~	~~$H\gamma = 1.0$; $H\delta = 5.0$ $H\epsilon = 0.5$~~ $H\eta = 0.2$	
" 15 "	✓ W Hydrae	Md^{10}	Mc.	2358	B 7990	✓ $H\gamma = 1.0$; $H\delta = 5.0$	13
" 15 "	✓ R Hydrae?	Md^{10}	Mc	262	I 853	✓ $H\gamma = 1.0$; $H\delta = 7.0$	13
" 15 "	✓ W Hydrae	Md^{10}	Mc	4566	B 11326	✓ $H\gamma = 1.0$; $H\delta = 9.0$	13
" 15 "	W Hydrae	Md^{10}	Mc	6895	B 13159	✓ $H\gamma = 1.0$; $H\delta = 8.0$	13?
" 15 "	✓ W Hydrae	Md^{10}	Mc	3093	I 8552	✓ $H\gamma = 1.0$; $H\delta = 10.0$	13
" 15 "	✓ S Coronae	Md^{10}	Mc	1734	I 3603	✓ $H\gamma = 1.0$; $H\delta = 9.0$	15
" ~~15~~ 16 "	✓ W Hydrae	Md^{10}	Mc	6907	B 13165	$H\gamma = 1.0$; $H\delta = 7.0$	-
" 16 "	✓ R Hydrae	Md^{10}	Mc	7034	B 13390	✓ $H\gamma = 1.0$; $H\delta = 5.0$	13
" 16 "	✓ R Leonis	Md^{10}	Mc	243	~~P~~ I 538	$H\gamma = 1.0$; $H\delta = 10.0$	9
" 16 "	✓ V Cancri	Md^{10}	Mc	1297	B 2497	$H\gamma = 1.0$; $H\delta = 7.0$	-
" 16 "	✓ W Hydrae	Md^{10}	Mc	6807	B 13132	$H\gamma = 1.0$; $H\delta$ 10.0	-
" 16 "	✓ S Coronae	Md^{10}	Mc	370	I 1021	$H\beta = 0.8$ $H\eta = 0.4$ ✓ $H\gamma = 1.0$; $H\delta = 7.0$	15
" 16 "		Md^{10}	Mc				

Max.	Min.	Period		Redness
			Image poor –	
5.9-7.4	10.9-11.5 ~~5.5~~			5.5
3.5-5.5	9.7			5.9
5.2-6.7	9.4-10.0			6.9
1.7-5.0	8-9.5			5.9
8.1	10.9			–
6.7	8.0	+384 E		8.2*
6.1-7.8	11.9-12.5	+360.8 E	Image por –	4.9

Continued from Page 118

	Design.–	Class–	Ob. No.–	Plate No.–	Bright Hydrogen Lines–		W
Aug. 15 1898	U Orionis	Md^9 Mc	1467	I 2988	$H\gamma = 1.0$; $H\delta = 7.0$	5	6.4-
" 15 "	R Hydrae	Md^9 Mc	434	I 1074	✓ $H\gamma = 1.0$; $H\delta = 6.0$	13	3.5-
" 15 "	R Hydrae	Md^9 Mc	361	I 1010	✓ $H\gamma = 1.0$; $H\delta = 7.0$	13	
" 15 "	S Can. Min	Md^9 Mc	3794	I 12144	✓ $H\gamma = 1.0$; $H\delta = 5.0$	7	7.2
" 15 "	T Cephei	Md^9 Mc	3698	I 11777	✓ $H\gamma = 1.0$; $H\delta = 5.0$	21	5.2
" 15 "	T Cephei?	Md^9 Mc	3717	I 11945	✓ $H\gamma = 1.0$; $H\delta = 5.0$	21	
" 15 "	o Ceti	Md^9 Mc	942	I 2181	✓ $H\gamma = 1.0$; $H\delta = 7.0$	2	1.7-
" 15 "	o Ceti	Md^9 Mc	941	I 2179	✓ $H\gamma = 1.0$; $H\delta = 7.0$	2	
" 15 "	S Coronae	Md^9 Mc	360	I 997	✓ $H\gamma = 1.0$; $H\delta = 5.0$	15	6.1-
" 15 "	R Ceti?	Md^9 Mc	2207	I 4756	$H\gamma = 1.0$; $H\delta = 5.0$	–	
" 15 "	T Cephei	Md^9 Mc	4225	I 13845	✓ $H\gamma = 1.0$; $H\delta = 7.0$	21	
" 15 "	S Urs. Min.	Md^9 Mc	4215	I 14456	$H\gamma = 1.0$; $H\delta = 6.0$	–	
" 15 "	o Ceti	Md^9 Mc	4137	I 14178	✓ $H\gamma = 1.0$; $H\delta = 5.0$	2	
" 15 "	S Virginis	Md^9 Mc	2913	B 9430	✓ {$H\gamma = 1.0$, $H\zeta = 0.5$; $H\delta = 7.0$	13	5.7
" 15 "	RR Scorpii	Md^9 Mc	3523	B 9765	✓ $H\gamma = 1.0$; $H\delta = 6.0$	16	6.8-
" 15 "	RU Sagitt	Md^9 Mc	2453	B 8232	✓ $H\gamma = 1.0$; $H\delta = 6.0$	19	8
" 15 "	R Aquarii	Md^9 Mc	8499	B 14623	✓ {$H\gamma = 1.0$; $H\delta = 8.0$ $H\zeta = 0.8$; $H\eta = 0.5$}	23	5.8
" 15 "	R Cassiop.	Md^9 Mc	1379	I 2543	✓ $H\gamma = 1.0$; $H\delta = 9.0$	23	4.8
" 15 "	o Ceti	Md^9 Mc	2254	B 8649	✓ $H\gamma = 1.0$; $H\delta = 5.0$	2	
" 15 "	R Aquilae	Md^9 Mc	1097	I 2319	✓ $H\gamma = 1.0$; $H\delta = 8.0$	19	5.9
" 15 "	W Hydrae	Md^9 Mc	3099	I 8602	✓ $H\gamma = 1.0$; $H\delta = 9.0$	13 21	6
" 15 "	RU Scorpii	Md^9 Mc	5778	B 12222	✓ $H\gamma = 1.0$; $H\delta = 9.0$	17	9
" 15 "	S Pictoris	Md^9 Mc	6342	B 12756	✓ $H\gamma = 1.0$; $H\delta = 8.0$	5	8
" 15 "	o Ceti	Md^9 Mc	268	B 2174	✓ $H\gamma = 1.0$; $H\delta = 7.0$	2	
" 15 "	o Ceti	Md^9 Mc	1670	B 7032	✓ $H\gamma = 1.0$; $H\delta = 7.0$	2	
" 15 "	R Horolog.	Md^9 Mc	2626	B 8860	✓ $H\gamma = 1.0$; $H\zeta = 1.0$; $H\delta = 7.0$	2	5.8
" 15 "	S Pictoris	Md^9 Mc	6207	B 12640	✓ $H\gamma = 1.0$; $H\delta = 8.0$	5	
" 15 "	U Orionis	Md^9 Mc	817	I 2720	✓ $H\gamma = 1.0$; $H\delta = 9.0$	5	
" 15 "	S Gruis	Md^9 Mc	7987.	B 14364	✓ $H\gamma = 1.0$; $H\delta = 9.0$	22	7

Continued on Page 130

Max.	Min.	Period	Remarks —	
6.4-7.5	<12	$+375E$		7
3.5-5.5	9.7	$+425.15E-0.36E^2+15\sin(7^\circ.5E+202^\circ)$		5.9
7.2-8.0	10.5-12.7	$+330.3E+20\sin(12^\circ E+30^\circ)$		4.1
5.2-6.8	8.6-10.7	$+387E$		6.3
1.7-5.0	8-9.5	$+331.6E$		5.9
6.1-7.8	11.9-12.5	$+360.8E$	Image poor —	4.9
			Image poor — near edge of plate —	
5.7-8.0	12.5	$+376.4E+20\sin(7^\circ.5E+180^\circ)$		2.6
6.8-7.7	9.3-10.0	$+282E$		—
8	<12.6	---		—
5.8-8.5	11?	$+387.16E+35\sin(10^\circ E+235^\circ)$		4.3
4.8-7.0	9.7-12	$+429.5E+25\sin(15^\circ E+0^\circ)$		6.5
5.9-7.4	10.9-11.5	$+350.6E-0.32E^2$		5.5
6.7	8.0	$+384E$	Image poor —	* 8.2
9.3	12.7	$+380E$?	Image poor —	—
8.6	<13.3	$+410E$?		—
				5.9
5.8-6.2	10.0	$+371E$?		—
7.2	12.3	$+400E$	Image poor —	—

Continued from page 128

	✓ Design.	Class	Ob. No.	Plate No.	Bright hydrogen lines			M
Aug. 16, 1898	V Can Min	Md^{9} Me	8882	B 15139	✓ $H\gamma = 1.0$	$H\delta = 5.0$	7	1
" 16 "	✓ S Can Min	Md^{9} Me	6390	B 12771	✓ $H\gamma = 1.0$	$H\delta = 6.0$	7	7.2
" 16 "	✓ X Hydra	Md^{9} Me	6917	B 13280	$H\gamma = 1.0$	$H\delta = 6.0$	—	
" 16 "	✓✓ X Ophiuchi	Md^{9} Me	3562	I 11311	✓ $H\gamma = 1.0$	$H\delta = 5.0$	18	6.8
" 16 "	R Cassiop.	Md^{9} Me	1500	I 3061	✓ $H\gamma = 1.0$	$H\delta = 7.0$	23	4.8
" 16 "	✓ R Cassiop.	Md^{9} Me	1220	I 2421	✓ $H\gamma = 1.0$	$H\delta = 5.0$	23	
" 16 "	✓ U Micros.	Md^{9} Me	9361	B 19063	$H\gamma = 1.0$	$H\delta = 4.0$		
" 16 "	✓ S Can Min	Md^{9} Me	3166	I 8261	✓ $H\gamma = 1.0$	$H\delta = 5.0$	7	
" 16 "		Md^{9} Me			$H\gamma = 1.0$	$H\delta =$		

Max.	Min.	Period	Remarks	
10.3	<13.7	$+364E$	Image poor —	—
7.2-8.0	10.5-127	$+330.3E+20\sin(12°E+30°)$	Image poor —	4.1
			Image poor —	
6.8-7.0	9.0	$+335E$		5
4.8-7.0	9.7-12	$+429.5E+25\sin(15°E+0°)$		6.5

September 30, 1898.

Meas. of br. of Planet DQ.
Comp. stars for T Aquarii used. Marked on I 21169.
Identified from Mr. O. C. Wendell's Chart of comp stars.

I 21238 too poor DQ n.s.

I 21144 too poor DQ n.s.

I 21145 too poor DQ n.s

I 21146 D.Q faint line of light ?

I 21147 too poor DQ n.s.

I 21148 too poor DQ n.s.

I 21149

w 4 DQ	12.81	+3
x n.s. DQ 0 x	12.79	+1
DQ 2 y	12.77	−1
DQ 3 z	12.73	−5
	12.78	

I 21151
image
DQ elongated

I 21152 too poor DQ n.s

I 21154 too poor DQ n.s.

I 21155 too poor DQ n.s

Meas of pl. of Planet DQ

I 21162

~~w 3 DQ~~ w 3 DQ 12.71 −4
~~x n.s.~~ x n.s. DQ 0 x 12.79 +4
~~y 3 DQ~~ DQ 3 y 12.67 −8
~~z 2 DQ~~ DQ 2 z image defective? 12.83 +8
12.75

I 21163 too poor DQ n.s

I 21164 too poor DQ n.s.

I 21168
w 4 DQ x 1 DQ 12.81 −4
12.89 +4
12.85
Clock running irregularly - Comparison difficult -

I 21153 Image elongated —.

I 21167
w 4 DQ 12.81 +1
x n.s. x 1 DQ 12.89 +9
DQ 2 y 12.77 −3
DQ 3 z 12.73 −7
12.80

I 21169
w 3 DQ 12.71 −7
x n.s. DQ 0 x 12.79 +1
DQ 2 y 12.77 −1
DQ 2 z 12.83 +5
12.78

I 2117~~7~~6
w 4 DQ 12.81 +6
x n.s. DQ 1 x 12.69 −6
DQ 2 y 12.77 +2
DQ 3 z 12.73 −2
12.75

September 30, 1898

Meas. of br. of Planet DQ

I 21193 pl. badly scratched in region of DQ

w 4 DQ — 12.81 +6
x n.s., DQ 1 x — 12.69 −6
DQ 2 y — 12.77 +2
DQ 3 z — 12.73 −2
12.75

I 21194 pl. badly scratched in region of DQ. Comparison difficult —

I 21201 too poor DQ n.s. —
w

I 21204
w 4 DQ x 1 DQ. — 12.81 +1, 12.79 −1
x y and z n.s. — ...
12.80

I 21205
w 3 DQ — 12.71 −1
x n.s. DQ 1 x — 12.69 −3
DQ 2 y — 12.77 +5
DQ 3 z — 12.73 +1
12.72

I 21220
w 2 DQ DQ 2 x — 12.61 +2
x y and z n.s — 12.6[illegible]
w near edge of plate —

I 21219
w 2 DQ — 12.61 −4
x n.s. — DQ 1 x — 12.69 +4
DQ 3 y — 12.67 +2
DQ 4 z — 12.63 −2
12.65

Meas. of br. of Planet DQ

I 21228

W3DQ		12.71	+3
x n.s.	DQ 2y	12.59	−9
DQ 3y		12.67	−1
DQ 3z		12.73	+5
		12.68	

X

C 11376
DQ n.s

C 11337
DQ n.s. ?

C 11378
Comparison Stars not on plate – Good image.

C 11379
Comparison Stars not on plate
DQ very ft. trail –

C 11380
Comparison Stars not on plate
DQ bright trail —

November 4, 1898.

Examination of plates of supposed regions of Witt's planet DQ. For ephemeris see letter of S C Chandler November 3, 1898.

√ Plate I 10565, January 25, 1894 Ex. 12 m. R.A. $8^h 28^m$ to $9^h 5^m$, Dec. 13°.7 to 22°.8
An image at $8^h 36^m.6$ +18° 4′ (approx. 1855) magn. 8(?) Njsa. (44).

√ * Plate I 10476 January 19, 1894. Ex. 15 m. R.A. $8^h 20^m$ to $9^h 4^m$ Dec. 23°.5 to 32°.6
Ex. in R.A. 8 40 to 8 50 . in all dec. Faint object ~~at~~ in
RA $8^h 47^m$ Dec. +29 15′ (1855). Probably defect.

√ + Plate I 10380 January 2, 1894 Ex. 19m. R.A. $8^h 24^m$ to $9^h 8^m$ Dec. 32°.7 to 41°.8
Ex. in R.A. $8^h 50^m$ to $9^h 6^m$ in all dec. DQ not found.

√ Plate I 10379 January 2, 189~~8~~4 Ex. 16 m R.A. $8^h 20^m$ to $9^h 10^m$ Dec. 42°.5 to 51°.6
Exam in R.A. $8^h 52^m$ to $9^h 8^m$ in Dec. 42°.5 to 46°.5. DQ not found.

√ Plate I 10283 December 23, 189~~8~~3. Ex. ~~10283~~ 10^m. R.A. $9^h 0^m$ to $9^h 49^m$ Dec. 38°.6 to 47°.7
Object at $9^h 1^m.8$ +46° 14′ (approx 1855). Defect in film.

x Plate I 10606 January 30, 189~~8~~4. Ex 62m. R.A. $8^h 30^m$ to $8^h 40^m$ Dec. +12° to 16° ex. DQ not found.

x Plate A 194, January 25, 1898. Planet DQ found independently. Njsa (44)

November, 7, 1898

Exam. of plates of supposed region of DQ.

x Plate I 10~~380~~ 10283 superposed on I 8248 $9^h\,6^m + 43^{\circ}.4$ and I 17771 $9^h\,30^m + 42^{\circ}.1$ and examined. No trace of DQ found. The plate is poor and badly fogged but shows stars fainter than the 8th magn. $+45^{\circ}\,1683$ $8^h\,59^m.3$ $+45^{\circ}\,59'$ 8.5 and $+46^{\circ}\,1474$ $8^h\,59^m.9$ $+46^{\circ}\,2'$ 9.0 are well shown on edge of plate.

x Plate B16165 June 5, 1896 Ex 11 m superposed on B 9696 shows an object about the 11th magnitude on B16165 in RA $18^h\,27^m.2$ Dec $-38^{\circ}\,2'$ (1875). This object was found by E. C. Pickering and has been assumed to be Aegle (96).

November 8, 1898

Exam. of plates covering Chandler's Ephemeris of Planet DQ.

Plate B ~~16165~~ 15531 taken April 6, 1896 DQ $18^h 36.0^m$ $-38°24'$ ~~$-39°$~~
Region in R.A. $18^h 24^m$ to $18^h 44^m$ Dec. 37° to 40° examined DQ not found. All CDM stars well shown and also stars about three magnitudes fainter. Plate compared with I 19086

Plate I 10380 January 2, 1894 DQ $8^h 59^m$ $+39°$
Region in R.A. $8^h 50^m$ to to $9^h 9^m$ in Dec. 37° to 40.5 examined. DQ not found. +38° 2002 9.5, +38° 2008 9.3, +39° 2205 9.1, 2206 9.1, 2207 9.5, 2208 9.5 2209 9.3 2210 8.8, and 2211 9.4 are all seen on plate.
Compared with I 14879.

Plate I 10565 January 25, 1894 DQ $8^h 36^m$ $+14.5$
Region $8^h 31^m$ to $8^h 46^m$ Dec. 13.7 to 16.0 examined. DQ not found. +14° 1965 9.5, 1966 9.3, 1968, 9.5, 1969, 9.4; 1970, 9.2; 1972 9.5, and stars one magnitude fainter than DM are seen on plate. Plate superposed on I 17766.

Plate B 16165 taken June 5, 1896 DQ $18^h 28.3^m$ $-39°52'$
Object at $18^h 27.8^m$ $-39°58'$ (1875) about 14th magnitude gives no image on B 20478, the plate used for comparison. Region examined $18^h 20^m$ to $18^h 36^m$ Dec. −38.5° to −41.5°

November 11, 1898.

Exam. of plates covering Chandlers ephemeris of Planet DQ (433).

✓ Plate I 10621 Sp. Feb. 1, 1894 RA $9^h 44^m$ to $10^h 20^m$ Dec. 4°.0 to −5°.1 compared with I 18041 and I 17749 shows no object which is not common to two plates. −3° 2853 9.0 and −4° 2807 8.8 are well shown.

✓ Plate I 10432 Sp. Jan. 16, 1894. RA. $8^h 59^m$, to to $9^h 36^m$ Dec. 15°.8 to +25°.0 compared with I 5747, I 14872, and I 15124. shows no object which is not common to two plates. Faint DM stars seen.

✓ Plate I 10397 Sp. Jan 7, 1894. RA. $9^h 56^m$ to $10^h 34^m$ Dec. 22°.0 to 31°.5 compared with I 10772, I 12479 I 419 and I 6160 shows no object which is not common to two plates. Faint DM Stars seen

✓ Plate B 10784 Sp. Feb. 27, 1894 RA $9^h 20^m$ $\overset{1900}{\text{to}}$ $10^h 2^m$ Dec. −19°.9 $\overset{(1900)}{\text{to}}$ −30°.0 compared with B 15796, B 13557, B 18227 and B 4811 shows no object which is not common to two plates. Faint stars seen.

✓ Plate I 10422 Sp. ~~10422~~ Jan. 12, 1894 RA. 9^h ~~53~~ 15^m to ~~10~~ 9^h ~~36~~ 58^m Dec. +32°.1 to +41°.5 compared with I 20635, I 3515, and I 83$\overset{3}{\cancel{4}}$7 shows no object which is not common to two plates. Faint stars seen. Ghost or defect on this plate? Probably due to image of α Leonis twice reflected on inner surfaces of prism

November 11, 1898

Exam. for DQ.

Plate I 10408 ~~B~~ Jan. 8, 1894 RA $9^h\ 57^m$ to $10^h\ 36^m$ Dec $+32°.5$ to $+41°.0$ compared with I 1125, I 17773, and I 8358, I 6177 shows no object which is not common to two plates. Ghost or defect on this plate

Probably due to image of α Leonis twice reflected on inner surfaces of prism

November 12, 1898

Exam. for D2.

✓ I 10483 Jan. 19, 1894. R.A. $10^h 28^m$ to $11^h 3^m$ Dec. +8°.7 to +17°.7 compared with I 14885, I 1190, and I 10899 shows no object which is not common to two plates.

✓ I 10038 Nov. 24, 1893. R.A. $9^h 3^m$ to $9^h 49^m$ Dec. 38°.7 to 47°.7 Compared with I 12103 shows no object which is not common to both plates.

✓ I 10180 ~~R~~ Dec. 13, 1893 R.A. $9^h 58^m$ to $10^h 40^m$ Dec. 31°.0 to to 40°.0 compared with I 17421, I 8357, I 5970 and I 8265 shows no object which is not common to two plates. Ghost(?) of bright object. $10^h 12^m$ +35° 8′ Probably due to image of α Leonis twice reflected on inner surfaces of prism.

✓ I 10356 Sp. Jan. 1, 1894 R.A. $10^h 19^m$ to $10^h 57^m$ Dec. +6.0 to +15.1 compared with I 1190 shows no object which is not common to both plates. ~~Ghost or defect on this plate~~

November 14, 1898.

Exam. of Plates for D2.

Plate B10783) S. Feb. 27, 1894 (1900) R.A. 8 44 to 9 26
Dec. -20.2 to -30.0, compared with B 18603
15237, and 20935 ~~and~~ shows no object which is
not common to ~~two~~ plates.

November 16, 1898.

Exam. of Plates for D2.

✓ Plate I 10,480 taken Jan. 19, 1894 R.A. $10^h 9^m$ to $10^h 44^m$ Dec. $+2^\circ.8$ to $-6^\circ.3$ compared with I 5966 shows no object ~~com~~ not common to both plates

S.T. $11^h 12^m$ Eff. 10^m

✓ Plate B 10978 April 20, 1894 R.A. $10^h 12^m$ to $10^h 52^m$ (1900) Dec $-12^\circ.5$ to $-22^\circ.8$ compared with B 18176, B 13640, and B 13559 shows no object not common to two plates.

November 17, 1898.

Exam. of Plates for D.Q.

S.T. $10^h 55^m$ Eff. 10^m

✓ Plate B 10875 taken April 11, 1894 R.A. $9^h 12^m$ to $9^h 53^m$ Dec. -17° (1855) to $-27^\circ.3$ (1900) compared with B 9189, ~~B~~ and shows no bright object which is not common to both plates. Stars seen to magn 10., stars of magn 9 well shown.

S.T. $12^h 06^m$ Eff. 10^m

✓ Plate B 10927 April 17, 1894 R.A. $9^h 32^m$ to $10^h 15^m$ Dec. $-22^\circ.3$ to $-32^\circ.3$ compared with B 9221 and B 18423 shows no bright object which is not common to two plates. Stars of magn 9 well shown. Stars of magn 10 seen.

November 22, 1898.

Examination of Plates for Meteors.
Plates taken November 14, 1898.

E 4576	Defect ?
E 4577	0
E 4578	1, 2
E 4579	0
E 4580	0
E 4581	0
E 4582	0
E 4584	0
E 4585	0
E 4586	0
E 4587	0
E 4588	3
E 4589	0

Nov. 22, 1898.

Examination of Plates for Meteors.

E 4590 0

E 4591 0

E 4592 0

E 4593 0

E 4595 0

E 4594 & 4596 4, 5.

E 4597 0

E 4598 0

E 4599 0

E 4600 0

E 4601 6, 7.

E 4602 ~~?~~ Defect?

E 4603 0

E 4604 0

E 4605 0

Nov. 22, 1898.

Examination of Plates for Meteors

E4606	0
E4607	0
E4608	Defects
E4609	0
E4610	8
E4611	9, 10
E4612	0
E4613	0
E4614	0
E4615	0
E4616	0
E4617	11
E4618	12
E4619	0
E4620	Defect

Nov. 22, 1898.

Examination of Plates for Meteors

E 4621	0
E 4622	0
E 4623	13, 14, 15
E 4624	16
E 4625	17
E 4626	0
E 4627	0
E 4628	0
E 4629	0
E 4630	18
E 4631	0
E 4632	19
E 4633	0
E 4634	0
E 4635	0

1895phae.proj...807E

ℰ 4636	0
ℰ 4637	20, 21
ℰ 4638	22, 23
ℰ 4639	~~Defect?~~ 31
ℰ 4640	0
ℰ 4641	0
ℰ 4642	0
ℰ 4643	24
ℰ 4644	0
ℰ 4645	0
ℰ 4646	25
ℰ 4647	26
ℰ 4648	0
ℰ 4650	27
ℰ 4651	0

Nov. 22, 1898

Examination of Plates for Meteors.

E 4652	0
E 4653	0
E 4654	0
E 4655	0
E 4656	28
E 4657	0
E 4658	29
E 4659	0
E 4660	0
E 4661	30
E 4662	0
E 4663	0
E 4664	0
E 4665	0

November 22, 1898.

E 4572 0

E 4573 0

E 4574

C 4571 0

C ? 0 (broken).

C 11565 (Sp) 0

C 11566 0

C 11567 0

C 11568 0

C 11569 0

C 11570 0

C 11571 0

C 11572 0

C 11573 0

I C 21695 0

November 22, 1898.

I 21696 0

I 21697 0

I 21698 0

I 21699 0

I 21700 0

I 21701 0

I 21702 0

I 21703 0

I 21704 0

I 21705 0

I 21706 0

November 22, 1898

Plates taken by W. H. Danforth, Plymouth, Mass.

Plate 4, 0

Plate 1, 0

Plate 8, 0

Plate 3, 0

Plate 2 Defect?

Plate 6 0

Plate 5 32

Plate 7 33

March 3, 1899.

Plates taken by Wm S. Whitney. Lawrence, Mass

Plate 1 0
Plate 2 34
Plate 5 0
Plate 6 0
Plate 3 0
Plate 7 0
Plate 4 0

December 8, 1898.

Exam. of Plates for star of Type IV announced by Espin Nov. 29, 1898. Wolsingham Observatory Circular No. 48.
R.A. $4^h 19^m 49^s$ Dec. +39°32′ 8.4 (Oppenf. 1855).

Plate	Date	Ex.	Mag. ft. Stars	
I 21766	Nov. 23, 1898	25^m	12 (?)	~~very ft. star near pos.~~ very ft.
I 5295	Dec. 30 1891	10	10 ~~12 ?~~	~~" " " " "~~
I 19139	Oct. 2, 1897	15	10	
I 2313 Hp.	Nov. 20, 1890	66	9	
I 14804	April 3, 1896	12	10	
× I 7959	Jan. 25 1893	15	10	
I 17144	Jan. 19 1897	11	10	
I 17179	Jan. 21, 1897	11	10	
I 5408	Jan. 16, 1892	10	11 ?	
I 12049	Dec. 6, 1894	11	11	
I 2565	Dec. 22 1890	12	10	
I 5251	Dec. 18, 1891	10	10	
I 2536 Hp.	Dec. 19 1890	73	9	
I 19304	Oct. 17, 1897	17	12 ?	very ft. star near pos.
I 21787	Nov. 25 1898	19	12	n.s.
I 19765	Dec. 16 1897	15	11	very ft.
I 7947	Jan. 22 1893	17	11	very ft.

Plates I 21766, 19304, 19765 and 7947 show a faint star which gives evidence of variation on these plates, while I 21787 shows equally faint stars and this object is not visible.

I 21853, 22128, & 22235, confirm variability.

December 10, 1898.

Exam. of plates for D2 (from Chandler's new Ephemeris).

Plate I 10375 Jan. 2 1894 RA $7^{h}42^{m}$ to $8^{h}30^{m}$ Dec. 37°.5 to 46.5 compared with I 14831 and fails to show any bright image which is not common to both plates. Stars magn 11 (?) seen

Plate I 10220 Dec. 19, 1893. R.A. $7^{h}40^{m}$ to $8^{h}32^{m}$ Dec. 43°.6 to 52°.6 compared I 17699 I 11910 and I 8088 fails to show any bright image which is not common to two plates. An object of about the magn. 9.0 is found in R.A. $8^{h}30^{m}.6$ +50°38′ (approx. 1855) var.

Plate I 1009~~6~~5 Nov. 26, 1893 RA $7^{h}19^{m}$ to $8^{h}18^{m}$ Dec +52°.2 ~~to~~ +61°.2 compared with I 16597 fails to show any bright image which is not common to both plates. Stars 10.5 (?) magn. seen

Plate I 10684 Feb. 16, 1894 R.A. $7^{h}29^{m}$ to to $8^{h}5^{m}$ Dec. −6°.3 to +2°.9 compared with I 21631, I 17493, and 17683 fails to show any bright image which is not common to two plates.

December 10, 1898.

Exam. of plates for +29°551.

I 9505	stars of magn	10	Sept. 18, 1893.
I 3282	" " "	10.5	Mar. 14, 1891.
I 14277	" " "	11	Jan. 3, 1896
I 20149	" " "	10	Feb. 4, 1898.
I 7737	" " "	10	Dec. 24, 1893.
I 17315	" " "	9.5	Feb. 13, 1897.
I 4854	" " "	10	Nov. 25, 1891.
I 2626	" " "	10	Dec. 28, 1890
I 16985	" " "	10	Jan. 6, 1897
I 7725	" " "	11	Dec. 23, 1892.

The above plates fail to show any trace of +29°551 although other faint BD stars are well seen.

December 14, 1898.

Exam. of Plates for Planet 433 (DQ), Cont.

Plate B 16108, June 4, 1896, GMT $16^h 24^m$. R.A. $18^h 24^m$ to $19^{\circ} 11'$ Dec. $-32^{\circ}.5$ to $-42^{\circ}.5$ compared with B 11329, and. Object of magn. about 8.5 at $18^h 38^m.7$ $-38^{\circ} 52'$ (approx 1900) ~~may be a~~ new var. br. on 16108 and 16165; fnt on 11329 & 3834.

Plates examined and variability confirmed Dec. 14. 1898.

E. C. Pickering

1895phae.proj..80?E

December 16, 1898

Plate I 14831, April 8, 1896.
Image of + 45° 1510 9.3 Ra $7^h 46^m 36^s.7$ Dec + 45° 0'.1 (1855) on edge of plate and about 2" north of pos. on BD chart and catalogue (Proper Motion (?)). E.C. Pickering Dec. 16, 1898

Plates I 8205 March 12, 1893, I 10375 Jan 2, 1894, and I 17413 Feb. 24 1897 agree with BD position and shows no evidence of change on either of these dates.

Mr. King enlarge I 14831 superposed on I 17413

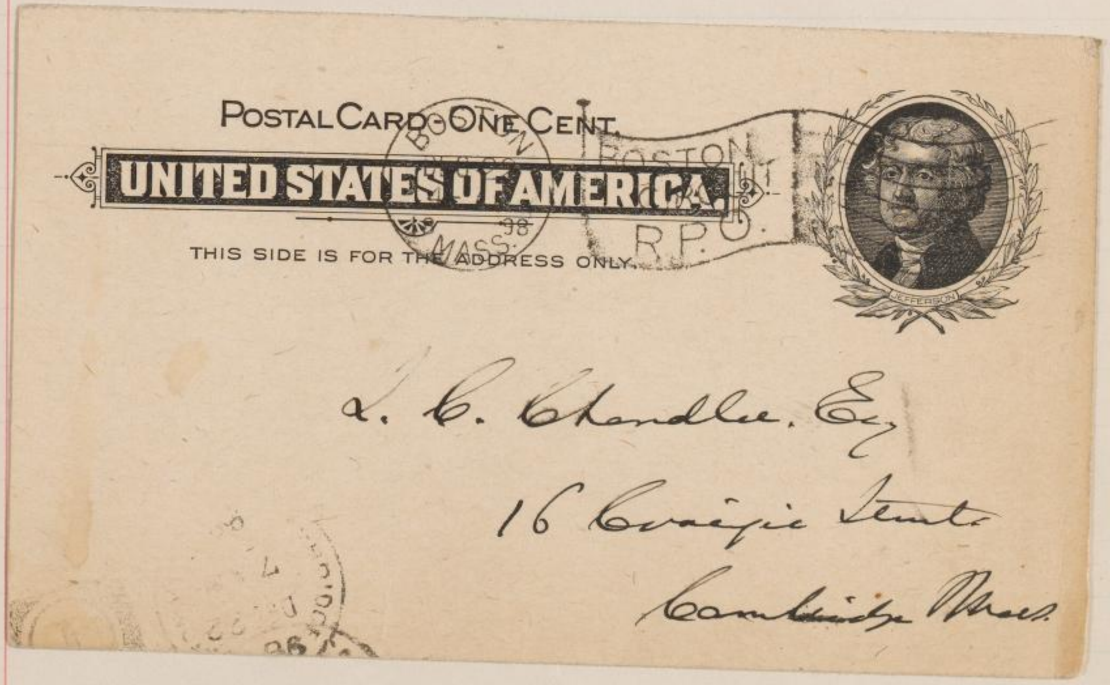
December 16, 1898.

Exam. of plates in comp. region of Planet 433

I 10375 Jan. 2, 1894 Superposed on I 8205 Mar 12, 1893.
Region ~~at~~ surrounding $7^h 44^m + 45^\circ.5$ (1855) examined and
fails to show an image of Planet 433.

I 10095 November, 26, 1893, superposed on I 16597, Nov. 22, 1896,
Region surrounding 7 56 +54 35 examined and
fails to show an image of Planet 433

I 10375 examined also at $8^h 26^m + 43^\circ$ fails to
show any object ~~near~~ this region which was
selected assuming object on I 10220 = Planet 433.



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BOSTON MASS. 98

BOSTON R.P.O.

S. C. Chandler. Esq

16 Craigie Street

Cambridge Mass.

December 16, 1898.

Exam. of plates in comp. region of Planet 433

I 10375 Jan. 2, 1894 Superposed on I 8205 Mar 12, 1893.
Region ~~at~~ surrounding $7^h\ 44^m + 45^\circ.5$ (1855) examined and fails to show an image of Planet 433.

I 10095 November, 26, 1893, superposed on I 16597, Nov. 22, 1896
Region surrounding 7 56 +54 35 examined and fails to show an image of Planet 433

I 10375 examined also at $8^h\ 26^m + 43^\circ$ fails to show any object near this region which was selected assuming object on I 10220 = Planet 433.

Observatory, Cambridge, Mass.
Dec. 21. 1898

Dear Sir,
It is almost certain that we have one or more plates covering the region of 433 (DQ) April 18, and May 22. 1894, thus filling an important gap. Can you readily give places? We can wait for your orbit, if you prefer. By extrapolation I find very roughly, computed place 1855 for April 18, $9^h\ 10^m\ -11^\circ.2$ May 22, $10^h\ 50^m\ -6^\circ$

Yours truly
E. C. Pickering

December 16, 1898.

Exam. of plates in comp. region of Planet 433

I 10375 Jan. 2, 1894 Superposed on I 8205 Mar 12, 1893.
Region ~~at~~ surrounding $7^h\ 44^m + 45^\circ.5$ (1855) examined and
fails to show an image of Planet 433.

I 10095 November, 26, 1893, superposed on I 16597, Nov. 22, 1896,
Region surrounding 7 56 + 54 35 examined and
fails to show an image of Planet 433

I 10375 examined also at $8^h\ 26^m + 43^\circ$ fails to
show any object ~~near~~ this region which was
selected assuming object on I 10220 = Planet 433.

December 19, 1898.

Exam. of plates for Planet 433 (DQ).

I 10125 Dec. 4, 1893. R.A. to
Dec. + to + pos. of 433 off ~~plate~~ fol. and
N. corner of plate. Region in corner of this plate examined
and fails to show 433.

Plate I 10353 Jan 1, 1894. Shows spectrum of
Planet 433 (DQ) about magn. 7. R.A. 7 40.0 Dec. +47° 35′ 1855

Plate I 10321 Dec. 27, 1893. Image of Planet 433
RA 7 43.4 * Dec. +50° 54′

Plate I 10215 Dec. 19, 1893 Compared with I 3115.
shows an image of Planet 433 (DQ) RA —

December 20, 1898

Exam. of plates for Planet 433 DQ:

A 246 Feb. 16, 1894 DQ = R.A. $7^{h}\,28.^{m}8 \; -0^{\circ}\,18'$
Shows motion in declination. Magn 9(?)

December 22, 1898.

Planet 433 (DQ)

B10951 April 18, 1894 G.T. $11^h 32^m$. Planet 433 #1
R.A. = $9^h 20^m.7$ $-13° 40'$ (1855 approx). Plate compared
with B. Magn 10(?)

December 23 1898

Planet 433 (DQ)

11 B ± Plate B 10909 corresponds to B 10951 and 433 found by E.C.P.
at $9^h 16^m.1$ −13°32′ est. E.C.P.
9 16.1 −13 28 " W.P.F.
9 16.0 −13 36 Computed
9h and 10h −13° 28 36 10 charts
9^h ~~16 15~~ $15^m 59^s$ −13° 30′ = Est. place. (1855)

11 30 ± Plate B 11194 corresponds to B 18202 and [illegible] correspondent
at $10^h 38^m.3$ −14° 54′ by E.C.P. and W.P.F. (Certainly W.F.

Dec 26. 1898.

~~Range~~ Plates marked as containing (433)

			~~Date~~		Center						
C37	√I	10095?'	93 11,26	7.8	+56.5	~~7 30~~ 7 28	~~+56.7~~ 57.7	-.3	+1.2	~~Same~~ Region included in 16597	
C37	√	10280	12 23	8.1	53.0	7 47	+53.0	-.3	0.0	n171	
–	√	10406	94 1 8	7.6	37.0	7 37	+41.5	0	+4.5	Spectra poor	Cor.
C37 two faint		10407	" "	7.6	37.0	"	"	0	+4.5	" ?	Cor.
C37	√	10559	" 25	7.4	18.5	7 25	+21.5	0	+3.0	433 lengthening. Dec 27. 16 16 53	
C37		10604	" 30	7.4	11.5	~~7 24~~ 7 22	~~+15.4~~ 15.8	0	+3.9		
	–	10683	2 16	7.1	-1.8	7 31	-0.3	+4	+1.5		
	≠ –	10684	" "	7.8	-1.4	"	"	-.5	+1.1	433 near plate	
C37		10469	1 19	7.5	+32.5	7 28	29.0	0	-3.5		[illegible]
	~~B~~	~~10909~~									
		~~10951~~									

√A	222	94,2,5	7.5	+1.5	7 24	+9.5	Bright long 60 m
–	I 10220	93 12,18	8.1	48.5	7 47	55.1	433 North of plate
–	I 10125	93 12,4	6.7	53.5	7 32	57.6	433 full blue
–	I 10096	93 11 26	8.2	56.9	7 16	57.8	433 near plate

Plates I 10029, 10217, 10651, 10728, 10847, 10903, 10140, 10354, 10141, 10372, 10328, 10033 and 10377.

Plates on which 433 is [illegible] found

I 10215
10321
10353
A 246
B 10909
B 10951
11174

15531
16108
16157
16165

1895phae.proj..897E

Dec 26 1898.

Rough measures of B11174.

	x	y		Δx	Δy	s		'		Com
433	10.6	10.2	106^{102}	~~10.2~~						
3	6.1	13.9	6.1	-4.5	+3.7	$\overset{27}{-54.0}$	+11.1	-51.3	+11.0	3
2	5.9	21.4	5.9	-4.7	+11.2	$\overset{-28}{-55.2}$	+33.6	-52.4	+33.2	2
1	2.2	19.0	2.2	-8.4	+8.8	$\overset{50}{-100.8}$	+26.4	-95.8	+26.1	1
7	11.6	1.2		+1.0	-9.0	$\overset{06}{+12.0}$	-27.0	+11.4	-26.7	4
	17.4	8.6		+6.8	-1.6	$\overset{41}{+81.6}$	-4.8	+77.5	-4.7	
	19.2	7.1		+8.6	-3.1	$\overset{52}{+103.2}$	-9.3	+98.0	-9.2	
	19.2	7.7		+8.6	-2.5	$\overset{52}{+103.2}$	-7.5	+98.0	-9.4	

1	-14°	3167	10^h	36	$\overset{43.4}{15.7}$ 35.1 ~~55.4~~	$-14\ \overset{051}{32.5}$	9.2		37 $\overset{51.7}{\text{~~72~~}}$	14 $\overset{58.6}{\text{~~43.5~~}}$	+3
2		3170		37	0.7 52.4 57.8	25.4	8.8		37 53.1	58.6	+3
3		3171		37	3.4 51.3 55.4	47.3	9.0		37 54.7	58.3	0
4	-15	3021.		38	13.8 11.4 12.3	-15 25.4	9.1	A	38 02.4	58.7	+4
5		3024		39,	25.6 17.5 23.6	-15 25	9.1	-	38 08.1	57.8	-5
6		3027		39,	48.8 38.0 46.8	5.2 7.4	10	-	38 10.8	57.9	-5
7		30 28		39,	45.7 38.0 45.4	7.4 9.4	9.3	-	38 10.7	~~58.1~~ 55.2	-1

$-14^\circ\ \overset{20}{58.3}$ (1855)

3	13.0	6.5	
6			

$$\begin{array}{r} 13.0 \\ 12 \\ \hline 156.0 \\ 7.8 \\ \hline 148.2 \\ 2\ 28.2 \end{array} \qquad \begin{array}{r} 39\ \ 48.7 \\ 37\ \ \ \ 3.4 \\ \hline 2\ \ 45.3 \end{array}$$

~~58.3~~

$$\begin{array}{r|l} 1200 & 966 \\ 966 & 12.42 \\ \hline 2340 & 14 \\ 1932 & \overline{12.3} \\ \hline 4080 & \\ 3864 & \\ \hline 2160. & \end{array}$$

10 38 1.3
37 58.5
37 58.8
38 1.6
38 2.0
38 3.0
38 2.9

Resulting Position

		h	m	s				
−14	3167	10	38	1.3	+1	−14°	58.6	+3
	3170		37	58.5	−27		58.6	+3
	3171		37	58.8	−24		58.3	0
	3021		38	1.6	+4		58.7	+4
	3024		38	2.0	+8		57.8	−5
	3027		38	3.0	+18		57.8	−5
	3028		38	2.9	+17		58.2	−1
				41	~~48~~ −57		20	10−11

20/60
1200/7
17.

a.d.

(1855) 10h 38m 1.2s ±1.4 −14° 58.3′ ±0.3′

59 −14 58′ 17″
6 1.6

10 39~~6~~ 0 ± −15 ~~4~~ 33

♃	10	38	1.2	−14	58	17
C	10	36	58.3	−14	54.7	
		−1	2.9		−3.6′	

∴ This object is [illegible]

Dec 26 1898.

B 10951

		x	y						Δx	Δy			
-13°	2852	0.9	4.7	9	19	43.8	-13	38.7	-5.5	-1.4	-67.6	-4.2	4.2
	2855	1.15	0.2			47.8		51.5	-5.2	-5.9	-64.0	-17.7	-17.5
	2857	3.4	3.2		20	13.7		42.7	-3.0	-2.9	-36.9	-8.7	8.6
	2858	3.8	11.9			15.7		16.6	-2.6	+5.8	-32.0	+17.4	+17.2
	2859	4.4	10.1			24.4		20.9	-2.0	+4.0	-24.6	+12.0	11.9
(433)		6.4	6.1			.		~~49.5~~	0				
	2861	7.0	0.7			59.3		49.5	+0.6	-5.4	+7.4	-16.2	160 ~~15.7~~
	2862	8.8	0.0		21	8.8		51.4	+2.4	-6.1	+29.5	-18.3	18.0
(433)		6.4	6.1										

4 00

B 10709

								Δx	Δy			
1 -13° 2829	0.4	10.4	9	14	27.5	-13	14.9	-7.7	+4.9	-94.7	+14.7	+14.5
2 2832	3.3	3.8		15	3.9		34.3	-4.8	-1.7	-59.0	-5.1	-5.0
3 2835	7.8	11.1		15	58.5		12.4	-0.3	+5.6	-3.7 ~~+68.9~~	+16.8	+16.6
433	8.1 ✓	5.5		~~16~~	~~8.6~~							
4 2836	8.6	2.5		16	8.6 ~~17.8~~		38.5	+0.5	-3.0	+6.2	-9.0	-8.9
5 2837	9.2	0.5		16	17.2		44.3	+1.1	-5.0	+13.5	-15.0	-14.8
6 2838	12.7	11.0		16	59.9		12.8	+4.6	+5.5	+56.6	+16.5	+16.3
7 2839	13.6	7.7		17	11.5		22.4	+5.5	+2.2	+67.6	+6.6	+6.5

12 | 97
97
230
194
360
291
690

12.37
14
12.23

$9^h\ 20^m\ 51^s.4$ 13° 34′.5 34.5 34′.5 +16
51.8 33.8 34.0 34.0 +1
50.6 34.0 34.0 34.1 +2
47.7 34.0 33.7 33.8 −1
49.0 33.9 33.9 33.8 −1

51.9 33.3 33.6 33.5 −4
51.6
[39.3] 33.1 33.4 33.3 −6
40 33.9 60 49 −12 21 $\frac{1260/7}{18}$ $\frac{3600/7}{51}$

$9^h\ 20^m\ 50^s.3$ −13° 35′ 51″ ± 18″ (1855)
57.2 5 10
9 21 47.5 −13 39 1 (1875)

16 ~~2.7~~ 2.2 −7 −13° 29′.4 +1
2.9 0 29.3 0
2.2 −7 29.0 −3

2.4 −5 29.6 +2
3.7 +8 29.5 +2
3.3 +4 29.1 −2
3.9 +10 28.9 −4
66 22 −19 $\frac{14}{3}$ 29.3 6 −9 $\frac{900/7}{13}$ $\frac{\frac{18}{60}}{1080/7}$ 154

$9^h\ 16^m\ 2^s.9 \pm 0^s.6$ −13° 29′ 15″ ± 13″ (1855)
57.2 5 0
9 17 0.1 −13 34 15 (1875)

Dec 27. 1898

I 6559. 433. very bright elongated centered
on another star. $7^{h}22^{m}.4$ $+21^{\circ}17'$ (1855) = ♊
Compared with 20,434

Dec 28 1898.

9 25. A 222. Well marked image of DQ433. 2.2 mm long.
at 7 22.1 +8° 48′ (1855)

9 55 I 10280 Image 7 44.1 53°.2 (1855) elong n and s.

~~9~~ 1 55 I 10095 Image at 7h 16.0 +57°51′ (1855)
I 3116 comes again
I 11174 B 18202 comes again

3 21 I 10684 ~~Image faint, close to edge of plate.~~ Image beyond prec. edge of plate

~~I 10215. 1893.~~

10095 1894 11 26 7h 16.0m +57° 51′ (1855)

v	Plate.	Date. y.	m	d.	C.	Ra 1855	De 1855		Meas. Bk6 page	
-49	I 10095	1893.	11	26		7 16.0	+57 51	m		✓
-30	I 10215	1893	12	19	(36)				34 28	✓
	I 10280	1893	12	23		7 44.1	+53	m		✓ 3
-23	I 10321	1893	12	27	(36)				32.36	✓
-19	I 10353	1894	1	1	(36)				33	Sp
	I 10406	1894	1	8						Sp Edge
	I 10407	1894	1	8						Sp n3
	I 10469	1894	1	19		7 25.2	+28 44	m		
	I 10559	1894	1	25		7 22.4	+21 17			✓ 4
	I 10604	1894	1	30						Sp n5
	A 222	1894	2	4		7 22.1	+8 48			✓ 3
+22	A 246	1894	2	16	(36)				40,42	✓ 3
+69	B 10909	1894	4	16	(36)					
+71	B 10951	1894	4	18	(36)					
	B 11174	1894	5	19						
	11223	1894	5	26						Sp.
+115	B 15531	1896	4	6	36				28,31	✓ 3
+142	B 16108	1896	6	4	36				29	2
"	B 16157	1896	6	5	36				26	1
"	B 16165	1896	6	5	36				19,27	✓ 4

5 ch 1 effect in circle 36

5 ch " later.

1

1895phae.proj..807E

✓

Elong.

Edge-
Curious neg. Sp. plate.
~~N. Edge~~ too fr. "

~~Beautiful~~ elongated
~~Curve~~ not taken
Br. Elongated ? ?

Very delicate 1'
Much too faint.

Dec 28. 1898.

Bruce plates 1896

A 1876	June 30 1896	17h 30m	−37° 58′	17h 36.5m	−36° 13′		Tail Scorpii
	July 11	17 50	−37.5	17 20.5	−33.6	×	
	Aug 11	16 50	−37 5	17 13	−27.6	×	

Bache plates.

	April						
C36 15531	Apr 6	18.8	−37.5	✓			
C36 16104	June 4	18.8	−37.6	✓			
C36 16157	" 5	18.1	−42.6	✓			
C36 16165	" "	18.4	−37.5	✓			
16230	" 10	18.8	−37.6	×	18 16	39.5	
16287	" 12	18.8	−42.6	×	18 12	39.5	
16448	" 19	17.5	−37.5	?	17 58	38.4	
16451	" "	17.5	−43.5	×			
16496	" 27	18.2	−32.5	?	17 40	37.0	
16498	" "	17.2	−32.6	?	"	"	
16497	" "	18.3	−32.5	?	"	"	
C37 16518	" 29	17.9	−37.5	✓	17 38	−36.4	
16539	" 30	16.8	−32.6	×			

Dec 29. 1898.

R.A. (1855) Dec

2 15 I 10604 Jan 30. 1894 ~~Cnc~~ DO₂ comes +15° 1581 $7^h 21^m 25^s.4$ +15° 21.6

Dec 30. 1898

[11 00] ± I 10,469 marked doubtless quality 1 but (433) DOn found a edge at $7^h 25^m.2$ +28° 48'. G.M.T. $16^h 57^m$

12 45 Examined book for ~~D~~ 2½ Voigtl Aug 1 '93 to Aug 1 '94 no plates covering region.

1 50 AB 205 out of focus shutter covers region but objective too faint.

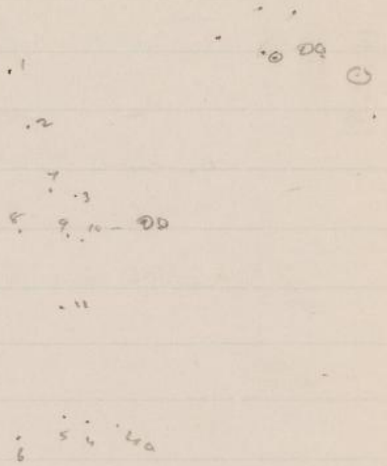
~~Dec 31 1898~~

~~I 10644 Jan 30.5 7 23.7 +15° 25' (1894) Mag.~~ 7.2

January 1 1899

11 30 ± B11174. DQ fnd

170



		B 11174		B 18202							
		x	y	x	y						
12 11	1	1.70	2055	165	2045	-5	-10	-14° 3167	$10^h\ 36^m\ 15^s.9$	-14° 32'.5	9.2
	2	290	1825	290	1810	0	-15	3167	31.4	39.4	10
	3	560	1550	535	1540	-5	-10	~~3170~~ 3171	~~37 0.7~~ 37 3.4	~~25.4 .8~~ 47.3	9.0
	7	460	1565	460	1560	0	-5				
	8	350	1460	350	1450	0	-10				
	9	5.10	1425	$\overset{5}{504}$	1420	-5	-5				
Expd.	10	545	1420	-	-						
	11				~~190~~						
	6	135	$\overset{-10}{310}$	145	$\overset{2}{\cancel{x}}95$ ✓	+10	$\overset{-15}{\cancel{+15}}$	15° 3115 195	36 14.5	-15 24.9	9.0
	5	315	430	330	$\overset{4}{\cancel{3}}20$ ✓	+15	$\overset{-10}{\cancel{+10}}$	3117	35.9	21.3	10
	4	415	400	435	$\overset{2}{\cancel{x}}90$ ✓	+20	$\overset{-10}{\cancel{-20}}$	3118	49.8	21.7	10
	4a	545	370	555	$\overset{3}{\cancel{x}}60$ ✓	+10	$\overset{-10}{\cancel{-20}}$				

12 16

12 35

DQ cel-alt. 10^h 37 1.6 / 37 1.5 −14° 51.2 / 51.4

36 58.3 54.7

−3.2 +3.3

−3.3 +3.5

G 10 37 1.5 −14 51.4 (1855)

Corr Prec 59. 6.3

10 38 0.5 −14 57.3

.15

.1.8

1.30

.178

104

91

13

231.4

47.3

3.9

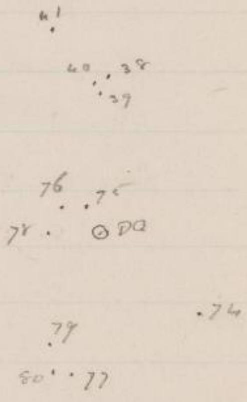
51.2

January 2 1899

+29° 551 Not seen in sky or on plates. A star preceded the place of 551 by about 40s and is doubtless object observed in DM. Shows no motion on Plates I 2282 Nov 14 1891 I 16985. Jan 6 1897.

Jan 3. 1899

I 10095 7 16.0 57 51 (1855) see page 171



+57°	1075	7	16	22.0	+57	56.7	8.4	B
	1076	+	17	11.2		56.7	8.4	B
	1077			18.0		16.6	9.3	B
	1078			31.7		52.2	9.0	A
	1079			45.2		23.1	9.5	
	1080			46.8		15.7	8.4	A
	1074		14	45.0		26.5	8.7	A
+58	1038		16	23.2	58°	30.8	9.4	
	1039			32.1		25.0	9.3	B
	1040			~~30.2~~ 58.9		27.2	9.4	
	1041		18	7.7		30.2	8.5	A

(1875)

57° 1077	7^{h}	18^{m}	$57^{s}.48$	$+57^{\circ}$	$14'$	$19''.5$
55° 1201			59.09	55	25	36.9
57° 1076			52.79	57	54	23.6

Jan 3. 1899

I 11174. 10^{h} 37^{m} 16 −14° 51′.2 (1855)

−14°	3170	10^{h} 37^{m} 0^{s}.7	−14° 25′.4	8.8	M
	3164	34 34.6	55.4	8.1	B
	3165	56.0	36.6	8.7	M
−15	3115				

Jan 3. 1899.

S.M.I. Search for Da in 1896. Bache plates 16000 to 17000

	B16008	June 4 (1896)	3:	$18^h.8$	$-37^\circ.6$	18^h $\overset{30.1}{32.5}$	$\overset{40.8}{-40.1}$	$+16$	$+2^\circ.5$	✓	Cir.
	16157	" 5	3	18.1	-42.6	$\overset{27.9}{28.5}$	$\overset{40.0}{-40.0}$	-22	-2.6	?	Cir.
	16165	" 5	4	18.4	-37.5	"	"	-22	+2.5	?	Cir.
	16415	" 17	3:	18.3	-32.8	18 0.5	-38.7	+18	+5.7	-	
	16448	" 19	4	17.5	-37.5	17 57.0	-38.4	-27	+0.9	-	
	16457	" 19	3	17.5	-43.5	"	"	-27	-5.1	-	
$19^h\ 17^m$	16518	" 29	4	17.9	-37.5	17 38	36.4	+16	-1.1	✓	faint
$16^h\ 32^m$	16748	July 9	64	17.5	-37.5	17 23	-34.1	+7	-3.4	✓	too faint
$16^h\ 23^m$	16779	" 10	4	17.0	-36.7	17 22	-33.9	-22	-2.8	?	
$16^h\ 49^m$	16780	" "	4	17.[illegible]	-32.6	"	"	-16	-1.3	✓	
	16879	" 17	3	16.8	-29.5	17 15	-32.3	-27	+2.8	-	
$17^h\ 57^m$	16881	" "	3	16.9	-36.5	"	"	-21	-4.2	?	Broken
$15^h\ 45^m$	16981	" 21	3	17.2	-32.6	17 12	-31.5	0	-1.1	✓	

A 1876 17 08.7
17

B 11448 Jan 18 3 11.5 -17.0 11 51.8 -17°0

Schone -17° 3517 11h 50m 16.0 -17° 17'.6 but not beyond

11 51 46.8 -16 56.5 ∴ 1m 30s beyond available

B 11223	May 22	10.7	-10.5	10.8	-15.0	
11226	" "	11.2	-12.0			
11332		11.5				—
11 ~~405~~ 450	June 17	11.1	-2.5	11 54	-17.0	—
11448	18	11.5	-17.0	11 52	-17.0	? × not on plate

Jan 3, 4.45 Cloudy, got light R.A. 17h 37.8 Dec. -36°22' (1875)
" 5 3.15 Carina region but 433 too faint, it shows an [illegible] [illegible]
Plate does not cover region
" 6 2 00 Carina region but 433 too faint.

" 6 2 15 Carina region but 433 too faint
" 6 2 25 Carina region but 433 too faint
17087 6 3 30 " " " " " "
17236 6 3 3 " " " " " "

January 4. 1899.

9 15 A 1876. 433 faint. 17^h 36.4 −36 12 near −36° 11846 (w

Trail would coincide with −36° 11846 half

a hour before $17^h\ 36^m\ 26\overset{s}{.}5$ −36° 12.3 (1875) ✓

+3

June 14 19 19 6.2 35.0

June 16 18 16 10.2 −31.1 3.9 5.5 4.7 = 32 days

Aug 17 17 54 52.7 25.6

−30.8

15

18 12

18 14

July 16.5 18 16.2

25

18.5 18 13.7

7.0

$18^h\ 13^m.0$ −30°.8

Jan 4 1899.
Plates 1889.

B	3503	Jan 10	19.9	−30	10	2	
	3504	" "	20.5	−30	10	3	
	3579	" 19	19.9	−40	10	4	
	3594	" 20	20.0	−35	N		20.3 −31
	3614	" 20	19.9	−35°	10	4	" "
S	3746	July 7	20.7	−35	60	4	
	3759	" 8	19.9	−30	10	4	
	3762	" 8	20.6	−35	10	4	
	3764	" 8	20.6	−25	10		

Jan 4 1899.

Gm 1. [illegible]

~~3444 Jan 6~~

	3500	Jan 10	19.3	−30	14D	4	
	3577	" 17	19.0	−35	D	5	
	3578	" "	18.7	−30	D	4	
	3637	" 24	19.3	−40	60 I		
	3708	July 2	19.0	−30	60 I	3	
	3718	" 3	19.3	−35	20 I	3	
$16^{h}43^{m}$	3756	" 8	18.7	−30	10 I	4	$18^{h}\,33^{m}.0$ ~~18.5~~ − 32°.0 ✓
15 08	3842	" 18	17.9	−35	60 H	4	$18^{h}\,13^{m}.0$ − 30.8
	3877	" 22	18.6	−25	30 H	3	18 9 29 58 —
14 21	3886	" 23	17.9	−25	60 H	4	18 4 ~~28~~ 29 50 ✓
13 27	3992	Aug 8	18.0	−30	10 I	2	17 57 27 5 ✓
13 40	3993	"	17.9	−25	10 I	"	" " ✓
	4027	" 16	18.0	−20	60 H	4	17 55 25 46 ?
	4059	" 21	17.9	−30	80 H	3	17 55 25 2 ?
	4124	Sept 2	18.0	−25	60 H	3	
	4159	" 7	18.0	−20	10 I	3	
	4160	" "	18.0	−25	10 I	4	

R.A. 1875. Dec 1875.

I 10095 7h 17m 31.2 ~~25.0~~ +57° 49' 32" ~~44~~ } l.e.w.
31.1 ~~24.8~~ 29 ~~44~~ }
31s.6 40 } n.c.s.
31.7 37 }

7h 17m 31s.4 +57° 49' 34" (1875)
1 41 2 14
19 12 +57° 47 20 1895

I 10559 7h 23m 33s.5 +21° 14 58" } n.c.s.
23 33.5 +21 15 3 }
23 33.56 15 2.5 l.e.w.

Assume 7h 23m 33s.5 +21° 15' 1" (1875)

B 11 174 10 38 0.5 -14 57.3 ~~-15 4 35~~ E.C.P. 176 ~~166~~
~~37 57.28 -14 34 42~~ } ~~l.e.w. 49~~
~~37 57.15 -14 34 43~~ }
38 1.65 -14 57' 17" } l.e.w.
38 1.58 -14 57 16 }
38 0.9 -14 57 16 } n.c.s.
38 0.4 -14 57 14 }
0.5 <58

10h 38m 1s.1 -14° 57' 16" (1875)

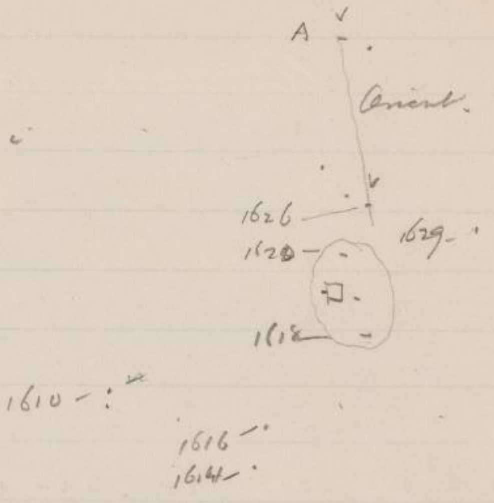
Measures of (433) DQ in addition to those given in Circ 36

	Plat	Date	G.M.T.	Ex	R.A. '55	Dec. '55			v		
7 18 27 +57 46	I 10095	'93 11 26	20h 26m	17	7 $\overset{15.8}{16.0}$	+57° $\overset{55'}{57'}$	+0.8 +5		−49°	8.8	h171
~~7 47 30 53° 2′~~	I 10215	93 12 19		C36						7.9	
7 47 30 53° 2′	I 10280	'93 12 23	19 49	13	7 44.1	+53° 1′			−26°	7.8	h171
	I 10321	93 12 27		C36						7.6	
	I 10353	94 1 1		C36				Spectrum		7.5	
7 37 3 41° 33′	I 10406	'94 1 8						Spectrum	−12	7.3	
	I 10407	94 1 8						Spectrum not seen	−12		
7 27 46 29° 1′	I 10469	'94 1 19			7 25.2	+28 48		Marked useless	−3	7.2	h175
7 24 44 21° 29′ 23.6 15 14	I 10559	'94 1 25	16 16	$\overset{13}{\cancel{C36}}$	7 22.4	+21 17			+3	7.2	h170
7 23 42 15 27	I 10604	'94 1 30			7 21.4	+15 22		Spect.	+6	7.2	h175
7 24 20 8 57	a 222	'94 2 $\overset{5?}{\cancel{4}}$			7 $\overset{3?}{22.1}$	+8 48			+12	7.4	h171
	a 246	94 2 16		C36	~~7 22.1~~	~~+8 48~~				7.7	
	B 10909	94 4 16		C36						9.9	
	B 10951	94 4 18		C36						9.9	
	B 11174	'94 5 19			10 37.3	−14 51	✱				h176
	B 11223	'94 5 20						Spectrum.			
	B 15531	'96 4 6		C36						11.9	
	B 16108	6 4		C36						11.3	
	B 16157	6 5		C36						11.3	
	B 16165	6 5		C36						11.3	
	B 16518	'96 6 29	19 17		17 $\overset{37.7}{37.8}$	−36 $\overset{20}{22}$ (1875)				11.4	h181
	A 1876	'96 6 30	13 46		17 36.4	−36 12 (1875)				11.4	h182

Jan 5. 1899

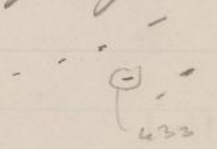
I 10559

Orient by A and 1626 which are in same orientation.



DQ	DQ
1618	1618
1626	1626
1629	1629
1616	1616
DQ	1620
	1616
	1614
	1610
	DQ

12 ± B 3542 superposed on B 18924 and object found at $18^h 10^m.7$ $-30° 42'$ (1875) which may be (433)



18 12.4 −30 39
−1.7 −3
18 5.5 29 44
18 7.8 −29 47 (1875) cat plate July 23

A Bruce plate B2063	Sept 10 '96	18^h 10	-22.5 –
2093	" 24 "	18 10	-27.5 –
2095	" 25 "	18 30	-27.5 –
2099	" 26 "	18 10	-17.5 –
2103	" 28 "	18 30	-17.5 –
2107	" 30 "	18 30	-22.5

229

Eros.

Date.		R.A. 1909			Dec.
1891. Aug.	15	22^h	$16^m.1$	4.6	+0.9
"	19	22	11.5	7.0	+0.9
"	23	22	4.5	6.1	+0.8
"	27	21	58.4	69	+0.8
"	31	21	51.5	80	+0.7
Sept.	4	21	43.5	7.7	+0.6
"	8	21	35.8	78	+0.6
"	12	21	28.0	6.5	+0.5
"	16	21	21.5	55	+0.4
"	20	21	16.0	18	+0.3
"	24	21	14.2		+0.2

Possible images

						O−C	
Aug. 24	I ~~5~~4096	21^h $55^m.1$	+0° 33′	(1855)	$-7^m.9$	−15′
" "	I 4097	22 2.4	+1 4		−0.6	+16′
Sept 4	I 4156	21 41.4	+0° 46′	"	−2.1	+10
		21 42.5	−0° 14′	"	−1.0	−50

Eros 1896

I 4096	Aug	24	22.1	−2.6	3	/
4097	〃	〃	221	+2.8		✓/
4131	Sept	2	21.1	+3.0	3	
4142	〃	3	22.4	+2.3	3	
4156	〃	4	21.7	+2.5	3	/
4180	〃	9	21.4	+3.6	4	/
4258	〃	19	21.5	−2.5	m	
4259	〃	〃	21.4	+3.0	3	
4374	〃	28	21.7	−2.5	3	
4422	Oct.	2	21.1	−2.6	3	

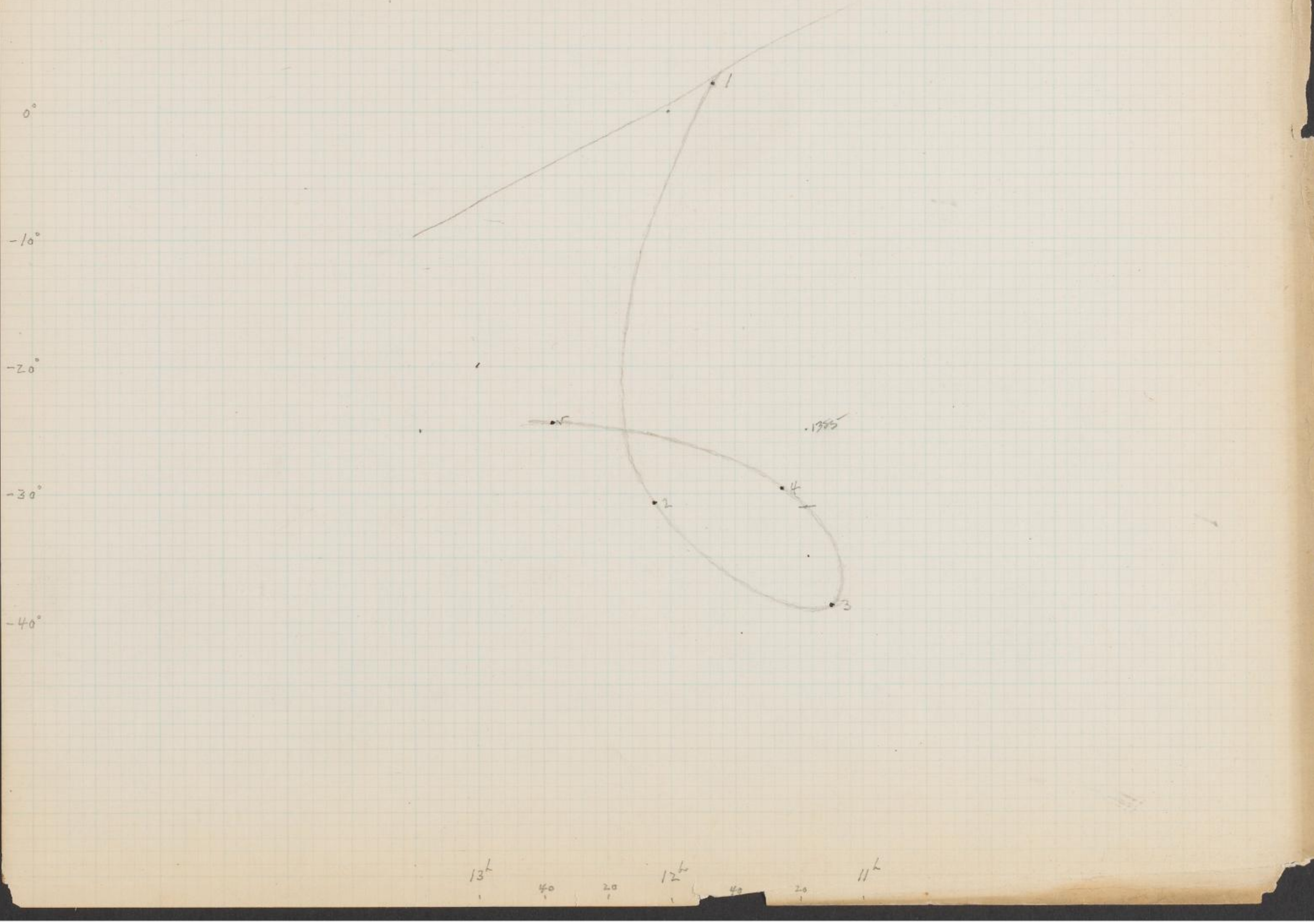
Eros.

Date.		R. A. 1909			Dec.
1891. Aug. 15	22^h	16.1^m			+0.9
			4.6		
" 19	22	11.5			+0.9
			7.0		
" 23	22	4.5			+0.8
			6.1		
" 27	21	58.4			+0.8
			6.9		
" 31	21	51.5			+0.7
			8.0		
Sept. 4	21	43.5			+0.6
			7.7		
" 8	21	35.8			+0.6
			7.8		
" 12	21	28.0			+0.5
			6.5		
" 16	21	21.5			+0.4
			5.5		
" 20	21	16.0			+0.3
			1.8		
" 24	21	14.2			+0.2

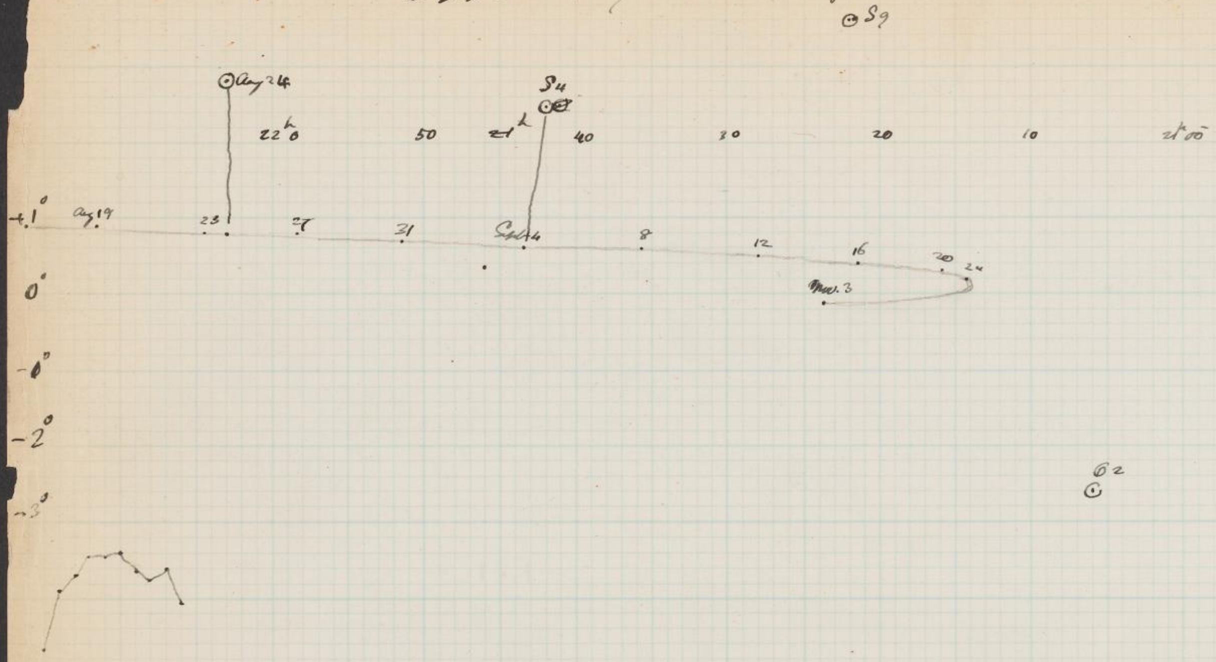
Possible images

					O–C	
Aug. 24	I 4096	$21^h\ 55.1^m$	+ 0° 33′	(1855)	-7.9^m	−15′
" "	I 4097	22 2.4	+ 1 4.		−0.6	+16′
Sept 4	I 4156	21 41.4	+ 0° 46′	"	−2.1	+10
		21 42.5	− 0° 14′	"	−1.0	−50

Eros. Plot of 40 day places from 1887. Jan. 8 to 1887 June 17, incl.



Opposition of Eros, 1891.



Eros. Computation of places.

Date.	R. A.	Dec.	Log. r	Log. Δ	Magn.
1887. Jan. 8.	11h 46m 24s.	+2° 9'.4	0.0543	9.4790	8.2
" Feb. 17.	12 4 58.	−30 49.5	0.0701	9.4298	8.1
" Mar. 29.	11 9 48.	−38 54.3	0.1063	9.5304	8.8
" May 8.	11 25 16.	−29 7.2	0.1477	9.7233	9.9
" June 17.	12 36 13.	−24 15.9	0.1848	9.9194	11.1

Eros.

Date.	R.A.			Dec.		Log. r	Log Δ	
1891 July 6.	22	51	2.	−3°	44.8′	+0.2484	0.0046	11.8
Aug. 15.	22	16	5.	+0	52.3	0.2374	9.8660	11.1
Sept. 24.	21	14	15.	+0	11.9	0.2181	9.8868	11.1
Nov. 3.	21	23	38.	−0	8.1	0.1901	0.0034	11.5
Dec. 13.	22	29	2.	+3	44.2	0.1541	0.0929	11.8

Prec. to 1855 −2 39 ~~−16.0′~~ −15.6′

Eros in 1891.

Jan 6 1899

B 17000 – 18000 July 96

B17036 17.2 −27.6 b4 60 Aug. 1 17 10 29.2 −2 −1.6
17055 17.2 −27.5 b5 121 " 5 17 11 28.6 −1 −1.1
17087 17.2 −32.5 b3 15 " 10 17 14 27.8 +2 +4.7 Region included.
17236 17.2 −32.5 b4 11 " 25 17 25 25.5 +11
17364 17.2 −22 14 Sept 5. [illegible]
17440 17.8 −22.7 b4 10 " 22 17 57 23.4 +9 −0.7
~~17443 17.8 −32.7 b3 i 11 Sept 23~~
~~17444 17.8 −32.9 b4 11 Sept 23~~
17557 18.8 −17.6 b3 12 Oct. 6
17558 18.8 −27.7 b3 12 " "
17650 18.2 −17.6 b3 10 " 13
17651 18.2 −27.6 b3 10 " "
17690 19.2 −22.8 b3 11 " 14
17708 18.5 −22.6 b3 i 11 " 15
17780 19.1 −19.5 b3 i 13 Nov. 7
17837 19.8 −22.6 b4 10 " 11

10 46.8 −20 43
a 606 10.8 −20.7 I 60 May 8 94 10 30 −14.6 only [illegible] plate 10695

Jan 7. 1899

(433) DQ Opposition of 1891.

1891 B 6000-

B 6239.	June 9	21.7	-5	I 2 70			✓ Sp	
6276	" 11.	21.8	-13	4 4 10			–	
6277	" "	21.8	-8	4 3 10	22 36	-9°	–	
6331	" 15	22.7	-10	I 4 60			✓ Sp	
6345	" 16	22.1	-8	L 3: 10			?	
6364	" 18	22.8	-8	L 3 10	22 43	-7.4	✓	
6365	" "	22.8	-3	L 2 13	"	"	✓	
6389	" 22	22.8	-12.7	4 3 12	22 46	-6.5	–	
6390	" "	22.8	-8	L 3: 10	" "	"	✓	
6391	" "	22.8	-3	L 3 10	" "	"	✓	22 56 -0° 35′
64~~76~~79	July 5	23.0	~~-7~~ -5	I 4 109			✓ Sp	
6541	" 14	23.4	-8	L 3 12	22 48	-3.0	–	
6542	" "	23.4	-3	L 3 19	"		–	
6543	" "	23.5	+2	L 3 10	"		–	
6562	" "	22.5	+2	4 2 11	"		?	
6565	" 16	23.1	-8	L 2 10	" 48	-2.6	?	
6566	" 16	23.1	-3	L 3 10	" "		✓	
6700	Aug 13	22.5	+7	4 1 10			? useless	
6709	" "	22.7	+7	4 3: 10	22 16	+1	?	
6965	Sept 20	21.6	0	H $\overset{3}{\cancel{5}}$ 85	21 14	0	?	

July 7. 1899

Exam of dense half of B3886

308 160. 152 17.1 Close double
171 93 Triple
110 217

Exam of dense half of B3842
4333 not found

86 Nov 30	0241			
87 Feb 2	1030 5			
89 Jan 5	1100.8			
		288	9	
89 Oct 20	1296			
		576	18	
'91 May 19	1872			
		256	8	
'92 Jan 30	2128			
96 Aug 17	3789			
" Apr 7	3657			
June 14	3725			

1008 | 32
96 | 31
48
32
16

2410016 | 32
224 | 7533
170 | 75313
160
100
96
41
32
96

10016 | 32
96 | 31
41
32

2409600 = 75300

~~75300~~	75300	2409600
~~320~~		
~~75620~~	10	09920
~~40~~	20	00240 -
~~60~~	30	00560
~~80~~	40	00880
~~00~~	50	11200
~~20~~	60	11520
~~40~~	70	11840
~~60~~	80	12160
~~80~~	90	12480
00	7540	12800
	50	13120
	60	3440
	70	3760 -
	80	4080
	90	14400
	7600	4720
	10	5040
	20	5360
	30	5680
	40	16000

20" = 1m Bruce 10" = 1m 200m = 2000" square
200 Bache 20" = 1m 400 = 4000 square

1	2410016	976
2	0048	1008
3	0060	1040
4	0092	72
5	124	04
6	156	6
7	188	8
8	220	1380
9	252	2
10	284	4
11	316	6
12	348	8
13	380	40
14	422	2
15	454	4
16	486	6
17	518	8
18	540	1500
19	572	2
20	604	4
21	636	6
22	668	8
23	700	60
24	32	2
25	64	4
26	96	6
27	8	8
28	60	20
29	2	2
30	4	4

1936	2896
8	8
80	80
2	2
4	4
6	6
8	8
40	40
2	2
4	4
6	6
8	8
2300	3100
2	2
4	4
6	6
8	8
60	60
2	2
4	4
6	6
8	d
20	20
2	2
4	4
6	6
8	8
0	80
2	2
4	4

75320	0240		350	1200	
1	272			232	
2	304			264	
3	336			296	89 10 20
4	368			328	
5	400			360	
6	432			392	
7	464			424	
8	496			456	
9	528			488	
330	0560		360	1520	
1	592			552	
2	624			584	
3	656			616	
4	688			648	
5	720			680	
6	752			712	
7	784			744	
8	816			776	
9	848			808	
340	0880		370	1840	
1	912			872	92 5 19
2	944			904	6 20
3	976			936	7 22
4	1008	89 1 5		968	8 23
5	040			2000	9 24
6	072			032	
7	104			064	
8	146			096	
9	168			128	92 1 30

380	2160	410	3120
	192		152
	224		184
	256		216
	288		248
	320		280
	352		312
	384		344
	416		376
	448		408
390	2480	420	3440
	512		472
	544		504
	576		536
	608		568
	640		600
	672		632
	704		664
	736		696
	768		728
400	2800	430	3760
	832		792
	864		824
	896		856
	928		888
	960		920
	992		952
	3024		984
	056		016
	088		048
			4080

Jan 9 1899

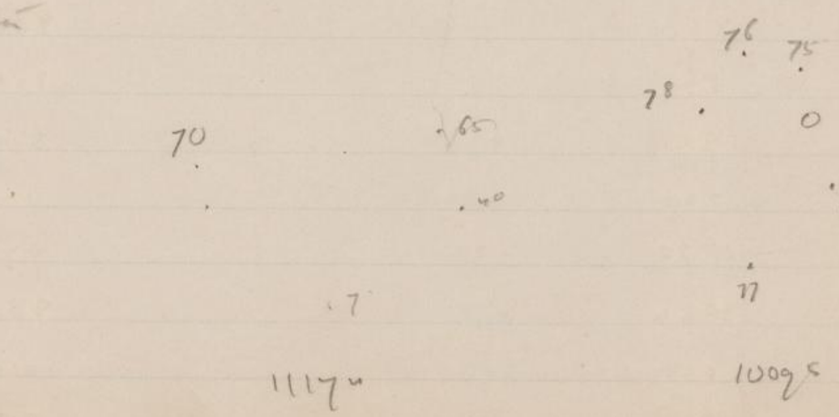
I 3500 to 4500 Region of DQ

I 4096	22.1	−2.6	L 21,3		'91 Aug 24,	21h 58	+1,0	+6	−3.6 ✓.	
4097	22,1	+2,8	L 24,3		" " "	"	"	+6	+1.8 ✓.	
4131	21.2	+3.0	L 34	3	" Sept 2	21 45	+1.0	—		
4155	21.8	−2.3	L 16	2	" " 4	21 43	+1.0	+5	−33 ✓	
4156	21.7	+2.5	L 32	3	" " "	" "	+1.0	+1	+15 ✓.	Best.
4180	21.4	+3.6	I 71	4	" " 9	21 36	~~+3.6~~ +1.0	−12	+26 ✓	Sp.
4251	21.2	−2	L 9	1	" " 19	21 19	+0.2	−7	−22 ✓ .	
4258	21.5	−2.5	L 10	m	" " "	" "		+11	−27 ✓	
4259	21.4	+3.0	L 10	3	" " "	" "		+5	+28 ✓.	
4322	20.7	−2.3	L 41	4	" " 24	" "	0.0	+37	~~−23+~~	does not [illegible]
4422	21.1	−2.6	L 10	3	" Oct 2	21 7		−1	−2.6 ✓ .	
4459	21.7	+2.5	L 10	3	" " 8	" 5		—		
4483	21.4	+2.5	L 14	4	" " 9	" 4		+19	+30 ✓	
4484	20.4	+2.5	L 20	3	" " "	" 4		—		
4504	21.8	+2.6	L 17	4	" " 14	" 4		—		

~~others later~~

4510	21.4	−2.5	L 12	3	" " 15	" 5		+19	−3 ?	
4551	20.6	−5.2	L 14	3	" " 17	" 6		−30	—	
4665	21.1	−2.5	L 10	4	" Nov 2					
4684	21.1	+2.5	L 10	4	" " "					

others later



Object marked by
W.P.F. Jan. 5, 1909.
21h 55m 5s +0° 33′ (1855 ~~1900~~)

Very poor plate. Comp with I 11524. D2 not found.

~~Plate~~ I 4156
21 41 26 +0 46 (No. 1.) } 1855
21 42 30 ~~+0~~ 0 14 (No. 2.)
Eq. 1855

Sept 4 Gr.M.T. 16 49 ab. time −8.9 Corr. Gr. Date Sept 4.6966 21h 37m 40.8s +0° 47.7′ (1891) 21h 35m 50.6s +0° 37.9′ (1855)
Eq. 1891.

~~Stars faint.~~ Comp with I 1681 & I 7379. D2 not found? Defect? 21h 41.7m +0° 47.

nebulous

Superposed on 9363 shows that 4259 has two regions on pl. having been exp. twice. Second Ex.
R.A. 21 10 −2.5 = I 4258. Ex. no obj found W.P.F. Jan. 4, 1908

Comp with I 8936 D2 not found near 21h 21.7m 0°.

Jan 12. 1899

Object found by W.P.F. yesterday on Arequipa B 3886
at 18h 8.2m −28° 59' (1875)
Comp 18 5.6 −29 45
O−C +2.6 +46'

1889 July 18 Comp 18 12.2 −30 41
2.6 46
Corr. Comp 18h 14.8m −29 55 (1875)

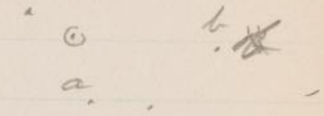
I 4156 Sept 4 1891 21h 42.5m +0° 36' (1891)

B 3756 July 8, 1889 18h 30.0m ~~44~~ −32° 21' (1889)
2.6 46
Interp. Corr Comp. 18h 32.6m −31° 35'
Computed " " 18 31.6 −31 38
1

Jan 13, 1899

B16518 Eros.

a 2 Eros 1 b   W.P.F.



B 3842 July 18. 1889 shows these stars as conspicuous objects
" " " " mag 11.6 in B16518 Eros and 11.4
∴ in B3842 ~~B16518~~ Eros should be 0.1 mag fainter than b

11.5	7.14	10.03
0.2396	.0543	.1142
9.8722	9.1850	9.7043
0.1118	9.2393	9.8185
+.2236	~~8.4786~~	~~9.6370~~
	~~−1.5214~~	~~−.3630~~
"		
+ 0.509	.6.196	9.9092
	− 3.804	− 0.908
11.51	7.29	10.09

Jan 14, 1899

Sept 17	3	40				39.6	33	2
Sept 25						42.7	31	3
Oct 3	4	40				45.8	28	3
11	5	~~03~~ 05	25	27		48.6	25	3
19	5	32	24			51.1	22	4
Oct 27	5	56.4	23.6			53.3	1.8	
Nov 4	6	20.0	23.0	0.6	11	55.1	1.4	4
" 12	6	43.0	21.3	1.7	13	56.5		5
" 20	7	4.3	18.5	28	08	57.4	0.9	5
" 28	7	22.8	14.1	4.4	13	57.8	0.4	7
Dec 6	7	36.9	8.4	5.7		57.5	-0.3	11
" 14		45.3				56.1	-1.4	

I 9500 to 10000

I 9615	Oct 7 '93	5.2	+38.5	do 11.3	–	4.8	+47	[illegible] ~~[illegible]~~
9618	" 8 "	3.4	+33.0	do 11.4	–			[illegible]
9633	" " "	5.1	+33.1	do 12.2				
9680	" 15 "	4.6	+46.8	D 62.3i		5.3	+50	?
9681	" " "	4.9	+46.9	076.3i		"	"	✓ Spect.
9801	" 28 "	6.2	+58.0	do 14.3		6.0	+53.5	✓ p 199
9834	" 30 "	6.4	+48.1	do 12.4		6.1	54	-
9832	" " "	5.7	+58.0	do 10.3		" 6h 8m	" +54.3	✓ p 199
9862	" 31 "	6.4	+53.3	do 15.3		6.1	54	✓✓ p 199
9863	" " "	6.8	+53.3	do 15.3		"	"	? does not con

Jan 15 1899

I 9862.

8 44 Eros found at ~~6h 8m~~ 6h 6m +54° 20'

I 98863 does not come agin.

8 55 I 98832 found at 6h 3m +54° 5'

9 00 I 98801 found at ~~6h 1m +53° 50 ±~~ 6h 2m +53° 55' ±

	α 94	α 55			v		
27	5h 56.4	5h 53.2	53°	19'	71.5		71.5 ~~53° 19'~~
28	59.3	5 56.1	53	33	70.8	71	
29	2.3	5 59.1	53	47	70.1		
30	5.2	6 2.0	54	1	69.4	69	
31	6 8.2	6 5.0	54	15	68.8	69	65.8 ~~54~~ 15

Oct 28

30

88 26
2 22
90 48 +91°

		36	12.1			8.35	
				398.2			30
		42	50.3		11.7	8.65	
				386.5			29
		49	16.8		12.4	8.94	
				374.1	12.8		29
		55	30.9			9.23	
				361.3	12.9		27
Apr	5	61	32.2			9.50	
				348.4	12.9		27
	13	67	20.6			9.77	
				335.5	13		26
	21	72 5	56.1 23			10.03	
				323	13		26
	29	78	19			10.29	
				310	13		25
May	7	83	29			10.54	
				297	13		24
	15	88 4	26 44			10.78	
				284	13		24
	23	93	10			11.02	

January ~~26~~ 19 or 16 ? 1899.

Estimated positions of Eros.

G.M.T.

h	m					
21	21	I 9862	Oct. 31, 1893	R.A. 6 5.9	+54 20	(1855)
21	55	I 9801	Oct. 28, 1893	6 0.0	+53 ~~37~~ 40	(1855)
20	18	I 9832	Oct. 30, 1893	6 2.9	+54 7	(1855

1 div = 2'.72 = 10^s.9

9801	53°.7	.592	18^s.4
9832	54.1	.586	18.6
9862	54.3	.583	18.7

.0374	0374	.0374
.7723	.7679	.7649
.2651	.2695	.2725
184	18.6	18.7

49
.9
441 98
9 49
93.1

4.9
3.9.
441
147
191

56.4
~~12.1~~
14.1
.39
1269
423
5.499

141
65
705
846
9.2
15.0
5.8

141
141
141
564
141
19.881

18.6
19.9
36.5

10406 7 57

10407 8 38

	Eph 4/1894		C 1855	Obs.	O–C s
Oct 28.91	6 0 ~~26~~ 08	3 11	5 57 15	0 11	-
30.85	6 6 19		6 3 8 1 38	2 54	-14
31.89	6 9 24		6 6 13	6 5 58	-15

			Obs	O–C
28.91	+53°	38'.5	53 39.9	+1'.4
30.85	+54	5.8	6.6	+.8
31.89	+54	20.5	20.2	-.3

21.9 | 24
21 6 .91
30

28.91
27.5

113
1.41
113
452
113
159.33 | 40
39.8
40

~~57~~ 02

56 22
2 39
59 01
1 33
57 28

Comp. Stars for pos. of Eros.
on plate I 9862

	R.A. 1855	Dec. 1855					
+54° 995	6 0 22.8	+ ~~45~~ 54 45.6	8.5	K	6h 2m 2.62s	+54° 45′ 31.8″	+1
+54° 997	6 1 0.5	+54 0.0	8.9	A	2 39.13	0 1.6	0
+54° 998	6 1 44.8	+54 42.7	8.4	A	3 23.29	42 49.6	−1
+54 1000	6 1 58.4	+54 8.9	9.0	A	3 38.05	7 50.6	+1.1
+54 1003	6 3 14.4	+54 14.2	9.2	—			
+54° 1005	6 4 29.7	+54 4.6	8.5	A	6 8.89	4 28.8	+1
+54° 1006	6 5 37.3	+54 22.0	9.5	—			
+54 1007	6 6 4.2	+54 41.7	9.5	—			
+54 1008	6 6 14.3	+54 51.3	9.3	—			
+54 1012	6 8 6.0	+54 18.2	8.9	B	7 44.77	17 53.6	+3
+54° +1014	6 8 24.7	+54 18.3	7.5	B	10 3.33	17 57.8	+3
+54 1015	6 9 14.8	+54 58.4	9.2	—			
+54 1017	6 9 49.5	+54 30.2	8.9	B	11 28.36	29 51.5	+3

	Oct 28		Oct 30		Oct 31	
(1855)	5 5		6h 2m 54s 1 38 4 32	+54° 6.6 6.5	6 5 58 1 58 6 7 36	+54° 20.2 2 20.0
Obs. (1875)	5 58 48 59 00 35	+53 39.5	6 4 32	+54 6.2	6 7 37	+54 20.3
Comp	~~58 53~~	38.5	4 46	5.8	7 57	20.5
	~~5~~ −12	+1.0	−14	+0.4	−14	−0.2

11 53s
713s = 4 dy
1.41
713
2852
713
1005.33 1/4
~~226~~
251.3
56 22
3 46
6 0 ~~53~~
1 33
58 35

~~188.~~
178.
141
178
712
178
25098
2.11
251
56 22
4 11
6 0 33
1 33
6 ~~58 40~~
59 0

~~56.4~~
56.4
14.1
1.41
141
564
141
19.88

53 18.6
19.9
53 38.5 (1894)

0.06″
1″

2820 − 2s
2760 − 14s
12s = 60 dy
1s = five dy
160s = 800 dy = 4m 1°

January 25. 1899

Search for Coddington Comet 1898.

B 21000 to 21700

21150 Apr 2. 17^h8 −8° do 10. . − 19^h0 +16
21227 " 13 18.8 +7 do 10 ~~2~~ − 18.6 +3 nt fnd comet agn
21286 " 26 18.5 −8 do 13 − 18.1 0
21287 " " 18.5 +2 do 10 ✓ " "
21313 " 29 18.2 −3 10 ✓ 18.0 −2 nt fnd comet agn
21314 " 29 18.2 +7 10 − " "
21320 " " 18.8 −3 10 − "
21435 May 18 17.5 −13 D 60.3 ✓ fd. W.P.?
21507 " 26 16.8 −13 do 10 17.1 −16 fd Ecl. 17^h9 −15°5
21564 June 7 16.2 −23 I 70 ✓ 16.6 −23

I. 20300 c
20391 Mar 6 19.8 +30 do 14,3
~~20~~

I 20900 − 20600
20870 June 17 16.1 −30.8 do 21.3
20858 " 15 16.3 −27.5 do 12.3
20852 " 14 16.3 −26.6 I 70.3
20851 " 14 16.3 −26.8 I, 12.3
20827 " 7 16.5 −18.2 I, 13.3
20826 " 7 16.9 −23.2 I, 19.3
20610 Apr 3 19.3 +18.3 I, 13.3 ??

Jan 28 1899

Search for Coddington Comet 1898

missed after B 21000

B 21064	3.24.	$17^{h}.8$ +2° do 10	17° 52′	−0.5
21259	4.21	18.2 −8	17 53	−3

March 24.1898	$17^{h} 54^{m} 16^{s}$	+0° 51	(1898)
	17 57 41	0 51	(1855)

Feb. 3. 1899.

1 55 Cand Exp. on I 11685. at 7h 29m −0°.2 near corner position only approx as no chart of region. Superposed on I 12093. Feb. 16. 1894 App. R.A. (1855) 7h 29.0m Dec −0°19′

2 30 Cand Exp. on I 10420 spectrum App R.A. (1855) 7h 30.7m Dec +37°12

I 10742 crowds region

Exam. B 11000 to 11500.

	y, m, d	h				
B 11226	94,5,22	11.2	−12.0	Ao 10,4	10 48	−15.0
11223	" "	10.7	−9.9	I 60,4	"	"
11332	" 5 31	11.5	−17.4	B 62,4		
11448	4,6,18	11.5	−17.0	Ao 10,3		

2 40 Cand Exp. on B 10742. 7h 47.3m −7°40 (1855)

Feb. 2. 1899.

Examination of B 10000 — for images of Eros

10273	7.2	58.0	d10.2	93.12.23	$7^h 47^m$ 45	+53°.0 53.1	?		33ᵐ	4°.9	Σ st.
10280								C37			
10321								C36			
10353								C36			
10375	8.1	41.8	d 10.5	94.1.2	$7^h 42^m$	+46.8	?		26ᵐ	5°.1	Σ [illegible]
10406								Cross again [illegible]			
10407								C37			
10420	7.3	41.5	0 60.4	94 1.12	7 33	+37°.0	✓		13ᵐ	4°.4	[illegible]
10469								C37			
10683	7.1	−1.8	d12.3	2 16	7 31	−0°.3	–		23ᵐ	1°.6	Σ.f
10684	7.8	−1.4	d10.3	.	.	..	?		19ᵐ	1°.2	Σ.[illegible]
10685	7.5	+3.5	d13.2	..	.	..	✓		1ᵐ	3°.7	[illegible]
10742	7.8	−11.0	d79.4	3.3	7 48	−7.7	✓		2ᵐ	3°.4	? Cross again
10706	8.8	−7.2	d10.4	3.26	8 31	−12.3	?		19ᵐ	5°.0	Σ sp

Feb 4. 1899

Search for Eros I 9000-10000

9680	Oct 15	4.6	4 6.8	0.62. 3 i.	5 18 500 ~~53 +520~~	✓
9681	" "	4.9	4 6.9	0.76. 3 i	5.3 +52.0	
9684	" 16	4.9	5 6.9	0 55. 3		
9793	" 21	6.3	3 5.7	0 33 2		
9795	" 28	5.2	5 5.4	6 12.3	557 ~~559~~ +53°.7	

Plates probably covering region of Eros

B 16448	'96 June 19
" 16496	" 27
" 16498	" "
" 16497	" "

Feb 6. 1899

I 9400 & 9000. no plates were again except those of 1205

Feb 7. 1899.

Altitude of Eros. Oppos. of 1900.

H.A.	40°		~~45~~ 45°		~~55°~~ 50°		55°	
0h	87.6	9.0	87.4	8.4	82.3	4.9	78.3	4.2
1	78.6	11.1	79.0	10.7	77.4	9.3	74.1	~~7.2~~ 7.2
2	67.5	109	68.3	10.4	68.1	9.5	66.9 ~~64.8~~	8.4
3	56.6	107	57.9	10.3	58.6	9.6	58.5 ~~57.7~~	85 57.9
4	45.9	10.4	47.6	9.8	49.0	9.1	50.0	8.4
5	35.5	9.9	37.8	9.4	39.9	8.7	41.6	8.0
6	25.6	8.9	28.4	8.4	31.2	8.0	33.6	7.2 ~~8.3~~
7	16.7	8.1	20.0	7.6	23.2	7.0	26.4 ~~25.3~~	6.4 5.3
8	8.6		12.4		16.2		20.0	

Alt.

	h	h	h	h
~~30°~~	~~5.6~~	~~5.8~~	~~6.1~~	~~6.5~~
45°	4.1	4.2	4.4	4.6
40	4.6	4.7	5.0	5.2
30	5.6	5.8	6.1	6.5
20	6.7	7.0	7.4	8.0

Ephem. Eros. 1900–1.

	RA			Dec.		Dist Earth	Mag.					Daily ΔRA	Daily ΔDec
1900, Nov. 10	1h	56m	24s	+54°	22′	0.3747	9.38	15m	16s	0°46′	916	114s	5.8′
18		41	8	53	37	.3535		8	24	1°45′	504	63	13.1
26		30	40	51	52	.3383	9.07	4	8	2°46′	248	41	20.8 ~~20.8~~
Dec. 4		26	32	49	26	.3268		−2	50	3°3′	−170	−21	30.4 ~~2.6~~
12		29	22	46	23	.3200	8.88	−9	26	3°18′	−566	−71	32.2 ~~8.9~~
20		38	48	43	5	.3162		−15	40	3°26′	−940	−118	33.2
28		54	28	39	37	.3154	8.78	−20	6	5°27′	−1206	−151	33.4
1901, Jan. 5	2	14	34	36	12	.3176		−23	32	3°47′	−1412	−178	33.4
13		38	6	32	45	.3219	8.78						

0h ~~Alt.~~ 30° RA. ~~Alt~~ Culm. 45°

Sept 21 12h

Oct. 21 10h

Nov 4 9h

✓ " 10 8.6h ~~56m~~ 1.9 10.5 4.6 5.9 − 15.1

Dec 4 7h

✓ " 12 6.6h ~~56m~~ 1.5 8.1 4.2 3.9 − 12.3

Jan 4 5h

✓ " 13 4.4h ~~4m~~ 2.6 7.0

	h. RA	m.		Dec °	′		Merid Pass. h	m		Δα	Δδ
1900 Nov 10	1	53.4	+	54	10	9.38	10	35	5	114	5.8
18		38.2		53	23				1 14 63	63	13.1
26		27.9		51	38	9.07	9	1	41	41	20.8
Dec 4		23.8		49	12				~~63~~ −21	−21	30.4
12		26.7		46	9	8.88	8	3	−71	−71	32.2
20		36.1		42	51				~~41~~	−118	33.2
28		51.8		39	26	8.78	7	24		−151	33.4
1 Jan 5	2	11.9		35	59				−21	−178	33.4
13		35.4		32	33	8.78	6	05			

March 27, 1899.

Meas to determine orientation of Saturn's Satellite Plates.

A3230, 1 ab, 2 red, 3 red.

	y	x	x	x	x	x
R	0.00					
b ♄	0.00					
J	–	-0.35	0.90	-0.30	-0.40	0.00 -0.35
U	–	-5.25	5.80	-5.05	-5.25	-4.90 -5.25

4.90	+3
4.90	+3
4.75	-12
4.85	-2
4.90	+3
4.90	+3
40	12-14
4.87 ± .04	

A 3233 3

	y	x	x	x	x	x	x
R	0.00						
b ♄	0.00						
J		-0.20	-0.35 ~~-5.05~~	-0.50	-0.80	-0.55	-0.10
U		-5.05	-4.95	-5.40	-5.65	-5.30	-4.95

4.85	+4
4.65	-16
4.90	+9
4.85	+4
4.75	-6
4.85	+4
4.85	21-22
4.81 ± .07	

A 3228

	y	x	x				
R	0.00						
b ♄	0.00						
J		0.00	-0.55	-0.45	-0.75	-0.15	-0.85
U		-4.75	-5.30	-5.15	-5.50	-5.00	-5.70

4.75	-3
4.75	-3
4.70	-7
4.75	-3
4.85	+7
4.85	+7
45	14-16
4.78 ± .05	

A 3227

	y	x	x				
R	0.00						
b ♄	0.00						
J		-0.10	-0.85	-0.70	-0.30	-0.85 ~~-0.80~~	-0.50
U		-4.85	-5.80	-5.60	-4.95	-5.65	-5.20

4.75	-1	-4
4.95	+19	+16
4.90	+14	+11
4.65	-11	-14
4.80	+4	-1
4.70	-6	-9
495	37	27-28
4.76		
4.79 ± .09		

-18 4266 $16^h 12^m 5^s.8$ $-18^\circ 20'.1$ $16^h 13^m 14^s.77$ $-18^\circ 23' 11.7$

19 4361 16 12 0.8 -19 45.7 13 11.66 -19 48 42.8

$3^s.11$
83

16 11 48.08 $-18^\circ 19' 25''.1$ $85' 31''.1$

11 44.14 -19 44 56.1 6

3.94 5100

Diff = RA in 1900.0 $2^s.28$ = $34''.2 \times \sec\delta$ = $32''.5$

17 5134.1

$32''.5$

4.87 1.51186 2.46030

3.71021 3.71021

4.81 7.80165 8.75009

4.78 $0^\circ 21'$ $3^\circ 31'$

4.79

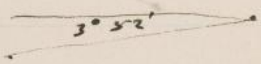
3.25 $273^\circ 52'$

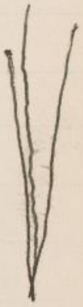
4.81 mm

60

288.6

tan $3^\circ 52'$ 8.82987 0.06759





~~Observations~~ April 13, 1899.

Search for Comet Holmes 1892.

I 6000 – ~~8000~~

7469 Nov. 5 0.8 33.0 0.8 39.0 beyond or edge of the

7470 " 5 0.8 43.0 " "

Search for Comet (Perrine) 1897

I 18601. – 19300

I 19139 Oct 2 4.7 +41.8 4.1 +46.0

19303 &c

April 14, 1899.

Meas. to determine identification of line Hβ in π' Gruis.

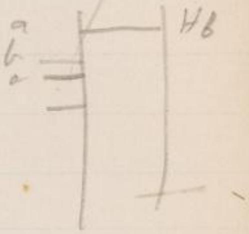


Plate B 20454 Sp

	E.C.B.	W.F.
a b	1.05	1.0
a c	2.10	1.95

A.G.C.

30526 π₁ Gruis − 46° 34′ 37″.7
30534 π₂ Gruis ~~[illegible]~~
46 33 23.3

1′ 14″.4 = 74.4 ⟌180 = .41
720
240

Corr. dist. for A.G.C. Dec.	0.41 mm	
Meas " ab	.21 P	.207
" " ac	.42	.39

Hence c is evidently Hβ.

Sunday April 30. 1899.

Examination of Plates A3304-13 for Phoebe.

12 30 On Plate A3308 a very remarkable, elongated line found by E. C. Pickering and immediately after a similar fainter line by W. H. Pickering. These lines show irregularities like those in the ~~[illegible]~~ trail produced by Eros. The irregularities in both lines are nearly identical. The brighter one, A, is near the edge of the plate and therefore ~~shows~~ is broader like the images of the adjacent stars. It also shows similar wings. Object A is confirmed on plates A3309, 3312 and 3313. Object B is shown on plates 3304, 3305, 3308, 3309, 3312, and 3313. The motion of A is about 25' a day, in direction ~~100°~~ 110° that is South, following. The motion of B is about ~~9'~~ 17' a day in direction 95°.

The British Nautical Almanac shows that Object A is Vesta.

Variable No. 171
X Telescopii.

See Mrs. F's Book 12. p. 78.

January 12, 1901

Positions charted Jan. 12, 1901 M. C. S.

Measures to determine position of new variable in —— Sp. Md. on Plate B 23029 No 13,317

Pos. 20h 9.3 ~~−50~~ −53.0 (Approx 1875)

Plate B 23823 For identification of Comp. stars see Pl. B 22750

			x	y	x	y
..	..	var.	+ 7.70	+ 4.30	+ 7.70	+ 4.30
−6.88	+1.39	1= a	0.82 + 0.80	5.68 + 5.65	+ 0.85	+ 5.70
−2.42	−2.54	2= b	5.28 + 5.30	+ 1.75	+ 5.25	+ 1.75
+2.12	+8.81	3= c	9.82 + 9.80	+ 13.10	+ 9.85	+ 13.10
−4.05	+1.49	d	+ 3.65	5.78 + 5.75	+ 3.65	+ 5.80
+6.45	−3.54	4= e	+ 14.15	+ 0.75	+ 14.15	+ 0.75
+1.50	+5.06	f	+ 9.20	+ 9.35	+ 9.20	+ 9.35
+1.55	+4.53	g	+ 9.25	8.82 + 8.80	+ 9.25	+ 8.85
+0.52	−2.74	h	8.22 + 8.20	+ 1.55	+ 8.25	+ 1.55
−1.32	+0.49	k	6.38 + 6.40	4.78 + 47.5	+ 6.35	+ 4.80
..	..	var.	+ 7.70	+ 4.30	+ 7.70	+ 4.30
−1.90	−0.94	l	+ 5.80	+ 3.35	+ 5.80	+ 3.35
+0.58	+2.43	m	8.28 + 8.30	6.72 + 6.70	+ 8.25	+ 6.75
+1.25	−1.67	n	+ 8.95	2.62 + 2.60	+ 8.95	+ 2.65
−0.80	+3.11	o	+ 6.90	+ 7.40	+ 6.90	+ 7.40
+0.65	+1.96	p	+ 8.35	+ 6.25	+ 8.35	+ 6.25
−0.05	−0.21	q	+ 7.65	4.08 + 4.10	+ 7.65	+ 4.05
+2.10	−067	r	+ 9.80	3.62 + 3.60	+ 9.80	+ 3.65
−0.28	+0.13	s	7.42 + 7.45	4.42 + 4.45	+ 7.40	+ 4.40
+0.50	−1.47	t	+ 8.20	2.82 + 2.85	+ 8.20	+ 2.80
..	..	var.	+ 7.70	+ 4.30	+ 7.70	+ 4.25

Z.C.	R.A. ~~79~~ 1875	Dec.	Magn.
{A.G.C. 27702	20h 7m 3.43s	−52° 55' 29.7	9
{20h 236	20 7 3.57	−52 55 26.4	9
20h 275	20 8 29.72	−53 7 23.9	8.5
20h 321	20 10 3.67	−52 33 46.8	8.8
{A.G.C. 27808	20 11 25.86	−53 10 32.0	9
{20h 363	[illegible] 11 26.02	−53 10 29.2	9

a	1231.52	248.81
b	433.18	454.66
c	379.48	1576.99
d	724.95	266.71
e	1154.55	633.66
f	268.50	905.74
g	277.45	810.87
h	93.08	490.46
k	236.28	87.71
l	340.10	168.26
m	103.82	434.97
n	223.75	298.93
o	143.20	556.69
p	116.35	350.84
q	8.95	37.59
r	375.90	119.93
s	50.12	~~202.27~~ 23.27
t	89.50	263.13

Mean Pos. var. +7.70 +4.29

Diff x.	−6.~~90~~88	−2.4~~0~~2	+2.1~~0~~2	+6.45
Log. Diff " "	0.83885 759	0.38021 382	0.32222 634	0.80956
	1.29700	1.29700	1.29700	1.29700
	2.13585 459	1.67721	1.61922	2.10656
No. Log	136.33 136.73 = 2 − 16.73 16.33	[illegible]	[illegible]	[illegible]

Diff. y.	+1.3~~6~~9	−2.54	+8.81	−3.54
×179	24~~3.44~~ 8.81	454.66	1576.99	633.66
	4′ ~~3.44~~ 8.81	7′ 34.66	26′ 16.99	10′ 33.66

(a) $20^h\ 7^m\ 3^s.43$ $-52^\circ\ 55'\ 29''.7$
$2\ 16.~~7~~3\ 3$ $4\ ~~3.4~~\ 8.8$
$20^h\ 9^m$ ~~20.16~~ 19.76 $-52^\circ\ 59'$ ~~33.1~~ 38.5

(b) $20^h\ 8^m\ 29^s.72$ $-53^\circ\ 7'\ 23''.9$
47.~~56~~ .95 $7\ 34.7$
$20^h\ 9^m$ 17.~~28~~ 17.67 $-52^\circ\ 59'\ 49''.2$

(c) $20^h\ 10^m\ 3^s.67$ $-52^\circ\ 33'\ 46''.8$
~~41.61~~ 42.01 $26\ 17.0$
$20^h\ 9^m$ ~~22.06~~ 21.66 $-53^\circ\ 0'\ 3''.8$

(e) $20^h\ 11^m$ ~~26.02~~ 25.86 $-53^\circ\ 10'$ 32.0 ~~54.2~~ 7.2
$2\ 7.81$ $10\ 33.7$
$20^h\ 9^m$ 18.2~~1~~ 0.5 $-52^\circ\ 59'$ 55.5 58.3

Mean Position of Var. $20^h\ 9^m$ ~~19.43~~ ~~19.32~~ $19^s.28$ $-52^\circ\ 59'$ ~~50.4~~ ~~51.8~~ $52''.4$ (1875)

adopt curve | Curve — 20 9 19.2 — 52 59 54. (1875)

Mean Dec. = ✓
$-52^\circ\ 56'\ 48''.1$ =
Log. 0.22000 ✓
1.07700
1.29700 ✓

Positions charted Feb. 8, 1901. m.c.s. See chart No 11.

U Telescopii = No. ~~144~~ 141

Y — Telescopii = No 140

February 7, 1901.

Meas to det. pos. of new var. star in

(var) Sf. Md on A 3621 No. 18 58.5 −49 6

(var?) Sf Mc. var? on A 3621 {C Dm. −48° 12910 / CPD −48° 10057 $\overset{h}{18}\ \overset{m}{58.2}$ −48° 46′ (1875).

Plate B23852 Ident. of Cat. stars B9653.

Mean Dec. = −49° 1′ 6.9″ =
Log. 0.18322
1.07700
1.26022

Var. Diff x	Diff y		x	y	x	y
..	..	var	+12.20	+3.70	+12.20	+3.70
..	..	var?	+11.15	+10.35	+11.20	+10.40
−3.52	+12.16	z	+8.70 8.68	+15.85 15.88 13.82	+8.65	+15.90
−11.10	+10.10	a	+1.10	+13.80	+1.10	+13.85
+6.00	+4.56	b	+18.20	+8.25 8.28	+18.20	+8.30
−3.90	−1.94	c = 1	+8.30	+1.75 1.78	+8.30	+1.80
−1.90	−2.42	d = 3	+10.30	+1.30	+10.30	+1.30
+1.70	+2.03	e = 6	+13.90	+5.75	+13.90	+5.75
+3.3~~8~~5	+5.43	f = 7	+15.55	+9.15	+15.55	+9.15
+1.20	+4.48	g = 5	+13.40	+8.20	+13.40	+8.20
−0.85	+7.78	h	+11.35	+11.50	+11.35	+11.50
+2.10	+0.33	k	+14.30	+4.05	+14.30	+4.05
..	..	var	+12.20	+3.70	+12.20	+3.75
..	..	var?	+11.20	+10.35	+11.20	+10.35
+3.15	−0.32	l	+15.35	+3.40	+15.35	+3.40
−2.90	+0.88	m	+9.30	+4.60	+9.30	+4.60
−0.80	+0.66	n	+11.40	+4.35 4.38	+11.40	+4.40
−0.98	−0.32	o	+11.20 11.22	+3.40	+11.25	+3.40
−1.15	+0.73	p	+11.05	+4.45	+11.05	+4.45
+0.65	+1.18	q	+12.85	+4.90	+12.85	+4.90
−0.35	−0.02	r	+11.85	~~4.70~~ 3.70	+11.85	+3.70
−0.20	−0.07	s	+12.00	+3.65	+12.00	+3.65
..	..	var	+12.20 ~~12.20~~	+3.75 ~~3.72~~	+12.20	+3.70
..	..	var?	+11.20 11.19	+10.35 10.36	+11.20	+10.35
		Mean Pos. Var.	+12.20	+3.72		

var?	C Dm. −48° 12910	18	58.2	−48	45.6	9.2
c = 1	{a. 2C. 26105 2.C. 3045	18 57	22.16 22.22	−49	11	13.8 13.4	8½ 8½
d = 3	{a. 2C. 26126 2.C. 3076	18 57	59.20 59.31	−49	12	57.2 56.7	9¼ 9
e = 6	2.C. 3121	18 59	5.73	−48	59	27.0	10
f = 7	2.C. 3147	18 59	35.37	−48	49	31.8	9
g = 5	2C 3117	18 58	56.74	−48	52	25.4	9½

x×179	Var. y×179	Diff x V?	Diff y	x×179 V?	y×179
z = 630.08	2176.64	−2.51	+5.52	449.2~~8~~9	988.08
a = 1986.90	1807.90	−10.09	+3.46	1806.11	619.34
b = 1074.00	816.24	+7.01	−2.08	1254.79	372.32
c = 698.10	347.26	−2.89	−8.58	517.31	1535.82
d = 340.10	433.18	−0.89	−9.06	159.31	1621.74
e = 304.30	363.37	+2.71	−4.61	485.09	825.19
f = ~~590.70~~ 599.65	971.97	+4.36	−1.21	780.44	216.59
g = 214.80	801.92	+2.21	−2.16	395.59	386.64
h = 152.15	1392.62	+0.16	~~+0.94~~ 1.14	28.64	~~168.26~~ 204.06
k = 375.90	59.07	+3.11	−6.31	556.69	1129.49
l = 563.85	57.28	+4.16	−6.96	744.64	1245.84
m = 519.10	157.52	−1.89	−5.76	338.31	1031.04
n = 743.20	118.14	+0.21	−5.98	37.59	1070.42
o = 175.42	57.28	+0.03	−6.96	5.87	1245.84
p = 205.85	130.67	−0.14	−5.91	25.06	1057.89
q = 116.35	211.22	+1.66	−5.46	297.14	977.34
r = 62.65	3.58	+0.66	−6.66	118.14	1192.14
s = 35.80	12.53	+0.81	−6.71	144.99	1201.09

For ident Sf pr T, see A 3812.

Diff x.	−3.90	−1.90	+1.70	+3.35	+1.20.
Log. "	0.59106	0.27875	0.23045	0.52504	0.07918
	1.26022	1.26022	1.26022	1.26022	1.26022
	1.85128	1.53897	1.49067	1.78526	1.33940
	$71^s.00$	$34^s.59$	$30^s.95$	$60^s.99$	$21^s.85$
	$1^m\ 11^s.00$			$1^m\ 0^s.99$	

Diff y.	−1.94	−2.42	+2.03	+5.43	+4.48
×179	347″.26	433″.18	363″.37	971″.97	801″.92
	5′ 47″.26	7′ 13″.18	6′ 3″.37	16′ 11″.97	13′ 21″.92

(c) $18^h\ 57^m\ 22^s.16 - 49^\circ\ 11'\ 13''.6$
$\quad 1\ 11.00 \quad 5\ 47.3$
$18^h\ 58^m\ 33^s.16 - 49^\circ\ 5'\ 26''.3$

(d) $18^h\ 57^m\ 59^s.20 - 49^\circ\ 12'\ 57''.2$
$\quad 34.59 \quad 7\ 13.2$
$18^h\ 58^m\ 33^s.79 - 49^\circ\ 5'\ 44''.0$

(e) $18^h\ 59^m\ 5^s.73 - 48^\circ\ 59'\ 27''.0$
$\quad 30.95 \quad 16\ 3.4$
$18^h\ 58^m\ 34^s.78 - 49^\circ\ 5'\ 30''.4$

(f) $18^h\ 59^m\ 35^s.37 - 48^\circ\ 49'\ 31''.8$
$\quad 1\ 0.99 \quad 16\ 12.0$
$18^h\ 58^m\ 34^s.38 - 49^\circ\ 5'\ 43''.8$

(g) $18^h\ 58^m\ 56^s.74 - 48^\circ\ 52'\ 25''.1$
$\quad 21.85 \quad 13\ 21.9$
$18^h\ 58^m\ 34^s.89 - 49^\circ\ 5'\ 47''.0$

Mean Pos. of Var. $18^h\ 58^m\ 34^s.20\ - 49^\circ\ 5'\ 38''.3$ (1875)
Adopt. Curve 18 58 33.9 − ~~49 5 38.3~~ (1875)
19 0.5 − 49 4 1900.

See Book 12. p 108 & ~~109~~.