KG
11365
854

1888phot..proj...855F

HENRY DRAPER MEMORIAL

Description of Spectra.

No. 30.

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KG11365,83.4

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1888phae.proj..855f

J. S. K.

Adopted Notation Feb 28th 1889

I	A	
I b	B	
I d	C	
I pec	D	(Since narrow I c, I bc)
II	E	
II a	F	
II pec	G	(II b, II c, II ac, II bc, II abc,)
III	H	
III b	I	
III bc	K	
III pec.	L	(III a, III c, III ab,)
III true	M	
IV	N	
B	O	
Pec	P	

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ICG 11365.854

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1888phae.proj..855F

February 28 1888.

Plate 1070.

Book 10 G. Page 12	V	H	Type	Rem.	Description of Lines on Spectra.
	20.4	9.0	I b	B 1864	h 6 H = .2,
	18.1	10.9	I b	B 1865	F 6 G = .2, h 6 H = .2
	18.0	12.9	I b	B 1866	h 6 H = .2, H 6 K = .1
	17.5	11.5	III b	c K 1867	F 3 G = .1 B, F 4½ G = .2, F 5 G = .2 B, F 5½ G = .1, F 7 G = .3, lines bet. G and H large, one line below K.
114	13.4	15.4	I b	B 1868	F 6 G = .2
	13.5	20.3	II a	? F 1869	G + h H = .5?, lines below K.
	11.2	18.7	III b	? I 1870	F 4½ G = .2, F 7 G = .3
116	10.3	13.9	II a	F 1871	G + h H = .5
	10.8	18.4	II a	? F 1872	G + h H dbl. = .5
	9.4	10.5	II a	? F 1873	G + h H = .5
	8.6	8.2	II ?	G 1874	Several faint lines bet. F and H.
	7.4	15.2	II a	? F 1875	G + h H = .5, lines below K.
	6.8	6.2	II a	? F 1876	G + h H = .5
	6.0	11.1	II a	F 1877	G + h H = .5
	6.3	17.7	I b	B 1878	F 6 G = .1, h 6 H = .2,
	6.7	22.4	III b	I 1879	F 7 G = .3
	4.7	9.9	I b	B 1880	h 6 H = .2,
118	3.1	11.1	I b	B 1881	h 6 H = .2,

Amt. of Fog. due to moon & clouds. 7.7

Amt. of Fog. due to chemicals. 7.8

March 1, 1888.

Plate 1118.

V.	H.	Type,	Rem.	
18.4	15.8	I b	B 1882	h 6 H = .2,
18.0	12.4	I b	B 1883	h 6 H = .2, H 6 K = .2.

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1888phae..proj..855f

402, 2

402, 2 ; 453, 2

392, 1 ; 402, 2 ; 453, 2

K ; H ; 448, 3 ; 456, 1 ; 458, 2 ; 461, 2 ; 468, 1

453, 2

aK ; h 5 ? g 5 ?

448, 3 ; 461, 2

h 5 ; g 5

hd 5 ; gd 5

h 5 ; g 5

Several faint lines between K & H.

aK ; h 5 ; g 5

h 5 ; g 5

h 5 ; g 5

402, 2 ; 453, 1

448 ; 3 ;

402, 2

402, 2

402, 2

392, 2 ; 402, 2

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1888phae.proj..855F

March 1, 1888.

Plate 1118.

Book 10 G, Page.	V.	H.	Type.	No. Rems.	Description of Lines or Spectra.
118	13.4	19.8	IIa:F	1884	G and ~~H~~ h = .5?, lines below K.
120	11.1	14.8	IIa:F	1885	G + ~~H~~ h = .5.
	10.5	20.3	IIIb:K	1886	F ~~2½~~ 1 G = .3, F 2½ G = .1, F 3 G = .2 B, F 4½ G = .2, F 5 G = .2 B, F 5½ G = .1, F 6 G = .2, F 7 G = .3, F 8 G = .1 B. F 9 H = .1, lines bet. G + H large, lines below K.
	6.9	21.9	IIIb:I	1887	F 7 G = .3,
	6.3	17.3	I b:B	1888	h 6 H = .2

Amt. of Fog. due to moon & clouds. 6.4

Amt. of Fog. due to chemicals. 6.5

March 2, 1888.

Plate 1167

122	21.3	7.1	I b:B	1889	h 6 H = .1
	20.8	11.8	IIa:F	1890	G + ~~H~~ h = .5
	20.4	22.4	IIa:F	1891	G + ~~H~~ h = .5, lines below K.
	18.2	6.6	IIa:F	1892	G + ~~H~~ h = .5
	18.5	12.3	I b:B	1893	h 6 H = .2, H 6 K = .4
124	17.9	10.9	IIIb:I	1894	F 7 G = .2
	16.7	13.5	IIa:F	1895	G + ~~H~~ h = .2
126	14.5	7.9	IIa:F	1896	G + ~~H~~ h = .5
	14.6	15.9	IIa:F	1897	G + ~~H~~ h = .3
	14.0	19.7	IIa:F	1898	G + ~~H~~ h = .5?, lines below K.
	13.9	15.0	I b:B	1899	h 6 H = .1, H 6 K = .1
	12.9	17.3	IIa:F	1900	G + ~~H~~ h = .5
	11.9	6.8	Ia:D	1901	G + ~~H~~ h = .5, lines below K.

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1888phae..proj...855F

March.

aK; h5? l5?

h5; l3

1 aK; Harv; 438, 1; 443, 1; 448, 3; 453, 2; 456, 1; 458, 2; 461, 2; 468, 2; 471, 1; 480, 3;

448, 3

402, 2

402, 1,

h5; l5

aK; h5; l5

h5; l5

p 392, 4; 402, 2

448, 2

h2; l2

h5, l5

h3; l3

aK; h5? l5?

p 392, 1; 402, 1

h5; l5

aK; h5; l5

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1888phae.proj..855F

March. 6, 1888.

Plate 1167.

Book 10 G. S. P. 128	V.	H.	Type.	No. Rem.	Description of Lines on Spectra.
✓	11.3	10.0	II a F	1902	G + H^h = .5, lines below K.
✓	11.4	17.9	II a F	1903	G + H^h = .5, lines below K.
✓	11.7	18.2	III b I	1904	F 4½ G = .2, F 7 G = .3.
✓	10.8	13.3	II a F	1905	G + H^h = .2, lines below K.
✓	10.8	20.8	III b a K	1906	F 2½ G = .2, F 3 G = .1 B, F 3½ G = .1, F 4½ G = .2, F 5 G = .2 B. F 5½ G = .1, F 6 G = .2, F 7 G = .3, F 8 G = .1 B, F 9 G = .1, lines bet. G + H, large. Lines below K.
✓	7.2	5.7	II a ? F?	1907	G + H^h = .5
✓	7.5	6.6	II a ? F?	1908	G + H^h = .5
✓	7.2	9.0	II a ? F?	1909	G + H^h = .5, lines below K.
✓ 130	7.3	21.8	III b I	1910	F 7 G = .3, lines bet. G + H large. Lines below K.
✓	6.9	17.2	I b B	1911	F 6 G = .2, G 6 h = .1, h 6 H = .1, H 6 a = .1.

Amt. of Fog. due to moon & clouds. 6.0 Amt. of Fog. due to chemicals. 7.0

Plate 1106.

Plate 1106.

Amt. of Fog. due to moon & clouds. 7.0 Amt. of Fog. due to chemicals. 7.0

Plate 1132.

~~22.4~~	~~20.5~~	~~II b F?~~	~~1911~~	~~G + h = .5~~	
✓ 132	19.5	14.4	III b I	1912	F 7 G = .3, lines bet. G + H, large.
✓	18.3	12.5	I b B	1913	F 6 G = .5, h 6 H = .5,
✓	18.5	23.6	I b B	1914	h 6 H = .2
✓	16.5	16.3	II a ? F?	1915	G + H^h = .5

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1888phae.proj...855f

March.

aK; h5; [illegible]5

aK; h5; [illegible]5

448,3; 461,2

aK; h2; [illegible]2

aK; Hα[illegible]; 438,1; 443,1; 448,3; 453,2; 456,1; 458,2; 461,2; 466,1; 468,1; 471,2

h5; [illegible]5

h5; [illegible]5

aK; h5; [illegible]5

aK; Hα[illegible]; 448,3

392,1; 402,1; 419,1; 453,2

~~h5? [illegible]5?~~

Hα[illegible]; 448,3

402,5; 453,5

402,2

h5; [illegible]5

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1888phae.proj..855F

March 6, 1888.

Plate 1132

Book 10 G. Page 134	V.	He.	Type.	No. Rem.	Description of Lines on Spectra.
	14.0	24.1	I b B	1916	F 6 G = .2, h 6 H = .2
	12.0	7.1	II a F	1917	G + H^h = .2, lines below K.
	12.7	11.2	III b I	1918	F 2½ G = .2, F 4½ G = .2, F 7 G = .3,
	12.9	18.2	III b I	1918^a	F 7 G = .3
	8.6	11.1	III b I	1919	F 4½ G = .2, F 7 G = .3.
136	4.8	11.4	I b B	1920	F 6 G = .2, h 6 H = .2.
	4.8	17.7	I b B	1921	h 6 H = .2, H 6 α = .3.
	3.0	19.3	III b I	1922	F 7 G = .3.

Amt. of Fog. due to moon & clouds. 7.5

Amt. of Fog. due to chemicals. 7.6

Plate 1100.

	23.1	17.8	I b B	1923	F 6 G = .2, h 6 H = .2, H 6 α = .2.
	20.6	20.7	II a F	1924	G + H^h = .5
138	14.9	21.1	I b B	1925	G 6 h = .2, h 6 H = .2,
	12.6	6.4	II a F	1926	~~h 6 H = .5~~ G + L = .5
	12.8	8.5	I b B	1927	F 4 G = .2, G 3 h = .2, G 8 h = .2, h 6 H = .2.
140	6.0	11.3	I b B	1928	F 6 G = .3, G 6 H = .2.
	3.5	17.9	I b B	1929	F 6 G = .2, h 6 H = .1, H 6 α = .2.

Amt. of Fog. due to moon & clouds. 7.4

~~Plate 1036.~~

Amt. of Fog. due to chemicals. 7.4

Plate 1036.

	22.9	15.9	I b B	1930	F 6 G = .2, h 6 H = .2, H 5 α = .2, β 4 γ = .4
	17.9	20.1	I b B	1931	h 6 H = .2, H 6 α = .2.
	17.4	23.0	II ? E	1932	Peculiar Spectrum. Lines bet. F + G, lines bet. G + H larger. Lines below K. Spectrum of I Type star superposed.

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1888phae..proj...855F

March

402,2; 453,2

aK; h2, g2

448,3; 461,2; 471,2

448,3

448,3; 461,2

402,2; 453,2

392,3; 402,2.

448,3

392,2; 402,2; 453,2

h5, g5

402,2; 419,2

~~402,2~~ h5, G5.

402,2; 443,2; 426,2; 463,2

409,2; 453,3

392,2; 402,1; 453,2

382,4; 393,2; 402,2; 453,2

392,2; 402,2

aK, Ha2; Ga4; Peculiar spectrum. Spectrum of A star superposed

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1888phae.proj..855F

March 6, 1888.

Plate 1036.

	V.	H.	Type.	No. Rem.	Description of Lines or Spectra.
Books 10 G. Page 142	11.3	11.5	IIa ? F?	1933	G + H^h = .5
	10.0	14.5	Ib B	1934	h 6 H = .2
	9.0	11.6	IIa F	1935	G + H^h = .5
	2.6	17.1	Ib B	1936	h 6 H = .2, H 6 α = .1,
	Amt. of Fog. due to moon + clouds. 7.7				Amt. of Fog. due to chemicals. 7.8

March 8, 1888.

Plate 1228.

	22.3	13.4	IIa F	1936a	G + h = .5?	
144	22.6	15.0	Ib B	1937	F 6 G = .2, h 6 H = .2	(G 6 G = .2 h 6 H = .2)
	20.3	8.8	IIa F	1937a	G + h = .5?	
	17.8	19.2	Ib ? B?	1938	F 6 G = .2, h 6 H = .2	
	17.1	22.1	III b ? I	1939	Peculiar spectrum. F 2½ G = .2	
					F 4½ = .3, F 7 G = .3, F 9 G = .1.	
					Lines bet. G + H large, lines below K.	
	16.3	16.3	IIa F	1940	G + H^h = .2	
	17.0	19.4	IIa ? F?	1941	G + H^h = .5, 2 lines below K.	
146	14.0	8.1	I ? A?	1942	Lines above K.	
	14.2	17.5	IIa F	1943	G + H^h = .3, lines below K.	
	13.5	14.6	IIa ? F?	1944	G + H^h = .5	
	12.6	9.0	IIa F	1945	G + H^h dbl. = .5. Lines below K.	
	11.7	18.9	IIa F	1946	G + H^h = .5 (G + h = .5?)	
148	10.6	13.7	Ib B	1947	F 6 G = .2	
	8.9	10.6	IIa F	1948	G + H^h = .2. lines below K.	
	6.7	13.7	III b I	1949	F 4½ G = .2, F 7 G = .3	
	7.0	24.0	IIa F	1950	G + H^h = .5	
	4.2	16.4	IIa F	1951	G + H^h = .5. Lines below K.	
	2.5	14.5	IIa F	1952	G + H^h = .5? 2 lines below K.	
	2.5	16.1	I b B	1953	F 6 G = .2, G 6 h = .2.	
	Amt. of Fog. due to moon + clouds. 8.8				Amt. of Fog. due to chemicals.	

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1888phae.proj..855F

M

h5; k5

402,2

h5; k5

? 392,1; 402,2

h5? k5?

402,2; 453,2 ~~(402.2; 453.2)~~ (402.2; 453.2)

h5? k5?

402,2; 453,2

? aK; Ha k5; 438,1; 448,3; 461,3; 471,2; Peculiar Spectrum

h2; k2

2aK; h5; k5

Ia

aK; h3, k3

h5; k5

aK; hk5; kd5

h5; k5 (h5? k5?)

453,2

aK; h2; k2

448,3; 461,2

h5; k5

aK; h5; k5

2aK; h5? k5?

469.2; 453.2

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1888phae.proj..855F

March 8, 1888.

Plate 1101

	V.	He.	Type.	No. Rem.	Description of Lines in Spectra.
Book 10 G. Page 150	22.8	21.1	F' II a ?	1954	G + H_δ^h = .5⁻
	13.8	19.0	I III b	1955⁻	F 7 G = .3
	10.1	8.7	I III b	1956	F 7 G = .3
	10.0	17.7	F II a	1957	G + H_δ^h .5⁻ (G + h = .5⁻)
152	4.6	20.1	F' II a ?	1958	G + H_δ^h = .5⁻; Lines below K. Lines above H.
	3.2	21.1	F' II a ?	1959	G + H_δ^h = .5⁻

Amt. of Fog. due to mum + clouds 7.4 Amt. of Fog. due to chemicals 7.4

March 9, 1888.

Plate 1120

	22.5⁻	13.5	B I b	1960	F 6 G = .2, h 6 H_δ = .2.
	13.8	22.4	I III b	1961	F 4½ G = .2, F 7 G = .3
	12.6	14.3	G' II a c ?	1962	Peculiar spectrum. G + H_δ^h = .5⁻. Lines below K. F 5⁻ G = .1, F 5-½ G = .2 B, ~~F 2½ G = .1~~ G 2½ h = .1 B, G 7 h = .3, G 8 h = .1, G 9 h = .2, h 3 H_δ = .1, h 5⁻ H_δ = .2. Spectrum of faint ~~II~~ star superposed H_γ 7 H_δ = .1,
	11.5	5.9	F II a	1962a	G + h = .5
	10.2	13.9	F II a	1963	G + H_δ^h = .3
154	10.9	23.0	F' II a ?	1964	G + H_δ^h = .5⁻
	9.9	19.1	F II a	1965⁻	G + H_δ^h dbl. = .3. Lines below K.
	5.9	10.1	K III b c	1966	F 2½ G = .1, F 3 G = .1 B, F 3½ G = .2. F 5½ G = .1, F 7 G = .3
	2.6	13.7	B I b	1967	F 6 G = .1, h 6 H_δ = .2, H_δ 6 α = .1

Amt. of Fog. due to mum + clouds. 7.8 Amt. of Fog. due to chemicals. 7.8

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1888phae.proj..855F

h5; g5

448,3

448,3

h5; g5 (h5 g5)

~~Fa~~; a K; h5; g5, 7a.

h5; g5

402,2; 453,2

448,3; 461,2

aK; 401,1; 403,2; 406,1; 412,2; 414,1; 417,3; 428,1; (424,1; 427,3; 428,1); 456,2;

458,1; h5; g5. Peculiar Spectrum. Spectrum of faint A stars?

h5; g5

h3; g3

h5; g3

aK; hd3; gd3

448,3; 456,1; 466,2; 468,1; 471,1;

392,1; 402,2; 453,1

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1888phae.proj..855F

March 9, 1888.

Plate 1157.

	V.	H.	Type.	No. Rev.	Description of Lines in Spectra.
Books 10 & 9. Page 154	21.0	6.9	II a ? F?	1968	G + H^h = .5?
	~~15.7~~	~~21.0~~	~~II a ? F?~~	~~1968a~~	~~G + h = .5?~~
156	15.8	21.9	III b ? I	1969	F 4½ G = .2, F 7 G = .3
	8.8	8.9	II a F	1970	G + H^h = .5
	7.5	8.7	I b B	1971	F 6 G = .1, h 6 H = .2
	7.6	10.9	III b I	1972	F 7 G = .3
	6.9	21.1	II a F	1973	G + H^h = .5

Amt. of Fog. due to moon & clouds. 7.3

Amt. of Fog. due to chemicals. 7.4

Plate 1121

158	18.5	16.5	II a ? F?	1974	G + H^h = .2
	17.3	16.9	I b B	1975	h 6 H = .2, H 6 α = .1
	17.4	19.1	III b ? I?	1976	F 7 G = .3
	12.3	10.9	III b b K	1977	F 2½ G = .1, F 3 G = .1 B, F 3½ G = .1, F 4½ G = .2, F 5 G = .2 B, F 5½ G = .1, F 7 G = .3, F 8 G = .1 B. Lines bet. G + H, large, 1 line below K.
	11.4	15.1	II a ? F?	1978	G + H^h = .2, G dbl., lines below K.

Amt. of Fog. due to moon & clouds. 8.0

Amt. of Fog. due to chemicals. 8.0

Plate 1230.

Dark Plate, Very hard to measure.

	22.3	17.0	III b I	1979	F 4½ G = .2, F 7 G = .3, lines bet. G + H, large.
	21.2	21.3	II a F	1980	G + H^h = .2, 2 lines below K.
160	9.9	21.2	II a ? F?	1981	G + H^h = .5.

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1888phae.proj..855F

h 5 ? g 5 ?

~~h 5 ? g 5 ?~~

448,3; 461,2

h 5; g 5

402,2; 453,1

448,3

h 5; g 5

h 2; g 2

392,1; 402,2

448,3

1aK; Hαg; 443,1; 448,3; 456,1; 458,2; 461,2; 466,1; 468,1; 471,1

K.

aK; h 2; g d 2

Hαg; 448,3; 461,2

2aK; h 2; g 2

h 5; g 5

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1888phae.proj..855F

March 9, 1888.

Plate 1230

	V.	H.	Type.	No. Rem.	Description of Lines on Spectra.
Book 10 G. Page, 160	2.5	17.1	I III b	1982	F 4½ G = .2, F 5½ G = .2, F 7 G = .3. Lines bet. G & H, large.

Amt. of Fog. due to moon & clouds. 6.9 Amt. of Fog. due to chemicals. 6.0

Plate 1272

Dark Plate, very hard to measure.

162	22.0	20.6	I III b?	1983	Lines bet. G & H, large, 2 lines below K.
	16.5	8.7	F III a ?	1984	G & H^h = .5 (G & h = .5)
	12.2	18.1	F III a	1985	G & H^h = .3 (G & h = .3)
	11.6	13.6	F III a ?	1986	G & H^h = .3
	11.1	23.5	F III a	1986a	G & h = .5
164	7.7	8.0	F III a	1987	G & H^h = .5 (G & h = .5)
	6.4	11.8	F III a	1987a	G & h = .5
	6.6	21.3	F III a	1988	G & H^h = .5 (G & h = .5)
	4.0	15.4	I III b	1989	F 4½ G = .2, F 7 G = .3
	3.1	12.5	F III a	1990	G & H^h = .5, 2 lines below K. (G & h = .5?)
166	3.0	19.5	B III b	1991	G 6 h = .2, h 6 H = .1
	2.4	20.7	K III bc	1992	F 4½ G = .1, F 5 G = .2 B, F 5½ G = .1, F 7 G = .3, lines bet. G & H large, lines below K.

Amt. of Fog. due to moon & clouds. 5.2 Amt. of Fog. due to chemicals. 6.9

Plate 1122.

	21.1	14.3	K III bc	1993	F 2½ G = .1, F 3 G = .2 B, F 3½ G = .1, F 4½ G = .2, F 5 G = .2 B, F 5½ G = .1, F 6 G = .1, F 7 G = .3, F 8 G = .1 B, F 9 G = .1, Lines bet. G & H, large.
	18.5	18.1	F III a ?	1994	G & H^h = .5 (G & h = .5)

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1888phae.proj..855F

Hα; 4481,3; 4556,2; 4561,2

2 a K; Hα;
h 5; g 5 (h 5; g 5)
h 3, g 3 (h 3; g 3)
h 3 g 3
h 5; g 5
h 5; g 5 (h 5 g 5)
h 5; g 5
h 5 g 5 (h 5; g 5)
4481,3; 4561,2

2 a K h 5 g 5 (h 5 ? g 5 ?)
4021,1; 4119,2
a K; Hα; 4481,3; 4556,1; 4558,2; 4561,1

Hα; 4381,1; 4431,1; 4481,3; 4531,1; 4556,1; 4558,2; 4561,2; 4661,1; 4681,2; 4711,1

h 5 g 5 (h 5 g 5)

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March 9, 1888

Plate 1122.

	V.	H.	Type.	Nebr.	Description of Lines on Spectra.
Book 10 G. Page 166	9.5	13.7	F I a	1995	G + H = .3, lines below K.
	8.5	14.5	I III b	1996	F 7 G = .3
	6.3	8.3	I III b	1998	F 7 G = .3
168	4.2	7.7	F I a	1998	G + H dbl. = .5. Lines below K.

Amt. of Fog. due to moon & clouds. 8.0 Amt. of Fog. due to chemicals. 8.0

Plate 1160

	22.5	19.0	B I b	1999	h 6 H = .2
	22.2	13.8	F? I a?	2000	G + H = .5
	16.2	19.4	K? III k?	2001	F 3½ G = .1, F 4½ G = .2, F 5 G = .1B, F 5½ G = .1, F 7 G = .3, lines bet. G + H large,
	14.2	18.7	G I a?	2002	G + H = .5; G dbl. Lines below K Other lines seen,
170	10.4	16.2	F? I a?	2003	G + H = .5. 2 Lines below K.
	3.7	13.6	I III b	2004	F 4½ G = .2, F 5½ G = .2, F 7 G = .3,
	2.7	19.0	B I k	2005	h 6 H = .2

Amt. of Fog. due to moon & clouds. 7.8 Amt. of Fog. due to chemicals. 7.8

Plate 1238.

	17.8	14.3	B I b	2006	G 6 h = .3
	16.8	7.1	I III b	2007	F 7 G = .3

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1888phae.proj..855f

aK; hδ lδ

4478,3

3448,3

aK; hd5; ld5

4022,2

h5; l5

Hαb; 4478,3; 455b,1; 458,1; 461,2; 466,1

aK; h5; ld5; Other lines below

2aK; h5 l5

4478,3; 455b,2; 461,2

4022,2

4479,3

4478,3

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March 10, 1888.

Plate 1238

Book 10 G. Page 172	V.	H.	Type.	No. Rem.	Description of Lines on Spectra.
✓	11.6	17.3	IIIa ! F	2008	G + H = .5, 2 lines below K.
✓	8.0	14.5	IIIb c K	2009	F 3 G = .2 B, F 3½ G = .1, F 4½ G = .2, F 5 G = .2 B, F 5½ G = .1, F 6 G = .1, F 7 G = .3, F 8 G = .1 B, F 9 G = .1, 2 lines bet. G + H, large.
✓	8.8	14.8	IIIa F	2010	G + H = .5, Lines below K.
✓	8.1	21.9	IIIa F	2011	G + H = .3.
✓	5.0	15.4	Ib B	2012	h + H = .3
✓	3.4	15.9	IIIb I	2013	F 7 G = .3

Amt. of Fog. due to moon & clouds. 7.4 — Amt. of Fog. due to chemicals. 7.4

Plate 1302

✓	17.4 19.8	9.4	IIIa ! F	2014	G + H = .5
✓	13.6	22.1	IIIb I	2015	F 4½ G = .2, F 7 G = .2, G dbl. Lines bet. G + H large.
✓	9.4	13.2	IIIa F	2016	G + H = .5, 2 lines below K.
✓	8.7	12.9	IIIb c K	2017	F 3 G = .1 B, F 3½ G = .1, F 4½ G = .2, F 5 G = .2 B, F 5½ G = .1, F 7 G = .3, Lines bet. G + H, large.
✓	4.0	14.3	IIIb I	2018	F 7 G = .3

Amt. of Fog. due to moon & clouds. 8.4 — Amt. of Fog. due to chemicals. 8.4

Plate 1309

✓	19.9	10.0	IIIa ! F	2019	G + H = .5 ? Lines below K.
✓	17.6 17.4	6.1	IIIb I	2020	F 7 G = .3
✓	13.5	22.7	IIIb c K	2021	F 4½ G = .2, F 5 G = .1 B, F 5½ G = .1, F 7 G = .3
			2		Lines bet. G + H, large.

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aK; h5; l5

Hαl; 438,1; 443,1; 448,3; 453,1; 456,1; 458,2; 461,2; 466,1; 468,2

aK; h5; l5

h3; l3

405, 3

448, 3

h5; l5

Hαl; lδ; 448,2; 461,2

2aK; h5; l5

Hαl; 448,3; 456,1; 458,2; 461,2; 466,1; 468,1

448,3

aK; h5? l5?

448, 3

3 Hαl; 448,3; 456,1; 458,1; 461,2

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March 10, 1888.

Plate 1309

Book 10 G. Page 176	V.	H.	Type.	No. Rem.	Description of Lines or Spectra.
	9.4	13.7	F? II a?	2022	G + H^h = .5, 2 lines below K.
	8.7	9.2	F? II a?	2023	G + H^h = .5
	8.5	13.5	K III b c	2024	F 3 G = .1B, F 3½ G = .1, F 4½ G = .2, F 6 G = .2 B, F 5½ G = .2, F 7 G = .3, F 8 G = .1B, F 9 G = .1, Lines bet. G + H, large, 2 lines below K.
	7.8	18.6	I III b	2025	F 7 G = .3
	4.0	14.9	I III b	2026	F 4½ G = .2, F 7 G = .3, Lines bet. G + H large

Amt. of Fog. due to moist clouds. 7.5

Amt. of Fog. due to chemicals. 7.5

March 12, 1888.

Plate 1161

		V.	H.	Type.	No.	Rem.	Description of Lines or Spectra.
		21.2	15.3	B I b	2027		G + h = 3
	178	19.9	12.3	I III b	2028		F 7 G = .3
		18.3	11.5	F II a	2029		G + H^h = .2
		18.6	24.1	I? III b?	2030		F 4½ G = .2, F 7 G = .3, Lines bet G + H, large.
		15.4	13.3	B I b	2031		F 3 G = .2, F 6 G = .2, F 9 G = .1, h 6 H = .1 β 4 γ = .2
	180	7.8	10.8	K III b c	2032		F 2½ G = .1, F 3 G = .1 B, F 5 G = .1 B, F 5½ G = .1, F 7 G = .3, lines bet. G + H, large, 1 line below K.
		7.8	16.5	K III b c	2033		F 2½ G = .1, F 3 G = .1B, F 8½ G = .1, F 4½ G = .2, F 5 G = .2B, F 5½ G = .1, F 7 G = .3, F 8 G = .1 B, lines bet. G + H large.
		6.4	5.5	K III b c	2034		F 4½ G = .2, F 5 G = .1B, F 7 G = .3, Goldb.? Lines bet. G + H, large.
		4.8	19.3	F? II a?	2035		G + H^h = .6 (G + h = .5)

Amt. of Fog. due to moist clouds 7.3 Amt. of Fog. due to chemicals 7.3

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1888phae.proj..855F

2aK; h_5; l_5

h_5; l_5

2aK; Hal; 438,1; 443,1; 448,3; 456,2; 458,2; 461,2; 466,1; 468,1

448,3

Hal; 448,3; 461,2

434,3

448,3

h_2; l_2

Hal; 448,3; 461,2

382,2; 402,1; 438,1; 453,2; 468,2

1aK; Hal; 448,3; 456,1; 458,1; 468,1; 471,1

Hal; 443,1; 448,3; 456,1; 458,2; 461,2; 466,1; 468,1; 471,1

Hal; ld? 448,3; 458,1; 461,2

h_5, l_5 (h_5; l_5)

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1888phae.proj..855F

March 12, 1888.

Plate 1304

Book 10 G. Page 182	V.	K.	Type.	Lin.	Description of Lines on Spectra.
✓	18.0	6.6	F I II a?	2036	G + H^h dtl. = .5
✓	16.3	8.1	I III b	2037	F 7 G = .3
✓	16.2	13.6	K III bc	2038	F 2½ G = .1, F 3 G = .1 B, F 3½ G = .1, F 4½ G = .2, F 5 G = .2 B, F 5½ G = .1, F 7 G = .3, F 8 G = .1 B, F 9 G = .1. Lines bet. G + H, large.
✓	8.9	5.9	F II a	2039	G + H^h dtl. = .5; 2 lines below K.

Amt. of Fog. due to mum + clouds. 7.7 Amt. of Fog. due to chemicals. 7.6

March 14, 1888.

184	Plate 1310			~~2040~~	
✓	20.2	9.5	I III b	2040	F 2½ G = .2, F 7 G = .3. Lines bet. G + H, large.
✓	17.4	19.6	I III b	2041	F 4½ G = .2, F 7 G = .3.
✓	16.4	8.9	I III b	2042	F 7 G = .3
✓	16.2	14.4	K III bc	2043	F 3 G = .2 B, F 3½ G = .1, F 4½ G = .1, F 5 G = .2 B, F 5½ G = .1, F 6 G = .1, F 7 G = .3, F 8 G = .1 B, F 9 G = .1, Lines bet. G + H large. Lines below K.
✓	14.2	15.3	F I II a?	2044	G + H^h = .5
✓	186 2.3	11.4	F I II a?	2045	G + H^h = .5

Amt. of Fog. due to mum + clouds. 7.5 Amt. of Fog. due to chemicals. 7.3

Plate 1138

✓	19.0	16.3	F I II a b	2046	G + H^h dtl. = .5, 2 lines below K.
✓	12.6	7.1	F I II a	2047	G + H^h dtl. = .3, Lines below K.
✓	12.1	21.1	F I II a?	2048	G + H^h = .5
✓	11.4	23.7	F I II a	2049	G + H^h = .5
✓	10.3	18.8	I III b	2050	F 4½ G = .2, F 7 G = .3, Lines bet. G + H, large.

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1888phae.proj..855f

Hd5; Ld5

448,3

Ha L; 438,1; 443,1; 448,3; 456,1; 458,2; 461,2; 466,1; 468,1; 471,1

zak; Hd5; Ld5

Ha L; 448,3; 471,2

448,3; 461,2

448,3

ak; Ha L; 438,1; 443,1; 448,3; 453,1; 456,1; 458,2; 461,1; 466,1; 468,2

h5; L5

h5; L5

zak; Hd5; Ld5

ak; Hd5; Ld5

h5; L5

h5; L5

Ha L; 448,3; 461,2

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Plate 1138.

Book 10 G. Page	V.	H.	Type.	No. Rem.	Description of Lines on Spectra.
	6.4	23.8	I III b !	2051	F4½ G=.1, F7 G=.3, Lines bet. G & H large.
	3.4	9.5	I III b	2052	F4½ G=.1, F7 G=.3, Lines bet. G & H large.
	3.9	12.0	~~Amt. of Fog. B~~ I b !	2053	F6 α = .2? Peculiar Spectrum?

Amt. of Fog. due to moon & clouds. 7.9 Amt. of Fog. due to chemicals. 7.8

Plate 1217.

Amt. of Fog. due to moon & clouds. 7.0 Amt. of Fog. due to chemicals. 6.2

Plate 1385.

	188	21.0	16.4	I III b	2054	F5-½ G=.2, F7 G=.2, (F7G=.3, Lines bet. G & H) Lines bet. G & H large.
		21.1	16.8	F II a	2055	G+H=.3, Lines below K.
		20.7 19.0	15.9 17.3	F F II a II a	2055a	G+h=.5? G+h=.5
		19.8	19.8	I III b	2055b	F7 G=.3 (F7 G=.3)
		19.0	17.9	F II a	2055c	G+h=.5?
		19.3	21.5	F II a	2057	G+H=.5? (G+h=.5)
	190	18.3	14.6	K III b !	2058	F4½ G=.1, F5 G=.1B, F5-½ G=.1, F7 G=.3, Lines bet. G & H large, 3 lines below K.
		17.8	11.4	F II a	2059	G+H=.2. Lines below K.
		17.6	12.9	F II a ?	2060	G+H=.5
		17.8	15.0	I III b	2061	F7 G=.3 (F7 G=.3)
		16.2	15.5	F II a !	2062	G+H=.5, Lines below K.
		14.7	11.8	F II a ?	2063	G+H=.5. (G+h=.5? 1 line below K) 1 line below K.
	192	13.4	18.8	K III bc	2064	F3 G=.1B, F3½ G=.1, F4½ G=.2, F5 G=.2B, F5½ G=.1, F7 G=.3, Lines bet. G & H large. Lines below K.
		11.5	22.0	F II a	2064a	G+h=.5?
		10.9	5.7	K III bc	2065	F2½ G=.1, F3 G=.1B, F4½ G=.2, F5 G=.1B, F5½ G=.1, F7 G=.3.

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Ha h; 448,3; 461,1

Ha h; 448,3; 461,1

? 392=.2?; Peculiar Spectrum.

Ha h; 448,2; 456,2 (Ha h; 448.3)

ak; h3; h3

h5; h5

448,3 (448.3)

h5? h5?

h5; h5 (h5 h5)

3ak; Ha h; 448,3; 456,1; 458.1; 461,1

ak; h2; h2

h5 h5

448,3 (448.3)

ak; h5; h5

ak; h5; h5; (ak; h5 h5)

ak; Ha h; 448,3; 456,1; 458,2; 461,2; 466,1; 468,1

h5? h5?

448,3; 456,1; 458,1; 463,2; 468,1; 471,1

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Plate 1385

Book 10		V.	H.	Type.	No. Rem.	Description of Lines on Spectra.
✓	192	9.8	18.5	K III bd	2066	F3G=.2B, F4½G=.2, F5G=.2B, F5½G=.1 F7G=.3, Lines bet. G+H beige.
✓✓		9.5	20.3	F II a	2067	G+H^h=.5 (G+h=.5)
		8.6	11.0	F II a	2067a	G+h=.5
✓	194	8.5	15.0	F II a	2068	G+H^h=.2
✓✓		8.1	16.0	F? II a?	2069	G+H^h=.5?, Lines below K.
		7.8	9.4	I III b	2070	F3G=.2, F4½G=.2, F6½G=.2, F7G=.3
✓		7.8	21.3	I III b	2071	F3G=.2, F7G=.3. (F7G=.3)
✓		5.5	10.2	K III bc	2072	F3G=.1B, F3½G=.1, F4½G=.2, F5G=.2B, F5½G=.2, F7G=.3, Lines bet. G+H, beige. Lines below K.
✓		5.6	16.3	I III b	2073	F7G=.3
✓		3.0	16.4	G? II a a?	2074	G+H^h=.4, Lines below K. Gdbl.? F6G=.1B, F7G=.1, G2h=.1B, G7h=.1

Amt. of Fog. due to moon + clouds. 5.7 Amt. of Fog. due to chemicals. 6.2

Plate. 1139.

✓	196	16.0	6.8	F II a	2075	G+H^h=.3
✓		15.4	19.8	I III b?	2076	F7G=.3
✓		10.3	13.2	G? II a a?	2077	G+H^h=.3, Gdbl.? Lines below K. F4½G=.1, F5G=.1B, F5½G=.1, G4h=.1, G4½h=.1B, G5h=.1 G6h=.1

Amt. of Fog. due to moon and clouds. 8.2 Amt. of Fog. due to chemicals. 8.2

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Hals; 448,3; 456,1; 458,2; 461,2; 468,2

h5 : H5 (h5 H5)
h5 : H5
h2 : H2
aK; h5? H5?

448,3; 456,2; 461,2; 468,2

448,3; 468,2 (448,3)

aK; Hals; 448,3; 456,2; 458,2; 461,2; 466,1; 468,1

448,3

aK; h4; Hd4 lines above ~~below~~ K very well marked.

+ aK, 417,1; 429,1; 448,1; 453,1; h,4; H4; ~~K~~ ~~Ti~~

h3; H3

448,3

aK; 419,1; 421,1; 423,1; 429,1; 456,1; 468,1; 461,1; h3; Hd?3

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Plate 1181.

Book 10 G. Page 198	V.	He.	Type.	No. Rem.	Description of Lines on Spectra.
✓	19.9	22.9	F IV a	2078	G + H = .2. Gdbl. Lines below K. 1 line above F.
✓	18.7	13.6	F IV a	2078a	G + h = .5
✓	15.0	11.4	F? IV a?	2079	G + H = .5. Lines below K. (G+h=.5? 3 lines below K)
✓	15.4	12.5	F? IV a?	2080	G + H = .5. 2 lines below K. (G+h=.5)
✓	200 13.4	14.6	F? IV a?	2081	G + H = .5? Lines below K.
✓	12.0	13.4	F IV a	2082	G + H = .2. Lines below K.
✓	11.0	8.3	I III b	2083	F 7 G = .3. Lines bet. G + H, large.
✓	11.5	9.4	F? IV a?	2084	G + H = .5. (G+h=.5?, 2 lines below K.) Lines below K.
✓	11.1	12.8	F IV a	2084a	G + h = .5
✓	202 10.4	22.8	F IV a	2085	G + H = .5 (G+h=.5)
✓	10.3	11.1	F IV a	2084b	G + h = .5 (G+h=.5)
✓	9.0	13.8	K III b	2086	F 2½ G = .1, F 3 G = .1B, F 3½ G = .1, F 4½ G = .2, F 5 G = .2B, F 5½ G = .1, F 6 G = .1, F 7 G = .3, F 8 G = .1B, F 9 G = .1. Lines bet. G + H, large. 1 Line below K.
✓	8.3	15.1	B I b	2087	h 7 H = .3.
✓	6.4	15.6	K? III b?	2088	F 4½ G = .2, F 5 G = .1B, F 7 G = .3, Lines bet. G + H, large. Lines below K, 1 line above F?
✓	2.7	21.4	F IV a	2089	G + H = .5

Amt. of Fog. due to moon & clouds. 6.4

Amt. of Fog. due to chemicals. 6.7

Plate 1129.

✓	20.5	11.8	K III b	2090.	F 2½ G = .1, F 3 G = .1B, F 3½ G = .1, F 4½ G = .2, F 5 G = .2B, F 5½ G = .1, F 7 G = .3, F 9 G = .1, Lines bet G + H large, 2 lines below K.
✓	204 23.0	23.6	F? IV a?	2091	G + H = .5
✓	19.0	22.9	I III b	2092	F 7 G = .3. Lines bet. G + H.
✓	16.8	7.7	F IV a	2093	G + H = .5. Lines below K. 1 line above F.

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~~Ha~~; aK; h_2; g_{d2}; Fa 1

h_5 g_5
aK; h_5; g_5 (3aK; h_5? g_5?)
2aK; h_5, g_5 (h_5 g_5)
aK h_5? g_5?
~~2~~aK, h_2; g_2
Hal; 448,3
aK; h_5; g_5 (2aK; h_5? g_5?)
h_5 g_5
h_5 g_5 (h_5 g_5)
h_5 g_5 (h_5 g_5)
aK, Hal; 438,1; 443,1; 448,3; 453,1; 456,1; 458,2; 461,2; 466,1; 468,1; 471,1

401,3
~~Ha~~, aK; Hal; 448,3; 458,1; 461,2; Fa.

h_5; g_5

2aK; Hal; 438,1; 448,3; 456,1; 458,2; 461,2; 466,1; 468,1; 471,1

h_5; g_5
Hal; 448,3
~~Ha~~; aK; h_5; g_5; Fa.

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Book 10 G. Page 204	Plate V.	H.	Type.	No. Rem.	Description of Lines on Spectra.
✓	12.7	11.8	B' X X X	2094	F 6 G=.1, G 4 h=.2, G 6 h=.1, h 4 H=.1,
	Amt. of Fog. due to moon & clouds. 8.5				Amt. of Fog. due to chemicals. 8.5

Plate 1140.

✓	17.4	10.0	K III X X	2095	F 2½ G=.1, F 3½ G=.1, F 4½ G=.2, F 5 G=.1B, F 5½ G=.1, F 7 G=.3, Lines bet. G & H.
✓ 206	16.4	21.6	F' II X X	2096	G & H h=.5
✓	11.8	21.4	F II X	2097	G & H h=.5
✓	10.9	20.4	K III X	2098	F 8½ G=.1, F 4½ G=.1, F 5 G=.1B, F 5½ G=.2, F 7 G=.3, Lines bet. G & H. 2 lines below K.
	Amt. of Fog. due to moon & clouds. 8.1				Amt. of Fog. due to chemicals. 8.1

Plate 1210

✓	20.9	11.0	I III X	2099	F 4½ G=.1, F 7 G=.3, Lines bet. G & K. Lines below K
✓	17.8	20.8	F' II X	2099a	G & h=.5
✓ 208	15.8	11.2	F' II X	2099b	G & H=.2, G dbl. Lines below K.
✓	17.4	11.5	F' II X	2099b	G & h=.3
✓ 210	12.6	15.4	I III X	2101	F 7 G=.3
✓	12.8	18.2	K' III X X	2102	F 2½ G=.1, F 3 G=.1B, F 3½ G=.1, F 4½ G=.2, F 5 G=.2B, F 5½ G=.1, F 7 G=.3, F 8 G=.1B, F 9 G=.1, Lines bet. G & H. Lines below K. 1 line above F.
✓	12.4	21.0	F II X	2103	G & H h=.5 (G & h=.5)
✓	11.4	10.9	H' III X	2104	Lines below K.
✓	10.6	22.4	F' II X	2104a	G & h=.5
✓	9.7	22.3	F II X	2105	G & H h=.5?
✓	8.0	21.6	K III X X	2106	F 2½ G=.1, F 4½ G=.1, F 5 G=.1B, F 5½ G=.1, F 7 G=.3, Lines bet. G & H.
✓	7.5	10.9	I III X	2107	F 7 G=.3.

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405,1; 419,1; 424,2; 63 ~~479~~ 479,1

Ha δ; 448,3; 456,1; 458,1; 461,2; 466,1; 471,1

h_5; δ_5

h_5; δ_5

2a K; Ha δ; 448,3; 456,2; 458,1; 461,1; 466,1

a K; Ha δ; 448,3; 461,1
h_5 δ_5

a K; h_2; δd_2
h_3 δ_3
448,3

~~Ha~~ a K; Ha δ; 438,1; 443,1; 448,3; 456,1; 458,2; 461,2; 466,1; 468,1; 471,1; Fa!

h_5; δ_5 (h_5 δ_5)

a K
h_5. δ_5

h_5? δ_5?

Ha δ; 448,3; 456,1; 458,1; 461,1; 471,1

448,3.

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Plate 1210

Book 17 G. Page 14	V.	H.	Type.	No. Rem.	Description of Lines or Spectra.
✓	7.2	13.9	F ~~I~~ ~~a~~	2108	G + H^h = .2. Lines below K.
✓	4.4	8.5	B? ~~A~~ ~~K~~?	2109	h 6 H = .2,
	Amt. of Fog. due to moon & clouds.				Amt of Fog. due to chemicals.
	6.0				6.8

Book 4 F. Page 46

Plate 208

✓	18.6	22.2	F? ~~A~~ ~~a~~?	2110	G + H^h dbl. = .5, Lines below K.
✓	17.7	16.4	K ~~III~~ ~~A~~ ~~K~~	2111	F 2½ G = .2, F 3 G = .1B, F 3½ G = .2, F 4½ G = .2, F 5 G = .1B, F 5½ G = .2, F 6 G = .1, F 7 G = .3, Lines bet. G + H.
✓	17.7	17.7	F? ~~II~~ ~~A~~ ~~a~~?	2112	G + H^h = .5. Lines below K.
✓	17.1	10.6	I ~~III~~ ~~A~~ ~~K~~	2113	F 7 G = .3.
✓	16.9	8.9	B ~~I~~ ~~A~~ ~~K~~	2114	h 6 H = .2
✓	16.7	22.6	F ~~I~~ ~~A~~ ~~a~~	2115	G + H^h dbl. = .2. Lines below K.
✓	16.3	14.0	I ~~III~~ ~~A~~ ~~K~~	2116	F 4½ G = .2, F 7 G = .3, Lines bet. G + H.
✓	16.1	14.5	G ~~II~~ ~~A~~ ~~a~~ ~~a~~?	2117	G + H^h = .3, Lines below K. F 7 G = .2, F 8 G = .1B, G 4 h = .1B, Spect. superposed
✓	16.0	15.2	K ~~II~~ ~~A~~ Aa?	2118	F 5 G = .1B, F 5½ G = .1, F 7 G = .3, Lines bet. G + H.
✓	15.5	9.5	G? ~~II~~ ~~A~~ a a?	2119	G + H^h = .2, Lines below K. F 6 h = .1, Spect superposed. G 8 h = .2 B, Several bright lines bet. h & H?
✓ 48	11.1	14.8	B ~~I~~ ~~A~~	2120	h 6 H = .2
✓	10.7	13.8	B ~~I~~ ~~A~~	2121	h 6 H = .2
✓	10.0	19.0	F? ~~II~~ ~~A~~ a?	2122	G + H^h = .3. Lines below K. Other lines seen. Psc.
✓	8.6	15.8	F? ~~II~~ ~~A~~ a?	2123	G + H^h = .4, G dbl. Lines below K. Other lines seen.
✓	6.0	14.8	K ~~II~~ ~~A~~ ~~K~~ a	2124	F 3 G = .1B, F 3½ G = .1, F 4½ G = .1, F 5 G = .1B, F 5½ G = .1, F 7 G = .3, F 8 G = .1B, F 9 G = .1, Lines bet G + H. 4 lines below K.

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aK; h2; g2

402,2

aK; hd3 gd3

Ha g; 448,3; 453,1; 456,2; 458,1; 461,2; 466,2; 468,1; 471,2

aK; h5; g3

448,3

402,2

aK; hd2; gd2 Spectrum of A star superposed?

Ha g; 448,3; 461,2

aK; 424,1; 443,1; 448,2; h3, g3. Spectrum of A star superposed?

Ha g; 448,3; 456,1; 458,1

aK; ~~Ha~~ ah; 414,2; 419,1; h2, g2, Spectrum of A star superposed?

402,2

402,2

aK; h3; g3; Other lines seen. Spectrum of A star superposed?

aK; h4; gd4; Other lines seen. Spectrum of A star superposed?

4 aK; Ha g; 438,1; 443,1; 448,3; 456,1; 458,1; 461,1; 466,1; 468,1

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Plate 208

	V.	H.	Type.	No. Rem.	Description of Lines on Spectra.
Book 4 F. Page 50	3.7	19.7	IIIa K I	2125	F 4½ = .2, F 7 G = .3.

Amt. of Fog. due to moon & clouds. 7.0 Amt. of Fog. due to chemicals. 7.5

Plate 151

	20.2	21.1	IIIa K F'	2126	G + h = .6? Lines below K.
	19.1	15.4	IIIa K K'	2127	Peculiar spectrum. 2 bright lines near F line. 1 Lines above K? Several other lines.
	17.6	13.0	IIIa K I	2128	F 7 G = .3, Lines betw G & H.
	17.3	11.9	IIIa K I	2129	F 7 G = .3
	12.1	12.9	I K B'	2130	h 6 H = .2,
	52 7.4	14.0	IIIa K K	2131	Peculiar spectrum. Numerous bright and faint lines.
	6.6	17.9	IIIa K I	2132	F 4½ G = .2, F 7 G = .3.
	4.3	6.1	IIIa K F	2133	G + h = .3?

Amt of Fog due to moon & clouds. 7.5 Amt. of Fog. due to chemicals. 7.6

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Plate 163

	17.0	24.2	IIa α F	2134	G + h = .2, Lines below K.
	12.7	13.6	IIa K B'	2135	F 6 G = .1, h 6 H = .1, β 4 γ = .4, β 7 γ = .3?
	11.6	17.5	IIa α F	2136	G + h = .5, Lines below K.

Amt. of Fog. due to moon & clouds. 8.5 Amt. of Fog. due to chemicals. 8.6.

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448,3; 461,2

aK; h5, ℓ3-
Peculiar spectrum; 2 bright lines near ℓ line 1 line above ℓ several other lines

Hαℓ; 448,3
448,3
402,2
Numerous bright & faint lines, Peculiar spectrum

448,3; 461,2
h3? ℓ3?

aK; h2; ℓ2
381,3?; 382,4?; 402,1; 453,1
aK; h5, ℓ3-

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March 20, '88.

Plate 295

Book 4 F. Page, 56	V.	H.	Type.	No. Reno.	Descriptions of Lines on Spectra.
	19.9	18.2	II a F	2137	G + H = .5, Lines below K.
	17.6	10.5	II a F	2138	G + H = .5. Lines below K.
58	12.2	20.5	II ? E?	2139	Lines below K.

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Plate 295.

	10.6 / 10.5	10.1 / 22.1	II a F	2140	G + H = .5. Lines below K.
60	7.8	14.4	I B	2141	F6 G = .1, h 6 H = .1, H 6 α = .1.
	7.3	13.8	II a F	2142	G + H = .5, Lines below K.
62	4.5	13.7	I B	2143	F7 G = .2, h 6 H = .2,
	4.4	15.2	I B	2144	F7 G = .1, h 6 H = .2.

Amt. of Fog. due to moon & clouds. 6.3 Amt. of Fog. due to chemicals. 6.6

Plate 291

	20.3	23.1	II a ? F?	2145	G + H = .5, Lines below K.
	17.4	14.2	III cK	2146	F4½ G = .1, F5 G = .1 B, F5½ G = .1, F7 G = .3, Lines bet. G + H. Lines below K.
	13.1	13.3	III cK	2147	F4½ G = .1, F5 G = .1, F5½ G = .1, F7 G = .3 Lines bet. G + H. Lines below K.
64	11.9	9.4	II a ? F?	2148	G + H = .5
	10.3	12.3	II a F	2149	G + H = .5. Lines below K.
	10.3	14.8	II a F	2150	G + H = .5
	4.5	22.7	III I	2151	F4½ G = .2, F7 G = .3, Lines bet. G + H. Lines below K.
	3.0	19.4	II F	2152	G + H = .3. G & H. Lines below K.

Amt. of Fog. due to moon & clouds. 5.9 Amt. of Fog. due to chemicals. 7.0

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aK ; h5 ; l5
aK ; h5 , l5
aK

aK ; h5 ; l5
392,1 ; 402,1 ; 453,1
aK ; h5 , l5
402,2 ; 448,2
402,2 ; 448,1

aK ; h5 , l5
aK ; Hal ; 448,3 ; 456,1 ; 458,1 ; 461,1

aK ; Hal ; 448,3 ; 456,1 ; 458,1 ; 461,1

h5 , l5
aK ; h5 ; l5
h5 , l5
aK ; Hal , 448,3 ; 461,2

aK , h3 ; ld3

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Plate 254

Book 4 F. Page 64	V.	H.	Type.	No. Rec.	Description of Lines on Spectra.
	16.5	18.6	K III Kc	2153	F4½ G=.2, F5 1=.2B. F5½ G=.1, F7 G=.3, Lines bet. G & H.
	14.4	13.1	F II a	2154	G + H^h=.3, G dbl, Lines below K.
66	12.4	16.7	B A L	2155	F6 G=.1, h 6 H=.1, H 6 K=.3.
	10.8	19.5	F II a	2156	G & H^h=.3. Lines below K.
	8.9	9.4	K III Kc	2157	F3 G=.2B, F4½ G=.1, F5 G=.2B, F5½ G=.1, F7 G=.3. Lines bet. G & H. Lines below K.
	8.5	17.6	F A a	2158	G + H^h=.5
	6.5	6.5	K III Kc	2159	F 3 G=.1B, F4½ G=.2, F5 G=.2B, F5½ G=.1, F7 G=.3. Lines bet. G & H. Lines below K.

Amt. of Fog. due to moon & clouds. 7.1 Amt. of Fog. due to chemicals. 6.5

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Plate 287

	16.9	7.9	F? II a?	2160	G + H^h=.5. Lines below K.
	16.1	8.2	F II a	2161	G + H^h dbl.=.3. Lines below K.
6.8	13.6	8.8	F? II a?	2162	G + H^h=.5. Lines below K.
	2.0	15.8	F II a	2163	G + H^h=.3. Lines below K.
	2.3	20.8	F II a	2164	G + H^h=.5

Amt. of Fog. due to moon & clouds. 7.4 Amt. of Fog. due to chemicals. 7.3

Plate 172

70	16.0	14.5	K? III Kc a?	2165	F4½ G=.1, F5 G=.1B, F5½ G=.2, F7 G=.3, F9 G=.1, Lines bet. G & H. 2 lines below K.

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Hδ, 448,3; 456,1; 458,2; 461 2.

aK; h3; δd3
392,3; 402,1; 453,1;
aK; h3; δ3
aK; Hδ; 448,3; 456,1; 458,2; 461,1; 468,2

h5; δ5
aK; Hδ; 448,3; 456,1; 458,2; 461,2; 468,1

aK; h5; δ5
aK; hd3; δ3 Gabl.
aK; h5; δ5
aK; h3; δ3
h5; δ5

2 aK; Hδ 438,1; 448,3; 456,2; 458,1; 461,1

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172

Book 4 F. Page 70	V.	H.	Type.	Res.	Description of Lines on Spectra.
✓	16.3	16.9	F	2166	G + H^h diff. = .5. Lines below K.
✓	15.4	23.9	F	2166a	F2½ G=.1, F4½ G=.2, F7 G=.3
✓	13.1	16.0	V i	2167	F7 G=.3
✓	10.0	13.4	V cK	2168	F2½ G=.1, F3 G=.1B, F3½ G=.1, F4½ G=.2, F5 G=.2B, F5½ G=.1, F6 G=.1, F7 G=.3, Lines bet. G + H, 1 line below K.
✓	8.5	17.0	F?	2169	G + H^h = .5
✓	3.7	13.0	F	2170	G + H^h = .3. Lines below K.

Amt. of Fog. due to moon & clouds. 7.9 Amt. of Fog. due to chemicals. 8.0

Hard to measure. Plate 178.

✓	72	19.8	18.5	F	2171	G + H^h = .5
✓		16.8	18.1	K	2172	F2½ G=.1, F3 G=.2B, F4½ G=.2, F5 G=.2B, F5½ G=.1, F6 G=.2, F6½ G=.1, F7 G=.3. Lines bet. G + H. 2 lines below K.
✓		16.4	13.5	B	2173	F7 G=.2. h 6 H=.2, H 6 α=.1
✓		15.7	9.6	F?	2174	G + H^h = .5
✓		11.8	10.2	i?	2175	F7 G=.3
✓		11.1	18.9	B?	2176	h 5 H=.1, h 6 H=.1
✓		10.1	14.7	i	2177	F4½ G=.2, F5½ G=.2, F7 G=.3. F9 G=.1. Lines bet. G + H.
✓		2.2	15.2	B	2178	h 6 H=.2

Amt. of Fog. due to moon & clouds. 7.0 Amt. of Fog. due to chemicals. 7.0

Dark Plate. Very hard to measure Plate 312

✓	74	6.9	7.3	F?	2179	G + H^h = .5. Lines below K.

Amt. of Fog. due to moon & clouds. 7.2 Amt. of Fog. due to chemicals. 7.1

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aK ; hd 5 ; ld 5
448,3 ; 461,2 ; 471,1
448,3

1aK ; Hal ; 448,3 ; 453,1 ; 456,1 ; 458,2 ; 461,2 ; 466,1 ; 468,1 ; 471,1

h 5 ; l 5
aK ; h 3 ; l 3

h 5 ; l 5
2aK ; Hal ; 448,3 ; 451,1 ; 453,2 ; 456,1 ; 458,2 ; 461,2 ; 468,2 ; 471,1

1 392,1 ; 402,2 ; 448,2
h 5 ; l 5
448,3
402,1 ; 403,1
Hal ; 438,1 ; 448,3 ; 456,2 ; 461,2
402,2

aK ; h 5 ; l 5 ;

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Plate 343.

Book 4 F Page 74	V.	H.	Type.	Num.	Description of Lines on Spectra.
✓	15:6	8.5	IIIa.1F	2180	G + H = .5
✓	11.3	9.3	III 1I	2181	F, G = .3
✓	10.6	17.8	IIIa F	2182	G + H = .5
✓	76 9.7	13.9	III A.1I	2183	F 4½ G = .1, F 7 G = .3, Lines bet. G + H. 2 lines below K.
✓	8.9	5:2	IIIa.1F	2184	G + H = .3, lines below K.

Amt. of Fog. due to num & clouds. 7.3 Amt. of Fog. due to chemicals. 7.1

Plate 415.

✓	18.8	23.7	IIIA 1I	2185	F 7 G = .3
✓	18.4	15:0	IIIbcK	2186	F 3 G = .2B, F 5 G = .2B, F 5½ G = .1, F 7 G = .3 Lines bet. G + H. Lines below K.
✓	16.6	16.0	III A.1I	2187	F 4½ G = .2, F 5½ G = .2, F 7 G = .3. Lines bet. G + H.
✓	15:1	20.6	IIIa.1F	2188	G + H = .5
✓	7.8	6:7	IIIbcK	2189	F 3 G = .1B, F 4½ G = .1, F 5 G = .1B, F 5½ G = .1, & F 6 G = .2, F 7 G = .3, Lines bet. G + H. 1 line bel. K.
✓	5:5	17.8	IIIa F	2190	G + H = .5. Lines below K.

Amt. of Fog. due to num & clouds. 7.6 Amt. of Fog. due to chemicals 7.2

Plate 424.

✓	20.0	12.8	IIIa.1F	2191	G + H = .5
✓	20.0	15.6	IIIa F	2192	G + H = .5, 2 lines below K.
✓	19.0	19.4	IIIa F	2193	G + H = .3, lines below K.
✓	80 11.2	21.4	IIIa F	2194	G + H = .5
✓	8.2	14.7	IIIbcK	2195	F 2½ G = .1, F 3 G = .1B, F 4½ G = .2, F 5 G = .1B, F 5½ G = .1, F 7 G = .3

Amt. of Fog. due to num & clouds. 7.2 Amt. of Fog. due to chemicals 7.0

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h 5; H 5

448,3

h 5; H 5

aK; HαH; 448,3; 461,1

aK; h 3; H 3

448,3

aK; HαH; 448,3; 456,1; 458,2; 468,2

HαH; 448,3; 456,2; 461,2

h 5; H 5

1 aK; HαH; 448,3; 453,2; 456,1; 458,1; 461,1; 468,1

aK; h 5; H 5

h 5; H 5

2 aK; h 5; H 5

aK h 3; H 3

h 5; H 5

448,3; 456,1; 458,1; 461,2; 468,1; 471,1

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Plate 445.

Book 4 F. Page 82	V.	H.	Type.	Cat. No.	Description of Lines on Spectra.
✓	18.7	16.1	B X \	2196	G 6 h = .2, h 6 H = .2.
✓	18.4	11.7	F? II \ a \	2197	G + H h = .5, 1 line below K.
✓	18.0	9.2	I III \ K \	2198	F 4½ G = .2, F 7 G = .3
✓	10.2	9.0	F II \ a	2199	G + H h = .3
✓	9.5	12.3	F? II \ a \	2200	G + H h = .3. G dbl. Lines below K. Bright lines seen ?
✓	84 9.2	16.4	I II \ K	2201	F 4½ G = .2, F 7 G = .3, Lines bet. G + H.
✓	8.5	22.4	F? II \ a \	2202	G + H h = .5
✓	8.8	24.4	E? II \ K	2203	Lines below K.
✓	7.1	17.9	F? II \ a \	2204	G 8 H h = .5

Amt. of Fog. due to moon & clouds. 6.7 Amt. of Fog. due to chemicals. 6.7

Plate 456.

✓	20.8	10.6	F II \ a	2205	G + H h = .3, G dbl. Lines below K.
✓	17.1	14.0	I III \ K	2206	F 7 G = .3
✓	86 13.6	12.9	B I \ K	2207	G 7 h = .2, h 7 H = .2,
✓	8.5	16.7	K? III \ a \	2208	F 4½ G = .1, F 5 G = .1 B, F 5½ G = .1, F 7 G = .3, Lines bet. G + H. 2 lines below K.
✓	7.6	8.1	I III \ K	2209	F 4½ G = .2, F 7 G = .3, Lines bet. G + H.
✓	7.5	9.7	F II \ a	2210	G + H h = .3, G dbl. Lines below K. F 4 G = .5
✓	7.3	15.8	K III \ a	2211	F 3 G = .1 B, F 5½ G = .1, F 5 7 G = .2 B, F 5½ G = .2, F 7 G = .3, F 8 G = .1 B, F 9 G = .1, Lines bet. G + H.

Amt. of Fog. due to moon & clouds. 7.2 Amt. of Fog. due to chemicals. 7.2

Plate 402.

✓	126 17.5	12.9	I II \ K	2212	F 7 G = .3
✓	17.1	13.7	F K II \ a	2213	G + H h = .5. G dbl.

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402,2; 419,2
1 aK; h5; ℓ5
448,3; 461,2
h3; ℓ3
aK; h3; ℓd3 Bright lines seen?

Hαℓ; 448,3; 461,2
h5, ℓ5
aK
h5, ℓ5

aK; h3; ℓid3
448,3
401,2; 417,2
2 aK; Hαℓ; 448,3; 456,1; 458,1; 461,1

Hαℓ; 448,3; 461,2
463,5; aK; h3; ℓd3

Hαℓ; 438,1; 443,1; 448,3; 456,2; 458,2; 466,1; 468,1

448,3
ℓd; h5; ℓ5

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1888phae.proj..855F

March 24, 1888.

Plate 402

Book 44 Page 126	V.	H.	Type.	No. Rem.	Description of Lines on Spectra.
126	16.7	21.4	F ~~A~~ q	2214	G + H^{le} = .2
	10.9	15.3	F ~~A~~ a	2215	G + H^{le} = .3. Lines below K.
	10.4	5.2	F? ~~A~~ a?	2216	G + H^{le} = .3 Lines below K.
	5.3	6.8	K? ~~A~~ ~~X~~ c?	2217	F3 G = .1B, F4½ G = .1, F5 G = .1B, F7 G = .3

Amt. of Fog due to moon & clouds. 7.2 Amt. of Fog. due to chemicals. 6.4

Plate 475.

88	17.2	10.1	F? ~~A~~ a?	2218	G + H^{le} = .5. Lines below K.
	12.0	21.1	F ~~A~~ q	2219	G + H^{le} = .5 (G + h = .5 ?)
	4.4	8.5	K ~~A~~ ~~X~~ a	2220	F4½ G = .1, F5 G = .2B, F5½ G = .1, F7 G = .3, Lines bet. G + H. 2 lines below K.

Amt. of Fog. due to moon & clouds 7.2 Amt. of Fog. due to chemicals. 6.4

Plate 494

	15.5	17.7	F ~~A~~ a	2221	G + H^{le} = .2. 1 line below K.
	14.8	17.6	K ~~A~~ ~~X~~ c	2222	F3 G = .1B, F4½ G = .1, F5 G = .2B, F5½ G = .1, F7 G = .3, Lines bet. G + H. Lines below K.

March 26. '88

Plate 494

	12.0	16.2	F? ~~A~~ a?	2223	G + H^{le} = .3
	11.5	16.1	K ~~A~~ ~~X~~ c	2224	F2½ G = .1, F3 G = 1B, F3½ G = .1, F4½ G = .2, F5 G = .2B, F5½ G = .2, F6 G = .1, F7 G = .3, F8 G = .1B, F9 G = .1, Lines bet. G + H.
	90	7.7	19.1	F ~~A~~ a	2225 G + H^{le} = .5. Lines below K.

Amt. of Fog. due to moon & clouds. 7.5 Amt. of Fog. due to chemicals. 6.4

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1888phae.proj..855F

h2 ; ℌ2

aK ; h3 ; ℌ3

aK ; h3 ; ℌ3

448,3 ; 458,1 ; 461,1 ; 468,1

aK ; h5 ; ℌ5

h5 ; ℌ5 (h5 ? ℌ5 ?)

2aK ; Haℌ ; 448,3 ; 456,1 ; 458,2 ; 461,1

aK h2 ℌ2

aK Haℌ ; 448,3 ; 456,1 ; 458,2 ; 461,1 ; 468,1

h3 ℌ3

Haℌ ; 438,1 ; 443,1 ; 448,3 ; 453,1 ; 456,2 ; 458,2 ; 461,2 ; 466,1 ; 468,1 ; 471,1

aK ; h5 ; ℌ5

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March 26, 1888

Plate 460

	V.	H.	Type.	Rem. No.	Description of Lines on Spectra.
Book F, Page 90	10.9	10.6	F IV a	2226	G + H^h = .2

Amt. of Fog. due to moon & clouds. 7.6 Amt. of Fog. due to chemicals. 6.7

Plate 589

92	13.8	9.4	I IV B	2227	F 6 G = .2, h 6 H = .2,
	12.1	18.8	III b K	2228	F 2½ G = .1, F 3 G = .1 B, F 3½ G = .1, F 4½ G = .2, F 5 G = .1 B, F 5½ G = .2, F 7 G = .3,
	10.3	5.7	III X I	2229	F 7 G = .2

Amt. of Fog. due to moon & clouds. 7.5 Amt. of Fog, due to chemicals. 7.2

Plate 567

	22.0	16.3	I b B	2230	F 6 G = .3 h 6 H = 1
	21.5	8.7	III b I	2231	F 7 G = .3
	20.5	22.2	II a F	2232	G + H^h = .5 ? Lines below K.
	15.5	9.2	II a F	2233	G + H^h = .5
94	14.5	23.7	III a F	2234	G + H^h = .3
	12.6	19.3	I IV B	2235	β 4 γ ? = 4, ?
	10.7	11.1	II a F	2236	G + H^h = .2. G dbl. Lines below K,
	8.7	7.4	II a F	2237	G + H^h = .3
	4.2	11.5	II b I	2238	F 7 G = .3

Amt. of Fog. due to moon & clouds. 7.7 Amt. of Fog. due to chemicals. 6.5

Plate 572

96	19.7	17.1	I b B	2239	h 6 H = .2
	19.9	17.4	II a F	2240	G + H^h = .5

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1888phae.proj..855f

h 2 ; g 2

402.2; 453,2
448,3; 456,2; 458,1; 461,2; 466,1; 468,1; 471,1

448,2.

402,1; 453,2
448,3
ak; h5? g5 ?
h5; g5
h3, g3
382,4 ?
ak; h2; gd2
h3; g3
448,3

402,2
h5; g5

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1888phae.proj..855F

March 26, 1888.

Plate 572.

	V.	H.	Type.	Rem. No.		Description of Lines on Spectra.
✓	96	18.2	19.0	III|X|K	2241	F 4½ G = .1, F 5 G = .1 B, F 5½ G = .1, F 7 G = .3, Lines bet. G & H6. Lines below K.
✓		15.0	23.4	II|a|F	2242	G & H6 h = .2, Lines below K.
✓		12.9	10.2	II|a|F	2243	G & H6 h = .2, 2 lines below K.
✓		11.8	12.4	II|a|F	2244	G & H6 h = .5
✓	98	10.5	15.1	II|a|F	2245	G & H6 h = .5. Lines below K.
✓		7.0	14.0	I|b|D	2246	Several bright and faint lines seen.
✓		4.7	16.0	II|a|F	2247	G & H6 h = .2
✓		4.0	23.7	III|X|I	2248	F 4½ G = .2, F 7 G = .3 Lines bet. G & H6.

Amt. of Fog. due to moon & clouds. 7.0 Amt. of Fog. due to chemicals. 6.5

Plate 586.

✓		20.4	18.8	II|a	F 2249	G & H6 h = .3
✓		13.8	19.2	II|a	F 2250	G & H6 h = .2, Gobbl, 2 lines below K.
✓		12.7	9.0	I|A	B 2251	F 6 G = .2, h 6 H6 = .2,

Amt. of Fog. due to moon & clouds. 7.6 Amt. of Fog. due to chemicals. 7.3

March 27, 1888.

Plate 565, ~~2252~~ Dark Plate, hard to measure.

✓	102	12.9	12.9	II|a	F 2252	G & H6 h = .2.
✓		12.1	17.5	I|b	B 2253	β 4 γ = 4
✓		11.1	15.3	III|b	I 2254	F 4½ G = .2, F 5½ G = .2, F 7 G = .3, Lines bt. G & H6.
✓		11.0	15.1	III|X	cK 2255	F 3 G = .2 B, F 4½ G = .1, F 5 G = .2 B, F 5½ G = .2, F 7 4 = .2, F 8 G = .1 B, F 9 G = .1, Lines bt. G & H6. Lines below K.
✓		6.9	12.3	III|b	I 2256	F 7 G = .2
✓	104	5.5	19.5	II|a	F 2257	G & H6 h = .5. Lines below K.

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1888phae.proj..855P

aK; Hαℓ; 448,3; 456,1; 458,1; 461,1

aK; hℓ; ℓℓ

2aK; hℓ; ℓℓ

h5; ℓ5

aK; h5; ℓ5

Several bright + faint lines seen

hℓ; ℓℓ

Hαℓ; 448,3; 461,2

h3; ℓ3

2aK; ℓd; hℓ; ℓℓ

402,3; 453,2

h2 ℓ2

1 382,4

Hαℓ; 448,3; 456,2; 461,2

aK; Hαℓ; 438,1; 443,1; 448,2; 456,2; 458,2; 461,1; 468,2

448,2

aK; h5; ℓ5

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1888phae.proj..855F

March 27, 1888.

Plate 565

Book 4 F. Page 104	V.	H.	Type.	No. Rem.	Description of Lines on Spectra.
✓	11.2	8.2	III	K 2258	F3½ G=.1, F4½ G=.2, F5 G=.1B, F5-½ G=.2, F7 G=.3. Lines bet. G & H. 2 lines below K.
✓	11.1	20.7	III	I 2259	F7 G=.3. Lines bet. G & H.

Amt. of Fog. due to moon & clouds. 7.4 Amt. of Fog. due to chemicals. 6.3

March 28, 1888.

Plate 554

✓	6.7	19.6	III	K 2260	F5 G=.2B, F7 G=.2, Lines bet. G & H. Lines below K.
✓	5.6	10.8	II	F 2261	G & H=.5

Amt. of Fog. due to moon & clouds. 7.5 Amt. of Fog. due to chemicals. 6.7

Dark Plate. Plate 549.

✓	106 8.4	20.1	II	F 2262	G=.3, h=.1, Lines below K. Bright lines seen?
✓	6.8	10.1	II	E 2263	Lines below K.

Amt. of Fog. due to moon & clouds. 7.3 Amt. of Fog. due to chemicals. 6.3

Plate 538.

✓	20.5	19.1	II	F 2264	G & H=.3, lines below K.
✓	20.0	14.4	II	F 2265	G & H=.2, G dbl. Lines below K.
✓	18.0	10.9	II	G 2266	G & H=.2, Lines below K. Other lines and bright lines seen.
✓	12.5	13.3	III	I 2267	F7 G=.3
✓	108 3.6	14.6	II	F 2268	G & H=.5

Amt. of Fog. due to moon & clouds. 6.6 Amt. of Fog. due to chemicals. 6.4

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1888phae.proj..855F

aK; Ha ℊ; 448,3; 456,2; 458,1; 461,2; 466,1

Ha ℊ, 4483.

aK; Ha ℊ; 448,3; 458,2

h5; ℊ5

aK; h1; ℊ3: Bright lines alone
aK

aK; h3, ℊ3
aK; ℊd, h2, ℊ2
aK; h2; ℊ2: Other lines + bright lines alone

448,3
h5, ℊ5

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1888phae.proj..855F

March 28, 1888.

Plate 530

Book 47, Page 110	V	HC	Type	Rmk.	Description of Lines on Spectra.
✓	22.2	7.0	K IV Ha	2269	F5-G=.1B, F5½G=.2, F7G=.3, Lines bet. G+H. 2 lines below K.
✓	21.5	19.1	F II α	2270	G+H=.3, 3 lines below K.
✓	16.0	22.4	F' II α?	2271	G+H=.5
✓	7.8	23.2	I III b	2272	F7G=.3

Amt. of Fog. due to moon & clouds. 7.5 Amt. of Fog. due to chemicals. 7.5

Plate 528.

✓	112 18.7	14.8	K III b α	2273	F3G=.1B, F3½G=.1, F4½G=.2, F5G=.2B, F5½G=.1, F7G=.3, Lines bet G+H. 1 line below K.
✓		18.8	14.4	F II α	2274 G+H=.3, 3 lines below K.
✓		10.8	17.0	F II α	2275 G+H=.3
✓		9.6	10.0	F II α	2276 G+H=.3
✓		6.0	17.2	F' II α?	2277 G+H=.3

Amt. of Fog. due to moon & clouds. 8.5 Amt. of Fog. due to chemicals. 8.5

Plate 443.

✓	114 21.8	9.6	E' II ?	2278	Lines below K.
✓		20.5	22.6	I' III ?	2279 F7G=.3
✓		15.1	10.8	K III b	2280 F5-G=.1B, F5½G=.1, F7G=.3, Lines bt G+H. 2 lines below K.
✓		10.2	21.1	I III b	2281 F7G=.3

Amt. of Fog. due to moon & clouds. 6.5 Amt of Fog. due to chemicals. 6.4

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1888phae..proj...855F

2aK ; Hαℓ ; 448,3 ; 456,2 ; 458,1

3aK ; h3 ℓ3
h5 ℓ5
448,3

1aK ; Hαℓ ; 448,3 ; 456,1 ; 458,3 ; 461,2 ; 466,1 ; 468,1

3aK ; h3 ; ℓ3
h3 ; ℓ3
h3 ; ℓ3
h3 ℓ3

aK
448,3
2aK ; Hαℓ ; 448,3 ; 456,1 ; 458,1

448,3

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March 28, 1888.

Plate 411.

Book 4 F. Page 116	V.	H.	Type.	Rit.	Description of Lines or Spectra.
✓	20.9	13.4	IIIa	F 2282	G & H=.2, 2 lines below K.
✓	20.7	10.5	IIIa	K, F, i 2283	F4½ G=.2, F7G=.3, Lines bet. G & H.
✓	20.2	18.7	IIIa	K i 2284	F5-½ G=.2, F7G=.3.
✓	10.8	9.7	IIa	F 2285	G & H=.3, 3 lines below K.
✓	10.4	22.5	IIa	F 2286	G & H=.5
✓	9.8	18.6	IIa	F 2287	G & H=.2. Lines below K.
✓	5.5	13.7	IIIa	b K 2288	F5 G=.2B, F5½ G=.2, F7G=.3, F8 G=.1B, F9 G=.1, Lines bet. G & H. Lines below K.
✓	118 5.0	9.2	IIa	F 2289	G & H=.5

Amt. of Fog. due to moon & clouds. 8.5 Amt of Fog. due to chemicals. 8.5

March, 29, 1888.

Plate 419 22'

✓	120 20.1	23.1	IIa	F 2290	G & H dbl. =.5 Lines below K.
✓	17.4	18.2	Ia	B K 2290a	F6 G=.1B, G & H=.2, H & K=.1
✓	15.1	15.4	IIIa	b c 2291	F2½ G=.1, F3 G=.1B, F3½ G=.1, F4½ G=.2, F6 G=.2B, F5-½ G=.1, F6 G=.1, F7 G=.3, Lines bet. G & H.
✓	11.2	6.0	IIa	F 2292	G & H=.2.
✓	10.9	10.2	IIIa	b i 2293	F4½ G=.1, F7G=.3.
✓	6.9	20.8	IIa	F 2294	G & H=.3

Amt. of Fog. due to moon & clouds. 7.8 Amt. of Fog. due to chemicals. 7.5

Plate 264.

✓	122 22.4	22.4	IIa	F 2295	G & H=.5
✓	17.5	15.1	IIa	F 2296	G & H=.3, G dbl. Lines below K.
✓	16.8	15.8	IIIa	b i 2297	F5½ G=.2, F7G=.3

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1888phae.proj..855F

ak; h2; g2

Hag; 448,3; 461,2

448,3; 456,2

ak; h3; g3

h5; g5

ak; h2; g2

? ak; Hag; 438,1; 443,1; 448,3; 456,2; 458,2

h5; g5

ak; hd5; gd5

402,1; 419,2; 453,1

Hag; 448,3; 453,1; 456,1; 458,2; 461,2; 466,1; 468,1; 471,1

h2; g2

448,3; 461,1

h3; g3

h5 g5

ak; h3 gd3

448,3; 456,2

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March 29, 1888.

Plate 264.

Book 4 F. Page 122

	V.	H.	Type.	Rem.	No.	Description of Lines on Spectra.
✓	13.2	15.8	K III k α		2298.	F3 G=.1B, F4½ G=.1, F5 G=.1B, F5½ G=.2, F7 G=.3 F8 G=.1B, F9 G=.1, Lines bet. G & H.
✓	13.2	12.3	F II α		2298a	G+h=.5?

Amt. of Fog. due to moon & clouds. 8.2 Amt. of Fog. due to chemicals. 8.0

March 30, 1888

Plate 497

✓	124	19.1	14.2	F II α	2299	G & h=.3
✓		18.4	13.4	F II α	2300	G & h=.2, 2 lines below K.
✓		12.5	12.2	F? II α?	2301	G & h=.5

Amt. of Fog. due to moon & clouds. 6.8 Amt. of Fog. due to chemicals. 6.5

Plate 598.

	128					

Amt. of Fog. due to moon & clouds. 7.9 Amt. of Fog. due to chemicals 7.9

Plate 599

✓	22.5	17.1	F? II α?		2302	G=.5, h=.2
✓	8.2	16.1	I III k?		2303	F7 G=.3

Amt. of Fog. due to moon & clouds. 8.0 Amt. of Fog. due to chemicals. 7.9

Plate 626.

✓	13.0	16.5	K? III bc?		2304	F4½ G=.1, F5 G=.1B, F5½ G=.1, F7 G=.3, Lines bet. G & H.

Amt. of Fog. due to moon & clouds. 7.9 Amt. of Fog. due & chemicals. 7.5

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Hδ, 438,1; 443,1; 448,3; 456,2; 458,1; 461,1; 468,1

h5? g5?

h3; g3

2aK; h2; g2

h5; g5

1) h2, g5

448,3

Hδ, 448,3; 456,1; 458,1; 461,1

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March 31, 1888.

Plate 627.

Book 4 f. Page 128 | D. | H. | Type. | Rem. | Description of Lines on Spectra.

✓ 12.7 | 23.4 | K | ~~III~~ | ~~b~~ α | 2305 | F 3 G=.1 B, F 4½ G=.2, F 5 G=.2 B, F 5½ G=.1, F 7 G=.3. Lines bet. G & H.

Amt. of Fog. due to moon & clouds. 8.0 | Amt. of Fog. due to chemicals. 7.9

Plate 618

130 Amt. of Fog. due to moon & clouds, 8.1 | Amt. of Fog. due to chemicals. 7.9

Plate 619.

✓ 19.6 | 12.3 | F | ~~II~~ | ~~a~~ | 2306 | G & H = .2, Lines below K.

✓ 19.1 | 18.0 | F | ~~II~~ | a | 2307 | G & H = .5

Amt. of Fog. due to moon & clouds. 8.0 | Amt. of Fog. due to chemicals. 7.7

Plate 608.

✓ 132 20.6 | 13.9 | F | ~~II~~ | ~~a~~ | 2308 | G & H = .3

✓ 17.5 | 8.9 | I | ~~III~~ | ~~b~~ | 2309 | F 7 G=.3, Lines bet. G & H.

✓ 15.7 | 8.6 | F | II | a | 2310 | G & H = .3. Lines below K.

Amt. of Fog. due to moon & clouds. 6.9 | Amt. of Fog. due to chemicals. 7.0

Plate 609.

✓ 134 13.1 | 9.9 | K | ~~III~~ | ~~b~~ α | 2311 | F 2½ G=.1, F 3 G=.2 B, F 3½ G=.1, F 4 G=.1 B, F 4½ G=.2, F 5 G=.2 B, F 5½ G=.2, F 6 G=.1, F 6½ G=.2, F 7 G=.3, F 8 G=.1 B, F 9 G=.1, F 9½ G=.1. Lines bet. G & H.

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Hα ℓ; 448, 3; 456, 1; 458, 2; 461, 2; 468, 1

aK; h2; ℓ2
h5 ℓ5

h3; ℓ3
Hα ℓ 448, 3
aK h3 ℓ3

Hα; 436, 1; 438, 1; 443, 1; 448, 3; 451, 2; 453, 1; 456, 2; 458, 2; 461, 2; 463, 1
466, 1; 468, 2; 471, 1

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March 31, 1888.

Plate 609

Book H F. Page 134	V.	H.	Type.	No. Rem.	Description of Lines on Spectra.
✓	11.5	18.0	K ~~II~~ ~~X~~ ~~a~~	2312	F3 G=.1B, F3½ G=.1, F4½ G=.2, F5 G=.2B, F5½ G=.1, F7 G=.2, F8 G=.1B, F9 G=.1, Lines bet. G & H. 2 lines below K. (B4V=.4?
✓	4.5	15.7	B ~~X~~ ~~b~~	2313	F7 G=.3, F9 G=.1, G3 h=.1, G7 h=.2, h5 H=.5, h6 H=.2
✓	2.5	11.1	I ~~II~~ ~~X~~	2314	F4½ G=.2, F5½ G=.2, F7 G=.3, Lines bet. G & H.

Amt. of Fog. due to moon & cloud. 7.1 Amt. of Fog. due to chemicals. 7.4

Plate 610.

✓	136 12.8,	12.6	K ~~II~~ ~~X~~ ~~a~~	2315	F3 G=.1B, F3½ G=.1, F4½ G=.1, F5 G=.1B, F5½ G=.1, F7 G=.2, F8 G=.1B, F9 G=.1, Lines bet. G & H. 2 lines below K.
✓	12.5	7.7	H" ~~II~~ ~~X~~ ~~P~~ ?	2316	Lines below K.

Amt. of Fog. due to moon & clouds. 6.0 Amt. of Fog. due to chemicals. 7.4

Plate 611.

✓	16.1	16.3	T" ~~II~~ ~~X~~ ?	2317	G & H=.5
✓	9.9	10.5	A ~~X~~	2318	Additional lines seen on spectrum, belonging to spectrum of another star, the two being superimposed on Plate.
✓	3.1	16.0	B ~~X~~ ~~b~~	2319	F6 G=.2, h 6 H=.2.

Amt. of Fog. due to moon & clouds. 8.4 Amt. of Fog. due to chemicals. 8.4

Plate 612.

✓	138 12.1	24.2	T" ~~II~~ ~~X~~ ~~a~~ ?	2320	G=.4, h=.2, 2 lines below K.

Amt. of Fog. due to moon & clouds. 8.0 Amt. of Fog. due to chemicals. 7.8

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1888phae.proj...855f

2aK; Ha δ; 438,1; 443,1; 448,2; 456,1; 458,2; 461,2; 466,1; 468,1

382,4? 402,2; 403,5; 417,2; 426,1; 438;1; 448,3
Ha δ; 448,3; 456,2; 461,2

2aK; Ha δ; 438,1; 443,1; 448,2; 456,1; 458,1; 461,1; 466,1; 468,1

aK

hδ; δδ
? Spectrum of superposed

402,2; 453,2

2aK; hδ δν

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March 31, 1888.

Plate 613

Book 4 F. Page 138

V.	H.	Type.	Rem.	Description of Lines on Spectra.
				Amt. of Fog. due to moon & clouds. Amt. of Fog. due to chemicals.
				8.2 8.1

Plate 552.

✓	20.0	15.2	F ~~II a~~	2321	G & ~~H~~ h = .3
✓	17.6	19.8	F ~~II a~~	2322	G & ~~H~~ h = .5
✓	16.6	17.2	F? ~~II a~~ ?	2323	G & ~~H~~ h = .5
✓	16.0	17.5	F? ~~II a~~ ?	2324	G & ~~H~~ h = .5
✓	14.5	16.2	K ~~III a~~	2325	F 4½ G = .1, F 5 G = .2 B, F 5½ G = .1, F 7 G = .3 B, F 8 G = .1 B, F 9 G = .1, Lines bet. G & H. 2 lines below K.
✓	14.0	8.7	11.0 K ~~III a~~	2326	F 4½ G = .1, F 5 G = .1 B, F 5½ G = .1, F 7 G = .3 Lines bet. G & H. 2 lines below K.

Amt. of Fog. due to moon & clouds. Amt. of Fog. due to chemicals.

7.8 7.5

April 2, '88 Plate 666.

✓	14.6	18.0	12.9 F? ~~II a~~ ?	2327	G & ~~H~~ h = .5
✓		16.0	7.9 I ~~III~~	2328	F 7 G = .3
✓		14.7	14.7 F? ~~II a~~	2329	G & ~~H~~ h = .2 (G & h = .2)
✓		13.5	12.4 F? ~~II a~~	2329a	G & h = .2
✓		13.0	14.1 I ~~III~~	2330	F 7 G = .3
✓		12.5	13.9 F? ~~II a~~ ?	2331	G & ~~H~~ h = .5 (G & h = .5)
✓		5.3	14.6 F? ~~II a~~	2332	G & ~~H~~ h = .3, G dbl. Lines below K.
✓	14.8	2.5	15.0 F? ~~II a~~	2333	G & ~~H~~ h = .5

Amt. of Fog. due to moon & clouds. Amt. of Fog. due to chemicals.

6.6 7.4

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1888phae.proj..855f

h3 g3
h5 g5
h5 g5
h5 g5
2aK; HaS; 438,1; 443,1; 448,3; 456,1; 458,2; 461,1

2aK; HaS; 448,3; 456,1; 458,1; 461,1

h5 g5
448,3
h2 g2 (h2; g2)
h2 g2
448,3
h5 g5 (h2; g2)
aK h3 gd3
h5 g5

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April 2, 1888.

Plate 659.

Book 4 F. Page 148

	V.	H.	Type.	No. Rem.	Description of Lines on Spectra.
✓	15.0	23.2	IIIa.rF	2334	G + H = .5
✓	15.3	16.1	IIIa	F 2335	G + H = .3
✓	13.0	16.5	IIIb	I 2336	F 4½ G = .2, F 5½ G = .1, F 7 G = .3
✓ 150	6.5	17.3	IIIa	F 2337	G + H = .5
✓	4.5	17.3	IIIb	I 2338	F 7 G = .3

Amt. of Fog. due to moon & clouds. 6.8 Amt. of Fog. due to chemicals. 7.2

Plate 660.

✓	17.9	7.0	IIIa.rF	2339	G + H = .5 (G + h = .5)
✓ 152	13.0	23.2	IIIc	K 2840	F 3 G = .1 B, F 4½ G = .1, F 5 G = .2 B, F 5½ G = .1 F 7 G = .3, Lines bet. G & H. 2 lines below K.
✓	5.0	23.9	IIIa.rF	2341	G + H = .5
✓	2.5	12.1	IIIa	F 2342	G + H = .2

Amt. of Fog. due to moon & clouds. 6.5 Amt. of Fog. due to chemicals. 6.8

Plate 661 April 3, '88.

✓	65+22.8	17.6	IIIa.rF	2343	G + H = .5, 2 lines below K.
✓	17.5	14.5	IIIa	F 2344	G + H = .5, 2 lines below K.
✓ 154	13.0	13.7	IIIa.rF	2345	G + H = .3
✓	7.6	18.8	IIIc.rK	2346	F 4½ G = .2, F 5 G = .1B, F 5½ G = .1, F 7 G = .3, Lines bet. G & H. 3 lines below K.
✓	5.8	18.4	IIIa	F 2347	G + H = .3, Lines below K.
✓	5.0	14.7	IIIa	F 2348	G + H = .2, 2 lines below K.
✓	4.5	14.2	IIIb	B 2349	F 7 G = .2, G & h = .1, h 6 H = .2, h 7 H = .2. H 6 α = .3, β 4γ = .5?
✓	4.5	17.2	IIIb	B 2350	h 6 H = .2

Amt. of Fog. due to moon & clouds. Amt. of Fog. due to chemicals.

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1888phae.proj..855f

h5 ; g5

h3 g3

448,3 ; 456,1 ; 461,2

h5 , g5

448,3

h5 , g5 (h5 g5)

2ak ; Hag ; 448,3 ; 456,1 ; 458,2 ; 461,1 ; 468,1

h5 , g5

h2 , g2

2ak h5 g5

2ak h5 g5

h3 g3

3ak ; Hag ; 448,3 ; 456,1 ; 458,1 ; 461,2

ak ; h3 ; g3

2ak ; h2 g2

382,5 ; 392,3 ; 401,2 ; 402,2 ; 414,1 ; 448,2

402,2

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1888phae.proj..855F

April 3, 1888.

Plate 652

Book & F. Page	V.	H.	Type.	Rem.	Description of Lines on Spectra.
	14.1	9.4	K ~~III~~ ~~X~~	2351,	F3 G=.1B, F3½ G=.1, F4½ G=.2, F5 G=.1B, F5½ G=.1, F7 G=.3, Lines bet. G & H.
	11.8	18.9	K ~~II~~ ~~b~~ ~~a~~	2352	F3 G=.1B, F3½ G=.1, F4½ G=.2, ~~F4 G=~~ F5 G=.2B, F5½ G=.1, F7 G=.3, F8 G=.1B, F9 G=.1 Lines bet. G & H.

Amt. of Fog. due to moon & clouds. 7.5 Amt. of Fog. due to chemicals. 7.3

Plate 658.

	20.5	14.3	I ~~II~~ ~~X~~	2353	F4½ G=.2, F6½ G=.1, F7 G=.3, Lines bet. G & H. 2 lines below K.
	17.7	9.3	I ~~II~~ ~~X~~	2354	F7 G=.2, Lines bet. G & H.
	15.8	9.0	F ~~II~~ ~~a~~	2355	G & H^h=.5, Lines below K.
	15.8	13.0	7.5 F' ~~II~~ ~~a~~ .9	2356	G & H^h=.5, Lines below K.
	7.7	13.6	F' ~~II~~ ~~a~~ .8	2357	G & H^h=.5

Amt. of Fog. due to moon & clouds. 7.0 Amt. of Fog. due to chemicals. 7.3

Plate 714.

Amt. of Fog. due to moon & clouds. 8.2 Amt. of Fog. due to chemicals. 8.1

Plate 706.

	15.0	23.8	F ~~II~~ ~~a~~	2358	G & H^h=.2
	16.0	9.6	20.5 F ~~II~~ ~~a~~	2359	G=.2, H^h=.5, Lines below K.

Amt. of Fog. due to moon & clouds. 7.6 Amt. of Fog. due to chemicals. 7.0

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1888phae.proj..855F

Hδ, 448,3; 455,1; 458,1; 461,2; 466,1; 468,1

Hδ, 438,1; 443,1; 448,3; 455,1; 458,2; 461,2; 466,1; 468,1

2aK; Hδ, 448,3; 455,1; 461,2

Hδ, 448,2
aK; h5 δ5
aK h5 δ5
h5 δ5

h2 δ2
aK h5 δ2

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1888phae.proj..855F

April 3, 1888

Plate 735.

	V.	H.	Type	No. Rmk.	Description of Lines on Spectra.
Br Book 47. Page 160	20.3	15.2	F? IIIa?	2359a	G+h=.5
	20.4	18.9	F? IIIa?	2360	G+H=.3, 3 lines below K.

Amt. of Fog. due to mum + clouds. 7.1 Amt. of Fog. due to chemicals. 7.0

Reading of this Plate continued in Vol. 6.

Plate 656.

162	23.0	20.2	F? ~~IIIa~~?	2361	G+H=.5
	~~21.5~~	~~9½~~	~~F IIIa~~	~~2361a~~	~~g+h=.5 h 6H=.3~~
	20.3	18.3	I IIIa	2362	F4½ G=.2, F5-½ G=.1, F7G=.3, Lines bt. G+H.
	19.0	11.2	F? IIIa?	2362a	g+h=.5?
	18.5	11.4	B IIIa	2363	F7G=.2, B8h=.1, h6H=.2, h7H=.2, H6α=.1,
	18.7	17.8	F IIIa	2364	G+H=.5
	16.19	16.3	F? IIIa?	2364a	G+h=.5
	15.5	15.9	B IIIa	2365	F6G=.2, h6H=.2,
164	11.8	13.2	I? IIIb?	2366	F7G=.3 (F7G=.3)
	10.6	18.3	I IIIa	2367	F7G=.3
	10.0	10.7	K IIIb	2368	F3G=.1B, F3½G=.1, F4½G=.2, F5G=.2B, F5-½G=.1, F7G=.3, F8G=.1B, F9G=.1 Lines bt. G+H. 2 lines below K.
166	8.9	18.1	K? IIIc?	2369	F1½G=.2, F2G=.1B, F2½G=.3, F3G=.3B, F4½G=.2, F5G=.2, F7G=.2, F8G=.2, F9G=.2 Lines bt. G+H. 1 line above F? Peculiar spectrum.

April 4. '88.

Plate 656.

	3.0	12.3	I IIIb	2370 F7G=.3

Amt. of Fog. due to mum + clouds. 7.1 Amt. of Fog. due to chemicals. 7.4

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1888phae.proj..855f

h5 g5
3aK: h3 g3

h5 g5
Hαg, 448,3; 456,1; 461,2

h5? g5?
1 392,1; 401,2; 402,2; 414,1; 448,2

h5 g3
h5 g5
402,2; 453,2

448,3 (448,3)

448,3

2aK Hαg; 438,1; 443.1; 448,3; 456,1; 458.2; 461,2; 466.1; 468.1

Peculiar spectrum; ~~Fe~~; Hαg; 438,2; 443,2; 448,2; 458,2; 461,2; 468.3; 471,2; 474.1; 477.2; Fe1.

448,3

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1888phae.proj..855F

April 4, 1885.

Plate 655

Book 4F. Page 186	V.	H.	Type.	Rem. No.	Description of Lines on Spectra.
✓	21.5	18.9	F? ~~II~~ ~~α~~ ~~k~~	2371	G + ~~K~~ h = .3
✓	19.0	14.4	F? ~~II~~ α ?	2372	G + ~~K~~ h = .5 (G + h = .5)
✓ 168	17.0	9.1	F ~~II~~ α	2373	G + ~~K~~ h = .5, 2 lines below K.
✓	15.6	6.8	F? ~~II~~ α ?	2374	G + ~~K~~ h = .5, 2 lines below K.
✓	15.0	20.5	F? ~~II~~ α ?	2375	G + ~~K~~ h = .5 (G + h = .3?)
~~✓~~	~~13.9~~	~~10.5~~	~~F? II α ?~~	~~2375 a~~	~~G + K = .5~~
✓	13.8	16.2	F ~~II~~ α ?	2376	G + ~~K~~ h = .5
✓ 170	11.5	14.1	F? ~~II~~ α ?	2377	G + ~~K~~ h = .5; Lines below K.
✓	10.5	18.5	F ~~II~~ α	2378	G + ~~K~~ h = .2, 3 Lines below K.
✓	9.6	15.7	F? ~~II~~ α ?	2378 a	G + h = .3
✓	9.5	21.4	E? ~~II~~ ?	2379	Lines below K.
✓	4.2	14.1	B ~~II~~ ~~k~~	2380	F 6 G = .1, h 6 K = .2, K 6 α = .1
✓	3.5	11.5	F? ~~II~~ α ?	2380 a	G + h = .5

Amt. of Fog. due to moon & clouds. 6.7 Amt. of Fog. due to chemicals. 7.0

Plate 690.

F 3 G = .1 B, F 4½ G = .2, F 5 G = .2 B, F 5½ G = .1,

✓ 172 10.8 12.3 K ~~II~~ ~~k~~ ~~α~~ 2381 F 6 G = .1, F 7 G = .3, F 8 G = .1 B, F 9 G = .1, F 9½ G = .1. Lines bet. G + K.

Amt. of Fog. due to moon & clouds. 8.4 Amt. of Fog. due to chemicals. 8.3

Plate 695.

✓ 16.7 15.8 G? ~~II~~ ~~k~~ c ? 2382 Several bright and faint lines.

✓ 6.7 8.8 B? ~~I~~ ~~k~~ ? 2383 δ 6 ε = .3?

Amt. of Fog. due to moon & clouds. 8.3 Amt. of Fog. due to chemicals. 8.2

Plate 694.

✓ 174 16.0 13.3 F ~~II~~ α 2384 G + ~~K~~ h = 4, Lines below K.

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1999phae..proj..055f

h3 ; g3

h5 g5 (h5 g5)

2 ak ; h5 ; g5

2 ak ; h5 ; g5

h5 , g5 (h3 ? g3 ?)

h5 g5

ak ; h5 ; g5

ak ; h2 ; g2
h3 g3

ak

1 392,1 ; 402,1 ; 453,1
h5 g5

Hγ ; 436,1 ; 438,1 ; 443,1 ; 448,3 ; 453,1 ; 456,1 ; 458,2 ; 461,2 ; 468,1

Several bright + faint lines

? 376.3 ?

ak ; hv gv

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1888phae.proj..855F

April 4, 1888.

Plate 694

Book 4 F. Page 174

V.	H.	Type.	Rem.	Description of Lines on Spectra.
8.9	6.3	K IIIa Aα	2385	F4½ G=.1, F5-G=.1B, F7G=.3, F8 G=.1B, Lewis lct. G+26. 2 lines below K.
8.0	16.8	F? IIIa?	2386	G+26h=.5

Amt. of Fog. due to moon & clouds. 7.8 Amt. of Fog. due to chemicals. 7.0

Plate 719.

19.1	14.3	K IIIa Aα	2387	F3G=.1B, F3½ G=.1, F4½ G=.2, F5-G=.2B, F5-½ G=.1 F7G=.3. Lewis lct. G+26. 2 lines below K.
18.3	11.5-	B IIIa	2388	h6 26=.2
16.7	15.7	B? IIIa?	2389	δ6 ε=.1
14.6	8.8	F IIIa	2390	G+26h=.5
~~9.0~~	~~19.2~~	~~B IIIa~~	~~2390 a~~	~~h6 26=.2, 26 6α=.3~~
176 6.4	23.2	I? IIIa?	2391	F7G=.3, Lewis below K.

Amt. of Fog. due to moon & clouds. 8.5 Amt. of Fog. due to chemicals. 8.4

April 5, '88.

Plate 718.

17.6	19.1	F IIIa	2392	G+26h=.3, Lewis below K.
6.1	21.7	F IIIa	2393	G+26h=.5, 2 lines below K.

Amt. of Fog. due to moon & clouds 8.0 Amt. of Fog. due to chemicals. 7.5

Poor Plate. Hard to measure. Plate. 745

178 16.8	11.5-	K IIIa Aα	2394	F5-G=.1B, F5½ G=.1, F7G=.3
16.6	13.4	F? IIIa?	2395	G+26h=.3
9.0	22.7	K IIIa Aα	2396 a5	F5-G=.1B, F5½ G=.1, F7G=.3. Lewis lct. G+26. 1 line below K.

Amt. of Fog. due to moon & clouds 6.5 Amt. of Fog. due to chemicals. 6.5

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1988phae.proj..855f

2ak; Hαℓ; 448,3; 456,1; 458,1; 461,1

h5; ℓ5

2ak; Hαℓ; 448,3; 456,1; 458,2; 461,2; 466,1; 468,1

P 402,2

? 3764

h5 ℓ5

392,3; 402,2

ak; 448,3

ak: h3 ℓ3

2ak h5 ℓ5

448,3; 456,1; 458,1

P.I h3, ℓ3

1ak; Hαℓ; 448,3; 456,1; 458,1

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1888phae.proj..855F

April 5, 1888.

Plate 746.

Book 4 F. Page 178	V.	H.	Type.	Rem.	Description of Lines or Spectra.
	21.3	10.9	F?	2396	G + H = .5, lines below K.
	16.5	16.4	F	2397	G + H = .5, 2 lines below K.
	16.5	21.7	F?	2398	G + H = .5?
	10.5	12.7	F?	2399	G + H = .5?

Amt. of Fog. due to moon & clouds. 7.7 Amt. of Fog. due to chemicals. 7.3

Plate 902.

184	21.0	16.8	K?	2400	F 2 G = .1, F 2½ G = .1B, F 3 G = .2, F 3½ G = .2B, F 4 G = .4, F 5 G = .1, F 7 G = .3, G dbl.? Lines bet. G + H.
	10.4	7.1	F	2401	G + H = .2
	8.0	23.4	F	2402	G + H = .4

Amt. of Fog. due to moon & clouds. 8.0 Amt. of Fog. due to chemicals. 8.2

Plate 828.

	18.5	13.9	B	2403	h 6 H = .2, h 6 α = .2
	17.8	22.8	F?	2404	G + H = .5
	14.9	15.4	B	2405	h 6 H = .2. (h 6 H = .2)
186	6.2	18.5	I?	2406	F 7 G = .3

Amt. of Fog. due to moon & clouds. 8.0 Amt. of Fog. due to chemicals. 7.7

Plate 823.

	17.5	15.9	F	2407	G + H = .5, Lines below K.
	12.0	21.4	F?	2408	G + H = .5,
	11.4	17.0	F	2409	G + H = .5, Lines below K.
	6.0	21.4	F	2410	G + H = .5

Amt. of Fog. due to moon & clouds. 7.8 Amt. of Fog. due to chemicals. 7.4

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1888phae.proj...855f

aK ; hδ ; gδ

2aK ; hδ ; gδ

hδ ? gδ ?

hδ ? gδ ?

Ha g ; gd ? ; 448,3 ; 458,1 ; 463,4 ; 466,2 ; 468,2 ; 471,1 ; 474,1

h2 ; g2

h4 ; g4

392,2 ; 402,2

hδ ; gδ

402,2 (.402,2)

448,3

aK ; hδ ; gδ

hδ ; gδ

aK ; hδ ; gδ

hδ gδ

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1888phae.proj..855f

April 5, 1888

Plate 822.

Book 4 R Page 186 | V. | H. | Type. | Run No. | Description of Lines on Spectra.

Amt. of Fog. due to moon & clouds. 8.2 | Amt. of Fog. due to chemicals. 7.9

Book G

April 7, '88 Plate 839.

188 | 20.5 | 8.4 | F | IA | a | 2410 | G & h = .5

18.5 | 12.1 | K ? | III | X | x² | 2412 | F 4½ G = .1, F 5 G = .1 B, F 5½ G = .1, F 7 G = .3, Lines bet. G & H. 2 lines below K.

15.7 | 8.3 | F | II | a | 2413 | G & h = .3

7.7 | 5.5 | I | III | b | 2414 | F 4½ G = .1, F 7 G = .3.

7.5 | 20.2 | F | V | a | 2415 | G and h = .2, Lines below K.

Amt. of Fog due to moon & clouds. 6.4 | Amt. of Fog. due to chemicals. 7.1

Plate 871.

190 | 18.0 | 13.6 | I | III | b. | 2416 | F 7 G = .3.

11.0 | 7.5 | K | II | b c | 2417 | F 2½ G = .2, F 3 G = .1 B, F 3½ G = .1, F 4 G = .1 B, F 4½ G = .2, F 7 G = .3, Lines between G & H.

6.8 | 16.6 | K | II | b c | 2418. | F 3 G = .1 B, F 3½ G = .1, F 4½ G = .2, F 5 G = .2 B, F 5½ G = .1, F 7 G = .3, F 9 G = .2, Lines between G and H, 2 Lines below K.

Amt of Fog due to moon & clouds. 8.3 | Amt of Fog due to chemicals 8.2

Plate 802.

190 | 9.5 | 14.2 | K | II | b c | 2419 | F 2½ G = .1, F 3 G = .1 B, F 3½ G = .1, F 4½ G = .1, F 5 G = .1 B, F 5½ G = .1, F 7 G = .3, F 8 G = .1 B, F 9 G = .1.

9.1 | 10.4 | F | X | a | 2420 | G and h = .2

Amt of Fog due to moon & clouds. 8.2 | Amt of Fog. due to chemicals 8.2

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1888phae.proj...855f

h5 g5

2 aK; Hαg; 448,3; 456,1; 458,1; 461,1

h3 g3

448,3; 461,1

aK; h2 g2

448,3.

Hαg; 448,3; 461,2; 463,1; 466,1; 468,1; 471,2

2 aK; Hαg; 438,2; 448,3; 456,1; 458,2; 461,2; 466,1; 468,1

438,1; 443,1; 448,3; 456,1; 458,1; 461,1; 466,1; 468,1; 471,1

h2 g2

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April. 7. 1888.

Plate 857.

Book. 4. F. Page	V.	H.	Type.	Rem. No.	Description of Lines on Spectra.
194	12.0	15.8	IV^b I	2421	F 7 G=.3
	8.0	16.8	I^b. B	2422	h 6 H=.2, B 4 γ=.3.

Amt of Fog. due to moon & clouds. 7.6 Amt. of Fog. due to chemicals 7.3

Plate 824.

	7.1	18.0	III^b. I	2423	F 4½ G=.1, F 5½ G=.2, F 7 G=.3, Lines between G and H.

Amt. of Fog. due to moon & clouds. 8.4 Amt of Fog. due to chemicals 8.4

Plate 900

"	16.5	8.8	IV^b E'	2424.	Lines below K.
	10.0	6.9	IV^b I	2425	F 7 G=.3

Amt of Fog due to moon & clouds. 8.4 Amt of Fog due to chemicals 8.4

Plate 901.

196 Amt of Fog. due to moon & clouds. 8.4 Amt of Fog. due to chemicals 8.4.

Plate 874.

198 Amt. of Fog. due to moon & clouds. 8.2 Amt. of Fog. due to chemicals 8.1

Plate 861.

	16.5	24.1	IV^b F	2426.	G and h=.2, 2 Lines below K.
	9.9	23.2	III^b I	2427	F 7 G=.3

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1888phae.proj..855f

448, 3

382, 3 ; 402, 2

Hδ ; 448, 3 ; 455, 2 ; 461, 1

αK

448, 3

2αK ; hz δz

448, 3

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1888phae.proj..855F

April 7. 1888.

Plate 861.

Book 4. F. Page.	V.	H.	Type.	Rem. No.	Description of Lines on Spectra.
198	10.2	5.3	F II^{a}	2428.	G and h=.2.
	8.0	21.5	K III &c.	2429.	$F4\frac{1}{2}$ G=.2, F5 G=.1 B, $F5\frac{1}{2}$ G=.1, F7 G=.3, Lines between G and H.

Amt. of Fog. due to moon & clouds. 8.0 Amt of Fog. due to chemicals. 7.8

Plate 862.

	19.7	16.8	F II^{a}	2430	G and h=.5, 2 Lines below K.
200	17.1	14.4	I III^{b}	2431	F7 G=.3.
	12.7	15.5	B I^{b}	2432	h6 H=.2, B4 γ=.2.

Amt. of Fog. due to moon & clouds. 8.4 Amt of Fog. due to chemicals. 8.0.

Plate 841

202	21.0	13.2	F II^{a}	2433	G and h=.5, 3 Lines below K.
	20.7	5.6	F II^{a}	2434	G and h=.5, 2 Lines below K.
	12.0	10.8	I III^{b}	2435	F7 G=.3
	8.6	20.8	B I^{b}	2436	B4 γ=.3
	8.1	11.7	I III^{b}	2437	F7 G=.3

Amt of Fog. due to moon & clouds. 7.3 Amt. of Fog. due to chemicals 6.6.

Plate 840.

204	16.8	14.4	F II^{a}	2438	G and h=.3, G dbl., Lines below K.
	12.6	22.7	F II^{a}	2439	G and h=.3

Amt. of Fog. due to moon & clouds. 7.5 Amt. of Fog. due to chemicals. 7.7.

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h2 ; g2

Ha g ; 448,3 ; 456,1 ; 458,1 ; 461,2

2aK ; h5 ; g5

448,3

382,2 ; 402,2

3aK ; h5 ; g5

2aK ; h5 g5

448,3

382,3

448,3

aK ; h3 ; gd3

h3 g3

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April. 7. 1888.

Plate 832.

Book 4. F. Page.	V.	H.	Type.	Rem.	Description of Lines on Spectra.
206	10.9	22.2	F II[a]	2440	G and h = .3, 2 Lines below K.

Amt. of Fog due to moon & clouds. 7.8 Amt. of Fog due to chemicals. 7.8.

Plate 833

206	11.5	13.4	I[b] B	2441	h 7 H = .2, h 6 H = .2
	11.4	22.1	II[a] F	2442	G and h = .5

Amt. of Fog. due to moon & clouds. 7.6 Amt of Fog due to chemicals 7.6.

Plate 845.

Poor plate. Hard to measure.

	8.5	14.5	II[a] F	2442a	G 8 h = .5
208	7.6	16.6	III[b] I	2443	F 7 G = .3
	6.7	20.1	III[b] I	2444	F 7 G = .3, Lines between G and H.

Amt. of Fog. due to moon & clouds 7.5 Amt. of Fog. due to chemicals 7.1

Plate 903.

	17.1	16.0	III[b] I	2445	F 4½ G = .2, F 5½ G = .1, F 7 G = .3, Lines between G and H.
210	14.0	19.2	I[a] B	2446	h 6 H = .2
	12.6	17.1	I[b] B	2447	F 6 G = .2, F 8½ G = .2, h 6 H = .2, β 4 γ = .2.
	10.7	12.2	II[a] F	2448	G and h = .2
	10.1	13.9	II[a] F	2449	G and h = .5

Amt of Fog. due to moon & clouds 8.5 Amt. of Fog. due to chemicals 8.5

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2aK; h_3 g_3

402, 2, 401, 2
h_5, g_5

h_5, g_5
448, 3
Ha g, 448, 3

Ha g, 448, 3; 456, 1; 461, 2

402, 2
382, 2; 402, 2; 441, 2; 453, 2
h_2 g_2
h_5 g_5

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April, 7, 1888.
Plate, 685.

Book. 4, F.	Page.	H.	H.	Type.	Remark.	No.	Description of Lines on Spectra.
✓	212	16.5	17.8	IIIa	K.c. K	2450	F 7 G = .3.
✓		6.3	7.5	II	b. c G	2451	Peculiar spectrum. Several bright and faint lines.

Amt. of Fog. due to moon & clouds. 8.2 Amt. of Fog. due to chemicals. 8.2.

Plate 691

✓	"	15.3	8.6	IIIa	F	2452	G and h = .5
✓	214	8.2	18.9	I	b B	2453	F 6 G = .2, L 6 H = .2
✓		6.2	10.4	II	a F	2454	G and h = .5

Amt. of Fog. due to moon & clouds. 8.3 Amt. of Fog. due to chemicals. 8.2.

Plate. 778.

✓		16.1	13.2	IIIa	F	2455	G and h = .5, 3 Lines below K.
✓		9.0	6.2	III	b. c. K	2456	F 4½ G = .1, F 5 G = .2 B, F 5½ G = .1, F 7 G = .3, Lines between G & H.
	"	Amt. of Fog. due to moon & clouds. 8.4					Amt. of Fog. due to chemicals 8.4

Plate 779.

✓	"	16.5	15.8	II	b. c G	2457	Peculiar Spectrum. Several Bright and faint Lines, Several lines below K.

Amt. of Fog. due to moon & clouds. 8.4 Amt. of Fog. due to cheimcals 8.4

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448, 3

h 5⁻, g 5⁻

402, 21; 425 3, 2

h 5⁻, g 5⁻

3 a K. h 5⁻ g 5⁻

Hδ; 448, 3; 456, 1; 458, 2; 461, 1

a K. Peculiar spectrum. Several bright + faint lines

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April 12, 1888

Plate 772. F.

Book 6 G. Page 36	V.	H.	Type.	Ast. No.	Description of Lines on Spectra.
✓	16.0	10.9	I IIIa Ka	2458	F7 G=.3
✓	11.0	18.3	F? IIa2 a?	2459	G & h=.5, Lines below K.

Amt. of Fog. due to mum & clouds. 8.6 Amt. of Fog. due to chemicals. 8.6

Plate 801. F.

✓	16.7	11.2	K? IIIa Ka?	2460	F3 G=.1B, F4½ G=.1, F5 G=.1B, F5½ G=.2, F7 G=.3, Lines Ist. G & H.
✓	15.5	23.0	I IIIa Ka	2461	F7 G=.3
✓	9.0	22.4	K? IIIa Ka	2462	F3 G=.1B, F3½ G=.1, F4½ G=.2, F5 G=.2B, F5½ G=.2, F7 G=.3, Lines Ist. G & H. 2 lines below K.

Amt. of Fog. due to mum & clouds. 8.2 Amt. of Fog. due to chemicals. 8.2

Plate 943 F.

38 Amt. of Fog. due to mum & clouds. 7.0 Amt. of Fog. due to chemicals. 6.5

April 13. Plate 944 F.

✓	13.3	8.4	I? IIIa Ka?	2463	F7 G=.3.
✓	13.5	11.3	K? IIIa Ka	2464	F4½ G=.1, F5 G=.1B, F5½ G=.1, F7 G=.3, Lines Ist. G & H. Lines below K.
✓	10.0	17.5	F IIIa	2465	G & h=.5
✓	7.6	21.3	F? IIIa a?	2466	G & h=.5

Amt. of Fog. due to mum & clouds. 8.0 Amt. of Fog. due to chemicals. 8.0

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1888phae.proj..855f

448,3
aK; h5; k5

Hα; 448,3; 456,2; 458,1; 461,1; 468,1

448,3
2aK; Hα; 448,3; 456,2; 458,2; 461,2; 466;1; 468,1

448,3
aK; Hα; 448,3; 456,1; 458,1; 461,1

h5, k5
h5, k5

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April 13, 1888.

Plate 735 (F.) Remarks in this Plate continued from Page 74.

Book 6 G. Page 44.	V.	He.	Types.	No Rem.	Description of Lines on Spectra.
✓	17.2	13.8	I ~~III~~ ~~h~~	2467	F 7 G = .3
✓	13.0	21.5-	F? ~~II~~ ~~a~~ ?	2468	G + ~~h~~ k = .5- (G + h = .3)
✓ 46	12.0	9.5-	F? ~~II~~ a ?	2469	G + h = .5- (G + h = .5)
✓	12.0	11.0	F? ~~II~~ a ?	2470	G + h = .5- (G + h = .5)
✓	10.8	12.9	D? ~~I~~ ?	2471	Several bright and faint lines. Two stars superposed
✓	7.8	11.0	F? ~~II~~ a ?	2472	G + h = .5- . G dmtle. 2 lines below K.
✓	7.5-	15:7	B ~~I~~ ~~h~~	2473	F 6 G = .2, h 6 He = .2, He 6 α = .1, β 4 γ = .3
✓ 48	6.4	9.1	I ~~III~~ ~~h~~	2474	F 7 G = .3
✓	5:1	22.1	F? ~~II~~ a ?	2475	G + h = .5-

Amt. of Fog. due to more + clouds. 7.4 Amt. of Fog. due to chemicals. 7.0

Plate 668. (F.)

✓	21.5-	17.5-	I ~~III~~ ~~h~~	2476	F 7 G = .3
✓	20.5-	21.5-	F? ~~II~~ a ?	2477	G + h = .3
✓	19.5-	13.0	F? ~~II~~ a ?	2478	G + h = .5-
✓ 50	17.5	9.0	K? ~~III~~ ~~c~~ ?	2479	F 4½ G = .2, F 5- G = .1 B, F 5-½ G = .1, F 7 G = .3. Lines bt. G + He.
✓	15:9	11.6	F? ~~II~~ a ?	2480	G + h = .5- (G + h = .5)
✓	11.5	12.6	B ~~I~~ ~~h~~	2481	h 6 He = .2
✓ 52	9.1	14.4	F ~~II~~ a	2482	G + h = .3. G dbl. Lines below K.
✓	6.5	10.3	I? ~~III~~ ~~h~~ ?	2483	F 4½ G = .1, F 5 ½ G = .2, F 7 G = .3
✓ 59	14.2	F? F?	2483a	G + h = 5	

Amt. of Fog. due to more + clouds. 6.9 Amt. of Fog. due to chemicals. 8.5

Plate 503. (F.)

✓ 54	11.5	11.2	F? ~~I~~ a ?	2484	G = .5, h = .2

Amt. of Fog. due to more + clouds. 6.4 Amt. of Fog. due to chemicals. 6.4

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448,3
h5, k5 (h3; k3)
h5, k5 (h5; k5)
h5, k5 (h5; k5)
several bright & faint lines Peculiar Spectrum? Manfyphase A:
2ak; h5, k d5
382,3; 392,1; 402,2; 453,2

448,3
h5, k5

448,3
h3, k3
h5, k5
Ha; 448.3; 456,1; 458,1; 461.2

h5, k5 (h5; k5)
402,2
ak; h3; k d3
448,3; 456,2; 461,1

h2 k5

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April 13, 1888.

Plate 492. (F.)

Book 6 G. Page 54	V.	H.	Type.	No. Lines	Description of Lines on Spectra.
Amt. of Fog. due to moon & clouds. 7.5			Amt. of Fog. due to chemicals. 6.3		

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Plate 684 (F.)

✓		19.5 18.5	13.8 19.9	B ?	2485	h 6 H = .3.
✓	56	17.2	16.1	F ?	2486	G + h = .5
✓		17.0	15.9	F ?	2487	G + h = .5
✓		8.0	17.8	K	2488	F 3 G = .1B, F 3½ G = .1, F 4½ G = .2, F 5 G = .2B, F 5½ G = .2, F 7 G = .3.

Amt. of Fog. due to moon & clouds. 7.8 Amt. of Fog. due to chemicals. 6.8

Plate 650 (F.)

✓	58	14.0	13.0	B ?	2489	F 6 G = .2, h 6 H = .2, H 6 α = .1, β 4 γ = .4
✓		12.0	22.9	K ?	2490	F 3 G = .1B, F 4½ G = .1, F 5 G = .1B, F 5½ G = .1, F 7 G = .3, Lines bet. G + H.
✓		11.5	6.4	I ?	2491	F 4½ G = .1, F 5½ G = .1, F 7 G = .3,
✓		9.4	19.3	F ?	2492	G + h = .5
✓		7.3	15.1	F ?	2493	G + h = .5
✓		8.0	7.6	K	2494	F 2½ G = .1, F 3 G = .2B, F 4½ G = .2, F 5 G = .2B, F 5½ G = .2, F 7 G = .3, Lines bet. G + H. Lines below K.

Amt. of Fog. due to moon & clouds. 7.3 Amt. of Fog. due to chemicals. 7.2

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402, 3
h5, k5
h5, k5
448, 3; 456, 2; 458, 2; 461, 2; 466, 1; 468, 1

382, 4; 392, 1; 402, 2; 453, 2
Hak, 448, 3; 456, 1; 458, 1; 461, 1; 468, 1

448, 3; 456, 1; 461, 1
h5, k5
h5, k5
a5, Hak; 448, 3; 456, 2; 458, 2; 461, 2; 468, 2; 471, 1

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Plate 649 (F.)

Book 6 G. Page 58.	V.	H.	Type.	Rmt.	Description of Lines on Spectra.
	21.0	8.1	F? IIIa:?	2495	G + h = .5
	21.8	17.2	F? IIIa:?	2496	G + h = .5
	20.6	15.8	A I	2497	One line above F.
60	18.2	11.2	F IIIa	2498	G + h = .5 (G + h = .5)
	18.1	12.3	F IIIa	2499	G + h = .3
	18.3	14.9	F? IIIa:?	2500	G & h = .5

Plate 649 (F.) April 17, '88

	14.0	12.3	F? IIIa:?	2501	G & h = .3, Lines below K.
	13.6	17.2	K? IIIx Xa:?	2502	F 3 G = .1B, F 4½ G = .1, F 5 G = .1B, F 7 G = .3,
	13.0	20.1	F? IIIa:?	2503	G & h = .5
	13.0	15.9	F? IIIa	2504	G + h = .5
62	10.5	10.1	K IIIx Xa	2505	F 3 G = .1B, F 3½ G = .1, F 4½ G = .2, F 5 G = .1B, F 5-½ G = .1, F 7 G = .3, F 9 G = .1, F 9½ G = .1 Lines Int. G + H, Lines below K.
	7.0	11.9	F? IIIa:?	2506	G + h = .5
	7.5	16.3	F IIIa	2507	G + h = .3

Amt. of Fog. due to moon & clouds. 6.8 Amt of Fog. due to chemicals. 7.5

Plate 948 (F.)

64	19.2	15.7	F IIIa	2508	G + h = .3

Amt of Fog. due to moon & clouds. 8.5 Amt. of Fog. due to chemicals. 8.0

Plate 669 (F.)

	22.4	12.0	F? IIIa:?	2509	G + h = .5
	20.7	11.9	F? IIIa:?	2510	G + h = .5, lines below K.

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1888phae.proj..855F

h5, g5
h5, g5
Ha
h5, g5 (h5 g5)
h3, g3
h5, g5

aK, h3, g3
448,3; 458,1; 461,1; 468,1
h5, g5
h5, g5
aK; Ha; 436,1; 438,1; 448,3; 456,1; 458,1; 461,2; 466,1; 468,1

h5; g5
h3; g3

h3; g3

h5, g5
aK, h5, g5

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Plate 669 (F.)

Book 6 G. Page 66	V.	H.	Type.	No. Rem.	Description of Lines on Spectra.
✓	15.7	15.3	F ~~A~~ a	2511	G & h = .3
✓	16.3	17.1	F ~~A~~ a	2512	G & h = .5, G dbl. Lines below K.
✓	14.1	17.6	F ~~A~~ a	2513	G & h = .3.
✓	11.0	12.5	K? ~~A~~ a?	2514	F4½ G = .1, F5 G = .1B, F5½ G = .1, F7 G = .3. Lines bet. G & H.
✓	10.2	7.8	F ~~A~~ a	2515	G & h = .5
✓	9.5	22.6	K? ~~A~~ a?	2516	F4½ G = .1, F5 G = .1B, F5½ G = .1, F7 G = .3, Lines bet. G & H. Lines below K.
✓ 68	8.0	13.2	F? ~~A~~ a?	2517	G & h = .5
✓	7.0	16.0	F ~~A~~ a	2518	G & h = .3, 2 lines below K.
✓	5.8	16.0	F ~~A~~ a	2519	G & h = .5, lines below K.
✓	2.8	12.2	F? ~~A~~ a?	2520	G & h = .5?

Amt. of Fog. due to moon & clouds. 6.8 Amt. of Fog. due to chemicals. 7.2

Plate 283 (F.)

✓	22.0	17.6	F? ~~A~~ a?	2521	G & h = .5, 2 lines below K.
✓	20.8	8.2	F ~~A~~ a	2522	G & h = .3, lines below K.
✓	20.8	14.8	K? ~~A~~ a?	2523	F2½ G = .1, F3 G = .1B, F3½ G = .1, F4½ G = .2, F5 G = .1B, F5½ G = .1 F7 G = .3. Lines bet. G & H.
✓ 70	16.0	22.9	F? ~~A~~ a?	2524	G & h = .5, lines below K.
✓	18.7	7.5	F ~~A~~ a	2525	G & h = .3
✓	12.8	17.2	F? ~~A~~ a?	2526	G & h = .5
✓	12.0	14.1	I ~~A~~ a	2527	F4½ G = .2, F7 G = .3, Lines bet. G & H. 1 line below K.
✓ 72	7.8	18.0	F? ~~A~~ a?	2528	G & h = .5
✓	5.9	9.2	F ~~A~~ a	2529	G & h = .5

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h3 ; ℓ3
aK ; h5⁻, ℓd5⁻
h3 , ℓ3
Hαℓ, 448.3, 456.1; 458.1, 461.1

h5⁻, ℓ5⁻
aK; Hαℓ; 448.3; 456.1; 458.1; 461.1

h5⁻, ℓ5⁻
2 aK, h3, ℓ3
aK; h5⁻, ℓ5⁻
h5⁻? ℓ5⁻?

2 aK; h5⁻, ℓ5⁻
aK, h3 ℓ3
Hαℓ; 448.3; 456.1, 458.1; 461.2; 466.1; 468.1; 471.1

aK; h5⁻, ℓ5⁻
h3, ℓ3
h5⁻, ℓ5⁻
/aK, Hαℓ; 448.3; 461.2

h5 ℓ5⁻
h3 ℓ3

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Book 6 G. Page 72	V.	H.	Type.	Rem. No.	Description of Lines on Spectra.
✓	5.1	7.8	F ~~I~~ ~~a~~	2530	G + h = .5
✓	3.0	13.2	I ~~III~~ ~~X~~ ~~x~~	2531	F 7 G = .3

Amt. of Fog. due to moon & clouds. 6.3 Amt. of Fog. due to chemicals 7.3

Plate 858 (F.)

✓	19.0	10.6	F ~~II~~ ~~a~~ ~~x~~	2532	G + h = .5

Amt. of Fog. due to moon & clouds. 8.4 Amt. of Fog. 8.2

Plate 827 (F.)

✓	6.0	15.1	F ~~X~~ ~~a~~	2533	G + h = .5

Amt. of Fog. due to moon & clouds. 8.5 Amt. of Fog. due to chemicals. 8.5

Book 17 G. Page 4

Plate 1219

Amt. of Fog. due to moon & clouds. 8.0 Amt. of Fog. due to chemicals. 7.5

Plate 1257.

✓	6	16.3	23.1	F ~~X~~ ~~a~~	2534	G + h = .5
✓	8	10.3	19.6	K ~~III~~ ~~h~~ ~~a~~	2535	F 3 G = .1 B, F 4½ G = .1, F 5 G = .2 B, F 5½ G = .1, F 7 G = .3, Lines Ab. G + h. 2 lines below K

Amt. of Fog. due to moon & clouds. 8.0 Amt. of Fog. due to chemicals. 7.8

Plate 1145.

Amt. of Fog. due to moon & clouds. 8.5 Amt. of Fog. due to chemicals. 8.5

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h5 k5

448.3

h5 k5

h5 k5

h5 k5

zaK; Hδ, 448,3; 456,1; 458,2; 461,1; 468,1

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April 17, 1888

Plate 1325.

Book 17 G. Page 10	V.	He.	Type.	Rem. No.	Description of Lines in Spectra.
✓	16.0	7.0	E? IIA 1	2536	Lines below K.
✓	12.2	5.7	F? IIA α 1	2537	G & h = .5
✓	9.8	11.5	F? IIA α 1	2537a	G & h = .5
✓	9.9	14.2	I IIA 1	2538	F 7 G = .3 (F 7 G = .3)
✓	11.0	22.6	F IIA α	2539	G & h = .5 (G & h = .5)
✓	2.3	13.9	K IIA Kc	2540	F 3 G = .1B, F 3½ G = .1, F 4½ G = .2, F 5½ G = .1, F 7 G = .3.

Amt. of Fog. due to moon & clouds. 8.1 Amt. of Fog. due to chemicals. 8.0

Plate 1244.

✓ 12	22.4	16.0	F? IIA α 1	2541	G & h = .5
✓	17.1	16.3	K IIA Kc	2542	F 3 G = .1B, F 3½ G = .1, F 4½ G = .2, F 5 G = .1B, F 7 G = .3, Lines Det. G & H.
✓	16.0	11.4	F IIA α	2543	G & h = .2, G dbl. Lines below K.
✓	8.4	11.9	E? IIA 1	2544	Lines below K.
✓	4.6	13.1	I IIA 1	2545	F 4½ G = .2, F 5½ G = .2, F 7 G = .3.

Amt. of Fog. due to moon & clouds. 8.2 Amt. of Fog. due to chemicals. 8.0

Plate 1188.

✓ 14	19.5	17.7	E? IIA 1	2546	Lines below K.
✓	18.4	17.1	F? IIA α 1	2547	G & h = .5
✓	14.3	19.5	F? IIA α 1	2548	G & h = .5 (G & h = .5)
✓	8.6	9.6	F? IIA α 1	2549	G & h = .5
✓	8.6	18.1	F IIA α	2550	G & h = .5, 2 lines below K.
✓	8.6	20.6	F IIA α	2551	G & h = .3
✓	6.4	20.2	F IIA α	2552	G & h dbl. = .2, lines below K.
✓	5.8	6.8	F IIA α	2553	G & h dbl. = .3, 2 lines below K.

Amt. of Fog. due to moon & clouds. 7.8 Amt. of Fog. due to chemicals. 8.2

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1888phae.proj...855F

aK

h5 g5

h5, g5

448,3 (448,3)

h5 ; g5 (h5, g5)

448,3 ; 456,1 ; 461,2 ; 466,1 ; 468,1

h5 , g5

Hα ; 448,3 ; 458,1 ; 461,2 ; 466,1 ; 468,1

aK ; h2 ; gd2

aK

448,3 ; 456,2 ; 461,2

aK ; ~~h5 , g5~~

h5 ; g5

h5 , g5 (h5 g5)

h5 ; g5

2 aK ; h5 , g5

h3 , g3

aK ; hd2 , gd2

2 aK hd3 ; gd3

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Plate 1327.

Book	G. Page	V.	He.	Type.	Rev. No.	Description of Lines on Spectra.
		15.8	13.9	F? IIIa	2554	G & h = .3, 2 lines below K. (G & h = .3)
✓		15.3	17.2	F IIIa	2555	G & h = .5, lines below K.
✓		14.7	8.1	K K IIIb	2556	F 2½ G = .1, F 3 G = .1B, F 3½ G = .1, F 4½ G = .2, F 5½ G = .1, F 7 G = .3. (Bright and faint lines)
✓		13.9	9.4	F IIIa	2557	G & h = .5
✓		8.8	13.3	I IIIa	2558	F 4½ G = .2, F 5½ G = .2, F 7 G = .3.
✓		7.8	17.7	K? IIIb	2559	F 3 G = .1B, F 4½ G = .1, F 5 G = .1B, F 5½ G = .1, F 7 G = .3, Lines Int. G & h.

Amt. of Fog. due to moon & clouds. 8.0 Amt. of Fog. due to chemicals. 7.0

Dark Plate. Hard to measure. Plate 1189.

✓	20	16.4	5.8	F IIIa	2560	G & h = .5
✓		15.1	6.0	F IIIa	2561	G & h = .4
✓	22	11.0	8.0	F IIIa	2562	G & h = .2, 2 lines below K.
✓		10.3	16.1	K? IIIb	2563	F 3 G = .1B, F 4½ G = .1, F 5 G = .1B, F 5½ G = .1, F 7 G = .3, Lines Int. G & h.

Amt. of Fog. due to moon & clouds. 7.5 Amt. of Fog. due to chemicals. 6.4

Plate 1348.

✓	24	20.3	11.7	I? IIIa	2564	F 5½ G = .2, F 7 G = .3
✓		20.4	19.1	F IIIa	2565	G & h = .3
✓		16.6	11.4	F? IIIa	2566	G & h = .5
✓		13.7	11.8	K? IIIb	2567	F 3 G = .1B, F 4½ G = .1, F 5 G = .1B, F 5½ G = .1, F 7 G = .3,
✓		13.0	13.3	F IIIa	2568	G & h = .3.

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1888phae.proj..855F

aK; h_3; g_3 (h_3, G_3)
aK; h_5, g_5
448.3; 456.1; 461.2; 466.1; 468.1; 471.1 (Bright & faint lines).

h_5, g_5
448.3; 456.2; 461.2)
Hαβ; 448.3; 456.1; 458.1; 463.1; 468.1

h_5 g_5
h_4 g_4
2 aK; h_2 g_2)
Hαβ; 448.3; 456.1; 458.1; 461.1; 468.1

448.3; 456.2
h_3; g_3
h_5, g_5
448.3; 456.1; 458.1; 461.1; 468.1

h_3; g_3

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April 17, 1888.

Plate 1248

Book 17 G Page 214	V.	H.	Type.	Rem.	Description of Lines on Spectra.
✓	11.4	6.8	K? III Xα ?	2569	F3 G=.2B, F4½ G=.1, F5 G=.2B, F7 G=.3 Lines bet. G & H. 2 lines below K.
✓ 26	4.8	17.1	F II b	2570	G & h dtb. =.5. 2 lines below K.

Amt. of Fog. due to moon & clouds. 8.0 Amt. of Fog. due to chemicals. 7.5

Plate 1353

✓	21.5	15.7	K III Xα	2571	F2½ G=.1, F3 G=.1B, F4½ G=.2, F5 G=.2B, F5½ G=.1, F6 G=.1, F6½ G=.1, F7 G=.3, Lines bet. G & H.
✓	17.2	6.6	F II a	2572	G & h dtb. =.3, 3 lines below K.
✓ 28	12.0	9.0	F? II a:?	2573	G & h =.5 (G & h =.5)
✓	4.2	20.8	I III A	2574	F7 G=.3,
✓	8.2	9.7	F II a	2575	G & h =.3, G dtb. Lines below K.

Amt. of Fog. due to moon & clouds. 7.8 Amt. of Fog. due to chemicals. 7.4

Plate 1480.

✓ 30	22.8	13.4	F? II a:?	2576	G & h =.5.
✓	20.2	13.5	F? II a:?	2577	G & h =.3
✓	17.0	20.9	F? II a:?	2577a	G & h =.5
✓	15.2	21.8	F? II a:?	2578	G & h =.5?
✓	14.0	9.8	K III bc	2579	F3 G=.1B, F4½ G=.1, F5 G=.1B, F5½ G=.1, F7 G=.3
✓ 32	12.1	11.8	K III bγ	3580	F3 G=.2B, F3½ G=.1, F4½ G=.2, F5 G=.1B, F5½ G=.1, F7 G=.3, Lines bet. G & H.
✓	12.4	15.5	F? II a?	2580a	G & h =.5
✓	12.9	19.8	F? II a:?	2581	G & h =.5. 2 lines below K.
✓	11.7	16.1	F? II a:?	2582	G & h =.5 (G & h =.5)

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1888phae.proj..855F

2 a K ; Ha ℓ , 448.3 ; 458.2 , 461.1 ; 468.2

2 a K ; h d 5 ; ℓ d 5

Ha ℓ , 448.3 , 451.1 ; 453.1 , 456.1 ; 458.2 , 461.2 , 468.1 ; 471.1

3 a K ; h d 3 ; ℓ d 3
h 5 ℓ 5 (h 5 , G 5)
448.3
a K ; h 3 ; ℓ d 3

h 5 ℓ 5
h 3 ℓ 3
h 5 , G 5
h 5 ? ℓ 5 ?
448.3 ; 456.1 , 458.1 ; 461.1 ; 468.1

Ha ℓ , 448.3 ; 456.1 ; 458.1 ; 461.2 , 466.1 , 468.2

h 5 , G 5
a K ; h 5 ℓ 5
h 5 ℓ 5 (h 5 , G 5)

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1480

Book 17 G. Page 32	V.	H.	Type.	Rem. to Cat.	Description of Lines on Spectra.
✓ 32	8.1	15.6	F? IIIa k?	2583	G + h = .5 (G + h = .3, 1 line below K)
✓	7.2	16.8	F IIIa k	2584	G + h = .5, 2 lines below K.
✓ 34	4.3	16.4	B IIIa	2585	F6 G = .2, h 6 H = .2, h 6½ H = .2, B 4 γ = 4
✓	3.6	13.4	B IIIa	2586	h 6 H = .2, ~~G + h =~~
✓	2.7	7.8	F? IIIa a: k	2587	G + h = .5

Amt. of Fog. due to moon & clouds. 7.3 — Amt. of Fog. due to chemicals. 7.0

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Plate 1505.

✓	16.6	18.7	B IIIa	2588	F6 G = .2, h 6 H = .2.
✓	14.0	9.1	K? IIIa c: k	2589	F5 G = .1B, F4½ G = .2, F5 G = .2B, F5½ G = .1, F7 G = .3, Lines Nt. G + H.
✓	12.1	11.0	K IIIa c	2590	F2½ G = .1, F5 G = .2B, F5½ G = .1, F4½ G = .2, F5 G = .2B, F5½ G = .2, F7 G = .3, Lines Nt. G + H.
✓ 36	7.4	16.1	F? IIIa a γ	2591	G + h = .5; G dbl. 1 line below K.
✓	5.8	15.1	B IIIa	2592	F6 G = .2, h 6 H = .2, H 6 α = .2,
✓	4.2	15.8	B IIIa	2593	F6 G = .2, h 6 H = .2, H 6 α = .1, B 4 γ = .4.
✓	3.6	12.7	B IIIa	2594	F6 G = .3, h 6 H = .3, H 6 α = .2.

Amt. of Fog. due to moon & clouds. 7.6 — Amt. of Fog. due to chemicals. 6.8

Hard to measure. Plate 1391.

✓	22.0	22.2	K IIIa c	2595	F5 G = .1B, F4½ G = .2, F5½ G = .1, F7 G = .3,
✓	21.6	17.0	B IIIa	2596	h 6 H = .3

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h 5 ; g 5 (1 ak L 3, g 3)

aK ; h 5 , g 5

? 382, 4 ; 401, 2 ; 402, 2 ; 453, 2

402, 2

h 5 , g 5

402, 2 ; 453, 2

Ha g ; 448.3 ; 456.1 ; 458.2 ; 461.2 ; 468.1

Ha g , 448.3 ; 456.2 ; 458.2 ; 461.2 ; 466.1 ; 468.2 ; 471.1

1 aK ; h 5 ; g d 5

392, 2 ; 402, 2 ; 453, 2

382, 4 ; 392, 1 ; 402, 2 ; 453, 2

392, 2 ; 402, 3 ; 453, 3

448.3 ; 456.1 ; 461.2 ; 468.1 ;

402, 3

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April 18, 1888.

Plate 1391.

Book 17. G. Pages 36	V.	H.	Type.	Rem. No.	Description of Lines on Spectra.
✓	16.8	8.8	F? IIIa?	2597	G + h = .5
✓	14.8	17.6	I? IIIa?	2598	F γ G = .3
✓	11.9	12.7	I IIIa	2599	F γ G = .3 (F γ G = .3)
✓ 38	11.8	16.1	F? IIa?	2600	G = .2, h = .4
✓	11.4	21.6	F? IIa?	2601	G + h = .5
✓	8.1	14.2	K IIIa	2602	F 3 G = .1B, F 3½ G = .1, F 4½ G = .2, F 5 G = .2B, F 5½ G = .1, F γ G = .3, F 8 G = .1B, F γ G = .1. Lines bet. G & H.
✓	4.2	20.2	K IIIa	2603	F 3 G = .1B, F 4½ G = .1, F 5 G = .1B, F 5½ G = .1, F γ G = .3, Lines bet. G & H.
✓	2.3	22.2	K IIIa	2604	F 3 G = .1B, F 4½ G = .2, F 5½ G = .1, F γ G = .3, Lines bet. G & H.

Amt. of Fog. due to moon & clouds. 7.9 Amt. of Fog. due to chemicals. 7.3

Plate 1482.

✓ 40	22.4	12.8	F? IIa?	2605	G + h = .5
✓	20.5	15.4	F? IIa?	2606	G + h = .5?
✓	15.8	8.5	F? IIa?	2607	G + h = .5
✓	14.1	12.6	I IIIa	2608	F γ G = .2
✓ 42	11.8	7.7	K IIIa	2609	F 4½ G = .2, F 5 G = .2B, F 5½ G = .1, F γ G = .3, Lines Int. G & H. 1 line below K.
✓	12.4	9.8	F? IIa?	2609a	G + h = .5
✓	8.0	6.9	F? IIa?	2610	G + h = .5, 2 lines below K.
✓	10.6	11.1	F IIa	2609a	G + h = .5
✓	6.5	18.1	F IIa	2611	G + h = .5
✓	7.4	14.3	F IIa	2610a	G + h = .3
✓	5.3	18.0	F IIa	2612	G + h = .2
✓	3.0	13.0	B Ia	2613	h & H = .2
✓ 44	3.6	22.0	F? IIa?	2614	G + h = .5?

Amt. of Fog. due to moon & clouds. 6.4 Amt. of Fog. due to chemicals. 6.7

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1888phae.proj..855F

h 5 , g 5

448 , 3

448 , 3 (448, 3)

h 4 ; g 2

~~448 , 5~~ h 5 , g 5

Ha g , 438 , 1 ; 443 , 1 ; 448 , 3 ; 456 , 1 ; 458 , 2 ; 461 , 2 ; 466 , 1 ; 468 , 1

Ha g , 448 , 3 ; 456 , 1 ; 458 , 1 ; 461 , 1 ; 468 , 1

Ha g , 448 , 3 ; 456 , 1 ; 461 , 2 ; 468 , 1

h 5 g 5

h 5 ? g 5 ?

h 5 g 5

448 , 2

1 aK ; Ha g ; 448 , 3 ; 456 , 1 ; 458 , 2 ; 461 , 2

h 5 , g 5

2 aK h 5 g 5

h 5 , g 5

h 5 g 5

h 3 , g 3

h 2 g 2

402 , 2

h 5 ? g 5 ?

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April 18, 1888.

Plate 1499.

Book 17 G. Page 44	V.	H.	Type.	Rem.	Description of Lines on Spectra.
	20.0	21.9	I IIA b	2615	F 7 G = .3
	16.0	18.1	F IIA a	2616	G + h = .5 (G + h = .5)
	15.8	11.7	F? IIA a? k	2616a	(G + h = .5)
46	11.6	12.2	F? IIA a?	2617	G + h = .5 (G + h = .5)
	10.2	7.8	F? IIA a?	2618	G + h = .5 (G + h = .5)
	10.3	16.6	F? IIA a?	2618a	G + h = .5
	8.1	9.2	F? IIA a?	2619	G + h = .5 (G + h = .5)
	6.0	8.1	F? IIA a?	2620	G + h = .5
	6.2	13.6	K IIA bc	2621	F 3 G = .2B, F 3½ G = .1, F 4½ G = .2, F 5 G = .2B, F 5½ G = .2, F 7 G = .3, F 9 G = .1, Lines Iet. G + K, 2 lines below K.
	6.4	17.9	F IIA a	2622	G + h = .2
	5.5	11.1	F? IIA a?	2623	G + h = .5 (G + h = .5)

Amt. of Fog. due to moon & clouds. 7.3 Amt. of Fog. due to chemicals. 6.9

Hard to measure. Plate 1392.

48	16.3	19.5	K IIA bc	2624	F 3 G = .2B, F 4½ G = .1, F 5 G = .2B, F 5½ G = .1, F 7 G = .3, Lines Iet. G & K.
	16.3	24.0	F I a	2625	G + h = .5
	15.9	10.6	I IIA b	2626	F 7 G = .3.
	15.9	14.3	F IIA a	2627	G + h = .5
	10.6	10.7	F IIA a	2628	G + h = .5
	6.4	11.2	G? IIA bc?	2629	Several bright and faint lines in spectrum.

Amt. of Fog. due to moon & clouds. 8.0 Amt. of Fog. due to chemicals. 7.0

Plate 1357.

50	20.3	18.8	F? IIA a?	2630	G + h = .5

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448, 3

h_5 g_5 (h5, G5)

h_5, g_5.

h_5, g_5 (h5, G5)

h_5 g_5 (h5, G5.)

h_5, g_5.

h_5 g_5 (h5, G5)

h_5 g_5

2 aK; Hδ; 438.1; 448.3; 456.2, 458.2; 461.2; 466.1; 468.2

h_2. g_2)

h_5 . g_5 (h5, G5)

Hδ; 448.3; 456.1; 458.2; 461.1; 468.2

h_5, g_5

448.3

h_5 . g_5

h_5, g_5

several bright & faint lines in spectrum Peculiar?

h_5, g_5

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April 18, 1888.

Plate 1357.

Book 17 G. Page 50	V.	H.	Type	Rem.		Description of Lines on Spectra.
✓	17.9	20.8	I IIIa K		2631	F7 G=.3
✓	16.6	15.2	I? IIIa K?		2632	F5½ G=.2, F7 G=.3. (F7 G=.3)
✓	15.8	6.8	K IIIa Kc		2633	F8 G=.1B, F4½ G=.1, F5 G=.2B, F5½ G=.1, F7 G=.3, Lines Ict. G & H. One line below K.
✓	15.1	15.3	F IIa		2634	G & h=.5, lines below K.
✓	14.9	17.9	B Ia		2635	F6 G=.2, h & H=.2, H & α=.1, β & γ=.4
✓	8.4	8.0	F? IIa?		2636	G & h=.3
✓ 52	7.1	13.5	F? IIa?		2637	G & h=.5 (G & h=.3)
✓	7.1	18.4	F? IIa?		2638	G & h=.5, 3 lines below K.

Amt. of Fog. due to moon & clouds. 8.0 Amt. of Fog. due to chemicals. 7.8

Plate 1376.

✓	22.4	7.5	F? IIa?		2639	G & h=.5
✓	14.8	8.6	K IIIa Kc		2640	F4½ G=.1, F6 G=.1B, F5½ G=.1, F7 G=.3, Lines Ict. G & H.
✓	11.6	6.6	F Ia		2641	G & h=.5
✓ 54	6.2	15.7	K IIIa Kc		2642	F3 G=.2B, F3½ G=.1, F4½ G=.3, F5 G=.2B, F5½ G=.1, F7 G=.3, F8 G=.1B, F9 G=.1, Lines Ict. G & K. 1 line below K.

Amt. of Fog. due to ~~moon~~ & clouds. 8.2 Amt. of Fog. due to chemicals. 7.9

April 19, '88. Plate 1382.

✓	21.1	16.0	F? IIa?		2643	G & h dbl. =.5
✓ 56	19.9	14.6	K IIIa Kc		2644	F4½ G=.2, F5 G=.2B, F5½ G=.2, F7 G=.3, Lines Ict. G & K.
✓	19.0	16.8	B Ia		2645	F6 G=.2, h & H=.1, H & α=.1,

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1888phae.proj...855f

448,3

448,3 ; 456,2 (448,3)

1 aK ; Hα ; 448,3 ; 456,1 ; 458,2 ; 461,1 ; 468,1

aK ; h5 ; g5

382,4 ; 392,1 ; 402,2 ; 453,2

h3 , g3

h5 , g5 (h3, G3)

3 aK ; h5 g5

h5 g5

Hα ; 448,3 ; 456,1 ; 458,1 ; 461,1

h5 ; g5

1 aK ; Hα ; 438,1 ; 443,1 ; 448,3 ; 456,1 ; 458,2 ; 461,2 ; 466,1 ; 468,2

hd5 ; gd5

Hα ; 448,3 ; 456,2 ; 458,2 ; 461,2

(T. 392,1 ; 402,1 ; 453,2

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Plate 1382.

Book 17 G. Page 56	V.	H.	Type.	Rem. No.	Description of Lines on Spectra.
✓	16.9	12.5	F? II a?	2646	G + h = .5
✓	16.2	17.0	B I h	2647	F6 G = .2, h 6½ c = .2, 2166 α = .2.
✓	14.0	6.6	F? II a?	2648	G + h = .5
✓	13.5	16.4	F? II a?	2649	G + h = .5 (G + h = .5)
✓	12.4	12.4	I III b	2650	F7 G = .3 (F7 G = .3)
✓	12.4	16.6	F? II a?	2651	G + h = .5 ? (G + h = .5)
✓	12.3	17.1	F? II a?	2652	G + h = .5, lines below K.
✓	12.6	20.4	F II a	2653	G + h = .5 (G + h = .2)
✓	10.8	6.8	K III c	2654	F8 G = .1B, F4½ G = .1, F5 G = .2B, F5½ G = .1, F7 G = .3, Lines bt. G & H. 2 lines below K, 1 line above F.
✓ 58	10.5	16.8	F? II a?	2655	G + h = .5 ? (G + h = .5)
✓	7.3	11.3	F? II a?	2656	G + h = .5, lines below K.
✓	7.6	13.5	I III b	2657	F7 G = .3
✓	6.6	10.6	F? II a?	2658	G + h = .5 ?
✓	4.8	18.1	K III c	2659	F8 G = .1B, F5 G = .1B, F7 G = .3, Lines bt. G & H. 1 line below K.

Ant. of Fog. due to moon & clouds. 7.6

Ant. of Fog. due to chemicals. 6.6

Hand & measure. Plate 1377. April 20, '88.

✓ 60	21.6	9.7	F? II a?	2660	G + h = .5
✓	20.7	17.6	I III b	2661	F4½ G = .1, F5 G = .1B, F5½ G = .1, F7 G = .3, Lines bt. G & H.
	20.7				
✓	18.6	11.4	F? II a?	2662	G + h = .5
✓	18.3	15.8	F? II a?	2663	G + h = .5 (G + h = .5)
✓	16.8	9.8	F? II a?	2664	G + h = .5
✓ 62	13.4	7.5	F II a	2665	G & h dfl. = .5.
✓	13.6	15.2	F II a	2665a	G + h = .3

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1888phae.proj..855F

h5, G5

392,2; 402,2; 453,2

h5 G5

h5 G5 (h5, G5)

448,3 (448,3)

h5? G5? (h5, G5)

aK h5 G5

h5 G5 (h2, G2)

~~Ha~~ aK; HaG, 448.3, 456.1; 458.2; 461,1; 468.1; Fe

h5? G5? (h5, G5)

aK; h5 G5

448,3

h5? G5?

aK; HaG, 448.3; 458.1; 468.1

h5, G5

HaG, 448,3; 456.1; 458.1; 461.1

h5 G5

h5 G5 (h5, G5)

h5 G5

hd5 Gd5

h3 G3

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Plate 1377.

Book 17 G. Page 62	V.	H.	Type.	Ans. No.	Description of Lines on Spectra.
✓	11.7	11.0	K IIIx Hc	2666	$F_3G=.1B$, $F_{4\frac{1}{2}}G=.1$, $F_5G=.1B$, $F_{5\frac{1}{2}}G=.1$, $F_7G=.3$. Lines bet. G & H.
✓	11.4	18.9	F? IIa k	2666a	G+h=.3
✓	11.3	21.0	F? IIa d?	2667	G+h=.5 (G+h=.5)
✓	10.7	14.9	F? IIa g?	2668	G+h=.5 (G+h=.5)
✓	10.7	18.2	F IIa	2668a	G+h=.5
✓ 64	8.5	17.7	I IIIx b	2669	$F_7G=.3$
✓	8.9	23.2	F? IIa g?	2670	G+h=.5
✓	8.8	23.7	F? IIa d?	2671	G+h=.5 (G+h=.5)
✓	7.6	18.7	F? IIa g?	2672	G+h=.5 (G+h=.5, 2 lines below K)
✓	7.1	23.4	F IIx g	2673	G+h=.5

Amt. of Fog. due to moon & clouds. 7.5 Amt. of Fog. due to chemicals. 7.0

Plate 1506.

$F_{4\frac{1}{2}}G=.2$, $F_5G=.1B$, $F_{5\frac{1}{2}}G=.1$

✓ 66	20.9	18.1	K? IIIx d?	2674	$F_7G=.3$, Lines bet. G & H.
✓	13.4	8.0	F? IIa g?	2675	G+h=.5?
✓	11.8	11.5	K IIIx Hc	2676	$F_{4\frac{1}{2}}G=.2$, $F_5G=.1B$, $F_{5\frac{1}{2}}G=.2$, $F_7G=.3$. Lines bet. G & H.

Amt. of Fog. due to moon & clouds. 7.8 Amt. of Fog. due to chemicals. 7.2

Dark plate. Hard to measure. Plate 1451.

✓	21.8	21.1	I? IIx d?	2677	$F_{4\frac{1}{2}}G=.2$, $F_7G=.3$.
✓ 68	20.2	9.9	F? IIa g?	2678	G+h=.5
✓	18.0	22.3	F? IIa d?	2679	G+h=.5
~~17.8~~	~~11.9~~	~~F? IIx d?~~	~~2680~~	~~G+h=.5 (G+h=.2)~~	
✓	16.9	8.1	I IIIx b	2681	$F_7G=.3$, Lines bet. G & H.
✓	16.4	11.9	F? IIa g?	2682	G+h=.5, Lines below K.
✓	15.9	19.8	F? IIa d?	2682a	G+h=.5

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Hak; 448,3; 456,1; 458,1; 461,1; 468,1

h_3, g_3
h_5 g_5 (h_5, g_5)
h_5 g_5 (h_5, g_5)
h_5, g_5
448,3
h_5 g_5
h_5 g_5 ~~(h_5, g_5)~~
h_5 g_5 (zak; h_5, g_5)
h_5 g_5

Hak; 448,3; 456,1; 458,1; 461,2
h_5 ? g_5 ?
Hak; 448,3; 456,2; 458,1; 461,2

448,3; 461,2
h_5 g_5
h_5 g_5
~~h_5 g_5 (h_2, g_2).~~
Hak; 448,3
ak h_5 g_5

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Plate 1451

Book 17 G. Page 70		V.	H.	Type.	Rem.	Description of Lines on Spectra.
✓		16.2	24.3	K IIIa k x	2683	F 3 G = .1 B, F 3½ G = .1, F 4½ G = .2, F 5 G = .1 B, F 5½ G = .1, F 7 G = .3.
✓		13.0	18.0	F? II+a!?	2684	G & h = .5 (G+h = .5)
✓		13.2	19.9	F IIa	2684a	G+h = .5
✓		12.1	13.2	F II k	2685	G & h = .5 (G+h = .5, 1 line below K.)
✓		~~12.1~~	20.0	F? IIa ?	2686	G+h = .5. Lines below K.
✓	72	11.8	11.7	F? IIa ?	2687	(G+h = .5, 2 lines below K.) G+h = .5 ? 1 line below K. 1 line above F.
✓		9.0	7.6	÷? IIIa k !?	2688	F 7 G = .3
✓		9.6	14.0	F F? IIa ?	2688a	G+h = .5
✓		~~8.5~~ 8.2	~~6.2~~ 19.9	F? IIa ?	~~2688a~~ 2689	~~G+h = .5~~ G & h = .5 ? (G+h = .5)
✓		8.9	21.6	F? IIa ?	2690	G+h = .5
✓		7.5	5.2	F? IIa ?	2691	G & h = .5
✓		7.8	10.8	K IIIa k c	2692	F 3 G = .1 B, F 4½ G = .2, F 5 G = .2 B, F 5½ G = .1, F 7 G = .3, Lines bet. G & H.
✓		7.3	20.0	F? IIa ?	2693	G+h = .3, 2 lines below K.
✓	74	7.6	22.7	F? IIa !?	2694	G & h = .5. Lines below K.
✓		6.2	10.5	F? IIa ?	2694a	G+h = .5
✓		6.6	15.6	F? IIa !?	2695	G+h = .5, h dbl. (G+h = .5, h dbl.)
✓		4.5	12.6	F? IIa ?	2696	G & h = .5 (G+h = .5)
✓		4.9	13.6	E? IIa ?	2697	Lines below K. (G+h = .5, 1 line below K.)
✓		3.6	14.5	F? IIa ?	2698	G+h = .5 (G+h = .5)
✓		3.5	17.8	F? IIa ?	2699	G+h = .5. Lines below K.

Amt. of Fog. due to moon & clouds. 6.8 Amt. of Fog. due to chemicals. 6.4

Plate 1509.

✓	76	17.4	16.5	F? IIa ?	2700	G & h = .5
✓		16.4	15.9	F? IIa ?	2701	G & h = .3
✓		14.8	23.6	÷? IIIa k ?	2702	F 7 G = .3, G dbl.

Amt. of Fog. due to moon & clouds. 8.0 Amt. of Fog. due to chemicals. 7.3

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448,3; 456,1; 458,1; 461,2; 466,1; 468,1

h5 g5 (h5, g5)
h5, g5
h5 g5 (1aK; h5; g5)

aK h5 g5
2aK; h5; g5
1aK; h5? g5? Fal.

448,3
h5, g5
h5, g5 (h5; g5)
h5 g5 ?

h5 g5

h5 g5

Hal; 448,3; 456,1; 458,2; 461,2; 466,1

2aK; h3 g3

aK; h5 g5
h5, g5
hd5 g5 (hd5; g5)
h5 g5 (h5; g5)
aK (1aK; h5; g5)
h5 g5 (h5; g5)
aK h5 g5

h5 g5

h3 g3

448,3 gd

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Plate 1452. Dark plate. Hard to measure.

Book 17 G. Page 76	V.	H.	Type.	No. Rem.	Description of Lines on Spectra.
	16.2	20.5⁻	F II a	2703	G+h = .3 2 lines below K. (G+h = .3, 1 line below K.)
78	15.8	15.5⁻	F? II a	2704	G+h = .5⁻ (G+h = .3)
	15.8	23.6	F? II a 2	2704a	G+h = .5⁻
	10.6	18.2	F? II a ?	2705⁻	G+h = .5⁻ (G+h = .5⁻)
	8.0	23.4	F? II a ?	2706	G+h = .5, lines below K, Bright lines?
	3.6	10.9	F? II a ? 1	2707	G+h = .5? (G+h = .5?)

Amt. of Fog. due to moon & clouds. 6.5⁻ Amt. of Fog. due to chemicals. 6.1

Plate 1567.

82	19.0	17.1	I? III K ?	2708	F 7 G = .3
	17.7	14.9	G? II a c ?	2709	G+h = .5? Lines below K. Bright lines seen. Spectra superposed
	17.8	20.4	I? III K ?	2710	F 7 G = .3
	16.8	20.6	F? II a ?	2711	G+h = .5⁻
	7.3	18.5	K? III b c ?	2712	F 5 G = .1B, F 5½ G = .2, F 7 G = .3.
84	5.6	18.8	K? III b c ?	2713	F 5 G = .1B, F 5½ G = .1, F 7 G = .3,
	3.6	14.6	F? II a ?	2714	G+h = .5?

Amt. of Fog. due to moon & clouds. 8.0 Amt. of Fog. due to chemicals. 7.8

Plate 1597. April 21, '88

8.0	28.8	F II a	2715⁻	G+h dbl. = .5⁻
5.6⁻	15.5⁻	F? II a ?	2716	G+h = .5⁻

Amt. of Fog. due to moon & clouds. 7.8 Amt. of Fog. due to chemicals. 6.6

Plate 1580.

17.1	19.2	F? II a ?	2717	G+h = .5⁻

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2 aK ; h_3 G_3 (1 a K h_3 G_3)

h_5 ; G_5 (h_3 ; G_3)

h_5, G_5

h_5 ; G_5 (h_5 ; G_5)

aK ; h_5 G_5 Bright lines ?

h_5 ? G_5 ? (h_5? G_5?)

448,3

aK ; h_5 ? G_5 ? Bright lines. Spectrum of A star superposed?

448,3

h_5 , G_5

448,3 ; 456,2 ; 458,1 ; ~~448~~

448,3 ; 456,1 ; 458,1

h_5? G_5?

hd_5 , Gd_5

h_5 G_5

h_5 ; G_5

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Plate 1580.

Book 17 G. Rgo86	V.	H.	Type.	Rem. No.	Description of Lines on Spectra.
✓	15.5	12.2	G II b	2718	G dbl. G 6 h = .2.
✓	8.4	18.6	F? II a?	2719	G 8 h = .5
✓	7.1	11.2	B I k	2720	G 6 h = .2
✓	3.4	11.9	I III b	2721	F 7 G = .3

Amt. of Fog. due to moon & clouds. 8.0 Amt. of Fog. due to chemicals. 7.4

Plate 1672.

✓	14.4	18.1	K III bq	2722	F 8 G = .2B, F 4½ G = .2, F 5 G = .2B, F 5½ G = .1, F 6½ G = .1, F 7 G = .3, Lines dbl. G & B.
✓	13.7	15.2	G? II k?	2723	G dbl.
✓	4.8	21.8	F? II a?	2724	G & h = .5
✓	8.0	13.8	I III k	2725	F 7 G = .3

Amt Standard Light. 5.7 Amt. of Fog. due to moon & clouds. 7.6 Amt. of Fog. due to chemicals 7.3

Plate 1625.

✓	88	15.5	8.7	K? III kd?	2726	F 4½ G = .2, F 5 G = .1B, F 7 G = .2, F 8 G = .2B, F 9 G = .2. Lines dbl. G & B. 2 lines below K.
✓		12.8	20.6	I? III k?	2727	F 7 G = .3; h & H = .3
✓		11.1	10.1	I III k	2728	F 7 G = .3.

Amt. of Fog. due to moon & clouds. 7.4 Amt. of Fog. due to chemicals. 6.3

Plate 1581.

✓		21.1	19.0	I / F? III k	2729	F 7 G = .3
✓		12.0	14.0	K III a?	2730	G & h = .5
✓	90	7.4	9.0	F III a	2731	G & h dbl. = .5, Lines below K.

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4119.2 ; Gd
h5 , G5
~~h8 , G2~~ 4119.2
4488.3

3 Ha G ; 4488.3 ; 4451.1 ; 4556.1 ; 4558.2 ; 4561.2 ; 4568.2

Gd
h5 G5
4488.3

2 aK ; Ha G ; 4538.2 ; 4543.2 ; 4548.2 ; 4558.1 ; 4561.2

4501.3 , 4488.3
4488.3

4488.3
h5 G5
aK ; Hd5 Gd5 Spectrum of A star superposed?

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Plate 1581

Book 17 G. Page 90	V.	H.	Type.	Rem^ks.	Description of Lines on Spectra.
✓	6.4	8.9	F III a	2732	G & h = .5, 2 lines below K.
✓	6.1	17.6	G? III a d?	2733	G & h = .3, G dbl. Several bright lines. Lines below K. Rec. Spect. superpos'd

Amt. of Fog. due to moon & clouds. 7.5 Amt. of Fog. due to chemicals. 6.5

Plate 1489.

✓	16.8	13.3	F III a	2734	G & h = .5

Amt. of Fog. due to moon & clouds. 7.7 Amt. of Fog. due to chemicals. 6.7

Plate 1602.

92 Amt. of Fog. due to moon & clouds. 7.5 Amt. of Fog. due to chemicals. 6.5

Plate 1598.

✓	18.6	14.8	F? III a?	2735	G & h = .5
✓	16.2	11.1	F III a	2736	G & h = .5

Amt. of Fog. due to moon & clouds. 7.6 Amt. of Fog. due to chemicals. 6.4

Plate 1673

✓	94	16.5	14.1	F III a	2737	G & h = .2, G dbl.
✓		16.2	19.5	F? III a?	2738	G & h = .5?
✓		7.8	6.0	K? III K d?	2739	F 5 G = .23, F & G = .3, F & G = .18,

Amt of Fog. due to moon & clouds. 7.8 Amt. of Fog. due to chemicals. 7.0

Square of Standard Height. 5.5

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2 aK; h_5, g_5

aK; h_3; Gd_3; Several bright lines, Rec? Spectrum of A star superposed?

h_5, g_5

h_5, g_5

h_5, g_5

h_e, Gd_e

h_5 ? g_5 ?

443.1; 448.3, 458.2

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Plate 1603

Book 17 G. Page 94	V.	He.	Type.	Rev.	Description of Lines on Spectra.
✓	17.0	12.6	K IIIa Hd	2740	F3 G=.1B, F4½ G=.1, F5 G=.2B, F5½ G=.1, F7 G=.2, F8 G=.2B, F9 G=.2, Lines Int. G & He.
✓	10.8	15.4	K IIIa Hd	2741	F5 G=.1B, F5½ G=.1, F7 G=.3 Lines Int. G & He.
✓	6.4	6.0	K IIIa Hd	2742	F3 G=.1B, F3½ G=.1, F4½ G=.2, F5 G=.2B, F7 G=.3. Lines Int. G & He.
✓	6.1	20.6	F? IIa ?	2743	G & h=.5

Amt. of Fog. due to moon & clouds. 7.6 Amt. of Fog. due to chemicals. 6.5

Plate 1522.

✓ 96	18.2	7.9	F? IIa ?	2744	G & h=.5
✓	17.1	7.4	K IIIa Hd?	2745	F4½ G=.2, F5 G=.2B, F7 G=.3, F8 G=.1B. Lines Int. G & He.
✓	16.8	17.9	K IIIa Hd	2746	F3 G=.2B, F4½ G=.2, F5 G=.2B, F5½ G=.2, F7 G=.3, F8 G=.1B. Lines Int. G & He.
✓	15.4	21.4	F? IIa ?	2747	G & h=.5? 2 lines below K.
✓	11.0	13.0	F? IIa ?	2748	G & h=.5
✓	8.9	16.8	F? IIa ?	2749	G & h=.5. Lines below K.
✓	5.0	20.9	F? IIa ?	2750	G & h=.5

Amt. of Fog. due to moon & clouds. 7.5 Amt. of Fog. due to chemicals. 6.8.

Plate 1639.

✓ 98	18.2	6.4	F? IIa ?	2751	G & h=.5

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Hα, 438,2; 443,2; 448,2; 455,1; 458,2; 461,1; 468,1

Hα, 448,3; 456,1; 458,1

Hα, 448,3; 458,2; 461,2; 466,1; 468,1

h5, g5

h5, g5
Hα; 443,1; 448,3; 458,2; 461,2

Hα; 443,1; 448,3; 456,2; 458,2; 461,2; 468,2

2 ak; h5? g5?
h5; g5
ak; h5; g5
h5; g5

h5. g5

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Plate 1639.

Book 17 G Page 98	V.	H.	Type.	Rem.	No.	Description of Lines on Spectra.
✓	17.1	6.0	K III|a		2752	F 5 G = .2 B. F 7 G = .2. Lines bt. G & H.
✓	16.8	16.5	K III|a		2753	F 3 G = .2 B, F 3½ G = .1, F 4½ G = .2, F 5 G = .2 B, F 5½ G = .2, F 6 G = .1, F 6½ G = .1, F 7 G = .3, F 8 G = .1 B, F 9 G = .1. Lines bt. G & H.
✓	14.2	17.6	I III|b		2754	F 4½ G = .2, F 7 G = .3
✓	11.0	11.6	F? II|a?		2755	G & h = .5?
✓	7.7	23.1	K III|a		2756	F 5 G = .2 B, F 7 G = .2, F 8 G = 1 B, Lines bt. G & H.
✓	4.9	19.4	F? III|a?	100	2757	G & h = .3
✓	3.6	12.5	F? II|a?		2758	G & h = .5?
✓	3.2	19.8	F? II|a?		2759	G & h = .5

Amt. of Fog. due to moon & clouds. Amt. of Fog. due to chemicals.
Sq. Standard Height.
5.2 7.5 6.8

Plate 1585. April 23, 1888.

✓	18.1	16.2	F	II|a	2759a	G & h = .5
✓	14.7	12.4	F? II|a?	102	2760	G & h = .5
✓	13.1	17.9	F	II|a	2761	G & h = .3, 1 line below K.
✓	13.6	21.6	F	II|a	2762	G & h = .5, 3 lines below K.
✓	10.6	10.9	F? II|a?	104	3763	G & h = .5 (G & h = .5, 2 lines below K.)
✓	9.6	13.3	B I|a		2764	F 6 G = .2
✓	7.4	15.3	K III|a		2765	F 2½ G = .1, F 3 G = .1 B, F 3½ G = .1, F 4½ G = .2, F 5 G = .2 B, F 5½ G = .1, F 7 G = .2, F 8 G = .2 B, F 9 G = .1. Lines bt. G & H. 2 lines below K.
✓	3.8	5.4	F? II|a?	106	2766	G & h = .3

Amt. of Fog. due to moon & clouds. Amt. of Fog. due to chemicals.
7.7 7.1

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Hδ; 448,2; 458,2

Hδ; 438,1; 443,1; 448,3; 451,1; 453,1; 456,2; 458,2; 461,2; 466,1; 468,2

448,3; 461,2

h5 ? g5 ?

Hγ 443,1; 448,2; 458,2

h3 g3

h5 ? g5 ?

h5 g5

h5, g5

h5 g5

1ak h3 g3

3ak h5 g5

h5 g5 (2ak; h5; g5)

453,2

2ak; Hδ; 448,1; 443,2; 448,2; 456,1; 458,2; 461,2; 466,1; 468,1; 471,1

h3 g3

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April 23, 1888.

Plate 1523.

Book 17 G. Page 106	V.	H.	Types.	Rev. No.	Descriptions of Lines or Spectra.
✓	19.8	21.5	F? IV a?	2767	G + h = .5 (G + h = .5)
✓	17.4	12.1	F? IV a?	2768	G + h = .5
✓	16.1	14.6	F IV a	2769	G + h = .3, Lines below K.
✓ 108	13.3	16.3	F? IV a	2770	G + h = .5, ~~F + G =~~. G + h = .2, h & K = .2. Lines below K.
✓	11.7	5.7	F IV a	2771	G + h = .2. Lines below K.
✓	11.7	17.9	B I b	2772	F & G = .2, h & K = .2, B + γ = .4.
✓	11.6	20.5	I IV b	2773	F + G = .3
✓	10.0	12.5	F IV a	2773a	G + h = .5
✓	8.8	11.3	F? IV a?	2774	G + h = .5 ? (G + h = .5)
✓	7.0	8.6	F? IV a?	2775	G + h = .5
✓ 110	7.4	14.0	F? IV a?	2776	G + h = .5
✓	7.4	15.6	F IV a	2777	G + h = .5 (G + h = .5, 2 lines below K.)
✓	6.8	15.0	K? IV b c?	2778	F + ½ G = .1, F + 5 G = .1B, F + 7 G = .3,
✓	4.8	17.6	B? I b?	2779	F & G = .2, h & K = .1 (F + 7 G = .3)

Amt. of Fog. due to nuns & clouds. 7.5 Amt. of Fog. due to chemicals. 7.2

Plate 1606.

✓ 112	6.8	12.9	F IV a	2780	G + h = .5. 2 lines below K.
✓	2.2	15.6	F IV a	2781	G + h = .3. G of h.

Amt. of Fog. due to nuns & clouds. 7.7 Amt. of Fog. due to chemicals. 6.7

Plate 1608.

F + 3 G = .1B, F + ½ G = .1, F + 5 G = .1B,

✓	19.0	14.0	K II b a	2782	F + 7 G = .3,
✓	17.9	14.7	I III b	2783	F + 7 G = .3
✓	16.9	7.6	I III b	2784	F + 7 G = .3

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1888phae.proj..855f

h5 g5 (h5, G5)
h5 g5
aK h3 g3
aK ; 402,2 ; 414,2 ; h5 g5

aK ; h2 g2
382,4 ; 402,2 ; 453,2
448,3
h5 ; G5
h5 ? g5 ? (h5 ; G5)
h5 g5
h5 g5
h5 g5 (2aK ; h5 ; G5)
448,3 ; 458,1 ; 461,1
402,1 ; 443,2 (448,3)

2aK ; h5 ; g5
h3 gd3

448,3 ; 458,1 ; 461,1 ; 468,1
448,3
448,3

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April 23, 1888.

Plate. 1608

Book 17 G. Page	V.	H.	Type.	Rem. No.	Description of Lines on Spectra.
✓	16.9	21.7	F IIIa	2785	G + h = .5
✓	15.1	9.7	B I b	2786	F6 G = .2
✓	15.0	10.7	I IIIb	2787	F7 G = .3
✓ 114	12.0	22.0	K? IIIc?	2788	F3 G = .1 B, F4½ G = .2, F5 G = .1 B, F7 G = .3
✓	10.3	9.8	K? IIIc?	2789	F5 G = .1 B, F7 G = .2; Lines Hb. G + 26. 2 lines below K.
✓	8.9	11.4	I? IIIb?	2790	F7 G = .3

Amt. of Fog. due to moon & clouds. 7.8 Amt. of Fog. due to chemicals 6.3

Very poor plate. Plate 1630.

✓	15.0	9.1	F? IIIa?	2791	G + h = .5

Amt. of Fog. due to moon & clouds. 8.0 Amt. of Fog. due to chemicals. 6.3

Plate 1683.

✓	20.0	21.2	I IIIb	2792	F7 G = .3
✓	15.4	9.9	F IIIa	2793	G + h = .2. 2 lines below K.

Sq. Standard Light. 5.4 Amt. of Fog. due to moon & clouds. 8.0 Amt. of Fog. due to chemicals. 7.2

Plate 1700.

✓ 116	20.0	20.1	I IIIb	2794	F7 G = .3
✓	15.4	8.8	F IIIa	2795	G + h diff. 2. 2 lines below K.
✓	14.0	14.8	I IIIb	2796	F4½ G = .2, F5½ G = .1, F7 G = .3
✓ 118	7.1	17.3	I IIIb	2797	F7 G = .3

Sq. Standard Light. 5.2 Amt. of Fog. due to moon & clouds. 7.8 Amt. of Fog. due to chemicals. 7.2

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h5 g5

453,2

448,3

448,3; 458,1; 461,2; 468,1

2aK; Hαg; 448,2; 458,1

448,3

h3 g3

448,3

2aK; h2 g2

448,3

2aK; hd2; gd2

448,3; 456,1; 461,2

448,3

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1888phae.proj..855F

April 23, 1888

Plate 1590.

Book 17 G. Page 118.	V.	H.	Types.	Rem. No.	Description of Lines on Spectra.
✓	22.6	8.6	F? II a?	2798	G & h = .3
✓	13.9	15.4	B I b	2799	F6 G = .3, h 3 H = .2
✓ 120	12.4	11.8	F? II a?	2800	G & h = .3
✓	5.5	18.2	F II a	2801	G & h = .3. Lines below K.
✓	2.9	8.7	F? II a?	2802	G & h = .5. Lines below K.

Amt. of Fog. due to moon & clouds. Amt. of Fog. due to chemicals.
6.9 6.7

Plate 1641.

✓	22.5	8.7	F? II a?	2803	G & h = .3 G dbl.
✓ 122	5.3	18.5	F II a	2804	G & h = .3. G dbl.

Sq. Standard Height. Amt. of Fog. due to moon & clouds. Amt. of Fog. due to chemicals.
5.2 7.8 6.8

Book 17 G. Page 150 Very hard to measure. Plate 1642 (F.)

✓	11.5	23.8	F? II a?	2806	G & h = .5

Sq. Standard Height. Amt. of Fog. due to moon & clouds. Amt. of Fog. due to chemicals.
5.1 7.5 6.5

Plate 1708?

Equals 1531 a ~~18.6 17.4 F? II a? 2807 G & h = .3.~~

Amt. of Fog. due to moon & clouds. Amt. of Fog. due to chemicals.
Sq. Standard Height.
5.1 8.0 7.4

Book 1 G. Page 5 April 24. Plate 168.

F. M & C. F. ch.
8.4 8.4

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1888phae.proj..855f

h3 g3

40b,2; 453,3

h3 g3

ak; h3 g3

ak; h5 g5

h3, gd3

h3; gd3

h5, g5

h3 g3

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1888phae.proj..855F

April 24, 1888.

Plate 169. Hard to measure.

Book 1 G. Page 5.		V.	H.	Type.	Rem.	No.	Description of Lines on Spectra.
✓		14.0	13.3	F?	IIa?	2807a	G+h=.5
✓	6	9.7	14.7	I	III b	2808	F 7 G=.3, Lines Ict. G & H.
✓	7	8.5	8.7	F	II a	2809	G & h=.2. 2 lines below K.
✓		3.5	20.0	F?	II a?	2810	G & h=.5?

Amt. of Fog. due to moon & clouds. 8.0 Amt. of 7.8

Plate 178.

✓	12	17.7	16.7	K	III b a	2811	F 4½ G=.2, F 5 G=.1B, F 5½ G=.1,
		~~13.6~~					F 7 G=.3, Lines Ict. G & H. 1 line below K.
✓	13	13.6	9.1	K?	III b a?	2812	F 5 G=.1B, F 7 G=.3, Lines Ict. G & H.
							1 line below K.
✓		13.2	13.9	F	II a	2813	G & h=.3, Lines below K.
✓		11.0	9.0	F?	II a?	2814	G & h=.3
✓		7.7	18.5	F	II a	2815	G & h=.5, Lines below K.
✓		7.7	18.1	F?	II a?	2816	G & h=.5
✓		6.2	16.8	F	II a	2817	G & h=.5 Lines below K.
✓		2.3	14.2	F?	II a?	2818	G & h=.5? Lines below K.

Amt. of Fog. due to moon & clouds. 7.8 Amt. of Fog. due to chemical. 7.8

April 26. 1888

Plate 253.

✓	14	18.5	17.5	K	III b a	2819	F 4½ G=.1, F 5 G=.1B, F 7 G=.3,
							Lines Ict. G & H. 1 line below K.
✓		16.9	16.0	F?	II a?	2820	G & h=.5
✓		16.1	8.7	I?	III b?	2821	F 7 G=.3, Lines Ict. G & H. Lines below K.
✓		16.8	12.7	F?	II a?	2822	G & h=.5
✓		14.3	8.5	F?	II a?	2823	G & h=.5? 2 lines below K.

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1888phae.proj..855f

h5 ; l5

Ha l ; 448,3

2 ak ; h2 l2

h5 ? l5 ?

1 ak ; Ha l ; 448,3 ; 456,1 ; 458,1 ; 461,2

1 ak ; Ha l ; 448,3 ; 458,1

ak ; h3 l3

h3 l3

ak ; h5 l5

h5 l5

ak ; h5 l5

ak ; h5 ? l5 ?

1 ak ; Ha l ; 448,3 ; 458,1 ; 461,1

h5 l5

ak ; Ha l ; 448,3

h5 l5

2 ak ; h5 ? l5 ?

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1888phae.proj..855F

April 26, 1888.

Plate 253.

Book 1 G. Page 14 V.	76.	Type.	Rem. No.	Description of Lines on Spectra.
14.3	8.5	F? II k?	2824	G + h = .5? 2 lines below K.
6.9	9.7	F II k	2825	G + h = .3
6.9	11.3	F? II k?	2826	G + h = .5? 2 lines below K.
5.7	6.0	F? II k?	2827	G + h = .5?
5.8	6.9	I III K?	2828	F + G = .3

Amt. of Fog. due to mum & clouds. 7.8 Amt. of Fog. due to chemicals. 7.5

Plate 159.

15	19.5	16.1 F? II k?	2829.	G + h = .3
18.7	14.5	I III k	2830.	F 5-½ G = .1, F 7 G = .3, Lines bet. G & H. 2 lines below K.
18.2	12.2	F? II k?	2831	G + h = .5? Lines below K.
17.5	11.3	K? III k?	2832	F 3 G = .1B, F 4½ G = .1, F 5 G = .1B, F 6 G = .1, F 7 G = .3, Lines bet. G & H. 1 line below K.
13.0	9.2	F? II k?	2833	G + h = .3
12.8	18.6	F? II k?	2834	G + h = .5, 2 lines below K.
10.4	10.4	K? III k?	2835	F 5-G = .1B, F 5-½ G = .1, F 7 G = .3, F 8 G = .1B. 2 lines below K.
8.8	14.8	K? III k?	2836	Several bright and faint lines in Spectrum. Lines below K.

Amt. of Fog. due to mum & clouds. 7.5 Amt. of Fog. due to chemicals. 6.9

Plate 314.

16	21.9	22.0 F? II k?	2837	G + h = .5
	18.9	14.5 F II k	2837a	G and h = .5?
18	13.0	11.2 F? II k?	2838	G + h = .5

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1888phae.proj..855f

2 aK; h5? k5?
h3; k3
2 aK; h5? k5?
h5? k5?
448,3

h3; k3
2 aK; HaK; 448,3; 456,1

aK; h5? k5?
1 aK; HaK; 448,3; 453,1; 458.1; 461,1; 468.1

h3 k3
2 aK; h5 k5
2 aK; 443.1; 448,3; 456,1; 458,1

aK; several bright + faint lines in spectrum

h5 k5
h5? k5?
h5 k5

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1888phae.proj..855F

April 26, 1888.

Plate 314

Book 13. Page 18 V.	H.	Type.	Rmt.	Description of Lines on Spectra.
4.8	18.0	F? II a.8	2839	G & h = .5
2.5	10.8	F? III a.8	2840	G & h = .5

Amt. of Fog. due to moon & clouds. 6.0 Amt. of Fog. due to chemicals. 7.5

~~April 27, 1888.~~

May 2, 1888.

Plate 160.

7.4	20.7	I III b	2841	F ? G = .3

Amt. of Fog. due to moon & clouds. 8.0 Amt. of Fog. due to chemicals. 8.0

Plate 256.

20	17.6	10.5	F II a	2842	G & h = .3, Lines below K.
	15.6	19.1	F? II a.9	2843	G & h = .5?

Plate 256. May 7, '88

13.2	10.3	B I b	2844	h 6 26 = .2
11.0	8.2	F II a	2845	G & h = .3, Lines below K.
4.6	14.3	F II a	2846	G & h = .5, Lines below K.

Amt. of Fog. due to moon & clouds. 8.2 Amt. of Fog. due to chemicals. 8.0

Plate 292.

~~24.1~~	~~17.9~~	~~II a?~~	~~2847~~	~~G & h = .5. Lines below K.~~
22 18.8	15.5	F II a	2848	G & h = .2. Lines below K.
16.9	5.7	F? II a?	2849	G & h = .5
13.7	6.4	K III b c	2850	F 5 G = .1B? F ? G = .3
9.0	13.6	F? II a.1	2851	G & h = .5

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1888phae..proj...855P

h 5 l 5
h 5 l 5

448,3

ak h 3 l 3
h 5 ? l 5 ?

483,2
ak ; h 3 l 3
ak h 5 l 5

~~ak ; h 5 ; l 5~~
ak ; h 2 l 2
h 5 l 5
448,3 ; 458,1
h 5 l 5

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1888phae.proj..855F

May 7, 1888.

Plate 292.

Book 16 Page 22	V.	H.	Type.	Rem. No.	Description of Lines or Spectra.
✓	7.5	8.3	F? IIIa d?	2852	G & h = .5. 2 lines below K.
✓	6.8	7.8	F? IIIa d?	2853	G & h = .5
✓	6.7	18.0	F IIIa d	2854	G & h = .2. Lines below K.

Amt. of Fog. due to moon & clouds. 5.6 Amt. of Fog. due to chemicals. 6.7

Plate 150.

✓	26	15.9	17.7	B	Ia b	2855 F6 G=.1, h & H = .2
✓		14.0	9.2	I	IIIa b	2856 F4½ G=.2, F7 G=.3
✓		13.5	14.8	F	IIIa	2857 G & h = .2. Lines below K.
✓		7.0	21.1	F?	IIIa d?	2858 G & h = .5
✓		8.2	6.4	I?	IIIa b?	2859 F4½ G=.2, F7 G=.3

Amt. of Fog. due to moon & clouds. 8.5 Amt. of Fog. due to chemicals. 8.5

Plate 324.

✓		14.7	20.2	K	IIIa bg	2860 F4½ G=.1, F5 G=.1B, F7 G=.3.
✓	28	8.8	17.4	K	IIIa c	2861 F2½ G=.1, F3 G=.1B, F3½ G=.1, F4½ G=.2, F5 G=.1B, F5½ G=.1, F7 G=.3. G & H? Lines H. G & K.

Amt. of Fog. due to moon & clouds. 6.9 Amt. of Fog. due to chemicals.

Plate 246, 7.

✓		22.6	10.7	K	IIIa c	2862 F5 G=.1B, F7 G=.3. Lines bet. G & H.
✓		22.0	20.3	F?	IIIa d?	2863 G & h = .2 (G & h = .2, 2 Lines below K)
✓		17.7	17.6	F	IIIa	2864 G & h = .3
✓		17.9	12.8	F	IIIa	2864a G and h = .5 ?
✓	30	7.7	17.2	K	IIIa c?	2865 F2½ G=.2, F3 G=.1B, F3½ G=.2, F4½ G=.2 F5 G=.1B, F5½ G=.2, F7 G=.3.

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1888phae.proj..855f

2 aK ; h5 g5
h5 g5
aK h2 g2

402,2 ; 453,1
448,3 ; 461,2
aK ; h2 g2
h5 g5
448,3 ; 461,2

448,3 ; 458,1 ; 461,1
Ha g ; gd ; 448,3 ; 456,1 ; 458,1 ; 461,2 ; 466,1 ; 468,1 ; 471,1

Ha g ; 448,3 ; 458,1
h2, g2 (aK ; h2 ; g2)
h2 g3
h5 ; g5
448,3 ; 456,2 ; 458,1 ; 461,2 ; 466,2 ; 468,1 ; 471,2

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May, 7, 1888.

Plates 246, 7.

Book. I.G. Page 30 V.	H.	Type.	Reg. No.	Description of Lines or Spectra.
6.6	14.9	K III/b	2866	F5 G=.1B, F4½ G=.1, F5 G=.1B, F5½ G=.1 F7 G=.3. Lines 2ct. G+H. Lines below K.
6.5	20.9	F II/a	2867	G+h=.3
3.9	5.6	I III/b	2868	F4½ G=.2, F7 G=.3. Lines 2ct. G+H.
3.2	8.8	F II/a	2869	G+h=.3
3.0	10.7	I III/b	2870	F7 G=.3

Amt. of Fog. due to moon & clouds. 7.5 Amt. of Fog. due to chemicals. 7.4

Plate 274. Thursday, May 10, '88.

21.0	12.7	F II/a	2871	G+h=.5, Lines below K.
32 14.5	21.3	E II	2872	Lines below K.
14.2	23.2	F? II a?	2873	G+h=.5. Lines below K.
13.0	6.9	F? II/a ?	2874	G+h=.6 (G and h=.5, 1 Line below K)
2.7	10.8	I III/b	2875	F4½ G=.2, F7 G=.3
1.5	12.6	F? II a?	2876	G+h=.5

Amt. of Fog. due to moon & clouds. 7.5 Amt. of Fog. due to chemicals. 6.7

Plate 191.

34 11.9	20.2	I III/b	2877	F7 G=.3
10.7	22.0	F? II/a?	2878	G+h=.5. Lines below K.
6.8	17.5	I III/b	2879	F7 G=.3
6.5	9.0	I III/b	2880	F7 G=.3
36 3.9	9.6	K III/b	2881	F2½ G=.1, F3 G=.1B, F3½ G=.1 F4½ G=.2, F5 G=.1B, F5½ G=.1 F7 G=.3. Lines 2ct. G+H.
3.6	9.8	I III/b	2882	h6H=.2

Amt. of Fog. due to moon & clouds. 7.4 Amt. of Fog. due to chemicals. 6.3

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1888phae.proj...855f

aK; Hαδ; 448,3; 456,1; 458,2; 461,1; 468,2

h3, δ3
Hαδ; 448,3; 461,2
h3 δ3
448,3

aK; h5 δ5
aK;
aK; h5 δ5
h5 δ5 (aK; h5; δ5)
448,3; 461,2
h5 δ5

448,3
aK; h5 δ5
448,3
448,3
Hαδ; 448,3; 456,1; 458,2; 461,3; 466,1; 468,2; 471,1

402,2

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1888phae.proj...855F

May 11 '88.

Plate 164

Book 1 G. Page 36	V.	H.	Type.	Aut.	Description of Lines or Spectra.
✓	13.2	17.1	F? IIIa?	2883	G & h = .5
✓	9.7	22.8	F? IIIa?	2884	G & h = .5, 2 lines below K.
✓ 38	8.8	23.5	F? IIIa?	2885	G & h = .5
✓	8.0	11.5	I IIIb	2886	F4½ G = .3, F7 G = .3, Lines bet. G & H. 1 line below K.
✓	2.5	10.6	F? IIIa?	2887	G & h = .5, lines below K.

Aut. of Fog. due to moon & clouds. 8.0 Aut. of Fog. due to chemicals. 8.0

Plate 278.

✓ 40	18.5	17.7	F? IIIa?	2888	G & h = .5
✓	18.0	8.1	D? IIIa?	2889	F5 G = .1B,?
✓	17.8	17.4	F? IIIa?	2890	G & h = .5

Plate 278. May 12, '88.

✓	17.5	10.0	K IIIb	2891	F5 G = .1B, F5½ G = .1, F7 G = .3, F8 G = .1B.
✓	16.1	12.2	I IIIb	2892	F6 G = .2, h & H = .1, H & a = .1
✓	15.5	8.8	I IIIf	2893	F6 G = .2, h & H = .1, H & a = .1
✓ 42	14.4	22.5	F? IIIa?	2894	G & h = .5. Lines below K.
✓	13.5	14.6	K? IIIa?	2895	F5 G = .1B, F5½ G = .2, F7 G = .3, F8 G = .1B.
✓	13.0	7.3	F? IIIa?	2896	G & h = .5
✓	12.0	13.0	F? IIIa?	2897	G & h = .5? Lines below K.
✓	9.9	13.6	I IIIa	2898	F6 G = .1, h & H = .1, H & a = .1, β & γ = .3
✓	9.7	20.3	K IIIa	2899	F5 G = .1B, F5½ G = .1, F6½ G = .2, F5 G = .1B, F7 G = .3. Lines bet. G & H.

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1888phae.proj..055f

h 5 g 5

2 a K ; h 5 g 5

h 5 g 5

1 a K ; H a g ; 448,3 ; 461,2

a K ; h 5 g 5

h 5 g 5

458,1 ?

h 5 g 5

443,1 ; 448,3 ; 456,1 ; 458,1

x 392,1 ; 402,1 ; 453,2

1 392,1 ; 402,1 ; 453,2

a K ; h 5 ; g 5

443,1 ; 448,3 ; 456,2 ; 458,1

h 5 g 5

a K ; h 5 ? g 5 ?

! 382,3 ; 392,1 ; 402,1 ; 453,1

H a g ; 448,3 ; 458,1 ; 461,2 ; 466,1 ; 468,1

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1888phae.proj..855F

May 12, '88.

Plate 278

Book 1 G. Page 56	V.	H.	Type	Aut.	Description of Lines on Spectra.
✓	8.7	14.7	F? IV a?	2900	G 8 h = .5 (G and h = .4)
✓	7.8	16.6	B I b	2901	F 6 G = .1, h 6 H = .1, H 6 α = .1
✓	7.3	14.3	F II a	2902	G 8 h = .2. G dbl. Lines below K.
✓	6.2	7.6	K? III bc?	2903	F 4½ G = .1, F 5 G = .1B, F 5½ G = .1, F 7 G = .3 Lines at G & H.

Aut. of F v. due to moon & clouds. 7.6

Aut. of F v. due to chemicals. 7.4

Plate 345

✓	58	22.4	14.0	B I b	2904 h 6 H = .2, H 6 α = .2
✓		21.6	11.9	F? II a?	2905 G 8 h = .3. Lines below K.
✓		21.0	16.8	F? II a?	2906 G 8 h = .3
✓		20.7	13.3	B I b	2907 F 6 G = .1, h 6 H = .2, H 6 α = .1
✓		20.7	19.8	I II b	2908 F 4½ G = .2, F 7 G = .3
✓		20.0	18.0	B I b	2909 F 6 G = .2, h 6 H = .2, H 6 α = .2. β 4 γ = .2
✓		19.1	10.0	F? II a?	2910 G 8 h = .5
✓		19.1	15.0	B I b	2911 h 6 H = .2
✓	60	18.5	12.9	F? II a?	2912 G 8 h = .3
✓		17.0	11.6	A? I ?	2913 Peculiar spectrum. Bright lines?
✓		15.8	11.7	B? I b?	2914 h 6 H = .1
✓		15.2	11.7	F? II a?	2915 G 8 h = .5. Lines below K.
✓		14.3	11.1	B? I b?	2916 F 6 G = .1, h 6 H = .1,
✓	62	13.6	14.0	B I b	2917 F 6 G = .2, h 6 H = .2, H 6 α = .1. β 4 γ = .4
✓		11.1	17.2	B? I b?	2918 β 4 γ = .4
✓		11.4	23.7	K? III bc?	2919 F 4½ G = .2, F 5 G = .1B, F 5½ G = .1, F 7 G = .3,

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h5 g5 (h4 g4)

1 392,1; 402,1; 453,1;

aK; h2 gd2

Hδ; 448,3; 450,1; 458,1; 461,1

1 392,2; 402,2

aK; h3 g3

h3 g3

1 392,1; 402,2; 453,1

448,3; 461,2

~~382;~~ 392,2; 402,2; 453,2

h5 g5

402,2

h3 g3

Peculiar spectrum. Bright lines? Spectrum of Nebulae superposed.

402,1

aK; h5 g5

402,1; 453,1

1 382,4; 392,1; 402,2; 453,2

1 382,4

448,3; 450,1; 458,1; 461,2

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May 12, '88.

Plate 345.

Book 1G Page 62	V.	H.	Type.	Rem. No.	Description of Lines on Spectra.
	11.0	5.6	F? IIIa?	2920	G + h = .3
	10.0	9.2	B I h	2921	F 6 G = .1, h 6 H = .2, H 6 α = .1
64	8.5	9.2	B I h	2922	F 6 G = .1, h 6 H = .2, H 6 α = .1
	8.7	11.5	B I h	2923	F 6 G = .1, h 6 H = .2, H 6 α = .1
	8.5	14.7	I III h	2924	F 7 G = .3,
	7.6	8.4	I? III h?	2925	F 4½ G = .2, F 5½ G = .2, F 7 G = .3.
	7.2	9.4	B I h	2926	h 6 H = .2
	7.9	13.3	K IIIa	2927	F 2½ G = .1, F 3 G = .1B, F 4½ G = .1, F 5 G = .1B, F 5½ G = .1 F 7 G = .3. F 8 G = .1 B, F 9 G = .1. Lines Col. G & K. Lines below K.
	7.0	13.6	B I h	2928	F 6 G = .1, h 6 H = 1,
	7.0	16.3	F IIIa	2929	G + h = .5
	6.7	17.8	B I h	2930	F 6 G = .2, h 6 H = .2.
	7.2	18.7	B I h	2931	F 6 G = .2, h 6 H = .2, H 6 α = .2. β 4 γ = 4.
	7.3	18.9	B I h	2932	h 6 H = .2
	6.4	9.3	B I h	2933	h 6 H = .2
	5.4	16.8	B I h	2934	h 6 H = .2
66	2.7	17.3	B I h	2935	h 6 H = .2
	3.0	21.2	B I h	2936	F 6 G = .2, h 6 H = .2, H 6 α = .1

Amt. of Fog. due to moon & clouds. 6.0

Amt. of Fog. due to twilight. 7.0

Plate 276.

22.8	16.2	? ?	2937	Lines below K.
18.4	22.0	F? IIIa?	2938	G and h = .5?, Lines below K.
17.4	13.1	F? IIIa?	2939	G and h = .5?, Lines below K.

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h3 ℓ3

392,1; 402,2; 453,1

392,1; 402,2; 453,1

392,1; 402,2; 453,1

448,3

448,3; 456,2; 461,2

402,2

aK; Hαℓ; 438,1; 443,1; 448,3; 456,1; 458,1; 461,1; 468,1; 471,1

402,1; 453,1

h5 ℓ5

402,2; 453,2

382,4; 392,2; 402,2; 453,2

402,2

402,2

402,2

402,2

392,1; 402,2; 453,2

aK

aK; h5? ℓ5?

aK; h5? ℓ5?

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May, 15.

Plate 276.

Book	Page	V.	H.	Type.	Rev. No.	Description of Lines on Spectra.
	66	17.5	17.3	I IIIa'	2940	F4½G=.2, F7G=.3.
	68	16.2	13.3	B IIIa'	2941	h6H=.2
		15.0	13.6	B IIIa'	2942	F7G=.2, G6h=.2, h6H=.2.
		15.6	15.7	B IIIa'	2943	h6H=.2.
		13.4	9.5	B IIIa'	2944	h6H=.2
		13.7	10.9	B IIIa'	2945	h6H=.2
		13.6	11.5	F? IIIa'?	2946	G and h=.5, Lines below K.
		12.6	11.4	A? IIIa?	2947	Peculiar Spectrum. Bright lines.
		11.5	11.5	B IIIa'	2948	F6G=.1, h6H=.2, H6α=.1
		11.2	18.1	F IIIa'	2949	G and h=.5
		9.9	13.7	B IIIa'	2950	h6H=.2
		9.7	17.4	B IIIa'	2951	F6G=.2, h6H=.2, H6α=.1.
		9.1	16.5	B IIIa'	2952	h6H=.1, H6α=.1.
		8.4	11.3	B IIIa'	2953	h6H=.2.
		8.4	19.3	B IIIa'	2954	F6G=.2, h6H=.2, H6α=.2.
	72	6.8	7.6	F IIIa	2955	G+h=.2 Lines below K
		6.7	16.9	B IIIa'	2956	F6G=.2 h6H=.2 H6α=.2 β4γ=.3
		5.8	8.8	F IIIa'	2957	G+h=.5 Lines below K.
		3.4	15.2	K IIIc	2958	F3G=.1 B F4½G=.2, F5G=.2 B, F5½G=.1 F7G=.3 Lines between G & H Lines below K.
		2.8	11.7	B IIIa'	2959	h6H=.2
	73	2.5	13.1	F? IIIa'	2960	G+h=.2 Lines below K.
		2.7	18.3	B IIIa'	2961	F6G=.2 h6H=.1 H6α=.2

Fy. due to moon and clouds.

Fy. due to chemicals.

7.7

7.0

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448,3 ; 461,2

402,2

402,2 ; 419,2 ; 448,2

402,2

402,2

402,2

aK ; h5 g5

Peculiar Spectrum. Bright lines, Spectrum of Nebulae superposed.

1 392,1 ; 402,2 ; 453,1

h5 g5

402,2

1 392,1 ; 402,2 ; 453,2

1 392,1 ; 402,1

402,2

1 392,2 ; 402,2 ; 453,2

aK ; h2 ; g2

402,2 ; 453,2

1 382,3, 392,2

aK ; h5 ; g5

468,1

aK ; 448,3 ; 456,1 ; 458,2 ; 461,2

wK

402,2

aK h2? g2?

392,2; 402,1 ; 453,2

1

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May 7th = 1888

Plate 307

Book 1 G. Page 74 V.	H.	Type.	Rev. No.	Description of Lines on Spectra.
20.5	22.0	F? IV p?	2962	G + h = .5. Lines below K.
17.9	15.3	F? IV a?	2963	G + h = .5
18.0	22.7	F IV a	2964	G + h = .5. Lines below K.
16.7	14.4	K III bc	2965	F2½ G = .1, F3 G = .1B, F3½ G = .1, F4½ G = .2, F5 G = .2B, F5½ G = .1, F6 G = .1, F6½ G = .1, F7 G = .3. Lines bel. G + H. 2 lines below K.
16.6	5.5	F? III a?	2966	G + h = .5? Lines below K.
15.6	10.8	B I b	2967	h & H = .2.
12.7	6.8	F? II a?	2968	G + h = .5? Lines below K.
9.6	12.3	B I b	2969	h & H = .2, H & K = .2
8.5	9.6	F? IV a?	2970	G + h = .5? Lines below K.
6.5	16.1	B I b	2971	F6 G = .2, h & H = .2, H & K = .1

Amt. of Fog. due to num. clouds. 6.5, 6.3 — Amt. of Fog. due to chemicals. 7.0

Plate 309.

78	21.4	19.5 A? I?	2972	Bright lines? Penbias Spectrum.
80	17.9	24.3 E? I?	2973	Lines below K.
	16.5	16.3 F? II a?	2974	G + h = .5
	16.2	16.8 F? II a?	2975	G + h = .5, 2 lines below K.
	16.4	20.0 F? II a?	2976	G + h = .5
	15.9	9.4 K III bc	2977	F3 G = .1B, F3½ G = .1, F4½ G = .2, F5 G = .2B, F7 G = .3, Lines bel. G + H. Lines below K.
	15.8	15.1 F II a	2978	G + h abt. = .3, Lines below K.
	15.9	17.7 B I b	2979	h & H = .2
	15.5	24.5 F? II a?	2980	G + h = .5, Lines below K.
	16.6	16.6 F? II a?	2980a	G + h

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aK ; h 5 G 5

h 5 G 5

aK h 5 G 5

2 aK ; Ha G ; 448,3 ; 451,1 ; 453,1 ; 456,1 ; 458,2 ; 461,2 ; 466,1 ; 468,1 ; 471,1

aK h 5 ? G 5 ?

402,2

aK ; h 5 ? G 5 ?

1 392,2 ; 402,2

aK ; h 5 ? G 5 ?

1 392,1 ; 402,2 ; 453,2

Peculiar spectrum Bright lines ? Spectrum of Neb. superposed.

aK

h 5 G 5 (h 5 ; G 5)

2 aK h 5 G 5

h 5 G 5

aK ; Ha G ; 448,3 ; 458,2 ; 461,2 ; 466,1 ; 468,1

aK ; hd 3 ; Gd 3

402,2

aK ; h 5 G 5

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Plate. 309.

Book I.G. Page	V.	H.	Type	Rem.	No.	Description of Lines on Spectra.
	13.1	16.7	B A b		2981	h 6 H = .2. H 6 α = .1
	13.1	20.3	F? II a ?		2982	G & h = .5? Lines below K.
	12.5	22.8	K III Ac		2983	F 4½ G = .1, F 5 G = .1B, F 5½ G = .1, F γ G = .1, Lines bet. G & H. 2 lines below K.
	12.6	12.0	K II Ac		2984	F 4½ G = .1, F 5 G = .1B, F 5½ G = .1 F γ G = .3
84	8.0	17.8	F? II a ?		2985	G & h = .5?
	7.7	8.5	I III b		2986	F γ G = .3
	7.1	10.7	I III b		2987	F γ G = .3
	6.8	12.5	F? II a ?		2988	G & h = .5
	6.7	17.5	F? II a ?		2989	G & h = .5
	6.8	20.6	F? II a ?		2990	G & h dtb. = .5 Lines below K.
86	4.7	14.8	F? II a ?		2991	G & h = .5
	2.7	17.3	B A b		2992	h 6 H = .2
	3.0	19.5	B A b		2993	F 6 G = .2, h 6 H = .2.
	1.8	19.4	A? I ?		2994	Peculiar spectrum. Bright lines.

Amt. of Fuz. due to moon & clouds. 6.4 6.3 Amt. of Fuz. due to chemicals. 7.6

Plate 299

88	20.7	9.9	B A b		2995	F 6 G = .2, h 6 H = .2 (F 6 G = .2, h 6 H = .2)
	20.8	16.2	F? II a ?		2996	G & h = .3
	19.0	10.5	F? II a ?		2997	G & h = .5?
	15.8	23.2	F? II a v		2998	G & h = .5
90	14.0	11.3	A A		2999	Lines narrow.
	13.6	13.1	I III b		3000	F 6 G = .2, h 6 H = .2, H 6 α = .1
	14.0	17.0	K? III b ?		3001	h 6 H = .2

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1 392,1; 402,2
ak h5? g5?
2 ak; Hδ; 448.1, 456.1; 458.1; 461,1

448.3; 456.1; 458.1; 461,1

h5? g5?
448,3
448,3
h5, g5
h5, g5
ak; hd5; gd5
h5, g5
402,2
402,2; 453,2
Peculiar Spectrum. Bright lines. Spectrum of Neb. Lyncis.

402,2; 453,2 (402,2; 453,2)
h3 g3
h5? g5?
h5 g5
Lines narrow
1 392,1; 402,2; 453,2
402,2

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Plate 299.

Book	Page	V.	H.	Type.	Rem.	No.	Description of Lines or Spectra.
		13.0	11.7	K IIIa1c		3002	F3G=.1B, F4½G=.2, F5G=.1B, F5½G=.1, F7G=.3, F8G=.1B, Lewis Jet. G & H.
		12.0	14.8	F? IIa?		3003	G&h=.5?
		9.7	5.7	F? II?		3004	G&h=.5?
		12.3	7.6	F IIa		3004a	G&h=.5
	92	9.3	20.8	F? IIIa1		3005	G&h both=.5, Lines below K.
		8.8	21.8	F? IIIa?		3006	G&h=.5
		7.4	15.6	F? IIIa?		3007	G&h=.5
		6.8	7.2	F? IIIa?		3008	G&h=.5, Lines below K.
		6.3	21.4	K? IIIa1c?		3009	F7G=.2, Lines Jet. G&H. Bright lines. Lines below K.

Plate 299. May 18, '88.

		4.5	8.6	K? IIIa1		3010	G&h=.5
		2.2	18.3	B IIa		3011	F6G=.2, h&H=.2.

Amt. of Fog due to mum & clouds 6.7 Amt. of Fog due to chemicals 6.4 7.0

Plate 194.

		21.0	12.6	B IIa		3012	F6G=.2, G&h=.1, h&H=.2.
	96	17.6	12.1	F? IIIa1		3013	G&h=.5
		16.1	16.2	F? IIIa1		3014	G&h=.5
		15.0	16.5	F? IIIa1		3015	G&h=.3. 2 lines below K.
		12.5	19.0	F? IIIa1		3016	G&h=.5
	98	11.0	13.1	I IIIa		3017	F7G=.3 (F7G=.3)
		9.7	9.1	F? IIIa		3018	G&h=.5. 2 lines below K.
		9.5	9.4	K IIIa1a		3019	F2½G=.1, F3G=.1B, F3½G=.2, F4½G=.2, F5G=.1B, F5½G=.1, F7G=.3. Lewis Jet G & H.
		9.3	17.0	F? IIIa?		3020	G&h=.5

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Hδ ; 443.1 ; 448.3 ; 456.1 ; 458.1 ; 461.2 ; 468.1

K

h 5 ? δ 5 ?

h 5 ? δ 5 ?

h 5 , δ 5

aK ; hd 5 ; δd 5

h 5 , δ 5

h 5 , δ 5

aK ; h 5 δ 5

aK ; Bright lines : Hδ ; 448.2

h 5 δ 5

402.2 ; 453.2

402.2 ; 419.1 ; 453.2

h 5 δ 5

h 5 , δ 5

2aK ; h 3 δ 3

h 5 δ 5

448.3 ; (448.3)

2aK ; h 5 δ 5

Hδ ; 448.3 ; 456.1 ; 458.1 ; 461.2 ; 466.2 ; 468.1 ; 471.1

h 5 , δ 5

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Plate 194

Book 18 Page 100	V.	K.	Type.	No. Rmv.	Description of Lines on Spectra.
	7.4	17.5-	B I b	3021	h 6 H = .2. H 6 α = .1
	7.2	18.2	F? IIIa q ?	3022	G + h = .5. Lines below K.
	5.6	13.0	B I b	3023	F 6 G = .2, h 6 H = .2, H 6 α = .1
	4.3	20.0	K IIIa c	3024	F 5 G = .1 B, F 4½ G = .2, F 5 G = .2 B, F 5½ G = .1, F 7 G = .3
	3.3	20.5-	B I b	3025-	F 6 G = .2, h 6 H = .2.

Amt. of Fog. due to moon & clouds. 7.6 6.8

Amt. of Fog. due to chemicals. 7.6

Plate 342.

	102	11.5-	8.7	F? IIIa q ?	3026	G + h = .5-
		7.8	14.3	F? IIIa q ?	3027	G + h = .5-

Amt. of Fog. due to moon & clouds. 7.7 6.8

Amt. of Fog. due to chemicals. 6.9

Plate 311.

		22.5-	13.2	F? IIIa q ?	3028	G + h = .5- (G + h = .5-)
		21.2	10.8	F? IIIa q ?	3029	G + h = .5-
	104	20.9	10.1	F? IIIa q ?	3030	G + h = .5 ? Lines below K.
		19.8	13.5	B I b	3031	h 6 H = .2
		19.2	16.7	F? IIIa q ?	3032	G + h = .5. Lines below K.
		19.0	18.0	K? IIIa α ?	3033	F 5 G = .1 B, F 6½ G = .1, F 7 G = .3 Lines Det. G + H.
		18.5	8.3	F? IIIa q ?	3034	G + h = .5 ? Lines below K.
		17.0	17.5-	I III b	3035-	F 4½ G = .2, F 7 G = .3
		16.1	24.1	F? IIIa q ?	3036	G + h = .5-
		15.5-	12.2	I III b	3037	F 4½ G = .2, F 7 G = .3, Lines Det. G + H.
	106	14.9	13.7	F? IIIa q ?	3038	G + h = .5- (G + h = .5-)
		14.5	22.8	F? IIIa q ?	3038a	h + H

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1 392, 1; 402, 2
aK; h5 g5
1 392, 1; 402, 2; 453, 2
448, 3; 456, 1, 458, 2, 461, 3; 468, 1

468, 3; 453, 2

h5 g5
h5 g5

h5, g5 (h5 g5)
h5, g5
aK; h5? g5?
402, 3
aK; h5, g5
Hag; 448, 3; 456, 1; 458, 1

aK; h5? g5?
448, 3; 461, 2
h5: g5
Hag; 448, 3; 461, 2
h5, g5 (h5 g5)

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Plate 311

Book I G. Page 106	V.	H.	Type.	Rem. No.	Descriptions of Lines on Spectra.
✓	12.7	18.4	F? IV a ?	3039	G + h = .5
✓	11.3	13.4	F? IV a ?	3040	G + h = .5 (G + h = .5)
✓	11.0	12.1	B IV b	3041	h & H = .2
✓✓	11.4	18.2	F? IV a ?	3042	G & h = .5 (G + h = .5 ?)
108	8.5	9.8	? ?	3042a	Peculiar spectrum.
✓	9.0	16.7	I? IV b ?	3043	F4½G = .2, F7G = .3
✓	8.2	15.3	F? IV a ?	3044	G & h = .5
✓	8.2	17.3	F? IV a ?	3045	G & h = .5 ?
✓	6.0	19.6	B IV b	3046	h & H = .2

Amt. of Fog. due to moon & clouds. Amt. of Fog. due to chemicals.
6.4 6.3 7.3

Dark Plate. Very hard & uneven. Plate 398.

✓ 112	19.4	18.7	I? III b ?	3047	F4½G = .2, F5½G = .2, F7G = .3
✓	18.5	15.8	F? IV a ?	3048	G + h = .5
	18.5	19.8	F? IV a ?	3049	G + h = .5
✓	18.0	21.9	F? IV a ?	3050	G + h = .5
✓	18.0	22.8	F? IV a ?	3051	G + h = .5. 2 lines below K.
✓	17.8	12.6	F? IV a ?	3052	G + h = .5. Lines below K.
✓	16.9	14.6	D IV a	3053	F9G = .2 B.
✓	16.2	20.7	F? IV a ?	3054	G + h = .5
✓	15.5	17.8	F? IV a ?	3055	G + h dbl. = .5. 3 lines below K.
✓	15.6	10.2	F? IV a ?	3056	G + h = .5 ? Lines below K.
✓ 114	13.3	14.4	K IV b	3057	F8G = .1 B, F5G = .2 B, F5½G = .1, F7G = .3, F8G = .1 B. Lines det. G + H.
✓	18.2	21.5	F? IV a ?	3058	G + h = .5 ?
✓	11.2	15.9	F? IV a ?	3059	G + h = .5 (G + h = .5)
✓	10.7	9.1	I? III b ?	3060	F7G = .3
✓	10.0	15.0	K? IV a ?	3061	G + h = .5 (G + h = .5)

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h5 g5

h5 g5 (h5 g5)

402.2

h5 g5 (h5? g5?)
Peculiar spectrum
448.3; 461.2

h5, g5

h5? g5?

402.2

448.3; 456.3; 461.2
h5 g5

h5 g5

h5 g5

2ak; h5 g5

ak h5 g5

438.2

h5 g5

3ak; hd5; gd5

ak; h5? g5?

Hδ, 443.1; 448.3; 456.1; 458.2; 468.1

h5? g5?

h5 g5 (h5; g5)

448.3

h5 g5 (h5; g5)

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Plate 398.

Book 1 G. Page 114

No.	V.	H.	Type.	Rem.	Description of Lines on Spectra.
	9.5	23.3	F? A a ?	3062	G + h dbl. = .3. Lines below K.
	9.0	22.7	E? A ?	3063	Lines below K.
116	6.0	21.1	B A A	3064	h 6 76 = .2
	3.4	12.3	i? A ?	3065	F y G = .3

Amt. of Fog. due to moon & clouds. 7.3 5.7 Amt. of Fog. due to chemicals. 5.8

Plate 333. May 19, '88.

No.					
	23.0	8.4	F? A a ?	3066	G + h = .5
	22.0	12.0	F? A a ?	3067	G + h = .5
	20.6	8.3	F? A a ?	3068	G + h = .5
118	20.5	17.6	F? A a ?	3069	G + h = .5
	19.8	9.2	F? A a ?	3070	G + h = .5. Lines below K.
	19.2	15.8	F? A a ?	3071	G + h = .5
	19.8	20.5	G? A b ?	3072	Peculiar spectrum. Bright and faint lines seen. Lines below K.
	16.8	22.3	F? A a ?	3073	G + h = .5. Lines below K.
120	15.9	6.2	F A a	3074	G + h dbl. = .2. Lines below K.
	14.5	7.1	F? A a ?	3075	G + h = .5
	14.0	13.1	F? A a ?	3076	G + h = .5
	13.7	8.8	F? A a ?	3077	G + h = .5
	13.5	16.9	F? A a ?	3078	G + h = .5
	12.6	18.4	F A a	3079	G + h = .5
	12.4	16.0	F? A a ?	3080	G + h = .5
	11.4	8.9	F A a	3081	G + h = .5
122	8.8	11.9	i A b	3082	F y G = .3
	7.2	20.2	F? A a ?	3083	G + h = .5. 2 lines below K.
	5.0	14.4	F? A a ?	3084	G + h = .5

Amt. of Fog. due to moon & clouds. 6.9 6.6 Amt. of Fog. due to chemicals. 7.1

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1888phae.proj..855F

aK; hd ?3, Hd ?3,
aK
408,2)
448,3

h5 H5
h5 H5
h5 H5
h5, H5
aK; h5 H5
h5 H5
aK; Bright & faint lines seen. Peculiar spectrum

aK; h5 H5
2 aK; hd 2; Hd 2)
h5; H5
h5, H5
h5; H5
h5; H5
h5 H5
h5 H5
h5 H5

448,3
2 aK h5 H5
h5 H5

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1888phae.proj..855F

May 19, 1888.

Plate 344

Book 1 G. Page 124. V. H. Type. Rem. Description of Lines on Spectra.

4.6 17.0 F? A a, γ 3085. G & h = .3? Lines below K.

Amt. of Fog. due to moon & clouds. Amt. of Fog. due to chemicals.

7.9 7.5 7.6

Plate 182

17.1 6.5 F? A a γ 3086 G & h = .5

16.5 16.1 K A c 3087 F 3 G = .1B, F 3½ G = .1, F 4½ G = .2, F 5 G = .2B, F 5½ G = .1, F 7 G = .3. Lines bet. G & H. Lines below K.

16.1 19.5 F A a 3088 G & h = .3. Lines below K.

16.0 21.2 K A c 3089 F 4½ G = .1, F 5 G = .1B, F 5½ G = .1, F 7 G = .3. Lines bet. G & H. 2 lines below K.

126

11.9 7.8 B A 3090 h & H = .2

11.7 15.4 F? A a γ 3091 G & h = .5

11.2 22.3 I A 3092 F 4½ G = .2, F 7 G = .3

7.0 11.6 F A a 3092 a G & h = .5

5.0 15.2 B A 3093 h & H = .2, H & d = .1

128 4.0 9.0 K? A c γ 3094 F 2½ G = .1, F 3 G = .1B, F 3½ G = .1, F 4½ G = .1, F 5 G = .1B, F 5½ G = .1, F 7 G = .3,

2.9 10.8 F A a 3095 G & h = .5. Lines below K.

Amt. of Fog. due to moon & clouds. Amt. of Fog. due to chemicals.

7.7 7.1 7.4

Plate 416.

22.1 11.7 B A b 3096 h & H = .2

22.0 22.8 F? A c? 3097 G & h = .5

19.3 15.4 I A 3098 F 7 G = .3

13.9 20.7 K A c 3099 F 4½ G = .1, F 5 G = .1B F 5½ G = .1, F 7 G = .2. Lines bet. G & H.

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1888phae.proj..855P

aK ; h3 ? l3 ?

h5 l5

aK ; Hal ; 448,3 ; 456,1 ; 458,1 ; 461,3 ; 466,1 ; 468,1

aK ; h3 ; l3

2 aK ; Hal ; 448,3 ; 456,1 ; 458,1 ; 461,1

402,2

h5 l5

448,3 ; 461,2

h5 l5

1 392,1 ; 402,2

448,3 ; 456,1 ; 458,1 ; 461,1 ; 466,1 ; 468,1 ; 471,1

aK ; h5 l5

402,2

h5 l5

448,3

Hal ; 448,3 ; 456,1 ; 458,1 ; 461,1

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1888phae.proj..855F

May 19, '88.

Plate 416

Book 19, Page 130 V. H. Type. Rem. No. Description of Lines on Spectra.

12.7 12.4 F II a 3100 G + h = .3. Lines below K. Bright lines bet. F + G?
12.4 ~~12.2~~ 12.3 F II a 3100 a G + h = .5
10.8 ~~13.9~~ F? II a? 3101 G + h = .5
10.0 12.1 K? II bc? 3102 F 5 G = .1 B, F 5½ G = .1, F 4½ G = .2, F 5 G = .2 B,
F 5½ G = .2, F 7 G = .3, F 8 G = .1, F 9 G = .1.
Lines bet. G + H.
5.7 8.4 K III bc 3103 F 5 G = .1 B, F 4½ G = .1, F 5 G = .1 B, F 5½ G = .1,
F 7 G = .3. Lines bet. G + H.
2.5 11.8 B? II A? 3104 h 6 H = .2, H 6 α = .2.
Amt. of Fog. due to mum + clouds. Amt. of Fog. due to chemicals.
7.4 6.6 6.7

Dark Plate.
Very hard to measure. Plate 400. May 21, '88.

132 20.0 15.9 G? II bc? 3105 F 5 G = .1 B, F 5½ G = .1, F 7 G = .1 B, F 7½ G = .1 G H = 10 B.
16.8 10.4 F? II a? 3106 G + h = .5
Amt. of Fog. due to mum + clouds. Amt. of Fog. due to chemicals.
7.4 5.4 5.5

Dark plate. Hard to measure. Plate 401.

134 16.5 16.5 K II bc 3107 F 2½ G = .1, F 3 G = .1 B, F 3½ G = .1, F 4½ G = .2,
F 5 G = .2 B, F 5½ G = .1, F 6½ G = .1, F 7 G = .3
F 8 G = .1 B, F 9 G = .1. Lines bet. G + H.
15.6 11.6 F II a 3107 a G + h = .5
15.0 14.9 F? II a? 3108 G + h = .5 (G + h = .5?)
14.5 21.6 F? II a? 3109 G + h = .5
Amt. of Fog. due to mum + clouds. Amt. of Fog. due to chemicals.
7.4 5.8 6.0

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1888phae.proj..855F

a,K; h3 ; K3 ; Bright lines between H or K.
h3 K3
h5 K5
Ha K; 438.1; 443.1; 448.3; 456.2; 458.2; 461.2; 466.1; 468.1

Ha K; 448.3; 456.1; 458.1; 461.1; 468.1

392, 2; 402, 2

429, 10; 446, 1; 448, 1; 456, 1; 458, 1;
h5 K3

Ha K; 438.1; 443.1; 448.3; 451,1; 456.1;

h5 K3
h5 K5 (h5? K5?)
h5 K5

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May 21, '88.

Plate 440.

Book 18 Page 136

V.	H.	Type.	Rem.	No.	Description of Lines on Spectra.
13.8	11.5	F? IIIa?		3110	G + h = .5
12.7	10.0	K IIIa	c	3111	F3 G = .1B, F4½ G = .2, F5 G = .1B, F5½ G = .1 F7 G = .3. Lines bet G + H. 2 lines below K.
11.9	14.3	F? IIa	?	3112	G + h = .3. G dbl h. 2 lines below K.
12.2	15.0	F? IIa	?	3112a	G + h = .5 (G + h = .5)

Amt. of Fog. due to mum & clouds. 7.9 6.9

Amt. of Fog. due to chemicals. 7.0

Plate #18.

138	21.7	18.3	K IIIa	c 3113	F3 G = .1B, F4½ G = .2, F5 G = .2B, F5½ G = .1, F7 G = .3. Lines bet. G + H. 2 lines below K.
	20.8	22.5	F IIa	3114	G + h = .3, G dbl h. Lines below K.
	3.3	19.7	F? IIa	? 3115	G + h = .5
	2.2	18.2	K IIIa	c 3116	F3 G = .1B, F4½ G = .1, F5 G = .2B, F5½ G = .1, F7 G = .3. Lines bet. G + H. 2 lines below K.

Amt. of Fog. due to mum & clouds. 8.0 6.8

Amt. of Fog. due to chemicals. 6.9

Hard to measure. Plate 403.

140	21.7	10.8	K IIIa	c 3117	F2½ G = .1, F3 G = .2B, F4½ G = .2. F5 G = .3B, F5½ G = .2, F7 G = .3, F8 G = .1B, F9 G = .1, Lines bet. G & H. 2 lines below K.
	18.0	19.4	F IIa	3117a	G + h = .5?
	16.7	10.7	F? IIa	? 3118	G + h = .5
	12.4	16.8	F? IIa	? 3119	G & h = .5 (G + h = .5?)
	10.1	10.1	F? IIa	3120	G & h = .5. Lines below K.
	9.3	11.1	I IIIa	b 3121	F7 G = .3

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1888phae.proj..855F

h5 g5-

2aK; 448.3; 456.1; 458.1; 461.2; 466.1

2aK; h3; gd3.
h5 g5- (h5 g5)

2aK; Hδ; 448.3; 456.1; 458.3; 461.2; 468.1

aK; h3 gd3
h5 g5-
aK; Hδ; 448.3; 456.1; 458.2; 461.1; 468.1

2aK; Hδ; 438.1; 443.1; 448.3; 456.2; 458.3; 461.2; 468.2; 471.1

h5? g5?
h5- g5-
h5 g5- (h5? g5?)
aK; h5- g5-
448.3

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1888phae.proj..855F

May 21, '88.

Plate 403

Book	Pg.	Pos.	H.	Type.	Rem. No.	Description of Lines on Spectra.
✓		8.7	14.7	IIIb	3122	F7 G=.3. 1 line below K.
✓		8.9	14.3	IIIb	3123	F7 G=.3
✓		2.1	10.8	IIIbc	3124	F3 G=.2B, F4½ G=.1, F5 G=.2B, F5½ G=.1 F7 G=.3, F8 G=.1, Lines Ket. G & H.

Amt. of Fog. due to moon & clouds. 7.7 6.4 Amt. of Fog. due to chemicals. 6.4

Plate 449.

✓✓	142	20.0	23.9	IIa?	3125	G & h=.3
✓		16.9	18.6	IIIbc	3126	F3 G=.1B, F4½ G=.1, F5 G=.1B, F5½ G=.1, F7 G=.3. Lines Ket. G & H.
✓		16.5	17.9	IIa	3126a	G & h=.3
✓		14.8	18.0	IIa?	3127	G & h=.5, Lines below K. Bright lines?
✓		12.0	24.6	IIIbc	3128	F3 G=.1B, F5 G=.1B, F5½ G=.1, F7 G=.3. Lines Ket. G & H. 2 lines below K.
✓		10.8	13.3	IIa?	3129	G & h=.5
✓	144	5.9	13.3	IIa?	3130	G & h=.5
✓		4.2	12.8	IIIbc?	3131	F4½ G=.1, F5 G=.1B, F5½ G=.1, F7 G=.3. Lines Ket. G & H.

Amt. of Fog. due to moon & clouds. 8.0 6.7 Amt. of Fog. due to chemicals. 6.7

Plate 491.

✓		8.6	12.6	IIIb?	3132	F7 G=.3. Lines Ket. G & H.

Amt. of Fog. due to moon & clouds. 6.7 6.5 Amt. of Fog. due to chemicals. 6.6

Plate 499.

Amt. of Fog. due to moon & clouds. 7.5 6.5 Amt. of Fog. due to chemicals. 6.6

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1888phae.proj..855F

1 aK ; 448.3

448.3

Hδ ; 443.1 ; 448.3 ; 456.1 ; 458.2 ; 461.1 ; 468.2

h3 δ3

Hδ ; 448.3 ; 456.1 ; 458.1 ; 461.1 ; 468.1

h5 δ5

aK ; h5 ; δ5 Bright lines

2 aK ; 448.3 ; 456.1 ; 458.1 ; 468.1

h5 δ5

h5 δ5

Hδ ; 448.3 ; 456.1 ; 458.1 ; 461.1

Hδ ; 448.3

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1888phae.proj...855F

May 31, 1888.

Plate ~~499~~ 505

Book 1G, Page 146

V.	H.	Type.	No. Rmv.	Description of Lines or Spectra.
✓	10.0	13.2	II a? 3133	G & h = .5
✓	9.1	12.9	III bc? 3134	F 4½ G = .1, F 5 G = .1B, F 5½ G = .1, F 7 G = .3. Lines bet. G & K. 1 line below K.

Amt. of Fog. due to mum & clouds. Amt. of Fog. due to chemicals.
7.0 6.5 6.7

Plate 474.

Amt. of Fog. due to mum & clouds. Amt. of Fog. due to chemicals.
7.5 6.6 6.7

Plate 442.

✓	19.8	21.0	II a? 3135	G & h = .5
✓	19.0	20.8	III bc 3136	F 5 G = .1B, F 7 G = .3. Lines bet. G & K.
✓	15.8	9.9	I 3137	Lines narrow.
✓ 148	8.2	13.2	III bc 3138	F 4½ G = .2, F 5 G = .1B, F 5½ G = .1, F 7 G = .3. Lines bet. G & K.

Amt. of Fog. due to mum & clouds. Amt. of Fog. due to chemicals.
7.8 7.2 7.3

Plate 507. May 22, 1888.

✓	16.5	13.9	III bc 3139	F 3 G = .1B, F 4½ G = .1, F 5 G = .2B, F 5½ G = .1, F 7 G = .2. Lines bet. G & K. 2 lines below K.
✓	9.4	6.2	II a? 3140	G & h = .5?
✓	3.4	17.5	III bc? 3141	Bright and faint lines. Lines below K.

Amt. of Fog. due to mum & clouds. Amt. of Fog. due to chemicals.
7.7 6.5 6.6

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1888phae.proj..0055

h5 g5

1aK; Hδg; 4148.3; 4356.1; 4358.1; 4861.1

h5 g5

Hδg; 4148.3; 4358.1

Lines narrow

Hδg; 4148.3; 4356.1; 4358.1; 4861.0

2aK; Hδg; 4148.0; 4356.1; 4358.0; 4861.1; 4868.1

h5 ? g5 ?

aK; Bright & faint lines

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1888phae.proj..855F

May 23, 1888.

Plate 477

Book 18 Page 150 V.	H.	Type.	No. Rem.	Description of Lines on Spectra.
16.6	13.9	III bc?	3142	F3 G = .1B, F4½ G = .1, F7 G = .3, Lines bet. G & H.
5.7	22.2	II a?	3143	G & h = .5

Amt. of Fog. due to mem & clouds. Amt. of Fog. due to chemicals.

7.5 6.8 7.0

Plate 454. May 23.

13.5	18.5	III bc?	3144	F3 G = .1B, F4½ G = .1, F5 G = .2B, F5½ G = .1
+	+			F7 G = .3. Lines bet. G & H.
3.1	16.1	II a?	3145	G & h = .5, G dbl. Lines below K.

Amt. of Fog. due to mem & clouds Amt. of Fog. due to chemicals.

7.7, 6.6 6.7

Dark plate. Hard to measure. Plate 514.

15.2	19.3	13.7	II a	3146	G & h = .3?
	13.6	24.4	II?	3147	Lines below K.
	6.7	21.3	III b	3148	F7 G = .3

Amt. of Fog. due to mem & clouds. Amt. of Fog. due to chemicals.

7.3 5.4 5.5

Plate 805. (F.)

	21.0	9.2	II a?	3149	G & h = .5
15.4	18.0	13.3	II?	3150	2 lines below K.
	17.9	18.6	III bc?	3151	F3 G = .1B, F5 G = .1B, F7 G = .3, Lines bt. G & H. 2 lines below K.

Plate 805. May 24, '88.

18.1	18.5	II a?	3152	G & h = .5
16.6	13.5	II a?	3153	G & h = .5

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1888phae.proj..855F

Hαs; 448.3; 461.1; 468.1
h5 s5

Hαs; 448.3; 45-b.1; 45-8.2; 461.1; 468.1
αK; h5; s5

h3? s3?
αK
448.3

h5 s5
2 αK
2αK; Hαs; 448.3; 45-8.1/2; 468.1

h5 s5
h5 s5

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1888phae.proj..855F

May 24, 1888.

Plate 305. (F.)

Book I G. Page 154	V.	H.	Type v.	Rmd. No.	Description of Lines on Spectra
	17.3	20.6	II a ?	3154	G + h = .5. Lines below K.
	16.0	20.7	II a ?	3155	G + h dbl. = .3. Lines below K.
	15.3	21.1	II a ?	3156	G + h = .5. Lines below K.
156	13.0	18.9	II a ?	3157	G + h = .5. 2 lines below K.
158	10.9	8.4	II a ?	3158	G + h = .5
	10.0	20.0	I b	3159	h & H = .2
	9.1	20.4	II a ?	3160	~~(G + h = .5 + 2 lines below K.)~~ G + h dbl. = .5. 3 lines below K.
	5.5	15.6	II a ?	3161	G + h = .3
	4.2	12.6	II a ?	3162	G + h = .5. 2 lines below K.

Amt. of Fog. due to moon & clouds. 6.5 6.2

Amt. of Fog. due to chemicals. 7.3

Plate 289 (F.)

160	21.9	16.8	III b ?	3163	F 4½ G = .2, F 7 G = .3. Lines bet. G & H.
	20.2	19.1	III b ?	3164	F 7 G = .2, line bet. G & H. 2 lines below K.
	19.3	10.3	II a ?	3165	G + h = .5. 2 lines below K.
	18.5	11.4	III bc	3166	F 2½ G = .1, F 3 G = .1B, F 3½ G = .1, F 4½ G = .1, F 5 G = .1B, F 5½ G = .1, F 6½ G = .1, F 7 G = .3 Lines bet. G & H. Lines below K.
	16.5	17.6	III	3167	2 lines below K.
162	14.6	10.2	II a	3167a	G + h = .5
162	14.7	18.2	II a ?	3168	G + h = .5
	14.0	18.7	II a ?	3169	G + h dbl. = .5
	13.3	14.8	III bc ?	3170	F 7½ G = .1, F 5 G = .1B, F 5½ G = .1, F 7 G = .3, Lines bet. G & H. Lines below K.
	13.5	16.5	II a	3171	G + h = .5
	11.9	15.5	II a ?	3172	G + h = .5 (G + h = .5)
~~164~~	~~10.7~~	~~21.6~~	~~II a ?~~	~~3172a~~	~~G + h = .5~~
164	9.7	9.4	II a ?	3173	G + h = .5 1 line below K.
	9.5	18.1	II a	3173a	G + h = .3 ?
	9.0	12.3	II a ?	3174	G + h = .5

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1888phae.proj..855F

aK; h_5 g_5

aK; hd3 gd3

aK; h_5 g_5

2 aK; h_5 g_5

h_5, g_5

3103, 2

3 aK hd 5; gd 5; ~~(3aK; h_5; g_5)~~

h3 g3

2 aK h_5 g_5

Ha g; 448,3; 461,2

2 aK; Ha g; 448,2

2 aK h_5 g_5

aK; Ha g; 448,3; 451,1; 456,1; 458,1; 461,1; 465,1; 468,1; 471,1

2 aK

h_5 g_5

h_5 g_5

hd 5 gd 5

aK; Ha g; 448,3; 456,1; 458,1; 461,1

h_5 g_5

h_5 g_5 (h_5; g_5)

~~h_5 g_5~~

1 aK h_5 g_5

h3 ? g3 ?

h_5 g_5

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May 25, 1888.

Plate. 289(F.)

Book.	Page	V.	H.	Type.	No. Rem.	Description of Lines on Spectra.
		7.9	6.9	II a?	3175	G + h = .5
		6.7	22.0	II a?	3176	G + h = .5
	166	5.5	13.5	II a?	3177	G + h = .5
		8.5	6.6	I b?	3178	F 8 G = .5, h 5 H = .6

Amt. of Fog. due to moon & clouds. 6.8 6.4

Amt. of Fog. due to chemicals 6.7.

Hard to measure. Plate 192. (F.)

		20.6	11.7	III bc	3179	F 2½ G = .1, F 3 G = .2 B, F 3½ G = .1, F 4½ G = .2, F 5 G = .2 B, F 5½ G = .1, F 6 G = .1, F 6½ G = .1, F 7 G = .3, F 8 G = .1 B, F 9 G = .1, G & H. Lines bet. G & H.
		20.0	13.2	III bc	3180	F 4½ G = .2, F 5 G = 1 B, F 5½ G = .1, F 7 G = .3
	168	19.6	10.4	II a?	3181	G + h = .2, Lines below K.
		15.0	5.5	II ?	3182	Lines below K.
		14.2	23.1	III bc?	3183	Lines bet. G & H. Bright lines. Lines below K.
		12.3	14.8	III bc?	3184	F 4½ G = .2, F 5 G = .1 B, F 5½ G = .1, F 7 G = .3
		10.7	18.0	II a?	3185	G + h = .5
	170	10.0	14.5	II a?	3186	G + h = .5?
		9.7	8.0	II a	3187	G + h = .5, 1 line below K.
		8.8	10.7	II a?	3188	G + h = .5
		8.1	14.9	II a?	3189	G + h = .5 (G + h = .5)
		5.8	17.0	I b	3190	h 6 H = .2, H 6 α = .2.
		5.10	10.1	III bc?	3191	F 4½ G = .1, F 5 G = .1 B, F 5½ G = .1, F 6 G = .1, F 6½ G = .1, F 7 G = .3. Lines bet. G & H. 2 lines below K.

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1888phae.proj..855P

h5 K5
h5 K5
h5 K5
403,6 ; 443,5.

Ha K ; Kd ; 438,1 ; 443,1 ; 448,3 ; 451,1 ; 453,1 ; 456,1 ; 458,2 ; 461,2 ; 466,1 ;
468,2 ; 471,1

448,3 ; 456,1 ; 458,1 ; 461,2

aK ; h2 , K2
aK
aK ; Ha K ; Bright lines

448,3 ; 456,1 ; 458,1 ; 461,2

h5 , K5
h5 ? K5 ?
aK ; h5 , K5
h5 , K5
h5 , K5 (h5 ; K5)
392,2 ; 402,2
2aK ; Ha K ; 448,3 ; 451,1 ; 453,1 ; 456,1 ; 458,1 ; 461,1

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May 25, 1888.

Plate 192 (F.)

Book & Page	V.	H.	Type.	Rem.	Description of Lines or Spectra.
	4.9	19.8	III bc?	3192	F3 G=.1B, F4½ G=.1 F5 G=.1B, F5½ G=.1 F7 G=.2. Lines bet. G & H.

Amt. of Fog. due to moon & clouds. 7.2 6.5 Amt. of Fog. due to chemicals. 6.7

P

Plate 340 (F.)

	172	23.2	11.8	I?	3193	Lines below K.
		19.7	8.0	II a?	3194	G & h=.5
		16.0	10.6	II a?	3195	G & h=.2, 2 lines below K.
	174	14.1	15.4	I b	3196	F6 G=.2, h & H=.2, β 4 γ=.4,
		14.4	16.9	II ac?	3197	G & h=.3. Lines below K. Bright lines. Peculiar spectrum.
		10.2	18.5	III bc	3198	F2½ G=.1, F3 G=.2B, F3½ G=.1, F4½ G=.2, F5 G=.2B, F5½ G=.1, F6 G=.1, F6½ G=.1, F7 G=.3, F8 G=.1B, F9 G=.1 Lines bet G & H.
	176	9.5	9.6	III bc?	3199	F3 G=.1B, F5 G=.1B, F7 G=.2 G & h=.2, Lines below K.
		9.0	17.1	II ac	3200	Bright lines. Peculiar spectrum.
		4.5	11.9	III bc?	3201	F3 G=.1B, F4½ G=.1, F5 G=.2B, F5½ G=.1, F7 G=.3. Lines bet. G & H, Lines below K.

Amt. of Fog. due to moon & clouds. 7.6 6.4 Amt. of Fog. due to chemicals. 6.5

Plate 529.

	178	20.6	22.5	II a?	3202	G & h=.5. 1 line below K.
		20.0	19.7	II?	3203	Lines below K.

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Hδ; 448,2; 456.1; 458.1; 461.1; 466.1

aK
h5 δ5
2aK h2 δ2
382,4; 402,2; 453,2
aK; h3; δ3; Bright lines. Peculiar spectrum

Hδ; 438.1; 443.1; 448.3; 451.1; 453.1; 456.1; 458.2; 461.2; 466.1; 468.2; 471.1

~~aK; h2 δ2~~; 448,2; 458.1; 468.1

aK h2; δ2; Bright lines. Peculiar spectrum
aK; Hδ; 448.3; 456.1; 458.2; 461.1; 468.1

1aK; h5 δ5
aK

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Plate 529

Book 11 G Page 178	V.	H.	Type.	Rem.	Description of Lines on Spectra
✓	11.2	12.7	II a?	3204	G + h = .5
✓	9.3	13.1	III bc	3205	F3 G = .1B, F3½ G = .1, F4½ G = .2, F5 G = .2B, F5½ G = .1, F7 G = .3. Lines bet. G & H.
✓	6.9	15.2	III bc?	3206	F5 G = .1B, F5½ G = .1, F7 G = .3. Lines bet. G & H.

Amt. of Fog. due to moon & clouds. 8.0 6.8 Amt. of Fog. due to chemicals. 6.9

Dark plate. Hard to measure. Plate 545.

✓	17.6	6.7	II a?	3207	G + h = .5, Lines below K.
✓ 180	7.2	11.8	II a?	3208	G + h = .5. Lines below K.

Amt. of Fog. due to moon & clouds. 6.4 5.5 Amt. of Fog. due to chemicals. 5.8

Plate 525.

✓	10.7	18.7	III bc?	3209	F4½ G = .1, F5 G = .1B, F5½ G = .1 F7 G = .2. Lines bet. G & H. 1 line below K.

Amt. of Fog. due to moon & clouds. 7.7 6.5 Amt. of Fog. due to chemicals. 6.6

Plate 553.

182 Amt. of Fog. due to moon & clouds. 6.9 6.1 Amt. of Fog. due to chemicals 6.4

Plate 548.

✓ 184	7.3	23.7	II a?	3210	G + h = .5

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1888phae.proj..855r

h5 l3

Hδ; 448.3; 456.1; 458.2; 461.2; 466.1; 468.1

Hδ; 448.3; 456.1; 458.1

aK h5 l3

aK h5 l3

/aK; Hδ; 448.2; 456.1; 458.1; 461.1

h5 l3

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May 25 1888.

Plate 548

Book 1G. Page 184	V.	H.	Type.	Run. No.	Description of Lines on Spectra.
	8.5	13.4	III b?	3210	F4½ G=.2, F5½ G=.1, F7 G=.3.

Amt. of Fog. due to moon & clouds. 7.5 6.3 Amt. of Fog. due to chemicals. 6.5

Plate 563.

	23.0	11.3		3211a	Only a small portion of spectrum is visible on plate.
	18.4	15.1	III bc	3212	F3 G=.1B, F4½ G=.1, F5 G=.2 F5½ G=.1, F7 G=.3. Lines Ist. G & H.
	17.0	9.9	II a?	3213	G & h & dtl b=.3. Lines below K.
	9.9	16.1		3213a	G + h=.2
186	8.1	22.7	II a?	3214	G & h=.5
	6.8	11.0	II a	3215	G & h=.5. 2 lines below K.
	5.7	11.6	III b	3216	F4½ G=.2, F7 G=.3.

Amt. of Fog. due to moon & clouds. 6.4 5.8 Amt. of Fog. due to chemicals. 6.3

Plate 570. May 26, 1888.

188	18.5	7.1	II a?	3217	G & h=.3
	15.5	21.8	III b	3218	F7 G=.3
	14.7	20.3	III b?	3219	F7 G=.3
	9.0	18.1	II a?	3220	G & h=.3. 2 lines below K.
	7.1	20.2	II a?	3221	G & h=.2. G dtl b. Lines below K.
	6.4	6.7	II a?	3222	G & h=.5. Lines below K.

Amt. of Fog. due to moon & clouds. 6.2 5.9 Amt. of Fog. due to 6.7

Plate 566 190.

190	15.9	7.0	II a?	3223	G & h=.3 (G & h=.2, G dtl.)
	11.6	9.1	II a	3224	G & h=.3, G dtl b. 1 line below K.
	11.1	17.3	III bc	3225	F3 G=.1B, F5½ G=.1, F4½ G=.2, F5 G=.1B.

F. M & C. 8.0 6.8 F. chemicals. 7.9 F5½ G=.1, F7 G=.3 Lines Ist G & H.

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1988phae.proj..855r

448.3; 456.1; 461.2

Only a small portion of spectrum visible on plate.
Hδ; 448.3; 456.1; 458.2; 461.1; 468.1

aK; hd3; δd3
h2; δd2
h5; δ5

2 aK; h5 δ5
448.3; 461.2

h3 δ3
448.3
448.3
2 aK; h3 δ3
aK h2 δd2
aK h5 δ5

h3 δ3
h2; δd2.
aK; h3; δd3 (h2; δd2)
Hδ; 448.3; 456.1; 458.1; 461.2; 466.1; 468.1

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May 26, 1888.

Plate 556.

Books 1 & 2 Page 190

V.	H.	Type.	Rmk.	Description of Lines in Spectra.
14.7	10.5	III b	3226	F 7 G = .3
6.0	16.0	II a	3227	G & h = .3. 2 lines below K.

Amt. of Fog. due to moon & clouds. 8.0 7.0

Amt. of Fog. due to chemicals. 7.1

Plate 501.

194	10.9	13.7	II a	3228	G & h = .3. G dbl. 1 line below K.
	10.8	9.8	II ?	3229	Lines below K.

Amt. of Fog. due to moon & clouds. 8.2 6.8

Amt. of Fog. due to chemicals. 6.9

Plate 510.

	16.7	5.7	II a ?	3230	G & h = .5. Lines below K.
	12.6	16.6	III b c	3231	F 3 G = .1 B, F 3½ G = .1, F 4½ G = .2, F 5 G = .2 B, F 5½ G = .1, F 7 G = .3, F 8 G = .1 B, F 9 G = .1, Lines bet. G & H. 1 line below K.

Amt. of Fog. due to moon & clouds. 7.9 6.5

Amt. of Fog. due to chemicals. 6.6

Plate 585

	22.5	15.7	III b c	3232	F 4½ G = .1, F 5 G = .1, F 7 G = .3. Lines bet. G & H.
196	20.6	14.7	II a ?	3233	G & h = .5
	20.6	9.0	I b	3234	F 6 G = .2, h & H = .2
	18.1	6.3	II a ?	3235	G & h = .3
	17.4	10.2	II a ?	3236	G & h = .5
	14.3	11.4	II a ?	3237	G & h = .5

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nonphoto : proj . asof

448,3
2aK h_3 g_3

1aK h_3 gd_3
aK

aK h_5 g_5
1aK ; Haδ; 438,1; 443,1; 448,3; 456,1; 458,2; 461,2; 466,1; 468,1

Haδ; 448,3; 458,1; 461,1

h_5 g_5
402,2 ; 453,21
h_3 g_3
h_5 g_5
h_5 g_5

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May 26, 1888.

Plate 585.

Book 15 Page 198.	δ.	H.	Type.	No. Rem.	Description of Lines or Spectra.
✓	4.2	9.5	IIa	3238	G & h = .5
✓	2.8	15.8	IIIbc	3239	F4½G = .1, F5G = .1B, F5½G = .1, F7G = .3. Lines det. G & H.

Amt. of Fog. due to moon & clouds. 6.5 6.3 Amt. of Fog. due to chemicals. 7.4

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Plate 590.

✓	17.4	19.3	IIa?	3240	G & h = .5

Amt. of Fog. due to moon & clouds. 8.2 7.9 Amt. of Fog. due to chemicals. 8.3

Plate 596.

✓	15.5	8.8	IIa?	3241	G & h = .5
✓	14.5	23.0	IIa?	3242	G & h = .5
✓ 200	13.5	17.8	IIa?	3243	G & h = .5
✓	12.5	15.8	IIa?	3244	G & h = .5
✓	5.0	19.9	IIIb	3245	F7G = .3
✓	8.0	21.9	IIIb	3246	F7G = .3

Amt. of Fog. due to moon & clouds. 6.2 6.0 Amt. of Fog. due to chemicals. 7.7

Plate 615.

✓	18.6	22.6	IIIbc	3247	F3G = .1B,
✓	17.2	17.0	IIa?	3248	G & h = .5.
✓ 202	7.1	8.4	IIIbc	3249	F4½G = .2, F5G = .1B F5½G = .1, F7G = .3, Lines det. G & H.
✓	3.5	11.7	IIa?	3250	G & h = .5

Amt. of Fog. due to moon & clouds, 6.4 Amt. of Fog. due to chemicals. 7.0

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1888phae.proj..855F

h5 ℓ5

Hαℓ; 448.3; 458.1; 458.1; 461.1

h5 ℓ5

h5 ℓ5

h5 ℓ5

h5 ℓ5

h5 ℓ5

448.3

448.3

468.1

h5 ℓ5

Hαℓ; 448.3; 458.1; 458.1; 461.2

h5 ℓ5

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May 28, 1888.

Plate 607

Book W G Page 202	V.	Ld.	Type.	Rev. No.	Description of Lines on Spectra.
✓	14.0	6.4	IIa?	3251	G & h = .5
✓	5.8	16.8	IIa?	3252	G & h = .5

Amt. of Fog. due to mom & clouds. 5.8 5.6 Amt. of Fog. due to chemicals. 8.1

204 Plate 614

✓	7.1	16.0	IIIbc	3253	F 2½ G = .1, F 3 G = .1B, F 8½ G = .1, F 4½ G = .2, F 5 G = .2B, F 5½ G = .1, F 7 G = .3, F 8 G = .1B, F 9 G = .1. Lines bet. G & H.

Amt. of Fog. due to mom & clouds. 7.9 7.7 Amt of Fog. due to chemicals. 8.0

Plate 616.

✓	15.9	17.1	Ib	3254	F 6 G = .2, h & H = .2.

Amt. of Fog. due to mom & clouds. 8.2 8.3 Amt. of Fog. due to chemicals. 8.4

Plate 628 & 631.

	18.5	14.0	IIa?	3255	G & h = .5
✓ 206	12.6	11.3	IIIb	3256	F 7 G = .3

Amt. of Fog. due to mom & clouds. 8.1 7.9 Amt. of Fog. due to chemicals. 8.3

Plate 625.

✓	20.1	17.9	Ib	3257	F 6 G = .3, h & H = .2.
✓	17.0	6.0	IIIb	3258	F 7 G = .3
✓	13.6	18.3	IIa?	3259	G & h = .5. 2 lines Idem K.

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h5 g5

h5 g5

Hδ; 438,1; 443,1; 448,3; 456,1; 458,2; 461,2; 466,1; 468,1; 471,1

402,2; 453,2

h5 g5

448,3

402,2; 453,3

448,3

2 αK h5 g5

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Plate. 625

Book 1 Page 206	V.	H.	Type.	Rev.	Description of Lines on Spectra.
✓	12.0	7.8	IIIbc	3260	F4½ G=.1, F5 G=.1B, F5½ G=.1, F7 G=.3, Lenies bet. G & H.
✓	8.4	12.3	II a?	3261	G & h=.5
✓	5.9	19.2	IIIb	3262	F7 G=.3

Amt. of Fog. due to moon & clouds. Amt. of Fog. due to chemicals.
7.9 7.6 7.7

Plate 701.

✓ 208	18.5	14.0	II a?	3263	G & h=.5, Lenies K.
✓	17.1	18.3	II a	3264	G & h=.5
✓	9.2	18.2	II a?	3265	G & h=.5
✓	8.0	17.5	IIIbc	3266	F4½ G=.1, F5 G=.1B, F5½ G=.1, F7 G=.3
✓	6.4	17.8	IIIb?	3267	F7 G=.3

Amt. of Fog. due to moon & clouds. Amt. of Fog. due to chemicals.
8.0 7.9 8.1

Plate 689.

✓ 210	18.8	11.7	Ib	3268	F6 G=.2, h 6 H=.2, H 6 K=.2, β 4 γ=.3
✓	10.0	7.0	IIIb	3269	F7 G=.3

Amt. of Fog. due to moon & clouds. Amt. of Fog. due to chemicals.
8.0, 7.9 8.1

Plate 683.

✓	19.1	19.5	Ib	3270	h 6 H=.2
✓	15.5	14.4	IIIbc	3271	F2½ G=.1, F3 G=.2B, F3½ G=.1, F4½ G=.2, F5 G=.2B, F5½ G=.1, F6 G=.2, F7 G=.3, F8 G=.1B, F9 G=.1

Lenies bet. G & H.

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Ha; 448,3; 456,1; 458,1; 461,1

h5 g5

448,3

ar; h5 g5

h5 g5

h5 g5

448,3; 456,1; 458,1; 461,1

448,3

382,3; 392,2; 402,2; 453,2

448,3

402,2

Ha; 438,1; 443,1; 448,3; 453,2; 456,1; 458,2; 461,2; 466,1; 468,2; 471,1

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May 28, 1888.

Plate 683

Book 1 G. Page 212.

V.	H.	Type.	Rev.	Description of Lines on Spectra.
10.7	19.5	IIa?	3272	G & h = .5
4.0	10.1	III b?	3273	F 4½ G = .2, F 7 G = .3

Amt. of Fog. due to moon & clouds. Amt. of Fog. due to chemicals.
8.2 8.0 8.3

Plate 678.

21.5	19.1	III b?	3274	F 7 G = .3
16.2	9.2	IIa?	3275	G & h = .5
214 7.5	9.0	IIa?	3276	G & h = .5. G dbl. 2 lines below K.
6.4	17.8	IIac?	3277	G & h = .5. G dbl. Lines below K. Bright lines. Rec.?

Amt. of Fog. due to moon & clouds. Amt. of Fog. due to chemicals.
7.5 7.1 7.8

Plate 686.

8.0	8.4	IIa?	3278	G & h = .5, G dbl. 3 lines below K.
6.7	17.1	IIa?	3279	G & h = .5. G dbl. 3 lines below K. Bright lines.

Amt. of Fog. due to moon & clouds. Amt. of Fog. due to chemicals.
8.0 7.8 8.0

Book 6 G. Page 4

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Plate 703

17.2	15.6	IIa?	3280	G & h = .5

Amt. of Fog. due to moon & clouds. Amt. of Fog. due to chemicals.
8.0 6.9 7.0

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1888phae.proj...855f

h5 g5

448.3 ; 461.2

448.3

h5 g5

2aK h5 gd5

aK ; h5 ; gd5 ; Bright lines Rec? Spectrum of A star superposed?

3aK ; h5 ; gd5

3aK ; h5 ; gd5 ; Bright lines

h5 g5

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1888phae.proj..855F

May 29, 1888.

Plate 724.

Book 6 G Page 4

V.	H.	Type.	Rmv. to	Description of Lines on Spectra.
17.0	10.8	II a?	3281	G & h = .2. 2 lines below K.

Amt. of Fog. due to moon & clouds. 8.2 Amt. of Fog. due to chemicals. 7.5 7.5

Plate 740.

6	14.6	21.2	II a?	3282	G & h = .5
	8.4	14.9	III bc?	3283	F 4½ G = .1, F 5 G = .1B, F 5½ G = .1, F 7 G = .3, F 8 G = .1B, F 9 G = .1. Lines bet. G & h.

Amt. of Fog. due to moon & clouds. 6.8 6.5 Amt. of Fog. due to chemicals. 7.0

Plate 707.

20.5	10.2	II a?	3284	G & h = .5

Amt. of Fog. due to moon & clouds. 8.2 7.3 Amt. of Fog. due to chemicals. 7.3

Plate 749.

10	16.8	8.4	II a?	3284a	G & h = .5
10	12.4	9.8	III b	3285	F 7 G = .2.
	13.3	21.8	II a?	3286	G & h = .5
	5.1	22.1	II a?	3287	G & h = .3
	16.8	18.5	II a	3287a	G & h = .5 (G & h = .5)

Amt. of Fog. due to moon & clouds. 6.3 6.2 Amt. of Fog. due to chemicals. 8.0

Plate 899.

12	10.0	18.1	II a?	3288	G & h = .5
	5.5	13.7	II a?	3289	G & h = .5

Amt. of Fog. due to moon & clouds. 6.8 6.7 Amt. of Fog. due to chemicals. 7.8

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1888phae.proj...855f

2 a K h2 k2

h5 k5

Ha k; 438,1; 443;1; 448,3; 456,1; 458,1; 461,1

h5 k5

h5 ? k5 ?

448,2

h5 k5

h3 k3

h5 k5

h5 k5

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1888phae.proj..855f

May 29, 1888.

Plate 878

Book 6 G. Page 12

V.	H.	Type.	Rev.	Description of Lines on Spectra.

Amt. of Fog. due to moon & clouds. Amt. of Fog. due to chemicals.

8.9 8.2 8.4

Plate 777 & 780.

✓	14	14.0	20.7	IIIbc	3290	$F_5G = .1B$, $F_5\frac{1}{2}G = .1$, $F_7G = .3$
✓		12.0	10.2	IIIb	3291	$F_4\frac{1}{2}G = .2$, $F_7G = .3$
✓		6.2	22.7	IIa?	3292	$G + h = .5$
✓		5.0	22.4	IIIb?	3293	$F_7G = .3$

Amt. of Fog. due to moon & clouds. Amt. of Fog. due to chemicals.

8.0 7.4 8.0

Plate 860.

✓	16	16.8	13.0	IIa?	3294	$G + h = .5$, G dbl. Lines below K.
✓		14.0	22.7	IIa?	3295	$G + h = .5$
✓		14.0	14.7	II?	3296	Peculiar spectrum. Several faint lines.
✓		12.7	16.4	Ib	3297	$F_6G = .2$

Amt. of Fog. due to moon & clouds. Amt. of Fog. due to chemicals.

8.2 8.0 8.3

Plate 856.

✓	18	12.4	14.8	IIa	3298	$G + h = .5$. 3 lines below K. $F_5G = .1B$, $F_7G = .2$, $F_8G = .1B$.
✓		11.7	8.2	IIIbc	3299	Lines bet. G & H. 2 lines below K.
✓		6.0	22.2	IIa?	3300	$G + h = .5$, 2 lines below K.

Amt. of Fog. due to moon & clouds. Amt. of Fog. due to chemicals.

8.2 7.9 8.1

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1888phae.proj..855f

448,3; 456,1; 458,1

448,3; 461,2

h5 g5

448,3

aK; h5 gd5

h5 g5

Peculiar spectrum. Several faint lines

453,2

3aK; h5 g5 443,1; 448,2; 458,1

2aK Hg; 443,1; ~~448,2; 458,1~~

2aK; h5 g5

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1888phae.proj..855F

May 29, 1888.

Plate 850

Book 16 Page 18 V. H. Type. Rmk. Description of Lines on Spectra.

Amt. of Fog. due to moon & clouds. Amt. of Fog. due to chemicals.

8.2 8.0 8.2

Plate 849

20

11.8 16.4 IIIa? 3301 G & h = .5, 2 lines below K.

8.2 15.1 IIIbc? 3302 F½G = .1, F5G = .15, F5½G = .1, F7G = .3.

Amt. of Fog. due to moon & clouds. Amt. of Fog. due to chemicals.

7.5 6.5 6.6

Plate 842.

16.1 8.1 IIIa? 3303 G & h = .5

13.0 7.1 IIIa? 3304 G & h = .5

Amt. of Fog. due to moon & clouds. Amt. of Fog. due to chemicals.

6.0 6.0 8.0

Plate 916

22 22.4 7.4 IIIa? 3305 G & h = .5

19.6 19.9 IIIb 3306 F7G = .3

17.3 18.9 IIIa? 3307 G & h = .5

17.0 15.2 IIIa? 3308 G & h = .5 (G & h = .5)

15.0 8.5 IIIa? 3309 G & h = .3. G & H. 2 lines below K.

13.6 14.4 IIIb 3310 F7G = .3

13.9 16.2 IIIa? 3310a G & h = .5

24 11.5 23.2 IIIa? 3311 G & h = .5

9.0 23.5 IIIb 3312 F7G = .3

8.0 15.7 IIIb 3313 F7G = .3

6.8 17.1 IIIb 3314 F7G = .3 Lines bet. G & H.

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1888phae.proj..855f

2aK; h5 K5

4488.3; 4586.1; 4588.1; 4861.1

h5 K5

h5 K5

h5 K5

448.3

h5 K5

h5 K5 (h5 K5)

2aK; h3; Kd3

448.3

h5 K5

h5 K5

448.3

448.3

HaK; 448.3

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May, 31, 1888.

Plate 916

Book 6 G Page 24	V.	H.	Type.	Rev. No.	Description of Lines or Spectra.
	5.0	20.6	IIIb	3315	F7G=.3
	3.9	6.2	IIa?	3316	G&h=.5

Amt. of Fog. due to mum & clouds. Amt. of Fog. due to chemicals.
5.5 5.5 8.0

Plate 915.

26	19.8	16.3	IIa?	3317	G&h=.5
	17.2	22.8	IIa?	3318	G&h=.5
	16.5	11.8	IIa?	3319	G&h=.5 (G&h=.5)
	18.1	13.3	IIIbc?	3320	F5G=.1B, F5½G=.2, F7G=.3.
	11.0	14.5	IIa	3320a	G&h=.5?
	7.5	20.5	IIa?	3321	G&h=.5
28	6.4	23.6	IIa?	3322	G&h=.3. 8 lines below K.
	5.2	18.1	IIa?	3323	G&h=.5 (G&h=.2?)

Amt. of Fog. due to mum & clouds. Amt. of Fog due to chemicals.
5.7 5.6 7.8

Plate 831

30	17.9	16.2	IIIbc	3324	F3G=.1B, F3½G=.1, F4½G=.2, F5G=.2B, F5½G=.1, F7G=.3, Lines let. G & H.
~~18.1~~	~~13.4~~			~~3324a~~	~~G&h=.5?~~

Amt. of Fog. due to mum & clouds. Amt. of Fog. due to Chemicals.
6.8 6.6 8.0

Plate 788.

~~18.1~~	~~13.4~~			~~3324a~~	~~G&h=.5?~~
15.5	15.0	IIIbc	3325	F3G=.2B, F3½G=.1, F4½G=.2, F5G=.2B, F5½G=.1, F7G=.3, F8G=.1B, F9G=.1. Lines let. G & H.
14.8	12.2	II?	3326	5a G&H.?

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1888phae..proj...855f

ν48,3
h_5 g_5

h_5 g_5
h_5 g_5
h_5 g_5 (h_5 g_5)
ν48,3; ν56,2; ν58,1
h_5? g_5?
h_5 g_5
3 as h_3 g_3
h_5 g_5 (h_2? g_2?)

Hαg; ν48,3; ν56,1; ν58,2; ν61,2; ν66,1; ν68,1

h_5 g_5?
Hαg; ν38,1; ν43,1; ν48,3; ν56,1; ν58,2; ν61,2; ν66,1; ν68,2

g d ?

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May 31, 1888.

Plate 788.

Book 6 G. Page 32 V. H. Type. Rem. Description of Lines in Spectra.

✓ 4.1 10.7 III b? 3326 F 7 G = .3.

Amt. of Fog. due to moon & clouds. Amt. of Fog. due to chemicals:

8.3 8.2 8.3

Plate 786.

✓ 3.1 14.1 II a? 3327 G 8 h = .5. 2 lines below K.

Amt. of Fog. due to moon & clouds. Amt. of Fog. due to chemicals.

8.1 8.0 8.1

Plate 790.

~~34~~ ~~3328~~

✓ 18.5 12.2 III bc 3328. F 4½ G = .1, F 5 G = .2B, F 5½ G = .1, F 7 G = .3,

F 8 G = .1B, F 9 G = .1, Lines 2 et G & H.

2 lines below K.

✓ 7.3 20.3 II a? 3329. G 8 h = .5

Amt. of Fog. due to moon & clouds. Amt. of Fog. due to chemicals.

7.9 7.8 8.0

~~Pl~~

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1888phae.proj...055f

448,3

zak; h5 g5

zak; Hδ; 438.1; 443.1; 448,3; 456.1; 458.2; 461.1

h5 g5

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1888phae.proj..855f

May, 31, 1888.

Plate 917

Book F 9 Page 24	V.	H.	Type.	No. Rem.	Description of Lines on Spectra.
	20.4	12.6	IIa	3330	G & h = .5
	19.3	10.0	III bc?	3331½	F4½ G = .1, F5 G = .1B, F7 G = .3. Lenis 1st G & H. 2 lines below K.
	18.7	11.1	III bc?	3332	F3 G = .1B, F4½ G = .1, F5 G = .1B, F5½ G = .1, F7 G = .3
26	18.8	15.5	I b?	3333	G 6 h = .2,
	17.7	14.5	III bc	3334	F3 G = .1B, F4½ G = .1, F5 G = .2B, F5½ G = .1, F7 G = .3. Lenis 1st. G & H, 2 lines below K,
	14.2	24.2	IIa?	3335	G & h = .5
	13.9	21.6	IIa?	3336	G & h = .5 (G and h = .5)

June 2, 1888.

Plate 917.

28	12.5	13.8	IIa	3337	G & h = .2. 1 line below K,
	12.2	19.3	IIa?	3338	G & h = .5 (G and h = .5)
	11.0	18.4	IIa?	3339	G & h = .5. 3 lines below K.
	10.2	17.2	IIa?	3339 ∞	G and h = .5
	8.4	14.5	IIa?	3340	G & h = .5? (G and h = .5)
	7.8	18.4	III?	3341	3 lines below K.
	7.1	14.6	IIa?	3342	G & h = .5. 3 lines below K.
30	6.8	7.1	IIa?	3343	G & h = .5?
	4.6	18.0	III bc	3344	F3 G = .1B, F3½ G = .1, F4½ G = .2, F5 G = .2B, F5½ G = .1, F7 G = .3. Lenis 1st. G & H. 2 lines below K. G dbl H?

Amt. of Foy. due to mum & clouds. 6.2 6.0

Amt. of Foy. due to chemicals. 7.2

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1888phae.proj..0213f

h5 g5

2 aK; Ha g; 448,3; 458,1; 461,1

448,3; 456,1; 458,1; 461,1; 468,1

~~h5 g5~~ 419,2.

2 aK; Ha g; 448,3; 456,1; 458,2; 461,1; 468,1

h5 g5

h5 g5 (h5 g5)

1 aK; h5 g5

h5 g5 (h5 g5)

3 aK; h5 g5

h5 g5

h5 ? g5 ? (h5 g5)

3 aK

3 aK h5 g5

h5 ? g5 ?

Bd; 2aK; Ha g; 448,3; 456,1; 458,2; 461,2; 466,1; 468,1

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1888phae.proj..855f

June 4, 1888.

Plate 908

Book F 9 Page 36	V.	H.	Type.	Rem.	Description of Lines in Spectra.
✓	31.4	7.2	II a?	3345	G & h = .3
✓	19.7	14.6	II a?	3346	G & h = .5, 1 line below K. (G and h = .5.)
✓	19.4	19.2	III b?	3347	F 7 G = .3
✓	18.8	6.0	II a?	3348	G & h = .5, 2 lines below K.
✓	18.0	16.3	II a	3349	G & h = .3, 2 lines below K.
✓	17.2	13.2	III bc	3350	F 3 G = .1 B, F 4½ G = .2, F 5 G = .2 B, F 5½ G = .1, F 7 G = .3. Lewis Jct. G & H. 1 line below K.
✓	15.5	13.1	III bc	3351	F 3 G = .1 B, F 4½ G = .2, F 5 G = .2 B, F 5½ G = .1, F 7 G = .3, Lewis Jct. G & H. 1 line below K.
✓	11.2	15.6	II a?	3351a	G and h = .5.
✓ 48	10.5	19.7	III bc	3352	F 3 G = .1 B, F 3½ G = .1, F 4½ G = .2, F 5 G = .2 B, F 5½ G = .1, F 7 G = .3. Lewis Jct. G & H. 2 lines below K.
✓	8.2	12.1	III bc	3353	F 3 G = .1 B, F 3½ G = .1, F 4½ G = .2, F 5 G = .2 B, F 5½ G = .2, F 7 G = .3, F 8 G = .1 B, F 9 G = .1. Lewis Jct. G & H. 2 lines below K.
✓ 42	6.3	14.1	III bc	3354	F 2½ G = .1, F 3 G = .2 B, F 3½ G = .1, F 4½ G = .2, F 5 G = .2 B, F 5½ G = .2, F 6 G = .1, F 6½ G = .2, F 7 G = .3, F 8 G = .1 B, F 9 G = .1, F 9½ G = .1, G dbl.? Lewis Jct. G & H. 3 lines below K.
	F. M. T. C.	8.2	8.0		F. Ch. 8.3

Plate.

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1888phae..proj..053F

h3 ℓ3

aK h5 ℓ5 (h5 ℓ5)

448.3

2 aK h5 ℓ5

2 aK h3 ℓ3

1 aK; Haℓ; 448,3; 456,1; 458,2; 461,2; 468,1

1 aK; Haℓ; 448,3; 456,1; 458,2; 461,2; 468,1

~~aK~~
h5 ℓ5
2 aK; Haℓ; 448,3; 456,1; 458,2; 461,2; 466,1; 468,1

2 aK; Haℓ; 438,1; 443,1; 448,3; 456,2; 458,2; 461,2; 466,1; 468,1

3 aK; Haℓ; ℓd 3; 436,1; 438,1; 443,1; 448,3; 451,2; 453,1; 456,2;
458,2; 461,2; 466,1; 468,2; 471,1

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