KG
11365
820

1913phae.proj..821F

Ledger
of W. P. Fleming

Long Period Variables Sp.

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000339. V Sculptoris -39°16.

241.1050 +295E.

Plate	Date	J.D.	Sp.	Remark.	
		8×295		H3, H8, H8, He, H5, H4	
B14371	Aug. 14, 1895	8420. 3410	Md	1.0, 5.0, .	+10
B41074	Nov. 5, 1909	8616. 18×295 8424	Me?		+19 Too poor.
B40904	Oct. 8, 1909	8619. —	—		Too poor.
B12332	Oct. 19, 1894	3121. 7×295 3115	Md6	. 10, 11, . . .	+06
B 9902	July 22, 1893	2667. —	—		Too poor
B14593	Sept. 11, 1895	3448. —	—		Too poor.
B24011	Aug. 25, 1899		Md		

B12332	Oct. 19, 1894 March 10 Oct. 20	10	10	Ma
B24011	Aug. 25, 1899 Measured on Aug. 17.	10	12	Me (scratched)
14371	Aug. 14, 1895	10	50	(too ft.)
B23806	Aug. 10, 1899	10,	10	Mb very ft.
B42677	Sept. 15, 1911			
~~B23806~~				
24023	Aug. 26, 1899	10,	25	Mb H8 = 5 cont. no dark lines clearly seen.
23758	Aug. 1899	10,	12	too ft. H8, 5 cont.
B39650				too ft.

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1913phae.proj..821F

3)

000451. S S Cassiop. . .

✓

Plate	Date	JD	Sp.	Remarks. H3, H8, H8H5, Hn	Remarks or image
l 32360	Nov. 26, 1904	6811.	Md 7.	10,5015 . .	
l 16947	~~Dec. 31, 1896~~ Sept. 18, 1898	4551.	—		Too poor.
l 31262	Dec. 13, 1903	6462.	—		Too poor.
l 31303	" 18, 1903	6467.	—		Too poor.
l 16960	Jan. 1, 1897	3926.	—		Too poor.
l 16972	" 3, "	3928.	—		Too poor.
l 16984	" 6, "	3932.	—		Too poor.
l 17205	" 26 "	3951.	—		Too poor.
l 17378	Feb. 19, "	3975.	—		" faint.
l 17400	" 24, "	3980.	—		" "
l 7415	Oct. 24, 1892	2396.	—		" "
l 7711	Dec. 22, 1892	2455.	Md 5	. 10, 12 . . .	
l 7658	Dec. 11, 1892	2444.	—		Too faint
l 7860	Oct. 14 "	2386.	—		" "
l 2940	Jan. 30, 1891	1763.	—		" "
l 2543	Dec. 20, 1890	1722.	—		" "
l 27916	Nov. 2, 1901	5691.	Md 5	. 10, 50 . . .	
l 35643	" 16, 1908	8262.	—		" "
l 35749	Dec. 21, "	8297.	—		" "
l 35744	" 19, "	8295.	Md	. ? ? . .	Image very faint.
l 35731	" 15, "	8291.	—		Too ft.
l 33058	May 8, 1905	6974.	—		" "
l 34884	Sept. 30, 1907	7849.	—		" "
l 32464	Dec. 29, 1904	6844.	—		" "

l 7711 — Too poor
l 32360 — 10 10 — Not Poor, but not strong
l 27916 — Too faint.

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1913phae.proj..821F

3)

000773. RV Cephei —

✓

Plate	Date	JD	Sp.	Remarks.
l32399	Dec. 7, 1904	6822.	—	Spectrum. Too faint. Not seen.
l36282	Oct. 19, 1909	8599.	—	

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1913phae.proj..821F

4)

001032. S Sculptoris −32° 269.

241132.0 + 366E. m-m = 160

Plate	Date	JD	Meas.	Sp.	Remarks H3, H8, H5, Hε, H5, Hη	d	
B10582	Nov. 1, 1893	2769.	+4.366 2418 2784	Md5	1.0, 1.5, ·,	−18	+351
B10584	" " "	"		Md5	1.0, 1.3, ·,	−15	+351
B15112	" 6, 1895	3504.	+2.366 3150 3516	Md7	1.0, 5.0, ·,	−12	+354
B12332	Oct. 19, 1894	3121.	+1.366 2784 3150	Md9	1.0, 7.0, ·,	−29	+337
B10583	Nov. 1, 1893	2769.	+3.366 2418 2784	Md6	1.0, 4.0, ·, 0.5, 0.2.	−15	+351
B10425	Oct. 17, 1893	2754.	+3.366 2418 2784	Md6	. 10, 60 . . .	−30	+351
B41070	Nov. 4, 1909	8615.	+16.366 8274 8640	Md10	. 10, 100 . 10 .	−25	+341

B15112 near E. . Br. Mb. Hδ = 7 times cont. Hγ 4227 med.

B10582 10 20 Ma Hδ = 7 cont.

B41070 General type like above +4361 .. very faint Mc Has many faint lines

B10425 10 30 Ma Hδ = 3 Cont.

B12332 10 80 Mc Has many lines

B44365 Nov. 28, 1913 . 10, 60, Mc . Hδ = 10 times cont. 4227 strong & dark. Br. line 4227 and Hδ cont. stronger between γ & δ.

B24608 Dec. 5, 1899 Too dense δ & ε Br. near edge.

B10584 .10 20. Mb Hδ = 3 cont. near E.

B10583 (least) Nov. 1, 1893 10 20 ? 2 1 Mb Hδ = 8 cont.

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1913phae.proj..821F

5)

001046. X Androm. +46° 41a

Plate	Date	JD	Sp	Remarks.
I 32283	Nov. 8, 1904.	6793.	Mdl	1 Hβ, Hδ, H8, Hε, Hζ, Hη 12, 10, . . .
I 32283			10 10	Harvard. Brightest portion between Hβ + Hγ Probably Class R. or Mdm. Too faint to see.
I 34884				Pec. No br. lines. Class R ?
I 6669				Pec. 1 wide br. band near edge
I 32251				Too poor.

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1913phae.proj.-821F

6)

001726. T Androm. +26° 43.

2398587 +281 E. M-m 122

Plate	Date	J D 5×281	Sp.	Remarks.
I 33717	Nov. 30, 1905	7180. 7017	Ind. ? H3 H8 H8	+163 Crudged fl.
I 28026	Dec. 1, 1901	5720. 5612 25×281	Ind 5 10, 40	+108
I 19643	Nov. 27, 1897	4256. —	—	Too faint.
I 17222	Jan. 30, 1897	3955. —	—	" "

I 28026		10 8	Mb
I 28017	Nov. 30, 1901	10 8	Mb (best)
I 13738			Mb ns br. lines very ft.
I 23146			too poor " " "
I 20037	Jan. 16, 1898	H8 = H8 10 - 20	Ma
T			

band

On I 28017, the best plate, the breaks at [illegible] are well marked, and except for the bright lines H γ and H δ, the other portions of the spectrum are continuous up to H ε, broad & dark. The image is rather faint. H γ is 3 times as bright as adjacent portions.

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1913phae.proj..821F

001755. J Cassiop. +54°48

✓

2404515+4486 E M-m240.

Plate	Date	J D	Sp.	Remarks	d
I 8214	March 13, 1893	25 36, 2515	Md9	Hβ, Hγ, Hδ, Hε, Hζ, Hη 1.0, 5.0, ·,	+21 +11
I 31314	Dec. 19, 1903	6468, 6547	Mcod		+68 +79 +383
I 32360	Nov. 26, 1904	6811, 6845	Mcod		-34 +426
I 32413	Dec. 11, 1904	6826, 6846	Mc		-19½ +296
I 35673	Nov. 16, 1908	8262, 7865	Md9	.10, 40, . . .	+897
I 35787	Dec. 29, 1908	8305, 7865	Md7	.10, 50, . . .	+440
I 35749	" 21, "	8297, 7865	Md8½	.10, 50, . . .	+432
I 35744	" 19, "	8290, 7865	Mcod		+430
B1921	Nov. 22, 1887	0598. —	—		Not seen.
B1897	Nov. 18, 1887	0594. —	—		Not seen
B3259	Jan. 19, 1889	1022. —	—		Not seen.
I 1820	Sept. 18, 1890	1629, 1190	Md8	.10, 30 . . .	+439
I 1807	Sept. 7, 1890	1618. 1190	Mc?	+428	Br. lines not seen.
I 7661	Dec. 11, 1892	2444. —	—		Too faint
I 7702	" 20, "	2453. —	—		" "

1820		10 20	Mc 427 klig.
8214		10 30	Mc
35673		10 30	Mc. Br. lines ff.
35749		10 10	Mc. Br. lines very ff.
I 31314	Dec. 19, 1913		Mc
I 1807			Mc. no br. lines focus poor
I 1820		10 12	Mc. br. lines barely seen.
I 8214			Focus poor
*I 27916	Nov. 2, 1901		Mc Exc. no br. lines. Brightest Mc " " " " ext. ff.
I 19587			too poor. ff.
I 35826			Mc no br. line fairly br.
I 35787			Mc
I 35744	Dec.	Br?	Exc. no br. lines
*I 32360	Nov. 26, 1904		Per. " " " Br. between
I 32413	Dec. 11, 1904		S and E.

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1913phae.proj..821E

001862. δ Tucanae −62°28.

241 1357 +240 E

Plate	Date	J.D.	Sp.	Remarks. Hβ, Hγ, Hδ, Hε, Hζ, Hη	d
B11532	July 6, 1894	3016.4 +1x240 2797	Ind^{3v}	. 1.0, 0.5, . . .	+219
B21854	July 22, 1898	4493.4 +7x240 4477	Ind^{5}	. 10, 08 . . .	+16

11532	10	3	Carb. Sp. too faint.
21854	10	3	↑ Ind
B 8355			too poor.
42528			too poor.
11550	10	2	Ma very ft.
B 38229	10	5	mb

In General Sp. br. between β + γ.

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1913phae.proj..821F

001838. R Androm. +37°58

240.0131 + 410.7 E, M-m = 170.

Plate	Date	L.D. (2×410.7)	Sp.	Remark. (H3 Hγ Hδ He H5 H6)	
l 7919	Jan. 20, 1893	2484. 2184.5	Md²	1 2 10 12 . 0 2 0 1	+299.5
l 1814	Sept. 8, 1890	1619. (3×410.7) 1363.1	Md²	1 0 1 0 1 0 .	+255.9
l 1822	" 18, "	1629. 1363.1	Md²	12, 10, 10 .	+265.9
l 36258	Oct. 13, 1909	8593. (17×410.7) 8345.0	Md	. 10, 10, . 02	Rec. +248.0
l 36971	Dec. 8, 1910	9014. (18×410.7) 8755.7	Md'	. 10, 05 . . .	+258.3
l 31187	Nov. 24, 1903	6443. (12×410.7) 6291.5	—	.	+151.5 Too faint.
l 31203	" 25, "	6444. (12×410.7) 6291.5	—		+152.5 " "
l 7654	Dec. 11, 1892	2444. (2×410.7) 2184.5	Md'		±259.5 Pl. trace of br. H8

B V δ 2 5

l 7654	Br. lines N.S. Brighter portion between H3 + H8	Too near edge
l 1822 Sordaplate	4 10 8	Sp. pec. R?
l 36258	1 10 12 . 2	Sp. pec. R?

~~l 31314 Dec. 19, 1903 Nor.~~

7919	5 10 11 . 2 .	Pec.
1814	2 10 4 .	Pec.
36971		Pec. no br. lines. probably R3.

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1913phae.proj..821F

001909. δ Cet. −10° 65

2405165 + 320.2 E.

Plate	Date	J.D.	Sp.	Remarks.	
		.25×320.2		Hβ, Hγ, Hδ, Hε, Hζ, Hη	
B 14807	Oct. 10, 1895	3477.	3170.0 Md^3	1.0, 0.8, .	+307.0
I 13731	Oct. 24, 1895	3491.	.26×320.2 3490.2 Md^3	1.0, 0.6, .	+ 08
I 19039	Sept. 27, 1897	4195.	— —		Too poor.
B 14377	Aug. 15, 1895	3421.	.25×320.2 3170.0 Mc5		+251.0
B 24012	" 25, 1899	4892.	— —		Too poor
I 14083	Dec. 17, 1895	3545.	— —		" "

I 13731	10	8	ma Hζ from Hγ to inclusive
B 14807	10	6	ma " " " "
I 13737	10	6	ma " " " " "
I 15956	10	9	ma. Light cont.
I 10427			poor; no bright lines
B 40919	10	10	mb. Br. lines show
I 36364	10	10	slight contrast.
			mb " " " "

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1913phae.proj..821F

002212. – Leeti –12°72.

Plate	Date	J.D.	Sp.	Remarks.
B 14199	July 25, 1895	3400.	Mcod	Hβ Hγ Hδ He Hζ Hη
" 23 485	July 15, 1899	4851.	Mcod?	"
A 9683	Aug. 20, 1909	8539.	Mcod.	
A 9698	" 22, "	8541.	Md7	.1030.
B 40845	Sept. 10, 1909	8560.	Mcod	

A 9698

No bright hydrogen lines seen. Line bright of preceding & Hδ.

Mc

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1913phae.proj..821F

0024380 T Sculptoris -38° 138.

241 6169 + 201.5 E

Plate	Date	JD 35×201.5	Sp. H3, Hx, H8, HE, H5, Hη	Remarks.
B8613	Sept. 21, 1892	2363. 2221.5	Mc	+141.5
B12198	Sept. 19, 1894	3091. 14×201.5 3027.5	Md4: 10	+63.5
B40948	Oct. 19, 1909	8599.	Ma?	Image poor.

B8613
B12198
B41074

For fl.
For fl. - Invis.
Inb

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1913phae.proj..821F

002546. J Phoenicis -47° 131.

~~Doesn't look a photo~~

			γ δ	
A 2088	Sept. 14, 1896	J.D. 13817	10 40	Mca

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002725. T U Andromc. —

✓

Plate	Date	JD	Sp.	Remarks. H3, H8, H8, H2, H5 H7
I 28017	Nov. 30, 1901	5719.	Mc	
I 28026	Dec. 1, 1901	5720.	Md6?	Image faint
I 19643	Nov. 27, 1897	4256.	—	Not seen.
I 17222	Jan. 30, 1897	3955.	—	Too faint

I 28026 — Too faint. Mc.
I 28017 — Mc. faint.

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1913phae.proj..821F

002833. W Sculptoris -33°185.

Cannot find it:

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1913phae.proj..821F

003050. Z Phoenicis −50°118

Stor sp. flat.

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1913phae.proj..821F

003179. γ Cephei +79° 14a

241.5876 +332.7 E

Plate	Date	JD	Sp.	Remarks	
		12×332.7		H3, H8, H8, Hε, H8, Hη	
ℓ 35016	Nov. 11, 1907	7891. 78532	Md 7	10, 40	+37.8
ℓ 36049	May 30, 1909	8457. —	—		Too faint.
ℓ 36219	Oct. 5, 1909	8585. —	—		Too faint.
ℓ 35841	Feb. 17, "	8355. —	—		" "
ℓ 14430	" 11, 1896	3601. —	—		" poor.
ℓ 12216	Jan. 17, 1895	3211. —	—		" faint
ℓ 12363	Feb. 14, 1895	3239. —	—		" "
ℓ 14243	Jan. 4, 1896	3563. —	—		" poor
ℓ 14607	Mar. 7, 1896	3626. —	—		" poor.
		24×332.7			
ℓ 16610	Nov. 30, 1896	3894. 38608	Md 8	10, 70	+33.2
ℓ 14455	Feb. 16, 1896	3606. —	—		Too faint.

d 35016	10 20	very fl.
d 16610	10 50	" "

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1913phae.proj..821F

004047 α Cassiop. +47° 194.

241.0253 + 276 E.

Plate	Date	J D		Sp.	Remarks.
		3×276			Hβ, Hγ, Hδ, Hε, Hζ, Hη
l 16113	Oct. 8, 1896	3841.	3841	Ind 3r	1.0, 20, ...00
l 31274	Dec. 14, 1903	6463.	—	. .	Too poor
		10×276			
l 11255	July 19, 1894	3020.	3013	Ind 3	10, 10². . . . +07
l 19647	Nov. 27, 1897	4256.	—	. .	Too faint
l 25941	Oct. 17, 1900	5310.	—	. .	" "
		15×276			
l 33725	Dec. 1, 1905	7181.	7153	Ind 6	10, 60, . . . +28.

l 16.113

11255 - poor plate

33725

10 30 Sp. Per. Secondes R. Andrews

10 10 " "

Hδ bright Hγ n.s. Sp. Per. "

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1913phae.proj..821F

004132. R W Androm. —

✓

2416825 + 435 E.

Plate	Date	JD	Sp.	Remarks	
l 33818	Jan. 24, 1906	7235. 6830 (23×435, 25)	Ind 6	H3, Hγ, Hδ, Hε, H5, H7 10, 50, . . .	+405 (10)
l 36981	Dec. 22, 1910	9028. 9005 (5×435, 10)	Ind 8	? 100, . . .	+23 (A1)
l 33550	Oct. 21, 1905	7140. ..	..		Too faint
l 7553	Nov. 20, 1892	2423. ..	..		.. ..
l 33566 l 31188	Oct. 25, 1903	7144. ..	..		.. ..
l 31188	Nov. 24, 1903	6443. ..	..		.. ..
l 36981	Dec. 22, 1910	9028. 9005 (5×435, 6)	Ind 8	. ? 100, . . .	+23 (8)

l 33818
l 36981

Mc. H5h.
H5h. Ochi pote
too faint.

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1913phae.proj..821F

00 4435. V Andromedae +35° 123a

2413869 +263 E. M-m 115.

Plate	Date	I.D.		Sp.	Remark.
I 33818	Jan. 24, 1906	7235. 12x263	7025	Ind 4	$H\beta, H\gamma, H\delta, H\varepsilon, H\zeta, H\eta$ .. 10, 20, . . . +210
I 34272	Sept. 24, 1906	7478. 13x263	7288	Ind^2	. 10, 07, . . . +190
I 33550	Oct. 21, 1905	7140.	—	..	Too faint
I 7553	Nov. 20 1892	2423.	—	..	.. ..
I 7501	Nov. 11, 1892	2414.	—	..	.. ..
I 7621	Dec. 5, "	2438.	—	..	.. ..
I 33709	Nov. 27, 1905	7177.	—	..	.. ..
I 33566	Oct. 25 "	7144.	—	..	.. ..
I 31188	Nov. 24, 1903	6443.	—	..	.. ..

I 33878	10	10	Mean
I 34272	10	7	Mean

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004435. X Sculptoris —

No. sp. Pl. phot. cal.

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1913phae.proj..821F

004533. RR Androm. +33° 116a

2416164 + 340 E.

Plate	Date	JD	Sp.	Remarks.	
l 33550	Oct. 21, 1905	7140. 2×340 6844	Md^4	$H_3, H_7, H_8, H_\varepsilon, H_8, H_\eta$. 10, 20, . . .	+294
l 33566	Oct. 25, 1905	7144. 2×340 6844	Md^5		+300
l 34272	Sept. 24, 1906	7478. 1×340 7184	Md^5	. 10, 70, . . .	+294
l 33709	Nov. 27, 1905	7177. 2×340 6844	Md^3		+333
l 7553	Nov. 20, 1892	2423. —	..		Too faint
l 7501	Nov. 11, 1892	2414. —	..		.. ..
l 7621	Dec. 5, "	2438. —	..		.. ..
l 33709	Nov. 27, 1905	7177. 2×340 6844	Md^3?	. 10,? 10?, . . .	Faint +333
l 33566	Oct. 25, "	7144. 2×340 6844	Md^3	. 10, 10, . . .	+300
l 31188	Nov. 24, 1903	6443. —	..		Too faint

l 34272	10	60	Neb
l 33566	10	10	Too poor.
l 33550	10	12	Neb

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1913phae.proj..821F

004746a RV Cassiop —

✓

Plate	Date	JD	Sp.	Remarks. Hε, Hη, Hδ, Hε, Hζ, Hη
l 16113	Oct. 8, 1896	8841.	Md6	10, 60, ?, .
l 31274	Dec. 14, 1903	6463.	Md7	10, 50, . .
l 11255	July 19, 1894	3020.	..	. . . . Too faint
l 19647	Nov. 27, 1897	4256.	..	. . . .
l 25941	Oct. 17, 1900	5310.	..	. . . .
l 33725	Dec. 1, 1905	7181.	..	. . . .

l 31274
l 16113

10 50 ← Sp. Mb.

{ Hζ bright Sp.
Mt or Mc. Ft.

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1913phae.proj..821F

004958. W Cassiop. +57°165.

Plate	Date	J.D.	Sp.	Remarks.	
I 19265	Oct. 15, 1897	14213	Md	Hγ=10 Hδ=3	
I 19299	Oct 17, 1897	14215	Mb	all brightness between Hγ and Hβ	a
I 32618	Feb. 10, 1905	16887..		Invisible	f
I 31382	Jan. 15, 1904	16495.		Spectrum too faint	c

This spectrum is peculiar. It resembles Class N in having all the brightness between Hβ and Hγ. Definitive form on both I 19265 and I 19299.

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1913phae.proj..821F

005475 U Lacertae —

✓

2441650 +258 E.

Plate	Date	JD	Sp.	Remarks.
B20656	Oct. 23, 1897	4221. 4034 (10×258)	Md5 · 10, 10, · · ·	Hβ, Hγ, Hδ, Hε, Hζ, Hη +187
B21840	July 20, 1898	4491. 4292 (11×258)	Md5 · 10, 50, · · ·	+199
B38148	Sept. 14, 1907	7833. 7646 (24×258)	Md X6 · 10, 50 · · ·	+187
B38135	Sept. 5, "	7824. 7646 (24×258)	Md 6? · 10, 20, · · ·	+178
B23808	Aug. 10, 1899	4877. 4808 (13×258)	..	+69 Too faint
B23772	" 4, "	4871. 4808 (13×258)	..	+63 " "
B11731	" 2, 1894	3043. 3002 (6×258)	Md5? · 10, 10? ·	+41
B11705	July 30, "	3040. 3002 (6×258)	..	+38 Too faint
B12082	Sept. 5, 1894	3077. 3002 (6×258)	..	+75 " "
B5665	" 6, 1890	1617. 1454 (38×258)	..	+163 " " +163
B19949	July 31, 1897	4137. 4034 (10×258)	..	+103 At near edge.
B12075	Sept. 4, 1894	3076. 3002 (6×258)	..	+74 Too faint
B11732	Aug. 2, "	3043. 3002 (6×258)	..	+41 " " in corner
B14357	" 12, 1895	3418. 3260 (7×258)	..	+158 " faint

B20656 — 10 9 — Mb Hγ shiny with respect to continuous spectrum.

~~B21840~~

B21840 — 10 30 " 3 2 — Mb. very narrow Stain on Hγ image

B38135 — Hδ Bright other portions Invis. Chance.

B38148 — 10 30 — Mar

B38139 — 10 40 1 — Sp Mb

B42639 — Too faint

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1913phae.proj..821F

010102 I Ceti —

241.5065 + 328 E.

Plate	Date	JD	Sp.	Remarks. H3, H8, H8, Hε, H8, Hη	
B23768	Aug. 3, 1899	4870. 4577	Md⁴	. 10, 50, . . .	+293
B23789	" 8, "	4875. 4577	Md⁷	. 10, 50, . . .	+298
B24447	Oct. 26, 1899	4954. —	..	. . . . .	Too faint
B23757	Aug 1, "	4868. 29×328 4577	Md⁵	. 10, 10, . . .	+291

B23768 — 10 50 — Mc? Very faint.

B23789 — 10 30 — Mb faint.

B23757 — Mc? Too faint.

B40875 — Sp. Mb. No bright lines.

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1913phae.proj..821F

010630 U Sculptoris −30° 375

Plate	Date	JD	Sp.	Remarks.	
B 5664	Sept. 6, 1890			Too faint	
B 12294	Oct. 1, 1894			" "	
B 20245	Sept. 2, 1897			" "	
B 23762	Aug. 2, 1899			" "	
B 24462				" "	
B H4359				" "	
B 45166				" "	
B 42906				" "	

010621. χ Pisciun

4r=10 4d=57 Sp. Ma

I 38070					
I 21707	1898 Nov. 15				n.s.
I 26637					"
I 34897					"
I 37304					"

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1913phae.proj..821F

010940. H. Androm. +40°291a

Plate	Date	J D	Sh. Hβ, Hγ, Hδ	Remarks.
I 25926	Oct. 16, 1900		.. 10 50	Sp. Mh
I 31332				Too faint
I 34000				" "
I 36283				" "
I 36467				" "
I 38181				" "
I 38182				" "
I 38220				" "

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1913phae.proj..821F

U.Z

011041 – Androm. —

Plate	Date	J.D.	Sp.	Remarks.
I 33809	Jan. 21, 1906	7232.	Ord?	Hβ, Hδ, Hε, Hζ, Hη
I 19644	Nov. 27, 1897	42556.	"	5 Hpp. showing place of h. Hγ + Hδ.
I 33809			10, 50	Cont. Sp. very faint (a.f.b.)

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1913phae.proj..821F

011272. δ Cassiop. +71°66.

Plate	Date	JD	Sp. Remark Hβ Hγ Hδ Hε H8 Hη	
I12006	Dec. 3, 1894	3166.	Mdiv 5 10 . . .	
I36514	Jan. 12, 1910	18684	100 10	Bright-lined Cent. B type
I12006			20 10	Bright portion Cent. Hβ Hγ Hδ Chromosphere Break of M sp. not seen Bright lines Cent. B type

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1913phae.proj..821F

011208. S Piscium +8°203.

Plate	Date	J D	Sp.	Remarks. HB, Hγ, Hδ, Hε, Hξ, H'K
I 13842	Nov. 21, 1895	3519.	6v Ind	1.0, 5.0, .
I 13842				H5 highest others fortiss high.
B 10209				Too faint
I 12001				Too faint
B 12024				Too faint
B 12043				Too faint
I 14066				Too faint
B 1H896				Too faint

011556 W Phoenicis

		HB	Hγ	Hδ	
B 40952	Oct. 20, 1909		10	20	Sp. Ma

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1913phae.proj..821F

011638. – Androm —

Plate	Date	J.D.	Sp.	Remarks.
ℓ 17225	January 3, 1897			
ℓ 31400	" 18, 1904			
ℓ 33819	" 24, 1906			
ℓ 35094	" 1, 1908			

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1913phae.proj..821F

011712. ζ Piscium +12° 178.

Plate	Date	Δ	Sp.	Remarks.

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1913phae.proj..821F

012233a R Sculptoris −33° 525

Plate	Date	JD	Sh.	Remarks.
B12228	Sept. 21, 1894	3093.	Sra	
B12295	Oct. 1, 1894	3103.	Sra	
B12356	" 23, 1894	3125.	Sra	
B14814	Oct. 12, 1895	3479.	Sra	
B20245	Sept. 2, 1897	4170.	Sra	

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1913phae.proj..821F

012350. R I Persei —

Plate	Date	Δt	Sp.	Remarks.

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1913phae.proj..821F

012502. R Piscium +2°222.

Plate	Date	JD	Sp.	Remarks
I 16905	Dec. 28, 1896	3922.	Md 6	Hβ, Hγ, Hδ, Hε, Hζ, Hη 10, 08, -
I 17189	Jan. 25, 1897	3950.	Md 8	10, 10, -

a.c.	I 16905	Dec. 28, 1896	10	8	Sp. Mb
	I 17189	Jan. 25, 1897	10	10	" "

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1913phae.proj..821F

012746. S X Andromeda. —

Plate	Date	J D	Sp.	Remarks.
I 19648	Nov. 27, 1897	4256.	Ind?	Image very faint.
I 19648				Too faint

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1913phae.proj..821F

013238. R U Androm. —

Plate	Date	J D	Sp.	Remarks.

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1913phae.proj..821F

013338. γ Androm. +38°315—

241.5086 +217.9 E.

Plate	Date	JD	Sp.	Remarks.	
I 32278	Nov. 7, 1904	6792.6611.3 (7×217.9)	Md.	Hβ, Hγ, Hδ, Hε, Hζ, H^{m}	+180.7
I 35094	Jan. 1, 1908	7942.7918.7 (6×217.9)	Md^{5-}		+23.3

I 32278 .. 10, 5 Sp. mb } aj. B.
I 35094 .. 10, 7 " " }

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1913phae.proj..821F

JJ

014453. # Persei +53°398.

Plate	Date	JD	Sp.	Remarks
L 26652	Feb. 18, 1901	5434.	Ind?	
~~L 33658~~	~~Nov. 18, 1905~~	~~7168.~~	~~Mcsd~~	
~~L 33652~~	~~" 18 "~~	~~"~~	~~Mcsd~~	
L 35750	Dec. 21, 1908	8297.	Mc	
I 35750			Sp. mb	a.j.c.
I 35801	Jan. 15, 1909		" "	"

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1913phae.proj..821F

014950. ζ Persei +49° 499.

Plate	Date	JD	Sp.	Remarks.
135801	Jan. 15, 1909	8322.	Md? ^{5} H3, H8, H8, He, H8, Hm . 10?, 10?, . .	Image very fb.

See f.c. M's notes book

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1913phae.proj..821F

014958. X Cassiop. +58°334

Plate	Date	JD	Sp.	Remarks.

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1913phae.proj..821F

015354. μ Persei +54°431.

241,0050 +320 E. M-m 160.

Plate	Date	JD +5.320	Sp.	Remarks H3, Hγ, Hδ, Hε, Hζ, Hη	
I 2291	Nov. 19, 1890	1691.1650	Md 6	1.0, 1.0, ·	+41
I 35750	Dec. 21, 1908	8297.8050 +20.320	Md?		+247
I 2291			.. 10, 5	Sp. mc	
I 35750			Too poor	" "	a.j.c.
I 35801	Jan. 15, 1909		"	" "	

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1913phae.proj..821F

015912. δ Arietis +12°274a

Plate	Date	Jd	Sp.	Remarks. NB, Hγ, HS, HE, Hζ, Hη
I 32544	Jan. 23, 1905	6869.	Mid 4	
I 32544			.. 10, 9	Sp. very faint a γ 6.

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1913phae.proj..821F

020257 f Eridani -57° 400.

Plate	Date	Int	Sp.	Remarks.
a 6930	Sept. 9, 1904	6733.	Mdg	Hβ, Hγ, Hδ, Hε, Hξ, Hη
a 6930				H Very Lv, Hγ N.S Sp. Mc (A.J.C.)

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1913phae.proj..821F

020448. RV Androm. +48°616.

Plate	Date	J.D.	Sf.	Remarks.

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1913phae.proj..821F

021024. R Arietis +24°330

Plate	Date	JD	Sp.	Remarks.
I 16095	Oct. 6, 1896	3839.	Md3	HB, Hδ, Hδ, Hε, Hζ, H?
I 11492	Sept. 23, 1894	3095.	Md4	. 1.0, 0.9, - . .
I 35836	Feb. 8, 1909	8346.	Md5	. 1.0, 1.0, - . .
I 16095				. 10, 8 Sp. ma (a.J.C.)
I 35836				. 10, 10 " " "

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1913phae.proj..821F

021143a W Andrion. +43° 4612

Plate	Date	JD	Sp.	Remarks.
I 36891	Oct. 12, 1910	8957.	Hd	8 Hβ, Hγ, Hδ, Hε, Hζ, H η
I 36208	Sept. 18, 1909		Hd 8	

I 36891 { N 8 very bright line (a J.C.
Sp. mc

I 36208 . 10,100 . . Sp. mc

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1913phae.proj..821F

021281. Z Cephei. —

2417319+285 E

Plate	Date	J D	Sf.	Remarks.

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1913phae..proj..821F

021403. ° Cet −3° 353

2402963.4 +331.6 M−m = 112.

Plate	Date	J D 20×331.6	Sp.	Remarks H3, Hδ, Hδ, Hε, Hζ, Hη, Hθ, Hι
B188	Dec. 11, 1885	9887. 9595.4	Md 6	10, 20, . +291.6
B20986	Jan. 14, 1898	4304.	Md 7	10, 50, . 0.8, 0.5, 0.3, 0.2
I12257	Sept. 25, 1894	3097.	Md 9	10, 40, .
I2474	Dec. 12, 1890	1714.	Md 10	10, 70, .
I2181	Nov. 4, 1890	1676.	Md 9	10, 70, .
I2179	" 4 "	1680.	Md 9	10, 70, .
F4796	Nov 13 "		Mg 9	10 50
I14178	Dec. 31, 1895	3559.	Md	10, 50, .
B8649	Sept. 25, 1892	2367.	Md 9	10, 50, .,
B2174	Jan. 14, 1888	0651.	Md 9	10, 70, .,
B7032	Oct. 6, 1891	2012.	Md 9	10, 70, .,
B20987	Jan. 14, 1898	4304.	Md	
I33832	Jan. 27, 1906	7238.	Md 9	
I34572	Feb. 12, 1907	7619.	Md	
I34975	Oct. 30, 1907	7879.	Md 7	
I34976	" " "	"	Md 7	
I35086	Dec. 31, 1907	7941.	Md	
I35101	Jan. 2, 1908	7943.	Md 9	
I36682	April 13, 1910	8775.	Md 6	
I35685	Nov. 21, 1908	8267.	Md 9	
I35701	" 28, "	8274.	Md 9	
I35800	Jan. 15, 1909	8322.	Md 9	
I36272	Oct. 17, 1909	8597.	Md 9	
I36975	Dec. 9, 1910	9015.	Md 8	
I36201	Sept. 17, 1909		Md	

I34976	. 10, 20. .	Sp mb (a.f.c.)
B34970	10, 50	" "
I39068	. 10, 50. 4 2 1 2	Sp. md "

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1913phae.proj..821F

021403 . o Ceti.

Plate		
I 39010	Feb. 6, 1915	Hγ=10 Hδ=30. 4227 well marked. Sp. Mbs
I 39012	Feb. 10, 1915	Hγ=10 Hδ=50 Hε=2 H & K n. S.
I 39008	Feb. 4, 1915	Hγ=10 Hδ=50, Hε=4 Hη=2, H8=1 H2=2

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1913phae.proj..821F

021558. δ Persei +57° 552.

Plate	Date	JD	Sp.	Remarks.
I 33436	Oct. 3, 1905			Hβ. Hγ. Hδ, Hε, Hξ, Hη Hδ bright. Hγ not seen distinctly (a γ B) Image very faint.

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1913phaej.proj.021F

022000 R Cet −0°361a

2403028 + 167E. M − m = 70.

Plate	Date	JD	Sp.	Remarks,
~~l4756~~	~~Nov. 8, 1891~~		~~Md~~	~~1.0, 5.0, -,~~ Hβ, Hδ, Hε, Hζ, HN
l34976	Oct. 30, 1907	7879.	Md^3	

I 34976 . 10, 8 Sp. mt (a.f.c.)

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1913phae.proj..821F

022132. δ Trianguli —

Plate	Date	J.D.	Sp.	Remarks:

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1913phaq.proj..821F

022150. RR Persei +50°557

Plate	Date	JD	Sh. Ends	Remarks.
I 35925	March 24, 1909	8390.		
I 35925		18390		H S Leigh. Miss Jansky
Mc H 1335	Nov. 16, 1917	21549		" "

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1913phae.proj..821F

022260. δ Horologii —

2410114 +338 E.

Plate	Date	J D	Sp.	Remarks.
B15153	Nov. 14, 1895	3512.	Md;	Hβ, Hγ, Hδ, Hε, Hζ, Hη
B15160	Nov. 15, 1895		Md ..	10, 100 a.j.c.

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1913phae.proj.:821F

Fornacis.

022426. R ~~Phoenicis~~ −26°892.

2415158 +386 E.

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1913phae.proj..821F

022741. X Eridani −42° 845

2415806+270 E

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1913phae.proj.821F

022813. α Ceti $-13^\circ 479$

24095.22 + 2305.8 E. Mm 122

Plate	Date	J D 9×2305.8	Sp.	Remarks. H3, H8, H8, H2, H8, Hη	
I 1947	Oct. 8, 1890	1649. 1644.2	Md 4v	1.0, 0.8, ·	+4.8
I 2201	Nov. 5, "	1677. 1644.2	Md 8?	1.0, 1.0 ·	+32.8
I 35686	Nov. 21, 1908	8267. 8186.6	Md 6		+80.4

I 35686		18267	. 10, 10 · ·	Sp. mc (a.J.C.)
I 36401	Dec. 14, 1909	18655	. 10, 5 · ·	" ma "
I 1947	1890 Oct. 8	11649	. 10 12	Sp. Too ft.
I 2201	1890 Nov. 5	11677	. 10 12	Sp. mb. Very ft.

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1913phae.proj..821F

022980. R R Cephei —

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1913phae.proj..821F

023133. R Trianguli +33°470.

241.0030 +267E M-m=119.

Plate	Date	J D	Sp.	Remarks.	d d 4
ℓ2000	Oct. 15, 1890	1656.	Md 4	H3, Hγ, Hδ, Hε, H3, Hη (5) . 1.0, 1.0, ·,	+54 +22
ℓ1981	" 13, "	1654.	Md 6	. 1.0, 1.0, ·,	+52 +28
ℓ33831	Jan. 26, 1906	7237.	Md 4		+265
ℓ35853	Sept. 22, 1909	8360.	Md 10	. 10 50	+53 +53
ℓ36269	Oct. 16, 1909	8596.	Md 10	. 10 15	+53 +22
ℓ37029	Jan. 17, 1911	9054.	Md 6	. 10, 30, . . .	-58 -54 +213

		v δ	
		10 10	Sp. Mb. Sp. vide h,
		10 12	" " " "
		.. Bn	Sp. Mc. very fl.
ℓ36269		10 11	Mc. very fl.
ℓ37029		10 12	Mau. very bright strong cont. Sp. with dark lines badly seen by haze

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1913phae.proj..821F

024217. T Arietis +16°351.

240.5249+313 E. M-m=127.

Plate	Date	A.D.	Sp.	Remarks.	
I 33752	Dec. 18, 1905	7198. 6x313 7127	Mc 5d		+71
I 35014	Nov. 11, 1907	7891. 2x313 7753	Mc 5d		+138
I 35145	Jan. 31, 1908	7972. 2x313 7753	Mc		+219

I 33752 very faint (A.J.B.)
I 35014 Mc 5 confirmed "
I 35145 Poor "

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1913phae.proj..821F

024356. W Persei +56°724.

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1913phae.proj..821F

025050. R Horologii −50° 860.

2415229 +405 E M-m = 176

Plate	Date	JD	Sp.	Remarks
~~B8860~~	~~Dec. 9 1892~~	~~22442. 2114~~	~~Md~~	~~9 Hβ, Hγ, Hδ, Hε, Hζ, H η wrong region +328~~
B8814	Nov. 15, 1892	22418. (17×405) 2114	Md	+304
B8860			Hδ very bright Hζ and Hη bright but very faint	Sp. Mc.
BH2686	1911 Sept. 17	19297		Hδ very br. Hζ = 4202 = 0.2 Hδ Sp. Mc.
B11770	1894 Aug. 7			N.S.
B12054	1894 Aug. 31			N.S.
B12359	1894 Aug. 23			N.S.
B15182	1895 Nov. 19			N.S.
BH0936	1909 Oct. 13			N.S.
BH2099	1910 Nov. 9			N.S.

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1913phae.proj..821F

025751. J Horologii —

2415193 + 218 E. M − m = 113.

Plate	Date	JD	Sp.	Remarks.
a 4164	Dec. 1, 1899	4990.	Mdb	Hβ, Hδ, Hδ, Hε, Hζ, Hη
			. 10, 12,	
a 4167			.. 10, 10	Sp. mb (a.f.c.)

030159.

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1913phae.proj..821F

030514. U Arietis +14° 526a

24 12406 +370 E.

Plate	Date	JD		Sp.	Remarks (H8, H8, H8, Hε, Hδ, H?)	
? I 12112	Dec. 18, 1894	3181. (1×370)	3146	Md4	. 10, 12, ·, · ·	+35
? I 11972	Nov. 22, 1894	3155. (1×370)	3146	Md4	. 10, 12, ·, · ·	+09
I 11814	" 6, "	3139. (1×370)	2776	Md4	. 10, 15, ·, · ·	+363
I 11789	Oct. 31, "	3133. (1×370)	2776	Md5v	. 10, 12, ·, · ·	+357
I 11953	Nov. 19, "	3152. (1×370)	3146	Md5	. 10, 15, · · ·	+06
I 11990	" 28, "	3161. (1×370)	3146	Md6	. 10, 13, · · ·	+15
I 12086	Dec. 17, 1894	3180. (1×370)	3146	Md6	. 10, 13, · · ·	+84
I 11961	Nov. 21, "	3154. (1×370)	3146	Md6	. 10, 20, · · ·	+08
I 11999	" 29, "	3162. (1×370)	3146	Md6	. 10, 20, · · ·	+16
I 12005	Dec. 3, 1894	3166. (1×370)	3146	Md6	. 10, 40, · · ·	+20
I 11977	Nov. 25, 1894	3158. (1×370)	3146	Md6	. 10, 40, · · ·	+12
I 26122	" 21, 1900	5345. (6×370)	4996	Md7	. 10, 80, · · ·	+349
I 28449	Feb. 9, 1902	5790. (8×370)	5736	Md6	. 10, 50, . 10? .	+54
I 12157	Dec. 29, 1894	3192.	—	Too poor.	· · · · · ·	
I 36867	Oct. 3, 1910	8948.	—	St. S	· · · · · ·	
I 33752	Dec. 18, 1905	7198. (11×370)	6846	Md?	.	+352
I 33830	Jan. 26, 1906	7237. (12×370)	7216	Md	.	+21

I 33752		17198	. 10, 10	Sp. ma (a.f.c.)
I 33830		17237	. 10, 12 · · ·	Sp. mb (a.f.c.)

I 11789	1894 Oct. 31	13133	. 10 10	Sp. mb
I 11814	1894 Nov. 6	13139	. 10 10	Sp. mb
I 11953	1894 Nov. 19	13152	. 10 12	Sp. mb
I 11961	1894 Nov. 21	13154	. 10 20	" mb
I 11972	1894 Nov. 22	13155	. 10 10	" mb
I 11977	1894 Nov. 25	13158	. 10 30	" mc
I 11990	1894 Nov. 28	13161	. 10 20	" mb

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1913phae.proj..821F

031401. X Leeti. −1°475.

2410078+176.5E M−m=96.

Plate	Date	J.D.	Sp.	Remarks.
I32252	Nov. 1, 1904		Hdr. hydrogen lines.	Mb, very fl. & shorter λ than Hγ.
I32378			"	"
I32385			"	"
	030514	U Arietis	cont.	
I11999	1894 Nov. 29	13162	.10 30	Sp. Mb
I12005	1894 Dec. 3	13166	.10 30	" Mb
I12086	1894 Dec. 17	13180	.10 20	" Iron fl.
I12112	1894 Dec. 18	13181	.10 12	" "
I26122	1900 Nov. 21	15345	.10 40	" Mb
I28449	1902 Feb. 9	15790	.10 20	" Mb
I38305	1913 Feb. 6	19805	.10 30	" Mb

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1913phae.proj..821F

032043. γ Persei +43° 726

2410092 + 257 E. M-m = 128.

Plate	Date	J.D.	Sp.	Remarks.
I 31565	March 17, 1904	6557.	Ira	
I 32279	Nov. 7, 1904	6792.	Ira	
I 32382	Dec. 2, 1904	6817.	Ira	
I 32461	Dec. 28, 1904	6843.	Ira	

I 32461 0, 6, 10 (a.j.c.)

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1919phae.proj..821F

032335. R Persei +35° 701 b

Plate	Date	JD	Sp. Remarks (H3, H8, H5, He, H3, H7)
I 16114	Oct. 8, 1896	7492.	Md 3. . 10, 10, .
I 16114	1896 Oct. 8	13841	. 10, 10 . . Sp. ma a.J.C.
I 26091	1900 Nov. 15	15339	. 10 50 Sp. mb.
I H402			n.s.
I H637			"
I 10317			"
I 10415			"
I 12259			"
I 12268			"
I 12376			"
I 24022			"
I 24141			"
I 36496			"
I 36555			"

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1913phae.proj..821F

032339. R U Persei +39° 797

Plate	Date	J.D.	Sp.	Remarks.

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1913phae.proj..021F

032528. J Phoenicis ~~Phoenicis~~ Fornacis −28°1162

Plate	Date	JD	Sp.	Remarks.

032916 RT Eridani

		Hr Hδ	
B45177 ~~B46088~~	Dec 23, 1914	10 30	Sp. Me. Ft. useful from 4227 to K. Slightly pec. Br. lines below Hγ and Hδ.
B10603			n.s.
BH1126			n.s.

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1913phae.proj..821F

033380 SS Cephei +79° 110.

Plate	Date	Int	Sp.	Remarks.
I 35560	Oct. 3, 1908	8218.	Mcod	
I 35611	" 20, "	8235.	Md^6	
I 35705	Nov. 28, "	8274.	Mc	

I 35560 1908 Oct. 3
I 35611 1908 Oct. 20
I 35705 1908 Nov. 28
} Two bright hyd. lines

033362 α Camelopard.

I 33486 Oct. 6, 1905 0, 6, 10 a.j.c.

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1913phae.proj.021F

034134. S Z Persei +33° 715.

Plate	Date	Δ D.	Sh.	Remarks.

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1913phae.proj..821F

034432. R X Persei —

Plate	Date	JD	Sp.	Remarks

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1913phae.proj..821F

034625 ν Eridani −25° 1602

Plate	Date	J D	Sp. Remarks.
a 6923	Sept. 8, 1904	6732.	Ind 6
a 6923	1904 Sept. 8	16732	Hγ=10 Hδ=30 Sp = Nebr (a.l.c.

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1913phae.proj..821F

034946 U Horologii —

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1913phae.proj..821F

035724. T Eridini −24°1960.

2411055 + 252 E. M m=110.

Plate	Date	JD	Sp.	Remarks	
B12243	Sept. 22, 1894	3094. (+12×252) 3079	Md 3.	Hβ, Hγ, Hδ, Hε, Hζ, Hη	d +15
B41089	Nov. 12, 1909	8623. (+34×252) 8623	Md 5-(4)	10, 09,	oo

B12243	1894 Sept. 22	13094	10	8	Sp. Too poor.
B41089			10	10	Sp. Mb.
B24470	1899 Nov. 6				M.S.

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1913phae.proj..821F

040441. S Per Persei +41°824

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1913phao.proj..821F

040725. W Eridini -25° 1766.

Plate	Date	JD	Sp.	Remarks.
B 18413	Jan. 28, 1897	3953.	Md.	
B 18413		Focus poor.	near edge.	Kf n.s. 1F5 hijah (a.j.c.
B 12243		N.A.		
B 12369		"		
B 12654		"		
B 15115		"		
B 41072		"		
B 41089		"		
B 44349		"		

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1913phae.proj..821F

04 16 19. T Tauri +19° 706.

Plate	Date	Δt	Sf.	Remarks

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1913phao.proj..821F

042215. W Tauri +15°628a

Plate	Date	ΔD	Sp	Remarks

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1913phae.proj..821F

042209. R Tauri +9°585

Plate	Date	JD	Sp.	Remarks
I 2019	Oct. 20, 1890	16611.	Md 7	Hβ, Hγ, Hδ, Hε, Hζ, Hη · 10, 30, · · ·
I 36641	Mar. 11, 1910	18742.	Md 5 (6)	· 10, 10, λ507=10
I 32379	Dec. 1, 1904	16816		· 10, 50 · · · Sp. mb (a J.C.)
I 32390	" 4, 1904	16819		· 10, 60 · · · " mb (a J.C.)
				Light in cont. sp. evenly distributed
I 2019	1890 Oct. 20	11661		· 10 40 Sp. Mc
I 31333	1903 Dec. 23	16472		Sp Mc Bl. near Hδ
I 36641	1910 Mar. 11	18742		· 10 10 Sp. Mb

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1913phao.proj..821F

042309. S Tauri +9° 586.

Plate	Date	J D	Sp.	Remarks.
l36641	Mar. 11, 1910	8742.	--	

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1913phae.proj..821F

043065. Tbamelofo. +65° 4222

Plate	Date	J.D.	Sp.	Remarks.
l 35095	Jan. 1, 1908	7942.	Pec.	

~~J 32466 Dec. 09, 1904~~

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1913phae.proj. 821F

043163. – Reticuli – 63° 341.

Plate	Date	ΔT	Sh.	Remarks.

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1913phae.proj..821F

043263. R Reticuli —

241.5021 + 273.4 E.

Plate	Date	JD 4×273.4	Sp. Remarks. H3, Hγ, Hδ, Hε, Hζ, HK	
B 20249	Sept. 2, 1897	4170. 4043.2	Md 6v . 10, 20, . . .	+126.8
B 12069	Sept. 3, 1894	3075. 2949.6 (29×273.4)	Md	+125.4
B 12078	" 4, "	3076. 2949.6	Md	+126.4
B 20430	" 17, 1897	4185. 4043.2 (4×273.4)	Md	+141.8

B 12069	1894 Sept. 3	13075	. 10 30	Sp. Mb.
B 12078	1894 Sept 4	13076	. 10 30	Sp. Mb.
B 20430		14185	.10 .13	[illegible]
B 20249	1897 Sept 2	14170	. 10 10	Sp. Mb. Near edge.

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1913phae.proj..821F

043274. X Camelop. —

Plate	Date	JD	Sp.	Remarks. HB, Hγ, Hδ, Hε, Hζ, Hη
I32466	Dec. 29, 1904	16844		Mb perhaps Nd, both the lines not clearly defined.
			10, 8 . . .	Sp. Mb Brightest portion between Bb γ. A. J. C. June 3. 1916
MC6449	Sept. 22 1914	20398	10 12	Mcb.

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1913phae.proj..821F

043208. R X Tauri —

Plate	Date	J D	Sp.	Remarks. Hβ, Hδ, Hδ, Hε Hζ Hη
I 32390	Dec. 4, 1904	6819.	Ind 9	· 10 40 · · ·
I 32379	" 1, "	6816.	Ind 10	· 10 50 · · ·
I 32379	1904 Dec. 1	16816		· 10, 20 · · · Sp mb (a f.e.)
I 32390	1904 Dec. 4	16819		Hδ bright Sp. Too ft.
~~I 32449~~	~~Sept~~			

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1913phaa.proj..821F

043562. R Doradus −62°372.

Plate	Date	JD	Sp.	Remarks
B8635	Sept. 24, 1892	2366.	Mc5d	
B8714	Oct. 6 "	2378.	Mc5d	
B12078	Dec. 15, 1894	3178.	Mc5d	
B12761	May 2, 1895	3316.	Mc5d	
B15186	" 27, 1895	3341.	Mc5d	
B17699	Oct. 14, 1896	3847.	Mc	
B20249	Sept. 2, 1897	4170.	Mc5d	
B20264	" 3, "	4171.	Mc5d	
B20430	" 17, "	4185.	Mc5d	

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1913phae.proj..821F

043738. R Caeli —

Plate	Date	JD	Sp. Remarks Ind^{q} $H\beta$, $H\delta$, $H\delta$, $H\varepsilon$, $H\zeta$, $H\eta$
B 8919	Dec. 29, 1892	2462.	10, 40, ·
B 8919			10, 20. Sp. too faint (a.j.c.)
B 12287	1894 Sept. 29		n.s.
B 18390	1897 Jan. 26		"
B H2093	1910 Nov. 7		"
B 42916	1911 Dec. 27		"

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1913phaa.proj..821F

044349. R Pictoris -49° 1439.

Plate	Date	JD	Sp.	Remarks. H3, Hδ, Hδ, Hε, Hζ, Hη
B12016	Aug. 25, 1894	3066.	Mid 4v	10, 09?.
B41013	Oct. 24, 1909	8604.	Md 4	
B41001	" 23, "	8603.	Md 4	

(B.)

B12016			Mb	.	10	5	.	.
B18460	1897 Feb 1	3957						Br. between β + γ.. No bright lines
B24126	1899 Sept. 11	H909						Mb Too br. lines
B24588	1899 Nov. 29	H988						Mb .. .. ..
B41001	1909 Oct. 23	8603		.	10	6	.	Sp. Pec. Other br. lines present
B12640								Too faint.
B42100								Too faint.
B44376	1913 Dec. 1	0103		.	10	5	.	Br. lines very slight contrast to sp. Mb
B41013	1909 Oct. 24	8604		.	10	5		Sp. Pec.
B42155	1911 Feb. 15	9083		.	10	6		Mb

Perhaps somewhat peculiar
J41001 shows the decided
breaks as in M stars,
but two distinct bright lines
are seen between Hβ and Hγ.
Does not resemble R Andr.
and T Sag.

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1913phae.proj..821F

044617. V Tauri +17° 800.

Plate	Date.	J.D.	Sp. H3, Hγ, Hδ, He, H5, H7	Remarks.
I 19621	Nov. 23, 1897	4252	. 10, 10 . . .	Sp. Ma faint, a.f.b.
I 21466	1898 Oct. 23	14586	. 10 20	Sp. Fe four Br. near B.
I 10731	1894 Mar 2			N.S.
I 10739				"
I 12559				"
I 16609				"
I 16921				"
I 17011				"
I 28468				"
I 35843				"
I 36275				"
I 36883				"
I 36894				"
I 36933				"
I 36937				"
I 38221				"
I 38246		044460	T A Doradus -60° 337	"
I 38273				"
I 38280				"
B 15154	Nov. 14, 1895	3512	. 10, 50 . . .	Sp. Ma a.f.b.
B 15186				N.S.
B H2691				"
B H5080				"

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1913phaa.proj..821F

045148. – Aurigae +48° 1189.

Plate	Date	Jt	Sp.	Remarks.

OH5048 TV Aurigae +48° 1187

I 35814

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1913phae.proj..821F

045307. R Orionis +7° 768.

Plate	Date	J.D.	Sp.	Remarks.
I 32386	Dec. 3, 1904		Too poor	Hβ, Hγ, Hδ, Hε, H8, H9 H Sappears bright. Sp. ft. and poor. certainly Mc. Probably Md. a, f, B.
I 32289	Nov. 8, 1904	6793	Identical with I 25933	Hβ bright Sp. Pec Perhaps Class R

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1913phae.proj..821F

045514. R Leporis. −15°915

Plate	Date	JD	Sp.	
I37030	Jan. 17, 1911	9054.	..	Stot peen.

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1913phae.proj..821F

~~050022~~. T Leporis. -22° 995.

Plate	Date	J D	Sp.	Remarks
B 12370	Oct. 24, 1894	3126.	Md	^{10v} H3, H8, H8, H8, H8, H7 · 10, 10, - ·
B 14948	Oct. 24, 1895	3491.	Md	

Estimates evidently wrong.

12370

H δ very bright. H γ just clearly seen Sp. very faint.

14948

H δ very br. Hγ n.S. Sp. Mb.

B 24609	1899 Dec. 5		· 10 50. 3	Sp. Mc ~~N.S~~ 4227 very strong n.S.
~~B 44348~~	~~1913 Nov. 20~~			
~~B 44357~~	~~1913 Nov. 25~~			
~~B 45165~~	~~1914 Dec. 16~~			

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1913phae..proj..821F

050003. ν Orionis +3°766.

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1913phae.proj..821F

050238. – Aurigae +38° 1035.

Plate	Date	J D	Sp.	Remarks
I 35708	Dec. 1, 1908	8277.	Va.	
I 35708			0, 6, 10	N (a.f.c.)

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1913phae.proj.:821F

050534. – Columbae – 34° 2092.

Plate	Date	JD	Sp. & Remarks.
B24442	Oct. 25, 1899	4953.	Ind 7 8 H3 H8 H8, He, H5 H4 , 10 12 . . Image faint.

B24442	Mc	No bright lines
B24472	Mc	" "
B42093	Mc	" "

050622 T Leporis

B12370			N8 bright – other portions too faint.	(a. J. C.)
B14948			Hγ 10, H8 70 . " " " " e	
B24609			. 10 . 80 Sp Mc – brightest between γ & ε.	
B44357	1913 Nov.	20 20092	H8 bright Sp. too faint.	
B44357	1913 Nov.	25 20097	. 10 40 Sp Mc.	
B45165	1914 Dec.	16 20483	. 10 50. 3 Sp. Mc.	

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1913phae.proj..821F

050848. S Pictoris -48° 1671.

Plate	Date	J.D	Sp.	Remarks H3, H8, H8, HE, H5, HN
B12421	Nov. 5, 1894	3138.	Md^{9v}	. 10, 30, . . .
B12756	Dec. 17, 1894	3180.	Md^{9}	. 10, 80, . . .
B12640	Nov. 20, 1894	3158.	Md^{9}	. 10, 80, . . .
" 18825	April 20, 1897	4035.	Md	
B39700	Oct. 24, 1908	8239.	Md?	
B12640				10, 50 . . . Sp Mc (a.j.c.)
B18825				10, 50 . . . other portions too ft.
B12421				10, 40 Sp Mb- brightest between y and δ.
B42100				too ft.
B12756	1894 Dec. 17	13180		. 10 20 Sp. too ft.

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1913phae.proj..821F

050953. R Aurigae +53° 882.

Plate	Date	JD	Sp.	Remarks (A.J.C.)
			Hβ, Hγ, Hδ, Hε, Hζ, Hη	
I 1647	Aug. 15, 1890	1595	md " 10, 70	Mc. Breaks at red end very bro.
I 19795	Dec. 18, 1897	H277		Mc Hδ very bright
I 31474	Feb. 17, 1904	6528		Mc " " "

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1913phae.proj..821F

051247. J Pictoris −47° 1750.

Plate	Date	JD	Sp.	Remarks.
				Hβ, Hγ, Hδ, Hε Hζ, Hη
B20643	Oct. 18, 1897	4216.	Ind 5	10 10 . . .
B20643	" " "		. 10, 10	a.f.c.
B12421	1894 Nov. 5			N.S.
B18482	1897 Feb 2			"

051032. U V Aurigæ

I 36892	Oct. 12, 1910		Hγ=10, Hβ=12	Sp. Rec. and dark band between Hβ and Hγ.
I 35702	1908 Nov. 28			Focus too far.
I 35070	1907 Dec. 12			Too fr.
I 35708	1908 Dec. 1			Too fr.
I 35755	1908 Dec. 21			"
I 35855	1909 Feb. 22			"
I 35899	1909 Mar. 18			"
I 36630	1910 Mar. 9			"
I 37031	1911 Jan. 17			"

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1913phae.proj. 821F

051533. T Columbae −33°2251

3×225

24h10m34s +225 E. M-m 105.

Plate	Date	J.D.	Sp.	Remarks (Hβ, Hγ, Hδ, Hε, Hζ, Hη)	
B20128	Aug. 19, 1897	4156. +3.225 3959	Md 5	10, 12, ·	+197
B18441	Jan. 30, 1897	3955. +2.225 3734	Md 5	10, 10, ·	+221
B15823	May 12, 1896	3692. +1.225 3509	Md 6v	10, 10, ·	+183
B20642	Oct. 18, 1897	4216. +4.225 4184	Md 6	10, 08, ·	+32
B14690	Sept. 20, 1895	3457. +14.225 3284	Md 7	10, 30, ·	+173
B18384	Jan. 25, 1897	3930. +2.225 3734	Md ·		+196
" 18523	Feb. 4, 1897	3960. +3.225 3959	Md		+01

B14690		13457	Hδ bright	Sp. m b	Poor (a.g.b.)
B18384		13950	Hγ 10, Hδ 20, Hε, Hζ	" mc	
B18441		13955	" 10, " 10 · ·	" mb	
B18523		13960	" 10, " 10 · ·	" mc	
B42085	1910 Oct. 29	18972	" 10, 10, (1), (2)	" mb	
B42101	Nov. 11, 1910	18987	" 10, , 10, (1), (2)	" mb	
B20128 (long)	1897 Aug. 19	13956	· 10 15	" mb	
BH2914	1911 Dec. 26	19397	· 10 15	" mb	
BH5173	1914 Dec. 19	20486	Hδ bright?	" mc	

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1913phae.proj..821F

052036. W Aurigae —

Plate	Date	J.D	Sf	Remarks.

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1913phaa.proj.821F

052034 δ Aurigae +34°1044.

Plate	Date	J.D.	Sh.	Remarks:
L35402	Nov. 28, 1908	8274.	Tra?	
L37031	Jan. 17, 1911	9054.	"	Star seen.

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1913phae.proj..821F

052404. S Orionis -4° 1146.

Plate	Date	JD	Sp. Remarks. H3, Hγ, Hδ, Hε, Hζ, Hη
I 17445	Feb. 27, 1897	3983.	Md 9 8v. 10, 50, ., . .
I 17461	Mar. 4, 1897	3988.	Md 6 : 10, 40, ., . .

I 11993	1894 Nov. 28	13161 ~~1894~~	. Hybright, other parts of Sp. N.S. (a.J.C.)
I 17445			. Hy 10, Hδ 40 Sp Mc
I 17448			. Hy 10, Hδ 40 " Mc
I 17461			. Hy N.S, Hδ br. " Mc

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1913phao.proj..821F

052707. RT Orionis +7°929

Plate	Date	J D	Sp.	Remarks.
B14698	Sept. 21, 1890	3458.	Ira	
B39680	" 29, 1908	8214.	Ira	

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1913phae.proj..821F

053068. S Camelopo. +68°398

Plate	Date	DD	Sp.	
I 37048	Jan. 30 1911	9067.	..	Too faint.
I 16486			M	

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1913phae.proj..821F

053201. X Orionis —

Plate	Date	J.D.	Sf.	Remarks.

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1913phae.proj..821F

053538. SZ Aurigae —

Plate	Date	JD	Sh.	Remarks.
I 3030	Feb. 10, 1891	1774.	Ird	Image faint.
I 3030				H8 bright, other lines too faint (A.J.C.)
~~I 3719~~				~~Sh M's.~~
I 37064				Too fr.
I 37119				"

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1913phae.proj..821F

053531. H Aurigae +31°1057 2

Plate	Date	J D	Sp. Remarks.
Q 5919	March 21, 1892	2179.	Md 7 $H\beta$, $H\delta$, $H\delta$, $H\varepsilon$, $H\zeta$, $H\eta$. 10, 50, . . .
I 5904			(a.f.c.) $H\delta$ bright, other lines v.s.
I 5919			. 10, 50 Sp. prob. m b very ft.
I 5921			$H\delta$ bright other portions too ft.
I 5934			. 10, 70
I 5965	1892 Mar. 29	12187 ~~12127~~	. 10 90 Sp. Mc.
I 8408	1893 April 18	12572	$H\delta$ bright Sp. too ft.
I 26501	1901 Jan. 19	15404	$H\delta$ bright Sp. too faint.

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1913phae.proj..821F

053604. γ Orionis —

Plate	Date	J.D.	Sf.	Remarks.

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1913phae.proj..821F

05 43 19. S U Tauri —

Plate	Date	JD	Sp.	Remarks
l 31403	Jan. 18, 1904	6498.	~~Bc?~~	P. Image poor. Sh. hazy.
B 227			"	F
B 251			"	F
l 689	Feb. 20, 1890		"	P
l 2817	Nov. 20, 1890		Two sp. superposed? Hγ Hδ double. P.	
l 2538	Dec. 19, 1890		"	F
l 2720	Jan. 7, 1891		"	P
l 2819	" 14, "		"	F
l 2988	Feb. 4, "		"	Fe
l 3257	Mar. 7, "		"	F ε
l 19792	Dec. 18, 1897		"	P ε
l 20247	Feb. 17, 1898		Fth. trace of Hγ + Hδ	P
l 21976	Dec. 16, "		"	F
l 26124	Nov. 21, 1900		~~Hε~~ Hγ, Hδ, Hε, Hδ nis.	Sh hazy Hδ
l 31473	Feb. 17, 1904		Hγ Hδ, Hε, & Hζ nis normal in intensity.	
l 36274	Oct. 17, 1909		Hγ, Hδ, Hε, Hζ nis. Normal?	

The above plates seem to indicate that the spectrum resembles Class A.

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1913phae.proj..821F

054331. S Columbae -31°2732

Plate	Date	ΔD	Sp.	Remarks.

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1913phae.proj..821F

0546l5a Z Tauri +15°962e

Plate	Date	J D	Sp.	Remarks.

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1913phae.proj..821F

054629. R Columbae -29° 2538

Plate	Date	J.D.	Sp.	Remarks. H3, Hδ, H8, Hε, Hζ, Hη
B9054	March 18, 1893	25541.	Mcl 6v.	10, 10, . . .
B9054			10 10	Sp. Ma.
12664	Nov. 27, 1894	3160	10 30	Sp. Foyt.
B44364	1913 Nov. 27			100 ft.

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1913phad.proj.8215

054615c R Tauri —

Plate	Date	L D	Sp.	Remarks.

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1913phae.proj..821F

054974. V Camelopf. +74°266a

Plate	Date	JD	Sp.	Remark	
I 32254	Nov. 1, 1904	6786.	Mod 8	1060	
I 32254				HS bright Hγ Hδ.	Sp. m b (a.j.c.)
I 37084	1911 Feb. 27				n.s.

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1913phae.proj..8215

054920 H Orionis +20°1171a

2409877 + 375 E. M-m = 145.

Plate	Date	JD	Sp. Remarks.
B220	Dec. 16, 1886	9892.	Md^9 $H\beta, H\delta, H\varepsilon, H\zeta, H\eta$ 10, 50, ·
? B227	" 19, "	9895.	Md^9 10, 40, ·
? B251	Jan. 6, 1887	9913.	Md^9 10, 50, · 0.5, 0.3
? B263	" 7, "	9914.	Md^9 10, 50, · 0.5, 0.3
L2819	Jan. 14, 1891	1747.	Md^9 10, 50, ·
L2988	Feb. 4, 1891	1768.	Md^9 10, 70, ·
L2720	Jan. 7, 1891	1740.	Md^9 10, 90, ·

220		09892	10 50	Sp. in poor region
257		09913	10 50 11	Sp. in poor region
I 2819		11748	10 40	Mc
I 20247	1898 Feb. 17	14338	10 50	Mc. br. between 4227 and $H\varepsilon$
I 2720	1891 Jan. 7	11740	. 10 90	Sp. Mc. Br. near $H\delta$
I 689	1890 Feb 20	11419	. 10 70	Sp Mc.
I 2988 (good)	1891 Feb. 4	11768	. 10 80	Sp Mc.
I 26256	1900 Dec. 17	15341	$H\delta$ bright	Sp. Mc. Focus very poor.

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1913phae.proj..821F

055353. Z Aurigae +53° 979

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1913phae.proj.821F

055686. R Octantis −86°72.

Plate	Date	J.D.	Sp.	Remarks. Hβ. Hγ. Hδ, Hε
B22980	June 2, 1899	4808.	2nd	
B6846			. 10, 50	
B22980			. 10, 20	Sp. Mc Focus poor

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1913phae.proj..821F

055716. RR Orionis —

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1913phae.proj.:821F

060450 X Aurigae —

Plate	Date	JD	Sp.	Remarks. Hβ, Hγ, Hδ, Hε, Hξ, Hη
I32859	Mar. 6, 1905	6911.	Md 3	
I32878	" 10, "	6915.	Md 5	
I35858	Feb. 25, 1909	8363.	Md 5	. 10 10 . . .
I35876	Mar. 11, 1909	8377.	Md 7	

I32878		16915	. 10,10	Cont. Sp. Ma (a.T.C.) Brightest between Hγ & Hε red.
I35876		18377	. 10,15	Sp. Mb
~~I35858~~			~~. 10,10~~	~~Sp. Ma~~
I32729	1905 Feb. 23	16900	. 10 8	Sp. Mb.
I32859	1905 Mar. 6	16911	. 10 10	Sp. Mb. Br. lns. βγ.
I32967	1905 April 2	16938		Mb no br. lines
I35281	1908 April 29	18061	. 10 6	Sp. Mb.
I35858	1909 Feb. 25	18363	. 10 10	Sp. Mb. Light cont.

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1913phae.proj..821F

060443 RR Aurigae —

Plate	Date	J.D.	Sp.	Remarks Hβ, Hδ, Hθ, Hε Hζ Hη
I 31457	Feb. 10, 1904	6521.	Md5	. 10 10 . . .
I 31457				. 10, 15 . . . Sp. Ma (a.j.c.)
I 24526				200 ft.
~~I 31457~~				~~"~~
I 31463				"
I 36508				"
I 37120				"

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060547. S S Aurigae —

Plate	Date	JD	Sp.	Remarks.
l32859	Mar. 6, 1905	6911.	~~Not.~~ ~~2~~ ~~10,~~	~~H3, H8, H8, He, H8 Hγ F1 Image very faint~~
l32967	Apr. 2, "		~~Not?~~	F1 " " "
B1823	Nov. 4, 1887.		"	F1
B2985	Oct. 14, 1888.		"	F1
l19465	Nov. 4, 1897.		"	F1
l31459	Feb. 10, 1904.		"	F1
l32729	" 23, 1905.		"	F1
l34010	Apr. 25, 1906.		"	F1
l34626	" 6 1907.		"	F1
l35161	Feb. 7, 1908.		"	F1
l35999	Apr. 28, 1909.		"	F1

1913phao.proj.:821F

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1913phae.proj..821F

060630. V Columbae −30°2883.

Plate	Date	Δt	Sf.	Remarks.

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1913phao.proj.821f

060746. δ Tauri ae —

Plate	Date	J D	Sp.	Remarks.

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1913phae.proj..821F

060727. S U Geminorum —

Plate	Date	J D	Sp.	Remarks
I 20474	Mar. 11, 1898	4360.	Md 4?	Image faint.
I 20474			Mc (a.f.c.)	
	06 10 33. V W Aurigae			
I 31413				Sp. Mc (a.f.c.)

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1913phae.proj.:821F

06 1275. W Lamdop. —

Plate	Date	ΔT	Sf.	Remarks.

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1913phae.proj..821F

061426. H Canis Maj. -26°2912.

Plate	Date	ΔT	Sp.	Remarks.

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1913phae.proj.821F

061647. V Aurigae +47°1291a

Plate	Date	Δt	Sp.	Remarks.

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1913phae.proj..821F

061702 V Monocerotis −2°1581.

Plate	Date	JD	Sp.	Remark
I 3412	April 13, 1891	1836.	Md 2?	Hβ Hγ Hδ Hε Hζ Hη 15 10, 14 · 6 1.5; may be edge of bands
I 16432	June 19, 1896	3730.	Md 7v	. 10, 50 .
B 12671	Nov. 28, 1894	3161.	Md 7	, 10, 70 .
B 12682	" 30, "	3163.	Md 7	. 10, 50 . . .
B 20651	" 21, "	3154.	Md	
I 32761	Feb. 28, 1905	6905.	Md 9	. 10 70 . . .
I 32554	Jan. 28, 1905	6874.	Md 7	. 10 70 . . .

I 3412		11836 +3	Hδ h.	Sp. Mc. Bred by Frost.
I 32761	1905 Feb. 28	6 1896.5	10 70	Sp. Frost.
B 12671		13161	10 30	mb Light Cont.
B 12682		13163	10 20	mb Near edge
B 15138	Nov. 12, 1895	13510	10 30	mb
I 16432 (Good)	1896 Nov. 2	13866	10 50	mb
B 20651	1897 Oct. 20	14218	10 30	Mc Edge.
I 32554	1905 Jan. 28	16874	10 40	mb

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1913phae.proj..821F

062440. W Columbae —

Plate	Date	Δ D	Sp.	Remarks.

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1913phae.proj..821F

062564. R T Camelopardi

Plate	Dates	J.D.	Sp.	Remarks. Hδ, Hδ, Hδ, Hε, Hζ, Hη
I 34886	Sept. 30, 1907	7849.	Md6	· 10 50 · · ·
I 34886			δ Hδ light	Sp. mc A.J.C.
			· 10 50	
I 33672				N.S.
I 36643				"

062845 T Aurigae

I 28470				Sp. mc A.J.C.
I 32729				" "
I 34010				" "
I 34502				" "
I 34626				" "
I 35858				" "

063444 Aurigae

			Hγ Hδ	
Mc 5700	Apr. 22, 1914		10 10	Mc

063942 R Puppis

B 15273	June 9, 1895		10 3	Weak the light between Hβ + Hγ. Perhaps like R Aurigae

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1913phae.proj..821F

065223. Seep 150

Plate	Date	Jt	Sp.	Remarks.
B24433	N.D.C.			
B39936				no br. hydrogen lines seen Sp. Mr. a.J.C.

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1913phae.proj..821F

063159. U Lyncis —

Plate	Date	JD	Sf.	Remarks.

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1913phae.proj..821F

063308. R Monocer. +8° 1427.

Plate	Date	JD	Sp.	Remarks.
19627	Nov. 23, 1897	42052.	R	Too small definition spectrum can be separated from that of the nebula, which is cont. & hazy.

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1913phae.proj..821F

063431. – Geminorum +31°1380.

Plate	Date	J D	Sf.	Remarks.

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1913phae.proj..821F

063558. S Lyncis +58°961c

Plate	Date	JD	Sp.	Remarks.
I 32984	April 6, 1905	6942.	Md$^{8}_{(7)}$	
I 33890	Feb. 24, 1906	7266.	Md^{6}	

I 32984		16942	H & bright - other portion too faint
I 33890		17266	H & bright, other bright lines seen but very faint - Sp. M 8 (A.J.C.)

I 33672	Too faint.
I 35071	"
I 35132	"
I 35139	"
I 36690	"

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1913phae.proj..821F

063942. R V Puppis -42° 2682

Plate	Date	J.D.	Sp.	Remarks.
A 8552	Nov. 13, 1907	7893.	Hd 4 · 10, 40, · · ·	(Hβ, Hδ, Hθ, Hε, H 8, Hη) On edge of pl.
A 8552				Too near edge (A.J.C.)
B 15273			· 10, 3 · · ·	Sp. Ma

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1913phaet.proj..821F

063931. V Canis Min. —

Plate	Date	J.D.	Sp.	Remarks.

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1913phae.proj..821F

064030. X Geminorum +30°1329

Plate	Date	JD	Sp. H3, Hγ, Hδ, Hε	Remarks.
I 32370	1904 Nov. 28	16813	. . .	Sp Mc (a.f.e.)
I 32475	1905 Jan. 4	16850	10, 10 . . .	" Mb

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1913phaes.proj.:821F

064707. W Monocerotis —

Plate	Date	Jd	Sf.	Remarks.

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1913phae.proj..821F

065111. 9 Monocerotis +11° 1307a

Plate	Date	LD	Sp.	Remarks.
I 36625	Mar. 8, 1910	8739.	Ind 5-λ 470,	~~Hδ~~ Hδ, Hδ, Hε, Hζ, Hη 10, 12,
I 36625				10, 20 · Sp. mb. a.f.c.

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1913phae..proj..821F

065208. X Monocerotis −8°1641

Plate	Date	JD	Sp. Remarks
~~B20895~~			~~Md4x~~ Hβ, Hγ, Hδ, Hε, H8, H7 ~~1.0, 11~~ .
B 18415	Jan. 28, 1897		Md4 · 10 10 . . .
" 20801	Nov. 19, 1897		Md?
" 20895	Dec. 1, 1897		Md · 10 11 . . .
I 35849	Feb. 18, 1909		Md27 Image poor.
B 18415			· 10 10 . . . Sp. mb a.j.c.
B 20680			· 10 5 " " "
I 33869			" ma Hybr.
I 35849			" " "
I 35854			" " "
B 44401	Feb. 21, 1914		Hγ=10 Hδ=11

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1913phae.proj..821F

065223. – Canis Maj. – 23° 4628 Md.

Plate	Date	J.D.	Sf.	Remarks.
B39936	Mar. 25, 1909		Mdy	

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1913phae.proj..021F

065355. R Lyncis. +55°4154.

2405796 + 379.2 E M-m 186.

Plate	Date	J.D.		Sp.	Remark. H3 Hγ Hδ H2 H5 Hη	
I 1051	April 21, 1890	1479.	1104.8 (14×379.2)	Md^{1v}	3 10 1? . . .	+374.2
I 33712	Nov. 27, 1905	7177.	7172.0 (16+379.2)	Md^{2}	3 10 3 . . .	+05
I 35071	Dec. 12, 1907	7922.	7550.8 (17×379.2)	Md$^{\frac{1}{2}x}$	3 10 ? . . .	+371.2

I 33681				Too near edge. (A.J.C.)
I 35071.			5, 10, 1	Sp. very ft except near Hβ.
I 33712			3, 10, 2 . . .	bright lines between Hβ and Hγ. Sp does not show breaks of cal. M
			Sp γ δ	
I 1051	1890 April 21	11479	8 10 . 1	Sp. Pec.

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1913phae.proj..821F

065530. R Geminorum —

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065766. T Volantis -66°633

Plates	Date	J. D.	Sp.	Remarks		
				Hβ, Hγ, Hδ, Hε, Hζ, H7		
a 2902				10, 8	Sp. mb	(a.j.c.)

1913phae.proj.821F

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1913phae.proj..821F

070135. — Perseus — 35° 03 34

(Pl III in Vol 55)

Plate	Date	JD	Sp.	Remarks.
B39919	Mar. 20, 1909		Md7	· 10 30 · · ·

B 39919

(a.j.c.)
Md not confirmed. Bright line or space has greater λ than H8.

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1913phae.proj..821F

070122a R Geminorum +22°1577.

Plate	Date	JD	Sp.	Remarks.
I34284	Oct. 25, 1906		Md^3	
M F242		21137		This spectrum resembles Np (a.j.c.) that of T Camelopardalis. Hγ is br. at maximum.
I 33713		17177		Peculiar dark bands, no bright lines
I 34284		17509		Pec. Hγ bright. TR?
I 36893		18957		Pec. dark bands.
MC 16373		22277		Hγ = 10 Hδ = 2 Hβ = 7 Sp. Pec.

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1913phae.proj..821F

070109. V Canis Min +9° 1517a

Plate	Date	JD	Sp.	Remarks
B15139	Nov. 12, 1895		Did 9v.	Hβ, Hγ, Hδ, Hε, Hζ, Hη
			. 10, 50, -, -	

B15139.

H5 very bright Hγ glimpsed
Sp. fl. probably Ma
. 10 60 Jt.

B15139

~~I35174~~

~~Ma Hδ bright~~

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1913phae.proj.821F

070310. R Leonis Min. +10°1428.

Plate	Date	J.D.	Sp. Remark. Hβ Hγ Hδ He H8 Hζ	
I 17245	Feb. 3, 1897		Md'v 4 10	
I 36543	Feb. 1, 1910		Md? Pec	Image too poor.
I 37038	Jan. 24, 1911		Md'	

a.j.c.

I 17244	. 10, 1 . . .	Sp. Ma, cont. sp. only seen from Hβ to Hγ.
I 17245	. 10	Sp Ma " " "
I 37038	. 10 (ft.)	" " " "
I 36543	. (10) . . .	Sp. Mb pec. A careful study shows that this sp. is not M, but resembles R Leonis. Ma Hδ bright.
I 35174		

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1913phae.proj..821F

070772. R Volantis —

Plate	Date	JD	Sp.	Remarks
B15168	Nov. 16, 1895		~~Mod. ?, 10, 5;~~ 1, H3, H5, ~~H8~~, H8, H5, H5, H7	~~H. lines of both Hγ & Hδ~~ Ran. N.S.
B15168				N.S.
B15169				N.S.

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1913phae.proj.821F

071044. ζ_2 Puppis $-44^\circ 3227$.

Plate	Date	JD	Sp. Remarks. $H_3, H_\delta, H_8, H_\varepsilon, H_8, H_7$
B4465	Oct. 17, 1889	1293	Mid 6v 10, 13, ·
B38401	Jan. 25, 1908		Incsd

B4465		1293	· 10 10 - 1	Mb
B12362	1894 Oct. 23	3125	· 10 6 · ·	Mb H_γ only slightly br than cont.
B38417	1908 Feb 6	7978	· 10 13 · 22	Mb Star very br.
B42894	1911 Dec. 2	9373	· 10 9 · ·	Mb Br. lines only slightly br than cont.
B38401	1908 Jan. 25	7966		Mc H_δ higher.

4227 is a thin dark line in all stage plates except 38401, in which the region is broken up by the bands.

B12801	1895 Jan. 25	3219		Mc. No br. Hyd. lines. Br. line near 4227.
B39929	1909 Mar. 24	8390 ~~4225~~	· 10 13 · ·	Mc ~~too dense~~
B20671	1897 Oct. 27	4225		Too dense H_δ and γ not bright.
B20786	1897 Nov. 18	4247		Too dense.

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1913phae.proj..821F

07 1201. RR Monocerotis —

Plate	Date	JD	Sh. Rhd 9	Remarks.	
I 35709	Dec. 1, 1908				
I 34285	1906 Oct. 25				100 ft.
I 35709	1908 Dec. 1	18277		H δ bright	
I 36475	1910 Jan. 7				100 ft.

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1913phae.proj..821F

071725. I Canis Maj. −25° 4409.

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1913phae.proj..821F

071713. V Geminorum +13° 1653a

Plate	Date	Jd	Sp. Remarks.
I 32391	Dec. 4, 1904		Hdε
I 32391		6819	$H\gamma = 10$ $H\delta = 60$ Sp. Mb. (a.j.c.)
I 38957	Nov. 22, 1914	0459	$H\gamma = 10$ $H\delta = 40$ Sp = Ma Light shows from 1H γ to 1H 2.
I 38971	Dec. 14, 1914	0481	$H\gamma = 10$ $H\delta = 40$ Sp. much fainter in 38957.
~~I 38994~~			
			Relative intensities of lines the same.
I 32410	1904 Dec. 10	16825	. 10 50 Sp Mb
I 35740	1908 Dec. 16	18292	. Mb Focus very poor.

071946 γ Lyncis

I 35907	Mar. 20, 1909		Mb
I 9923	Nov. 15, 1893		Mb
I 33840	Jan. 29, 1906		Mc
I 5449	Jan 21, 1892		M Too near edge.
I 37501	Jan. 19, 1912		Mb
			Line H27 very strong.

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1913phae.proj..821F

072211.

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1913phae.proj..821F

072404. R X Monocerotis —

Plate	Date	A.D.	Sp.	Remarks.
B 20681	Oct. 28, 1897		Hd 3 (Hδ, Hθ, Hι, Hε, Hζ, Hη) . 10, 50, . . .	very faint. Hγ=10, H850.
B 20681				H δ bright - other portions too (a.f.c.) ft.

072708 S Can Min +8° 1800

I 6081	1892 April 13	2202	. 10	30	Mc
I 32391	1904 Dec. 4	6819			Mc H δ bright
I 8230	1893 ~~April 14~~ mar 16	2578 39	. 10	..80	Mc 4227 strong
I 8261	1893 ~~April 4~~ mar 20	2543	. 10	40	Mc
I 12144	1894 Dec. ~~11~~ 22	3147 85			Mc H δ bright
I 14154	1895 Dec. 22	3550	. 10	30	Sp Too ft.
MJ 365	1916 Nov. 25	21193	. 10	80	Sp ma

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1913phae.proj..821F

072708. δ Canis Min. +8° 1800.

2401629 +330.3 E. M-m 164.

Plate	Date	J D 1×330.3	Sp.	Remarks.
4850.				H3, Hγ, Hδ, Hε, Hζ, Hη
l 8230	Mar. 16, 1893	2539. 2289.6	Md 7	. 10, 70, . . . +249.4
l 16487	Nov. 9, 1896	3873. 5×330.3 3610.8	Md 7	. 10, 90, . . . +262.2
l 6081	Apr. 13, 1892	2202. 1×330.3 1959.3	Md 6	. 10, 40, . . . +242.7
l 12144	Dec. 22, 1894	3185. 3×330.3 2950.2	Md 9v	. 10, 50, . . . +234.8
B 12771	May 2, 1895	3316. 4×330.3 3280.5	Md 9	. 10, 60, . . . +35.5
l 8261	Mar. 20, 1893	2543. 1×330.3 2289.6	Md 9	. 10, 50, . . . +253.4
l 14154	Dec. 22, 1895	3550. 4×330.3 3280.5	Md 6	. 10, 50 . . . +269.5
l 32293	Nov. 9, 1904	6794. 14×330.3 6583.5	Mcsd	+210.5
l 32391	Dec. 4, 1904	6819. 14×330.3 6583.5	Mcsd	+235.5
l 32497	Jan. 8, 1905	6854. 14×330.3 6583.5	Md 8	+270.5
l 32496	" " "	" 14×330.3 6583.5	Md 8	+270.5
l 33682	Feb. 14, 1905	6891. 14×330.3 6583.5	Md 6	+307.5
I 16487	1896 Nov. 9	3873		Mc Hδ very bright.
I 12089	1894 Dec. 17	3180		Mc " bright
l 3031	1891 Feb 10	1774		N.S.
l 3006	1891 Feb 5	1769		Too ft. N.S.
I 10604	Jan 30 1894	2859		Mc Hδ bright
I 38957	Nov. 22, 1914	0459	Hδ h.?	near edge. very ft.
I 38971	Dec. 14, 1914	0481	Hδ h. Hγ n.s.	Sp. Mc. very ft.
I 38978	Dec. 15, 1914	0482	" "	" " "
B 12771	Dec. 19, 1894	3182	Hδ bright	Other portions ft. 4227 Medium
I 32455 (373)	Nov. 30, 1904	6815	" "	Mc 4227 Strong Hδ = twice the cont
I 32255	Nov. 1, 1904	6786	" "	Mc No br. lines else ft. rest portion bet. 3 and 2
I 32496	Jan 8, 1905	6854	" "	Mc 4227 strong. " "
I 32293	Nov. 9, 1904	6794	" "	Mc
I 33682	Nov. 21, 1905	7171	. 10 60 . .	Mc 4227 med.
I 33772	Dec. 26, 1905	7206	. 10 70 . .	Mc " "
I 32497	Jan. 8, 1905	6854	. .	Mc Hδ bright 4227 Med.

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1913phae.proj..821F

0728206 Z Puppis —

Plate	Date	JD	Sp.	Remarks, Hβ, Hδ, Hδ, Hε, Hζ, Hη
B 18983	April 28, 1897		Md3	. 10, 60, . . .
B18983				Too faint. a.f.c.
mF 405	1916 Dec. 28	1226 ~~4990~~		. 10, 40 . sp. mb "
B24594	1899 Dec. 1	4990		mb Hδ bright 4227 Well marked.

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1913phae.proj..821F

0728 11. α Canis Min. +11° 1594a

Plate	Date	J D	Sp. Remarks. H3, Hδ, H8, Hε, H8, Hζ
I 10604	Jan. 30, 1894		Mod 6v. 10, 30, - - -
I 3006	Feb. 5, 1891		Too faint
I 3031	Feb 10, 1891		"
I 10604	Jan. 30, 1894		"
I 11957	Nov. 19, 1894		"
I 12025	Dec. 5, 1894		"
I 12089	Dec. 17, 1894		"
B 12771	Dec. 19, 1894		"
I 16122	Oct. 8, 1896		"
I 16487	Nov. 9, 1896		"
I 26242	Dec. 16, 1900		"
I 32255	Nov. 1, 1904		"
I 32293	Nov. 9, 1904		"
I 32373	Nov. 30, 1904		"
I 32496	Jan. 8, 1905		"
I 32497	Jan 8, 1905		"
I 32968	April 2, 1905		"
I 33682	Nov. 21, 1905		"
I 33772	Dec. 26, 1905		"
I 33871	Feb. 17, 1906		"
I 35678	Nov. 18, 1908		"
I 35740	Dec. 16, 1908		"
I 37038	Jan 24, 1911		"

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1913phae.proj..821F

073173. S Volantis -73° 453.

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1913phae.proj.:821F

073508 Ursae Min. +8° 1847a

I 9628	1897 Nov. 23	4252	Mb
I 32293	1904 Nov. 9	6794	Mb
I 32373	1904 Nov. 30	6815	Mb
I 32496	1905 Jan. 8	6854	Mb
I 32497	1905 Jan. 8	6854	Mb
I 33682	1905 Nov. 21	7171	Mb
I 33772	1905 Dec. 26	7206	Mb
I 35123	1908 Jan. 8	7949	Mb.

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1913phae.proj..821F

073723 S Geminorum +23° 1796

Plate	Date	JD	Sp. Remarks.
I8072	Feb. 20, 1893		Mid 6h. H3, H8, H8, HE, HS, Hη . 10, 15, . . .

I 8072 H Slight Sp. Maury (a.j.c.) poor spectrum

I 2476	1890 Dec. 12		N.S.
I 2741	1891 Jan 8		"
I 2743	1891 Jan. 8		"
I 2749	1891 Jan 8		"
I 2774	1891 Jan. 10		"
I 2813	1891 Jan. 13		"
I 4748	1891 Nov. 6		"
I 7890	1893 Jan. 16		"
I 19827	1897 Dec. 24		"
I 21699	1898 Nov. 14		"
I 24050	1899 Nov. 13		"
I 24943	1900 Mar. 24		"
I 26125	1900 Nov. 21		"
I 31375	1904 Jan. 10		"
I 37091	1911 Feb 28		"

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1913phae.proj.821F

074241. ν Puppis −41° 3363

Plate	Date	JD	Sp.	Remarks.
B12659	Nov. 24, 1894		Md3.	Hβ, Hγ, Hδ, Hε, Hζ, Hη
A7586	Jan. 30, 1906		Md	

c.)

A7586	1906 Jan. 30	7241		10	10	Mb 4227 radius ft.
B12659	1894 Nov. 24	3157		10	9	Sp. 2 ft. Br. Hδ, β & γ.
BH2919	1911 Dec. 27	9398				Mb - Hγ br. & purple on adjacent slit

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1913phae.proj..821F

074323. T Geminorum +24°1778

Plate	Date	JD	Sp.	Remarks
I 8035	Feb. 8, 1893	2503	Md 2	Hβ, Hγ, Hδ, Hε, Hζ, Hη 02, 10, 15.

I 8035 | 1893 Feb. 8 | 2503 | Hδ = 0.1 Hδ (a.j.c.)
Hδ bright Hε bro. Bright line about 4600.
Brightest portion of spectrum near Hβ.
Sp. not banded, perhaps K5.
Hγ not clearly seen. Hδ & 4600 about equal. Continuous spectrum very faint except between Hβ and Hγ. Sp. not M. Probably like R Lyncis & R Cygni.

I 24945	1900 Mar. 24	5103	.10 5. .	Sp Pec.
I 26125	1900 Nov. 21	5345		Near edge. No hr. lines seen.
I 37091	1911 Feb. 28	9096	.10 0.	Sp Pec. Resembles Class R.
I 568	1890 Jan. 21			Nr. S
I 20237	1898 Feb. 16			Nr. S.
I 5469	1892 Jan. 26			Nr. S
I 2743	1891 Jan. 8			Nr. S.
I 20270	1898 Feb. 26			Nr. S
I 31328	1903 Dec. 22			Nr. S.
I 32369	1904 Nov. 28			Nr. S.
I 31405	1904 Jan. 18			Nr. S.
I 36349	1909 Dec. 4			Nr. S.
I 2741	1891 Jan. 8			Nr. S.
I 2476	1890 Dec. 12			Nr. S.
I 2749	1891 Jan. 8			Nr. S.
I 2774	1891 Jan. 10			Nr. S.
I 2813	1891 Jan. 13			Nr. S.

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1913phae.proj.821E

074922. ℓ Geminorum +22° 1807.

Plate	Date	JD	Sp.	Remarks.
ℓ20237	Feb. 16 1898		Rec. . . .	H3, H8, H5, B 18, ℓ 213.
ℓ 568	Jan. 24, 1890		" . . .	" 19 " 112. P
ℓ 584	Jan. 28, 1890		" . . .	F
B 1134			" . . .	F
ℓ2476	Dec. 12, 1890		" . . .	F
ℓ2741	Jan. 8, 1891		Rec	H3, H8 ft. HK strong.
ℓ2743	" 8, "		Rec.	
ℓ2813	Jan. 13, "		Rec.	H3 H8 double? H+K normal.
ℓ2945	Jan. 30, "		"	F
ℓ4748	Nov. 6, "		"	F.
ℓ2749	Jan. 8, 1891		Rec.	H3, H8, ft. HK normal.
ℓ2774	" 10, "		Rec.	
ℓ7890	" 16, 1893		"	F
ℓ8035	Feb. 8, 1893		"	P
ℓ10754	Mar. 6, 1894		"	F
ℓ19827	Dec. 24, 1897		..	Resembles Cl. F. H3 ft. H+K are normal in intensity
ℓ20237	Feb. 16, 1898		Rec.	H3 ft.
ℓ37091	" 28, 1911			Resembles Cl. F. ft. Hazy.

ℓ Geminorum cont.

ℓ7890	1893 Jan. 16		Nr. S.
ℓ4748	1891 Nov. 6		Nr. S.
ℓ19827	1897 Dec. 24		Nr. S.
ℓ24943	1900 Mar. 24		Nr. S.
ℓ24050	1899 Nov. 13		Nr. S.
ℓ31375	1904 Jan. 10		Nr. S.
ℓ21699	1898 Nov. 14		Nr. S.

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1913phae.proj..821F

075612. H Puppis −12° 2275.

Plate	Date	J D	Sp. Remarks Md 6v, Hβ, Hγ, Hδ, Hε, Hζ, Hη . 10, 40, . . .
I 10742	Mar. 3, 1894		
I 10605	1894 Jan. 30	2859	Hδ bright, too poor. (a.J.C.)
I 10742	1894 Mar. 3	2891	10, 40 . . . Sp. Mb
I 12026	1894 Dec. 5		N.S.
I 10430	1894 Jan. 13		N.S.
I 31337	1903 Dec. 23		N.S.
I 31417	1904 Jan. 25		N.S.
I 36397	1909 Dec. 11		N.S.
I 36416	1909 Dec. 18		N.S.
I 12090	1894 Dec. 17		N.S.
B 12773	1894 Dec. 18		N.S.
B 20896	1897 Dec. 1		N.S.
I 12200 b.	1895 Jan. 4		N.S.
I 9933	1893 Nov. 16		N.S.
I 6122	1892 April 20		N.S.
I 6145	1892 April 24		N.S.
I 546	1890 Jan. 22		N.S.
I 12145	1894 Dec. 22		N.S.
I 12090	~~1894 Dec. 17~~		~~N.S.~~

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080362. – Ursae Maj. — Sp –

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1913phae.proj..821F

081112. R Cancri +12° 1803 Sff. Md

239.7553 +362 E. M-m = 125

Plate	Date	J D	Sp.	Remarks
B 20710	Nov. 3, 1897	4232. 4069 (7×362)	Md 7	Hβ, Hγ, Hδ, Hε, Hζ, Hη · 10, 50, · 0.2, 0.1	+163
I 17195	Jan. 25, 1897	3950. 3707 (6×362)	Md 9	8v · 10, 30, · · ·	+243
I 16907	Dec. 28, 1896	3922. 3707 (6×362)	Md 9	· 10, 50, · 05, ·	+215
I 16997	Jan. 6, 1897	3931. 3707 (6×362)	Md 9	· 10, 50, · 0.5, ·	+224
I 2337	Nov. 23, 1890	1695. 15-35 (11×362)	Md 7	· 10, 50, · · ·	+160

				Hγ	Hδ			
Best	B 20710	Nov. 3, 1897	4232	10	70	5	7	Mc H227 strong.
long.	I 16907	1896 Dec. 28	3922	10	40	1		Mc
	I 33761	1905 Dec. 22	7202					Mc no br. lines very ff.
	I 33773	1905 Dec. 26	7206					Mc no br. lines, H227 strong
	I 2479	1890 Dec. 12	1714	10	70			Mc

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1913phae.proj..021F

081473. Lamelos. — Sf —

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1913phae.proj..821F

081617. V Cancri +17° 1825 Sp. Md

Plate	Date	JD	Sp. Remarks
			Md IV H_β H_γ H_δ H_ε H_ζ H_η
I 5985	Mar. 30, 1892		6 10 1? . . .
~~B 2497 Wolf. No.~~			[Md 10g] . 10, 70 . ~~Maybe WS.~~
~~I 2444~~	~~1890 Dec. 12.~~		

				B V
I 5985	1892 Mar. 30	2188	8, 10	~~Sp Ma~~ very ft. fu Hγ to violet end. A.J.C.
			Perhaps like R Cancri	Class of spectra not definite.
I 7703	1892 Dec. 20	2453	Hγ appears to be two near edge	
I 7925	1893 Jan. 20	2484		Vis. but too ft to classify.

081615. Z Cancri +15° 1808

I 25002	Very ft. Sp. Mc ;	(a.J.C.)
I 33761	Too poor	
I 33773	" "	

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1913phae.proj..021F

081633. 7 Lyncis +33°1686 Sp. —

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1913phae.proj..821F

082476. R Chamaeleontis — Sp. Md.

Plate	Date	JD	Sp. Remarks. Hβ, Hγ, Hδ, Hε Hζ, Hη			
B 22237	Nov. 12, 1898		Md6	10	50	. . .
B 22237	1898 Nov. 12	4606		10	30	. . . Mb faint.
B 24443	1899 Oct. 25	4953		10	50	. . . Mb

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1913phae.proj.,821F

082405. R T Hydrae. $-5^{\circ}2550$ Sp. Md?

Plate	Date	JD	Sp. Remarks. Hβ, Hγ, Hδ, He Hδ, Hη	
B19136	May 20, 1897		Mc 5d	
B21394	May 14, 1898		Mc 5d	
I32609	Feb. 7, 1905	6884.	Mc 5d	
I35741	Dec. 16, 1908	6887.	Md9 · 15 40 · · ·	
I35906	Mar. 20, 1909	8386.	Md^{8}	
I36626	" 8, 1910	8387.	Mc	
B19136	May 20, 1897	4065		Mb
I20513	Mar. 17, 1898	4366		Mc
B21394	May 14, 1898	4424		Mc
I31475	Feb. 17, 1904	6528		
I32609	Feb. 7, 1905	6884		
I32960	April 1, 1905	6937		
I35741	Dec. 16, 1908	8292		
I35850	Feb. 18, 1909	8356		
I35906	Mar. 20, 1909	8386		
I36000	April 28, 1909	8425		
I36545	Feb 1, 1910	8704		
I36626	Mar. 8, 1910	8739		

No b. line.

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1913phae.proj..821F

083019. N Lacerti. +19°2042 Gp. Nd

I 20767	1898 April 8	14388	Hy bright, very faint. (A.J.C.)
I 502	1890 Jan. 16		N.S.
I 899	1890 Mar. 27		"
I 2337	1890 Nov. 23		"
I 2339	1890 Nov. 23		"
I 2479	1890 Dec. 12		"
I 7703	1892 Dec. 20		"
I 7730	1892 Dec. 23		"
I 7891	1893 Jan. 16		"
I 7923	1893 Jan. 20		"
I 7973	1893 Jan. 25		"
I 8462	1893 April 25		"
I 8489	1893 May 8		"
I 10606	1894 Jan. 30		"
I 10735	1894 Mar. 2		"
I 11981	1894 Nov. 25		"
I 12027	1894 Dec. 5		"
I 12201	1895 Jan. 4		"
I 20212	1898 Feb. 12		"
I 20250	1898 Feb. 17		"
I 22655	1899 April 5		"
I 25002	1900 April 2		"
I 26328	1900 Dec. 26		"
I 27965	1901 Nov. 15		"
I 31154	1903 Nov. 18		"
I 33825	1906 Jan. 25		"
I 35714	1908 Dec. 21		"
I 36627	1910 Mar. 8		"

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083350. X Ursae Maj. — Sp. Md

Plate	Date	J.D	Sp.	Remarks.
				Hβ, Hγ, Hδ, Hε, Hζ, Hη

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1913phae.proj..821F

084727. R Puppidis, -27° 5879 Sp. —

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1913phae.proj..821F

084803. S Hydrae. +3°2085 Sp. Md.

239.9379 + 256 E. M − m = 100.

Plate	Date	J.D.	Sp. Remarks, Hβ, Hγ, Hδ, Hε, Hζ, Hη	
I842	Mar. 17, 1890	1440. 1427 (84×256)	Md^3 . 10, 09, . . .	+13
I878	" 24, "	1447. 1427 (1×256)	Md^{4v} . 10, 12, . . .	+20
I2340	Nov. 23, "	1695. 1683	Md4 . 10, 12, . . .	+12

I842	. 10, 8 . . .	(a.f.c.) other portion two ft.
I878	. 10, 12 . . .	" " " "
I2340	. 10, 12 . . .	Sp. Ma

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1913phae.proj..821F

085008. T Hydrae. −8°2525 Sp. Md.

239.9739 +288.8 E.

Plate	Date	J D 12×288.8	Sp.	Remarks	
I 12723	April 19, 1895	3303. 3204.6	Md^{4v}	H3, H8, H9, Hε, H5, H2 . 10, 10, . . .	+98.4
I 34627	" 6, 1907	7672. 7536.6	Md^{4}		+135.4
I 9934	1893 Nov. 16			Too poor (a.j.c.)	
I 12723		3303.		. 10, 10 . . .	Sp. Mb
I 34627		7672.		. 10, 12 . . .	" "

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1913phae.proj..821F

085120. Tbauri +20° 2243 Sp. —

Plate	Date	J.D	Sp.	Remarks.

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1913phae.proj..821F

090024. δ Pyxidis −24° 7693 Sp. Md.

Plate	Date	JD	Sp. Remarks.
B18977	April 27, 1897		Md 3v Hδ, Hδ, Hδ, Hε, Hζ, Hη . 10, 07, . . .
B18977			. 10, 09 . . . Sp. ma (a.j.c.)
B21529	1898 May 28		, 10 8 . . Ma very faint.
B15571	1896 April 10		N.S.
B18573	1897 Feb. 10		"
B18977	1897 April 27		"
B22713	1899 May 3		"
B23005	1899 June 6		"

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1913phae.proj..821F

090425. Wlamori. +25°2053a Sp. Md.

Plate	Date	JD	Sp.	Remarks. Hβ, Hγ, Hδ, Hε, Hζ, Hη
I 10396	Jan. 7, 1894		Md 5-	10, 40, Bl.
I 31146	Nov. 14, 1903		..	Too faint, Barely seen
I 14277	Jan. 11, 1896		..	Not seen
I 16950	Dec. 31, 1896		..	.. ..
I 16998	Jan. 6, 1897		..	.. ..
I 20251	Feb. 17, 1898		..	Too ft. Barely seen.
I 24997	Apr. 1, 1900		..	.. ..
I 10396		2867		1050 S Hγ br. Sp. too faint (a.j.c.)
I 12245	Jan. 23, 1895	13217		.. ..
I 32323	Nov. 11, 1904	6799		10 4 Sp. too faint.

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1913phae.proj..821F

RW

091649. + Velorum −49° 4613. Sp. Md.

Plate	Date	Δt	Sp.	Remarks.
B41216	April 28, 1910		Md 10	
B41216		8790		Hγδ Hδ br. Sp. Mc (A.J.C.) 427 strong
B12867	1895 Mar. 13			N.S.
B10749				N.S.
B13021	1895 April 13			N.S.
B40188	1909 May 8			N.S.
B41173	1910 April 13	8775		Hδ bright

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1913phae.proj..821F

09186S. R W Carinae −68°921 Sp. Md.

✓

Plate	Date	JD	Sp.	Remarks.
B15170	Nov. 16, 1895		Ft.	H8H?
B21452	May 21, 1898		Md5	
B40074	April 21, 1909		"	Too faint.
B40308	May 19, "		M1a	

no161 B21452		44 31	H6	H7	H8	H8	Sp. Mb
			"	10	20	1	

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1913phae.proj..821F

092048. R S Velorum -48°4658 Sp. Md.

2410403 + 421 E.

Plate	Date	J D 12×421	Sp.	Remarks.	
A 5799	April 14, 1902	585-4. 5405	Md 8 (9)	· 10 100 · · ·	+399
B 39931	Mar. 24, 1909	8390. 6×421 7981	Md 10		+409
B 38415	1908 Feb. 5	7977			Mc H5 very highs
B 39931	1908 ~~Feb.~~ Mar. 24	8390		10 100	Mc " "
					H227 very strong.

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1913phae.proj..821F

092551. γ Velorum -51°3858 Gp. Md?

Plate	Date	JD	Sp.	Remarks.
B39868	Jan. 25, 1909		Md?	Hβ, Hθ Hδ, Hε, Hζ, Hη . . . . . Spectrum very faint.

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1913phae.proj..821F

092962. R Carinae −62° 1253 Sp. Md.

2415172 + 309.3 M − m = 136.

Plate	Date	JD	Sp. Remarks
B5869	May 3, 1891	1856.	Md6 Hβ, Hδ, Hδ, Hε, Hζ, Hη, Hθ, Hι . 10, 12, . 02, 01,
B13761	June 14, 1895	3359.	Md6v . 10, 13, . 05, 04, 02, 01
B 4863	April 2, 1890	1460.	Md7 . 10, 30, ...
B15444	Mar. 20, 1896	3639.	Md7 . 10, 50, . 05, 02, . .
B13094	April 24, 1895	3308.	Md6 . 10 50 . . . . .
B13771	June 15, 1895	3360.	Md5 . 10 30 . . . . .
B15517	April 3, 1896	3653.	Md5 . 10 100 . 15 7 4. .
B15618	" 17, "	3667.	Md
X 8267	Jan. 22, 1897	3947.	Md5 . 10 9 . . . . .
X 8338	Feb. 1, 1897	3957.	Md5 . 10 10 . . . . .
X 8339	" 1, "	"	Md5 10 7 . . . . .
A 2216	Mar. 10, 1897	3994.	Md5 . 10 70 . 1 . . .
B21452	May 21, 1898	4431.	Mcod
B42254	April 27, 1911		Md

B 4863	1890 April 2	1460	.	10	30				Mb 4227 strong.
B5869	1891 May 3	1856	.	10	20	2	1 (Hε, Hζ)		Mb
B13094	1895 Apr. 24	3308	.	10	50	3	2	1 (Hθ)	Mc.
B15403	1896 Mar. 9	3628	.	10	40	1	1		. Too dense
B15444	1896 Mar. 20	3639	.	10	50	2	1		. Mb
B15517	1896 April 3	3653	.	10	50	3	2	1 (Hι)	1 Mb
B15618	1896 April 17	3667	.						Too dense
B42254	1911 April 27	9154	.	10	30	2	1		. Mc
X 8267	1897 Jan 22	3947	2	10	15	.			. Mb
X 8338	1897 Feb 1	3957	.	10	10	.			. Sp. Too fr.
X 8339	1897 Feb 1	3957	1	10	9	.			. Sp. Mb
B21452	No h. lines Too fr.								

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1913phae.proj..82IF

093014. X Hydrae −14° 2893 Sp. Md.

2410009 +304 E

Plate	Date	JD	Sp.	Remarks	
I 17246	Feb. 3, 1897	3959. 2×304 3657	Md 9	H3, Hγ, Hδ, Hε, Hζ, Hη . 10, 50, . . .	+302
B 13280	May 11, 1895	3325. 10×304 3049	Md 9	. 10, 60, . . .	+276
B 22239	Nov. 18, 1898	4612. 5×304 4564	Md		+43
B 41239	May 6, 1910	8798. 18×304 8521	Md 10		+277

B 13280	1895 May 11	3325	. 10,40 . . .	Sp. too faint. (a f.c.)
I 17246	1897 Feb 3	3959	. . Hδ bright	" very poor. "
I 17392	1897 Feb 23	3979	. . " "	" " " "
I 17393	1897 Feb 23	3979	. . " "	" " " "
B 22239	1898 Nov. 18	4612	. 10;70 . . .	" " " "
B 41239	1910 May 6	8798	~~10,70~~ Hδ bright	" " faint.

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1913phae.proj..821F

093178. γ Draconis. Sp. Md.

J

Plate	Date	AD	Sp.	Remarks
B 2509	Mar. 31, 1888		"	Poor. " "
I 32387	Dec. 3, 1904		Md6	
I 32763	Feb. 28, 1905		"	Poor
I 32951	Mar. 30, 1905		"	Poor
I 32387	1904 Dec. 3	6818	Ny=10 Hδ=12	Sf mb a.f.c.
I 32591				N.S.

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1910phae.proj.:821r

093934. R Leonis Min. +35° 2050 Sp. Md

Plate	Date	JD	Sp.	Remarks
I 35742	Dec. 16, 1908	8292.	Md^8	Hδ, Hγ, Hδ, Hε, Hδ, Hη.
I 35845	Feb. 17, 1909	8355.	Md^9	
I 35805	Jan. 15, 1909	8322.	Md^9	
I 35833	" 28	1909 8335.	Md^8	

I 32388	1904	Dec.	3	6818	Hδ br. other lines bright N.S.	Sp. mb	(A.J.C.)
I 32392	1904	Dec.	4	6819	H_γ = 10 Hδ 100 . .	Sp. Mc	
I 33760	1905	Dec.	22	7202	" 10 " 60 . .	Sp. Mc too poor.	
I 35742	1908	Dec.	16	8292	. 10 " 80	Sp. Mc	
I 35805	1909	Jan.	15	8322	. 10, 70 . . .	Sp. mb.	
I 35833	1909	Jan.	28	8335	10, 70 . . .	Sp. Mc.	
I 35845	1909	Feb.	17	8355	10, 40 . . .	Sp. Mc	

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1913phae.proj..821F

094023. R R Hydrae. — Sp. —

Plate	Date	JD	Sp.	Remarks Hβ, Hγ, Hδ, Hε, Hξ, Hη
I 32513	Jan. 15, 1905		Ind-	
I 32513			. 10, 12 . . .	Sp. ma? (A.J.C.)
I 3285	1891 Mar. 14			Too fr. Poor plate
I 22545	1899 Mar. 8			N.S.
I 25034	1900 April 5			N.S.
~~I 32513~~	~~1905 Jan. 15~~			
I 32610	1905 Feb. 7			N.S.
I 32770	1905 March 1			N.S.
I 35244	1908 April 3			N.S.
I 35804	1909 Jan. 15			N.S.
I 35860	1909 Feb. 25			N.S.
I 35884	1909 Mar. 15			N.S
I 36628	1910 Mar. 8			N.S Too faint.
I 36633	1910 Mar 9			N.S.

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1913phae.proj..821F

094211. R Leonis +12°2096 Sp. Md.

2362907 +312.8 E. M-m = 144.

Plate	Date	JD	Sp.	Remarks	
B9463	May 17, 1893	2601. 3×312.8 2291.0	Md	10 H3, H8, H8, HE, HS, HK	+310.0
l 538	Jan. 21, 1890	1389. 27×312.8 1352.6	Md	10, 10	+36.4
l31571	Mar. 20, 1904	6560. 16×312.8 6357.4	Mc		+202.6
l31610	Apr. 13, "	6584. 6357.4	Mc5d		+226.6
l34023	" 28, 1906	7329. 19×312.8 7295.8	Md	10	+33.2
l34628	" 6, 1907	7672. 20×312.8 7608.6	Md	10	+63.4
l35110	Jan. 3, 1908	7944. 21×312.8 7921.4	Md	8	+22.6
l35844	Feb. 17, 1909	8355. 22×312.8 8234.2	Md	9	+120.8
l35185	" 29, 1908	8001. 21×312.8 7921.4	Md	10	+79.6

l 538	1890 Jan 21	1389	.	10	80		Sp. Mc. H exceptional returns H227 and H2
l 31163	1903 Nov. 19	6438					Sp. Mc H5 bright.
l 31571	1904 Mar. 20	6560					For Fr. no h. lines
l 31610	1904 April 13	6584					Mc no h. lines
l 33038	1905 May 3	6969	.	10	60		Mc
(best) l 34023	1906 April 28	7329	.	10	80		Mc H227 strong
l 34064	1906 May 21.	7352	.	10	60		Mc
l 34493	1907 Feb 6	7613	.	10	70	H5 2	Mc.
l 34628	1907 April 6	7672	.	10	60		Mc
l 35110	1908 Jan. 3	7944	.	10	50	H3 2	Focus too poor
l 35185	1908 Feb. 29	8001	.	10	50		Mc
l 35844	1909 Feb. 17	8355	.	10	20		Mc faint.

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1913phae.proj..821F

094622. γ Hydrae −22°2739 Sp. Na

Plate	Date	JD	Sp.	Remarks:
B 13145	April 30, 1895		Sra	
B 13281	May 11, "		Sra	
l 32770	March 1, 1905		Sra	
l 35192	" 3, 1908		Sra	
l 35187	" 29, "		Sra	
l 35804	Jan. 15, 1909		Sra	
l 35244	April 3, 1908		Sra	
l 35891	Mar. 17, 1909		Pec.	
l 35860	Feb. 25, 1909		Sra	
l 35884	Mar. 15, 1909		Pec.	
l 35878	" 11, "		Pec?	
l 36228	" 8, 1910		Sra	
l 36633	" 9, 1910		Sra	
l 35978	April 23, 1909		Pec.	

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1913phae.proj..821F

094735. S Leonis Min. — Sp. Md.

Plate	Date	J D	Sp. Remarks. Hβ Hγ, Hδ, Hε, Hζ, Hη
I 32392	Dec. 4, 1904		Md 4 · 10 10 · · ·
I 32392	1904 Dec. 4	6819	. 10, 12 · · · Sp. mb (A.J.C.)
I 32388	1904 Dec. 3	6818	Too poor.
I 12221	1895 Jan. 17		W.S.
I 12381	1895 Feb. 15		W.S.
I 20063	1898 Jan. 17		W.S.
I 31398	1904 Jan. 17		W.S.
I 35742	1908 Dec. 16		W.S.
I 35805	1909 Jan. 15		W.S.
I 35833	1909 Jan. 28		W.S.
I 36518	1910 Jan. 12		W.S.
I 36681	1910 Apr. 13		W.S.

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094953. I Velorum — Sp. —

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1913phae.proj..821F

095141. X Volumn -40°5616 Sp. N

Plate	Date	JD	Sp.	Remarks.
B9554	June 8, 1893		Ira	
B40276	May 12, 1909		Na	

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095421. V Leonis +21°2140 Sp. Md

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Plate	Date	JD	Sp.	Remarks.	
l 10934	March 27, 1894		Md5		
l 14293	Jan. 14, 1896		"		
l 19852	Dec. 28, 1897		~~Ft.~~	~~H8h.~~	~~Many defect.~~
l 21686	Nov. 11, 1898		Ma		
l 21687	" 11, "		Ft.Ma	H8h.?	
l 21688	" 11, "		"		Too ft to classify
l 30217	Mar. 25, 1903		"		Ft. sp. seen.
l 31155	Nov. 18, 1903		Md5		

I 10954	1894 Mar. 30	2918		H8 bright, traces of other lines. Too ft.	(a.j.c.)
I 21687	1898 Nov. 11			Too ft.	" "
I 10934	1894 Mar. 27	12915		10 12	Mb
I 31155	1903 Nov. 18	16437		10 20	Mc

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1913phae.proj..821F

095458. R R Carinae Sp. Md

Plate	Date	J D	Sp. Remarks.
B9374	May 5, 1893		Md 7 (8) H3, H8, H8, H ε, H δ, H η · 1.0, 2.0, · · ·
B9398	May 8, 1893		Md 9 · 10 40 · · ·
B13083	April 21, 1895		Md

B9374	1893	May 5	2589	Mc H227 very strong
B9398	1893	May 8	2592	Mc " " "
B13083	1895	April 21	3305	Mc

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095563. R V Carinae -63° 1243 Sp. —

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1913phae.proj..821F

095659. – Carinae – 59° 1591. Sp. Na

Plate	Date	JD	Sp.	Remarks.
B9374	May 5, 1893		Na	
B9398	" 8, 1893		Na	
B12901	Apr. 3, 1895		Na	
B13083	" 21, 1895		Na	
B13761	June 14, "		Na	
B13771	" 15, "		Na	
B15517	Apr. 3, 1896		Na	
B15618	" 17, 1896		Na	
A2216	Mar. 10, 1896		Na?	
A2223	" 12, 1897		Na	
B31795	May 18, 1903		Na	
B34089	June 15, 1904		Na	
B38749	April 24, 1908		Na	
B41147	Feb. 17, 1910		Na	

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