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July 3, 1905.

Estimates of Star Cat. h m ° ′ 3 55 +27 8 d

Cont. 13, pg. 220

Plate	Date	Eff.	Est.
AC 4025			7.3 v
AC 4053			7.3 v
AC 4130			7.2 v
AC 4224			7.2 v
AC 4251			7.3 v
AC 4270			Not plate reg.
AC 4248			7.2 ✓
AC 4442	Dec. 26 1903	66m	11.9 ✓
AC 4506			7.3 ✓
AC 4552			7.3 ✓
AC 4564			7.3 ✓
AC 4598			7.4 ✓
AC 4620			7.2 ✓
AC 4629			Too poor. ✓
AC 4731			7.3 ✓
AC 4855			Too poor. ✓
AC 1738			7.3 ✓
AC 1786			7.3 ✓
AC 1845			7.3 ✓
AC 1854			7.4 ✓
AC 1952			7.2 ✓
AC 2033			7.2 ✓
AC 2091			7.3 ✓
AC 2176			7.3 ✓
AC 2228			7.2 ✓
AC 2262			7.2 ✓
AC 2308			7.4 ✓
AC 2372			7.2 ✓
AC 2433			7.3 ✓

May 25 Mm 1

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July 3, 1905.

Plate	Date	Eff	Est.
AC 2862	October 6, 1902	72m	9.1 v
AC 2930			7.3 v
AC 2982			7.2 v
AC 3089	Dec. 20, 1902	43	12.1 v
AC 3129	" 31, 1902	86	9.0 v
AC 3212			7.2 v
AC 3266			7.3 v
AC 117			7.2 v
AC 119			Trails v
AC 158			7.2 v
AC 164			7.3 v
AC 477			7.3 v
~~AC 566~~			~~Too faint~~
AC 566			7.2 v
AC 624	Dec. 27, 1899	126	10.9? v
AC 650			7.2 v
AC 669			7.3 v
AC 1047			7.3 v
AC 1190			7.3 v
AC 1244			7.4 v
AC 1261			7.2 v
AC 1364			7.3 v
AC 1385			7.2 v
C 9611			7.2 v
C 10079			7.3 v
C 10539			7.2 v
C 11735			7.3 v
C 11856			8.0 v
C 12716			Not covered.

Mars Mins

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July 3, 1905

Nova Vac $3^h\ 55 + 24°$ (cont)

Plate	Date	Diff.	Est.	
l 17141			7.2 v	
l 17145			7.2 v	
l 17317			7.2 v	
l 17460			7.2 v	
l 19766	Dec. 16, 1897	20m	8.1 v	a5, 17
l 19977			7.2 v	
l 20154			7.2 v	
l 20197			7.2 v	
~~l 21868~~			~~Hot, cover.~~	
l 21871			7.2 v	
l 22211	Jan. 25, 1899	13	7.8 v	
~~l 22212~~			~~Hot, cover.~~	
l 23344	Feb. 29, 1899	10	8.2 v	m 9. 2
	July 4, 1905			
B 248 v	Jan 6 1886		11.7 v	
" 97 v			~~7.2~~ 7.2 v	
" 348 v			7.2 v	
" 1072 v	Jan 12, 1887			
~~B 3~~				
" 1033 v			7.2 v	
" 1997 v			7.2 v	
" 1982 v			7.2 v	
" 1981 v			7.2 v	
" 2057 v			7.3 v	
" 2311 v			7.2 v	
" 2205 v			7.2 v	
" 2072 v			7.2 v	

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New var 3 55 + 27 2c

Plate.	Est.
B 2070 ✓	7.3 ✓
" 2010 ✓	7.2 ✓
" 3142 ✓	7.3 ✓
" 2324 ✓	7.3 ✓
" 1046 ✓	7.2 ✓
" 104 ✓	7.3 ✓
2343 ✓	7.2 ✓
~~3196~~	
~~3129~~	
~~2113~~	
~~2343~~	Plate 31021. ~~7.2~~

a b c d e f

			Mags	Diff	×.04					
										.533
ab	~~1.5~~ 1.8	a	0	00	00	000	1.00	40	20	.547
bc	.3	b	1.8	230	76	9.24	.17	6	43	.563
cd	.9	c	2.1	4.70	.81	9.19	.15	6	49	.567
de	1.8	d	3.0	7.0	1.20	8.80	.06			
af	1.5	e	4.8	9.40	1.92	8.08	.01			
fb	0.3	f	1.5	19.~~7~~0	.60	9.40	.25	10	60	.575
							~~.64~~			

Algol. 7.5

7 120 1.20

a 310 3.09

a ~~+2.0~~ 12.1

b < 13.0

f 13.0

64 / 164

492 39

1480.

197 / 23

154 ~~86~~

130

Hence b of Algol is 0.9 or more fainter than a 0284.547 12.1

.563 <13.0

I 3085 Feb 18, 1891 Ex. 14. 10.0 .575 13.0 ✓

July 8, 1905

B 3159 Date Eff. Est.

88, 11, 12 15 13.0 ✓

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July 4, 1905

New var 3h 55 + 27° 30

Plate	Date	Ex	Est.	
B 296			7.2 ✓	
" 259			11.5 W.S. Var. 7.2 ✓	
" 1861 Sh. Cl.			7.2 ✓ Cl. A Sp.	
" 2218			7.3 ✓ Sp Cl. A	

July 10, 1905

I 33172			7.2	or Fogging 2"	
I 33174			7.2	" 4	
I 23173			7.3	" 3	
C 15829			7.2	" 3 several images	
aC 107	Dec. 7, 1898	63m ✓ 9.08	k 3 At ✓ 9.88		
aC 2913	Oct. 20, 1902	85m ✓ 10.43	n 2 At ✓ 10.63		
l 14228 Sh. Class a			a 3, 1 b ✓		
l 10392			~~a 3, 1 b~~ ✓		
l 10669 Sh. Class a		✓ 7.60	R n 1 c 7.70	7.60 R ✓	
l 10392 Sh.			R 0 2 t ✓		
l 9620			a 4, 1 t ✓		
l 7908			a 3, 2 t ✓		
l 7853			a 5, 1 b ✓		
l 5289 Sh.			a 5, 1 b ✓		
l 9889 Sh.			a 4, 2 t ✓		
l 10114 Sh.			a 4, 1 t ✓		
l 10297 Sh.			a 4, 1 t ✓		
B 20688			a 3, 2 t		
l 3084	Feb. 18, ~~1901~~ 1891	11m ✓ 8.27 8.52 8.44	e 5, 0 f, 3g 8.77 8.52 8.44 = 8.58 8.52 ✓ 8.74	19 06 14	
l 3080	" 18 1891	8m ✓ 10.58	0 3 At ✓ 10.88	Near defective plate	
l 3015			a 5, 1 t ✓		
l 3293			a 5, 1 t ✓		

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July 10, 1905.

Var. $3^h\,55^m$ $+27°\,30'$

Plate	Date	Aper.	Est.		
l 1948	Oct. 8, 1890,	16m	f2,1R ✓		
l 2490			a4,1f ✓		
l 2311			a5,1f ✓		
l 17178			a5,1f ✓		
l 17102			a5,1f ✓		
l 17309			a5,1f ✓		
l 22211			a4,2f ✓		
l 17782			a3,3f		
l 22467			a4 R ✓	On edge of film	
l 24088			a4,1f ✓		
l 24209			a4,2f ✓		
l 24446			a4,2f ✓		
l 24484			a5,1f ✓		
l 25593 fg.			a5,1f		
l 26035			a5, R ✓	On edge of film	
l 26115 fg.			a5 R ✓	" " " "	
l 26145 fg.			a5,1f ✓		
l 26612			a5 R ✓	On edge of film	
l 27624			a5,1f ✓		
l 27628			a5,1f ✓		
l 26468	Jan. 13, 1901	11m	✓ 8.52 8.64 f3,1g	✓ 8.82 8.74	8.64 = 8.73 09 09
l 29844			a5,1f ✓		
l 29837			a4,1f ✓		
l 29442			a5,1f ✓		
l 27738			a5,1f ✓		
l 32068			a5,1f ✓		
l 32109			a5,1f ✓		
l 32125			a4,1f ✓		
l 32126			a5,0f ✓		

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July 10, 1905.

Near Cat. 3h 55m +27° 30'

Plate	Date	Eqn.	Cat.	
L32195			a5, 1t ✓	
L32444			a5, 0t ✓	
L32787		✓	t1, 2R ✓	
L21692 Sp.	Nov. 12, 1898	64m 8.05 8.17	d3, 1e ✓8.35 8.27 − 8.17 = 8.26 09 09	
L21651			a4, R ✓	Dredge ff pl
L21618			a4 R ✓	" " " "
L19572 Sp.			Dredge ff pl ✓	
L19571 Sp.			" " " " ✓	
aC 4487			a5, 1t ✓	
aC 4542			a5, 1t ✓	
aC 4551			a5, 0t ✓	
aC 4705			a5, 0t ✓	
aC 5035			Too thin ✓	
aC 5159			a5, 1t ✓	
aC 5186			a5, 1t ✓	
aC 5232			a5, 0t ✓	
aC 5267			a4, 1t ✓	
aC 5331			a5, 1t ✓	
aC 5377			a5, 1t ✓	
aC 5395			a5, 1t ✓	
aC 4180			a5, 1t ✓	
aC 4262			a5, 1t ✓	
aC 4317			a5, 1t ✓	
aC 4367			a5, 1t ✓	
aC 4398			a5, 0t ✓	
aC 4415			a5, 1t ✓	
aC 4454			a5, 1t ✓	
aC 3299			a5, 0t ✓	
aC 3345			a5, 1t ✓	

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July 10, 1905.

Star Var. $3^h\,55^m$ $+27^\circ\,30'$

Plate	Date	Appr.		Est.		
AC 2376				a5, 1 t. v		
AC 3435		7.32 7.40	t1, 3 v	v 7.42 7.70	7.40	=7.41 01 01
AC 3948				a5, 0 t v		
AC 3975				a5, 0 t v		
AC 3983				a5, 1 t v		
AC 4035				a5, 1 t v		
AC 4139				a5, 1 t v		
AC 2938				a5, 0 t v		
AC 2987				a5, 0 t v		
AC 3009				a5, 1 t v		
AC 3036				a5, 1 t		
AC 3061				a5, 1 t v		
AC 3075				a4, 1 t v		
AC 3108				a5, 1 t v		
AC 3118				a5, 1 t v		
AC 3150				a5, 1 t v		
AC 3172				a5, 1 t v		
AC 3183				a5, 0 t v		
AC 3199				a5, 1 t v		
AC 3255				a5, 1 t v		
AC 3276				a5, 1 t v		
AC 1303				a5, 1 t v		
AC 1309		✓		a5, 1 t v		
AC 1312	May 1, 1905	8 m	8.52 8.54	t1, 2 v	8.62 8.74	8.54 =8.58 04 04
AC 1317				a5, 0 t v		
AC 1327				a5, 1 t v		
AC 1393				a5, 1 t v		
AC 1384				a5, 1 t ✓		
AC 1738				a6, 0 t ✓		

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July 10, 1905.

Star Pal. 3 55 +27 30

Plate	Date	Exp.	✓	Cat.			
AC 5525	Nov. 14, 1904	57 m	8.52 8.64	f 3, 19	✓ 8.82 8.74	8.64 = 8.73	09 09
AC 5535				a 5, 7 f	✓		
AC 5566				a 5 0 f	✓		
AC 5597	Nov. 25, 1904	69	8.52 8.54	f 2, 29	✓ 8.72 8.74	8.54 = 8.63	09 09
AC 5631				a 5, 7 f	✓		
AC 5639				a 4, 1 f	✓		
AC 5941				a 5, 1 f	✓		
AC 5925				a 4, 2 f	✓		
AC 5979				a 5, 1 f	✓		
AC 5990				a 5, 0 f	✓		
AC 6114				a 5, 1 f	✓		
AC 6164				a 5, 0 f	✓		
AC 5737				a 5, 1 f			
AC 5709				a 5 1 f	✓		
AC 5682				a 5, 1 f	✓		
J 24716				a 5, 1 f	✓		
J 22344				a 5, 1 f	✓		
J 3085			✓ 8.52 8.64	f 2, 19	✓ 8.72 8.74	8.64 = 8.68	04 04
B 1021			✓ 9.98	l 2, 3 m	✓ 10.18 10.08	9.78 = 9.98	20 20
"			✓ 9.78 10.58	04, 0 f	✓ 10.98 10.98	10.98 = 10.98	00 00
			✓ 10.08	m 5 R	✓ 10.58 R		
B 248			✓ 10.08	m 1 R	✓ 10.18 R		
BAC 2367	Feb. 27, 1902		✓ 8.52 8.44	f 2, 29	✓ 8.72 8.74	8.44 = 8.58	14 14
AC 4239			✓ 10.43 10.48	m 3, 1 b	✓ 10.73 10.58	10.48 = 10.60	13 12
AC 4728			✓ 10.08 10.33	m 4, 1 m	✓ 10.48 10.43	10.38 = 10.40	08 07
AC 5966			✓ 9.46 9.28	h 1, 3 k	✓ 9.56 9.58	9.28 = 9.42	14 14
AC 5133			✓ 9.46 9.28	h 1, 3 k	✓ 9.56 9.58	9.28 = 9.42	14 14
AC 2802			✓ 8.05 8.17	d 3, 1 d	✓ 8.35 8.27	8.17 = 8.26	09 09
AC 6013			✓ 8.52 8.54	f 3, 29	✓ 8.82 8.74	8.54 = 8.68	14 14
AC 6014			✓ 7.76 7.95	c 3, 1 d	✓ 8.00 8.05	7.95 = 7.98	02 03

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July 10, 1905.

h m ° ′

Aver Val. 3 55 +27 30

Plate	Date	Exp.		Est.					
ac6042		8.52 8.44	✓	f 2, 3 g	✓ 8.72 8.44	8.58	14	14	
ac1076		10.08 10.13	✓	m 1, 3 n	10.18 ✓ 10.43	10.13 = 10.16	02	03	
am3228		9.58	✓	k 2 1 f	✓ 9.68				
am2326		8.27 8.42	✓	e 4, 1 f	✓ 8.67 8.52	8.42 = 8.54	13	12	
am3248		10.08	✓	m 1 f	✓ 10.18				
am223		10.08	✓	m 3 f	✓ 10.38				
ac4374		10.08 10.33	✓	m 3, 1 n	✓ 10.38 10.43	10.33 = 10.36	02	03	
ac5397		9.46 9.48	✓	h 3, 1 k	✓ 9.76 9.58	9.48 = 9.62	14	14	
ac3319		8.74 9.36	✓	g 2, 1 h	✓ 8.94 9.46	9.36 = 9.15	21	21	
ac1733		7.70 7.95	✓	c 3, 1 d	✓ 8.00 8.05	7.95 = 7.98	02	03	
ac2025		7.70 7.95	✓	c 3, 1 d	✓ 8.00 8.05	7.95 = 7.98	02	03	
am337		8.05 7.87	✓	d 1, 4 e	✓ 8.15 8.27	7.87 = 8.01	14	14	
am1610		8.74 9.16	✓	g 2, 3 h	✓ 8.94 9.46	9.16 = 9.05	11	11	
am2348		8.05 7.97	✓	d 2, 3 e	✓ 8.25 8.27	7.97 = 8.11	14	14	
am3148		9.98 9.88	✓	l 1, 2 m	✓ 10.08 10.08	9.88 = 9.98	10	10	
ac5527		9.58 9.88	✓	l 2 3, 1 l	✓ 9.88 9.98	9.88 = 9.88	00	00	
ac5598		9.46 9.38	✓	h 2, 2 k	✓ 9.66 9.58	9.38 = 9.52	14	14	
ac6034		8.74 9.36	✓	g 4, 1 h	✓ 9.14 9.46	9.36 = 9.25	11	11	
am222		9.58 9.78	✓	k 3, 2 l	✓ 9.88 9.98	9.78 = 9.83	05	05	
ac4442		9.58 9.88	✓	k 3, 1 l	✓ 9.88 9.98	9.88 = 9.88	00	00	
ac2862		8.05 8.07	✓	d 3, 2 e	✓ 8.35 8.27	8.07 = 8.21	14	14	
ac3089		9.58 9.88	✓	k 4, 1 l	✓ 9.98 9.98	9.88 = 9.93	05	05	
ac3129		8.05 8.07	✓	d 3, 2 e	✓ 8.35 8.27	8.07 = 8.21	14	14	
ac624		9.46 9.28	✓	h 1, 3 k	✓ 9.56 9.58	9.28 = 9.42	14	14	
Q21871				a 5, 1 f	✓				
Q24209				a 5, 1 f	✓				
Q11735				a 5, 1 f	✓				
Q9611				a 4, 2 f	✓				
Q20197				a 4, 2 f	✓				

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July 10, 1905.

Plate	Date	Eff	Est.			
AC 4287			a5, 1f ✓			
AC 1685			a5, 1f ✓			
f.			~~n3,~~			

July 11, 1905

l 33177 ✓	July 10, 1905	✓ 10.43 10.48	n3, 1o	10.73	10.48 = 10.60 13 12	
l 33175 ✓	" " "	✓ 10.43	n1 1f	10.53		
l 33176 ✓	" " "	✓ 10.08	n2 1f	10.28		
l 33178 ✓	" " "	✓ 10.43	n3 1f	10.73		
C 1585 3 0 ✓	" " "	✓ 10.58	03 R	(1 eff'v)	10.88	
"	" " "	✓ 10.58 10.88	03, 1f	(2 eff'v)	10.88 10.88 = 10.88 10.98	
"	" " "	10.58 10.98	03, 0f	(3 eff'v)	10.88 10.98 = 10.93 10.98	
AC 2317			a5, 1f ✓			
AC 1280			a5, 1f ✓			
AC 680			f2, 1c ✓			
AC 1336			a5, 1f ✓			
AC 2219			a5, 1f ✓			
AC 2136			f2, 1c ✓			
AC 2075			a5, 1f ✓			
AC 2013			a5, 1f ✓			
AC 2003			a5, 1f ✓			
AC 1887			a5, 1f ✓			
AC 1853			a5, 1f ✓			
AC 1745			a5, 1f			
AC 2261			a5, 1f ✓			
AC 2743			a5, 1f ✓			
AC 2306			a5, 1f ✓			
AC 2235 664			a5, 1f ✓			
AC ~~106~~			a5, 1f ✓			

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July 11, 1905

Star Cat cont.

Plate	Date	Eff	Est.		
ab 588			a4, 1+ ✓		
ab 4106		✓9.08 9.88	k3, 1 ✓9.98	9.88 9.88=9.88	
ab 5832		0.43 ✓10.48	m 3, 10 ✓10.58	10.73 10.48=10.60	13 12
ab 5526		10.43 ✓10.28	m 1, 30 ✓10.58	10.53 10.28=10.40	13 12
~~ab 4042~~					
ab ~~4747~~ 1747			a5, 1+ ✓		
ab 80			Too poor ✓		
ab 564			a5, 1+ ✓		
ab 1225			a5, 0+ ✓		
ab 1357			a5, 1+ ✓		
ab 3229			a5, 0+ ✓		
ab 3252			Too poor ✓		
ab 3267			a5, 1+ ✓		
ab 3365			a5, 1+		
ab 3406			a5, 1+ ✓		
" 6247			a5, 0+ ✓		
" 6153			a5, 1+ ✓		
" 6116			a5, 0+ ✓		
" 6091			a5, 1+ ✓		
" 5970			a5, 0+ ✓		
" 5937			Image defective ✓		
" 5903			a5, 1+ ✓		
" 5804			a5, 0+ ✓		
" 5783			a5, 1+ ✓		
" 5748			f1, 2c ✓		
" 5689			a5, 0+ ✓		
" 5610			a5, 1+ ✓		
" 5514	✓ 7.70 8.05 7.97		c4, 0d, 3e	✓8.16 8.05 8.27	8.05 7.97=8.04 d=c=107
" 5469			a5, 0+ ✓		

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1905phae.proj..818F

July 11, 1905

Plate	Date	Eff.	Est.
AG 3420			a5, 0+ ✓
" 3425			a4, 0+ ✓
" 2878			a5, 0+ ✓
" 2428			a5, 0+ ✓
" 2380			a5, 1+ ✓
" 2343			a5, 1+ ✓
" 2322			a5, 0+ ✓
" 2292			a5, 1+ ✓
" 2251			a5, 1+ ✓
" 2203			a5, 1+ ✓
" 2164			a5, 1+ ✓
" 1924			a5, 1+ ✓
" 1191			a5, 0+ ✓
" 1156		✓	a5, 0+ ✓
" 2002		7.70 7.95	c3, 1d, ✓ 8.00 7.95-7.98 02.03 8.05
" 1979			a5, 1+ ✓
" 1937			a5, 1+ ✓
" 1858			a5, 0+ ✓
" 1041			a5, 1+ ✓
" 1043			Doubtful ✓
" 1054			a5, 1+ ✓
" 1182			a5, 0+ ✓
" 579			a5, 1+ ✓
" 504			Doubtful ✓
" 163			a5, 1+ ✓
" 1035			a5, 1+ ✓
" 1026			a5, 1+
" 1037			a5, 1+ ✓

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1905phae.proj..818F

July 11, 1905.

Plate	Date	Exp.	Est.
AC 1038			a5, 1f v
" 1039			9.46 h 1 f v 9.56 = f
" 1294			a5, 1 f v
" 1291			a5, 1 f v
" 1290			a5, 0 f v
" 1289			Torpon v
" 1285			" " v
" 1026			" " v
" 1027			" " v
" 1030			a5, 1 f v
" 1709			a5, 1 f v
" 1377			a5, 1 f v
" 1059			a5, 1 f v
" 685			a5, 0 f v
" 678			a5, 0 f v
" 580			a5, 1 f v
" 228			a5, 0 f
" 151			Near edge v
" 143			" " v
" 127			a5, 1 f v
" 479			f2, 0 c
" 5170			a5, 1 f v
" 5204			f2, 1 c v
" 5262			a5, 1 f v
" 5282			a5, 0 f v
" 5297			Torpon v
" 5326			a5, 0 f v
" 5325			a5, 1 f v
" 5389			a5, 1 f v

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1905phae.proj..818F

July 11, 1905

	Plate	Date	Exp	Est.		
ae	4213			a5, 0t ✓		
"	4336			a5, 1t ✓		
"	4408			a5, 0t ✓		
"	4478			a5, 0t ✓		
"	4516			a5, 0t ✓		
"	4527			a5, 1t ✓		
"	4573			a5, 0t ✓		
"	4582			a5, 1t ✓		
"	4597			f1, 3g ✓	8.52 8.44	8.62 8.44 = 8.53 09 09 8.74
"	4632			a5, 0t ✓		
"	4688			a5, 0t ✓		
"	4740			a5, 0t ✓		
"	3954			a5, 1t ✓		
"	3985			a5, 1t ✓		
"	4012			a5, 1t ✓		
"	4131			f1, 2r ✓		
"	4153	✓	✓	a5, 1t ✓	✓	8.00 8.05 = 7.98 02 03
"	2958		7.70 8.05	c3, 1d		
"	3024			a5, 0t ✓		
"	3138			a5, 1t ✓		
"	3218			a5, 0t ✓		

July 12, 1905

ae	2136			a5, 1t ✓
ae	2078			f1, 2r ✓
ae	2012			a5, 1t ✓
ae	1972			f2, 1r ✓
ae	1851			a5, 1t ✓

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1905phae.proj..818F

July 12, 1905.

Plate	Date	Eff.		Est.		
AE 1817		8.27 8.42	e 3, 1 f ✓	8.57 8.42 = 8.50	07	08
" 1708				8.52		
" 1318			a 5, 1 f ✓			
" 1302			a 5, 1 f ✓			
" 4348			f 1, 2 c ✓			
" 1297			f 2, 2 i ✓			
" 1295			a 5, 1 f ✓			
" 1260			f 2, 1 c ✓			
" 1258		10.08	a 5, 1 f ✓ ✓	10.48 10.43 10.28 = 10.40		
" 1165		10.28	m 4 on 30	10.43 10.58	08	03 12
			a 5, 1 f ✓			
B 3159		✓ 10.58	o 3, o f r q ✓	10.88 10.98 = 10.93	05	05
				10.98		

July 13, 1905

A 6558 ✓			I chance, film badly damaged at t in defective region t e on edge of it.			
A 6563			a 5, 1 f ✓			

July 24, 1905

I 33208	Date	24h 11m	7.70 7.85 c 3, 2 d	x 8.00 7.85 = 7.92 ✓ 8.05	08	07
I 33209		10	7.70 7.95 c 4, 1 d	8.10 7.95 = 8.02 ✓ 8.05	08	07
I 33212		10	9.46 h 3 ✓	9.76 ✓	Poor fl.	
I 33210		10	8.27 8.42 e 2, 1 f	8.47 8.42 = 8.44 ✓ 8.52	03	02
I 33211		10	8.74 9.16 g 2, 3 h	8.94 9.16 = 9.05 ✓ 9.46	11	11
C 15857		10s	7.70 7.75 c 2, 3 d	1st eff.	7.90 7.75 = 7.82 8.05	08 07
"		"	7.70 7.75 c 3, 3 d	2nd "	8.00 7.76 = 7.88 ✓ 8.05	12 12
"		"	7.70 7.85 c 3, 2 d	3rd "	8.00 7.85 = 7.92 ✓ 8.05	08 07
"		"	7.70 7.85 c 4, 2 d	4th "	8.10 7.85 = 7.98 ✓ 8.05	12 13
"		"	c 4, 2 d	5th "		
"		"	c 4, 2 d	6th "		
"		"	c 4, 2 d	7th "		

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1905phae.proj..818F

Pl.	July 21, 1905.		Obs.		08 07
C 15857		7.70 7.95	c4, 1d	8 hr eff.	8.10 7.95=8.02 8.05 16 01 17
"		7.70 8.05 7.87	c5, 0d, 4e	9 hr "	8.20 8.05 7.87=8.04 8.05 8.27
"			~~0d, 1c~~ 5, 0d, 4e	10 hr "	
"		8.05 7.97	d1, 3e	11 hr "	11 6 09 09 8.15 7.97=8.04 8.27
"			d3, 1e	12 hr "	
C 15858	10.5 mm		d3, 1e	1st eff.	
"		8.52 8.54	~~2, 2g~~ ~~4, 1h~~	2nd "	8.72 8.54=8.63 8.74 09 09
"		8.74 9.06	g1, 4h	3rd "	8.84 9.06=8.95 11 11 9.46
"		8.74 9.26	g3, 2h	4th "	9.04 9.26=9.15 11 11 9.46 15 17 01
"		8.74 9.28	g4, 0h, 3k	5th "	9.14 9.46 9.28=9.29 9.46 9.58
"				~~6th~~	09 09 01
C 15859	15 mm	9.46	h3, 0k, 3l	1st eff.	9.76 9.58 9.68=9.67 9.58 9.98 05 05
"		9.68 9.58 9.78	k1, 2l	2nd "	9.68 9.78=9.73 9.98
C 15860	10 mm	9.46	h3	9.76	

Aug 1, 1905

l 25935	l2, 1e	✓
l 24161	e2, 2f	✓
AC 1741	Too poor	✓
AC 3327	a5, 1e	✓
AC 3361	a5, 1e	✓
AC 3592	Too poor	✓
AC 4798	a2, 2d	✓
AC 5935	a5, 1e	✓
AC 1036	a5, 1e	✓
AC 1040	a5, 1e	✓
AC 1301	Too poor	✓
AC 1378	" "	✓

Continued

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1905phae.proj..818F

& July 14, 1905.

A I 3820 May 4. 1905. Exam. of plates for object Obs. by T. H. Astbury.
See letter of July 2 1905
(Astbury to Turner).

AI 3934 June 28, 1905.
AI 3940 June 29. 1905.
AI +4° 3250 4 38 47.3 +4 18.3 7.0
+ 4° 3253 " " " " " " thy deen, also trail

A.C. 6466. In ... regn. and Re.
in

A.C. 6485 ... in region ... as A.C. 6466

Comsp. from Arequipa
page 1140.

Mansons Nebula.

B 33767.
a rather prominent nebula
not in N.G.C.
30' × 12' ±
approx. pos. (1875.)
16h 48m.2 . S 40° 13'.

" I saw a star of about mag 5, situated almost in line with 43 and 45 (Hercules), and at about ⅓ of their distance beyond 45 and slightly East"

Letter returned to H H Turner July 17, 19

AI 3820 ... 758
AC 6462 ... 683
AI 3934 ... 680
AC 6462 ... 635
AI 3934
AC 6462 ... 678
AC 6466
AI 3940 ... 633
AC 6485 ... 697

Plates A.C. 64... 9 16 41 46.1 +4° 37.4
+4° 3262 16 ... 7 +4° 42.0 9.3

Plates 9 +4° 3259 — Mag 9 May 31 [32,128]

34-55 13 14
16 19 10 55
18 36 4 19
3 50
18 4

1905phae.proj..818F

& July 14, 1905.

A I 3820 May 4, 1905. Exam. of plates for object Rs. by J. H. Astbury.
See letter of July 2 1905 (Astbury to Turner).

AI 3934 June 28, 1905.
AI 3940 June 29. 1905.
AI +4° 3250 4 38 47.3 +4 18.3 7.0
+4° 3253 4 39 5.3 +4 6.2 8.0, "distinctly seen, also trail

A.C. 6466. June 28, 1905. Shows all stars of tenth magn. and be. in this region.

A.C. 6485 July 4, 1905. Shows same stars in region as A.C. 6466

			Eph.	G.M.T.	J.D.
			m	h m	
AI 3820	May 4		70	18 11	6970.758
AC 6462				+	
~~AI 3934~~	June 27	missing	67	16 24	7024.683
AC 6462	June 27		65	16 19	7024.680
AI 3934	June 28		58	15 14	7025.635
~~AC 6463~~	~~June~~				
AC 6466	"		70	16 17	" .678
AI 3940	" 29		58	15 12	7026.633
AC 6485	July 4		64	16 43	7031.697

"I saw a star of about mag 5, situated almost in line with 43 and 45 (Hercules), and at about ⅔ of their distance beyond 45 and slightly East"

Letter returned to H H Turner July 17, 19

Plates A.C. 6462, and 6466 show the star +4° 3259 16h 41m 46.1 +4° 37.4
+4° 3262 16h 42m 4.8 +4° 53.8 9.5, +4° 3263 16h 42m 16.7 +4° 42.0 9.3

Rotate 9 +4° 3259 = Mag 9 Mag 31 [32,128]

34-55 — 15 14
16 19 — 10 55
18 36 — 4 19
3 [illegible] — 29
18h 4 — 3 50

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1905phae.proj..818F

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1905phae.proj..818F

Aug. 1, 1905

Algol Var + 27° X 623 comb.

AC 1383	Too poor ✓
" 1394	" " ✓
" 1298	" " ✓
" 1023	" " ✓
" 1024	" " ✓
" 1025	" " ✓
" 1028	" " ✓
" 1029	as, t ✓
" 1031	Too poor. ✓
" 1032	" " ✓
" 1033	Image irregular ✓
" 1034	as, t ✓
" 959	as, t ✓
" 71	Too poor. ✓
" 96	" " ✓
" 101	Image irregular ✓
" 108	Too poor. ✓
" 228	as, t ✓
" 442	t 3, 0 c ✓
" 492	Too poor. ✓
" 5881	as, o t ✓

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1905phae.proj..818F

August 3, 1905.

Exam. of Plates for var. of star No. 51 in AB.
Approx R.A. $2^h 48^m.4$, Dec. +60° 9' (1900).

Plate	Date	Exp.
I 2714	Jan. 6 1891	22m.
5139	Dec. 13 "	12
7774	" 29 1892	15
9785	Oct. 25 1893	10
9950	Nov. 18 "	23
12186	Jan. 2, 1895	12
13211	Aug. 13. "	60
16577	~~Dec. 7~~ Nov 22. 1896	15
25928	Oct. 16, 1900	14
26029	Nov. 10. "	12
Ab 3746	July 2. 1903	68
3790	" 27 "	51
3849	Aug. 20 "	50
3896	Sept. 6 "	84
3917	" 11 "	98
3932	Sept. 13, 1903	91
3937	" ~~21~~ 14 "	69 97
3959	" 21 "	69
3945	" 16 "	95
4214	Nov. 15 "	91
5122	Aug. 4 1904	39

By eyeam. of the above plates shows slight if any change in the above star, not more than about 0.3 mags, and certainly not enough to warrant announcement.

W. P. Fleming. Aug. 3, 1905.

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1905phae.proj..818F

August 19, 1905.

Exam. D-plates for ident. of T Draconis for enl. for Dr. Campbell.

Plates	Date	Exp.	
I 23165	July 14 1899	28m	Ft. comp. br.
I 32998 D.	April 8 1905	60m	
I 21506	Oct. 25 1898	10m	
I 20841	June 9 1898	15m	Ft comp. br.
I 20498	March 14 1898	20m	
I 20736	April 21 1898	10m	
I 20657	April 7 1898	15m	
I 6744	Aug. 17 1892	15m	
I 18767	Sept 13 1897	15m	
I 16443	Nov. 3 1896	14m	
I 13557	Sept. 30 1895	12m	
I 15795	Aug. 28 1896	11m	
I 9181	Aug. 11 1893	19m	
Enl. I 20783			Ft. comp. br.
I 20608			
I 29253	Sept. 10 1902	12m	
I 27442	Sept. 7 1901	15m	
I 18739	Sept. 9 1897	12m	

The above plates show very little variation (about 0.5 mags.) in the star which has been assumed to be T Draconis, and the spectrum of this object is not fourth type. It may be Cl. Kor Ma. A faint star closely adjacent [illegible] north shows a variation of at least 1.0 magnitude but is much too faint on the plates to [illegible] This may be T Draconis, & is of fourth type star. Light curve of I 32998 and I 32998 [illegible] It is a new variable. [illegible] Aug 19 1905.

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1905phae.proj..818F

August 19, 1905.

Exam. of plates for ident of V Draconis.
for ecl.

Plate	Date	Exp.
I 20736	April 21 1898	10m
I 23165	July 14 1899	28m
I 9181	Aug 11 1893	19m
I 15795	Aug 28 1896	11m
I 13551	Sept. 30 1895	12m
I 6744	Aug. 17 1892	15m
I 27442	Sept. 7 1901	15m
I 18739	Sept. 9 1897	12m
I 20498	March 14 1898	20m
I 20841	June 9 1898	15m
I 32044	Sept. 16 1904	16m
I 25897	Oct. 4 1900	29m
I 6743	Aug 17 1892	14m
I 27166	June 30 1901	9m
I 22765	April 22 1899	14m
I 15850	Sept. 1 1896	13m
I 21506	Oct. 25 1898	10 16m
I 25179	April 15 1900	16m
I 29263	Sept. 10 1902	12
I 21210	Sept. 17 1898	10m
I 20657	April 7 1898	15m

Plate	Date	Exp.	Plate	Date	Exp.
AC 5115	July 31 1904	37m			
AC 5336	Oct. 15 1904	71			
AC 5383	Oct. 17 1904	61			
AC 5289	Sept. 27 1904	69			
AC 5517	Nov. 12 1904	83			
AC 5162	Aug. 22 1904	75			
AC 5593	Nov. 25 1904	63			
AC 5111	July 30 1904	80			
AC 5720	Dec. 14 1904	94			
AC 5099	July 27 1904	69			
AC 5889	Jan. 14 1905	60			
AC 4944	June 9 1904	60			
AC 4727	March 9 1904	60			
AC 4134	Oct. 30 1903	90			
AC 5418	Oct. 24 1904	61			
AC 5911	Jan. 28 1905	40			
AC 6021	Feb. 17 1905	58			
AC 6074	Feb. 26 1905	63			
AC 6141	March 8 1905	60			
AC 6150	March 10 1905	61			
AC 6189	March 16 1905	58			
AC 6506	July 12 1905	62			
AC 6217	March 23 1905	72			
AC 3797	Aug 1 1903	84			
AC 5065	July 16 1904	68			
AC 4868	April 30 1904	60			

The above plates show a slight change in
BD. + 54° 1925 1855 pos. 17 54N. 7 + 54 7 mags. 7.5 suspected of variation in I 32998,
"If Md 3 new var?". Look up and other plates, especially
AC and AD plates.

W. P. Fleming

An examination of a number of AC plates confirms a variation
of at least 0.6 magnitudes. W. P. F.

Have notified Mr. L. Campbell to obs. with V Draconis & get confirmation visually.

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1905phae.proj..818F

August 31, 1905.

Exam. of Plate I 33254 for Pallas.

Plate	Digital	Exp.	Object.	R.A. 1855 Dec. 1855.	Rem.
I 33254	Aug. 17, 1905	10m.	Pallas.	20 8.0 +13° 14′	moving obj.
I 16102	Oct. 7, 1896	10	—	〃 〃	〃
I 33254	Aug. 17, 1905	?		20 15.3 +13 11	Moving obj. too faint?
I 16102	Oct. 7, 1896	—	?	Prismatic Comp.	√

I 33258 Aug. 18, 1905 Pallas? 20 7.4 +13 0. .

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1905phae.proj..818F

August 31, 1905.

Examd. 8 plates for additional images of new asteroid marked by arrow on A 6637, and in Cambridge, by W.P.F. on A 6644, ~~and~~ at first supposed to be Ceres, and announced as such in H.C.O. Circ. 101.

A moving object marked on Plate A 6656, taken April 12 1904 7^h 60 m.
R.A. Dec.

Looked for but not found on A 6637, and 6641. May be due to defect.

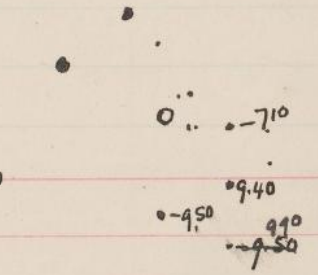
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1905phae.proj..818F

August 31, 1901

Spectr. of plates for object showing broad bright hydrogen bands on # C 15907 taken on August 18, 1905 R.A. 18 54.2 Dec. −4° 33' (approx 1855) and probably a Nova. Found by W. P. Fleming Aug. 30, 1905.

	Plate		Date	Exp.	R.A. 1855	Dec.	Remarks
	C 15907	✓	Aug. 18, 1905	15h 14m .635	18 54.3	− 4 34	Magn. 6.5 H6 H8 H5
				(Approx BB)	18 54.2	− 4 33 (approx)	Broad Br. lines.
					54.5	− 4 38	
					56.9	− 4 34	
	AC. 6590	✓	Aug 10, 1905	85 (on wedge).			N.S. ∠
1	I 31860		July 13, 1904	14			N.S. ∠ 10.5
2	Spec. I 20799		~~May 29, 1898~~ ~~Aug 4, 1905~~	~~61~~ ~~58 (on wedge)~~			N.S. ∠ 9.5
	AC 6576	✓	Aug. 4, 1905	58 (on wedge			N.S. ∠ 9.5
3	Spec. ~~YB~~ B 23253		July 3, 1899	254			N.S. ∠ 10.
	AC. 6565	✓	Aug. 2, 1905	60			N.S. ∠ 9.5
4	I 31901		July 29, 1904	15			N.S ∠ 10
5	I 31884		July 20, 1904	10			N.S ∠ 11.
	A.S. 4078		August 19, 1905	60			Spectr. very bright Does not photograph stars
	~~AC. 6614~~	✓					
	AC. 6632	✓	August 26, 1905	67			10.0 ~~9.7~~ 10.1 9.8
	~~A.S.~~ 4059						
1	4074						200 ft.
2	4078						~~200 ft~~
	4088						
3	4093						200 ft.
4	4094						200 ft.
	4108						
6	I 1494	✓	July 20, 1890	11			N.S. ∠ 10
	AC. 6614	✓	Aug. 21, 1905	63.			Magn 7 or 7.5?
7	I 8869		July 21, 1893	13			N.S. ∠ 10.0
	I 15488		July 18, 1896	10			∠ 10.5
	I 16188		Oct 19, 1896	11			N.S ∠ 10.5
	I 16547		Nov 16, 1896	10			N.S ∠ 10



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1905phae.proj..818F

Plate	Date	Exp.	RA	Dec.	Rem.
I 17431	Feb. 24 1897	10			N.S. < 11
I 18142	May 25 1897	13			N.S. < 11
*I 17844 18185 ✓	Apr. 12 1897	10			N.S. < 12
I 18424	Aug. 5 1897	12			N.S < 11
I 19190	Oct. 8 1897	11			N.S < 10.5
I 20278	Feb. 26 1898	15			N.S < 12
I 21062	Aug. 15. 1898	10			N.S < 10.5
I 25963	Oct. 20 1900	10			N.S < 12
I 11185 ✓	June 13 1894	19			N.S < 10.5
A 6506	Aug. 15 1903	240			N.S. < 16.
B 2655 ✓					
B 2656 ✓					
B 3013 ✓					

* Obj. near position looks like very faint nebula

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1905phae.proj..818F

September 1, 1905.

Edens of Plate I to locate position of Nova Aquilae No 2 on A

x - (-17.90)

Diff x²

+5.58
-5.25
-1.82
+17.08
+23.15
+57.60
-0.85
+7.25
-26.50
+32.65
+8.05
+6.25
+5.30
+12.98
+13.55
+11.25
+16.02
+11.05
+12.00
+10.25
+9.05
+8.95
+9.95
+8.85

m 9.85 .80 4.80
h 10.65
a 12.38

3.1 3.1
28.6 1185

28.6 : 1185 :: 3.1 : x

208 : 114 = 4.2 4.2

Nova 1855 RA 18h 54m 25.5 Dec −4° 39.0
" " 1900
Appal " " 18 57 07 " −4° 34'

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September 2, 1905.

Meas. to det. pos. of comp. stars for Nova Aquilae No. 2.

R.A. 18 5 — −4°

Plate A 6506

y−(−6.90) diff y			x	y	x	y	30x −17.90	60x −6.90 Δδ		Δα (1855)		
	Nova		[−8.80	−7.35]	[−8.85	−7.30]	17.65	7.32	35.30	$18^h 55^m 1^s.0$ $\delta -4° 31'.7$		
+6.80	b	x	−12.40 (12.38)	−6.10	−12.38	−6.10	−24.75 (~~−12.38~~)	−0.10	−49.50	−49.7		
+0.60	a	x	−23.15	−6.30	−23.15	−6.30	−46.30	−6.30	−92.60	−92.9		
−13.85		c	−19.70 (19.72)	−20.75	−19.75	−20.75	~~−39.45~~	−20.75	−78.90	−79.2		
−21.30		d	−0.80 (0.82)	−28.20	−0.85	−28.20	−1.65	−28.20	−3.30	−3.3		
+3.30	f	e	+5.25	−3.40 (6)	+5.25	−3.60	+10.50	−3.60	+21.00	+21.1		
−5.70	g	f	+39.70	−12.60	+39.70	−12.60	+79.40	−12.60	+158.80	+159.3		Calc
−31.80	e	g	−18.75 (18.72)	−38.70	−18.70	−38.70	−37.45	−38.70	−74.90	−75.1	μ²	μ³
−9.50	k	h	−10.65	−16.40	−10.65	−16.40	−21.30	−16.40	−42.60	−42.7	18.3	48.1
−14.95	h	k	−44.40	−21.85 (2)	−44.40	−21.85	−88.80	−21.85	−177.60	−178.2		53.5
−5.05		l	+14.75	−11.95	+14.75	−11.95	+29.50	−11.95	+59.00	+59.2		43.0
+6.05	n	m	−9.85	−0.85	−9.85	−0.85	−19.70	−0.85	−39.40	−39.5	20.5	42.5 (3)
"	Nova		[−8.85	−7.30]	[−8.85	−7.25]	[−17.70]	[−7.28]	[−35.40]	−35.5	[25.5	38.6]
+0.95	m	x	−11.65	−5.95	−11.65	−5.95	−23.30	−5.95	−46.60	−46.8	14.2	37.7
+0.65		o	−12.60	−6.25	−12.60	−6.25	−25.20	−6.25	−50.40	−50.6	10.4	38.0
−3.55 (8)		p	−5.00 (4.98)	−10.45 (10.48)	−4.95	−10.50	−9.95	−10.48	−19.90	−20.0	41.0	42.2
−4.00		q	−4.35	−10.90	−4.35	−10.90	−8.70	−10.90	−17.40	−17.5	43.5	42.6
+5.65		r	−6.65	−1.25	−6.65	−1.25	−13.30	−1.25	−26.60	−26.7	34.3	32.9
−1.70		s	−1.90 (1.88)	−8.60	−1.85	−8.60	−3.75	−8.60	−7.50	−7.5	53.5	40.3
−0.40		t	−6.85	−7.30	−6.85	−7.30	−13.70	−7.30	−27.40	−27.5	33.5	39.0
−1.92		u	−5.90	−8.80 (8.82)	−5.90	−8.85	−11.80	−8.82	−23.60	−23.7	37.3	40.5
−3.15		w	−7.65	−10.05	−7.65	−10.05	−15.30	−10.05	−30.60	−30.7	20.3	41.7
−1.20		x	−8.85	−8.10	−8.85	−8.10	−17.70	−8.10	−35.40	−35.5 (61)	25.5	39.8
+0.28		y	−8.95	−6.60 (6.62)	−8.95	−6.65	−17.90	−6.62	−35.80	−35.9	25.1	38.3
+0.60		z	−7.95 (7.98)	−6.30	−8.00	−6.30	−15.95	−6.30	−31.90	−32.0	29.0	38.0
−0.38		α	−9.05 (9.02)	−7.30 (7.28)	−9.00	−7.25	−18.05	−7.28	−36.10	−36.2	24.8	39.0
..	Nova		[−8.85	−7.30]	[−8.85	−7.30]	[−17.70]	[−7.30]	[−35.40] (35.37)	−35.5	[25.5	39.0]

(Approx 1855). R.A. 18 54 55.6 Dec −4 38.6

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Sept. 4, 1905 (Labor Day).

Meas. to det. position of Nova Aquila No. 2. Found on C 15709.

Sept. 1

Plate D 11521 from D 11514 from C 15938 Ef

	x	y	x	y	x	y	Δx	Δy		
Nova	+9.65	+15.30	+9.60	+15.35						
k	+20.00	−39.85	+20.00	−39.90	20.00	40.52	0.00	−0.64	+5	−34
m	+18.20	+50.80	+15.25	+50.80	15.20	50.85	−0.02	+0.05	+3	+35
m	+25.50	+20.90	+25.50	+20.90	25.62	20.65	+0.12	−0.25	+17	+5
Nova	+9.60	+15.30	+9.60	+15.35						
o	+31.20	+19.20	+31.15	+19.20	31.30	18.85	+0.12	−0.35	+17	−5
p	−13.40	−5.95	−13.45	−5.90	13.62	6.28	−0.20	−0.36	−15	−6
q	−17.30	−8.80	−17.30	−8.80	17.62	9.05	−0.32	−0.25	−27	+5
							24−54 / 6	5−185 / 6	42−42 / 6	45−45 / 6
							−0.05	−0.30	±1.4	±1.5
Nova	+9.60	+15.30	+9.65	+15.30						

x	9.33	8.32	9.38	+8.02
y	9.97	~~16.62~~	10.02	+16.75
α	9.27	13.62	10.32	+13.32
Nova	+9.62	+15.32	9(	

x	+93.3"	+83.2"	+0.6"	−70.0"	0	18	54	25.5	−4	38.6
y	+99.7	+190.5	+3.5	+17.3	.2			24.9		38.6
α	+92.7	+136.2	−3.5	−17.0	2			25.0		38.7
N	+96.2	+153.2								

35/30 | 15/5 .29

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− 17.10 − 6.90

N



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D11505

from

a 6506

ent. 6.10

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	−17.70	−6.90		
	x	y	x × 30	y × 60
b	− 6.85	+ 6.80	− 205.50	+ 408.00
a	− 28.40	+ 0.60	− 852.00	+ 36.00
c	− 21.55	− 13.85	− 646.50	− 831.00
d	+ 16.25	− 21.30	+ 487.50	− 1278.00
f	+ 28.40	+ 3.30	+ 852.00	+ 198.00
g	+ 97.30	− 5.70	+ 2919.00	− 342.00
e	− 19.55	− 31.80	− 586.50	− 1908.00
k	− 3.40	− 9.50	− 102.00	− 570.00
h	− 70.90	− 14.95	− 2127.00	− 897.00
l	+ 47.40	− 5.05	+ 1422.00	− 303.00
n	− 1.80	+ 6.05	− 54.00	+ 363.00
m	− 5.40	+ 0.95	− 162.00	+ 57.00
o	− 7.30	+ 0.65	− 219.00	+ 39.00
p	+ 7.95	− 3.58	+ 238.50	− 214.80
q	+ 9.20	− 4.00	+ 276.00	− 240.00
r	+ 4.60	+ 5.65	+ 138.00	+ 339.00
s	+ 14.15	+ 1.70	+ 424.50	− 102.00
t	+ 4.20	− 0.40	+ 126.00	− 24.00
u	+ 6.10	− 1.92	+ 183.00	− 115.20
w	+ 2.60	− 3.15	+ 78.00	− 189.00
x	+ 0.20	− 1.20	+ 6.00	− 72.00
y	0.00	+ 0.28	0.00	+ 16.80
z	+ 1.95	+ 0.60	+ 58.50	+ 36.00
d	− 0.15	− 0.38	− 4.50	− 22.80

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Dec. 15, 1905. Nova Aquilae

Take difference between -17.90 and sums of each two independent measures of comp. stars for x; then multiply by 30.

Take difference between -6.90 and means of Each two independent meas. of comp. stars for y; then multiply by 60.

per order of Professor Pickering.

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Sept. 4. 1905

Meas. of α, close comp, very faint star near Nova Aquila No 2

Plate D 1158 & 16 from D from A6506

	x	y	x	y
	10.32	13.32		
α	-10.35	+13.35	-10.30	+13.30
b	-20.00	40.52 -40.85 50	-20.00	-40.55 -40.88
m	-15.20	+50.85	-15.20	+50.85
	25.62			
n	-25.65	+20.65	-25.60	+20.65
o	-31.30	+18.85	-31.30	+18.85
α	-10.35	+13.35	-10.30	+13.30
	13.62	6.28		
p	+13.65	-6.25	+13.60	-6.30
	17.62			
q	+17.60	-9.05	+17.65	-19.05
	9.38	8.02		
r	-9.35	+8.05	-9.40	+8.00
	10.02			
y	-10.00	+16.75	-10.05	+16.75
α	-10.30	+13.30	-10.30	+13.30

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Sept 12, 1905

Plate D 11516

	y	y	x	y	mean x	mean y	x	y
	+9.00	+13.50						
Nova	~~+13.50~~	~~+8.10~~	+9.05	+13.55	+9.02	+13.52	.00.00	00.00
	+21.75							
t	~~+11.25~~	+11.25	+21.75	+11.20	+21.75	+11.22	+12.73	−2.30
x	+9.50	+6.60	+9.50	+6.70	+9.50	+6.65	+0.48	−6.87
y	+9.10	+15.65	+9.05	+15.65	+9.08	+15.65	+0.06	+2.13
z	+14.95	+17.25	+14.95	+17.25	+14.95	+17.25	+5.93	+3.73
	+8.75							
α	~~+10.00~~	+12.00	+8.75	+12.05	+8.75	+12.02	−0.27	−1.50
	+22.25	+2.25	+22.25	+2.20	+22.25	+2.22	+13.23	−11.30
	−1.40	+20.00	−1.45	+20.00	−1.42	+20.00	−10.47 (4)	+6.48
	−0.55	−70.55	−0.55	−70.55	−0.55	−70.55	−9.57	−84.07
Nova	+9.05	+13.50	+9.00	+13.55				

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September 5, 1905

Meas. of light of Nova Aquilae No 2

Position on Map of Sky No. 31 [10, 69].

Plate	Date	Ex.	Magn.	Est			
C*15938	Sept. 1, 1905.	42m	9.89 10.47	g2, 2h	10.09 10.67	10.47 = 10.28 = 19 19	
15933	Aug. 31, 1905.	30	9.89 10.57	g3, 1h	10.19 10.67	10.57 = 10.38 19 19	
15930	Aug 31, 1905.	10	9.89 10.57	g3, 1h	10.19 10.67	10.57 = 10.38 19 19	
15931	Aug 31, 1905	20	9.89 10.57	g3, 1h	10.19 10.67	10.57 = 10.38 19 19	
~~15934~~	~~Aug 31, 1905~~	~~26~~		~~b1 2, N~~			
B 2655	May 22, 1888	22	11.90	02, N	12.1		
B 2656	" " 1888	16	11.90	04, N	12.3		
B 3013	Oct. 18, 1888	11	11.90	04, N	12.3		
Ab. 6565	Aug. 2, 1905	60	11.30	n2, N	11.50		
Ab. 6576	Aug. 4, 1905	58	10.67	h2 N	10.87		
Ab 6590	Aug 10, 1905	85	9.57	~~c1, N~~	9.67		
I 17844	Apl. 12, 1897		12.97	n3, N	13.27		
Ab 6614	Aug. 21, 1905	63	9.17 9.17	b1 2, 4c	9.37 9.57	9.17 = 9.27 10 10	
Ab* 6632	Aug. 26, 1905	67	9.79 9.89	d4, 2e	10.19 10.09	9.89 = 10.04 15 15	
Ab 6643	Aug. 31, 1905	60		e4, 1f	10.49	10.07 = 10.28	
aI 4093	Aug 23 1905	60		~~b1 2 cN~~			
~~b 15932~~	~~Aug 31 1905~~			~~f1 N~~			
~~C 15937~~	~~Sept. 1, 1905~~	~~46~~		~~C 1 poor~~			
a 6506	Aug 15, 1903	240	15.27	d4, N	15.67		
I 1494	July 20, 1890	11	11.90	05, N	12.04		
I 33300	Sept. 1, 1905		9.89 10.57	g5, 1h	10.39 10.67	10.57 = 10.48 09 09	
I 33301	Sept 1, 1905	33	9.89 10.57	g5, 1h	10.39 10.67	10.57 = 10.48 09 09	
I 33303	Sept. 1, 1905	27	9.89 10.47	g5, 2h	10.39 10.67	10.47 = 10.43 04 04	
I 11185	June 13, 1894	19	12.38	g3, N	12.68		
C 15907	Aug 18, 1905	75	8.67 8.97	a1 5, 2b1	9.17 9.17	8.97 = 9.07 10 10	
I 33294 [8p]	Aug 31, 1905	60	9.89 10.67	g5, 1h	10.39 10.67	10.67 = 10.48 09 09	

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Plate	Date	Exp	Magn.	Est.		
I 33295	Aug. 31, 1905	60	9.89 10.47	g5, 2h	10.39 10.47 = 10,43 04 04 10.67	~~D.P.~~
~~A 1405~~	~~Oct 18, 1894~~	~~17~~		~~m2, R~~		—
A 1851	June 17, 1896	60	13.27	g4, R.	13.67	

September 6, 1905

I 33307	Sept. 5, 1905	9.89	g6, 0k	10.49 10.59 = 10.54 05 05 10.59	5007.7 trace of broken off 2 then Hβ 4.
I 33306	" " 1905	10.67	h1, 0k	10.77 10.59 = 10.68 09 09 10.59	
C 15940	" " 1905	10.67	h1, 0k	10.77 10.59 = 10.68 09 09 v 10.59	
C 15941	" " 1905	9.89 10.47	g5, 2h	10.39 10.47 = 10,43 04 04 10.67	

Number of plates examined including those recorded on pp 28, and 29 and preceding August 18, 1905, = 29

Number of plates Aug. 18 to Aug 31 = 9

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1 in to 1 mm.

September 6, 1905.

No 2.

Meas. of faint stars in vicinity of Nova Aquilae.

Region 2.5 cm square. Pos. of Nova assumed as region of origin.

Plate A. 6506

	x	y	x	y
Nova	0.00	0.00		
a	0.00	-0.30	-0.05	-0.30
	-0.02			
y	-0.05	+0.30	-0.05	+0.25
		0.28		
y	+0.20	-0.20	+0.20	-0.20
		1		1
z	+0.90	+0.70	+0.90	+0.70
	0.42	0.32		
	+0.45	+0.35	+0.40	+0.30
	2.18	0.22		
t	+2.15	-0.20	+2.20	-0.25
	+1.10	+1.25	+110	+1.25
	1.22			
	+1.25	+1.35	+120	+1.35
	1.78	1.78		
	+1.75	+1.75	+1.80	+18.0
	+1.90	+1.90	+1.90	+1.9.0
		1.32		
	+1.90	+1.35	+190	+1.30
	+1.35	+1.65	+1.35	+1.65
		1.78		
	+0.50	+1.80	+0.50	+1.75
	+0.65	+1.70	+0.65	+1.70
	-0.50	+0.80	-0.50	+0.80
	-0.50	+1.25	-050	+1.25
	-0.85	+1.70	-0.85	+1.70
	-0.70	+1.85	-0.70	+1.85
	-1.20	+1.20	-1.20	+1.20
	-1.50	+1.00	-1.50	+1.00
	-1.65	+1.30	-1.65	+1.30
	-1.85	+1.80	-1.85	+1.80
	1.32			
	-1.30	+0.40	1.35	+0.40
	1.78			
	-1.75	+0.10	-1.80	+0.10

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x	y	x	y
-1.80	+0.42 +0.45	-1.80	+0.40
-1.85	+0.60	-1.85	+0.60
+0.05	+2.05	+0.05	+2.05
+0.35	+2.15	-0.35	+2.15
~~+1.20~~	~~-2.20~~		
+1.10	1.08 -1.80	+1.05	-1.80
+2.10	1.28 -1.30	+2.10	-1.25
+2.15	2.18 1.48 -1.50	+2.20	-1.45
-0.45	-1.30	-0.45	-1.30
-0.85	-1.60	-0.85	-1.60
-1.05	-0.40	-1.05	-0.40
-1.55	1.52 -0.10	-1.50	-0.10
-1.85	1.82 -0.10	-1.80	-0.10
-1.80	1.78 -0.20	-1.75	-0.25
-1.90	1.88 -0.25	-1.85	-0.125
-0.90	1.58 -1.55	-0.90	-1.60
-0.35	-1.30	-0.35	-1.30
Nra	000 000	000	000

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September 9 & 1905

No 2

Meas. of faint stars in vicinity of Nova Aquilae
Region 2.5 cm square.

Plate a 6506

	x	y	x	y	Magn.	Magn.	x×60	y×60		
Nova	0.00	0.00	0.00	0.00			0.00	0.00		✓
x	+0.10	−1.20	+0.10	−1.20	14.6	14.6	+ 6.00	−72.00	+1	✓
y	−0.02 0.00	+0.30	−0.05	+0.30	14.9	14.9	− 1.20	+18.00	+4 +17	✓
z	+1.05	+0.60	+1.05	+0.60	15.0	15.0	+63.00	+36.00		✓
a	−0.08 −0.10	−0.30	−0.05	−0.30	15.3	15.3	− 4.80	−18.00	−4 −17	✓
	0.48									
	+ 0.45	+ 0.30	+ 0.50	+ 0.30	15.2	15.2	+ 28.80	+18.00		✓
	1.58	1.82								
	+ 1.60	+ 1.85	+ 1.55	+ 1.80	15.1	15.2	+ 94.80	+109.20		✓
	+ 1.60	+ 0.95			15.5		+ 96.00	+ 57.00		✓
	+ 0.80	+ 1.75	+ 0.80	+ 1.75	14.9	14.9	+ 48.00	+105.00		✓
	0	1.60								
	+ 1.90	+ 1.55	+ 0.90	+ 1.65	15.1	15.0	+ 54.00	+ 96.00		✓
		1.12								
	+ 1.25	+ 1.10	+ 1.25	+ 1.15	15.0	15.0	+ 75.00	+ 67.20		✓
	1.32	1.28								
	+ 1.30	+ 1.25	+ 1.35	+ 1.30	14.9	15.0	+ 79.20	+ 76.80		✓
	+ 2.10	+ 1.10	+ 2.10	+ 1.15	15.4		+ 93.60	+ 66.00		✓
	+ 1.60	+ 1.45	+ 1.60	+ 1.45	15.3	15.3	+ 96.00	+ 87.00		✓
	1.78	1.18								
	+ 1.75	+ 1.20	+ 1.80	+ 1.15	15.1	15.1	+106.80	+ 70.80		✓
	+ 2.00									
	+ 2.10	+ 1.55	+ 2.10	+ 1.55	14.4	14.4	+126.00	+ 93.00		✓
	+ 2.20	+16.5	+ 2.20	+ 1.65	14.5	14.4	+132.00	+ 99.00		✓
	2.12	0								
tt	+ 2.15	− 1.55	+ 2.10	− 0.55	13.7	13.7	+127.20	− 33.00		✓
		0			15.3					
	(+ 1.25	− 1.80	+ 1.25	− 0.80	(def.?)	15.3	+ 75.00	− 48.00)	Defect without question.	
	+ 1.45	−1.55	+ 1.45	−1.55	15.3	15.4	+ 87.00	− 93.00		✓
	+ 1.85	−1.60	+ 1.85	−1.60	15.0	15.1	+111.00	− 96.00		✓
	1.92									
	+ 1.90	−1.70	+ 1.95	−1.70	15.3	15.2	+115.20	−102.00		✓
	+ 2.00	− 1.80	1.76 + 2.00	− 1.75	14.9		+120.00	−106.80		✓
	+ 2.10	−1.85	+ 2.10	−1.85	14.9	14.9	+126.00	−111.00		✓
	0.78	1.88								
	+ 0.75	− 0.90	+ 0.80	−1.85	14.8	14.7	+ 46.80	−112.80		✓
		1.18			15.1					
	− 0.60	− 1.15	− 0.60	− 1.20	(def?)	15.2	− 36.00	− 70.80	(defect inside star suspected on inner edge.)	✓
	1.08									
	− 1.10	− 1.30	− 1.05	−1.30	15.4	15.4	− 64.80	− 78.00		✓
		0.28				15.2				
	− 1.10	− 0.25	− 1.10	− 0.30	15.2	15.2	− 66.00	− 16.80		✓

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x	y	x	y	magn.	magn.	x×60	y×60
−1.10	−0.50	−1.10	−0.50	15.2	15.1	−66.00	−30.00
1.78 −1.75	0.42 −0.45	−1.80	−0.40	15.3	15.2	−106.80	−25.20
−0.50	+0.25	−0.50	+0.25	15.2	15.2	−30.00	+15.00
−0.75	+2.05 ~~+1.65~~	−0.75	~~+1.65~~	15.4	15.2	−45.00	+123.00 ~~99.00~~
−0.25	+0.95			14.9		−15.00	+57.00
−0.25	+1.30	−0.25	+1.30	14.7	14.8	−15.00	+78.00
0.68 −0.70	+1.85	−0.65	+1.85	15.0	14.9	−40.80	+111.00
~~0.92~~ −0.90	1.40 ~~+1.35~~	−0.95	~~+1.35~~	15.1	15.0	54.00 ~~55.20~~	+84.00 ~~81.00~~
1.28 −1.30	+1.25	−1.25	+1.25	14.9	14.9	−76.80	+75.00
−1.40	+1.60	−1.40	+1.60	15.3	15.2	−84.00	+96.00
−1.25	+0.65	−1.25	+0.65	15.0	15.0	−75.00	+39.00
−1.50	+0.20	−1.50	+0.20	14.8	14.8	−90.00	+12.00
−1.65	+0.50	−1.65	+0.50	15.2	15.2	−99.00	+30.00
0.72 −1.75	+0.75	−1.75	+0.70	14.3	14.2	−105.00	+43.20
−1.70	+0.75	−1.70	+0.75	14.3	14.3	−102.00	+45.00
−1.75	+0.90	−1.75	+0.90	11.9	12.0	−105.00	+54.00
0.22 +0.20	+2.10	+0.25	+2.10	14.8	14.9	+13.20 −105.00	+126.00
0.00	+2.45			15.4		0.00	+147.00
~~+0.10~~	~~+2.50~~	~~+0.10~~	~~+2.50~~	~~15.1~~	~~15.2~~	6.00	150.00
+0.30	+2.40			15.4		+18.00	+144.00
−0.10	+2.25	−0.10	+2.25	14.8	14.8	−6.00	+135.00
1.58 −1.60	+2.10	−1.55	+2.10	15.0	15.0	−94.80	+126.00
Mean 0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
−1.85	+0.25	−1.85	+0.25	13.5	13.5	−111.00	+15.00

135 144 1 145 137 143 143 119

146 1

7 1

8 IIII

9 IIII

150 IIII

1 IIII

2 III

3 IIII

4 II

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1905phae.proj..818F

September 9, 1905.

Examn of Plates for Minor Planets.

Plate	Date	Obj.	R.A. 1855. Dec.
I 33329	60. Sept. 5, 1905	Bruzynome	0h 19m 1.00 +6° 34′
I 28970	45m. Dec 12 1901	" "	" "

" " " "

1905phae.proj..818F

September 19, 1905.

Estimates of recent plates of Nova Aquilae No. 2. New order of sequences used.

Plate	Date	Exp.	Est					
~~I 33295~~	~~Aug. 31, 1905~~	~~60m~~	~~q 3 ?~~					
I 33335	Sept. 9, 1905	10	k 2 1 k	10.87	10.85 = 10.86	01	01	
I 33313	Sept. 6, 1905	62	10.59 10.5 k v 1 1 k	10.69	10.57 = 10.63	06	06	
I 33326	Sept. 9, 1905	10	k 3 2 k	10.97	10.75	10.86	11	11

Sept. 25, 1905

I 33345	Sept. 14, 1905	20m	h 1 r	10.69	10.67	10.75 = 10.70	01	03	05
			r o k	10.67					
			r 2 l	10.75					
AC 6707	Sept. 22, 1905	12m	k 2 r	10.87	10.85 = 10.86	01	01		Elkin Nova No. edge.
			r 1 l	10.85					
I 33344	Sept. 10, 1905	12m	l 2 r	10.15	11.10 = 11.12	03	02		Many defl. taken with date. No fragments assumed = to I 33345
			r 2 m	11.10					
C 15954	Too short								
C 15955	Sept. 8, 1905	10m	k 2 r	10.87	10.85 = 10.86	01	01		
			r 1 l	10.85					
C 15979	Sept. 21, 1905	31m	l 2 r	11.15	11.10 = 11.12	03	02		
			r 2 m	11.10					
C 15973	Sept. 14, 1905	40m	k 2 r	10.87	10.75 = 10.81	06	06		
			r 2 l	10.75					
C 15972	Sept. 14, 1905	14m	k 2 r	10.87	10.75 = 10.81	06	06		
			r 2 l	10.75					
C 15961	Sept. 9, 1905	10m	l 1 r	11.05	10.90 = 10.98	07	08		
			r 4 m	10.90					
C 15966	Sept. 10, 1905	13m	k 3 r	10.97	10.95	10.90 = 10.94	08	01	04
			r o l	10.95					
			r 4 m	10.90					

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1905phae.proj..818F

Sept. 25, 1905.

Stars of Nova Aquilae (No. 2.)

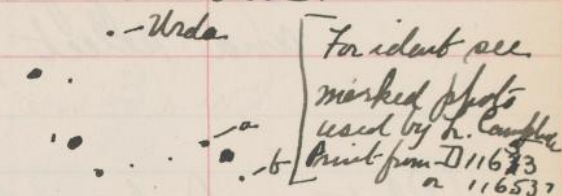
Plate	Date	Eff.	Est.
I 13986	Sept. 22, 1905	40m	l 3 r 11.25 11.10 = 11.18 07 08
			r 2 m 11.10
aE 6713	Sept.		l 2 r 11.15 11.20 = 11.18 03 02
			r 1 m 11.20
aE 6699	Sept. 21, 1905	60	l 2 r 11.15 11.20 = 11.18 03 02
			r 1 m 11.20
l 33360	Sept. 22, 1905	30	l 4 r 11.35 1120 = 1128 07 08
	Sept. 30, 1905		r 1 m 11.20
C 16013	Sept. 26, 1905	10	l 2 r
			r 2 m
l 33356	Sept. 21, 1905	30	l 3 r
			r 2 m
l 33367	Sept. 23, 1905	60	l 2 r
			r 2 m
l 33382	Sept. 24, 1905	17	Poor pl.
D 33385	Sept. 25, 1905	12	l 4 r
			r 1 m
~~l 33399~~			

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1905phae.proj..818F

September 29, 1905.

Exam. of plates of Urda for variation.



For idents see marked photo used by R. Comstock Print from D11673 & 11653.

Plate.	Date	Ex.	Est.	Obs.
I 33368	Sept. 23, 1905	69m	1a, 0b	7
I 33398	Sept. 26 1905	20	0a, 1b	7
I 33400	Sept. 26, 1905	30	1a, 2b	7
I 33401	Sept. 26, 1905	21	1a, 0b	7
I 33403	Sept. 26, 1905	21	3a, 4b	7
I 33403			2a, 4b	2
I 33401			1a, 0b	2

Sept. 30.

I 33389	Sept. 25, 1905	30	2a, 3b	

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1905phae.proj..818F

Sept. 30, 1905.

Exam. of plates to conf. var in T Lacertae and select plates for enl.

Dm. +33° 4492 $22^h\ 16.5^m$ +33° 56.9 mag. 9.4 (1855) Also exam. on these plates

Plate	Date	Ef.
I 18580	Aug. 20 1897	29m
I 23944	Oct. 26 1899	26m
I 19449	Nov. 4 1897	17m
I 19877	Jan. 1 1898	11m
I 21074	Aug. 16 1898	12m
I 4486	Oct. 9 1891	13m
I 3810	July 9 1891	11m
I 4596	Oct. 21 1891	13m
I 18856	Sept. 15 1897	12m
~~H~~ I 15429	July 2, 1896	16m

Exam. of above plates fails to show any variation exceeding 0.3 magn. in T Lacertae. The star Dm. +33° 4492 marked on I 33268 shows more evidence of change, or about 0.4 magn. "but it is not to be meas. or announced without further evidence"

"Spectrum plates I 32237 & I 32361 do not confirm Hγ lines" (Perhaps they are not good enough.)

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1905phae.proj..818F

October 4. 1905

Examination of Plates to confirm var. of U Cygni. for Hagen. Ep. of plates shows var. of about 0.7 magns.

	Plate	Date	Exp.
I	4003	Aug. 13. 1891	18m
.	4094	" 24 1891	74
	4866	Nov. 27 1891	13
	9033	Aug. 2 1893	10
	9299.	" 25 1893	12
	11380	" 21 1894	10
	13142	July 30 1895	20
	16172	Oct. 10 1896	12
	16385	" 28 1896	13
	19017	Sept. 25 1897	9
	22824	May 3 1899	17
	23199	July 21 1899	11
	23208	" 24 1899	12
	23216	" 26 1899	11
	23240	" 28 1899	17
	25159	April 14 1900	12
	25181	" 15 "	10
	26564	Feb. 6 1901	21

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1905phae.proj..818F

October 5, 1905.

Exam. of plates taken for minor planets.

Plate	Date	Ex.	Objct.	R.A.	Dec.	Comp. Pos.
I 33432	Oct. 3, 1905	60m	Lutetia	0 32.8	−2 30	0 33.4 −2 26
I 24170	Dec. 4, 1899	60	—	—	—	—
I 33432	Oct. 3, 1905	60	Klio	22 18.0	−1 24	Ecl 22 20.7 −1 — ~~Le 22 10.7 −1 03~~
I 29427	Oct. 21, 1902	22	—	—	—	—

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1905phae.proj..818F

October 16, 1905.

Chron. of plates for No. 5152 Br. line var? on I 33272. R.A. 20h 6.3m Dec. +46° 30' (1855).

	Plate	Date	Ext.
I	12431	Feb. 22 1895	10m
I	12615	April 5 1895	10m
I	12780	May 2 1895	14m
I	13003	June 18 1895	18m
I	13161	Aug. 2 1895	23
I	8880	July 21 1893	13m
I	23008	June 8 1899	15m
I	15155	May 19 1896	18m
I	23144	July 10 1899	18m
I	23003	June 8 1899	14m
I	11198	June 18 1894	14m
I	15539	July 28 1896	10m
I	20032	Jan. 13 1898	14m
I	13780	Nov. 5 1895	14m
I	14350	Jan. 27 1896	10m
I	14520	Feb. 24 1896	15m
I	14711	March 24 1896	26m
I	14981	April 22 1896	11m

The br. line on plate I 33272 is not confirmed on I 16310, and may be due to defect. The remainder of the above chart plates, fails to show any evidence of variability in either of the faint stars near the above position.

W. P. Fleming.

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1905phae.proj..818F

October 16, 1905.

Exam'n of plates to det. var. if any in No 5148
Type IV, Nat. var? on I 33284 (33248) Also on I 31025
Dm +9° 4369 1954.1 +9 7.0 8.7 (1855 pos.)

	Plate	Date	Ex.				
I	9360	Sept. 2 1893	15m	A C	5150	Aug 18 1904	63
I	26097	Nov. 16 1900	10m	AC.	5302	Sept. 30 1904	71
I	7003	Sept. 12 1892	10m	AC.	5083	July 20 1904	62
I	8959	July 27 1893	13m	AC.	1638	Aug. 4 1901	55
I	27465	Sept. 9 1901	30m	AC.	6486	July 4 1905	64
I	29148	Aug 23 1902	10m	AC.	6494	July 7 1905	60
I	23462	Sept. 12 1899	10m	AC.	5344	Oct. 7 1904	72
I	27742	Oct. 7 1901	19m	AC.	6572	Aug 3 1905	80
I	18528	Aug. 13 1897	11m	AC.	5062	July 15 1904	60
I	21069	Aug. 15 1898	11m	AC.	5116	July 31 1904	60
I	23099	June 29 1899	17m	AM	16	July 26 1899	74
I	32873	March 6 1905	11				
I	16070	Sept. 30 1896	10				
I	4235	Sept. 17 1891	15				
I	4127	Sept. 2 1891	13				
I	8846	July 20 1893	12				
I	25903	Oct. 5 1900	10				
I	25878	Sept. 26 1900	10				
I	25854	Sept. 24 1900	19				
I	1598	Aug 5 1890	28				
I	6805	Sept. 1 1892	14				

Exam'n of the above plates shows a slight variation, about 0.4 mags, in the image of this star. Not to be measured or announced until a greater range has been found, or further confirmation of actual variation is obtained. W.P.F. Oct. 16 1905

Date announced on Wendell's authority (in Miss Cannon's second cat. of Var. Stars) as having a range of 0.30 magnitude

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1905phae.proj..818F

October 16, 1905.

Exam. plates to det. variation if any in No. 5126. Mes'd, var'n I 33091. M[illegible] on I 33841 -6° 3469. R.d. 11h 45m.3, Dec. -6° 47'.5 (1855) 9.2 magn.

	Plate	Date	Exp.	Est.		Plate	Date	Exp.	Est.
B	9499	May 31, 1893	10	8.4	I	18014	April 28 1897	33	8.4
B	11052	April 30, 1894	10	85	B	6034	May 22 1891	10m	8.2
B	15845	May 13 1896	11m	9.2					
I	15028	April 30 1896	22m	8.7					
I	12503	March 14 1895	11m	8.2					
I	10486	Jan. 19 1894	10m	86					
I	3572	May 11 1891	26m	8.7					
I	8383	April 9 1893	11m	83					
I	6163	April 25 1892	11m	8.7					
I	32869	March 6 1905	29m	8.4					
I	26543	Jan. 29 26 1901	14m	84					
I	24702	March 7 1900	68m	8.5					
I	20582	April 1 1898	10m	8.5					
I	22699	April 17 1899	10m	8.4					
I	24586	Feb. 13 1900	11m	8.6					
I	25453	June 13 1900	13	9.2					
B	27470	May 28 1901	10	9.2					
B	25410	May 23 1900	10	8.7					
B	24977	April 6 1900	10	8.5					
B	13566	June 14 1895	10	8.7					

An examination of the above plates shows a variation of about 1.0 5 magns in the above star. Measure and announce Magn 8.2 - 9.2

W. P. F.

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1905phae.proj..818F

October 16, 1905.

Exam. 1 plates to det. variation if any in No. 5131 Nova Vul? in I 33093 +68°617, 10h 35m.0 +68° 10'.2 mags 6.2, (1855 yrs). Known as "Type IV"

Plate	Date	Exp.			
I 18101	May 18 1897	18m	A.C. 1196	Feb. 1 1901	57m
A.C. 3351	Feb. 23 1903	61m	A.C. 1550	June 17 1901	66m
A.C. 6105	March 2. 1905	60m			
A.C. 6050	Feb. 21 1905	72m			
A.C. 259	March 24 1899	69			
A.C. 6229	March 29 1905	60			
A.C. 6178	March 15 1905	61m			
A.C. 3640	May 17 1903	63			
A.C. 3900	Sept. 7 1903	14m			
A.C. 3680	May 25 1903	76m			
A.C. 3317	Feb. 18 1903	71m			
A.C. 3303	Feb. 17 1903	60m			
A.C. 3187	Jan 15 1903	51			
A.C. 2566	May 20 1902	71			
A.C. 2611	June 6 1902	69			
A.C. 2534	May 9 1902	52?			
A.C. 2559	May 17 1902	56			
A.C. 2508	April 28 1902	69			
A.C. 1555	June 18 1901	108			
A.C. 2475	April 15 1902	66			

An examination of the above plates shows a variation of about 0.5 mags. in the above star. Not to be announced "or measured" until further evidence of variability is obtained.

W.P.F.

Announced later on Wendell's authority as having range of 0.4 to 0.5 mags. See Mrs Cannon's second Catalogue of Var. Stars.

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1905phae.proj..818F

October 16, 1905.

Exam. 4 plates to det. var. if any in
No. 5020 Sp. M type Na var? on I 32475 75
+31° 1388 Rd. 6h 32m 46,7 Dec. +31° 35' 1 8,1 (1855.

I			
I	33208	April 17 1903	14m
I	5645	Feb. 15 1892	11m
I	10765	March 7 1894	13
I	14697	March 24 1896	16
I	14644	March 13 1896	16
I	5561	Feb. 6 1892	13
I	6073	April 12 1892	10
I	5514	Feb. 4 1892	11
I	7842	Jan. 3 1893	15
I	7839	Jan. 3 1893	22
I	30264	April 1 1903	12
I	30249	March 29 1903	10
I	30351	April 21 1903	14
I	30344	April 20 1903	14
I	26070	Nov. 12 1900	10
I	8348	April 4 1893	12
I	8112	Feb. 27 1893	11
I	5412	Jan. 16 1892	17
I	30320	April 18 1903	10
I	30365	April 24 1903	12

An examination of the above plates shows a variation of about 0,7 magn. As this star is forth type the change may be due to the photographic images but I think the variation is real. Measure before comm.

Later. Star suspected of var. before. See note on I 32475 (cover)
announced by Wendell authority in Miscellaneous 2nde at. of variable Stars as having range of 0.28 magn.

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October 16, 1905.

Exam. of plates to det. var. if any in
No 5122 ~~Zeta III~~ Md? var?, in I 33088
+35° 27½ 16h 7m ♌ +35° 49.0 94 (1855).

	Plate	Date		Exp.
I	1673	Aug	25 1890	10m.
I	25715	Sept	1 1900	10m
I	26947	May	3 1901	10m
I	8788	July	16 1893	10m
I	6521	July	7 1892	11m
I	3955	Aug	8 1891	10
I	22813	April	29 1899	15
I	22784	April	27 1899	16
I	21230	Sept	21 1898	9
I	6527	July	8 1892	11
I	8805	July	19 1893	10
I	25714	Sept	1 1900	10
I	21311	Oct	3 1898	11
I	24862	March	16 1900	13
I	15651	Aug	10 1896	10
I	18282	June	25 1897	10
I	18292	June	26 1897	15
I	16063	Sept.	30 1896	10

An examination of the above plates shows a variation of about 0.7 magn. in this star. It gives every evidence of being a real variation in the star. Measure before announcing. W. P. F.

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1905phae.proj..818F

October 16, 1905—

Exam. of plates for det. var. if any in
No. 5206 Md? var? in I 33313.
$-9°$ 4911 R.A. $18^h 48^m.5$ Dec. $-9° 8'.7$ 9.0 (1855).

Plate	Date	Exp.
B 10163 (spectrum)	Aug 16 1893	60m
I 21062	Aug 15 1898	10
B 19203	May 25 1897	12
B 19089	May 12 1897	10
B 26206	Sept. 18 1900	12
B 23131	June 20 1899	10
B 23345	July 7 1899	10
B 27619	June 7 1901	10
B 28363	Aug 26 1901	10
B 28490	Sept. 7 1901	60
B 30042	June 13 1902	10
B 31736	May 7 1903	10
B 33496	April 23 1904	10
B 34405	July 21 1904	13
B 8470		
B 12545	Nov. 13 1894	10
B 17556	Oct. 6 1896	12
B 18122	Nov. 30 1896	10

An examination of the above plates fails to show any evidence of variation in the above star. The bright lines suspected may be due to defect, since an examination of B 10163 fails to show any evidence of the spectrum being Md. It seems to be class K on that plate

W P F

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1905phae.proj..818F

October 20, 1905.

Exam of plates to det var. if any in No. 5222. Type V on I 33435, R.A. 1h 32.4m Dec. +57° 39° (1900). Thought to be variable since it was not a catalogued star.

Plate	Date	Exp.
I 29647	Dec. 8 1902	12m
I 4945	Dec. 2 1891	26m
I 5307	Jan. 1 1892	21m
I 5607	Feb. 10 1892	15m
I 10357	Jan. 1 1894	10m
I 10932	March 27 1894	10m
I 15351	June 22 1896	14m
I 17277	Feb. 9 1897	14m
I 15969	Sept. 20 1896	10m
I 24217	Dec. 12 1899	17m
I 9544	Sept. 21 1893	14m

An examination of the above plates fails to show any evidence of variation in this star. A comparison of the spectrum on I 33435 with the chart image on I 29647 shows that the bright lines are of shorter wavelength than Hβ. Assumed to be fifth type. W.P.F.

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1905phae.proj..818F

October 20, 1905.

Exam of plates to det. var. if any in +32° 1′ R.A. 0h 0m 0.4s Dec. +32° 36′ 8.5″ Star No. 7 on AB plate 107. Almost equal to stars Nos 3 & 4.

Plate	Date	Exp. m	Est.	
I 31196	Nov. 25	1903 19	8.5	(Bad focus).
I 13806	" 7	1895 11	9.5	
I 9449	Sept. 10	1893 20	9.2	*
I 13862	Nov. 27	1895 16	9.2	
I 32349	" 25	1904 12	9.2	
I 27651	Sept. 30	1901 15	8.8	(poor image)
I 19102	" 30	1897 16	9.2	Dev.?
I 391	Dec. 27	1889 69	9.3	
I 23772	Oct. 12	1899 16	9.0	
I 21983	Dec. 19	1898 12	9.1	
I 9449	Sept. 10	1893 20	9.3	
I 7481	Nov. 6	1892 17	9.2	
I 4474	Oct. 8	1891 10	9.1	
I 29592	Dec. 6	1902 30	9.1	
I 21642	Nov 3	1898 10	9.2	
I 16280	Oct 25	1896 10	9.3	
I 2686	Dec. 31	1890 10	9.4	

An examination of the above plates shows a variation of about a magnitude. Announce and measure.

W. P. F.

Plate I 9449 Sept. 10, 1893 shows this star as about magn. 9.3 The image on AB 107 is probably due to defect, or to ghost of No 9. or additional exposure

W. P. F.

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1905phae.proj..818F

October 21, 1905.

Exam of plate for Klio.

Plate	Date	Ex.	Obj.	Given R.A.	Given Dec.	Obs. R.A.	Obs. Dec.	Mags.
I33543	Oct. 17, 1905	30	Klio	22 18	−0 48	22h 18m.2	−0° 33′ 10″.5	7
I29427	Oct. 21, 1902	22	—					

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1905phae.proj..818F

November 7, 1905.

Exam of plates for evidence of variation in
160 4821 in I 32295 Mesd? var?! −2°5631 21h 39m.0 −2° 52'.7 6.8
Also No 5593 Mesd var? in B12040 and No. 6102 Mesd var? in B12371.

Plate		Date		Ef.
A.M.	1473	July	14 1902	60m
A.C.	5337	Oct.	6 1904	68m
A.M.	1456	July	11 1902	61m
A.M.	1525	Sept.	6 1902	392m
A.M.	1694	Nov.	19 1902	62m
A.M.	2093	July	2 1903	60m
A.M.	1547	Sept.	20 1902	50
A.M.	1691	Nov.	18 1902	60
A.M.	1975	May	29 1903	68
A.M.	2149	July	23 1903	60
A.C.	6534	July	21 1905	60
A.C.	6641	Aug.	29 1905	103
A.C.	5622	Nov.	28 1904	85
A.M.	2277	Sept.	17 1903	66
A.M.	2227	Aug	20 1903	301
A.M.	2254	Sept.	2 ~~1904~~ 1903	60
A.M.	2130	July	15 1903	60
A.M.	2758	June	18 1904	60
A.C.	1656	Aug.	11 1901	~~58~~
A.C.	6540	July	22 1905	58
B	10193	Aug	21 1893	10m

The above plates show evidence of a slight variation, perhaps 0.6 magn. in this star. Since the star is red this change may be due to the photographic images and ~~probably~~ perhaps it had better not be announced without confirmation of greater range. W.P.F. Nov. 7, 1905

See also note on I 12371 ~ 9. I and B plates (charts) examined & show slight "any" ~ evidence of variation" in adelong 000

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1905phae.proj..818f

November 15, 1905.

Exam. of Plates to det. var. if any in
No. 5351, Sp. Type III Md? var? on I 33560. Approx $19^h 13.^m0 + 16° 57'$ (1855) $19\ 15.0 + 17\ 02$ 1900

Plate	Date	Ex.	Magn.
I 23642	Sept. 23 1899	12	9.0
I 17814	April 11 1897	66	<11.0
I 21360	Oct. 8, 1898	14	<10.5
I 15923	Sept. 11, 1896	11	8.7
I 25275	May 1, 1900	13	<11.5
I 23143	July 10, 1899	16	<10.5
I 25360	May 22, 1900	12	<11.5
I 25918	Oct. 15, 1900	14	<11.0
I 15721	Aug. 19, 1896	11	10.2
I 23037	June 16, 1899	20	<11.3
Spect I 33560	Oct. 23, 1905	69	9.0

An examination of the above plates shows a variation of about 3 magnitudes in the above star, range 8.7 to <11.5. Measure & announce.
W. P. T. Nov. 15, 1905

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1905phae.proj..818F

November 20, 1905

Measures of plates for Comet

19.8	25.4
17.7	57.7
18.3	69.4
17.3	90.9
14.6	125.0

Comet pos. from curve.

Nov. 11.6	$10^h\ 40^m$	$+75.8^\circ$
Nov. 10.6	10 45	+74.2
Nov. 9.6	10 50	+73.1

HARVARD COLLEGE OBSERVATORY. No. .....

Positions of Comet on photographs.

Nov 17.32	$4^h\ 23^m$	$+86^\circ\ 0'$	
Nov 18.25	$5^h\ 58^m$	$+80^\circ\ 41'$	
	$0^h\ 38^m$	$+77^\circ\ 10'$	40 (1855)
AC 7064 Nov. 18	0	4.8	+69 46 (1855)
I 33658 Nov 19.5	0	5	+69 50 "
AC 7012 Nov 19	0	6	+70 18 "
AC 7011 Nov 19	0	6	+70 5 "
I 33657 Nov 19	10	0	+81 30
AC 6983 Nov. 14	11	16	+73 18 (1855)
AC 6963 Nov. 9 (?)	10	6	+76 35 "
AC. 6981 Nov. 11 (?)			

AC 6981
AC 6960
AC. 6958

HARVARD COLLEGE OBSERVATORY. No. .....

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1905phae.proj..818F

November 21, 1905.

Spectra of Plates for Comet Schaum.

Plate	Date	Obs.	J.D. 1855	R.A.	Dec.	ST
I 33674	Nov. 20, 1905	10				Wilson Reg. $6^h\ 25^m + 59°$
AC 7019	" " "	66		23 52	+61 42	~~N. P. 1914 + 60°~~
C 16207	" " "	17	7170.462		22 10	
C 16208	" " "	63	" .500		22 41	
I 33663	" " "	10	7170.445	23 52.0	+61 42	21 49 ~~18 53~~
I 33666	" " "	10	" .584	23 50.4	+60 38	1.09 ~~19 27~~
I 33668	" " "	10	" .624	23 50.0	+60 4	2.06 ~~19 42~~
	Nov. 22, 1905					
I 33675	Nov. 21 5	16	7171.449	23 43.7	+52 45	1046
AC 7027	" " "	87	7171.497	23 43.4	+52 23	1156

R Cygni. Changes in Spectrum.

#I 2086,

A photograph of R Cygni taken with the 8-inch Draper telescope on November 19, 1890, shows the spectrum of this star as Nd, having the hydrogen lines Hγ and Hδ bright; ~~the~~ a photograph #I 32398, taken with the same instrument on December 7, 1904, ~~shows a~~ the spectrum of this star is of the fourth type, closely resembling Class Na, and shows no trace of bright hydrogen lines. ~~These spectra are sufficiently well defined to show the distinct difference~~ in these dates.

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1905phae.proj..818F

November 28, 1905.

Examination of Plates for No 5N/N on I 32606 Bl. lines? var?
Aphux 1855 pos. $5^h 22.^m7 \quad -11° 19'$

Plate	Date	Exp.
I 5340	Jan. 5 1892	31
I 29755	Dec. 30 1902	19
I 3379	April 1 1891	10
B 22203	Nov. 11 1898	10
B 17950	Nov. 16 1896	10
I 3380	April 1 1891	30
I 2129	Dec. 28 1890	14
B 24517	Nov. 13 1899	12
I 5339	Jan. 5 1892	11
B 30737	Sept. 27 1902	10
B 32915	Dec. 12 1903	10
I 3378	April 1 1891	1
B 26199	Sept. 17 1900	10
I 29754	Dec. 30 1902	23
B 18481	Feb. 2 1897	10
B 17829	Nov. 10 1896	12
B 17676	Oct. 13 1896	12
B 20890	Dec. 1 1897	13
B 14584	Sept. 10 1895	13
B 14769	Oct. 5 1895	10

No Plate. Of the above plates fails to show any evidence of variability in the star in R.A. $5^h 22.^m7$ Dec. $-11° 19'$ (1855). H.P.F.

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1905phae.proj..818F

Examination of chart plates to see if D.M. −12° 1172 is variable.

(Some of these plates have been examined before as star was marked on them — and there must be a note somewhere else)

	Plate	Date	Exp.
B	14558N	Sept. 10 1895	13m
I	29755	Dec. 30 1902	19m
B	2241	Jan. 24 1888	
B	26199	Sept. 17 1900	10
B	29754	Dec. 30 1902	23
B	24517	Nov. 13 1899	12
I	5339	Jan. 5 1892	11
B	30737	Sept. 27 1902	10
B	32915	Dec. 12 1903	10
B	22203	Nov. 11 1898	10
I	3378	April 1 1891	1
B	14769	Oct. 5 1895	10
B	20890	Dec. 1 1897	13
I	3380	April 1 1891	30
B	17676	Oct. 23 1896	12
B	17829	Nov. 10 1896	12
I	2629	Dec. 28 1890	14
B	17950	Nov. 16 1896	10
I	5340	Jan. 5 1892	31
I	3379	April 1 1891	10
B	18481	Feb. 2 1897	10

	Plate	Date	Exp.
AM.	3219	Nov. 11 1904	63m
A.M.	2226	Aug. 19 1903	60m
A.M.	1823	Feb. 20 1903	61m
A.M.	1748	Dec. 6 1902	60m
A.C.	5664N	Dec. 4 1904	58m
A.C.	5268	Sept. 20 1904	61m
A.C.	4608	Feb. 5 1904	62m
A.M.	3261	Dec. 5 1904	63m
A.M.	3238	Nov. 16 1904	61m
A.M.	2354N	Oct. 30 1903	60m
A.M.	2345	Oct. 21 1903	60m
A.M.	2305	Oct. 8 1903	61m
A.M.	2196	Aug. 12 1903	61m
A.M.	1763	Dec. 22 1902	60m
A.M.	1629	Oct. 9 1902	60m
A.M.	1609	Oct. 6 1902	61m
A.C.	5803	Jan. 5 1905	61m
A.M.	3137	Oct. 13 1904	60m
A.C.	5782	Dec. 29 1904	69m
A.C.	2869	Oct. 7 1902	78m
A.C.	5626	Nov. 28 1904	62m
A.C.	2959	Oct. 31 1902	95m
A.C.	5351	Oct. 7 1904	53m
A.C.	4526	Jan. 15 1904	56m

An exam. of the above I or B plates shows some slight change in brightness which may be due to the photographs

Examine a few A.C. plates.

These plates confirm a variation of about 0.4 magn. Change too small to warrant announcement as a variable. W.P.F. April 1, 1907.

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1905phae.proj..818F

January 16, 1906.

Examn. of plates of region of U Cephei for checking of Father Hagen's Chart.

	Plate	Date			Exp.
I	4056	'91	8	19	15m
	7454	'92	11	3	12
	9869	'93	11	1	18
	9947	'93	11	18	10
	22394	'99	2	20	10
	27619	'01	9	27	1N
	29624	'02	12	6	12
	29634	'02	12	6	12
	29992	'03	2	17	18
	30734	'03	8	17	22

On examination of the above plates checks ~~confirmation~~ confirmation of the stars ~~004281~~ on the Chart, and confirms the variation of 004281. The range on these plates is not large, being about half a magnitude, but it seems to be in the stars and not due to the character of the ~~image~~ photographic.

W. P. F. Jan. 16, 1906.

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1905phae.proj..818F

January 17, 1906.

Exam. of plates of region of R S Tauri for Checking of Father Hagen's Chart.

Plate		Date	Ex.
I	5211	Dec. 17 1891	14 m
I	28243	Jan. 13 1902	14
I	17403	Feb. 24 1897	10
I	24340	Dec. 28 1899	79
I	24219	Dec. 12 1899	10
I	20097	Jan. 17 1898	15
I	24898	March 20 1900	14
I	22096	Jan. 1 1899	15
I	7951	Jan. 22 1893	15

R S Tauri Spectrum Cl. G Plate I 31203 The variation on these plates does not exceed half a magnitude. Star 6, 1903 shows a change of only about 0.3 to 0.4 magn, and this may be due to photographic images.

W. P. F. Jan. 17, 1906.

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1905phae.proj..818F

January 17, 1906.

Chem. of plates of region of V Ursae Majoris
in Checklist Father Hagen's Spart.

Plate		Date		Exp.
I	28365	Jan. 27	1902	12m
I	3353	March 26	1891	11m
I	25222	April 25	1900	10m
I	8211	March 12	1893	10m
I	8392	April 11	1893	11m
I	12473	March 5	1895	10m
I	19496	Nov. 6	1897	26m
I	14880	April 10	1896	10m
I	15110	May 13	1896	14m
I	17745	April 1	1897	13
I	26438	Jan 2	1901	14
I	26940	May 1	1901	14
I	21887	Dec. 1	1898	11
I	24242	Dec. 13	1899	19
I	5834	March 7	1892	34
I	30156	March 6	1903	19m
I	30081	Feb. 23	1903	10m

The spectra of the above plates shows a variation of about 0.8 magnitude in V Ursae Majoris.

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1905phae.proj..818F

January 22, 1906.

Exam. of plates to det. var. if any in No 5708 on Plate I 33783. Sp. Per. Dark bands. $-10° 5' 13''$ $2^h 28^m 1^s.4$ $-10° 4' 8''.9$ K. (1855).

Plate	Date	Exp.
B 11834	Aug. 11, 1894	12m
B 11949	" 16 "	10
B 14473	" 29, 1895	10
B 25893	Sept. 1, 1900	10
B 34619	Aug. 5, 1904	13
I 2700	Jan. 3, 1891	16
I 5414	" 20, 1892	16
I 16294	Oct. 25, 1896	10
I 19954	Jan. 5, 1898	11
Ab 149	" 11, 1899	130
Ab 2065	Dec. 6, 1901	99
Ab 2183	Jan. 13, 1902	64
Ab 4630	Feb. 10, 1904	61
Ab 5155	Aug. 18, "	50
Ab 5318	Oct. 2, "	65
Ab 5706	Dec. 11, "	69
Ab 5880	Jan. 23, 1905	87
Ab 6887	Oct. 25 "	62

The exam. of the above plates shows slight if any, variation in $-10° 5' 13''$. Not to be announced.

W. P. T. Jan. 22, 1906.

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1905phae.proj..818F

January 30, 1906.

Exam. of plates of +79°173 $5^h 9^m.0$ +79 43' 7.7 and its position with regard to +79°172 $5^h 8^m.46$ +79 43' 5.95. to ~~det~~ show whether diff. in pos. obs. with 12 inch W.P. is due to error in the Dm. or to proper motion.

Plates I 699 taken on Feb. 21, 1890 Gd. 0m, and I 28422 taken on Feb. 6, 1902 Gd. 19m, show that the stars are separated on both plates by about 0,13 cm., and are in the same position on both plates. The position in the DM should be at least 1m greater in R.A.

W.P.F.

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1905phae.proj..818F

January 30, 1906.

Eclem. of plates to det. var. if any in No. 5646
Sp Md, var: by I 33776. +32° 4335 2h 59m 29.5 +32° 48', 9.5
(1855). The sp. is that of the following and northern
of two close stars, either of which might be identified as
+32° 4335.

Plate	Date	Ecf.	Est	Plate	Date	Ecf.	
I 4051	Aug. 19 1891	13	10	I 6902	Sept. 7 1892	11m	for ident. Dist apart 0.025 cm
I 23503	Sept. 14 1899	13	11	I 2557	Dec. 22 1890	10m	
I 11968	Nov. 22 1894	13	12	I 26142	Nov. 23 1900	10m	
I 9520	Sept. 20 1893	14	12	I 4051	Aug. 19 1891	13m	
I 9069	Aug 3 1893	15	12	I 11968	Nov. 22 1894	13m	
I 6902	Sept. 7 1892	11	12	I 9520	Sept. 20 1893	14m	
I 2557	Dec. 22 1890	10	12	I 27553	Sept. 24 1901		
I 26142	Nov. 23 1900	10	12	I 26178	Dec. 8 1900	20m	
I 16049	Sept. 28 1896	32	12.4	I 16049	Sept. 28 1896	32m	Ecl.
				I 29211	Aug. 31 1902	13m	
				I 8885	July 21 1893	16m	
				I 9767	Oct. 25 1893	11m	
				I 7401	Oct. 23 1892	12m	
				I 6989	Sept. 11 1892	12m	
				I 21501	Oct. 25 1898	10m	
				I 23503	Sept. 14 1899	13	

On Examination of the above plates confirms the variation of this star with a range of about 2.4 magnitudes. The preceding star also shows a variation of about 0.6 magn. 10 – 10.6 (?). but is a difficult object. Obs visually.

W. P. F. Jan. 30, 1906.

Both Conf. by L. D. Wells.

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1905phae.proj..818F

January 30, 1906.

Obsns. of plates to det. var. if any in No. 4930 on I 32383 Spec. IV Type Na var?
Neve as Type IV and new variable.
+34°4974 23 31 33.3 +34 5 7.6 9.1 (1855)
23 33.8 + 35 13 (1900)

Plate	Date	Obs.	Est.
Sp. I 32383	Dec. 2 1904	86	8
I 1856	Sept. 24 1890	17	<10.5
I 9075	Aug 3 1893	12	<9.5
I 18824	Sept. 14 1897	11	<8.2
I 18860	Sept. 15 1897	10	10.2
I 24150	Nov 29, 1899	71	8.7

One obsn. of the above plates shows a variable of over 2.5 mags in this star.

Jan. 30, 1906. H.B.F.

Conf. by L.D. Wells.

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1905phae..proj..818F

January 30, 1906.

Edam for variat. of N. 5194 on I 33227
Type IV Na. var? +42° 4827 23 57.2 +42 45 8.4 (1855
23 57.5 +43 0' (1900).

Spectrum	Plate	Date	Exp.	Est.	
	I 33227	July 26 1905	57	9	
	I 31197	Nov. 25 1903	14	9.2	
	I 21442	Oct. 17 1898	13	9.8	~~Ext.~~
	I 27729	Oct 5 1901	13	9.3	Ident.
	I 9122	Aug. 8 1893	16	8.9	
	I 16806	Dec. 17 1896	12	9.2	
	I 4476	Oct. 8 1891	11	9.3.	
	I 23735	Oct. 14 1899	35	8.3	Ext.
	I 7482	Nov. 6 1892	11	9.7	
	I 9450	Sept. 10 1893	17	9.1	
	I 13862	Nov. 27 1895	10	9.5	

One exam. of the above plates shows a variation of 1.5 mags in this star.
ft. star n°. fol. cm. Jan. 30, 1906. W.P.T.
Conf. by L.D. Wells.

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1905phae.proj..818F

February 7, 1906.

Exam. of plates to det. var. if any in stars Nos. 5686 Type IV (new), and 5687 Type IV (new). on I 33750 +53°3033, $22^h 49^m 58'$ +53° 27'.4 9.1 (1855) and (Approx 1855 1900) $22^h 40^m.0$ +54° 19 18'.

Plate	Date	Ef.
I 32318	Nov. 14 1904	12 m
I 31044	Oct. 24 1903	17 m
I 21131	Aug 28 1898	11 m
I 11427	Sept. 11 1894	10 m
I 11872	Nov. 12 1894	10 m
I 11404	Aug. 22 1894	13
I 11403	Aug. 22 1894	6 m
I 23947	Oct. 26 1899	18
I 25557	July 14 1900	8.
I 23545	Sept. 16 1899	12
I 16453	Nov. 3 1896	14
I 25636	Aug. 9 1900	10
I 18567	Aug. 17 1897	12
I 13332	Sept. 1 1895	11
I 9444	Sept. 10 1893	14
I 6960	Sept. 9 1892	32
I 7153	Sept. 21 1892	15
I 7244	Oct. 1 1892	14
I 9728	Oct. 21 1893	10
I 9806	July 30 1893	22

On examination of the above plates fails to show sufficient evidence of variability in the images of either of the above stars. Var. not confirmed.

Announce as fourth type, IVa. W. P. Fleming.

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1905phae.proj..818F

February 8, 1906.

Examn. 2 plates to det. var. if any in
No 5166 Sp Md or I 33226 +12°4228 20 0.2 +12 31 8.8 (1855)
RA 20h 2m.3 Dec +12° 39' (1900).

Plate	Date	Ex	Est.
I 7089	Sept 18, 1892	12	9.5
I 27468	Sept. 9, 1901	15	10.1
I 26097	Nov. 16, 1900	10	10.5
I 9038	Aug. 2, 1893	11	<11.2

An examination of the above plates shows a variation of at least 1.7 magnitudes, 9.5 – <11.2

W. P. Fleming.

√ Conf. by L. D. Wells

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1905phae.proj..818F

February 9, 1906.

Exam. of plates for confirmation of variability of
No. 5325 Sp. Md on B 33561. $20^h\ 13.0^m + 33^\circ\ 55'$ (1855)
(Approx) $20^h\ 14.7^m + 34^\circ\ 03'$ (1900)

Plate	Date	Exp.	Est.	
I 11965	Nov. 22, 1894	22	9.9	Var?
I 13049	July 10, 1895	18	<12	
I 18928	Sept. 15, 1897	10	12.5	Ident.
I 22897	May 23, 1899	14	<12	
I 9418	Sept 9, 1893	12	9.9	B
I 16259	Oct 24, 1896	10	<12	B
" 9457	" 12, 1893	28	9.9	
" 20993	July 7, 1898	15	10.5	
" 22920	May 24, 1899	10	<11.5	
" 31043	Oct 24, 1903	27	11.0?	
" 8879	July 21, 1893	11	<10.5	These plates exam May 18 1906
" 11374	Aug 18, 1894	10	<11.0	
" 9980	Nov 22, 1893	-	10.0	
" 30984	Oct 13, 1903	18 / 19	11.5	
" 31018	" 20 "	19	11.5	
" 30981	" 6, "	16	<10	
" 25972	" 20 1900	13	<11	
" 30954	Sept. 28 1903	11	11.5	

An exam. of the above plates shows a variation of more than 2.0 mags. about 2.6 mags. 9.9 – 12.5

W. P. Fleming.

√ Conf. by L. Wells.

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Feb. 13, 1906.

Exam. of charts to obtain est. of change in var. found by Miss C. F. Leland from Superposition of Plates I 3454 and I 32642, Var. conf. by W. P. H. May 26, 1905. See C. F. L.'s Book 3 (Brun) p. 67.

Approx pos. (1900) 10 29.9 +0 11

Plate	Date	Exp.	Est.
I 32642	Feb. 11, 1905	30	9.3
I 3454	April 24, 1891	10	10.5
B ~~F~~ 29501	April 29, 1902	11	9.5
B ~~X~~ 31560	April 28, 1903	10	10.5
B 26882	Dec. 31, 1900	10	8.9

The above plates show a variation of about 1.6 magn. Mean 8.9 – 10.5 √

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1905phae.proj..818F

Feb. 13, 1906.

Glass. of plates to conf var of star "o" in sequence for var. R.A. 19 13.4 Dec +17° 06' (85.5).
"o" found to be var. by Miss S. E. Breslin while observing the first var. Star ó substituted for "o" on Feb. 16, 1906.

Assuming m 12,0, n 12,6.

Plate	Date	Exp	Est.
I 28998	July 12, 1902	12m	12.2
I 29008	" 12, 1902	18m	12.5
I 29065	Aug. 8, 1902	46m	12.9
I 30240	Mar. 26, 1903	13m	12.7
I 29002	July 12, 1902	29m	12.2
I 28670	Apr. 15, 1902	11m	12.3
I 28999	July 12, 1902	19m	12.2
I 29066	Aug. 8, 1902	16m	< 12.8
I 29083	Aug. 8, 1902	?	< 12.6
I 25275	May 1, 1900	13m	12.9

An examination of the above plates shows a real variation of at least 0.7 magn. in star "o".
12,2 – 12,9.

Announce (A.C.B.) W.P.F. Feb 13, 1906.

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1905phae.proj.:818F

Measures of Plate I 23556 for position of Swasons nebulae in Circular No. 110, 111?

+46° 1067 (?) 5 48.9 + 46 6

I 2662

2.65 mm. S of +46° 1068 5 45 40.6 +46 11 9.2
2.65
4.40 mm. N of +45° 1199 5 45 40.3 +45 53 9.1
4.40
0.06 mm. S of +46° 1064 5 44 69 +46 52 8.0
0.06 mm.
2.75 N of +45 1196 5 45 13.8 +45 58.0 9.0
2.80

+46° 1067 5 45 37.8 +46 7.6 9.5

+12° 4228 20 2.3 + 12 39

I 7089
I 30238

+12° 4228 19 20 0 14.8 + 12 31.2 m 8.8

S ~~AF~~ 1.85 m +12° 4230 20 0 25.3 + 12 36.1 9.2

N .45 m +12° 4226 19 59 55.3 + 12 31.4 m 7.4

+46	1068	+46	11.0	− 7.2	+46	3.8	+12° 4230	12 36.1 − 5.0 31.1
45	1199	45	53.0	+ 12.0		5.0	+12° 4226	12 31.4 + 1.2 32.6
46	1064	46	5.2	− 0.2		5.0	+12 4228	1 31.2 31.2
45	1195	45	58.0	+ 7.5		5.5		
						(9.3		
					+46°	4.8		
				⊙	+46	7.6		
						2.8		

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February 16, 1906.

+21° 1609. R.A. 7 23.3 +21 7 9.1 (1900) = N.G.C. 2392, D'Arrest, 1872. (See note on Gas. Neb. MSS.).

This may have been a new star shortly before the time of D'Arrest's observation.

Plates I 26125 and I 33713, taken on November 21, 1900 and November 27, 1905, show no trace of the bright lines characteristic of gaseous nebulae. The spectrum is superposed on that of +21° 1610 mgn. 8.0 but the portion visible appears to be that of a star of the fourth type. The images on the chart plates, however, are hazy as compared with those of adjacent stars. They also seem to show slight changes in brightness

Plate A 6665, April 16, 1904, shows distinct nebulosity especially well marked on the preceding and southern edges of the image.

~~I 32854 March 6, 1905 96m.~~

sp.	I 26125	November 21, 1900	96m
sp	I 33713	November 27, 1905	72m
	A 6665	April 16, 1904	10m
	I 2238	Nov. 12, 1890	12
	I 2429	Dec. 4, 1890	23
	I 5805	March 6, 1892	12
	I 14821	April 8, 1896	10
	I 16995	Jan. 6, 1897	21
	I 21747	Nov. 21, 1898	11
	I 24048	Nov. 13, 1899	32
	I 29880	Jan. 21, 1903	22
	I 31554	March 16, 1904	20.

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1905phae.proj..818F

February 17, 1906.

Record of variation of star preceding and north of W Monocerotis. Found by E.C.P. with 12-inch.

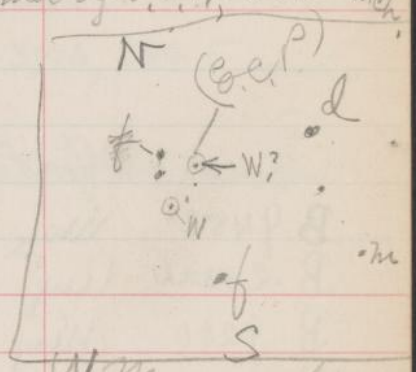


Plate	Date	Exp	Est.
I 5423	Jan. 20 1892	16 m	11.9
I 32941	Mar. 27 1905	30	12.5
I 17786	Apr. 3 1897	10	11.7
I 26039	Nov. 10 1900	17	11.7
I 28823	Nov. 13 1901	10	12.8
I 17657	Mar. 25 1897	12	11.9
B 31497	Apr. 21 1903	10	12.7
B 29597	May 2 1902	10	12.9
B 35232	Nov. 11 1904	10	12.6
B 32789	May 2 1905	16	12.3
I 5536	Feb. 5 1892	12	12.3

Our examination of the above plates on Feb. 16 1906 confirmed the variability of ~~the star~~ marked "E.C.P." in the above chart. Estimates give a variate of about 1.2 magn. Limits 11.7 & 12.9.

W. P. F.

Is not this Espin's star W Monocerotis? Assumed.

The other star marked as W shows no evidence of variation on these plates.

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1905phae.proj..818F

February 28, 1906.

Exam. of plates of R Y Scorpii. See letter of Maunder(?). $17^h 24^m -33°$

Plate	Date	Exp.	Est.
B 9482	May 19 1893	67m	
B 25824	Aug. 31 1900	11	
B 9280	May 1 1893		
B 17414	Sept. 23 1896	11	
B 33759	May 14 1904	198	
B 21703	June 16 1898	240	
B 5833	Sept. 30 1890	12	
B 5835	Oct. 1 1890	10	
B 5967	May 19 1891		
B 7877	June 10 1892	10	
AM 1437	July 9 1902	60	
AM 15	July 26 1899	71	
AM 614	Sept. 1 1900	70	
AM 2129	July 15 1903	60	
AM 1043	Sept. 6 1901	60	
AM. 2916	Aug. 14 1904	62	
A 2809	Oct. 6 1897	10m	
A 2782	Oct. 4 1897	10m	

An exam. of the above plates shows that R Y Scorpii is one of a pair of stars, prof. the foll. & northern, they are too close to be separated except on the A plates and the best B plates. The star varies by a magnitude or more. Plate B9546, June 5, 1893 shows the spectrum as Cl. I.

W. P. F. Feb. 28, 1906.

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1905phae.proj.019F

March 3, 1906.

Exam. of plates to get range of variation of δ Centauri CDm.-48° 7401 ^ R.A. 12 19 12 Dec. -48° 53.7 (1900). Met in Ally C, in Z.C., Type IV on B3416, 3445, and 7479. Astron. Nach. 123.

Discp. indep. by L.D.W. in 1899, and later confd by her in Plate Date Ex Ef. Magn.

B	31603	May 4, 1903	10	8.5
B	21610	June 10, 1898	10	9.5
B	19748	July 3, 1897	11	8.5
B	29130	Feb 27, 1902	10	9.0
B	21561	June 1, 1898	12	9.2
B	24816	Mch. 1, 1900	16	8.2
B	13652	June 6, 1892	11	8.3
B	9634	June 22, 1893	10	8.6
B	5905	May 15, 1891	11	9.0
B	33564	" 3, 1904	10	8.5
B	33411	Apr. 20, 1904	10	8.8
B	29806	May 26, 1902	10	8.4
B	24916	Mar. 31, 1900	62	8.3
B	23123	June 20, 1899	13	8.1
B	11427	" 15, 1894	-	8.7
B	25491	May 29, 1900	60	8.3

The 16 chart-plates examined show a range of about 1.4 magnitudes, the approx. limits being 8.1 to 9.5. This star is probably two or three magnitudes brighter visually.

W. P. F. March 3, 1906.

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1905phae.proj..818F

March 1906.

Examination of plates to confirm variation of
known Type IV star at 10h 41m.6 -6° 57' 1875 pos. Identified March 21 1906
(see Book 4 page 89)
as C.P.D. -6° 1475 10 41.6 -6 57.3 (1875) 9.5 magn.
10 42.5 -6 5 (1900)
Suspected of var. by Mrs. Fleming on spectrum plate B 36119

			Expm	
B	25357	May 20 1900	63	9.1
B	16301	June 13 1896	10	8.6
B	31365	March 9 1903	10	8.9
B	13477	June 1 1895	10	8.4
B	24652	Jan. 30 1900	10	8.7
B	22810	May 10 1899	10	9.6
B	25356	May 19 1900	60	8.4
B	28938	Dec. 6 1901	10	8.4
B	35351	Dec. 6 1904	10	8.4
B	22911	May 22 1899	11	9.3
B	25584	June 20 1900	10	8.5
B	10924	April 17 1894	10	8.4
B	5071	May 6 1890	60	9.2 8.7

An examination of the above plates shows a variation of about 1.2 magn. Limit 8.4-9.6. Confirmed
Variability confirmed by L.D. Wells. W.H.F.

The above star is surely variable. L.D.W. March 21 1906

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1905phae.proj.:810F

March 22, 1906.

Exam of plates for var. if any in η^1 or η^2 Dorad. Letter of Oct. 13, 1896. A.S. Williams.

Plate	Date	Exp
Rm 3166	Oct. 31, 1904	60m
3181	Nov. 2 1904	60
2443	Jan. 12, 1904	64
2461	Jan. 20, 1904	63
2379	Nov. 18, 1903	61
2481	March 17, 1904	60(?)
2575	April 23, 1904	60
2584	May 2, 1904	66
3009	Sept. 2 1904	63
3072	Sept. 21, 1904	60

Exam. of the above plates shows no evidence of variability in either of these stars. η^2 is a very ~~close~~ widely separated double.

W. P. Fleming.

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1905phae.proj..818F

March 24, 1906.

Exam. of Chart plates to determine variation if any in +66° 780. Spectrum Type IV Peculiar I 33878.

Plate	Date	Exp.	Est.
I 16781	Dec. 14, 1896.	10m	9.3
I 16438	Nov. 2, 1896.	20	9.4
I 16717	Dec. 7, 1896.	14	9.5
I #15295	June 12, 1896.	12	10.0
I 6065	April 11, 1892	13	10.5
I 17536	March 12, 1897	10	8.5
I 16544	Nov. 14, 1896	11	9.1
I 28797	May 15, ~~1896~~ 1902	10	9.3
I 20078 Sp.	Jan. 24, 1898	60	Type IV
I 33878	Feb. 22, 1906.	62	Type IV.

An examination of the above plates shows a variation of about 2.0 magnitudes. Limit 8.5 to 10.5.

Var. Confirmed by L. D. Wells.

W. P. F. March 24, 1906.

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1905phae.proj - 818F

April 16, 1906.

Elem. & photos. to determine var. if any in Chm. -27°613 {1h42m8 -27° 41' 91 (1875). Marked on AM 3962. Shows {1440 -27 33 (1900) change in multiple images.

Plate	Date	Exp.
A.M. 309	Nov. 22 1899	85m
A.M. 3243	Nov. 17 1904	62m
A.M. 3179	Nov. 2 1904	60m
A.M. 3175	Nov. 1 1904	71m
A.M. 3107	Oct. 3 1904	482
A.M. 2446	Jan. 13 1904	66m
A.M. 2385	Nov. 19 1903	60m
A.M. 1530	Sept. 13 1902	60m
A.M. 1479	July 16 1902	60m
A.M. 1451	July 10 1902	61m
A.M. 1790	Jan. 5 1903	62m
A.M. 1592	Sept. 30 1902	62m
A.M. 3088	Sept. 29 1904	61m
A.M. 3080	Sept. 28 1904	39m
A.M. 3061	Sept. 20 1904	67m
A.M. 2999	Sept. 1 1904	61m
A.M. 320	Nov. 28 1899	75m
A.M. 3827	Aug. 22 1905	60m
A.M. 1699	Nov. 19 1902	60m
A.M. 2247	Sept. 1 1903	60

Plate	Date	Exp.
A.M. 3145	Oct. 15 1904	60m
A.M. 2783	June 23 1904	60m
A.M. 2368	Nov. 16 1903	65m
A.M. 1066	Sept. 20 1901	60m
A.M. 1031	Sept. 4 1901	60
A.M. 914	July 11 1901	60
A.M. 2151	July 23 1903	60m
A.M. 2134	July 15 1903	60m
A.M. 2097	July 2 1903	60m
A.M. 1557	Sept. 22 1902	60m
A.M. 2938	Aug. 10 1904	61m
A.M. 571	July 31 1900	60m
A.M. 1672	Nov. 5 1902	64m

B 14247	July 31	1895	10m
B 4506	Oct. 24	1889	62m
B 20220	Aug. 31	1897	11m
B 23630	July 25	1899	10
B 25852	Aug. 31	1900	10
B 24364	Oct. 12	1899	11m
B 34799	Sept. 1	1904	12m
B 17136	Aug. 13	1896	13m
B 17599	Oct. 7	1896	13m
B 28340	Aug. 24	1901	10m
B 30267	June 30	1902	10m
B 12606	Nov. 16	1894	10m
B 22532	Aug. 31	1903	60

An exam. of the above plates shows but slight change in -27°613; about 0.4 mags. Not to be announced until more evidence of var. is obtained.

W.P.F.

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1905phae.proj..818F

April 17, 1906.

Exam. of Plates for variability of CDM -30° 16169
R.A. 18 38 42 Dec. -30° 37.2 (1875) 8.6. Algol? var
found by W. P. Fox Cam 3695, on April 14, 1906.

Plate	Date	Exp	Est.		
B 10042	July 31, 1893	60m	8.6	8.67	
am 3732	" 24, 1905	60	8.7	8.77	
am 3616	June 19, 1905	63	8.8	8.87	
am 2639	May 7, 1904	60	8.8	8.87	
am 2713	June 4, 1904	60	8.7	8.77	
am 1203	Apl. 15, 1902	60	8.8	8.87	
am 1993	June 2, 1903	63	8.9	8.82 ~~8.97~~	
" 1887	Apl. 25, 1903	68	8.8	8.87	
" 2702	June 3, 1904	60	9.6	9.45 9.6	April 30, 1906 Image affected by defect in plate at max. th.
" 2200	Aug. 31 1903	63	9.0	8.92	April 30, 1906
" 1414	July 2, 1902	60	9.7	9.55 9.9	
" 1043	Sept. 6, 1901	60	9.5	9.35	
" 3050	Sept. 19, 1904	63	9.2	8.97	
" 2873	July 23, 1904	61	9.2	8.97	
" 3552	May 22, 1905	60	9.8	9.65	
" 3436	April 21, 1905	60	9.4	9.17 ~~9.35~~	
" 1073	Oct. 1, 1901	71	9.6	9.45	
" 3641	June 20, 1905	61	9.1	9.02 m 8.87 8.9	
" 1201	Apl. 14, 1902	60	9.6	9.45	
" 6643	~~Aug.~~ Too poor				
" 6632	"	"			
" 6532	July 21, 1905	62	8.6	8.67	
" 6493	Too poor.				
" 5211	"	"			
" 5068	July 17 1904	67	8.7	8.77	
" 5042	Too poor				

B 10042

	Est	
a	7.2	7.54
b	7.7	8.19
c	8.0	8.37
d	8.4	8.47
e	9.0	8.92
f	9.2	8.97
g	9.5	9.35
h	9.9	9.80
k	10.2	10.05
l	10.5	10.27
m	10.9	10.95
n	11.3	11.13
o	11.7	11.28
p	11.8	11.50
q	12.1	11.85

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1905phae.proj..818F

Am 3651

Ephemeris for Probably

Sid Time

JD 7034.

			Sid time				
1	14.28	1 14 29.					
2	1429	2 14 59.	14	44	6 44		
3	1459	3 15 29.	15	14	6 35		
4	1529	4 15 59.	15	44	6 56		
5	1559	5 16 29	5	16	44.	14 29	.603
6	1629	6 16 59		17	14	14 59	.624
7	1659	7 17 29					
8	1729	8 17 59		17	44	15 29	.645
9	1759	9 18 29		18	14	15 59	.666
10		10 18 59		18	44	16 29	.687
11	1829						
12	1858	11 19 29		19	14	16 59	.708
13	1929	12 19 59		19	44	17 29	.728
14	1959	13 20 29		20	14	17 59	.749
15	2029	14 20 59		20	44	18 29	.770
16	2059	15 21 29		21	14	18 59	.791
17	2129	16 21 59		21	44	19 29	.812
	2158	17 22 29		22	14	19 59	.833
	2229	18 22 59		22	44	0 28	.019
	2259	19 23 00					

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1905phae.proj..818F

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1905phae.proj..818F

April 17, 1906.

Estimates of GDM - 30 16169

&	Pl.	Date	Apf.	Est.	
aM	4980	June 17, 1904	65m	8.7	8.77 Edge of pl.
dc	3851	Aug 21, 1903	61	9.0	8.92 " " "
"	3825	Too faint		"	" "
"	2715	July 31, 1902	60	8.8	8.87 " " "
"	2691	" 13, 1902	81	8.9	8.82 8.87 " " "
"	2655	June 29, 1902	85	8.6	8.67 " " "
"	2612	" 6, 1902	94	8.7	8.77 " " "
"	1840	Oct. 7, 1901	61	8.7	8.77 " " "
"	1527	June 11, 1901	96	8.6	8.67 " " "
"	868	May 29, 1900	72	8.9	8.82 8.87 " " "
"	858	" 11 1900	60	8.8	8.87 " " "
"	377	Aug 6, 1899	64	8.7	8.77 " " "
aM	239	Oct. 25, 1899	66	8.9	8.82 8.87 " " "
aM	2618	May 5, 1904	60	9.0	8.92
"	2772	Apr. 22, 1904	61	8.7	8.77
"	2261	Sept. 3, 1903	60	9.6	9.45 8.67
"	3448	Apr. 7, 1905	65	8.7	8.77
"	3392	Mar. 7, 1905	60	8.8	8.87
"	3002	Sept. 2, 1904	61	8.7	8.77
"	2959	Aug. 18, 1904	62	8.7	8.77
"	2916	Aug. 4, 1904	62	8.7	8.77
"	2854	July 21, 1901	69	8.7	8.77
"	2797	July 1, 1904	60	8.7	8.77
"	2756	June 18, 1904	60	8.7	8.77
"	3802	Aug. 18, 1905	66	8.8	8.87
"	3720	July 12, 1905	60	8.7	8.77
"	3689	" 5, 1905	62	8.7	8.77
"	3625	June 12, 1905	60	8.8	8.87
"	3597	" 7 1905	62	8.7	8.77

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April 17, 1906.

Estimates of GD M -30 16169.

Pl.	Date	Cap.	Est.
↓			
↓ AM 3537	May 13, 1905	60 mm	8.8 8.87
↓ " 3496	" 2, 1905	71	8.8 8.87
↓ " 3801	Aug. 18, 1905	68	8.8 8.87
↓ " 3764	" 8, 1905	61	8.8 8.87
↓ " 3742+3	July 26, 1905	66	8.8 8.87
	April 18, 1906.		
↓ " 1487	July 29, 1902	383	8.8 8.87
↓ " 1917	May 6, 1903	60	8.8 8.87
↓ " 1589	Sept. 30, 1902	60	8.7 8.77
↓ " 1543	Sept. 17, 1902	60	8.7 8.77
↓ " 1528	" 13, 1902	60	8.8 8.87
↓ " 2244	Sept 1, 1903	61	8.8 8.87
↓ " 2147	July 22, 1903	73	8.8 8.87
↓ " 2129	" 15, 1903	60	9.4 ~~9.28~~ 9.17
↓ " 2109	" 12, 1903	69	8.8 8.87
↓ " 2085	" 1, 1903	66	8.9 ~~8.97~~ 8.82
↓ " 1960	May 19, 1903	61	8.8 8.87
↓ " 1952	" 18, 1903	60	9.0 8.92
↓ " 3711	July 11, 1905	60	9.9 ~~9.80~~
↓ " 3883	Sept. 16, "	60	8.8 8.87
↓ " 3647	June 21, 1905	61	8.7 8.77
↓ " 3631	" 13 "	59	8.7 8.77
↓ " 3587	" 3 1905	61	8.8 8.87
↓ " 3515	May 10 "	62	8.7 8.77
↓ " 3443	Apl. 5 1905	61	8.7 8.77
↓ " 3128	Oct. 12, 1904	60	8.8 8.87
↓ " 3099	" 1, 1904	38	8.8 8.87
↓ " 3081	Sept. 29, 1904	60	8.8 8.87
↓ " 2989	Aug 31, 1904	60	8.8 8.87

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April 18, 1906.

Estimates of CDM −30° 16169.

Pl.	Date	Eff.	Est.	
AM 3953	Oct. 16, 1905	60	8.8	8.87
" 3891	Sept. 18, 1900	60	8.8	8.87
" 2385	Oct. 19, 1903	72	8.8	8.87
" 2184	Aug. 11 1903	63	8.8	8.87
" 2142	July 29, 1903	63	8.8	8.87
" 2072	June 26, 1903	60	8.8	8.87
" 2907	Aug 2, 1904	60	8.7	8.77
" 2856	July 21 1904	61	8.7	8.77
" 2827	" 7, 1904	74	8.7	8.77
" 888	June 25, 1901	65	8.8	8.87
" 875	" 22 "	60	8.8	8.87
" 868	" 21, "	64	8.8	8.87
" 2052	" 18 1903	60	8.7	8.77
" 1894	Oct. 21 "	62	8.8	8.87
" 1631	Oct. 10, 1902	60	9.4	9.17 ~~9.28~~
" 1594	" 4 1902	60	8.7	8.77
" 1523	Aug. 31, 1902	120	8.8	8.87
" 2725	June 7, 1904	66	8.9	8.812 ~~8.97~~
" 2661.	May 19 1904	61	8.8	8.87
" 2653	" 12 "	60	8.8	8.87
" 75	Aug. 7 1899	62	8.8	8.87
" 46	" 2 1899	66	8.8	8.87
" "	" " "	"	8.8	8.87
" 1522			8.7	8.77
" 1492	" 9 1902	60	8.7	8.77
" 1384	June 24 1902	60	8.8	8.87
" 1353	" 13 1902	60	8.7	8.77
" 1336	" 11 "	60	8.9	8.812 ~~8.97~~
" 1297	" 2, 1902	60	8.8	8.87

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April 18, 1906

Estimates of CD M -30° 16169

Pl.	Date	Aux	Est.	
↓ AM 1191	Apl. 7, 1902	60	8.7	8.77
↓ " 1010	Aug 23 1901	60	8.7	8.77
~~959~~	" 5, 1901	69		
↓ AC 65-65	Aug. 2, 1905	60	8.7	8.77
↓ AC 2778	" 26, 1902	67	8.8	8.87
↓ AM 850	June 11, 1901	61	8.8	8.87
↓ AM 855	" 6, 1901	63	8.8	8.87
↓ " 685	Oct. 15, 1900	60	8.8	8.87
↓ " 204	" 11 1, 899	62	8.7	8.77
↓ " 104	Aug. 23, 1899	60	8.7	8.77
↓ " 87	" 9, 1899	76	8.8	8.87
↓ " 1470	July 14, 1902	60	8.8	8.87
↓ " 1461	July 12, 1902	60	8.9	8.82 ~~8.97~~
↓ " 1437	" 9, 1902	60	8.8	8.87
↓ " 1422	" 9, 1902	60	8.8	8.87
↓ " 1278	May 27, 1902	60	8.9	8.82 ~~8.97~~
↓ " 1252	" 15, 1902	60	8.9	8.82 ~~8.97~~
↓ " 1236	" 2 1902	60	8.7	8.77
" 1028	Sept. 4, 1901	67	8.9	8.82 ~~8.97~~
↓ " 907	July 9, 1901	60	8.8	8.87
↓ " 817	May 25, 1901	60	8.8	8.87
↓ " 808	May 27, 1901	51	8 8	8.87
↓ " 802	" 22, 1901	60	8 8	8.87
↓ " 614	Sept. 1, 1900	70	8.9	8.82 ~~8.97~~
↓ " 577	Aug. 2, 1900	62	8.7	8.77
↓ " 538	July 23, 1900	60	8.6	8.67 c
↓ " 461	May 8, 1900	62	9.0	8.92
↓ " 137	Sept. 6, 1899	75	8.8	8.87
↓ " 33	July 31, 1899	300	8.8	8.87

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1905phae.proj..818F

April 18, 1906

Estimates of C to M -30° 16169

Pl	Date	Eff	Est	
AM 2724	June 7, 1904	67m	8.8	8.87
" 2694	" 2, 1904	60	8.7	8.77
" 2652	May 13, 1904	60	8.7	8.77
" 2629	" 6, 1904	28	8.7	8.77
" 2532	Apl. 12, 1904	62	8.7	8.77
" 2309	Oct. 9, 1903	64	8.6	8.67
" 125	Aug. 31, 1899	66	8.7	8.77
" 107	" 24, 1899	60	8.8	8.87
" 69	Too faint.			
~~" 47~~	~~Aug 2, 1899~~	~~64~~		
AM 1390	June 25, 1902	60	8.8	8.87
" 1364	June 14, 1902	60	8.7	8.77
" 1345	" 12, 1902	60	8.7	8.77
" 1327	" 10, 1902	62	8.6	8.67
" 827	" 5, 1901	62	8.7	8.77
" 949	Aug. 2, 1901	62	8.7	8.77
" 1210	Apl. 26, 1902	60	8.8	8.87
" 1099	Oct. 10, 1901	68	8.7	8.77
" 1094	" 8, 1901	60	8.7	8.77
" 1001	Aug 21, 1901	60	8.7	8.77
" 981	" 10, 1901	46	8.7	8.77
" 882	June 24, 1901	60	8.6	8.67
" 2846	July 20, 1904	62	8.6	8.67
" 3922	Oct 2, 1905	60	8.7	8.77
" 3859	Sept. 7, 1905	64	8.7	8.77
" 3770	Aug. 10, 1905	60	8.9	8.82 ~~8.97~~
" 3579	June 2, 1905	59	8.6	8.67
" 3524	May 11, 1905	67	8.6	8.67
" 3507	" 9 1905	60	8.7	8.77

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1905phae.proj..818E

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1905phae.proj..818F

April 18, 1906.

Plate	Date	Exp.	Est.	
AM 3488	Apr. 25, 1905	65 m	8.6	8.67
" 3406	Mar. 28, 1905	62	8.7	8.77
" 592	Aug. 29, 1900	60	8.6	8.67
" 506	June 20, 1900	60	8.7	8.77
" 226	Oct. 14, 1899	84	8.7	8.77
" 2199	Aug. 13, 1903	60	8.8	8.87
" 2075	June 27, 1903	60	8.7	8.77
" 2050	" 17, 1903	61	8.6	8.67
" 2005	" 4, 1903	60	8.7	8.77
" 1994	" 2, 1903	60	8.7	8.77
" 1875	Apr. 21, 1903	60	8.7	8.77
" 1854	" 3, 1903	60	8.7	8.77
" 1653	Oct. 21, 1902	60	8.7	8.77
" 1632	" 10 1902	60	8.8	8.87
" 3129	" 12, 1904	60	8.8	8.87
" 3124	" 11, 1904	67	8.7	8.77
" 3110	" 5, 1904	60	8.6	8.67
" 3082	Sept. 29, 1904	60	8.7	8.77
" 2990	Aug. 31, 1904	60	8.7	8.77
" 2940	Aug. 13, 1904	63	8.7	8.77
B 6112	May 29, 1891	10	8.7	8.77
B 5255	" 22, 1896	60	8.6	8.67
B 6919			8.8	8.87
B 6636	Too poor			
B 6113	May 29, 1891	10	8.6	8.67
B 5238	May 20, 1896	60	8.6	8.67
B 8415			8.6	8.67
B 7818	Syn. a		Poor.	

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April 18, 1906.

✓ Pl.	Date	Exp.	Ref.	
			8.7	8.77
B 9794			a5	7 on
B 9585	Sp. a		8.7	8.77 Very good image
B 9582	" a		8.7	8.77
B 10041	July 31, 1893	10m	8.7	8.77
B 9882			8.7	8.77
B 9881			8.7	8.77
B 9829	Sp. a		8.7	8.77
B 14142	July 16, 1895	120	8.7	~~8.77~~
B 14088	" 10, "	10	8.8	8.87
B 13851	June 29, 1895	60	8.9	~~8.97~~ 8.82
B 13629	" 5, 1895	10	8.8	8.87
B 13435	May 27, 1895	60	8.8	8.87
B 12547	Nov. 13, 1894	10	8.8	8.87
B 12467	Nov. 19, 1894	10	8.8	8.87
B 12427	" 6, 1894	48	8.6	8.67
B 12047	Aug. 31, 1894	60	8.6	~~8.67~~
B 11402	June 9, 1894	?	8.7	8.77
B 16883	July 17, 1896	10	8.7	8.77
B 16826	July 13, 1896	25	8.6	8.67 april 30, 1906
B 16640	" 3, 1896	12	9.2	~~8.97~~ 9.4
B 16499	June 27, 1896	10	8.7	8.77
B 16288	" 12, 1896	11	9.1	v9.02 or 8.87 5.9
B 16099	" 3, 1896	12	8.6	8.67
B 15827	May 12, 1896	6a	8.7	8.77
B 15741	May 9, 1896	6	8.6	8.67
B 11322	May 29, 1894	?	8.7	~~8.77~~ 8.82
B 17709	Oct. 15, 1896	11	8.9	~~8.97~~
B 17558	" 6, 1896	12	8.7	8.77
B 17454	Sept. 28, 1896	11	Too near edge.	

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April 18, 1906.

Estimates of CD M -30 16169

Pl.	Date	Appr.	Est.	
B 17238	Aug. 25, 1896	12m	8.7	8.77
B 17093	" 11, 1896	21	8.7	8.77
B 17062	" 5, 1896	80	8.6	8.67 very good image
B 14634	Sept. 14, 1895	92	8.7	8.77
B 14352	Aug. 10, 1895	118	8.7	8.77
B 18023	Nov. 25, 1896	12	8.6	8.67
B 19380	June 3, 1897	13	8.6	8.67
B 19510	" 10, 1897	13	8.8	8.87
B 19580	" 18, 1897	10	8.6	8.67
B 14354	Aug. 12, 1895	70	8.6	8.67
B 17061	" 6, 1896	118	8.6	8.67
B 14745	Sept. 28, 1895	13	8.7	8.77
B 16164	June 5, 1896	15	8.7	8.77
B 16571	July 1, 1896	12	8.7	8.77
B 11761	Aug. 7, 1894		8.8	8.87
B 8716			8.7	8.77
B 4396	Oct. 10, 1889	25	8.6	8.67
B 4141	Sept. 4, 1889	10	8.6	8.67
B 3896			8.7	8.77
B 3868			8.7	8.77
B 3906			8.7	8.77
B 19244	May 28, 1897	10	8.6	8.67
B 19924	Apl. 22, 1897	11	8.7	8.77
B 18727	" 2, 1897	10	8.6	8.67
W M 2080	June 29, 1903	435	8.7	8.77
" "	" " "	"	8.7	8.77
" "	" " "	"	8.7	8.77
" "	" " "	"	8.7	8.77
" "	" " "	"	8.7	8.77

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April 18, 1906.

Estimates of CDM -30°, 6169

✓ Pl.	Date	Appⁿ	Est.	
AM 2080	June 29, 1903	435	8.7	8.77
" "	" " "	"	8.7	8.77
" "	" " "	"	8.7	8.77
" "	" " "	"	8.7	8.77
" "	" " "	"	8.7	8.77
" "	" " "	"	8.7	8.77
" "	" " "	"	8.7	8.77
" "	" " "	"	8.7	8.77
" "	" " "	"	8.7	8.77
" "	" " "	"	8.7	8.77
✓ AM 2140	July 17, 1903	541	Images too hor-	
✓ AM 1488	July 30 1902	5 Eph.	8.7	8.77
" "	" 31 "			
" "	Aug 2 1902			
" "	" 3 1902			
AM 2140	July 17, 1903	541	Poor images	
AM 2835	July 12, 1904	579	8.7	8.77
" "	" " "	"		8.77
" "	" " "	"		8.77
" "	" " "	"		8.77
" "	" " "	"		8.77
" "	" " "	"		8.77
" "	" " "	"		8.77
" "	" " "	"		8.77
" "	" " "	"		8.77
" "	" " "	"		8.77
" "	" " "	"		8.77
" "	" " "	"		8.77
" "	" " "	"		8.77
" "	" " "	"		8.77
" "	" " "	"		8.77
" "	" " "	"		8.77

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April 18, 1906.

Estimates of CPM -30° 16169

✓AM 2835	July 12, 1904	5h 79m	8.7	8.77.
" "	" " "	"	"	8.77.
" "	" " "	"	"	8.77
" "	" " "	"	"	8.77
✓AM 924	July 29, 1901		8.7	8.77.
" "	" " "		"	8.77
" "	" " "		"	8.77
" "	" " "		"	8.77
" "	" " "		"	8.77
" "	" " "		"	8.77
✓ " "	" " "		"	8.77
AM 1194	April 8, 1902	60	Missing	
✓AM 47	Poor images			
✓AM 2739	June 11, 1904	6h 34m	8.7	8.77
" "	" " "	"	"	"
" "	" " "	"	"	"
" "	" " "	"	"	"
" "	" " "	"	"	"
" "	" " "	"	"	"
" "	" " "	"	"	"
" "	" " "	"	"	"
" "	" " "	"	"	"
" "	" " "	"	"	"
" "	" " "	"	"	"
" "	" " "	"	"	"
" "	" " "	"	8.7	"
AM 825-4	June 14, 1901	?	8.7	8.77
" "	" " "	"	"	"
" "	" " "	"	"	"

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✓ Pl	Date	Diff	Esp	
AM 854	June 14, 1901		8.7	8.77
"	"	"	"	"
"	"	"	"	"
"	"	"	"	"
"	"	"	"	"
"	"	"	"	"
"	"	"	"	"
"	"	"	"	"
"	"	"	"	"
"	"	"	"	"
"	"	"	"	"
"	"	"	"	"
"	"	"	"	"
"	"	"	"	"
"	"	"	"	"
"	"	"	8.7	"
✓ AM 919	Toofron			
✓ AM 1116	"	"		
✓ AM 959	Aug. 5, 1901	69	8.7	8.77
✓ AM 68	Toofron			
✓ AM 856	"	"		
AM 2743	June 13, 1904	8h 3m 45s	8.7	8.77
"	"	"	"	"
"	"	"	"	"
"	"	"	"	"
"	"	"	"	"
"	"	"	"	"
"	"	"	"	"
"	"	"	"	"
"	"	"	"	"
"	"	"	"	"

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Plate	Date	Exp.	Esh	
✓ aM 2745	June 13, 1904		8.7	8.77
"	" " "		"	"
"	" " "		"	"
✓ "	" " "		"	"
✓ aM 2143	July 29, 1903	39s	8.7	8.77
"	" " "		"	"
"	" " "		"	"
"	" " "		"	"
"	" " "		"	"
"	" " "		"	"
"	" " "		"	"
"	" " "		"	"
"	" " "		"	"
"	" " "		"	"
"	" " "		"	"
"	" " "		"	"
"	" " "		"	"
✓ "	" " "		"	"
✓ aM 3673	Too poor			
✓ aM 3672	" "			
✓ aM 3677	June 30, 1905	464	8.7	8.77
"	" " "		"	"
"	" " "		"	"
"	" " "		"	"
"	" " "		"	"
"	" " "		"	"
"	" " "		"	"
"	" " "		"	"
"	" " "		"	"

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1905phae.proj..818F

✓ Plate	Date	Exp.		
am 3677	June 30, 1905	464	8.7	8.77
" "	" "	"	"	"
" "	" "	"	"	"
" "	" "	"	"	"
" "	" "	"	"	"
✓ " "	" "	"	"	"
am 2732	June 8, 1904	6h 33m 39s	8.7	8.77
" "	" "	"	"	"
" "	" "	"	"	"
" "	" "	"	"	"
" "	" "	"	"	"
" "	" "	"	"	"
" "	" "	"	"	"
" "	" "	"	"	"
" "	" "	"	"	"
" "	" "	"	"	"
" "	" "	"	"	"
" "	" "	"	"	"
✓ am 2834	T Boötis			
✓ am 798	May 21, 1901	60	8.8	8.87
✓ am 2320	Oct. 12, 1903	68	8.6	8.67
✓ am 2178	Aug 10, 1903	60	8.7	8.77
✓ am 1491	Aug. 9, 1902	60	8.7	8.77
✓ am 2034	June 15, 1903	60	8.7	8.77
✓ am 2280	Sept. 18, 1903	63	8.7	8.77

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1905phae.proj..818F

April 29, 1906.

Pl.	Date	Aff.	Est.		
B 27686	June 17, 1901	60	8.6	8.67 ✓	
B27483	May 28, 1901	10	8.6	8.67 ✓	
B27446	" 27, 1901	10	8.7	8.77 ✓	
B26257	Sept. 29, 1900	63	8.2	8.27 ✓	8.2
B30109	June 17, 1902	10	8.2	8.27 ✓	8.2
B29904	May 29 1902	10	8.6	8.67 ✓	
B29531	Apl. 29, 1902	10	88	8.87 ✓	
B28735	Oct. 10, 1901	10	8.8	8.87 ✓	
B36964	Sept. 9, 1905	10	8.2	8.27 ✓	8.2
B36385	July 10, 1905	12	8.2	8.27 ✓	8.2
B36194	June 13, 1905	10	8.3	8.37 ✓	8.3
B30348	July 12, 1902	60	8.6	8.67 ✓	
B36060	May 15, 1905	10	8.3	8.37 ✓	8.3
B36874	Sept. 5, 1905	10	8.8	8.87 ✓	
B35850	Apl. 21, 1905	10	8.4	8.47 ✓	8.4
B28531	" 13, 1901	60	8.4	8.47 ✓	8.4
B28365	Aug 26, 1901	10	8.4	8.47 ✓	
B28215	Aug 14, 1901	60	8.4	8.47 ✓	
B32683	Sept. 17, 1902	60	8.4	8.47 ✓	
B32C27	Sept. 3 1902	11	9.3	9.07 ✓	
B32509	Aug. 31, 1902	10	8.6	8.67 ✓	
B32490	Aug. 29, 1902	114	8.5	8.57 ✓	
B32473	" 18, 1902	60	8.6	8.67 ✓	
B32407	Aug. 12, 1902	11	8.7	8.77 ✓	
B32046	June 30, 1902	62	8.5	8.57 ✓	
B32042	June 23, 1902	60	8.8	8.87 ✓	
B32016	June 19 1902	60	8.7	8.77 ✓	
B31956	June 3 1902	10	8.6	8.67 ✓	
B31734	May 7, 1902	11	8.7	8.77 ✓	

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1905phae.proj..818F

April 29, 1906.

Plate	Date	Exp	Est.
B 31684	May 6, 1903	10m	8.8 8.87 ✓
B 31646	" 5, 1903	10	8.8 8.87 ✓
B 34878	Sept. 9, 1904	61	8.6 8.67 ✓
B 34863	" 7, 1904	60	8.6 8.67 ✓
B 34250	July 1, 1904	10	8.6 8.67 ✓
B 34053	June 11, 1904	63	8.8 8.87 ✓
B 33927	" 2, 1904	10	8.7 8.77 ✓
B 33776	May 19, 1904	60	8.7 8.77 ✓
B 33337	Apl. 12, 1904	10	8.8 8.87 ✓
B 33494	" 23, 1904	10	8.7 8.77 ✓
B 21284	" 26, 1898	12	8.3 8.87 ✓
B 21317	" 29, 1898	10	8.7 8.77 ✓
B 22035	Apl. 13, 1898	10	8.7 8.77 ✓
B 22156	Nov. 10, 1898	10	9.3 9.35 ✓
B 22515	Apl. 6, 1899	10	8.6 8.67 ✓
B 22558	" 8, 1899	10	9.0 8.92 ✓
B 23665	July 26, 1899	13	8.6 8.67 ✓
B 23750	Aug. 1, 1899	116	8.7 8.77 ✓
B 23781	Aug. 7, 1899	185	8.8 8.87 ✓
B 23770	" 4, 1899	255	8.8 8.87 ✓
B 30867	Oct. 11, 1902	10	8.9 8.82 8.87 ✓
B 23076	June 17, 1899	10	8.8 8.87 ✓
B 23063	June 16, 1899	10	8.8 8.87 ✓
B 23075	" 17, 1899	10	8.6 8.87 ✓
B 30870	Oct. 11, 1902	10	8.8 8.87 ✓
B 28196	Aug. 12, 1901	60	9.1 9.02 8.87 ✓ 8.9 Duplicate
B 25880	Sept. 1, 1900	11	8.7 8.77 ✓
B 25521	June 2, 1900	60	8.8 8.87 ✓
B 25427	May 23, 1900	10	8.8 8.87 ✓

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April 29, 1906.

Pl.	Date	Exp.	Est.	
B 25390	May 22, 1902	60m	8.7 8.77	✓
B 20396	Sept. 16, 1899	71	8.6 8.67	✓
B 20477	" 21, 1897	16	8.8 8.87	✓
B 23500	July 17, 1899	12	9.4 9.17	✓
B 19896	" 21, 1897	60	8.7 8.77	a ✓
B 28160	Aug. 7, 1901	88	8.6 8.67	✓
B 20359	Sept. 15, 1897	10	8.4 8.47	✓
B 9800	July 14, 1893	120	8.6 8.67	✓

April 25, 1906.

AG 2568	May 20, 1902	69	Ponfle	✓
" 2521	" 3 "	14	" "	✓
" 1699	Aug. 30 1901	5	" "	✓
" 1655	" 14 1901	70	" "	✓
" 1618	July 15, 1901	42	" "	✓
" 1475	May 6, 1901	53	" "	✓
" 963	Aug. 16, 1900	74	" "	✓
" 936	July 20, 1900	83	" "	✓
" 471	Oct. 10, 1899	69	" "	✓
" 948	Aug. 1, 1900	70	" "	✓
" 1501	June 4, 1901	106	" "	✓
" 1542	June 15, 1901	43	" "	✓
" 1722	Sept. 7, 1901	70	" "	✓
" 4914	May 16, 1904	37	" "	✓
" 3935	Sept. 14, 1903	60	" "	✓
" 1780	" 25, 1901	61	" "	✓
" 3601	May 8, 1903	53	" "	✓
" 2961	Nov. 1, 1902	59	" "	✓
" 2910	Oct. 20, 1902	104	" "	✓
" 2847	Sept. 23, 1902	72	" "	✓

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April 25, 1906.

Pl	Date	Appn	Exh.	
aC 6835	Oct. 13, 1905	67	Poor fld	v
" 2837	Sept. 14, 1902	72	" "	v
" 6699	" 21, 1905	60	" "	v
" 6459	June 25, "	57	" "	v
" 6431	" 9, 1905	62	" "	v
" 5335	Oct. 6, 1904	66	" "	v
" 3702	May 30, 1903	77	" "	v
" 3836	Aug 17, 1903	70	" "	v
" 4955	June 11, 1904	60	" "	v
" 5180	Aug. 26, 1904	61	8.7	8.77 v
" 5220	Sept. 4, 1904	54	Too faint	v
l 32034	May 1, 1906		8.6	8.67 v
l 34033	Rotation region.			

May 8, 1906

aM 1406	June 28, 1902	396		
Gilbert side up. No. 4 at left-hand corner				
Image No 2	5929. .546	13 06		10.0
3	" .566	13 36		10.0
4	" .587	14 06		9.9
5	" .608	14 36		9.7
6	" .629	15 06		9.3
7	" .649	15 34		9.3
8	" .670	16 05		9.3
9	" .691	16 35		8.9
10	" .712	17 06		8.9
11	" .733	17 36		8.7
12	" .753	18 04		8.7
13	" .774	18 34		8.7

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May 8, 1906

AM 3695	July 7, 1905	Ex. 512m	Est.	
Image No		G.M.T.		
5	7034.583	13 59	10.0	10.0
6	" .603	14 29	10.0	10.0
7	" .624	14 59	9.8	9.9
8	" .645	15 29	~~8.7~~ 9.3	9.5
9	" .666	15 59	~~8.7~~ ~~9.3~~	9.0
10	" .687	16 29	8.7 ~~9.1~~	
11	" .708	16 59	8.7	
12	" .728	17 29	8.7	
13	" .749	17 59	8.7	
14	" .770	18 29	8.7	
15	" .791	18 59	8.7	
16	" .812	19 29	8.7	
17	" .833	19 59	89	

On AM 1406 + 3695 the images of Comparison star "g" cannot be separated from the images of the var. Assuming the brightest image is to be at max (8.7) and the faintest 10.0 have estimated as nearly as possible those between.

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Estimates for CDm −30 16169 on special list of plates.

May 17, 1906

Pl.	Est
B 20359	8.5
B 23580	9.6
B 35850	8.6
B 21284	8.5
B 28215	8.6
B 32076	8.5
B 26257	8.4
B 30109	8.5
B 36964	8.7
B 36385	8.8
B 36194	8.6
B 16288	9.5
B 16640	9.1
B 22156	9.1
B 22558	9.4
B 28196	9.2
B 32627	9.4
am 1631	9.2
am 2200	9.0
am 2702	9.6
am 3711	9.7
ac ~~am 2655~~	
am 2320	8.7
am 592	8.6
am 882	8.7
am 1327	8.7
am 2050	8.7
am 2846	8.5

	Est
am 3110	8.7
am 3524	8.6
am 1073	9.6
am 1201	9.4 ?
am 2872	9.4 ?
am 3050	9.6
3436	9.1
3552	9.6
3641	9.1
461	9.0
1043	9.4
1414	9.7
1952	8.8
2129	9.1
2261	9.3

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Af. August 25, 1906.

Record of Exam. of Spectrum Plates of R Coronae and R Y Sagittarii, made after explaining and showing to A. J. Cannon, the similarity in spectra of these stars, and also, the probability of their composite character & these two (stars) on spectra. The bright lines of slightly shorter λ than H δ and H ε, probably belong to a close spectroscopic comp. The lines in R Y Sagittarii are always hazy and show slight changes in their relative positions. These changes in R Coronae have been suspected for several months. The plates compared were

Plate	Date	Exp.	Obj.
I 1086	April 28, 90	61m.	R Coronae.
I 23105	June 30. 99	76	"
I 24950	March 24. 1900	69m.	"
I 27048	June 8, 1901	84m.	"
I 27055	June 10. 1901	77m.	"
I 27077	June 12, 1901	78m.	"
I 27087	June 13, 1901	132m.	"
I 32995	April 8. 1905	61m.	"
B 4966	April 14, 1890	43m	R Y Sagittarii
B 5433	June 15, 1890	60m	"
B 17450	Sept. 24. 1896	64	"
B 20130	Aug. 20 1897	63	"
B 21826	July 15, 1898	60	"
B 21876	Aug. 10. 1898	65	"

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1905phae.proj..818F

September 8, 1906.

Exam. of region of χ Aquilae to determine whether diff in position of c and f was due to proper motion or errors of position in DM.

Am exam of Plates B.6181, June 2, 1891, Ex. 10m and B3219 July 14, 1903 Ex. 10m fails to show any evidence of proper motion.

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1905phae.proj..818f

September 17, 1906.

Examn. of plates for confirmation of Algol or short period variable found on AM 4254 by W.P.F. Marked while unpacking Peruvian Plates, on Sept. 15, 1906.
+32°2489 $14^h\ 27^m\ 20^s.9$ +32° 23'.4. Variability confirmed independently by Miss L. D. Wells.

Plate	Date	Exp.	Mags.
AM 4254	May 24, 1906	M	10.0–<11.2 x
AC 796	April 5, 1900	68	10.1
AC 1105	Dec. 28, 1900	68	10.5
AM 2762	June 20, 1904	60	10.6
AC 1416	April 26, 1901	64	11.0
RD 17441	Feb. 25, 1897	14	10.5

Examn of the above plates shows a var. of about 1.1 mags, 10.1 to <11.2. Var. conf. by E.C.P., L.D.W., S.E.B. and E.F.L.
"Short period"
W.P.F.

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1905phae.proj..818F

September 17, 1906.

Exam of plates for Algol(?) var found Am. 4243, while unpacking Peruvian Plates on Sept. 15, 1906. W.P.F.
$14^h\,20^m.1 \quad -0°\,13'$ (14) (Approx. 1855). Identical with B 33979.

Plate	Date	Exp.	Magn.
Am 4243	May 19 1906	M	9.5 < 10.3 ×
Am 4254	May 24 1906	M	9.5 < 10.3 ✗
Am 2596	May 3 1904	65	10.0
Am 2565	April 21, 1904	60	10.5
Am 479	May 26, 1900	320	9.3
A.C. 6428	June 9, 1905	58	< 10.5
Am 1304	June 5, 1902	421	10.5 ✗ 10.3, 9.9 9.5 9.4 9.6 9.7 9.8 9.9 10.1 (10.5 10.3 ×)
Am 2579	April 23, 1904	60	9.3
A.C. 6257	April 2, 1905	68	9.5
A.C. 6223	March 27, 1905	63	9.6
Am. 1977	May 30, 1903	36	10.4 to 9.3 to 9.7
A.C. 835	April 27, 1900	380	Too poor
Am 2491	March 23, 1904	64	9.6
B 7435			9.5
I 27014	June 6, 1901	36	9.6
I 17530	March 11, 1897	39	9.7
B 33979	June 4, 1904	240	9.1

An exam of the above plates shows a var. of about 1.4 mags, 9.1 to < 10.5
"Short period."

Confirmed by E.C.P., L.D. Wells, & E. Brush and E.F. Leland

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1905phae.proj.818F

September 26, 1906

Exam. of Plates for confirm. of var., No. 5873
= I 33809, Sp. Mdg. RA + 1h 7.8m Dec. +40 58 (1855)
1 10.4 +41 12 (1900).

✓

Plate	Date	~~Bx~~	Bx ~~Obs.~~	Est
I 25911	Oct. 11, 1900	20m ~~10.5~~		10.5
I 19636	Nov 24 1897	15m		<11.5
I 23954	Nov. 1 1899	11m		<11.5
I 21850	Dec. 1 1898	14m		<11.8
I 24424	Jan. 10 1900	4.7m		8.0
I 21833	Nov. 29 1898	12m		<11.
I 3104	Feb. 19 1891	10m		<11
I 27996	Nov. 21, 1901	16m		10.9
I 14003	Dec. 3, 1895	10m		9.5
I 29524	Nov. 7, 1902	10m		12
Sp. I 33809	Jan. 21, 1906	65m		8.0
I 4304	Sept. 20 1891	10m		<10
A 6815	July 21, 1904	10		<13

Comparison stars selected.

An examination of the above plates shows a variation of about ~~4.0~~ 5.0 magn. 8. to ~~12.~~ 13. Var. Confirmed by L. D. Wells.
W. P. F. Sept. 26, 1906.

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1905phae.proj..818F

September 27, 1906.

Exam. of plates for confirmation of variable
Rd. $14^h\ 52.^m5$, Dec. $-54°\ 33'$ (appx. 1900) Sp. Md 9, No 13971 on
B 36267.

	Plate	Date	Ex.	Est
	B 36373	July 10, 1905	10	8.5
Sp.	B 36267	June 23, 1905	120	8.5
	B 12944	April 8, 1895	11	<12.5
	B 5979	May 20, 1891	10	10.5
	B 36732	Aug. 19, 1905	10	10.6
	B 22468	April 5, 1899		12.8
	B 19412	June 7, 1897	10	<13
	B 21157	April 11, 1898	11	<13
×	B 31938	June 3, 1903	10	9.5
	B 18940	April 23 1897	11	<12.5
C.S.	B 27325	May 17, 1901	60	12.5
C.S.	A 3179	July 19, 1898	60	<13.5

An exam. of the above plates shows a variation of
about ~~13.5~~ 5.0 magn., 8.5 to <13.5
Variability confirmed by E.C. Pickering and L.D. Wells.
W.P.F. Sept. 27, 1906.

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1905phae.proj..818F

September 27, 1906.

Exam. of plates for confirmation of variable
R.A. $15^h 52^m.2$ + 29° 32 (appx. 1900). Sp. Md 8, No. 5963 m I 32971.

Plate.	Date.	Ex.	Est.
I 11121	May 15, 1904	18	8.0
I 14561	Feb. 25, 1896	10	<10
I 6455	June 12, 1892	25	11.
I 33040	May 3, 1905	30	9.5
I 33056	May 8, 1905	66	9.6
I 25564	July 16, 1900	14	11?
I 8673	June 30, 1893	11	11?
I 33043	May 4 1905	40	9.0
I 3634	May 25, 1891	21	10?
I 18280	June 25, 1897	18	<11.0

An exam. of the above plates shows a variation of about 3.0 magn., 8.0 to <11.0 Variability confirmed by L. D. Wells and E. C. Pickering.

W. P. F. Sept. 27, 1906.

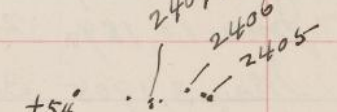
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1905phae.proj..818F

October 17, 1906

Exam of Plates for Configuration of Stars
+54° 2405, 2406, and 2407. RA appx 20h 39m +54° 2'.
Looked up for Professor Searle, for answer to inquiry of
Professor Rustenpart.

Plates	Date	Ext
I 4073	Aug. 20, 1891	13
I ~~Oct.~~ 33470	Oct 6, 1905	10
~~I 33942. March 23, 1906 6z~~		
I 33495	Oct. 7 1905	25



An examination of the above plates shows no change in position or magnitude in the above stars or in those close to them, and visible on these plates.

For 2405, there are two images too close together to be assumed as 2405 and 2406. 2405 marked double on Dm. Chart.

For 2406, there is a star on the plates which corresponds with the position given in the catalogue, but no star given in this position on Dm. Chart.

For 2407. there are two stars in same right ascension but differing slightly in declination. Only one star in catalogue and on Dm Chart. A faint star precedes about 3s, in same dec. as northern component of 2407 and a faint star follows about 6s, in approximately the same declination.

W. P. F. Oct. 17, 1906.

December 1, 1887.
Plate B 1972. shows same configuration and relative magnitudes as the plates examined above. W. P. F. Oct. 20 1906.

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1905phae.proj..818F

Cont.

Plate A 5502

	x	y	x	y	x	y		
+54° 2405	0.0	0.0	0.0	0.0	.00	.00	s 0.0	" 0
comp	+2.5	+0.15	+0.25	+0.15	.25	.15	1.7	+9"
2406	+1.25	+0.35	+1.25	+0.40	1.25	.38	8.5	+23
pt st.	~~+3.05~~ ~~+1.25~~	+0.10	~~+3.05~~	+0.15	3.15 ~~+5.00~~	+0.10 ~~+0.30~~	21.5	+6
2407	+3.55	+0.15	+3.55	+0.20	3.55	.18	24.2	+11
comp.	+3.55	−0.10	+3.55	−0.10	3.55	−.10	24.2	−6
pt st.	~~+5.25~~ 4	~~+0.05~~	~~+4.25~~	~~+0.05~~	+5.00	+0.80 4	5.00	+40 34.1 +24

~~Dec~~ 54° = 587 1704 / 4 / 6.826

Place given for star ↑ 20h 39m 28s +51° 2′ (1855)
or 43″ of +51°2937.

Plate I 33470 have marked stars

+51° 2935	(1855)	20h 39m 6.1	+51° 2.2′	9.0
+51° 2937	"	20 39 12.8	+51° 45.1	8.9
+51° 2940	"	20 39 58.9	+51 12.0	8.5

} No star on plate I 33470 in same R.A. as 2937, and same Dec. as 2935.

Plate B 1972 Dec. 1, 1887, 4h.19m also fails to show any star as bright as the twelfth magnitude in the position given.

W. P. F. Oct. 20, 1906.

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1905phae.proj..818F

November 6, 1906.

Exam. of plates for identification of No. 5559 on I 33707 taken on November 27, 1905. "Br. line, Type V, nebulosa"?
R.A. 22h 10m.3, Dec. + 8°.0 (1855). R.A. 22h 10.3 Dec. + 8°.0 (1855)

Plate	Date	Exp.	Plate	Date	Exp.
A.C. 7073	December 1, 1905	70m	I 33246	July 28, 1899	18m
A.b 6534	July 21, 1905	60m	I 34154	July 25, 1906	20m
A.b. 6540	July 22, 1905	58m	I 33324	September 7, 1905	60m
A.b. 6582	August 5, 1905	58m	I 31132	November 11, 1903	11m
A.b. 6628	August 23, 1905	56m			
A.b. 6641	August 29, 1905	103m			
A.b. 6701	September 21, 1905	66m			
A.b. 7049	November 25, 1905	62m			
A.b. 6950	November 8, 1905	60m			
A.b. 7002	November 18, 1905	60m			
A.b. 6879	October 23, 1905	74m			
A.b. 6782	October 5, 1905	60m			
A.b. 6728	September 25, 1905	73m			
A.b. 7086	December 7, 1905	64m			
I 9595	October 7, 1893	18m			
I 16312	October 26, 1896	10m			
I 26135	November 23, 1900	11m			
I 29454	October 28, 1902	17m			
I 31054	October 25, 1903	14m			
I 18863	September 5, 1897	12m			
I 27732	October 6, 1901	19m			

No object in or near the position has been found to identify with ~~this~~ certainty with No 5559 on the above plates although nearly all of them show objects of about the twelfth magnitude. The line does not seem to be a defect on I 33707.

W. P. F. Nov. 6, 1906.

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1905phae.proj..818F

November 19, 1906.

Exam. of plates for variation of No. 6183 on
I 33951. +57°806 4h 18.m7 +5-7° 4.8 8.5. Md? var?
4 22.4 +57 11/3 (1900).

Plate	Date	Exp	Est.
I 28116	Dec. 21, 1901	10	8.7
l 7609	Dec. 4, 1892	13	8.9
l. 2855	Jan. 16, 1891	?	7.8
l 9791	Oct. 25, 1893	12	8.8
l 21817	Nov. 28, 1898	12	9.5
l 13614	Oct. 2, 1895	12	9.3
l 12295	Feb. 6, 1895	?	8.0
l 33530	Oct. 9, 1905	20	8.5
l 25109	Apl. 10, 1900	14	8.5
l 7610	Dec. 4, 1892	?	8.5
l 28298	Jan. 19, 1902	10	8.8
l 3088	Feb. 18, 1891	?	8.2
l 431	Jan. 3, 1890	12	7.8
l 5364	" 8, 1892	11	8.0
l 9831	Oct. 30, 1893	11	8.8
l 23569	Sept. 17, 1899	10	9.1
l 16554	Nov. 16, 1896	13	9.2
l 24566	Feb. 6, 1900	31	9.0
l 22220	Jan. 25, 1899	18	9.0
l 19536	Nov. 9, 1897	12	8.6
l 16684	Dec. 3, 1896	10	9.0
l 21543	Oct. 30, 1898	8	9.2
l 16205	Oct. 19, 1896	17	8.8

An examination of the above (23) plates shows a variation of about 1.7 magn. 7.8 to 9.5. Variability confirmed by L. D. Wells.

W. P. Fleming. Nov. 19, 1906.

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1905phae.proj..818F

Nov. 19, 1906.

variation 2 Str. Mod?

Examin. of plates for det. ~~Var.~~ 13961, one of B36266. Found Aug. 1906. RA 1900 13h 13m 2s - 60° 15'

Plate	Date	Apt.	Est.
B 10925	April 17 1894	10	12.0
B 9641	June 22, 1893	10	12.5
B 34160	June 21, 1904	10m	11.6
B 25713	June 5, 1900	11	10.5
B 19988	Aug. 9, 1897	10	12.0
B 32348	July 31, 1903	10	12.5
B 31827	May 19, 1903	60	13.5 *
B 26947	Jan. 30, 1901	27	13.0
B 30414	July 16, 1902	11	12.0

An examination of the above plates shows a variation of about 3.0 magn. 10.5 to 13.5.
Variability confirmed by L. D. Wells.

The variability of this star was discovered independently (on a later date than the discovery from its spectrum) by Miss H. S. Leavitt ~~from one~~ by the method of superposing negatives on a positive.

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1905phae.proj.818F

November 24, 1906.

Record of exam. of Plates of No 6146 m RI 34019, Sp Mc 5d. var? ~~Marked~~ Found by W.P.F. Oct. 10, 1906.
D.M. +38° 2698 15h 41m 25.1 +38° 42'.1 * 9.5 mags. = 6855 pos. as given in D.M.

Plate	Date	Exp	Est.
I 18271	June 23, 1897	10	9.5
I 28785	May 13, 1902	10	9.3
I 32708	Feb. 17, 1905	14	10.0
I 8695	July 2, ~~1892~~ 1893	15m	10.5
I 25288	May 5, 1900	70	9.2
I 17737	March 31, 1897	10	10.0
I 12310	Feb. 10 1895	11	10.0
I 10928	March 26, 1894	16	9.9
I 20388	" 3, 1898	10	10.4
I 28653	April 15, 1902	10	10.0
I 14605	March 5, 1896	12	8.8
I 20888	June 21, 1898	19	8.7
I 11207	" 20, 1894	16	8.8
I 14563	Feb. 25, 1896	10	8.5
I 30542	May 21, 1903	21	9.5
I 23384	Aug. 18, 1899	10	9.7
[I 34019 Sp	April 27, 1906	63m	8.6]

The above plates show a change in magnitude of about 2.0 magnitudes, 8.5 to 10.5.
Variation confirmed by L.D. Wells.

W. P. Fleming.
Nov. 24, 1906.

* The var. is about 2' north of position given in DM.
See note on plate I 34019

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1905phae.proj..818F

December 5, 1906.

Gleam. of Plates for var. if any in No 6126 on I 34060
Brlines. Gas net, nova, or var.? in R.A. = 16h 4.9 Dec. = +12° 27' 9.0 Am. +12° 2966 1855 p90.

	Plate	Date	Exp.	Est.	Plate	Date	Exp.
I	25508	June 29 1900	20m		AC 6332	April 30 1905	62m
I	3418	April 13 1891	59m		AC 5064	July 16 1904	90m
I	2578	Sept. 12 1900	10m		AC 6340	May 1 1905	78m
I	26625	Feb. 9 1901	10m		AC 5134	Aug. 11 1904	53m
I	10883	March 23 1894	15m		AC 2548	May 13 1902	87m
I	8625	June 20 1893	13m		AC 1421	April 27 1901	69m
I	20985	July 7 1898	15m		AC 216	Feb. 22 1899	64
I	3953	Aug. 8 1891	10m		AM 1951	May 18 1903	60
I	17664	March 15 1897	21m		AM 1420	July 3 1902	60
I	11278	July 19 1894	11m		AM 2092	July 2 1903	60
I	1485	July 18 1890	16m		AM 3399	March 27 1905	60
I	34060 spect.	May 20 1906			AM 2114	July 13 1903	54
I	20286 spect.	Feb. 27 1898	60m		AM 2557	April 18 1904	70
					AM 2287	Sept. 21 1903	61
					AM 3654	June 22 1905	70
					AM 3624	June 12 1905	61

Superposition of I 34060 on I 25508, Ch., proves Gas. net. W.P.F.

An examination of the above plates shows a distinct change of about 0.4 magn. (not more). The change is most noticable on the AC. Plates. The change is so small however, that it might be ascribed to the photographic image on different plates, especially since the object is a gaseous nebula. Too doubtful to announce until greater range is found. Observation and note confirmed by L. D. Wells.

W.P.F.

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1905phae.proj..818F

December 5, 1906.

Exam. of Plates for confirmation of variable found by L. D. Wells. (B 3, p. 96) Dm +52° 1378 magn. R.A. 9h 8m.3 Dec +52° 1'.2

Plate	Date	Ex	Est.
I 12473	March 5 1895	Ex 10	11.5
I 21887	Dec. 1. 1898	11	11.2
I 24242	Dec. 13, 1899	19	11.3
I 5834	Mar. 7, 1892	34	11.9
I 17745	April 1, 1897	13	11.1
I 26438	Jan. 2, 1901	14	11.8
I 14880	April 10, 1896	10	11.8
I 19496	Nov. 6, 1897	26	11.6
I 28365	Jan. 27, 1902	12	11.6
I 30156	March 6, 1903	19	11.4

On exam. of the above plates shows a variation of about 0.8 magn. 11.1 to 11.9. This confirms variability found by L. D. Wells.

W. P. F.

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1905phae.proj..818F

December 14, 1906.

Exam. of plates to det. var. if any in
No. 6249 on I 33929. Sp. Type III Md? var?
DM +1°2139 8 45.4 +1°26.8 9.2 (18.5 pos.)

Plate	Date	Exp.
I 33929 Spect.	March 20 1906	63m
B 29679	May 15 1902	10m
Am. 4138	March 24 1906	70m
Am. 4052	January 26 1906	64m
Am. 4117	Feb. 17 1906	61m
B 27239	April 23 1901	10m
I 23926	Oct. 21 1899	10m
I 32487	Jan. 7 1903	43
I 10688	Feb. 16 1894	10
I 10472	Jan. 19 1894	10
I 22085	Dec. 29 1898	14
I 26315	Dec. 24 1900	13
I 17741	April 1 1897	14
I 14934	April 16 1896	13
I 20141	Feb. 3 1898	11m

An examination of the above plates fails to ~~show~~ sufficient evidence of variation in this star.

W. P. F. Dec. 14, 1906.

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1905phae.proj..818F

December 14, 1906.

Objects marked in qualifying plates.

asteroid?

Plate I 34393 Nov. 22, 1906 G.M.T. 6h. 7m. R.A. 7h 27m.1 Dec. +7° 2' (1855)

Comet?

Plate I 34387. Nov. 19, 1906. G.M.T. 7h. 7m R.A. 23h 24m.0 Dec. +41° 35'

W. P. F.

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1905phae.proj..818F

January 9, 1907.

Exam. of plates for suspected Nova of Professor Percival Lowell. R.A. $7^h 12^m.5$ Dec. $+21°$ on Dec. 18, 1906, R.A. $7^h 11^m.8$ $+21° 3'$ approx position (1855) as marked on negative sent here by Percival Lowell.

Plates	Dates	Exp.	J.D.
I 16995	Jan. 6, 1897	21	
A.C. 8111	Dec. 18, 1906	75	
A.J. 5562	Dec. 19, 1906	63	
A.J. 5553	Dec. 18, 1906	67	
A.J. 5554	Dec. 18, 1906	75	
A.J. 5564	Dec. 26, 1906	62	
A 7225	March 13, 1905	11	

N

+21°1574 8.6

+21°1572 8.7

+21°1575 8.5 — 9.5 Nova ? of P. L.

Object marked on plate about 1.0 to 1.5 magn. brighter than either of the stars in the triangle.

An examination of the above plates fails to show any ~~object~~ star in or near the position of the object marked on the negative of Professor Lowell. These plates show all the Durchmusterung stars and A.C. 8111 shows fainter stars. I 16995 showed stars about 3.0 magns. fainter than and A 7225 shows even fainter objects. These Plates were examined by Professors E. C. Pickering and those of Dec. 18, 1906 by Professor S. I. Bailey, who confirmed the observation of the absence of the supposed Nova? The object on Lowells negative has the appearance of a defect and is unlike the images of the adjacent stars in its formation and character.

W. P. Fleming. January 9, 1906.

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1905phae.proj..818F

January 9, 1907

Exam of plate for asteroid mentioned in undated letter of Rev. J. H. Metcalf (probably January 8 (?) 1907. Region 1906.0 R.A. $2^h\ 33^m.9$ $+0°\ 45'$.

Plate A 157. shows no sign of a moving object near the position given.

W. P. F.

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1905phae.proj..818F

January 16, 1907.

Cetam. of Plates for Susp. var. Sp. Mdg on
A 7731 CDM -31° 11294 $14^h 26^m 34^s.9$ -31° 8'.2 magn 9.1
R.A. $14^h 28^m.1$ Dec. -31° 15' (1900)

	Plate	Date.	Exp.	Est.
	[A 7731 (Sp)	June 15, 1906	60m	8.7]
	~~B 28078~~	~~July 27, 1901~~	~~10~~	
	B 15816	May 12, 1896	10	<12
×	B 118584	July 16, 1894	16	12.5
	B 25484	May 28, 1900	62	<12
	B 20114	May 19, 1897	10	11.5
	B 12862	March 12, 1895	10	9.7
	B 24839	March 3, 1900	11	12.2
P.S. *	B 33752	May 13, 1904	62	13.5
	B 25555	~~May~~ June 16, 1900	62	<13
	B 23865	Aug. 16, 1899	10	12.8
	B 28078	May 27, 1901	10	9.0
	A 2495	June 17 1897	10	10.5
P.S. *	A 3707	July 12 1899		14.0
	A 3128	June 25, 1898	60	120

On exam. of the above plates shows a variation of about 5.0 magn. 9.0 to 14.0

Var. Conf. by L. D. Wells & by E. C. Pickering.
W. P. F. Jan. 16, 1907

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1905phae.proj..818F

February 8, 1907.

Examn. of Plates to det. variation in A.G.C. 16865
= J.C. 12h 1003 R.A. 12h 16m.0 Dec. -74° 47′ (1875). A.G.C. magn 9.5.
12 17.4 -74 57 (1900). Not in C.P.D.
Sp Na var? in A 7583 No. 522.

Plate	Date	Exp	Est.
A 4440	May 23, 1900	240	9.2
B 33566	May 3, 1904	10	9.3
B 33100	Feb. 23, 1904	10	9.9
B 35670	March 29, 1905	10	9.9
B 29436	April 26, 1902	10	9.0
B 27004	March 28, 1901	10	8.8
B 24973	April 6, 1900	10	10.2
B 22444	April 4, 1899	10	10.4
B 21548	May 31, 1898	10	9.8
B 21125	April 2, 1898	10	10.5
B 18901	April 22, 1897	10	9.2
B 9301	May 2, 1893	13	10.5
B 16217	June 10, 1896	10	9.5
B 31604	May 4, 1903	10	9.9
B 23488	July 17, 1899	10	10.6
B 26992	March 23, 1901	65	9.0

An examination of the above plates shows a variation of about 1.8 magn. Approx. limits, 8.8 to 10.6.

W. P. F.

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1905phae..proj..818E

"This should have been recorded on page 173"

~~September 30, 1907.~~
October 1, 1907.

Copies of plates to record variability of No. 623 on A 8343 Type IV Na var?. W.P.F. Sept. 18, 1907.

R.d. $10^h\ 47^m.7 - 52°\ 45'.6$ (1875) computed pos. for 1910 $10^h\ 47^m.8 - 52°\ 45'.6$

Plate	Date	Exp.	Est.
B21183	Apl. 12, 1898	10m	12.0
B31597	May, 4, 1903	10	10.7
B33455	Apl. 23, 1904	10	10.9
B27312	May 14, 1901	74	10.7
B31796	May 18, 1903	60	10.8
B31632	May 5, 1903	10	10.8
B31727	March 31, 1905	10	10.6
B25589	June 20, 1900	10	10.4 V
B33407	Apl. 20, 1904	10	10.0
B36032	May 13, 1905	10	10.3 V
B27225	Apl. 22, 1901	60	10.7

On examination of the above plates shows a marked variation in this star. Ten plates taken between June 20, 1900 and May 13, 1905 show a variation amounting to 0.9 magn. Est. magns. limits 10.0 to 10.9, while a plate taken on April 12, 1898, gives the estimated magn. 12.0. Confirmed by L. D. Wells.

W.P.F. Oct. 1, 1907.

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1905phae.proj..818F

March 7, 1907

Estimates of DM +51° 3676.

a 23h 32m 3.0s + 51° 27' 8 (1855)

A S P III, p. 312 Aitken's ~~Barnard's~~; Letter of Feb. 28, 1907

Plate	Date	Exp.	Spr.	Est.	Remarks
I 32464	Dec. 29, 1904	61m	mb5c	7.8	4963 W.P.F. Jan. 18, 1905
" I 7376	Oct. 19, 1892	15		n.s < 9	
" I 21197	Sept. 13, 1898	75	mb5c	9.0	
" I 16947	Dec. 31, 1896	60	mb	8.8	
" I 2164	Nov. 3, 1890	60	?	9.0	
" I 31262	Dec. 13, 1903	66	mb5c	9.0	
Ch. I 11439	Sept. 11, 1894	12		9.5	

+51° 3677 on Plate I 32464 sp. K Espin susp. Var. Espin gives the position of +51° 3676 as that of the star he suspects of variability, but gives the designation "+51° 3677". I have call Miss Cannon's attention to this fact. W.P.F. March 8, 1907.

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1905phae.proj..818F

March 18, 1907.

Exam. of Plates for Susp. variability of

D.M. +23° 2538 Rd. 12 59 21 Dec (1855 pos) +23 24.4 Magn 5.8 Suspected

on I 10435

Plate	Date	Eq.	
A.C. 7524	May 1 1906	50	} about 0.2 magn. fr than D.M. +23° 2537
A.C. 629	Dec. 28 1899	57	
A.C. 6382	May 20 1903	78	} about 0.3 and 0.4 magn br. than D.M. +23° 2537
A.C. 507	June 25 1900	69	
A.C. 7581	May 29 1906	61	
A.C. 1269	Feb. 20 1901	81	
A.C. 504	June 20 1900	60	
A.C. 4890	May 6 1904	65	
A.C. 4802	April 4 1904	60	
A.C. 8284	Feb. 22 1907	60	
A.C. 754	March 12 1900	71	} About equal to D.M. +23° 2537
AM 424	April 7 1900	61	
A.C. 3665	May 22 1903	71	
AM 444	April 17 1900	62	
A.C. 2581	May 28 1902	71	
A.C. 3705	May 31 1903	63	
A.C. 3661	May 21 1903	61	
A.C. 4851	April 17 1904	60	
AM 1182	April 5 1902	61	
AC 694	Jan. 29 1900	66	
A.C. 2614	June 8 1902	71	
AM 1199	April 14 1902	60m	

12h 59 19 +23 3.1 mags (1855 pos)

The star shows a slight change of about half a magn. which seems to be real but may be photographic.

W.H.P.

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1905phae.proj..818F

March 18, 1907.

Exam of plates for variation if any in +48° 1503 4
R.A. 7h 7m.3, Dec. +48° 45'.6 9.0 (1855.). Sp. Mcd vari. No. 5855 on I 33840.

Plate	Date	Exp.	Plate	Date	Exp.
I 28835	Jan. 25 1902	10m	I 3056	Dec. 10 1891	
I 26313	Dec. 24 1900	10	I 17342	Feb. 16 1897	16
I 22029	Dec. 24 1898	10	I 774	March 7 1890	24
I 17150	Jan. 19 1897	27	I 8299		
I 3427	April 21 1891		I 32684	Feb. 14 1905	8
I 3216	March 1 1891				
I 10310	Dec. 26 1893				
I 20398	March 8 1898	10			
I 22405	Feb. 23 1899	10			
I 24550	Feb. 5 1900	58			
I 2239	Nov. 12 1890				
I 27606	Sept. 26 1901	19			
I 33582	Oct. 27 1905	19			
I 23558	Sept. 16 1899	10			
I 24910	March 21 1900	10			
I 5632	Feb. 13 1892				
I 10562	Jan. 25 1894	*			
I 5501	Feb. 1 1892				

An exam. of the above plates shows a variation of about 0.5 magn. which seems to be real and not due to photographic images. This variation has been confirmed independently by L. D. Wells.

W. P. F.

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1905phae.proj..818F

March 21, 1907.

Exam. of plates for variation in No. 5931 on I 33869.
Sp. Na, var?. $-4°\,17'.08$ R.A. $6^h\,46^m.0$ Dec. $-4°\,24'.2$ 9.0 (1855).

Plate	Date	Ex.	Est	J.D.
I 24493	January 29, 1900	31	9.7	5049.
B 14903	October 22, 1895	10	10.2	3489.
B 3138	Feb. 22, 1891	11	9.2	1786.
B 35154	Nov. 2, 1904	10	10.4	6787.
B 10943	April 18, 1894	10	10.1	2937
B 27083	April 9, 1901	10	9.5	5484.
B 26577	Nov. 13, 1900	11	9.3	5337.
B 28823	Nov. 13, 1901	10	9.7	"
I 14415	Feb. 2, ~~1906~~ 1896	12	9.8	3592.
I 23832	Oct. 18 1899		9.3	4946.
I 10465	Jan 19 1894	12	9.6	2848.
I 8022	Feb. 5, 1893	14	9.6	2500.
B 35273	Nov. 4, 1904	10	10.2	6789.
B 35232	Nov 11, 1904	10	10.3	6796.
B 32793	Oct. 20, 1903	10	10.1	6408.
I 5733	Feb. 18, 1892	10	10.0	2147.

An examination of the above plates shows a variation of about 1.1 magn. Estimated limits 9.2 – 10⅓. Variation confirmed independently by L. D. Wells. W. P. F.

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1905phae.proj..818F

March 21, 1907.

Exam. of plates for to determine variation if any in No. 5943 on I 32909 Sp. Mc5d var.? +39°2901 15h36.1 +39°1.8 7.0

	Plate	Date	Ex	Est.	Plate	Date	Ex	Est.	
5885	I 28653	April 15, 1902	10	7.0	AC 3575	April 30, 1903	61	8.1	6285.
6894	I 32708	Feb. 17, 1905	14	7.6	AC 4984	June 18, 1904	63	7.7	6650
2647	I 8695	July 2, 1893	15	7.1	AC 4947	June 10, 1904	62	7.8	6642
2252	I 6404	June 2, 1892	25	7.3	AC 5860	Jan. 19, 1905	52	7.8	6865
5450	I 26770	March 6, 1901	10	7.0	AC 2458	April 3, 1902	59	8.1	5843.
3000	I 11207	June 20, 1894	16	8.1	AC 593	Dec. 13, 1899	63	8.0	5002
6096	I 24888	March 17, 1900	11	7.5	AC 317	May 9, 1899	R	7.9	4784
2914	I 10928	March 26, 1894	16	7.7					
6256	I 30542	May 21, 1903	21	8.2					
3624	I 14605	March 5, 1896	12	7.5					
4719	AC 235	March 5, 1899	67	7.5					
4883	AC 397	Aug. 16, 1899	63	8.2					
5864	AC 2507	April 25, 1902	119	8.2					
6617	AC 4912	May 16, 1904	69	7.8					
6229	AC 3543	April 24, 1903	64	8.1					
5961	AC 2708	July 30, 1902		7.9					
7040	AC 6510	July 13, 1905	63	8.1					
7618	AC 8242	Feb. 11, 1907	7.5	7.9					
7304	AC. 7445	April 3, 1906	63	7.4					
7025	AC. 6465	June 28, 1905	58	8.3					
5969	AC. 2725	Aug. 7, 1902	60	8.0					

This plate has 14 exposures throughout which there is no evidence of change in this star.

An examination of the above plates shows a variation of about 1.3 magnitude. Estimated limits 7.0 to 8.3. The variability has been confirmed independently by Miss L. D. Wells. W. P. L.

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1905phae.proj..818F

March 25, 1907.

Exam. of plates for estimates of magns. of new variable Sp. Mc5d var? on I 32998 No. 5927. ~~April, 1905~~ March 2, 1906
N.P.F. +57°1786 $17^h 34.^m6$ +57° 49.9 9.3 (1855).
17 35.4 +57 48 (1900).

Plate	Date	Exp.	Est.
I 29360	Oct. 10, 1902	13	8.5
I 27442	Sept. 7, 1901	15	9.2
I 21736	April 21 1898	10	9.6
I 18739	Sept. 9 1897	12	9.7
I 9186	Aug. 11 1893	~~90~~ 19	9.6
I 23165	July 14 1899	28	8.1
I 6744	Aug. 17 1892	15	9.0
I 23331	Aug. 15 1899	13	8.4
I 29253	Sept. 10 1902	12	8.3
I 20783	May 14 1898	18	8.4
I 20498	March 14 1898	20	9.4
I 20828	June 7 1898	30	9.4
I 23180	July 18 1899	10	8.0
I 15628	Aug. 8 1896	10	9.2
I 18758	Sept. 11 1897	14	9.4
I 15795	Aug. 28. 1896	11	9.3
I 20659	April 7 1898	15	9.4
I 21506	Oct. 25 1898	10	9.3
I 20841	June 9 1898	15	9.2
I 21511	Oct. 27 1898	15	9.2
I 13551	Sept. 30 1895	12	9.3

An examination of the above plates gives a variation of about 1.7 magnitude. Est. limits 8.0 to 9.7. The variability has been confirmed independently by L. D. Wells and by E. C. Pickering. W.P.F.

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1905phae.proj..818F

March 28, 1907.

Result of Exam. of plates of suspected var. +11° 305 $2^h\ 7^m\ 10^s.9$ +11° 33' 68 1855.0
Sp. Rec. var? No. 6347 on I 32544

Plate. I 32544	Date.	Ex.	Est.	
Plate # ✱	Jan. 23, 1905	71		Rec. var?
I 17187	Jan. 25, 1897	10	8.6	
I 24636	Feb. 20, 1900	45	8.8	
I 24492	Jan. 25, 1900	35	8.4	
I 21188	Sept. 13, 1898	23	8.4	
I 24434	Jan. 16, 1900	11	8.2	
I 32118	Oct. 3, 1904	11	8.5	
I 33320	Sept. 6, 1905	15	8.6	
I 17135	Jan. 19, 1897	10	8.2	
I 19331	Oct. 22, 1897	14	8.5	
I 47284	Nov. 4, 1891	21	8.6	
I 19023	Sept. 25, 1897	11	8.7	
I 10055	Nov. 25, 1893	16	8.2	
I 9293	Aug 22, 1893	17	8.4	
I 29569	Nov. 23, 1902	11	8.8	
I 7797	Dec. 30, 1892	15	8.8	
I 10522	Jan. 22, 1894	10	8.6	
I 13521	Sept. 22, 1895	14	8.7	
I 4911	Dec. 1, 1891	15	8.6	
I 4678	Jan. 13, 1890	64	8.4	
I 19214	Oct. 9, 1897	12	8.6	
I 18862	Sept. 15, 1897	11	8.8	
I 32183	Oct. 16, 1904	12	8.3	
I 24014	Nov. 9, 1899	12	8.5	
I 3207	Mar. 1, 1901	11	8.4	

An exam. of these plates shows a small but distinct variation in the light of this star. On several plates it is about 0.2 ~~brighter~~ fainter than +11° 303 (9.5) assumed photographic magn. 8.6, while on others it is about 0.3 to 0.4 brighter than that star. Est. 8.2 to 8.8
L D Wells has exam. and says "I think it changes slightly, very slightly".
W. P. F.

Miss Cannon enter in susp. vars. and Mrs. Fleming must note the this star in next Circular

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1905phae.proj..818F

March 30, 1907.

Result of eXam of plates of susp. var. Sp. Mc5d var?
No. 5497 on I 32895. W.P.F. Nov. 27, 1905. −16°3503
R.A. = 12h 30m.0 Dec. = 16° 27'.7 (1858) Magn. 9.6.

Plate	Date	Ex	Est.	
I 32895	March 12, 1905	62	—	Sp. Mc5d var? Nov. 27, 1905.
I 29226	April 1. 1902	10	8.8	
B 15888	July 2, 1895	10	9.3	
B 22716	May 3, 1899	10	9.8	
B 16512	June 29. 1896	16	10.0	
B 31527	April 24. 1903	60	10.1	
I 920	April 1. 1890	12	9.7	
I 924	April 1, 1890	16	9.9	
B 21593	June 8, 1898	10	10.5	
B 24776	Feb. 27. 1900	11	9.4	
B 18268	Jan. 4, 1897	10	9.9	
B 11095	May 3, 1894	10	8.8	
B 21054	March 22. 1898	10	10.0	
B 23308	July 6. 1899	10	9.8	
B 16134	June 5. 1896	10	10.1	
B 18457	Jan. 30. 1897	10	10.1	
B 18719	March 30, 1897	10	9.7	
B 35462	Jan 10, 1905	10	10.0	
B 36013	May 12, 1905	10	8.8	
B 27545	June 5, 1901	10	9.5	
B 25377	May 22, 1900	10	9.6	

Eξam. Of the above plates shows a distinct variation, in this of about 1.7 magn.
star. Est. limits 8.8 to 10.5. Variation confirmed independently
by L. D. Wells.
W.P.F.

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1905phae.proj..818F

April 1, 1907.

Result of exam. of plates of susp. var. No 6287 on I 34502 and No. 6372 on I 32729, March 9, and March 21, 1907, Sp. Mc var? W.P.F.
+45°1324 R.A.=6h 24m 54s.0 +45° 44'.2 (1855) 8.7

Plate	Date.	Ex.	Est.	Sp.
~~Plate~~ I 34502				Mc ? (March 9, 1907)
I 32729	February 23, ~~1875~~ 1905	75mm	.	Mc var? (March 21, 1907)
I 10305	Dec. 26, 1893	15	8.7	
I 20317	March 3, 1898	14	8.7	
I 26620	Feb. 8, 1901	14	8.5	
I 5515	Feb. 4, 1892	11	8.9	
I 9861	Oct 31, 1893	15	8.8	
I 7841	Jan. 3, 1893	12	9.0	
I 16992	Jan. 6, 1897	14	9.3	
I 24043	Nov. 13, 1899	16	9.2	
I 10326	Dec. 28, 1893	10	9.1	
I 27601	Sept. 26, 1901	13	9.2	
I 725	March 3, 1890	11	8.5	
I 17583	March 15, 1897	14	8.2	
I 20087	Jan. 28, 1898	11	8.8	
I 22848	May 9, 1899	20	9.2	
I 22719	April 21, 1899	10	9.2	
I 9834	Oct. 30, 1893	12	8.7	
I 8053	Feb. 15, 1893	12	8.8	
I 26350	Dec 29, 1900	16	8.7	
I 20205	Feb. 10, 1898	13	8.7	
I 32885	March 11, 1905	10	8.7	
I 17653	March 24, 1897	12	9.4	

Exam. of the above plates shows a distinct variation of about 2 magnitude. Est. limits 8.5 to 9.4. Var. confirmed by L. D. Wells.

W. P. Fleming - April 1, '07

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1905phae.proj..818F

April 17, 1907.

Result of exam. of plates for No. 2507 on I 33773 (1905 Feb)
Mc 5d, var?. Jan. 4, 1906. W.P.F. +15° 1808 8.6 $8^h 14.3^m +15° 27.1'$?
$8\ 16.8 +15\ 19$ (1905)

Plate	Date	Ref.	Est.	
ab 3339	Feb. 22, 1903	72 71	9.8	
ab 3245	Feb. 5, 1903	77	9.8	
ab 5917	Dec. 13, 1899	68	10.2	
ab 146	Jan. 8, 1899	71	10.2	
ab 6145	March 10, 1905	60	10.2	
ab 4280	Nov. 28, 1903	77	10.3	
ab 3307	Feb. 17 1903	70	9.4	
ab 2382	March 3, 1902	62	10.0	
ab 201	Feb. 14. 1899	122	9.7	
ab 6248	April 2. 1905	59	10.1	
ab 7208	Jan 25, 1906	66	10.3	
ab 7215	Jan 26. 1906	60	10.2	
am 3458	April 21, 1905	62	10.0	
am 3563	May 26. 1905	60	10.0	
am 4007	Dec 4 1905	66	9.9	
am 4075	Jan. 30, 1906	60	10.2	
am 1216	April 29, 1902	60	10.1	
I 24222	Dec. 12, 1899	16	10.1	
Sp. I 33773	Dec. 26. 1905	68	10.2	Mc 5d Var.?

The above plates show a variation of about 0.9 magn.
Est. limits 9.4 & 10.3. Var. confirmed by L. D. Wells.
W. P. Fleming. April 17, 1907.

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1905phae.proj..818F

April 18, 1907.

Result of exam. of plates for No. 13782 on B 36120
Sp. Na. var.? Wpf. March 15, 1906. C.P.D. -63° 2720. 13h 15m.5 -63° 42' 9.5 (1900)

Plate	Date	Exp.	Est.	
B 3480	June 10 1889	10	10.4	
B 3347	May 24 1889	59	9.8	
B 3481	June 10 1889	10	10.4	
B 3418	June 6 1889	60	10.1	
B 19561	June 17 1897	13	9.0	
B 3419	June 6 1889	61	10.5	
B 9328	May 3 1893	12	9.7	
B 23490	July 17 1899	10	9.4	
B 19286	May 31 1897	10	9.4	
B 19561	July 17 1897	13	9.7	
B 22629	April 22 1899	10	9.4	
B 22738	May 4 1899	10	9.4	
B 26947	Jan. 13 1901	27	9.6	
B 19628	June 28 1897	10	9.3	
B 16221	June 10 1896	10	9.4	
B 25225	May 7, 1900	20	9.4	
B 21235	April 18 1898	10	9.2	
B 13567	June 4, 1895	10	9.7	
B 36120	May 26, 1905	123		Spec. Type IV Na Var.?

The above plates show a variation of about 1.5 magn.
Est. limits 9.0 to 10.5. Var. confirmed by Miss Wells
Also by S. I. Bailey.

W. P. Fleming.

April 18, 1907.

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1905phae.proj..818F

Astron. Nach. Vol 174 p 361.

R.A. = 11 20 36.1 Dec. = +8° 23′ 51″. (1875).

· 62

R.A. 11 19 34 Dec +8 30.5 (1855)

Plate A 6755. Shows no sec. in shape of chart image.

W. P. H. May 27, 1907.

May 31, 1907.

Looked up for note by Prof. Searle.

I 30011 and A 6738.

1344 1343

+51°1533 star sec? 3.5 south 4.5.

No star appears on plates I 12648, I 14881, I 25120.

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1905phae.proj..818F

June 4, 1907

Exam. of plates to conf. variability of star 5th and north of +12° 2105— / RA 1905 9 45— 39.8 Dec +12° 20 3.
See letter of Rev J. H. Metcalf June 2, 1907.

	Plate	Date	Exp	Est.	Comp.	
I	32744	Feb. 25, 1905	19	12.0	13.0	☉ +12° 2105—
A				10.6	11.6	
Ma	96			10.0	11.0	
Ma	94			12.5	13.5—	
Am	4171			<11.5		
Am	4229					
I	8225			<11.5		
I	20439	March 9, 1898	33	<11.5		
I	24489			10.0	11.0	

Variability confirmed June 4, 1907
W.P.F.

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1905phae.proj..818F

-Variable? on B29030 shows bright
t shon on the following plates.

	Date	Diff m
[illegible]4410	'05, 1, 8	39
L7684	'92, 12, 16	13
L19882	'97, 1, 1,	10
L10523	'94, 1, 22	10
L24637	'00, 2, 20	58
L12434	'95, 2, 23	12
B30815	'02, 10, 9,	10
L28093	'01, 12, 20.	10
ay 029	'04, 11, 7,	10
aC 2033	'01, 12, 1	74
aC 2091	" "	20 70
aC 2176	'02, 1, 10	60
aC 1952	'01, 11, 3	84
aM 1109	" "	8 61

B 29030 Dec. 28, 1901 van?) 9.5. Not visible on any of the above plat
van? (Approx. est) $4^h\ 30^m.3 + 8^\circ\ 11'$ (1855). Examined by W.P.F. June 17, 19
(found by W.P.F. June 15, 1907 while marking RX Tauri on
enl. chart for L Campbell.

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1905phae.proj..818F

Egeria 3 25 +29 31. 9.5

Dec 9, 1904 3 25.6 +29 31 (1855) Plate A 7115
Dec. 9, 1904 Plate I 32407

	"	"			
x	+1	−71	+6	−72	+5
y	−4	+17	−1	+18	+2
α	+4	−17	−5	−18	−9

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1905phae.proj..818F

July 8, 1907.

Comparison stars reduced for observation of 1903 & Comet 1904. I.

				R.A. 1875.	Dec. 1875.	31772		31772	
C. Obs.		−35° 20′ 17″ 41.9							
8825 9.2	5 431 25.9 a	−35° 14105	9.3	20h 17m 41.9s	−35° 25′.8	31.7	21.4	32.8	21.2
	b	−35° 14108	10	18 0.6	−35° 26.0	32.6	21.6	31.7	21.5
8808	9.6 29.9 24.5 c	−35° 14143	9.5	18 29.2	−35° 24.6	32.6 +.6 = 32.2	21.0	33.1	20.9
8831	10.1 45.4 32.2 d	−35 14117	9.8	18 44.0	−35° 31.8	+7.4	21.1	32.2	20.9
	2 B31772 & May 14, 1903			20 17 38	−35° 22′.4 (1875)			.875	
	1 B31771							1.227	
								1.614	
								184	
							11 21.3		21.1

		−33° 14144	10	19h 13m 19.0s	−33° 58′.8	−33.1			
5602	9.9 31.4 53.8 a	−33 14147	9.5	19 13 31.0	−33 53.3	−33.1	−21.6	+4.6	+4.2
5604	10.3 57.4 59.3 c	−33 14157	9.5	19 13 50.3	−33 59.5	−13.0	−1.4 = −19.4	−1.0	−1.4
	e	−33 14156	9.7	19 14 3.3	−33 59.8	+2.9	+14.7	−0.1	−0.8
..	.. .. b	−33 14158	9.7	19 14 9.9	−33 54.4	+7.9	+19.4	+4.5	+4.1

5	B 32033 & June 22, 1903			19h 13m 52s	−33° 58′.6				
4	B32031 & June 22, 1903			19 14 2	−32 50.6				
				53	−33 57.4				
								.829	
								1.206	
								603	
								1.809	

		−35° 14061	9.7	19h 12m 1.0s	−35° 1′.8			40.6	
	b a	−35 14066	9.9	12 34.7 42.3	7.3	17.0		42.9	
								16.1	
	a c b	−35 14068	9.0	12 46.0 48.5	9.4	22.5		15.0	
	b e	−35 14070	9.3	12 52.3	13.3	26.6			
	c	14069	10	48.2	18.6			13.9	
3	B31815 & May 18, 1903			19h 13m 6s	−35° 12′.2				817

An Examination of the image of "c" −35° 14069, on Plate B 9868 July 21, 1893 and June 13, 1905 fails to show any evidence of proper motion. Position in error in C. 4 D M.

W. P. F. July 13 1907

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1905phae.proj..818F

July 10, 1907.

Mean 1ō det. for. of Comet 1904 I.

B 31815 May 18, 1903

	x	y	x	y			δ	δx179	δx183	
Comet	+5.40	+3.50	+5.40	+3.50	+5.40	+3.50				
a	+2.50	+6.45	+2.50	+6.45	+2.50	+6.45	-2.90	+2.95	528.05	530.70 20
f	+2.90	+5.35	+2.90	+5.40	+2.90	+5.38	-2.50	+1.88	336.52	45.750
c	+3.05	+3.30	+3.05	+3.30	+3.05	+3.30	-2.35	-0.20	35.80	43.005
Comet	+5.40	+3.50	+5.40	+3.50						

18.3

423 ✓ 8.8
365 ✓ 5.6
343 ✓ 0.6

347
13 27.8
13 31.7

33.8	8.31	12.03	18.04	17.9	B 32050	14.3
33.9	8.30	12.05	18.07	18.0	B 32043	14.4
34.0	8.29	12.06	18.09	18.0	B 32031, 32033	14.4
35.2	8.16 / 8.17	12.26 / 12.24	18.39 / 18.36	18.3	B 31815	14.6
35.4	8.15	12.27	18.40	18.3	B 31771, 31777	14.6

B 31771. May 14, 1903

	x	y	x	y			δ	δx179	δx183	146
Comet	+3.35	+7.10	+3.40	+7.15	+3.40	+7.12				
a	+4.10	+5.65	+4.10	+5.66	+4.10	+5.65	+0.70	-1.47	263.13	128.10 10.2
f	+5.30	+5.65	+5.35	+5.65	+5.32	+5.65	+1.92	-1.47	263.13	35.136 28.0
c	+7.25	+5.90	+7.30	+5.95	+7.28	+5.92	+3.88	-1.20	214.80	71.004 5.66 7.18
id Comet	+8.30	+3.50	+8.35	+3.55	+8.32	+3.52	+4.92	-3.60	644.40	90.036 8.64
Comet	+3.40	+7.10	+3.45	+7.15						

183
146.4

1m = 3' = 12s

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1905phae.proj..818F

July 19, 1907.

Meas to det. pos. of Comet 1904 I.

B31772 May 14, 1907.

	x	y	x	y			δ	δ	δ x 179	δ x 183
Comet	+7.05	+6.15	+7.05	+6.15	+7.06	+6.15				
a	+7.70	+4.60	+7.65	+4.65	+7.68	+4.62	+0.62	91. − 1.53	273.87	11.346
l	+8.05	+4.65	+8.05	+4.65	+9.05	+4.65	+1.99	29.1 − 1.50	268.50	36.417
c	+10.90	+4.90	+10.90	+4.90	+10.90	+4.90	+3.84	561 − 1.25	223.75	70.272
d	+11.95	+2.50	+12.00	+2.50	+11.98	+2.50	+4.92	71.8 − 3.65	653.35	90.036
Comet	+7.10	+6.15	+7.05	+6.15						

B32033 June 22, 1903.

	x	y	x	y			δ	δ	δ x 179	δ x 18.0
Comet	+3.80	+5.15	+3.80	+5.20	+3.80	+5.18				
a	+2.30	+6.60	+2.30	+6.55	+2.30	+6.58	−1.50	+ 1.40	250.60	27.000
l	+5.15	+6.53	+5.15	+6.55	+5.15	+6.53	+1.35	+ 1.37	245.23	24.300
c	+3.70	+4.70	+3.70	+4.70	+3.70	+4.70	−0.10	− 0.48	85.92	1.800
~~d~~	~~+4.00~~	~~+5.30~~	~~+4.00~~	~~+5.35~~						
e	+4.85	+4.95	+4.80	+4.90	+4.82	+4.92	+1.02	− 0.26	46.54	18.860
Comet	+3.80	+5.20	+3.80	+5.15						

144
− 21.6
+ 194
− 14.4
+ 14.7

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1905phae.proj..818F

July 10, 1907.

Meas. to det. phot. of Comet 1904 I

B32031 June 22, 1903.

	x	y	x	y			δ	8	8 x 179	2 x 18.0
Comet	+3.10	+2.20	+3.10	+2.25	+3.10	+2.24				
a	+0.80	+3.75	+0.80	+3.80	+0.80	+3.78	−2.30	+1.54	275.66	41.400
b	+3.65	+3.75	+3.65	+3.75	+3.65	+3.75	+0.55	+1.51	270.29	9.900
c	+2.20	+1.90	+2.20	+1.90	+2.20	+1.90	−0.90	−0.34	60.86	16.200
~~d~~	~~+2.40~~	~~+2.60~~	~~+2.40~~	~~+2.60~~						
	~~+2.45~~	~~+2.55~~	~~+2.45~~	~~+2.55~~						
e	+3.30	+2.20	+3.30	+2.20	+3.30	+2.20	+0.20	−0.04	7.16	3.600
Comet	+3.10	+2.25	+3.10	+2.25						

×144
−33.1 ✓
+7.9 ✓
−13.0 ✓
+2.9 ✓

B32043 June 23, 1903.

	x	y	x	y			δ	8	8 x 179	2 x 18.0
Comet	+5.80	+3.80	+5.85	+3.85	+5.80	+3.80				
a	+3.25	+4.25	+3.25	+4.25	+3.25	+4.25	−2.60	+0.40	73.39	46.620
b	+2.60	+3.65	+2.60	+3.65	+2.60	+3.65	−3.25	−0.20	34.01	58.320
c	+3.85	+2.55	+3.80	+2.55	+3.82	+2.55	−2.03	−1.30	230.91	36.360
d	+3.70	+2.40	+3.70	+2.35	+3.70	+2.38	−2.15	−1.47	261.34	38.520
e	+6.20	+2.65	+6.20	+2.70	+6.20	+2.68	+0.35	+2.83	508.36	6.480
f	+7.30	+5.90	+7.30	+5.90	+7.30	+5.90	+1.45	+2.03	368.74	26.280
Comet	+5.85	+3.85	+5.85	+3.80						

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1905phae.proj..818F

July 11, 1907.

Meas. to det. fr. of Comet 1904 I

~~B32050~~ x y

Comet +7.05 +7.60
" +7.05 +6.95
Middle +7.30 +7.01
a
f
c

B32050 June 24, 1903.

	x	y	x	y					
Comet	+7.05	+7.10	+7.05	+7.10					
Middle	+7.30	+7.05	+7.35	+7.05	+7.34	+7.05			
"	+7.60	+6.95	+7.60	+6.95					
a	+6.75	+6.85	+6.80	+6.85	+6.78	+6.85	−0.56	−0.20	35.80	10.024
f	+5.80	+7.80	+5.75	+7.80	+5.78	+7.80	−1.56	+0.75	134.25	27.924
c	+6.70	+8.40	+6.65	+8.40	+6.68	+8.40	−0.66	+1.35	241.65	11.814
d	+5.60	+9.25	+5.60	+9.25	+5.60	+9.25	−1.74	+2.20	393.80	31.146
Comet	+7.10	+7.10	+7.10	+7.10						
Middle	+7.35	+7.05	+7.35	+7.05						
"	+7.60	+6.95	+7.60	+6.95						

δ 8 8×179 2×17.9
+17.9
14.3

~~+0.26 −0.10~~

−80	−0.6
−22.3	+2.2
−9.4	+4.0
−249	+6.6

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1905phae.proj..818F

B 32050.

		d	−33° 14088	10	19h 9m 5.0	−33° 41.7	−24.9	+6.6
5589 9.9	7.1 44.6	b	−33 14089	9.6	9 7.1	−33 44.6	−22.3	+2.2
		a	−33 14091	10	9 19.4	−33 47.4	−8.0	−0.6
5581 10.2	21.6 43.0	c	−33 14092	9.8	9 20.8	−33 42.6	−9.4	+4.0

B 32063.

5578 9.8	26.9 52.9	b	−33° 14113	9.5	19h 10m 46.7	−33° 53.3	−37.0	+1.2
5580 9.5	56.4 57.1	a		14115 9.0	10 57.0	−33 51.3	−46.3	−0.6
5583 10.2	2.9 56.5	e?		14117 9.6	11 3.0	−33 56.3	−29.7	−4.1 −3.8
5584 10.2	3.9 56.3	d?						−3.5 −4.4 −3.5
		e		14124 10	11 38.4	−33 56.3	+5.1	
5590 10.3	33.7 46.4	f		14126 9.5	11 55.4	−33 47.4	+20.9	+6.1

B 31815

				20h	h	s					
−35° 8800	10.0		19	12	1.3	−35	2.3				
8803	8.6			12	47.6	−35	10.0	42.3	+8.8	13	29.9 +0.9 18.8 0
								34.3	−0.6		29.7
8804	10.1			12	52.6		19.4	36.5	+5.6		28.1 −2.1 18.8 0
								36.5	+5.6		30.1 +1.1
8805	9.0			12	53.6		13.2				27.9 18.8 0
											29.7
											19h 13m 29.0 +1.4 18.8 0
				12	46.0		9.4	28.3			31.5 +1.9 18.2 +2
				48.2			18.6	22.5			31.3 +0.8 18.0 +0.4
				52.3			13.3	28.8			28.8 −1.7 18.9 −0.5
											30.5 +1.2 18.4 +0.4

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1905phae.proj..818F

September 25, 1907.

Examn. of Plates to record confirmation of variability of Star in R.A. 12h 0.0m, Dec. +12° 56' (1900). Spectrum Md on A 7726. Variability confirmed by Mrs. Draper and E.C. Pickering on May 20, 1907. Found by W.P.F. April 8, 1907.

Plate	Date	Ex.	Est.	
~~Sp. A 7726~~	June 14, 1906	180.	9.2	Md5
A 6367	May 14, 1903	10	11.5	7
I 33061	May 9, 1905	28	8.6	
I 20698	April 16, 1898	12	8.5	
I 17728	March 31, 1897	22	9.5	
I 22296	January 25, 1899	11	11.4	
I 3485	April 25, 1891	13	10.4	
A 6718	May 7, 1904	240	12.5	
I 20586	April 1, 1898	13	8.6 (10.1)	
I 24629	February 19, 1900.	31	8.6	
I 25055	April 6, 1900.	38	<11	
I 30354	April 21, 1903	13	<11	
I 8386	April 9, 1893	15	<11.2	
I 6165	April 25, 1892.	16	<11.5	
I 26901	April 26, 1901.	31	8.6	

An examination of the above (14) Chart plates shows a variation of about 4.0 mags., limits 8.5 to 12.5

W.P.F. Sept. 25, 1907.

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1905phae..proj..818F

September 25, 1907.

Exam. of Plates to record confirmation of variability of -22° 1850 R.A. 7h 17m 29.8, Dec. -22° 41.8 91 Spectrum Type IV? Na? in I 34620. Found by W.P.F. April 30, 1907. Variability confirmed by L.D. Wells.

Plate	Date	Ex.	Est.	
Sp. I 34620	April 3, 1907	70	9.5	Type IV? Na?
B 26899	January 12, 1901	60	11.9	
B 31149	Dec. 4, 1902	60	11.8	
B 31174	Dec. 3, 1902	60	11.9	
B 15015	Oct. 29 1895	10	11.4	
B 14969	Oct. 25 1895	10	11.4	
B 18045	Nov. 25 1896	12	11.5	
B 21202	April 13, 1898	10	11.7	
B 27187	April 16, 1901	10	11.8	
B 24521	Nov. 13, 1899	11	11.2	
B 10917	April 17, 1894		11.3	
B 20462	Sept. 18, 1897	10	11.2	
B 18221	Dec. 7, 1896	10	11.7	
B 12499	Nov. 10, 1894	10	11.2	
B 24797	March 1, 1900	12	11.0	
B 22372	Dec. 17, 1898	10	11.9	
B 24202	Sept. 25, 1899	10	11.6	
B 21010	March 3, 1898	10	11.5	
B 35313	Nov. 30, 1904	10	11.3	
B 18013	Nov. 24, 1896	12	11.2	
B 18235	Dec. 28, 1896	12	11.4	
B 32872	Dec. 9, 1903	10	11.9	

The above plates show a decided although small variation, the range being (0.9) less than a magnitude. Obs. limits 11.0 to 11.9.

W.P.F. Sept. 25, 1907.

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1905phae.proj..818F

September 26, 1907.

Exam. of plates to determine variation if any in No 6381. Mid? Tau? $7^h\ 3^m.3 + 31°\ 1'$ (1855, and No. 6381a, $7^h\ 3^m.9 + 31°\ 0'$ (1855). on Plate I 32757.

	Plate	Date	Exp	Est.
I	31378	Jan. 14 1904	7m	
I	14822	April 8 1896	11	
I	24029	Nov. 12 1899	23	
I	27328	Aug. 16 1901	80	
I	21823	Nov. 28 1898	10 m	
I	22479	Feb. 25 1899	13	
I	17612	March 16 1897	10	
I	26785	March 12 1901	10	
I	222	Dec. 3 1889	13	
I	16994	Jan. 6 1897	18	
I	5647	Feb. 15 1892	10	
I	22013	Dec. 23 1898	19	
I	5738	Feb. 18 1892	11	
I	8058	Feb. 15 1893	12	
I	20353	March 5 1898	12	
I	24047	Nov. 13 1899	26	
I	5053	Dec. 10 1891	17	

An examination of the above plates fails to show any evidence of variation in the star at $7^h\ 3^m.3 + 31°\ 1'$, and only a slight change in the star at $7^h\ 5^m.9 + 31°\ 0'$ (1855), that is about 0.4 magn, which may be real but is probably due to the photographic images.

W. P. F. Sept. 26, 1907.

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1905phae.proj..818F

September 27, 1907.

Am. +6° 3898 18h 34m.9 +6 40.8 mag. 9.0

Examn of plates to determine variation, if any, in No. 5175, Pek. in I 33286. Slight variation found by L. D. Wells.

Plate	Date	Exp.	Est.
I 4591	Oct. 21 1891	17m	
I 8870	July 21 1893	11	
I 25964	Oct. 20 1900	10	
I 4840	Nov. 25 1891	14	
I 6648	July 24 1892	10	
I 9341	Aug. 30 1893	11	
I 18402	Aug. 3 1897	30	
I 16069	Sept. 30 1896	10	
I 11186	June 13 1894	15	
I 11352	Aug. 17 1894	14	
I 15450	July 11 1896	17	
I 25449	June 11 1900	12	
I 21067	Aug. 15 1898	13	

Plate	Date	Exp.	Est.
I 33219	July 25, 1905	30m	
I 29138	Aug. 23, 1902	10	
I 31904	July 31, 1904	15	
I 28884	June 8, 1902	15	
I 27741	Oct. 7, 1901	11	
I 25449	June 11, 1900	12	
I 9341	Aug. 30, 1893	11	

Additional plates examined fail to show a variation greater than 0.4 magn. This, although small, may be a real change in the light of the star.

W. P. F. Oct. 13, 1908.

An examination of the above plates shows a variation of about 0.5 magn. which appears to be a real change in the star. Look for ~~further~~ greater change before announcement.

W. P. F. Sept. 27, 1907.

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1905phae.proj..818F

September 28, 1907.

Exam. of plates to record confirmation of variability of BD +74° 861. R.A. $20^h 26^m 25^s$ Dec. +74° 47'.5 93 (1855). Sf. Mc 5d, var.? on I 32012, No. 4704a.

	Plate	Date	Ex.	Est.	
Sf.	I 32012	Sept. 5, 1904	81m	8.5	Mc 5d. var.?
✓	I 31078	Oct. 28, 1903	10	8.3	
	I 14408	Jan. 30, 1896	10	10.5	
	I 27393	Aug. 29, 1901	48	10.1	
	I 16429	Nov. 2, 1896	10	10.4	
	I 29120	Aug. 16, 1902	10	10.1	
	I 20367	March 5, 1898	18	10.0	
	I 29278	Sept. 14, 1902	11	~~9.7~~ 9.9	
	I 30340	April 19, 1903	33	8.4	
✓	I 11710	Oct. 18, 1894	10	10.3	

An examination of the above plates shows a variation of about 2.2 magnitude. Est. limits 8.3 to 10.5. Variability confirmed by L.D. Wells.

W.P.F. Sept. 28, 1907.

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1905phae.proj.:818F

Examn of Plates to confirm variation of star Type IV. a(1900) 1875 pos. 10 47.7 -52 45.5 found on a 8343 — Recorded on page 145 this book —

Oct 3, 1907.

Meas. of dif. wave lengths of H. lines in Nova Velorum

	a 8343	2d meas	mean	λ	Known λ	resid Corr.		Comp λ.
Nova Velorum	1.00	1.00	1.00	4985	5015	-20	-18	5013 5007
	1.25	1.25	1.25	4908	4923	-15	-18	4926
Hβ	1.55	1.60	1.58	4845	4861	-16	-17	4862 4862
	2.50	2.55	2.52	4630	4646	-16	-13	4643 4644
	2.70	2.70	2.70	4600	4573	+27	-11	4611 4611
Hγ	4.25	4.25	4.25	4350	4340	+10	+10	4340 4341
Hδ?	5.70	5.70	5.70	4155	4101	+54	+54	4101 4101

Type Class A.		0.00			
Hβ	486	0.00	0.00	0.00	1.50
Hγ	434	2.80	2.80	2.80	4.30
Hδ	410	4.60	4.60	4.62	6.12
Hε	39	5.70	5.70	5.70	7.20

Nova Velorum					Nova Persei (No2)		γ Velorum	H P1311	ζ Puppis	Orion	Helium
	1.00	5013			5016	5014	..	..			5016
	1.25	4926			4924	..	..	..			4922
Hβ	1.60	4862	4862	Hβ	4862	4862	4862				
						4680		4687			
	2.55	4643			4646	4642	4656 4652			4649	..
	2.70	4611			..	..	..	4608		4611	..
					4473						
Hγ	4.25	4340	4341	Hγ	4341	4340 4341	4341				
Hδ	5.70	4101	4101	Hδ	4103	4102	4102				

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1905phae.proj..818F

October 2, 1907.

Eform of plates to record variation in No. or A 8343. Sp. Na. var? Rd. 11 15.7 Dec. −55° 5.0 (1875)

Computed pos. 11 15 42.2 −55 N.8 (1875)

Identified later as CDm. −55° 3979 11 15.7 −55 5 10½

This CDm Cat. was not published at time star was announced as Type E

Plate	Date	Eq	Est.
B 35727	March 31, 1905	10	10.2
B 31632	May 5, 1903	10	10.3
B 25583	June 20, 1900	10	10.2
B 33407	April 20, 1904	10	10.4
B 36032	May 13, 1905	10	10.3
B 27225	April 22, 1901	10	10.2
B 27312	May 14, 1901	14	10.1
B 33455	April 23, 1904	10	10.3
B 21183	April 12, 1898	10	10.4
B 31796	May 18, 1903	60	9.7
B 31597	May 4, 1903	10	10.1

An examination of the above plates shows a variation of about 0.7 magn. Estimated limits 9.7 to 10.4. Variability confirmed by Miss L. D. Wells.

W. P. Fleming. Oct. 2, 1907.

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1905phae.proj.:816F

December 31, 1907.

Exam. of Photos. of Transit of Mercury for Object observed by Luther. per letter of December 5, 1907.

Plate	Date	Ex.	G.M.T.
le 17151	07, 11, 13		
e 17152	" " 13		
e 17153	" " 13		
e 17154	" " 13		
e 17155	" " 13		
e 17156	" " 13		
e 17157	" " 13		
e 17158	" " 13		
e 17159	" " 13		
e 17160	" " 13		
e 17161	" " 13		
e 17162	" " 13		
e 17163	" " 13		
e 17164	" " 13		
e 17165	" " 13		
e 17166	" " 13		
e 17167	" " 13		
e 17168	" " 13		
e 17169	" " 13		
e 17170	" " 13		
e 17171	" " 13		
e 17172	" " 13		
e 17173	" " 13		
e 17174	" " 13		

Examination of the above plates fails to show any evidence of any moving Obj. except Mercury

W.P.F.

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1905phae.proj..818F

January 1, 1908.

Examn. of plates for star on plate Ma 431 taken by Rev. J. H. Metcalf. The object is + 23° 1726 See note of J. H. M. The object shows only in one of the two exposures given to the plate.

Plate Ma 431	Date	Exp.
AC 7207	Jan. 25, 1906	63
AC 7282	Feb. 15, 1906	78
AC 7318	Feb. 23, 1906	69
AC 7497	April 25, 1906	59

D 10,212	Dec. 19, 1893	11
AC 257	March 24, 1899	66
AC 515	Nov. 10, 1899	64
AC 519	Nov. 12, 1899	77
AC 1083	Dec. 22, 1900	83
AC 687	Jan. 22, 1900	70
AC 1103	Dec. 28, 1900	62
AC 3302	Feb. 14, 1903	72
AC 3323	Feb. 19, 1903	62
AC 3398	March 6, 1903	66
AC 3428	March 14, 1903	63
AC 3552	April 27, 1903	60
D 31554	March 16, 1904	20
AC 5352	Oct. 7, 1904	48
AC 5926	Jan. 31, 1905	80
AC 5972	Feb. 10, 1905	66
AC 6803	Oct. 7, 1905	47
AC 7345	March 4, 1906	67
AC 7414	March 24, 1906	55
AC 7464	April 11, 1906	11
AC 7473	April 16, 1906	84
D 34432	Dec. 11, 1906	62
AC 8154	Jan 11, 1907	61
AC 8247	Feb. 12, 1907	73

An examination of the above plates fails to show any change greater than 0.3 to 0.4 magn. in this object. Such a small diff. might be due to irregularities of film, grain, etc. Plates A.C. 7207, 7282, 7318, and 7497 show greatest change. W. P. Fleming.

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1905phae.proj.:810F

FIRST CONGREGATIONAL SOCIETY,
OF TAUNTON.
FOUNDED A. D. 1636.

MINISTER'S HOUSE,
54 SUMMER STREET,
TAUNTON, MASS.

Plate 431 Dec 27/07
opened 9h31 cloud 10.42
Ra 7h20m D+23

approx positions 1855.

1st as BD Star 23° 1726
Ra 7h 20m 5.s2
D +23° 12.'6
B+

2d Very near BD 25 1679
Ra 7h 19m 24.s6
+25° 4.'8

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1905phae.proj..818F

January 22, 1908.

Exam. of plates for doubling or trace of var. comp to -1°2460. $10^h 46^m 21^s.5$ -1° 29'.8 K 5.7 (1855)

Plate	Date	Ex.	
I 3526	April 30 1891	35m	Shows only one bright star. No. comp
B 27213	April 17, 1901	60	
Am 2553	April 18, 1904	61	
Am 2594	May 3, 1904	60	
Am 2675	May 24, 1904	63	
AC 7209	Jan. 25, 1906	76	
A.C. 7283	Feb. 15, 1906	64	
A.C. 8147	Jan. 9, 1907	66	
AC. 8187	Jan. 23, 1907	73	
A.C. 8248	Feb. 12, 1907	80	
Am 1931	May 13, 1903	64	
Am 1913	May 6, 1903	60	
AC 141	Dec. 23, 1898	56	
AC 144	Jan. 7, 1899	60	
AC 204	Feb. 15, 1899	70	
A.C. 1455	May 12, 1901	68	
A.C. 2060	Dec. 5, 1901	63	
A.C. 2167	Jan. 5, 1902	65	

An examination of the above plates shows only one bright star, and no trace of any close companion to -1°2460 is visible on them.

W. P. F. Jan. 22, 1908.

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1905phae.proj..818F

January 23, 1908.

Exam of plates for var. if any in No. 6634 on I 34823.
Pec. Br Lubs var? +30°3639 19h 29m 4.8 +30° 12'6 (1855) q.3

Plate	Date	Ex.	
I 34823	Aug. 15, 1907	67m	Sf Pec. Br Lubs var? "Known as Type V"
I 25663	Aug 17 1900	17	
AC 5033	July 2 1904	63	
AC 5396	Oct. 20 1904	58	
AC 6294	April 17 1905	36	
AC 5072	July 18 1904	92	
AC 4913	May 16 1904	63	
AC 4256	Nov. 25 1903	51m	
AC 3675	May 23 1903	40m	
AC 2791	Aug. 29 1902	93	
AC 2888	Oct. 10 1902	86	
AC 418	Sept. 5 1899	68	
AC 5112	July 30 1904	67	
AC 8889	Oct. 18 1907	60	
AC 4964	June 13 1904	67	
AC 2866	Oct. 7 1902	82	
AC 2772	Aug. 23 1902	64	
AC 2838	Sept. 14 1902	62	
AC 425	Sept. 13 1899	67	
AC 133	Dec. 19 1898	60	
AC 5117	July 31 1904	58	
I 11379	Aug 21 1894	14	

An examination of the above plates fails to show any evidence of variability in +30°3639 q.3. W. P. Fleming. Jan. 23, 1908.

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1905phae.proj..818F

February 4, 1908.

Type IV,

Exam. of plates for var. of No. 14052 Na, var?
in B 37580. R.A. $\begin{cases} 14^h\ 4^m.0 \\ 14\ 6.3 \end{cases}$ Dec. $-1^\circ\ 37'$ approx (1855)
$-1.\ 3\ 3$ approx 1900
New as Type IV, and new variable.

Plate	Date	Exp	Est.
B 21997	Oct. 7, 1898	10^m	11.5
B 27620	June 7, 1901	10	11.6
B 17688	Oct. 14, 1896	11	11.1
I 15324	June 19, 1896	19	11.5
I 31860	July 13, 1904	14	11.2
B 9236	April 30 1893	10	11.7
B 23365	July 8, 1899	11	11.3
I 8899	July 23, 1893	15	113
B 20613	Oct. 13 1897	10	10.8
B 26143	Sept. 15, 1900	10	10.9
B 28625	Oct. 3, 1901	11	11.0
B 29861	May 27, 1902	10	11.2
B 31821	May 18, 1903	10	11.4
I 15488	July 18, 1896	10	11.2
B 25533	July 7, 1900	84	11.2
I 18255	June 21, 1897	10	11.1
I 27740	Oct. 7, 1901	34	11.1
I 25538	July 9, 1900.	43	11.3
B 27486	May 28, 1901.	10	11.4

√ Our exam. of the above plates shows a variation of about 0.9 magn. in the above star. Estimated limits 10.8 to 11.7.
Var. confirmed by Miss L. D. Wells.

W.P.F. Feb. 4, 1908.

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1905phae.proj..818F

February 6, 1908.

Exam. of plates for var. of No. 14724, Type III Md 9, on B 38226. R.A. 21h 58m.8 Dec. -75° 16' (1900).

Plate	Date	Exp.	Est.
B19357	June 2, 1897	10	8.0
B27499	May 28, 1901	10	8.4
B6321	June 14, 1891	10	<9.5
B36218	June 20, 1905	12	9.6
B27454	May 27, 1901	60	8.6
B27943	July 22, 1901	6z	9.8
B11571	July 14, 1894	10	<10.0
B17875	Nov. 12, 1896	12	10.2
B20815	Nov. 22, 1897	10	<9.0
B16242	June 10, 1896	10	<10.0
B34694	August 18, 1904	11	9.7
B10322	Sept. 27, 1893	10	<10.4
B28321	August 24, 1901	10	11.0
B25977	Sept. 4, 1900	10	9.4
B11256	May 22, 1894	10	9.7
B36566	Aug. 9, 1905	10	<10.0
B14259	Aug. 1, 1895	11	<10.2
B25525	June 2, 1900	60	10.8
B23229	June 29, 1899	12	<10.6

An exam. of the above plates shows a variation of about 3.0 magn. in the above star. Estimated limits 8.0 to 11.0. Var. confirmed by Miss L. D. Wells.

W. P. F. Feb. 6, 1908.

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1905phae.proj..818F

February 6, 1908.

Eform. of Plates for var. of No. 14108, Type III. Md 5 var?, on B37620. R.A. $16^h 46^m.0$ $-56°\,6'$ (1900).

Plate	Date	Exp.	Est.
B 25119	April 11, 1900	12	9.7
B 12093	Sept. 10, 1894	10	11.6
B 29975	June 9, 1902	60	13.45
B 6263	June 11, 1891	10	12.0
B 29758	May 17, 1902	10	<13.2
B 27162	April 11, 1901	10	9.9
B 19368	June 3, 1897	10	12.6
B 33381	April 16, 1904	10	9.3
B 21140	April 2, 1898	12	13.2
B 22474	April 5 1899	10	<13.2

An eform. of the above plates shows a variation of about 4.2 magn. in the above star. Estimated limits 9.3 & 13.5. Variability confirmed by Miss L. D. Wells. W.P.F. February 6, 1908.

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1905phae..proj..818F

February 7, 1908.

Exam. of Plates for var. of No. 6543, Type III Md var, on I 34921. CDM. −24° 15190 R.A. 19h 10m 8.0 − 24° 8.8 (1875.

Plate	Date	Ep.	Est.
B32081	July 1, 1903	60m	9.8
I17845	April 12, 1897	10m	8.5
B20604	Oct. 12, 1897	10	<13.8
B22170	Nov. 11, 1898	10	10.5
I26904	April 26, 1901	58	<12.0
B 3878	July 22 1889	44	<13.0 ~~<12.0~~
B4049	Aug. 20 1899	62	<13.0
B 28627	Oct. 3, 1901	10	11.0
I 26925	April 27, 1901	60	<13.2
B 23108	June 19 1899	11	<13.5
B9240	April 30, 1893	10	13.0 ~~12.0~~
I23692	September 30, 1899	10	12.0
I23669	Sept. 27, 1899	16	12.6

An exam. of the above plates shows a variation of about 5.3 magn., in the above star. Estimated limits 8.5 to <13.8. Variability confirmed by Miss L. D. Wells. W. P. Fleming. Feb. 7, 1908.

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1905phae.proj..818F

February 8, 1908.

Exam. of Plates for Espin's Susp. Var.
Component of BD +43°443 $2^h\ 3^m\ 8^s.0\ +43^\circ\ 58'.4$ (1855).
See Espin's letter of Jan. 29, 1908.

Plate	Date	Exp	Est. var 1	Est. var 2
a 6570	Sept. 11, 1903	9m	9.5	10.0
a 6836	July 23, 1904	10	9.2	9.5
a 11124	Oct. 18, 1894	13	Does not cover region.	
l 23806	Oct. 14, 1899	14	9.4	9.1
l 16877	Dec. 24, 1896	11	9.3	9.8
l 4914	Dec. 1, 1891	13	9.2	9.2
l 15789	Aug. 27, 1896	10	9.2	9.8
l 21997	Dec. 23, 1898	12	9.3	10.0
l 21739	Nov. 21, 1898	11	9.8	10.5
l 3208	Mar. 1, 1891	12	9.5	9.4

var. 2
var 1

C.
a.
D
B.
N

An exam. of the above plates shows variation in two of the stars given by Espin, the two north, following stars in the group of four. The northern star in the group shows a change of about 1.3 magn. Estimated limits 9.2 to 10.5. The ~~star~~ companion just South, preceding this star changes about 0.6 magn. Estimated limits 9.2 to 9.8.

W. P. Fleming. February 20, 1908.

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1905phae.proj..818F

February 20, 1908.

Exam. of Plates for Variation in No. 14218 on B 37595. Sp. Md var?. R.A. $16^h 28^m.3$, Dec. $-55° 12'$ (1900).

Plates	
~~B 22508~~	
~~B 25740~~	
B 21197	
B 25740	
B 30220	
B 25964	
B 30530	
B 22929	
B 9684	
B 33622	
B 31828	
B 25528	
B 31877	

B 3878 July 22, 1889 44m V
B 4049 Aug 20 1889 62m V
B 9240 April 30 1893 10 V

An exam. [illegible] for of about 5.1 magn. in the above star. Estimated limits 9.4 to 14.5. Variability confirmed by Miss L. D. Wells.

W. P. F. Feb. 20, 1908.

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1905phae.proj..818F

February 20, 1908.

Exam. of Plates for variation in No. 14218 or B 37595. Sp. Md var?. R.A. $16^h 28^m.3$, Dec. $-55° 12'$ (1900).

Plates	Date	Ex	Est.
~~B 22508~~	~~April 6, 1899~~	~~10 m.~~	
~~B 25740~~	~~July 20, 1900~~	~~60.~~	11.5
B 21197	April 12, 1898	10.	10.3
B 25740	July 20, 1900	60.	13.5
B 30220	June 27, 1902	60	13.5
B 25964	Sept. 4, 1900	11	10.7
B 30530	Aug. 11, 1902.	10	9.4
B 22929	May 30, 1899	10	13.9
B 9684	June 2 N 1893	10	12.1
B 33622	May 4, 1904	10	<13.5
B 31828	May 19, 1903	60	14.0
B 25528	June 4, 1900	64	14.2
B 31877	May 28, 1903	61	14.5

On exam. of the above plates shows a variation of about 5.1 magn. in the above star. Estimated limits 9.4 to 14.5. Variability confirmed by Miss L. D. Wells.

W. P. F. Feb. 20, 1908.

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1905phae.proj..818F

February 20, 1908.

Exam. of Plates to det. amount of var. in
No. 6617 or I 34695. Sp. Mc. var? +58°1710. R.A. 17h 10m 28.7s Dec. +58° 2.0
R.A. 17h 11.3m2 Dec. +57° 59' (1900)

Plate	Date	Ref.	Est.
I 34338	Nov. 8, 1906	29	8.9
I 9191	Aug. 13, 1893	11	8.6
I 34142	July 18, 1906	20	9.2
I 11409	Aug. 26, 1894	21	9.5
I 15628	Aug. 8, 1896	10	8.2
I 18754	Sept. 11, 1897	14	8.5
I 18738	Sept. 9, 1897	10	8.7
I 34228	Sept. 6, 1906	37	9.2
I 23180	July 18, 1899	10	8.8
I 29218	Sept. 2, 1902	17	9.3
I 23129	July 4, 1899	17	9.0
I 9323	Aug. 29, 1893	14	8.1
I 27339	Aug. 22, 1901	17	9.6
I 33511	Oct. 8, 1905	20	8.2
I 21511	Oct. 27, 1898	15	9.4
I 21505	Oct. 25, 1898	13	9.7
I 13550	Sept. 30, 1895	10	8.3
I 11623	Oct. 14, 1894	10	8.2
I 27444	Sept. 7, 1901	21	8.2
I 33170	July 9, 1905	40	9.1

An exam. of these above plates shows a variation of about 1.6 magn. in the above star. Estimated limits 8.1 to 9.7. Variability confirmed by Miss L. D. Wells.

W. P. Fleming. Feb. 20, 1908.

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1905phae.proj..818F

February 21, 1908.

Eform. of Plates to det. amount of var. in No. 14621 or B 38190. Sp. Mc5d var? CDM. −39° 10898 $16^h 47^m 54^s.6$ −39° 25'.9 (1900). $16^h 49^m.6$ −39° 29' (1900)

Plate	Date	Exp.	Est.
B 16779	July 10, 1896	30	9.0
B 13988	July 8, 1895	10	11.4
B 16394	June 16, 1896	19	10.1
B 15686	May 4, 1896	30	12.0
B 21366	May 2, 1898	10	10.9
B 18712	October 29, 1897	11	11.6
B 26010	Sept. 5, 1900.	11	11.8
B 21927	Sept 5, 1898	10	<13.5
B 11076	May 2, 1894	10	<13.0
B 19063	May 10, 1897	10	10.3
B 13491	June 1, 1895	10	12.6
B 21716	June 20, 1898	10	<12.5
B 19196	May 25, 1897	15	<13.0
B 17077	Aug. 7, 1896	25	10.3
B 19440	June 8, 1897	12	11.0
B 23051	June 16, 1899	10	13.1
B 24920	March 31, 1900	60	13.0
B 9380	May 7, 1893	11	10.0

On eform. of these plates shows a variation of about 4.5 magn. in the above star. Estimated limits 9.0 to <13.5. Variability confirmed by Miss L. D. Wells.

W. P. Fleming Feb. 21, 1908.

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1905phae.proj..818F

~~Jan~~ February 21, 1908.

Exam of Plates to det. amount of var. in No. 14556,
Sp. Type IV Na or B 38080. DM. -13° 5083 (1900) 18h 38.7m -13° 20' 9.1

Plate	Date	Ex.	Est.
B 22093	Nov. 2, 1898	10	9.3
B 17448	Sept. 23, 1896	10	9.7
B 6116	May 29, 1891	10	9.8
B 13579	June 4, 1895	10	10.1
B 28733	Oct. 10, 1901	11	8.6
B 20470	Sept. 20, 1897	10	9.7
B 31686	May 6, 1903	10	9.7
I 23281	August 6, 1899	24	9.6
I 23142	July 10, 1899	14	8.7
B 25878	Sept. 1, 1900	10	9.6
B 30482	July 29, 1902	60	9.0
B 25429	May 23, 1900	10	9.9

Our exam. of the above plates shows a variation of about 1.3 mags. in this star! Estimated limits 8.6 to ~~9.9~~ 10.1 Variability confirmed by L. D. Wells.

W. P. Fleming. Feb. 29, 1908.

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1905phae.proj..818F

February 29, 1908.

Exam. of Plates to det. amount of var in 1855
No. H646 14644 on B 38112, Mc 5d Var. -10° 48' 76 18h 48m 30.9 Dec. -10° 42' 4 9.0

Plate	Date	Exp	Est.	Plate	Date	Exp	Est.
B 30074	June 14 1902	10	9.0	Am 2052	June 18 1903	60	9.6
B 32278	July 17, 1903	60	9.2	Am 3587	June 3, 1905	61	9.3
B 32341	July 28 1903	60	9.0	Am 3631	June 13, 1905	59	9.4
B 29656	May 14 1902	10	9.3	Am 2989	Aug. 31, 1904	60	9.7
B 32319	July 24, 1903	65	9.1	Am 3081	Sept. 29 1904	60	9.2
B 29537	April 29, 1902	10	8.3	AC. 8721	Aug. 26 1907	65	9.2
B 32405	Aug 12, 1903	11	8.3	Am. 3764	Aug 8, 1905	61	9.8
B 33929	June 2, 1904	11	9.2	Am 2072	June 26, 1903	60	9.5
B 36473	July 22, 1905	10	9.0	AC, 5042	July 8, 1904	60	9.2
B 36872	Sept. 5, 1905	10	9.3	AC. 5068	July 17, 1904	67	9.3
B 27485	May 28, 1901	10	9.1	AC. 4955	June 11, 1904	60	9.6
B 7880	June 10, 1892	14	9.7	AC. 4980	June 17, 1904	65	9.8
B 5998	May 20, 1891	10	9.0	AC. 2778.	Aug. 26, 1902	67	9.2
B 26236	Sept. 19, 1900	11	9.1	AC. 1462	May 13, 1901	55	9.3
B 9917	July 24, 1893	10	9.2				
B 25614	June 25, 1900	10	8.4				
B 6546	July 15, 1891	10	9.3				
B 36963	Sept. 9, 1905	10	9.4				
AC 8607	July 12, 1907	59	9.5				

33

An exam. of the above plate shows a variation of about 1.4 magn.
Estimated limits 8.3 to 9.7.

W. P. Fleming. Feb. 29, 1908

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1905phae.proj..818F

February 29, 1908.

Exam. of plates to det. amount of variation in No. 632 or BA 2902. Sp. Md var. C.P.D. -66° 633 $6^h 57^m 46^s.0 - 66° 57'.296$
$6.57.8 - 66 59$ (1900)

Plate	Date	Ef.	Est.
B 18077	Nov. 27 1896	10	10.2
B 35271	Nov. 16 1904	10	13.5?
B 26685	Nov. 20, 1900	11	13.0
B 15040	Oct. 30, 1895	10	9.4
B 4490	Oct. 20, 1889	12	<13.0
B 29068	Jan. 14, 1902	61	14.1
B 15041	Oct. 30, 1895	10	9.3
B 24793	March 1, 1900	11	11.0
B 24244	Sept. 29, 1899	10	9.1
B 12568	Nov. 13, 1894	10	9.6

An exam. of the above plates shows a variation of about 5.0 magn. Estimated limits 9.1 to 14.1. Variation confirmed by Miss L. D. Wells.

W. P. F. Feb. 29, 1908.

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1905phae.proj..818F

~~Feb~~ March 2, 1908.

Exam. of plates for confirmation of variability. of No. 14581 Nr var.? nr B 38102. Yale 21h 1131 21 38.4 -65 46 (1900) See Note Book "J" of L. D. W. page 152.

Plate	Date		Ef.	Est.
B 23226	June 29	1899	10m	~~10.98~~
B 11572	July 14	1894		10.2
B 20771	Nov. 18	1897	10m	10.5
B 18092	Nov. 28	1896	12	10.8
B 25790	Aug. 30	1900	10	9.8
B 12179	Sept. 15	1894	10	10.3
B 36564	Aug. 9	1905	10	10.8
B 30881	Oct 11	1902	10	10.3
B 28785	Nov. 12	1901	10	10.8
B 34497	July 23	1904	10	10.2
B 30123	June 17	1902	10	10.5
B 19874	July 20	1897	10	10.5
B 11856	Aug. 13	1894	10	10.3
B 5591	July 21	1890	78	10.7
B 28501	Sept. 9	1901	60	10.2
B 24485	Nov. 11	1899	12	10.3
B 5473	June 20	1890	60	10.8
B 25705	July 3	1900	60	10.1
B 25765	Aug 29	1900	60	9.9

√ An eyeexam. of the above plates confirms the variation of the above star and shows a change of about 1.0 magn. Limits 9.8 & 10.8

W. P. F.

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1905phae.proj..818F

March 6, 1908.

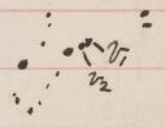
Exam of chart plates to det. amount of variation in

Found on { No. 14448 on B 37702 Sp. Md 5 var? C.P.D. -52° 3999 10h 48m 22.0 -52° 316 (1875
Dec. 12, 1907 { No. 14417 on B 37662. (1900) 10h 47m 9s -52° 40'

The ~~preceding~~ following and northern (v1) of two close stars shows a large variation, and the southern and ~~following~~ preceding (v2) shows a small variation

Plate	Date	Ex	Estv1	Estv2
B 29434	April 26, 1902	10	12.3	12.1
~~B 33195~~ B 21183	~~March 26, 1904~~ April 12, 1898	10	10.7	12.2
B 33195	March 26, 1904	10	15.1	12.1
B 27312	May 14, 1901	7½	11.2	11.9
B 21023	March 17, 1898	12	<13? 11.9 or	12.3 11.9?
B 6058	May 27, 1891	60	12.2	12.0
B 35429	Jan. 9, 1905	10	13.2	12.2
B 25059	April 10, 1900	10	11.1	12.1
B 7492			14.7	12.1
B 13198	May 9, 1895	10	<14.5	12.1
B 11190	May 21, 1894		14.1	12.0
B 31796	May 18, 1903	60	11.2	12.5
A 1805	May 30, 1896	60	15.3	12.2
A 2269	May 10, 1897	11	11.2	12.1

N



S

Oct. 31, 1908.
A 2269. v2 follows v1 0.1 mm. South 0? mm. W.P.F. ∴ 0.7
at Dec. 52° 40', 1 mm = 6.6 ~~Dec.~~ 0.1 mm = 0.66. = 0.7
Dec. 1 mm = 1'. 0.2 mm = 12".

On exam of the above plates shows a variation of about 4.6 magn. Estimated limits 10.7 to 15.3. For var 1. The adjacent star shows slight evidence of change which, though small, seems to be real. 11.9 to 12.5 Variability of ~~No.~~ v1, confirmed by L. D. Wells. W.P.F. March 6, 1908.
In v2. Miss Wells sees slight change. Oct. 30, 1908.

4 1606
3826 6.6
3640

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1905phae.proj..818F

March 13, 1908.

Classification of Spectra of stars in sequence for 31, 1907. 06h 24m 47s. – Aurigae.

var.	Plate I 32729. Sp.	Plate I 32967	I 34626		Final Notation
a	A	a	a	A	a
b	A5 F	F	F	F	c
b'	a	a	K	a	
c	K	K	K	K	b
d	G	G	G	G	d
e	a	a	a	a	k
f	G	G	G	G	g
g	a5 F	G5 ?	K ?	F	f
h	F F	a ?	G ?	F	h
k	K F	K	K	K	m
l	K	K	K	K	l
m	..	..	..		n
n	..	..	..		p
o	..	..	..		o
p	..	..	..		
q	..	..	..		
r	..	..	..		
s	..	..	..		
t	..	..	..		
u	..	..	..		

Plate 32729

Final, 32967

c G G = G

May 9, 1911. One eform. of 11 spectrum plates fails to show any image of the var.

W. P. F.

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April 16, 1908.

Exam. of Plates for Comet 1902 I. See letter of Dr. Hermann Kobold.

Plate	Date	R.A. Centre Dec.	Object R.A. Dec.	
I 28630	April 3, 1902	21h 30m + 42°.0	21h 20m 11s +40 19	(1855)
Position of Comet for April 3 1902, according to O.C.W.			21 1.0 +40 24.9	(1855).

Pos. det. by Ruth. Waterbury. Dec. 11, 1908. Book 5, p. 3 21h 20 11.5 +40 19.1 [1855] from +40° 45'18 *
21 20 7.8 +40 19.2 " +40 45'24
Mean 21 20 9.6 +40 19.2 . 19' 15"

8 inch Draper and 1 inch Cooke records examined in region of ephemeris

Letter sent. Dec. 14, 1908.

Thereat fol. Apr. 3. '02. * * *

21h 1m.8 3s +40° 24.9 (1855)

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1905phae.proj..818F

April 16, 1908.

Exam. of Spect. Plates for Class of Spectra of stars for R. H. Russell. See Letter of April 1908.

			Plate I 1335	Pl. I 34919	
	+30°	3624	a2 ? H lines ft.	a? H lines ft.	
	+30	3629	a2	a	
	+30	3635	—	K	
*	+30	3639	O	O	
	+30	3641	K5m	K	
	+30	3646	g	g5	
	+30	3652	—	~~a? H lines ft~~	
	+37°	4170	g2 Pl I 13489	g5K Pl I 31019	
	+37	4173	g	K	
	+37	4179	K	K g5K	
	+37	4185	a	a	
	+37	4203	a.	a	
	+38	4336	g	g	
	+38	4337	g	g	
	+38	4339	a	a	
*	+38	4343	g2	g5	HR. 8085 5.57 K5
*	+38	4344	g5 Pec.	g5 Pec.	8086 6.28
*	+38	4362	K	K	
	+38	4363	a	a	
	+38	4367	K	K	

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Design.		R.A. h	m	s	Dec. ′	Magn.	I 7702	I 31314 ✓	
✓ +57°	19	0	3	6.0	56.0	8.9	a	a	
+58	1		0	45.0	25.7	9.0	a 5	a 5	
"	3		1	29.6	21.0	2.2			H.R. 21 F5
"	6			53.7	9.0	9.4	a	a	
"	8		2	8.5	31.8	8.6	a	a	
"	9			26.8	50.5	8.9	a	a	
"	13		4	29.4	22.5	9.5	F?	F?	
"	2700	23	59 ~~13~~	7.6 ~~16.2~~	5.2 ~~47.8~~	8.8 ~~9.0~~	F	F.	
↓ +58	2701			19.4 ~~57.5~~	31.1 ~~28.6~~	9.2 ~~6.7~~	ft	K	
+42	43	0	8	54.4	41.5	9.1	I 7929 K	I 32283 ✓ K	
"	42 4		9	3.9	42.7	9.1	a	a	
"	48		11	5.7	59.6	5.9	B6	Br.	H.R. 7.0 A
"	53			52.7	51.8	8.9	F	F	
+42	57		12	53.0	53.5	8.0	a 3	a 2	
+43	37	0	8	42.6	16.8	9.5	too ft	a	
"	40		9	14.3	38.5	9.1	K	g5.	
"	44		10	8.3	12.0	8.1	ma	ma	
"	45			16.3	45.5	7.0	g2	g2	
"	52		11	48.5	4.9	9.4	ft.	g5	
↓ ✓ +43	55		12	34.1	36.5	9.2	K?	K	
↓ +56	128 9.	0	39	53.6	59.7	9.3	I 34184 a	I 32596 ✓ a	
"	129 8		39	27.7	45.8	8.5	a	a	
"	130		40	45.0	32.1	8.7	g5	g5	
+56	142		41	1.1	36.3	9.5	K	K	
+57	138		37	15.3	14.1	8.5	a pec	a pec.	H β, H γ, narrow, bright with diffused on both sides.
	145		39	18.7	13.7	8.9	K	K	
	150		40	21.7	2.4	3.8			H.R. 219 F8
+57	151			30.6	12.2	8.5	K	K	

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1905phae..prOj..818F

Design.		R. A. h	m	s	Dec. °	′	Magn.		
								I 34184 ✓	I 32596 ✓
+57°	152	0	40	33.0	25.0		9.1	F	F
"	155			51.0	0.5		9.4	F	F?
√ +57a	160		42	48.5	9.2		9.5	K	g5?
								I 30760	I 16114 ✓
+40a	828	3	35	4.8	28.5		7.8	~~F~~5	g
"	833		38	10.6	35.2		8.9	a	a5~~F~~5
+40	839			55.8	50.5		9.4	a?	a?
+41	744	3	36	16.2	20.7		8.6	g5	g5
"	748		37	4.1	14.7		8.5	g5	g5
"	~~750~~			8.9	1.2		8.2	g	g
+41	760		40	5.8	4.5		9.1	F5	F5 very ft.
								I 21524	I 31430 ✓
+34	785	3	51	5.7	28.8		9.3	K	K
"	791		52	33.4	57.2		9.0	K	K
"	795		53	24.4	44.7		8.5	g5	g5
"	~~796~~			31.4	55.1		8.5	g2	g
"	800		54	13.3	44.5		9.1	a	a
+34	805		55	50.7	29.0		9.5	a	a
+35	784		51	12.0	28.0		9.4	F	F ft
"	793		54	51.8	25.2		9.1	g5	g
+35	794		55	1.3	0.3		9.4	a	a
								I 25947	I 26325 ✓
+45	989	4	37	57.7	34.4		9.5	K	K
"	991		40	35.4	26.8		9.4	F	F
"	~~992~~		41	4.2	36.1		6.5	g	g ~~N.P.?~~
"	994			46.9	19.6		9.5	g5	g5
"	996		42	51.9	41.1		9.5	F	F
"	998		43	42.5	36.6		8.8	F	F
+45	999			59.7	26.1		7.9	g	g ~~N.P.?~~

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Design.		R.A. h	m	s	Dec. °	′	Magn.		
+46°	920	4	38	40.3	7.1		9.4	K	K
+46	925		40	24.5	0.9		8.4	a	a
								I25026	I34621 ✓
+49	1956	10	15	27.1	24.9		9.5	g5	g
"	1957			55.5	54.7		8.8	g	g
"	1958		18	32.6	6.9		8.4	K	K
"	1959			52.2	26.4		8.8	F	F
"	1960		19	6.2	42.2		6.6	g	g conf. H.R.
"	1961			6.7	32.8		6.2	g	g H.R. 4098. 78.
"	1962			24.3	53.7		9.5	F	F
+49	1964		22	33.8	30.8		9.5	F5	g
								I12382	I30346 ✓
+36	2141	10	53	11.4	49.8		8.6	g	g
"	2144		54	44.3	26.9		9.1	g	g
"	2146			54.0	27.7		8.5	a2	a2
"	2147		55	23.6	56.3		7.3	K	K
"	2150		56	51.8	36.0		8.9	K	K
+36	2151			53.3	21.8		8.8	K	g5
								I35422 pum.	I35761
✓ +19	2710	13	38	10.2	5.5		7.7		F
+19	2711			47.8	4.2		8.9		F5
+15	2613	13	36	11.9	34.8		9.5		F5?
"	2617		37	43.2	40.5		9.1		F5?
"	2618			47.3	10.1		9.2		
"	2620		38	23.3	40.7		8.5		K5
"	2621			28.6	13.7		9.4		
+15	2624		39	9.5	38.5		9.3		F5?
+15	2628		40	53.4	44.7		9.3		F?
+16	2547		38	12.3	2.4		9.3		
"	2549			25.8	7.7		9.3		
+16	2553		39	20.5	3.8		9.5		

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1905phae.proj..818F

Design.		R. A. h	m	s	Dec. ′	Magn.	I 24949	I 25482 ✓	
+23°	2691	14	17	48.2	43.0	9.3	F	F	
+24	2729	14	16	56.0	26.7	9.4	g5	g5	
"	2730		17	18.1	55.9	9.0	F	F	
"	2731		18	41.8	20.3	9.1	F	F	
"	2733		19	0.8	19.0	9.0	K	K	
+24	2734			13.0	16.5	9.0	K	K	Plates very poor.
−15	4035	15	0	30.2	7.6	9.4	I 12733 diffuse, g5?	I 15104 g5?	Q 8328 ✓ F? short plate conf.
"	4040		2	13.5	42.0	9.3			g5 superposed on 4042
"	4041			15.5	47.5	9.2			K
"	4042			16.0	42.2	9.0			g5 not separated from 4040
"	4044		3	2.5	43.6	8.8		g5	K
"	4047			43.8	36.6	6.5		K	g5
"	4048		4	13.5	51.7	7.2		G	G
−15	4050			21.4	9.8	7.8		K	K
−16	4011	14	59	54.8	12.4	9.3		K? Image very poor	F2
−16	4025	15	3	44.9	3.5	7.7		g	F5

							I 3708 ✓	
+19°	2930	15	3	49.7	32.5	8.2	F5	
"	2933		4	53.3	59.5	8.4	F	
"	2934		5	13.3	56.7	9.1	F	
"	2935			28.2	31.5	5.9	mb	HR 5654 Mb
"	2937		6	10.8	38.4	7.4	K	
+19	2939			15.2	49.7	6.7	F5	HR 5659 G
+19	2940	5	8	12.8	15.3	8.8	g	
+20	3080	14	6	17.9	20.4	8.8		
+20	3084		7	57.2	16.7	9.4	F5	

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1905phae.proj..818F

Design.		R. A. h	m	s	Dec. ′	Magn.	I 26549	I 31357 ✓
+38°	2283	11	42	16.4	41.7	9.2	F5	F5
"	2284		43	7.8	8.8	9.3	K	K
"	2285		44	35.6	45.5	6.5	G	G
"	2286		45	29.9	21.9	9.3	G5	G5
"	2287			45.2	57.0	9.5	G?	G?
"	2288		46	33.7	44.5	8.5	F5	~~G F5~~
"	2290		47	38.7	34.1	9.4	G?	~~F~~
+39	2474		43	55.5	11.8	9.5	G5	~~G5~~

Both plates very poor.

							I 21954	I 28560 ✓	I 26324
+38°	619	2	53	17.8	7.9	9.4	K? ~~F~~	~~F~~	
"	623		54	19.8	27.0	9.2	F	F?	
"	625			55.7	22.5	9.4	too poor	too poor	G5
"	630		55	54.2	16.8	var.	Mb	Mb	H.R. 921 Mb
"	631		56	17.5	34.4	9.4	a	a	
"	634		57	19.8	3.1	8.5	a	a	
"	639		58	13.7	39.4	8.6	a	a	
"	641			16.1	2.5	9.1	F?	F?	very faint
+37	695		54	54.9	56.7	9.4	a	a	

							I 8580	I 20855 ✓
+59°	1912	18	38	37.1	44.5	9.5	F	too poor
"	1913		39	4.5	25.8	9.4	F?	"
"	1914		40	33.0	11.5	9.5	~~F~~ K?	"
"	1915		41	10.6	25.7	8.9	Ma	Ma
"	1916			15.6	32.7	9.4	~~f~~.	too poor
"	1918		43	1.7	17.0	8.7	K	K
"	1919			48.9	24.1	7.8	K	K
"	1921		44	0.9	31.6	7.3	G8	G5

Poor; another plate wanted.

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1905phae.proj..818F

Design.		R.A. h	m	s	Dec. ′	Magn.	I 35424	I 35440 ✓	
+ 49°	2947	19	6	10.8	27.1	8.0	K	K	
"	2952		7	22.5	50.8	8.3	a	a	
"	2957			54.2	13.4	9.2	a	a	
"	2959		8	19.6	35.2	6.2	two b.	a:	H.B.50 K
"	2961			55.6 7	30.2	8.8	g5	K	
"	2968		11	32.0	49.5	6.3	K	a:	H.B. 50 g
+49	2969		12	29.8	10.7	7.3	g5	K	
+50	2734		4	51.2	8.1	7.4	a	a	vol. 50 not in 50.

							I 1335	I 34919 ✓	
✓ +30	3624	19	27	35.2	5.3	9.4	F	F	
"	3629			55.5	0.6	8.7	a	a	
"	3635		28	46.0	28.5	9.3	g5	K	
"	3639		29	4.9 8	12.6	9.3	Br.lines.	Br.lines	Type V
"	3641			15.4	28.5	9.0	g5	K	
"	3646			55.0	4.8	8.2	g5	K	
+30	3652		30	40.1	0.0	9.1	Faint	K	

							I 31017	I 31134 ✓	
✓ +37	4170	20	59	18.5	42.6	8.5	g5 K	g5 K	
"	4173	21	0	4.0	54.2	8.8	g5 K	g5 K	
"	4179		1	14.9	57.4	8.6	K	K	
"	4185		2	1.3	38.2	9.0	a5	F	
+37	4203		4	16.4	39.8	8.3	a5	F	

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Design.		R. A. h	m	s	Dec. ′	Magn.	I 31017	I 31134 ✓	
+38°	4336	20	59	15.2	10.5	8.8	F	F	
"	4337			27.8	32.9	9.0	g	g	
"	4339			58.9	36.9	8.9	a	a	
"	4343	21	0	24.5	2.5	5.0		61 Cygni	H.R. 8085 K5
"	4344			26.0	2.4	5.3			H.R. 8086
"	4362		3	29.2	8.4	7.8	K	K	
"	4363			29.2	10.4	9.1	a	a	
+38	4367		4	5.5	20.9	9.0	K	K.	

							I 35425	I 35448	
√ +11	4771	22	10	56.0	41.8	8.7	K	K	
+11	4776		12	17.7	44.2	8.0	g5	g	
+12	4790		8	37.3	14.0	9.1		g	another plate.
"	4792		9	3.2	2.1	9.5	K.	K	
"	4793			33.6	13.5	7.5	g5	g5	
"	4794			46.6	15.0	9.0	K	K	
"	4796			57.4	50.9	8.6	g5	K	
"	4797		10	1.0	10.2	7.0	g	g5?	
+12	4803		11	38.3	12.6	8.5	K	K	
							~~X~~	I 26324 ✓	~~I 29788~~
+39°	703	2	56	9.2	53.4	9.3	g		
+40	667		56	45.3	18.8	9.5	K		
"	668		57	23.0	52.4	9.1	K		
"	671		58	23.5	30.2	8.8	a		
"	673			44.5	24.5	var.	B8a		
"	674		59	31.3	4.6	9.1	F5		
"	675			38.0	44.3	8.3	g5		
"	681	3	0	43.4	14.3	8.9	a		
+40	684			59.2	37.2	7.8	g		

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1905phae.proj..818F

Design.		R.A.			Dec.	Magn.	I 32460	I 33832 ✓
	°	h	m	s	′			
✓ −2	394	2	11	39.2	52.1	9.1	K	K
−2	396		12	26.5	53.9	8.4	K	K
−3	346		9	47.9	2.5	9.3	g5	g5
"	347		10	34.6	27.2	9.0	g	g
"	363		12	1.5	38.2	var.	md	md g
"	355			11.4	38.2	9.0	K	K
"	363		14	17.9	37.6	8.9	g	g
−3	364			31.8	54.1	9.0	g	g
−4	375		11	21.3	9.3	8.9	g	g
−4	379		12	48.0	12.0	8.5	f8	f8

+37°	695	2	54	55.4	56.7	~~9.4~~	
+38	619		53	17.8	7.9	9.4	
"	623		54	19.8	27.0	9.2	
"	625			55.7	22.5	9.4	
"	630		55	54.2	16.8	var.	
"	631		56	17.5	34.4	9.4	
"	634		57	19.8	3.1	8.5	
"	639		58	13.7	39.4	~~8.6~~	
+38	641			16.1	2.5	9.1	

I 32993 ✓

+37°	2142	10	52	53.2	18.5	8.3	g
"	2145		53	29.9	27.4	6.8	a
"	2151		54	35.4	7.5	7.7	g
+37	2153		58	31.0	29.1	8.5	g

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1905phae.proj..818F

Design.		R. A. h	m	s	Dec. °	′	Magn.	I 24965 ✓
+43	2079	10	57	2.2	55.0		8.9	g5
+43	2080		58	37.2	59.0		9.0	K
+44	2048		56	46.0	26.7		9.2	f5
"	2049		57	26.8	19.4		9.3	g?
"	2050		58	8.0	34.1		9.5	g5
"	2051			14.8	16.2		8.5	K5
+44	2056		59	37.3	22.3		9.2	g

B 13731 H 24748 I 31572

+3	2500	11	18	34.9	14.9		9.0			K
"	2502		19	24.4	48.2		7.5		K	
"	2503			25.2	47.2		8.0		K	
"	2505		20	30.9	36.6		8.2			
+3	2506			59.2	35.0		8.2		f	
+4	2461		18	12.5	5.9		7.3		a2	
+4	2465		19	2.4	16.4		9.0	f5	~~f5~~	f5

+38	2283	
"	2284	
"	2285	
"	2286	
"	2287	
"	2288	
+38	2290	See page 200

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1905phae.proj..818F

Design.		R.A. h	m	s	Dec. ′	Magn.	BH233 ✓
−0°	2595	12	31	31.8	2.5	8.0	a
"	2599		33	43.2	40.2	9.2	F2
"	2600		34	16.6	44.5	9.2	F
"	2601		"	20.1	39.8	2.8	
"	2604		36	15.0	38.6	8.5	ma
−0	2606			58.9	42.6	8.7	ma
−1	2708	12	34	5.6	10.2	9.2	K

Virginis H.R 4825,6. F

I 34623

+18	2770	13	35	54.5	45.0	9.5	I
"	2773		36	50.6	8.1	7.8	K
"	2775		37	21.5	9.3	9.5	
"	2776		38	2.7	34.3	9.2	
"	2777			37.9	27.2	9.0	K
+18	2780		39	17.0	40.0	9.5	g5

I 25487 I 34059 ✓

+39	2888	15	29	13.7	56.5	8.8	F	a5
"	2892		31	42.9	47.5	8.8	g	g
+39	2896		34	9.8	53.3	8.7	K	K
+40	2900		28	20.6	24.9	9.0	K	K
"	2901			50.6	50.7	9.0	g	F5
"	2902		30	5.3	10.7	9.1	g	F5
"	2903			45.1	19.4	7.8	K	K
"	2905			52.6	16.9	6.8	g5	g5
"	2906		31	42.8	46.9	8.5	K	K
+40	2908		33	46.6	50.8	9.0	g	g

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Design		R.A. h	m	s	Dec. °	′	Magn.	I 35904
+1	3428	17	16	15.1	57.0		9.5	
+1	3433		18	29.6	57.7		9.4	
+2	3308		17	35.2	38.5		9.3	
"	3309		18	8.7	42.9		8.6	g5
"	3312			32.6	17.4		8.0	Ma
"	3314			53.7	13.2		8.5	g2
"	3318		19	37.0	28.4		9.0	g2?
+2	3321		20	45.5	1.7		9.0	g5K?

								I 25511 ✓ B12 038 ✓	
+5	3987	18	50	6.5	50.0		8.4	K	K
+5	3989			38.3	45.1		9.1	F	F8
"	3990			45.5	34.1		9.4	a	a
"	3991			47.6	55.2		9.1	a	a
"	3993			55.8	45.9		9.3	Ma	Ma
"	3994			57.6	48.0		9.3	a	F2
"	3996		51	17.3	33.1		8.8	g5	g5
"	3998			42.4	55.8		8.6	a	a
+5	4005		52	29.0	40.1		9.0	a	a

I 25511 Ma W.P.T. Oct. 24, 1910

								I 33791 ✓
+42	4641	23	13	0.8	44.9		9.2	F?
+42	4655		16	8.6	57.2		9.4	F?
+43	4434		11	28.0	47.1		9.0	a
"	4437		13	8.6	12.1		9.4	g5
"	4438			32.7	26.6		9.2	g
"	4443		14	15.6	32.6		9.2	F
"	4445			36.8	16.1		7.3	F8
"	4454		17	39.9	19.9		9.3	F
+43	4456			50.4	29.5		8.5	a

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1905phae.proj..818F

Design.		R.A. h	m	s	Dec. ′	Magn.	I 13695	I 34819 ✓
+56°	2773	22	19	27.6	45.7	9.5	F5?	F5
"	2778		21	41.6	45.4	8.5	F	a5
"	2783		22	49.5	58.3	9.0	a	a
"	2787		23	41.8	28.2	8.4	K	K
"	2788			54.2	58.6	8.5	K	K
+56	2797		25	16.5	40.8	9.0	a	a
+57	2532		20	49.7	15.8	8.8	F5	g
"	2535			51.2	5.5	9.1	F5	F
"	2345		23	35.7	17.7	9.0	F	F
+57	2549		24	54.9	16.4	9.0	F5	F5

B 12:340 ✓

+1°	4770	23	39	59.3	56.3	8.7	a
"	4772		41	0.0	42.5	9.5	a?
"	4773			24.6	23.9	7	F2
				~~37.2~~	~~37.3~~	~~8~~ 7	
1910				37.2	37.3	8.7	
"	4774			~~45.0~~	~~14.2~~	~~9.5~~	K5
"	4782		42	53.6	28.0	9.5	too faint.
"	4784		43	14.3	49.3	9.3	" "
+1	4786			42.2	25.9	7.5	g
+2	4710		~~39~~	~~0.5~~	~~40.8~~	~~6.2~~	~~F~~
			39	55.5	4.9	8.5	
"	4718		41	33.3	22.3	8.5	g
"	4720		42	4.7	10.7	9.0	g
"	4723			36.6	3.8	8.3	g
+2	4724		43	29.4	7.9	9.0	too faint

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1905phae.proj..818F

Miss Whiteside Var. C.D.M. -26° 179 0h 30.2m -26° 21' (1875) magn. 9.1

C.D.M. -26° 179 0h 30.2m -26° 21' (1875) magn 9.1.
Var. Ida Whiteside, H.C., 139.
On B 20456 taken at Arequipa on September 18, 1897, 6460m, spectrum class F.

W.P.F.

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1905phae.proj..818F

July 17, 1908.

Exam. of plates for region of Tebbutt variable.
See postal of Rev. J. G. Hagen. Rd. 17 Dec. -45°

Plate	Date	Exp.	Pl.	Date	Exp.
B 9477	03, 5, 18	135m	AM 3822	05, 8, 22	60m
B 11344	04, 6, 1		" 3873	" 9, 9	60
B 13502	05, 6, 1	14	" 3928	" 10, 5	78
A 1907	06, 7, 13	63			
A 4411	00, 5, 28	60			
A 5639	01, 9, 9	60			
AM 2054	03, 6, 20	480			
" 2081	" " 30	60			
" 2177	" 8, 10	45			
" 2191	" " 12	65			
" 2212	" " 17	64			
B 33298	04, 4, 11	14			
AM 2523	" " 11	62			
" 2541	" " 14	64			
" 2615	" 5, 5	60			
" 2636	" " 7	62			
" 2655	" " 14	60			
" 2832	" 7, 9	61			
" 3058	" 9, 20	60			
" 3112	" 10, 6	60			
" 3513	05, 5, 10	61			
" 3575	" 6, 2	68			
" 3608	" " 9	60			
" 3614	" " 10	61			

An exam. of the above plates fails to show any evidence of variation exceeding 0.3 or 0.4 magn. in any object near the position given for Tebbutt's variable. All show stars to about magn 12 the Bruce certainly to 13 magn, and the Rapid to 14 magn,

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July 23, 1908.

Exam. of plates for variation if any in
BD −1° 1012 3h 55m 5s.8 −1° 40'.0 (1855).
See letter of J. H. Astbury.

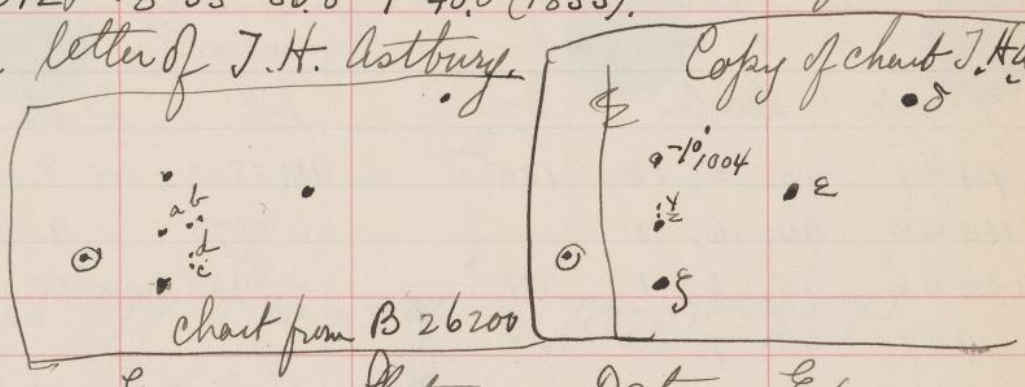


Plate	Date	Exp	Plate	Date	Exp.
B26200	06, 9, 17	10			
B26639	" 11, 17	10			
AC 8103	06, 12, 16	70			
" 8223	07, 2, 8	72			
" 8309	" " 27	—			
" 8327	" 3, 7	91			
" 8386	" 4, 2	60			
" 8883	" 10, 16	73			
" 9025	" 11, 28	60			
" 9113	" 12, 28	49			
" 9139	08, 1, 12	63			
" 9181	" 1, 16	60			
" 9205	" " 27	60	— 08 1 27		
" 9244	" 2, 7	60	2 3 1		
" 9253	" " 8	60	20		
" 9307	" 3, 3	72			
" 9359	" " 24	60			
" 9373	" 4, 1	63			

On receipt of letter of July 17, these plates were examined and no variation found in any of the star images between 5 Drums and −1°1004. Plate AC 6221, taken Dec. 26, 1899, having 23 exposures was also examined. W. P. F.

Our opinion of the above plates fails to show any evidence of variation in −1°1012 exceeding 0.4 or 0.5 mags, which diff might be due to photographic. Astburys chart for 1 and 2 must be in error as no stars appear on any of the plates in these positions. The supposed star is always fainter than a and b and brighter than c and d. W.P.F.

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1905phae.proj..818F

October 1, 1908.

Exam. of Plates to det. approx. amount of change in No 15026 Type IV var? in B 38571. C.P.D. -57° 5802 13h 51m.6 -55° 5' (1900).
Marked by Miss F. in Aug. 1908

Plate	Date	Ex.	Est.
B 24951	April 5, 1905	10m	7.5
B 13627	June 5, 1895	10	8.0
B 9266	May 1, 1893	11	8.3
B 12859	March 12, 1895	10	8.8
B 27503	May 29, 1901	10	8.8
B 22995	June 5, 1899	12	8.9
B 19828	July 15, 1897	10	8.7
B 38772	April 7, 1905	12	9.0
B 27290	May 8, 1901	60	8.8
B 24875	March 21, 1900	10	8.3
B 9152	April 27, 1893	10	8.5
B 16088	June 3, 1896	12	8.9
B 16253	June 11, 1896	13	8.7
B 18916	April 22, 1897	10	8.3
B 3750	July 8, 1889	10	7.7
B 8622	May 14, 1892	10	9.0
B 9642	June 22, 1893	10	8.9
B 37458	May 22, 1907	10	8.8
B 29368	April 14, 1902	10	8.7
B 28032	July 26, 1901	10	8.2
B 23492	July 17, 1899	10	8.5
B 27180	April 15, 1901	60	8.6

An exam. of the above plates shows a variation of about 1.5 magn. 7.5 to 9.0. Conf. by L.D.W. W.P.F. Oct. 1, 1908.

This has been announced by Miss Leavitt. See Circ. 130 Published in Aug 1907

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1905phae.proj..818F

October 3, 1908.

Exam. of plates to det. approx. amount of change in No. 6567, Mc5d? var. on I 34988. BD. +64° 1176 $17^h\ 7.^m8$ +64° 28′ (1900) 9.2.

Plate	Date	Ef.	Est.
I 18791	Sept. 14, 1897	10m	8.8
I 15613	Aug. 7, 1896	11	10.0
I 22887	May 17, 1899	13	9.3
I 29011	July 13, 1902	12	9.9
I 16450	Nov. 3, 1896	12	8.9
I 12771	May 2, 1895	10	8.8
I 29363	Oct. 16, 1902	11	8.9
I 28927	June 28, 1902	26	9.6
I 9246	Aug. 15, 1893	13	9.6
I 34143	July 18, 1906	20	9.4
I 3180	Feb. 22, 1891	12	9.7
I 27309	~~Oct.~~ Aug. 14, 1901	35	9.6
I 29255	Sept. 10, 1902	18	9.8

On exam. of the above plates shows a variation of about 1.2 magn. Limit 8.8 to 10.0. Confirmed by L. D. Wells.
W. P. F. Oct. 3, 1908.

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1905phae.proj..818F

October 3, 1908.

Exam. of plates to det. approx. amount of change in No 14596 Mds var? on B38166. $19^h\ 19.7^m - 20°\ 18'$ (1900).

Plate	Date	Ref.	Est.
B 23108	June 19, 1899	11m	9.7
B 9240	April 30, 1893	10	< 10.5
B 22170	Nov. 11, 1898	10	< 10.8
B 32081	July 1, 1903	60	12.5
I 17845	April 12, 1897	10	< 10.5
I 23669	Sept. 27, 1899	16	< 11.1
I 26904	April 26, 1901	58	9.3
I 23692	Sept. 30, 1899	10	< 11.0

✓ An exam. of the above plates shows a variation of about 3.2 magn. Limits 9.3 to 12.5. Corf. by L. D. Wells.
W.P.F. Oct. 3, 1908.

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1905phae.proj..818F

October 3, 1908.

Exam. of plates to det. approx. amount of change in
No 14514 Type IV, var? or B38062. DM -18°4634 17h39m.1 -18°37'(1900) 8.5.

Plate	Date	Exp.	Est.
B 35769	April 5, 1907	10	8.5
B 21076	Mar. 26, 1898	10	8.8
B 6092	May 28, 1891	10	8.7
B 29258	April 2, 1902	10	9.2
B 22791	May 9, 1899	12	8.8
B 27972	July 24, 1901	10	9.0
B 16035	May 30, 1896	13	9.5
B 16517	June 29, 1896	20	9.8
B 9404	May 8, 1893	10	9.2
B 31728	May 7, 1903	10	8.5
B 30588	Sept. 13, 1902	14	9.5

Suspected by Birmingham M.N. 34, 412.
An exam. of the above plates shows a variation of about
1.3 magn. 8.5 to 9.8. Var. Conf. by L. D. Wells. W.P.F. Oct. 3, 1908.

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1905phae..proj..818F

October 3, 1908.

Exam. of plates to det. approx. amount of change in
No 6591 Type III Mc 5d var. on I 34973. DM. -11°6062 23h 15m 12.s9 -11° 37'.0 9.4
23h 17m.5 -11° 22' (1900.

Plate	Date	Exp	Est.
B 14560	Sept. 7, 1896	10m	9.4
B 28681	Oct. 7, 1901	10	8.8
B 21692	June 14, 1898	10	8.5
B 12274	Sept. 27, 1894	10	8.9
B 13963	July 3, 1895	10	8.6
B 20188	Aug. 27, 1897	10	9.3
B 25652	June 27, 1900	10	9.8
B 28091	July 27, 1901	10	9.0
B 37074	Oct. 6, 1905	10	8.4
B 6707	Aug. 13, 1891	10	8.8
B 32710	Oct. 9, 1903	12	9.2
B 14747	Sept. 28, 1895	10	8.7
B 11293	May 23, 1894	60	8.7
B 22134	Nov. 3, 1898	11	8.6
B 20819	Nov. 22, 1897	12	9.0
B 30177	June 25, 1902	10	9.1
B 10540	Oct. 26, 1893	10	9.0
B 19797	July 6, 1897	10	8.8
B 10541	Oct. 26, 1893	10	9.4
B 32783	Oct. 19, 1903	64	8.8
B 24119	Sept. 11, 1899	10	9.4

Additional plates examined fail to show a variation greater than 0.4 magn. This, although small, may be a real change in the light of the star.

W. P. F. Oct. 13, 1908.

See page 171.

An exam. of the above plates shows a variation of about 1.0 magn.
Limit 8.4 to 9.8. Var. Conf by L. D. Wells. W. P. F. Oct. 3, 1908.

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1905phae.proj..818F

October 5, 1908.

Exam. of plates to det. approx. amount of change in No. 14573 Rec. var. in B 38099. Aeq. 23909. Com. -41° 11893 $17^h 33^m.4$ $-41° 3' 51''$ (1900) 7.8.

Plate	Date	Ex.	Est.
B 15141	Nov. 13 1895	15m	12.5
B 38338	July 17, 1889	64	11.8
B 27911	July 18, 1901	60	12.5
B 29481	April 28, 1902	10	12.2
B 17535	Oct. 1, 1896	37	13.1
B 36893	Sept. 6, 1905	10	11.4
B 9811	July 17, 1893	122	13.2
B 15529	April 6, 1896	30	12.8
B 15704	May 4, 1896	20	13.2
B 31528	April 24, 1903	75	13.0
B 31403 9811	April 3, 1903	61	13.4
B 33806	May 23, 1904	12 3	12.3
B 36956	Sept. 9, 1905	10	11.5

Our exam. of the above plates shows a variation of about 2.0 mag. Limit 11.5 to 13.4 Var. Conf. by L. D. Wells. W. P. F. Oct. 5, 1908.

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1905phae..proj..818F

October 5, 1908.

Exams of early and late plates to show proper mo +12° 4794 Lalande 43492.

Plate	Date	Ex.
I 4220	Sept. 14 1891	10m
I 34158	" 12, 1906	125

Shows proper motion in +12° 4794, and small suspected change in position of star mag 11.5 prec. & south.

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1905phae.proj..818F

October 5, 1908.

Exam. of plates to det. approx. ~~change~~ amount of change in No. 6875, Type III Md 8. R.A. $17^h 30.^m9$ $+54° 4'$ (1875)
$17\ 31.8\ +54\ 2$ (1900).

Plate	Date	Exp.	Est.
I 33170	July 9 1903	40^m	9.5
I 11450	Sept. 13 1894	10	10.4
I 8868	July 21, 1893	14	<10.7
I 25157	April 14, 1900	10	<10.8
I 17902	April 18, 1897	27	<10.9
I 21511	Oct. 17, 1898	15	<10.5
I 23180	July 18, 1899	10	<10.8
I 34228	Sept. 6, 1906	37	10.5
I 27152	June 29, 1901	16	10.5
I 29218	Sept. 2, 1902	17	<10.5
~~I 27339~~	~~Aug. 22, 1901~~	~~17~~	~~Too poor~~
I 29218	Sept. 2, 1902	17	<10.8
I 19011	Sept. 25, 1897	13	<10.6
I 4176	Sept. 9, 1891	11	<10.0
I 15690	Aug. 12, 1896	12	<10.8
I 22956	May 26, 1899	10	<11.0
I 6529	July 8, 1892	11	<11.2
~~I 9491~~	~~Aug 13, 1893~~	~~11~~	~~Too poor~~
I 18754	Sept 11, 1897	14	<11.2
I 35445	Sept. Aug. 20, 1908	65	[8.8]
I 35480	Aug. 31, 1908	20	9.0

An exam. of the above plates shows a variation of about ~~1.7~~ 2.2 magn. in the above star. Limit ~~9.0~~ to <11.2. Var. discf. by L. D. Wells.

W. P. F. Oct 5, 1908.

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	-111	+15					-115	+9	+4	+6
	-105	+54					-109	+50	+4	+4
	+29	+18					+28	+22	+1	-4
	"	"					+48	-114	..	..
m	-162	+57					-160	+54	-2	+3
o	-219	+39					-217	+37	-2	+2
p										
q										
r										
s										
t	+126	-24	+127	-33	-1	+9	+123	-16	+3	-8
u	+183	-115								
w	+78	-189								
x	+6	-72	+6	-72	0	0	+3	-70	+3	-2
y	0	+17	-1	+18	+1	+1	-4	+18	+4	+1
	+58	+36	+63	+36	-5	0	+55	+37	+3	-1
	4	-23	-5	-18	+1	-5	-7	-18	+3	-5
	2.47		Cl...		2-5 / 8	10-5 / 5	~~Barnard~~ Parkhurst		25-4 / 15	5-21 / 10

219

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1905phae.proj..818F

October 6, 1908.

Exam. of plates to det. approx. amount of change in No. 14400, Type IV var? on B 37662 C.P.D.-57°4494. 11h 10m 9.1 -57° 14.8 (1875) 10.0

Plate	Date	Exp. m	Est.
B 22872	May 20, 1899	11	9.0
B 29061	Jan. 3, 1902	10	9.5
B 30077	June 12, 1902	10	9.1
B 25185	April 30, 1900	62	8.8
B 21120	April 2, 1898	11	9.1
B 18179	Dec. 1, 1896	10	9.3
B 15966	May 28, 1896	10	9.5
B 29557	April 30, 1902	10	9.5
B 19646	June 30, 1897	10	9.6
B 21774	June 24, 1898	14	8.9
B 11152	May 17, 1894	10	9.8
B 15239	Dec. 16, 1895	15	10.0
B 27169	April 13, 1901	62	9.8
B 38632	May 13, 1905	19	9.3

An exam. of the above plates shows a variation of about 1.2 mag. in the above star. Limit 8.8 to 10.0. Var. Conf. by L. D. Wells.

W. P. F. Oct. 6, 1908.

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1905phae.proj..818F

October 6, 1908.

Exam. of plates to det. approx. of change in
No. 15022 Md[8]. var. on B38573. R.A. 16[h] 25[m].0 −46° 4′ (1875).
[Md[8]. H[8] 6v.] 10 26.0 −46 12 (1900).

Plate	Date	Exp.	Est.
B 29354	April 14, 1902	11[m]	10.8
B 27046	March 30, 1901	10	11.9
B 13637	June 5, 1895	10	<11.9
B 33114	March 9, 1904	11	<11.9
B 13196	May 9, 1895	10	<12.0
B 26985	March 19, 1901	60	11.6
B 5296	May 28, 1890	10	11.0
B 5178	May 13, 1890	60	10.5
B 18447	Jan. 30, 1897	10	<12.0
B 35450	Jan. 10, 1905	10	<11.7

√ An exam. of the above plates shows a variation of about −1.5 mags. in the above star. Var. conf. by L. D. Wells.

W. P. F. Oct. 6, 1908.

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