KG
11366
209

1925phae.proj.1211w

Ida E. Woods
Book 33
Objects looked up for outsiders
or others at H.C.O.

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1925phae.proj.12117

Harvard College Observatory

Ida E. Woods

Book No. 33

Objects looked up for others at H. C. O.
or for outsiders.

Continued from Bk. 25.

References given to letters, when possible.

Continued in Bk. 44.

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KG 11366.209

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Index, Book 33

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4 – 9	144523	RY Bootis for Dr. Shapley.
12 – 18	$14^h 23^m$ $-62°$	Proxima Centauri " Dr. Luyten
22		Schain's Comet
26		Reid's "
32 – 45	110061	Hertzsprung Susp. Var. $-61° 2062$
60 – 72		
46 – 59		Asplind Planet 1901 H.A. (315) & Constantia
84, 85		
74 – 78	205923	Waterfield Susp. Var. $+23° 4227$
80 – 83		Watson's Nova
92 – 109	063462	Nova Pictoris
166 – 167		
214 –		

110 – 113	185803	Dr. Shapley, Var. Susp. at Nantucket
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116 – 151	210609	Prof. Frank E. Ross Susp. ~~Var.~~ Nova
153 – 157	231749	" " " " "
158		Dr. Fisher Iden. Peltier's Comet
159 – 165	024534	Prof. Ross $+34° 531$
168 – 180	085300	Mr. Pogo, Yerkes, Var.
182 – 206	052111	Prof. Ross $+11° 809$
212, 213	$23^h 30^m +16° (1875)$	" " Vars.

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4

Reported to Dr. S.

Monday, March 2, 1925.

Requested by Dr. Shapley.

H.D. 14^{h}45^m var. F5 — RY Bootis 14 45.2 +23 27 7.2 F4
+23° 2744

No print. Marked I 10878, AI 2245 (15+30)
AC 11512 (15+15)
AX 97 (14 + 30)

Normal = slightly fainter than +24° 2803
H.D. 14^{h}54^m pg 7.44 F0 — 14 52.4 +24 45 (1855) 6.8 (F0)
brighter than +25° 2839
HD 14^{h}44^m pg 7.78 K0 — 14 42.9 +25 46 (1855) 6.8 (K0)

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1925phae.proj.121.W

Bibliography: —
Harvard Card Cat.
— 34:1911 F5
— Name assigned – Notes. Com. Gesell. AN. 191, 343
— 34:1911 — Found by P. Guthnick
P = 9.0 δ Cephei type AN 189, 63
— 1919-21 Light Curve
Max = 2419029.1 + 9.d0072 E
K. Schütte AN 218, 161

Geschichte und Literatur des Lichtwechsels sp.
8 28 14 45 14 +23 26.8 14 43 13 +23 38.2 —
7.1 – 7.4
BD +23° 2744 (7.0)
AG Berl. B 5179 (7.1) = Par 3 18274 (7)
Guthnick – AN 4516
Anzeige der Entdeckung und vorl. Elemente
Müller und Kempf.
Photom. Mess. an einzelnen Tag.
1894-1906 (Potsd. Publ. 17, 161 u. 291.)

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AN 218, p. 161, see also Tafel I.
Observations d Comte I Schütte

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1925phae.proj.121.tif

Plates examined: Variable apparently normal:

ac Plates & Regions 14^h, 15^h, $+15°$, $+30°$

ac	115-12	March 20, 1910
ac	20732	November 25, 1918
	21023	Jan. 30, 1919
	21235	March 3, "
	21248	" 7, "
	21419	May 5, "
	21603	July 13, "
	21647	July 30, "
	21773	Sept. 4, "
	21885	October 8, "
	22272	Jan. 15, 1920
	22304	" 21, "
	22489	March 6, "
	22642	May 17, "
	22708	July 4, "
	22760	" 20, "
	22777	" 27, "
	23221	Jan. 3, 1921
	23251	" 8, "
	23311	" 21, "
	23331	" 24, "
	23440	Feb. 14, "
	23514	March 10, "
	23521	" 11, "
	23633	April 13, "
	23671	May 9, "
	23717	" 24, "

27

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ae	23738	May 30, 1921	
	23771	June 7, "	
	23834	July 5, "	
	23848	" 17, "	
	23941	August 10, "	
	23977	Aug. 19, "	
	24104	Sept. 16, "	
	24149	" 26, "	
	24557	Dec. 31, "	
	24646	Feb. 17, 1922	C
	24648	Feb. 20, "	C
	24660	March 2, "	C
	24704	April 2, "	
	24757	May 16, "	C,
T5	25198	March 21, 1923	C'

am	15586	May 13, 1921	
	15624	June 28, "	

aX	37	Feb. 10, 1923	C
	40	" 14 "	C
	45	" 16, "	C
	53	" 19, "	C
	100	May 6, "	C
	97	April 21, "	C
	142	July 11, "	
	396	Jan. 3, 1924	C
	454	" 14,	
	141	July 9, 1923	

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AT 454 January 14, 1925
474 " 30, "

AI 2245 March 20, 1904
2507 June 23, "

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1925phae.proj.121.11

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1925phae.proj.1211W

Monday, March 16, 1925.

A Wandering Star?

Dr. Shapley for Dr. Luyten.
Proxima Centauri. $14^h 23^m -62.^\circ 3$ (1900)
Print from D 19443 — a 5373 (Dir. 1.0)

Conf. Seq.
83 KS B 44608 Magns. 34:111 48:128

Carte 14^h -64° B 50107 Magns. 35:188

W.J.L. Marked this star on print.
D.E.W. marked it on

B 27917	1901
44608	1914
50107	1917
a 5373	1901
a 10050	1910

and finds it changes position as given in Stitches, p. 13. !

B 40370 1909 Est. = 14 83 KS

Also, doesn't it vary?

B 3403 June 4, 1889 Eff. 64^m
53517 April 6, 1923 15

(See p. 16, also)
Magn. = about 12.6 to 8
Corr. Magn.

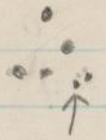
Magn: a good deal fainter than x
a little brighter than y

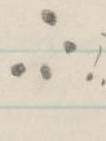
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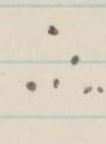
1925phae.proj.121.tif

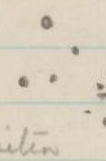
Confirm that the star marked x is not confused with wandering star

(Approx. Values only —)

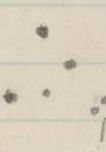
B27917  abmt = 14 of B44608 (33Ks)
= 10? of 50107 (Coulter) 12.1

B50107  < 12? on B50107 (out of focus)
much fainter than x

B44608  < St 13 on B44608
much fainter than x

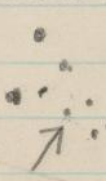
A10050  ~12 of 33 KS (11.6)
equals x ? (This is a pl.)

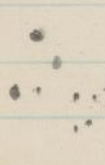
B40370
similar to this position

A 5373 from which print was made (D 19443) 

B 27917 and A 5373 are practically alike -
(See dates — both 1901)

Extreme motion noted —

B 3403 (1889) 

 B 53517 (1923)

see also A plates at 140-60, 1924.

(all stars in 2 sketches are in common except this star, marked by arrow.)

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1925phae.proj.1211W

14 Range of 35 years showing motion

Also, pos. of 1924 on a 12
marked in red ink approx. places of 1889 & 1923
on a 10050.

Meas. = 2.5 mm. Diff. yr. = 34

34 yr.) 2.5 mm
238
120
136

.074 mm per year =
60"
4".44 &
2.13 = sec. P =
15) 9".4572
0".63 sec. per year

4".44
3".84.

Or 2.5 mm = diff between plates given
60
150".0
2.13 sec P
15) 319.5 s
34) 21.3 diff for 34 yr.
0.s6 motion per year
toward preceding
and slightly north

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1925phae.proj.121.17

2 12916, April 29, 1924.

33 Ks.

Magns. marked on B 27917

		Corr.	
13	12.03	+0.24	12.27
14	12.57	+0.25	12.82
15	13.14	+0.26	13.40
16	13.49	+0.26	13.75
17	14.23	+0.25	14.48

Carte 14.0 -64

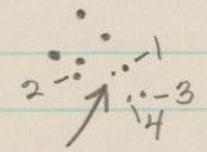
10	11.87	+0.24	12.11
11	12.07	+0.24	12.31
12	12.88	+0.25	13.13
13	13.36	+0.26	13.62
14	13.40		
15	13.72		

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Prox. Centauri

Magn. Does it vary?



Normal or Br.

B 26953, 44608, 35747, * 27301, 27917

Star is always between 1 & 3. 2 is composed of two or more stars.

Is Prox. Cent. a little nearer in magn. to 3 on some plates, or is this wholly photographic?

* ——— Seen by Miss Cannon — uncertain.

Fawler?

B 3 3613
3403
* 23845
* 22524
19303

Largest images on A plates. Are these comparable?

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All plates which were examined. Star is constant unless the slight change on plates p 16 can be proved.

		Exp.
B 3403	June 4, 1889	64m
3741		
11201	May 31, 1894	10
15818	May 12, 1896	10
19303	June 1, 1897	12
21240	April 18, 1898	10
22524	April 7, 1899	7
22951	May 31, 1899	240
23845	August 15, 1899	10
26953	Feb. 21, 1901	60
26976	Feb. 26, "	60
27301 27708	May 10, " June 20 1901	10 Slide 2384 60
27812	July 5 "	60
27917	" 19, "	60
29592	May 1, 1902	60
30103	June 17, "	10
31940	June 3, 1903	10
33613	May 4, 1904	15
35747	April 1, 1904	10
37731	July 3, 1907	11
40370	May 30, 1909	10
44608	June 16, 1914	10
50107	April 17, 1917	10
53517	April 6, 1923	15
53637	April 25, "	15 Iso

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A plates 1 region

A	1814	June 3, 1896	Exp. 65m
	1953	July 27 "	60
	2508		
	5307	June 6, 1901	10
	5373	June 17 "	240
	5376	June 18, "	240
	8251	April 21, 1907	11
	8920	July 6, 1908	60
	9462	June 28, 1909	12
	9482	June 29, "	11
	9588	July 26, "	11
	10050	May 2, 1910	120
	12411	June 3, 1923	49
	12426	June 10, "	65
	12481		55
	12893	April 10, 1924	60
	12916	April 29, 1924	60

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Friday, March 27, 1925

Schaim's Comet, 11th Magn.

MC 21369 March 24-25, 1925 taken for object.
Shows ft. obj. at 11 42.0 +2.2
(Approx. 1855)

AC 25812 March 16-17 Looked up region
but probably too faint an object.

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Reid's Comet. 8th Magn.

AI 23938 14 - 20 March 19-20 Ef. 138m
Comet not seen
23951 73 -20 March 23-24 102
Not found.

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Monday, March 30, 1925.

For Dr. Luyten.

5 7.7 -.44 59

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Reported to Dr. S. in letter sent May 2.

Saturday, April 4, 1925. J. 32 to 45, 60 to 72

For Dr. S.

Letter of Ejnar Hertzsprung, March 4, 1925.

Variability suspected in C.P.D. -61° 2062

C.P.D. -61° 2062 10h 59m 31.5s -61° 54' 1 9.4 (1875)

abmt 1½ magns fainter on X plates in 532 (on 146 nights)

"As this is a very unusual rate, it would be of particular interest to see if Harvard plates show it faint."

Plates showing Min = J.D. 2424190.4076 } Heliоc.
.4304 } M. ast. T. Grw.

Taken — "in order to detect variable stars, the periods of which coincide with moonshine in such a way as to practically prevent their discovery under usual circumstances, I took two plates, each with an exposure time of 30 minutes with the Franklin-Adams instrument during an eclipse of the Moon."

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Comp. Sequence η Carinae (29 Ks)
as marked in B 46630.
Magnus. Bb. 44, f. 196

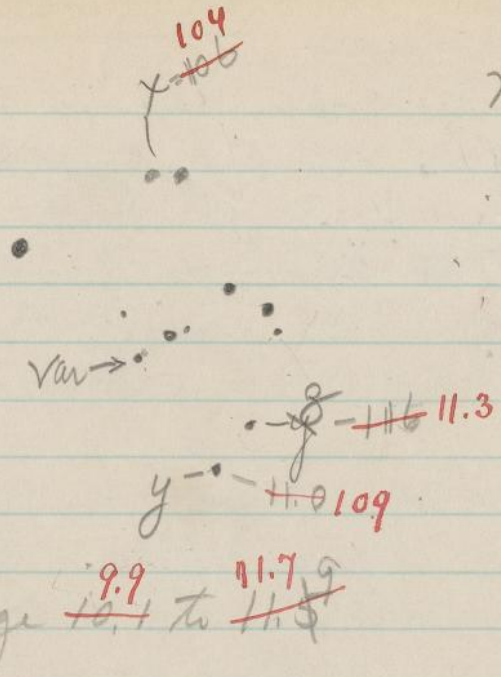
	1	8.4
Corr.	2	8.9
1922	3	9.6
Magnus.	4	9.5
	5	9.9
	6	10.5
	7	10.8
	8	11.0
	9	11.4
	10	11.7
	11	11.8
	12	12.1
	13	12.2
	14	12.5
		etc

R S Centauri 111661
Bb. 44, f. 202.
B 47165
d = 10.0 one meas.
Corr. = 10.2 only.

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Red inks = final adopted magns. (Colr. Magns.)



Marked on B19265

Magns. determ. on Am 14629
Also, compare Am 10433

Range ~~10.1~~ 9.9 to ~~11.5~~ 11.7

a) Compared with seq. 29 KS on Am Pl.
b) " " 30 KS on B 47116
c) " x with 30 KS y & z by Grades on B 47116

Magns. marked on plate and confirmed by Miss Cannon.		(a)	(b)		(c)	Mean
	x	10.6	10.3		10.4	10.4
	y	11.0	10.8	(5)	10.9	10.9
	z	11.6	11.2	(3)	11.2	11.3

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Page Superseded
Images revised slightly later.

21428 shows ft. stars Max. 13924 am

On Am 14629, 10h 30m -60°, Var. is abut .2 brighter
Than 6 of 29 Ks
(6 = 10.5) Var = 10.3 a little brighter than 6

→ X, f. 35, ~~about = to~~ var on some (?) B plates, apparently.
Star marked X f. 35 is (9-10) nearly 9 ?
(9 = 11.4) about 11.4 or 11.5

* On B10836 Var. = abut 11.6
This is near edge of film but stars
nearer edge show full value of Magn.
If accepted as perfect image, this plate
shows Var. at or near Max.

see 47165 June 8 normal
Also, 47117, 47116 Both June 7, 1916
If ~~Normal is~~ Am 14629 is Normal,
Var. = 10.3
(Corr. Magn. used ?) → Range = 10.3 ± 11.6 X 5
Proof, under equal conditions of edge of
film, 10836 and
B 24590 or 12834
Proof Am 13924 - 11896
Good Am plates will also show full range

Abut 5 on many plates ?
Var. x a little brighter than x or Am 14629

On B47165 Var. abut = d of RS Cent., or
(Seq. of RS Centauri marked.) a trifle brighter.
d = 10.2
Var. = 10.1

Brightest (?) 13199, 16969, 24882, 18804

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Variable faint See f. 45
same plates
Eff.
Revised

B 10836 April 3, 1894 10m See note, f. 36 11.2 ~~11.5~~

faint: normal (* 47116 June 7, 1916 10 Age of Mom 6.7d 11.0 ~~11.1~~
D 2421032 47117 June 7, 1916 10 11.1 ~~11.0~~
2421371 *50635 May 22, 1917 10 Not Min. Age of Mom 1.5 10.7 ~~10.8~~

11.1
2420315 Am 9915 July 1, 1914 50 ~~Not Min.~~ Age of Mom 7.9d ~~11.4~~

(*see 47165 June 8, Normal)
*see May 20, Normal

2420843 Am 11487 Dec. 11, 1915, 65 Mom. 4 11.2 ~~11.5~~
faintish *21020 11896 June 5, 1916, 36 4.7 11.7 ~~11.9~~
" *20668 10704 June 19 1915 30 Slide 3701 11.7 ~~11.8~~
21724 13974 May 10 1918 60 Mom. 29.3 ~~11.8 < 11.7~~ ~~11.5 > 11.2~~ Barely seen 11.7

omit in list of Min. 15188 May 15, 1920 63 ~~Slightly~~ fainter than Mom ? ~~10.8~~ ? not Min. 10.7

15579 May 10, 1921 60
Possibly slightly fainter than Normal.
Not meas.

MF 3442 Apr. 29, 1919 10 11.2
Am 14662 " 30, " 60
If a good image, is below Max. Perhaps 10.6

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1925phae.proj.1211W

Good maps 16301, 18346

D.5-11.5
56-66

Var. Normal.

A change of perhaps .4 is included in these plates; always at or near May, Eff.

B 3315	May 17	1889	32
3539	June 16	"	60
5001	May 1,	1890	12
7264	Nov 17,	1892	60
7584	?		
9191	April 28,	1893	10
9291	May 2,	1893	12
9420	May 10,	"	78
10752	Dec. 16,	"	95
10882	April 12,	1894	10
V 10807 10924	?		
11086	May 3,	1894	?
11141	May 15,	1894	?
11302	May 25	"	?
11317	May 28	"	242
12536	Nov. 12,	"	10
12818	Feb. 20,	1895	
12988	April 9,	"	10
13199	May 9,	1895	10
13477	June 1,	"	10
13521	June 3,	"	10
15111	Nov. 5	"	10
15140	Nov. 12,	"	26
15635	April 23,	1896	10
15721	May 9	"	10
16301	June 13,	"	10
16379	June 16,	"	10

slide 673

28

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1925phae.proj.121:W

Variable Normal

B	16634	July 3, 1896	Eff.	12
	16844	July 14, "		61
	16866	July 17, "		14
Brighter?	16969	July 21, "		15
	17032	July 31, "		91
	17106	August 13, "		10
	18270	Jan. 4, 1897		?
	18290	Jan. 8, 1897		
	18321	Jan. 15, 1897		10
	18346	Jan. 21, "		19
	18466	Feb. 1, "		14
	19263	May 29, "		10
	19265	May 29, "		11
	19471	June 9 "		15
	19668	July 1 "		13
	19669	July 1 "		12
	21036	March 17 1898		10
	21120	April 2, "		11
	21171	April 12, "		10
	21173	Apr. 12 "		10
	21266	Apr. 26, "		10
	21300	Apr. 28, "		8
	21328	" 30, "		14
	21428	May 18 "		15
	21557	June 1, 1898		?
	21565	June 7, "		10
	21566	June 7, "		10
	21732	June 21, "		12
	22328	Dec. 14, "		10
	22644	April 28, 1899		10
	22810	May 10, "		10

Slide 950

Slide 1088

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1925phae.proj.1211W

Variable Normal

B 24652 Jan 30, 1900 Eff. 10m
24734 Feb. 23 " 10
24882 March 23 " 10
26857 Dec. 28, " 10
26941 Jan. 30, 1901 10
26967 Feb. 25, " 60
29561 April 30, 1902 10
36032 May 13, 1905 10

✓ 3601 Slide 716
3559 June 16, 1889 60
12834 May 5, 1895 10 extreme edge
15180 Nov. 18, " 10
15151 Nov. 13 " 13
15181 Nov 18 " 25
15190 Nov. 20, " 21
15211 Dec. 13, " 60
15212 Dec. 13, " 60
15239 Dec. 16, " 15
15365 March 2 1896 ?
15420 March 16, " 10
15503 April 2, " 10
15556 April 8, " 60
15626 April 18, " 12
18629 Mar. 12, 1897 18
18859 April 21, " 10
19072 May 12, " 13
19470 June 9, " 16
25490 May 29 1900 68
27574 June 6, 1901 61

29

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1925phae.proj.121.tif

Variable Nomad

B 29557 April 30, 1902

			Eff.	
~~find~~	B 5061	May 5, 1890		Slide 452
~~find~~	5134	May 9, "		Slide 2190
~~find~~	5219	— ?,		Slide 455
~~find~~	9472	May 18 1893		Slide 663
	10752	Dec. 16, "	.95	
	13478	June 1 1895	10	
	15131	Nov. 11, "	18	
	16219	June 10 1896	12	
~~find~~	~~16624~~			~~Cracked~~
	18179	Dec. 1, "	10	
	18427	Jan. 28, 1897	10	
	18513	Feb. 3, "	11	
	18669	Mar. 23, "	10	
~~find~~	18702	Mar. 24, "	12	Cracked
	18802	April 19, "	12	
	18804	April 19, "	10	
	18900	Apr. 22, "	—	
	19074	May 12, "	13	
~~find~~	21172	April 12, 1898	10	Slide 975
	21329	Apr. 30, "	14	
	21361	May 2, "	10	
	27084	Apr. 9, 1901	14	
~~find~~	29043	Dec. 28, "	10	Slide 2157
	31365	March 9, 1903	10	
	31656	May 6, "	10	
~~find~~	33194	March 26, 1904	11	Slide 3286
	33559	May 3, "	10	
	35351	Dec. 6, "	10	

27 +

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1925phae.proj.1211N

Variable Normal

B	36009	May 12, 1905	Ep. 10m
	36017	May 12, "	12
	36034	May 13, "	10
	38444	March 9 "	10
	38621	April 9, 1908	13
	39240	June 25, "	28
	39241	" 25, "	16
	40005	April 7, 1909	10
	41281	May 17, 1910	15
	44761	July 15, 1914	10
	46347	March 28, 1916	10
	46412	April 5, 1916	10
	46468	April 8, "	10
	46469	" 8, "	10
	46470	" 8 "	10
	46542	May 1, "	10
	46606	May 10, "	10
	46608	" 10, "	10
	46753	" 21, "	10
find	46786	May 23, "	10 Cracked
	46812	" 25, "	10
	47165	June 8, "	10
	49635	March 24, 1917	10
	49879	April 12, "	10
	49924	April 13, "	10
	49927	" 13, "	10
	50036	" 16, "	10
	50152	" 21, "	10
	50205	" 29, "	10
	50217	" 30, "	10
	50221	" 30, "	10

3V

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1925phae.proj.121W

Variable normal

B 50325 May 8, 1917 Ep. 10~
~~52302 April 3, 1918 10~
50346 May 9, 1917 10
50372 May 12, 1917 10
50405 May 13, " 10
50552 May 19, " 10
50554 " 19, " 10
50590 " 20, " 12
50592 " 20, " 10
50744 " 27 " 10
50748 " 27, " 10
50778 " 30, " 10
50779 " 30, " 10
50924 June 10, " 10
50950 June 11, " 10
50974 " 12, " 10
52265 April 2, 1918 10
52298 Apr. 3, " 10 triple families?
52302 " 3, " 10
52648 Apr. 30, " 10
52696 May 1, " 10
52772 May 8, " 10
52961 June 5, " 10

22

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1925phae.proj.1211N

Ft. stars A 2513

A plates showing Var. Normal

		Exp.
a 1804	May 30, 1896	60m
2242	April 22, 1897	20
2250	April 26, 1897	20
2268	May 10, "	10
2513	June 29 1897	187
2521	July 2, 1897	72
2958	April 2, 1898	10
7747	June 26, 1906	10
7748	June 26, "	10
7750	June 26 "	10
7751	June 26 "	10
7753	June 26 "	10
8240	April 17, 1907	10
8773	May 29, 1908	10

* Cannot find — broken — look up later

a 2484 "
2530
5824

Var. Normal
8 x 10 A plates

		Exp.
a 7685	May 24, 1906	10m
10928	June 2, 1914	10
11255	June 5, 1915	33
11261	June 6, 1915	36

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1925phae.proj.121.tif

Continued on page 60

Hertzsprung's Var. Nimina: see, also, p. 37

Mid Ef.				Beg.	End.	Eff.	J.D.	
11 55	11.6 B	10836	April 3, 1894	11h 45m	11h 55m	10m	2412922.658	.165 .492 .658
14 28	11.1 Am	9915	July 1, 1914	14 3	14 53	50	2420315.526	526 .924 .601 .526
12 42	11.7 Am	10704	June 19, 1915	12 27	12 57	30	20668.487	.958 .528 .487
8 10	11.2 Am	11487	Dec. 11, 1915	7 38	8 43	65	20843.817	.477 .339 .817
12 24	11.7 Am	11896	June 5, 1916	12 06	12 42	36	21020.510	.994 .515 .510
12 14	11.0 B	47116	June 7, 1916	12 9	12 19	10	21022.497	.988 .508 .497
12 26	11.1 B	47117	" 7, "	12 21	12 31	10	21022.506	.988 .517 .506
10 53	10.7 B	50635	May 22, 1917	10 48	10 58	10	348.979 21371.485	.032 .452 .485
12 12	11.7 Am	13974	May 10, 1918	11 42	12 42	60	353.089 21724.574	.066 .507 .574
11 24	10.6 MF	3442	April 29, 1919	11 19	11 29	10	353.997 22078.571	.096 .474 .571

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1925phae.proj.1211N

Asplind, Karlstad, Sweden

Letter of March 26, 1925.
Planet 1901 HA and Constantia (315)

See Bk. 25, p. 178

B 28570 further search was made
for Alice of 1901 – Wolf – were not
found. Undoubtedly at or beyond
limit of plates in magn.

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1925phae.proj.121.tif

Report of Available plates, dates, limiting magnit., regions exam'd given to Dr. Shapley May 5, 1925.

Many defects on plates but probably not this asteroid.

Regions as given were examined by superposition.

Also, the nearly portion of plate to his position was also examined for any peculiar, trailed, image.

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1925phae.proj.1211N

Places of 1901 HA as given with letter of Asplind.

Ans | Search for A or long exp. B & I
And series
Not repan.
Asteroids
Tou faint

March 10, 1894 $11^h\ 2.9\ +9°\ 9'$
No A, B, I plates

June 23, 1895 17 54 -26.0
No A, B, I,

Sept. 12, 1896 23 21 -7.1
No a, B, I
~~B 17391 St 23.1 -7.5~~ ~~Sept 7~~ | ~~17405 St 23.5 -7.5~~

December 14, 1897 5 7 +25.4
a 29302 Try a 2929 Dec 20 5 10 +25
No B, I

Mar. 17, 1899 11 37 +5.2
No a, B, I

June 30, 1900 17 30 -26.1
No a, B, I

Nov. 21, 1902 6 15 +25.9
No a, B, I

Mar. 24, 1904 12 10 +1.1
No a, I
B 33129 12.4 +3 Mar 16
33188 12.1 +3 23

1.51 ✗

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1925phae.proj.121.tif

July 6, 1905 18 11 -26.6
A 7398 July 8 17 40 -31
Tiny ✕ would not cover 8×10 Eff 96
July 10 B 36385 18.5 -27

Oct. 1, 1906 0 18 -0.1
no a, B, I

Dec. 28, 1907 6 31 +26.4
no a, B, I

March 31, 1909 12 44 -3.1
no a, B, I

July 13, 1910 18 52 -26.3
no a, I
July 14 18.8 -23 B 41633
July 18 18.8 -23 41693

Possible plates:
A 2929 Dec. 20, 1897

B 33129 March 16, 1904
33188 " 23, " } see p. 51.

A 7398 July 8, 1905 8×10 Does not cover.
B 36385 " 10, " see p. 52

B 41633 July 14, 1910
B 41693 " 18, "

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1925phae.proj.1211W

Exam. of Plates:

				Daily Mot.	
Dec. 14, 1897	5	6.9	+25	25	−1.0 +1.2
	−6.0	+	7		6d
Dec. 20	5	0.9	+25	32	6.0 7.2

a2929 Dec. 20, 1897 ~~Exam 4h 52m to 5 +2~~ (edge of pl.)
+23° to +27.2 (edge)

~~Field pl. [illegible]~~ Compared with a

a2930 Dec. 20, 1897 Exp. 23m
2929 & 2930 superposed —

Region 4h 52m to 5 12 +24.5 to +27.2
Superposed 2929 & 7475
Equinox of Carte 5h +25°
2930 shows Star 13 = 13.68 Vol. 85, No. 1, p. 21
Corr Magn. = 13.9
2929 nearly 13.5

Sept. 8.
See new letter, July 1, 1925
position — Dec. 20, 1897 — 5 1.3 +25 19
marked on a2929 (or I 27797)
DM +25° 789 5 1.4 +25 30 9.5 (1855)

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1925phae..proj..121W

March 24, 1904 12 10 +1.1

B 33188 Mar. 23, 1904 Eff. 10m
Exam. ✓ (Region 12 0 to 12 20
-2° to +7°
Comparison made, superposed on B 15909
Sequence of Carte 12h.0 +5° on MC 4857
Magnit. ~~in Bh. 32, f.~~ Vol. 85, No. 1, p. 31,
Limit of 33188 a trifle fainter than Star 9=12.4
(Corr) 12.6 ; Limit perhaps 13.0

B 33129 March 16, 1904 Eff. 11
Defect or another Ast. Probably, by position,
Obj. 12 28.0 +4.8 (1855) Br. not 1901 HA

Reg. 12 8 (edge) to 12 20
+7° to -2°
superposed on 33188
In exam. over more R.A. of 33129, Object above noted.

			Daily Motion
March 24, 1904	12 10.3	+1 6	2 - 0.3 Δ +4.2
~~March 16~~	+ 7.2	-34	8d.
March 16	12 17.5	+0 32	-1.2 +33.6

Limit not as ft. as 33188
Assume 12.0

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1925phae.proj.1211W

B 36385 July 10 1905

				Motion	
				m	′
July 6, 1905	18	11.1	-26 36	-0.9	-2.9
		-3.6	-12	4 days	
July 10	18	7.5	-26 48	-3.6	-11.6

Compared with 20451. Regions 18 00 to about 18 30
-23° to -32°
36385 rather poor; does not show ft. stars

				Motion	
				α	δ
July 13, 1910	18	51.5	-26 20	-0.9	-3.0
		-0.9	-3	5 days	
July 14	18	50.6	-26 23	-4.5	-15.0
add to July 13		-4.5	-15		
July 18	18	46	-26 35		

Region $18^h 28^m$ to $19^h 8^m$ -18° to -28°
expan.
Superposed B 41633, July 14, & 41693 July 18

41633 shows stars a little fainter than B4467 8
Seq. plate for 158 K: 8.14 of 158 K, limit of plate =
(Bb. 34: 50) 13.8 (Corr. = 14.0)
∴ 41633 limit is about 14.2.

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1925phae.proj.121.tif

Friday, August 14, 1925. See earlier exam. of this plate

Later letter from Asplind — July 1, 1925.

1895, June 23 16 49.7 −25

1897, Dec. 20 5 1.3 +25 19
a 2929

a 2930

1904, March 23 12 11.9 +0 55
B 33188

1910 July 14 18 52.4 −26 19
B 41633 Compared around this
18 28 − 19 8 −24 to −28 very carefully
with B 39136
July 18 18 49.0 −26 22
Carlp. with B 39136

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1925phae.proj.1211N

54 Reported

Letter of Asplind, March 26, 1925.

Constantia (lost since 1891)

To find, if possible, on later Harvard plates.

See letter of Dr. S. Material from these pages sent.

October 14 ——— cont

I 27720 October 5, 1901, 9h. 11m
Regin 22h 29m to 23h 4m, -3.5° to -12.5°
Object 22h 45m -4.7 (1855)
Dr. S. — Defect.

I 27733 Oct. 6, 1901 9h. 10m
Regin 22h 50m to 23h 24m, -3.5 to -13°
exam. — no obj.

* Found Reinmuth 17 (1928 - 1 - 54.8 (1900)

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1925phae.proj.121.tif

Limits of regions 1855 chart readings.

m.

1901 Aug. 5 13.0 23 25 -2 55

No A plate, I.

B 28274 August 22, 1901, Eff. 10

Compared with B 10538. No object.

Region $22^h 50^m$ to $23^h 28^m$, $-7.5°$ to $+2.0$

Magn. abnt

1901 Sept. 4 23 6 -5 58

No A Plate

B 28588 Sept. 21, 1901, Eff. 10^m

Compared with B 21739. No object

Region $22^h 50^m$ to $23^h 28^m$, $-3°$ to -12.0

Magn. abnt

1901 October 14 22 50 -8 55

No A plate

Limit mag. abnt

B 28639 October 4, 1901, Eff. 10^m

Region $22^h 10^m$ to $22^h 48^m$, $-2.5°$ to $-12.0°$

Compared with B 14452. No object

Magn. abnt.

See also p. 54 *

* see also p. 57

1904, May 31 17 39.3 -18 46

No I A 6768 broken June 16, 1904 Eff. 30^m

Limits 16 58 to 17 28, $-15°$ to $-21°$

Prof. Bailey (apparently, by figures) Regs already marked Parthenope at 17 21 -17.7 (1855)

A comparison made with 9580, Eff. 60^s, shows a hazy object 17 10 -16.7 (1855) N.S. B 41363 ff stars 15

Plate does not cover exact region given by Asplund. Two plates do not entirely overlap. Limits of original plate given.

Found Var. Reinmuth 17 17.9 -19 54.8 (1900)

* Plinckii 20355

Dr. S. this state is correct.

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1925phae.proj.1211W

New Variable found — p. 82 for detail.

1904 ~~April 18~~ May 31 cont. 17 3.9 -18 46

B 33852 May 25, 1904, Eff. 10m
Regin 16h 46m to 17h 24m, -12.5 to -22.5°
compared with B 19724
Magn. limit about

B 33922 June 2, 1904 Eff. 10m
Limits 17h 26m to 18h 05m, -12.5 to -22°
Compared with B 22749 27972 2 objects) see p. 82 found

B 33949 June 3, 1904 Eff. 62m
Regin 16h 45m to 17h 25m, -12.5 to 22.5°
No plate good enough to show as many stars. Examined carefully for even faint trailed image. Nothing found.
Comparing Sequence Carte 17m -16.5, as marked at MC 8574, Magns. Bk. 35, p. 211, faintest stars of Seq. are seen.
Limit of 33949 is about 14.2 or .5

Limit of excellent 60m B plate

1907, April 18 13 55.3 -8 26
no a
no B
" I

1911 August 5 23 3.8 -4 43
A 10459 (edge) — July 30, 1911, Eff. 60m
Regin 22h 58m to 23h 26m, -5° to -10.5°
Compared with A 7446
no I

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1925phae.proj.12tiff

Oct. 14 region 22 50-8
Exam. also B 28642, October 4, 1901, Exp. 11m
Insert, p. 57. Region 22h 30m to 23h 8m, +2.5° to -7°
also B 28643, October 4, 1901, Exp. 10m
Region 22h 50m to 23h 28m, -2.5° to -12.5°
not very ff. stars seen. No Object.

1911, Sept. 4, 22 45 - 7 46
no a no B; no I

October 14 22 29 -10
no a, B, no I

1914 June 9 17 14 -18 no I
mc 5585
5697 } Do not cover -18, but examined

5585 May 30, 1914 Exp. 10 16h 58m to 17h 24m -12.5° to 17.5
5697 June 17, 1914 10 16 46 to 17h 10m -13 to -17.5
- no a
B 44572 June 10, 1914 Exp. 10m 17h 4m to 17h 40m, -13.5 to -23
44616 June 16, 1914 " 10 16h 35m to 17h 14m, -9.5 to -19
19.5

* On 44616 Object 17 49.6 -10.2 (1855) not on a 940s
Dr. S. — Defect.

1917, April 22 13 42.3 -7 23
no a, B, mc, I

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1925phae.proj.1211N

1921 Aug. 5 22 45 -6 27
No a, B, MC, I

Sept. 4 22 26 -9 30
No a, B, MC, I

Oct 14 22 10 -12 27
No a, B, MC, I

1891 Especially wanted No B,
Aug. 5 23 38 -1 40 before As began
Sept 4 23 25 -4 13
Oct. 4 23 4 -7 29
Nov. 3 23 7 -7 43

			Spotted	Limits of plate
4182	Sept 9	Too poor.		
I 4206	Sept. 10, 1891	Eq. 24	22 48 to 23 22	-3° to -12°
4207	Sept. 10, 1891	Eq. 14	22 50 to 23 20	+2 to -7
4392	Sept. 30, 1891	Eq. 11	23 6 to 23 40	-3.5 to -11
4413	October 1, 1891	Eq. 13	22 48 to 23 22	-3.5 to -11.5
4531	October 16, 1891	Eq. 11	22 48 to 23 22	+2 to -7
4559	Oct. 17, 1891	Eq. 12	22 48 to 23 22	-3.5 to -12
4599	Oct. 21, 1891	Eq. 11	22 46 to 23 20	-3 to -12
4731	Nov. 6, 1891	Eq. 19	22 47 to 23 21	+1.5 to -7

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1925phae.proj.121.10

A hazy obj. on several plates — motion?
Is this the obj.?
See also plotting — a rough, N. & S. curve (loop)

4206	23	8,2	-5.5 (1855)
4207	23	9	-5.8
4413	23	6	-10.5
4559	23	5	-11.8
4599	23	1	-9.6.
4731	23	2	-7.1

June 5. All of these were exam. by Dr. Shapley and pronounced defects.
Plotting destroyed.

Continued, p. 84

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1925phae.proj.1211N

Continued from f. 45

CPD

Hertzsprung Var. -61° 2062

As there was a Min in 1916 and one 1917, indicated by B plates, p. 37, and plates of 1916 & 1917 were all examined. Later, 1914 & 1915.

Var. Region 12.0-60

Normal

	Ant	11527	March 3, 1916	31m	
		11544	Mar 8, "	30	
		11551	" 9, "	30	
		11554	9 "	63	
		11608	April 5, "	35	
		11659	May 2, "	60	
		11667	" 4, "	59	
		11706	" 11, "	60	
		11778	" 23, "	60	
~~find~~	✓	12113	July 2, "	50	Slide 4427
		12218	" 19, "	30	
		12231	" 21, "	30	
		12268	" 26, "	30	
		12792	Nov 19 "	33	
~~find~~	✓	12889	Mar 23 1917	60	Slide 4441
brighter?		12913	Mar 27 "	51	
		13109	May 12, "	60	
		13128	" 14, "	60	
		13135	" 15, "	98	
~~find~~	✓	13144	" 16, "	56	Sl. 4546
~~find~~	✓	13151	" 17, "	54	Cracked
		13204	" 27, "	60	

22

See f. 62

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1925phae.proj.12110

1315 grad pl., ff. plates

9915 July 1 1914 ff.

Am Plates of Var. Eq. 12h.0 -60° Var. Normal

am	9689	March 7, 1914	57m	
	9706	April 14, "	47	
✓	9717	Apr. 18, "	57	Slide 3583
	9770	May 14, "	57	
	9774	" 15, "	59	
	9777	May 21, "	67	
	9788	" 26, "	60	
	9851	June 11, "	56	
	9857	" 13, "	65	
	9901	" 27, "	63	
	9936	July 14, "	65	
	9940	" 15, "	66	
	10526	May 2, 1915	60	
	10553	May 6, "	63	
	10768	July 10, "	31	
	10845	July 19, "	34	

Regin 10h.5 -60° Eq.

am	10388	April 6, 1915	60	
	10413	Apr. 14, "	72	
	10430	April 18, "	66	
	10457	" 21, "	60	
	10492	" 25, "	60	
	10653	June 10, "	60	
Ft.	~~10704~~	~~June 19, "~~	~~30~~	~~Slide 3701~~
	13298	June 18, 1917	30	
✓	13307	June 19 "	30	3749

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* Sup. 63.

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1925phae.proj.1211N

Var. Normal Regim 9.0 -60° 1914 to 1918, inclusive.

Am	9682	Feb. 21,	1914	72
	9703	Apr. 14,	"	86
	9739	" 27,	"	75
	9773	May 15,	"	61
	9780	May 25,	"	59
	9848	June 11,	"	65
	10523	May 2,	1915	60
	11437	Nov. 9,	"	29
	11653	May 1,	1916	30
	11764	May 21,	"	30
	11836	" 28,	"	32
	12533	Sept. 29,	"	20
	12789	Nov. 19,	"	34
	12886	March 23,	1917	61
	12916	" 28,	"	60
	13198	May 26,	"	33
	13785	March 10,	1918	60

12.0 - 60

Am	13931	May 1,	1918	60
	13957	May 7,	"	61
	13962	May 8,	"	60
	13989	" 18,	"	60
	14009	" 31,	"	60
	14145	July 12,	"	60
	14151	July 13,	"	58

24

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1925phae.proj.12130

13840 ft. stars

am $10^h.5$	$-60°$		Eff.	
am	10433	April 18, 1915	60	
	11594	Apr. 1, 1916	50	
	11606	Apr. 5, "	68	
	11648	" 30, "	67	
	12027	June 20, "	30	
	12059	" 24, "	50	
	12681	Oct 24, "	32	
	12847	Dec. 22, "	33	
	12977	April 12, 1917	63	
	12989	" 13, "	60	
	13016	" 16, "	60	
	13796	April 1, 1918	60	
	12965	Apr. 11, 1917	60	Slide 4526
	13840	April 11, 1918	60	
	13848	April 12, "	60	Cracked
	13854	Apr. 13, "	60	
	13858	" 16, "	60	
	13863	" 17, "	61	
	13924	April 30 1918	60	
	14599	April 3, 1919	82	
	14629			
	14784	June 22, "	44	
	15092	April 9, 1920	68	
	15112	April 18, "	57	
	15132	April 22, "	44	
	15229	June 6, "	59	
	15566	December 11, "	66	

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1925phae.proj.1211N

$9^h.0 - 60°$

			Eqpn
Aur	14590	March 27, 1919	50
	15172	May 12, 1920	60
	16180	March 10, 1923	60
	~~16505~~	~~Dec. 30, 1923~~	~~60~~
	15720	April 29, 1922	105
	15753	May 5, 1922	120
	15770	May 14, "	70
	16194	April 9, 1923	65
	16234	April 26, "	62
	16248	May 4, "	60
	16505	Dec. 30, "	60
	16544	Jan. 8, 1924	60
	16594	Cannot see x. Probably Var. N.S. or extremely faint, i.e. normal, but at limit of plate.	
	16619	Feb. 6, 1924	60

T3

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1925phae.proj.12110

12.0 -60

			Eff.	
Aur	14642	April 25, 1919	32	
	~~14662~~	~~Apr. 30, 1919~~	~~60~~	~~Ft.?~~
	14667	May 1, "	41	
	14708	May 21, "	60	
	14709	May 21, "	61	
	14735	May 30, "	64	
	14788	June 23, "	62	
	14866	July 25, "	60	
	14878	August 1, "	32	
	15164	May 10, 1920	60	
	15191	May 16, "	50	
	15235	June 7, "	55	
15681	15571	May 2, 1921	65	April 9, 1922 Eff. 62
	15714	April 27, 1922	210	
	15722	April 30, "	80	
	15755	May 5, "	70	
	15774	May 15, "	60	
	15785	May 17, "	267	
	15798	May 20, "	265	
	15856	June 14, "	60	
	15859	June 15, "	60	
	15927	July 10, "	57	
	15938	July 13, "	62	
	15952	July 15, "	84	
	15966	July 18, "	62	
	16188	March 26, 1923	71	
	16192	April 6, "	64	
	16235	April 26, "	60	
	16261	May 21, "	10	?
	16284	June 4, "	77	

3X0

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1925phae.proj.1211w

12-60 Cont

aM 16595, Jan 30 1924, 60
16628 Feb. 8, 1924, 53

2

aK Plates

9h-60°

			eff.
aK	138	March 1, 1909	60
	159	Mar. 4, "	60
	176	" 9, "	60
	219	Mar. 29, "	120
	579	Nov. 15, "	60
	683	March 10, 1910	60
	751	↓	

7

aX Plates

9-60°

			eff.
aX	480	April 26, 1924	120
	505	May 5, "	120
	529	May 13, "	60

3

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1925phae.proj.12110

aX Plates $12^h - 60°$

aX 482	April 26, 1924	Exp.	120
511	May 6, "		120
530	May 13, "		60
539	May 15, "		60
583	June 4, "		121
637	June 27, "		90
694	July 9, "		90

7

aK Plates

$10.5^h - 60°$

aK 209	March 17, 1909	Exp.	360
210	Mar. 20, "		300
211	" 21, "		277
213	Mar. 23, "		117
✓ 261			Slide 3075
719	Apr. 9/10 1910		265

6

$12^h - 60°$

aK 115	Feb. 23, 1909	Exp.	60
212	March 22, 1909		60
235	April 3, "		120
251	April 8, "		120
263			
264	" 21, "		266
265	" 22, 25, 27, "		580
289	May 10, "		150
311	" 14, "		295

9

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1925phae.proj.1211N

AK $12.^{h}5 - 60^{\circ}$ Cont.

?	—	312	May 16, 17, 1909	Eff. =
		313	May 18, 19, 20, 21, 1909	Eff. 875
	✓	326	May 27, 1909	60^{m} Slide 2958
		352	June 9, "	60
		372	June 30, "	50
		386	July 8, "	110
		622	January 22, 1910	60
		716	April 2, 1910	60
		755	May 26, "	?

9

MF Plates exam:

8 normal — 1 min., p. 37

MF	3207	April 4, 1919	Eff. 10^{m}
	3353	" 25, "	10
	3734	May 31, "	10
	5280	April 19, "	10
	8500	April 30, 1924	90
	8501	" 30, "	60
	8539	May 6, "	60
	8540	May 6, "	60

8

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1925phae.proj.1211

Count of plates examined

B			a			am			aK		
	38	28		44	18		60	22		66	7
	39	31					61	24		67	15
	40	29					62	24		68	9
	41	27					63	27			31
	42	31					64	13			
	43	22					65	31			
	44	168					66	2	aX	66	3
								143		67	7
											10

MF			am		
	68	8		70	28
				71	31
				72	5
					64

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1925phae.proj.1211W

Earlier Arc plates

Region 9h-60°

		Exp.	
Arc 296	Nov. 20, 1899	61m	Slide 2805
316	Nov. 25, "	62	
469	May 19, 1900	60	
719	Nov. 13, 1900	62	
780	May 11, 1901	65	
790	May 21, "	60	
Omit in Normal 1116	Nov. 30, "	64	
Is probably a little further than most. Too badly cracked for estimates 1145	Jan. 17, 1902	60	Slide 238
1156	March 1, "	60	
1157	Mar. 8, "	61	
1243	May 10, "	60	
1247	May 15, "	60	
1700	Nov. 19, "	63	
1714	Nov. 25, "	61	
1787	Jan. 3, 1903	60	
1793	Jan. 5, "	60	
1841	March 23, "	61	
Too far ~~1845~~	~~March 30, "~~	~~62~~	~~Cracked~~
1897	May 4, "	60	
1921	May 7, "	65	
1948	" 18, "	60	
2296	Sept. 29, "	56	
2476	March 9, 1904	60	
2561	April 20, "	60	
2585	May 2, "	60	
2641	May 11, "	63	Slide 2807
2708	June 4, "	60	
2753	June 17, "	62	
3169	October 31, "	60	
3194	Nov. 4, "	60	

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1925phae.proj.12110

Region 9h-60° cont

			Exp.	
am	3282	December 8, 1904	60m	
	3303	January 9, 1905	62	
	3313	" 10, "	49	
	3363	March 2, "	60	
	3379	Mar. 13, "	60	Slide 2841
	3467	April 22, "	60	
	3509	May 10, "	60	
	4051	Jan. 26, 1906	62	
	4126	March 13, "	86	
	4193	April 30 "	60	
	4209	May 9, "	85	
	4670	Dec. 8, "	58	
	4745	March 16, 1907	65	
	4790	May 2, "	63	
	4834	May 15, "	75	
	5351	April 1, 1908	60	
	5425	May 3, "	137	
	5431	May 6, "	60	
	5942	Jan. 24, 1909	100	
	6008	March 29, "	120	
	6058	April 24, "	63	
	6081	May 7, "	60	
	6850	March 19, 1910	63	
	7347	November 13, "	55	
	7362	Dec. 23, "	60	
	7407	May 2, 1911	60	
	8009	Feb. 17, 1912	60	
	8083	April 19, "	60	Slide 2848
	8134	May 3, "	60	
	8208	May 20, "	60	
	8233	" 23, "	55	

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1925phae.proj.1211w

q~ 60° cont

Am	8272	June 3, 1912	Eff. 115
	8798	Feb. 4, 1913	55
	8828	April 24, "	60
	8846	May 1, "	60
	8884	May 8, "	70

5

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1925phae.proj.121w

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1925phae.proj.121W

Waterfield

Friday, May 15, 1925.

Suspected Variable, Waterfield.

Mr. L. Campbell asked me to look up on some plates.
Mr. Waterfield makes this vary visually about 1 mag.

See letter of May ?, 1925, to Mr. Campbell.

Identified Star is in region of R Vulpeculae
Identifies as DM +23° 4227 $20^h\ 57^m\ 20.^s2$ +23° 1.1 92
4 mag. ✓
✳ Marked on I 7247 & 25143
and AC 24355, 21h 00 +30°, 24123, 21h +30°
Br. AC 2043 shows ft. stars.
Is it Brighter in AC 2000?
✳ Is AC 25354 fainter? 22h +30°

Confirmed Min. by AC 18220, 21 +30, shows faint stars, clear plate, star fainter.

Proof:		List of faint:		
Br.		18220	Good Proof	Nov. 22, 1916
2043	10.2	18437	Poor images, apparently ft.	Jan. 16, 1917
Ft.		17712	Poor plates but probably ft.	July 5, 1916
18220	10.6	18126		Nov. 7, 1916
21628	10.9	19427	10.7 ~~or 10.8~~	Nov. 9, 1917
20543	10.9	20270	10.7?	July 14, 1918
22845	10.8	20543	10.9	Sept. 29, 1918
		21628	~~10.8 or~~ 10.9 or 11.0	July 25, 1919
		25354	10.~~8~~7	Aug. 22, 1923
		22845	10.~~9~~8	Sept. 2, 1920

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1925phae.proj.121W

Confirmed by Miss Cannon, May 19, 1925 "Small amount"

Plates examined:

Several AC plates, nos. not recorded, were exam. Star is either not seen or too faint & ~~are~~ differences of magn of the faint stars seen. 1921 and later plates.

See a few AC plates ~~later~~ p. 76. 1900 to 1921 added.

I 2046 October 22, 1890
2084 " 28, "
2541 Dec. 20, "
2553
4255 Sept 19, 1891
5112 Dec. 12, "
6834 Sept. 2, 1892
6879 " 6, "
7120 " 20, "
7247 Oct. 2, "
7274 " 6, "
7296 " 10, "
8854 July 20, 1893
9044 August 2, "
9763 October 25, "
15426 July 2, 1896
21265 Sept. 28, 1898
21409 October 13, "
22772 April 23, 1899
23354 August 16, "
25143 April 13, 1900

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1925phae.proj.1211N

$21^h + 30^\circ$

ac Plates exam. Br. & Ft. See p. 74, Minima indicated

ac 988 Sept. 4, 1900
1572 June 26, 1901
1667 Aug. 18, 1901
1736 Sept. 11, 1901
1834 Oct. 6, 1901
1870 Oct. 16, "
1957 Nov. 5, "
2000
2043 Dec. 4, 1901
2968 Nov. 2, 1902
5523 Nov. 14, 1904
6764 Oct. 3, 1905
6977 Nov. 11, "
16560 July 5, 1915
16609 July 24, "
16697 Sept. 2, "
16762 Sept. 22, "
16787 Sept. 28, "
16929 Nov. 3, "
17632 May 25, 1916
17712 July 5, " — Ft
17845 Sept. 2, "
17951 " 28, "
18220 18126 Nov. 7, " — Ft
18437 Jan. 12, 1917 — Ft
19163 Sept. 19, "
19427 Nov. 9, " — Ft.
19439 Nov. 11, "

2829

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1925phae.proj.121.tif

ac	19491	Nov. 25, 1917	
	20145	May 17, 1918	
	20270	July 14, 1918	Ft
	20526	Sept. 22, "	
	20543	Sept. 29 "	Ft
	20764	Nov. 30, "	
	21628	July 25, 1919	Ft
	21800	Sept. 13, 1919	
	21832	Sept. 26, "	
	22845	Sept. 2, 1920	Ft.
	22900	Sept. 22, "	
	23074	Nov. 17, "	
	23845	July 16, 1921	
	24123	Sept. 22, "	
	24355	Nov. 5, "	
	25354	Aug. 22, 1923	Ft.

16

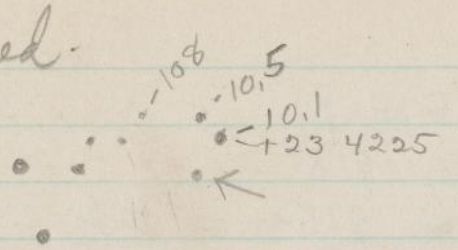
a	4649	Sept. 3, 1900	
a	9749	August 26, 1909	Normal

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1925phae.proj.1211W

Corr. Magns. used.

AC 16787



Confirmed by Miss Walker.

See AC 2043

Sequence of Carte 21h +24° from MC 5934

Magns. Vol. 85, No. 1, p. 23

		Carte		Use	
984+020 = 1004	3	9.8	+0.2	10.0	Magns. near Var. used as ent. above.
1041+22 = 1063	4	10.4	+0.2	10.6	
1071+23	1094	5	10.7	+0.2	10.9
10.73	10.96	6	10.7	+0.2	10.9–11.0
11.47 +24	11.71	7	11.5	+0.2	11.7
851 +10	8.61	1	8.5	+0.1	8.6
898 +14	9.12	2	9.0	+0.1	9.1

Photog.	D.M.	1855		Magn.
10.1	+23 4225	20h 57m 9.s3	+23° 5.'9	9.5
10.5	+23 4226	20 57 16.9	+23 7.5	9.5
Var.	+23 4227	20 57 20.2	+23 1.1	9.2

Range: 10.2 to 10.9

Usually 10.3

Total 68 plates exam.

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1925phae.proj:121:W

Nova Pictoris

See HP 821 etc

and June 22, 1925

May 26, 1925

Watson's Bright Nova. $6^h\ 35^m = 62°\ 34'$ (2nd)

Cablegram — Copenhagen — Nova Magn. found by Watson of Cape of Good Hope.

English Mechanics No. 3142, p. 319.

Position = $6^h\ 35^m - 62°\ 34'$ probably 1925

* —— Prec. is approx. $0^m\ \alpha$, $-1'\ \delta$ magn. 9.9

Identified by A.W. Pos CPD $-62° 679$ $6^h\ 35^m\ 20^s.5$ $-62°\ 31'.7$ (1875)

? is very near in position

Is Nova? Cat. Star or ft. star N. Prec.?

$6\ 35^m\ 20^s.5\ -62\ 31.7$ (1875)

$+14^s \qquad -1.3$ CPD Prec. 25 yrs.

$6\ 35\ 34.5\ -62\ 33.0$ (1900)

$+14 \qquad -1.3$

$6\ 35\ 48.5\ -62\ 34.3$ (1925)

See plot of ~~these~~ Cat. stars ~~and others~~ near

See A 3772 (1902) Ecl. 60^m by

∴ —— $-62\ 679$

→ Compare later with plate or print showing Nova.

See page 97

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1925phae.proj.121.tif

Stars to compare marked on B 26926

See Am 3848 for ft. stars on Ross pl.

Limits of B pl. 5.9 h to 7.2 h, -58° to -68°

" Ross 4 h to 8 h -60 to -75 to -45°

Marked region on B 26338 6 32 to 6 40, -62 to -63

Am 4569 6-60 Am 13981 6 h -60°

~~15568~~ 7.30 -68

→ Special scan of plates 1923 to date.

No B plates

AX 905 October 29, 1924, Exp. 90 m

Compared with Am 13981

13981 very poor compared with AX plate but nothing seen indicating a bright Nova.

AX 888 Oct. 25, 1924 Exp 55 m

also compared with 905.

Also compared Am 11448 6-60 Nov. 12, 1915

and 11652 May 1, 1916

Am 1552 Sept 20, 1902

AK 527 Oct. 15 1909

→ Continued, p. 92

Comparing stars of region, especially CPD -62° 679 to see if any change has occurred before,

See N. B. 821.

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1925phae.proj.1211N

Continued from p. 56 Found during discov. of Asteroids

2 objects on p. 56, on B ~~38922~~ 2 Regions

Found about June 1, 1925.

New Var.? 17 32.8 − 16.8 B 83922 Fr. or N.S. 27972

Not in Var. Cat.

B13574 shows ft. stars

list, su p 83

Not DM Star.

---

17 34.6 −17.5 Br. 38922 Fr. or N.S. 27972

Not in Var. Cat.

Parthenope Not a planet

Confirmed by Am 2692, June 2, 1904 (17-15)

Same object, prec. pos.? Am 2713, June 4 (18-30)

" " " " ? 2756 June 18 (18-30)

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1925phae.proj.1211w

Grod fl. Am 2757

Star Var. f. 82.

Exam. of plates

Br		Very ft. or N.S.	
B6092	1891	B9278	
9404	1893	16035	1896
13574	1895	27972	1901
13991	"		
16446	1896		
25122	1900		
27156	1901		
33922	1904		

Am Plates of 1904 — 18^h-38^s 2 17^h-15^o

Br. 2637 — Slightly fainter

2639 — and 2616

2692 — and a 3370 1898

2713

2746

2756

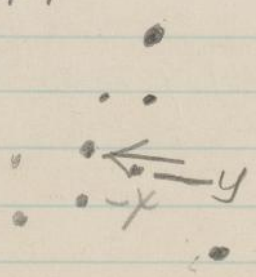
2757

2797

Br. on Bruce plates

9275	1909
8503	1907
2764	1897
6808	1904
4041	1899

from B 33922



Normal — Max — brighter than X

Min = fainter than y

Position measured, Bks. 29, f. 60.

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1925phae.proj.1211W

Continued from p. 59

Wednesday, July 22, 1925

B. Asplind, letter of July 1, 1925

1901 HA
Ephemeris
Slightly changed from letter of Mar. 26.
(See this Bk., p. 46)

June 23, 1895 16 49.7 −25 0 Magn. 13.1?
B 13740 June 12, 1895 11d m
13741 −0.9 −2'
(June 12 = 16 59 −24 38) 9.9 22'
plates do not quite cover this region but
slam. extreme edge. Obj. ?(Defect?) at
16 56 −24 6 (1908) Can this be obj.?
Dec. 29 1897 5 1.3 +25 19 12.9?

× see below

a 2929
a 2936

see p. 50 Note

March 23, 1904 18 11.9 +0 55 13.0?
B 33188

1895 June 23 16 49.7 −25 0 −0.9 −2
9.9 22

June 12 16 59.6 −24 38 (1895)

Dr. S. says these are Defects

Obj. above on plate 16 55.

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1925phae.proj.121.tif

July 14, 1910 18.9 -26 13.1 ?
July 18, " 18.8 -26
B 41633 July 14
B 41693 July 18

1901 Sept. 20 $23^h\ 49^m$ $-3^\circ\ 46'$
B 28570 Sept. 20, 1901
I 24169 Eq. 69
mky plate that compares in long exp., bragim on extreme edge.
examined 28570 around region for a different image.

Sept. 8. Marked on B 28570
-3 5733 23 48 40.4 -3 43.0 9.8 (1855)
See neby ft. obj. ?
23 46 -2.5 (1855).
Defect?

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1925phae.proj.1211

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1925phae.proj.121w

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1925phae.proj.1211N

Continued from f. 81

Page 99

Also see statement regarding star later iden. as Nova in the near.

Watson's Nora.

B 4497 Exam. for Variability of C.P.D. -62° 679, or stars

B	5640	1890 1889
5641	5642	1890 1890
extreme edge	10900 10914	1894 1894 – Broken – Slide 2342
	12779	1895
14783	14950	1895 1895
	14985	1895
	18006	1896
	20235	1897
	22257	1898
	22288	1898
	22597	1899
	24370	1899
	26338	1900
	26608	1900
	26926	1901
	28828	1901 1901
	29113	1902
	29417	1902
	30903	1902
	31531	1903
	32931	1903
	33301	1904
	35148	1904
	38486	1908
	39844	1908
	42129	1910
	49413	1916
	52147	1917
31	52183	1918

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1925phae.proj.121.tif

B18006 29113 } shows very ft. stars | Am 3848 Excellent

these B plates

a 5772 1902

1

Plates at 6h.0 - 60°

Am 1552	1902	1901
1713	1902	1903 Slide 3132
1830 2286	1903	
2363	1903	
2379	1903	
2443	1904	
2481	1904	
2575	1904	
2584	1904	
3072	1904	
3376	1905	
3848	1905	
3888	1905	
3909	1905	
3951	1905	
3980	1905	
4040	1906	
4151	1906	
4569	1906	
4646	1906	
4675	1906	
5131	1907	
5140	1907	
5221	1907	

26

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1925phae.proj.1211N

Am 5387	1908
5840	1908
5905	1908
5919	1908
5945	1909
5971	1909
6711	1909
6746	1909
6790	1909
6792	1909
7382	1910
7818	1911
7824	1911
7875	1911
7979	1911
8032	1912
8791	1913
8821	1913
9499	1913
9599	1913
9677	1914
~~11143~~	~~1915~~
10196	1914
10277	1914
11143	1915
11448	1915
11652	1916
12633 11776	1916 Lide 4565
12800	1916
12881	1917
13116	1917

31/30

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1925phae.proj.121dw

16572 shows ft stars

13149 1917
13981 1918
14674 1919

16129 1922
16149 1922
16178 1923
16217 1923
16445 1923
16477 1923
16479 1923
16516 1923
16531 1924
16572 1924
16593 1924
16618 1924

Regim 7.30 -60° Only a few exam.
This regim covers nicely but have not exam thoroughly at present.
Wait till further video. is known.

AM 9746 1914
10386 1915
10474 1915
10592 1915
11315 1915
12858 1916
15568 1921
14573 1919
15561 1920 8-75°
15564 1920 8-75

15111 1920 8-75
15125 1920 8-75

15568 1921 7.30-60

total 25 12

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1925phae.proj.1211N

aI 888 6-60 1924
905 6-75 1924

$6^h - 75^\circ$

am	16136	1922
	16164	1923
	16183	1923
? —	16216	1923
	16444	1923
	16542	1924
—	16571	1924
	16597	1924
	16623	1924

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1925phae.proj.121

Tuesday, August 4, 1925. Southern plates of Nova Pictoris just rec'd.

Marked in red on A 5772 & B 26338

Nova as seen on A 13282 was matched up with A 5772, see page 80.

Nova seems to be an old star just preceding -62° 679.

Position plotted on the plotting mentioned on page 80.

Compare A 13276, A 13280, and others with A 5772

estimated R.A. prec. abnt 40^s
Dec. slightly south.

meas. by m.m. glass plate 5.'6
2.1 recant
11.76
4
47^s.04

Checked by Miss Walker

✕✕ Verified as identifying = this old star by Dr. S.

On A X 1013, Magn. abnt equal to (1875) magn.
April 13-14 CPD -61° 726 6^{h}46^{m}53^s.0 -61° 48'.4 4.1
= AGC 8570 6 47.2 — 61 50 (1900) 3.5
= α Pictoris

Latest A X plate that was open. (page 81) was 905
See later A X plates (Cases 864, 865 have not been received to date)

→ On A X 1013 Nova is bright — April 13-14, 1925

Watson's discovery, H.B. 820, was May 25!

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1925phae.proj.1211N

Magn. of Nova — normal.

See Seq. Carte 6.0 -64 on B19413

B18006 is best plate for placing the two seq. which are quite separated.

Nova = about 11 (star No)

BA 35, p. 181

(magns. given me by Miss Walker)

			Corr. Magn.
9	11.91	+0.24	12.15
10	12.11	+0.24	12.35
11	12.53	+0.25	12.78
12	13.1	+0.26	13.36

On AM 742 6^h-60° 25

(best plate found) Nova = about star 11

about at limit of excellent AM plate

Nova = 12.7 Corr. Magn., as the faint star.

Estimate later on latest plate before outburst ~~State as = 12.5~~

(August 14) Est on A 5772, using comp. star Magns, pr. 10.3

Star assumed as Nova = 12.8

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1925phae.proj.12110

Examined the star decided upon as the Nova on the B plates exam. page 92.
(On p. 92 CPD-62° 679 was specially exam. though var. looked for in nearby stars.)
This star shows no changes during the 1890 to 1918 plates exam.
~~Too faint for Acc plates.~~

Exam. on Acc plates: Wherever ft. stars are seen, this star is always about 12.8.

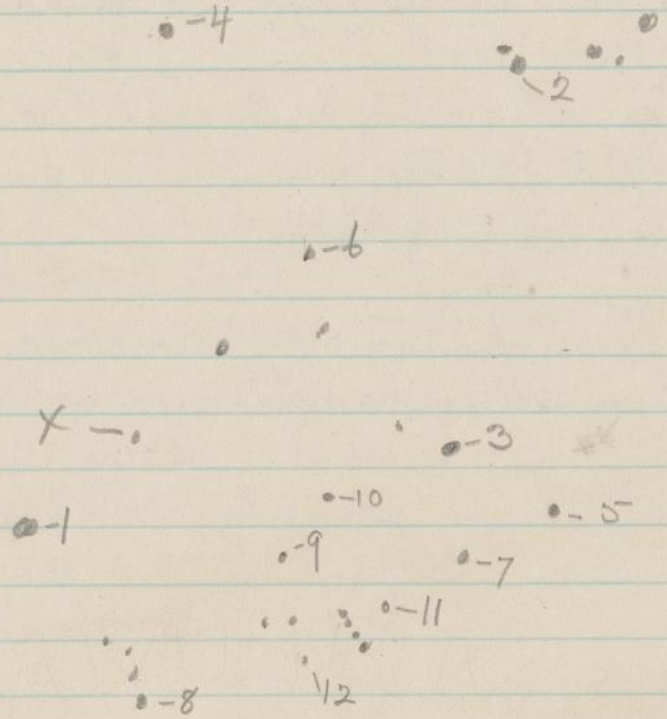
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1925phae.proj.1211W

 Nova Pictoris

Bright stars of provisional sequence.

am 2286



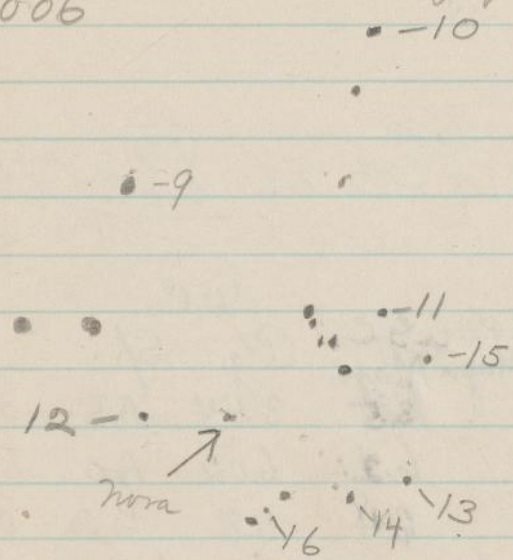
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1925phae.proj.12110

Nova Pictoris

Faint stars of provisional sequence.

B 18006



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1925phae.proj.1211N

Nova Pictoris

Pos. of Comp. Stars as indicated by sketches on pp. 100 &

Bright Star North = α Carinae = 6 21.7 −52 38 (1900) Ptg. 0.88 F0 Corr. ?

	A.G.C.	1900	C.P.D.	C.P.D. Magn.	A.G.C. Magn.	D.C. Ptg.	Sp.	Corr.	Use
1	8570	6 47.2 −61 50	−61° 720		3.5	3.44	A5	−0.1	3.3
2	7880	6 23.0 −60 14	−60° 608		6.2	6.02	A0	0.0	6.0
3	8067	6 30.2 −61 48	−61° 669		6.4	5.8	B3	0.0	5.8
4	8279	6 37.3 −60 5	−60° 676		7.1	6.8	B9	0.0	6.8
5	7988	6 26.8 −62 5	−62° 646		6.8	7.2	A0	0.0	7.2
6		* 6 34.1 −61 5	−61° 681	7.5		7.7	A3	0.0	7.7
7		6 30.5 −62 16	−62 657	7.8		8.1	A0	+0.1	8.2
8		6 41.7 −62 41	−62 697	8.5		9.0	A5	+0.1	9.1
9		6 36.0 −62 15	−62 681	8.3		8.8	F2	+0.1	8.9
10		6 33.7 −62 1	−62 670	8.8		9.6	F5	+0.2	9.8
11			−62 669	9.6					
12			−62 679	9.9					
13			−62 668	10.0					
14									
15									
16									
X	8396	6 41.5 −61 40			7	7.6	F5	0.0	7.6

Two Checks

Iden. in Nos. on B 14950 & a M 2286

Iden. ckd by Miss A.W. (1-16)

6 etc. 1900 pos. from D.C.

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1925phae.proj.12110

101

= $\bar{\alpha}$ Pictoris

Corr. Direct est. see Carte	(B1800.6)	B1800.6 By grades		Corr. Magn. Use	
9.8				9.8	10
11.5		(assumed 11.5)		11.5	11
11.7		4	11.9	11.8	12
12.0		2	12.1	12.0	13
12.1		1	12.2	12.2	14
12.6		4	12.6	12.6	15
12.9		3	12.9	12.9	16

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1925phae.proj.121W

Seguence
Carte 6-64° As marked on B 49413
Magn on unpublished sheet, Miss Walker.

		Corr.		Use
1	6.84	0.00	6.84	6.8
2	7.48	+0.03	7.51	7.5
3	7.82	+.05	7.87	79
4	9.12	+.15	9.27	9.3
5	10.10	+.22	10.32	10.3
6	10.54	+.22	10.76	10.8
7	11.50	+.24	11.74	11.7
7a	11.45	+.24	11.69	11.7
8	11.66	+.24	11.90	11.9
9	11.91	+.24	12.15	12.2
10	12.11	+.24	12.35	12.4
11	12.53	+.25	12.78	12.8
12	13.1	+.26	13.36	13.4

a 6 34 2.0 -62 24.1
28.7 7.6
6 34 30.7 -62 31.7

b 6 34 29.5 -62 49.0
0.7 17.3
6 34 28.8 -62 31.7

c 6 35 20.5 -62 31.7
51.8 0.4
6 34 28.7 -62 32.1

fma 6 34 30.7 -62 31.7 +1.3 +0.1
b 6 34 28.8 -62 31.7 -0.6 +0.1
c 6 34 28.7 -62 32.1 -0.7 -0.3
8.2 5.5
6 34 29.4 -62 31.8 Mean
13.4 1.3
6 34 42.8 -62 33.1 (1900)

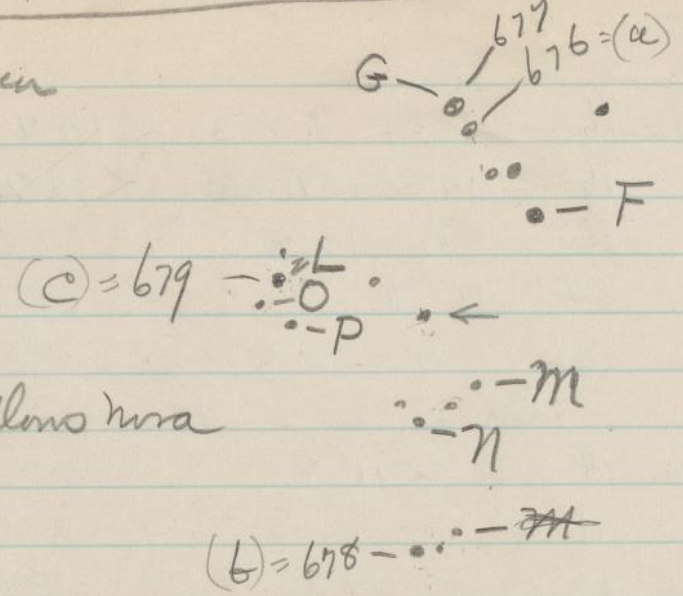
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1925phae.proj.12-W

Positions measured — Nova Pictoris

Nova & between C & O

N of glass up



Star c = Star 12 page 101, in diagram

b slightly follows Nova

Orient by: -62 689 6 37 47.0 -62 19.5 10.0
-63 619 6 37 47.0 -63 34.9 9.6

for Mr. Campbell

Meas. in my paper April 26, 1926

B 14950 for idw. (1875) xx4

a CPD	-62 676	6 34 2.0	-62 24.1	9.8		
b	-62 678	6 34 29.5	-62 49.0	9.4		
c	-62 679	6 35 20.5	-62 31.7	9.9		

a 5772

		x	y	x-Nova	y-Nova	xx4	rec'd	
NB order	a	12.32	36.57	+3.32	a) +7.57	13.28	2.158	a) 28.65824
	c	3.03	29.38	-5.97	c) +0.38	23.88	2.189	c) 51.77184
	b	8.92	11.74	-0.08	b) 17.26	0.32	2.189	b) 0.70048
+0.1								
+0.1	Nova	9.00	29.00					
-0.3	Pictoris (as a faint star)							

Nova Pic. 1875

900) C.P.D. Prec. 25 yrs. α +13.45 δ -1.28

Continued this book, page 166

Also, see page 106

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1925phae.proj.1211w

Plates Dec. to Date — as recd from A

MF	8957	Dec. 2		
	8959	" 2	Star	
am	16661	Dec. 16	15=.1	N n.s. <12.7
	16662	16	14 Seen	N n.s. <12.2
	16663	16	N = 12.8	
	16681	24	15=.1	N n.s. <12.7
aX	958	" 26	N = 12.8	

Is image hazy?

am	16686	Jan. 4	<11.8	
	16690	" 11	11 = trace?	N n.s. <11.5
aX	961	" 13	12=.2	N n.s. <12.0
MF	8991	Feb. 18-19	16 seen, Nova about = 16	Star
aX	991	N S	"barely visible, extremely faint"	
am	16719	Feb 21-22	"Nova N.S"	
aX	1013	April 13-14	about 3.0	
A	13275	May 27-28		
	13276			
AX	1090		Br	
A	13279	28-29		
	13280			
	13281			
	13282			
AX	1096		Br	
MF	9238			
	9239			
	9240			
	9258	" 29-30		
	9259			
	9260			
AX	1102			
A	13284			
	13285			

Principes sent from Peru Arequipa Oct. Probably not as good an estimate as plate as will give

from Arequipa letter 9 Sept. 30, 1925. Plates not at Cambridge.

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1925phae.proj.12110

Arequipa

A 13286
13287
13288 May 30-31
13289
13290
AX 1108
MF 9276
9277
9278
AX 1109 May 31-June 1
1110
1111
1112
A 13291
13292
13293 June 1-2
13294
AX 1113
1114
MF 9295
9296
9297
9299 June 2-3
AX 1115
1116
A 13295
13296
13297
13299 " 3-4
13300
13301

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1925phae.proj.1211w

AX 1117 June 3-4
1118
MF 9307
9308
9310 " 4-5
9311
AX 1119
1120
A 13302
13303
13304
AX 1121 " 5-6
1122
1123
MF 9312
9314 " 6-7
9315
AX 1124
1125
A 13305
13306
13307
13308 " 7-8
13309
13310
AX 1126
1127
MF 9316
9317
AX 1128 " 8-9

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1925phae.proj.12110

See page 166 & 214

MF	9318	June	9-10
	9319		
AX	1129		
A	13311		
	13312		
	13313		
AX	1131	"	10-11
MF	9325		
	9326		
AX	1134	"	11-12
MF	9332		
	9333		
	9334		
	9335		
AX	1138	"	12-13
	1142	"	15-16
	1149	"	16-17
	1154	"	17-18
	1162	"	18-19
	1167	"	19-20
	1171	"	22-23
	1176	"	23-24
	1183	"	23-24
	1191	"	25-26
	1199	"	26-27
	1207	"	27-28

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1925phae.proj.1211N

Saturday, September 12, 1925.

Letter from Dr. Shapley, Nantucket, to look up a variable charted at Maria Mitchell Observatory. Enclosed, print of region, scale, about 1° = 2m.

Slow bright 1925, n.S. 1924.

Br. = 14.0 ±

18 55.8 -3 16 (1855)
18 59.4 -3 10 (1925)

Copy of plates p. 112-113 sent to Dr. S. Sept. 15.

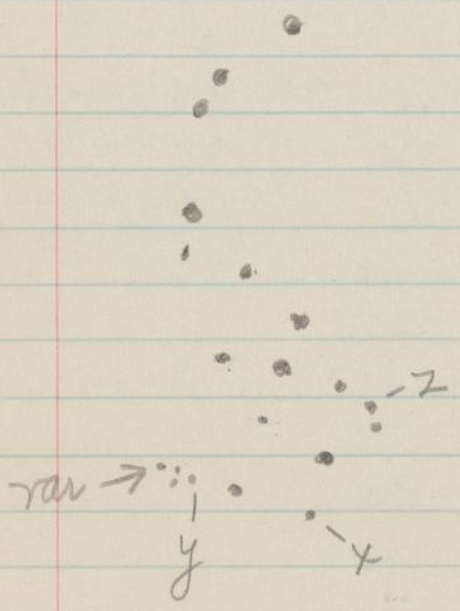
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1925phae.proj.1211N

Provisional Seq (Less than this)

Limits: 18 ~~32~~ to 19 ~~20~~ +1.5 to -8 MC Regions
18 34 to 19 12 +3 to -9 B&I "

Region on A 7721 well placed in center:



		Uncor.	Corr.	Use
Est. made on the two 4 plates & 2 good MC plates, not all recorded. Confirmed by re-estimates.	Estimates x = 13.2	13.2 = 13.25	+0.26	13.51
	y = 14.5	14.6 = 14.55	+0.25	14.80
	z = 13.6	13.7 = 13.66	+0.26	13.92

Compared with Seq. Nova Aquilae No. 2.
A 6506, A 7721. Magns in N.C. 106.

Nova Aq. Seq. Uncorrected; H.C. 106.

r 12.97	u 13.97
S 13.27	w 14.27
t 13.72	

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1925phae.proj.1211W

185803

Plates examined:
Many exam. which are not recorded as all the surrounding stars do not show. All good short exp.'s & all long exp. I's & B plates that could be found do not show.

			Exp.	
	a 4840	Nov. 1, 1900	10m	all not marked otherwise are NS or faint. When seen, var. abnt = y)
	B 28490	Sept. 7, 1901	60	
	a 6506	Aug. 15, 1903	240	
	a 7505	Oct. 16, 1905	120	
	7508	" 21, "	120	
	7517	Nov. 14, "	70	
	7721	June 12, 1906.	120	
	mc 1265	Sept. 13, 1911	60	
	5603	June 1, 1914	60	
	5705	June 17, "	10	
* —	5763	June 22, "	10	abnt = z? (Drago very faint. Diffl. to
	5976	August 14 "	78	
	6276	Sept. 15 "	60	
	19934	Aug 6, 1923	90	
	19952	" 13, "	80	
	19959	" 15, "	60	
	20750	May 3, 1924	75	
	20768	" 31, "	60	
	20895	July 27, "	75	
	20965	August 29, "	90	
	20974	" 31, "	70	
	20982	Sept. 6, "	65	
	20991	" 18, "	91	
	20994	" 19, "	42	

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1925phae.proj.1211

185803

			Eff.	
MC	21002	Sept. 25, 1924	82m	
	21006	" 26, "	90	
	21480	May 27-28, 1925	30	= X (Perhaps trifle brighter)
	21518	July 8-9, "	29	nearly = X
	21519	" 9-10, "	66	= X
	21520	" 11-12, "	90	= X
	21528	" 18-19, "	80	less than X
	21533	" 23-24, "	90	about = X
	21568	August 24-25, "	90	nearly = X

No late A plates

Most defective

from other plates of June 1914)

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1925phae.proj.1211W

Thursday, September 24, 1925.

Dr. Luyten's request to Dr. Shapley
& Hare
Potsd. Astr. 1---
20 54 30 +39 30 1855
56 12 +39 41 (1900)
10.0 Mt draw
with variable bright lines ~~Ds~~
looked up for variability.

Abmt 15 plates looked up, given to Dr. Luyten
No change more than 1 or 2 tenths noted.
Iden. verified by Dr. L.

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1925phae.proj.12110

R.A. = between +39 4400 20 54 22 +39 41 6.8
and +39 4401 20 54 33 +39 38 9.1
Dec. = slightly north of +39 4394
20 53 42 +39 30 8.5
(29.7)

I marked a star in this position on I16262
a slight change on 13144? On 8965? Already marked
16173 already marked.

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1925phae.proj.1211N

See page 150

Friday, October 23, 1925. See HB 826

Requested by Dr. Shapley.

210609
Ross Nova
f. 116 to 151
Index:
Plates 1907 f. 118
Negns Comp St. f 121
Summary f 150

Looks up Suspected Nova — letter of 1925
Frank E. Ross, Yerkes Obs., of Oct. 20,

(1875 Pos.) $21^h\ 5^m\ 27^s\ -9^\circ\ 20'.4$

n
• • - B.D. -9.5688

• •
:+ — Nova in middle of group of 3 ft. st.
•

On August 12, 1907.
Prel. -9.5688 19 sec
S of " 9'.5
and same magnitude = 9.1

	h	m	s	°	'		
	21	5	27	-9	20.4	(1875)	(Ross)
	1	21			6.0	25 yr Prec.	
Based on Ross' 1875 pos.	21	6	48	-9	14.4	(1900)	

Gesell. Wien-Ottakring
-9.5688 = 7608 $21^h\ 7^m\ 6^s.53\ -9^\circ\ 4'\ 45''.4$ (1900)
Ross' diff -19^s $-9''.5$
Based on Gesell pos. 21 6 47.53 -9 14.3 (1900)

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1925phae.proj.12110

Nova in Aquarius

Ross letter of Nov. 12 sketch: 16th magn. star, Nova, my star g

M

-9° 5688 = 21 4 41.2 -9 15.5 9.1 (1855)

-19s S 9.5

Nova 21 4 22.2 -9 25.0 (1855)

2 25.2 +10.8

21 6 47.4 -9 14.2 (1900)

Regim Marked on B 39224 + a 9929

Object Marked on AC 8692 (21h -15°)

Seen on plates of August, 1907, See p. 118

b- a-

c- h. e-

g- f-

d-

Ross says 3 ft. stars in center

A pl. shows 2

Object is seen on only AC 5 AM plates — could not identify as one of the faint stars on an xpted star.

Regim on a 9929 Marked in Nos, I10068

Conf. Seq. 137 K on MC 6689

Magns. Obs. 7, p. 140

Identification	Dec	(1855)		Magn.	H.D.	Cat.
a	-9° 5688	21h 4m 41.2s	-9° 15.5	9.1	10.0	G0
b	-9 5689	21 4 54.3	-9 13.5	9.1	10.2	G5
c	-9 5687	21 4 38.3	-9 22.7	9.3	10.6	G5
d	-9 5685	21 4 26.3	-9 28.6	10	—	—
e	—					
f	—					
g	—					
h	—					

		1 yr.	45 yr.		25 yr.	
Z.C. Prec.	α	3.2257 (61)	145.1565 (1745)	= 2 25.2	80.65	
	δ	14.4482	650.1690	= 10 50.2	361.205	= 6 1.2

D.C. Pos. -9° 5688 = 21h 7m.1 -9° 5' (1900)

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1925phae.proj_1211N

Ross Object Plates of 1907

			Date	Region	Ecl.		
7711	am	H841	May 15, 1907	22.0 0°	61	n s	<d <11.3
7725	B	37507	May 29, "		10	n.s.	<h <13.6
7725	am	4872	May 29, "	22 0	63	n.s	<d <11.3
7759		4965	July 2, "	22 0	91	n.s.	<e <12.0
7762	ac	8593	" 5, "	21 -15	65	n s	<c from pl.
7766	am	H984	" 9, "	22 0	60	n.s.	<e <12.0
7773		5006	" 16, "	22 0	120	n.s	<e <12.0
7796	ac	8664	Aug. 8, "	21 -15	61	Bright	8.4
7799		8678	" 11, "	22 0	68	Possibly trace —	
7802		8692	" 14, "	21 -15	60	brighter than b	9.8
7806		8703	" 18, "	21 -15	76	a little ~~fainter~~ than c	10.6
7817		8735	" 29, "	22 0	59	Probably n.s. not	
7820	am	5117	Sept. 1, "	22 0	65	Probably n.s. fa-	
	ac	8752	~~" 12, "~~	e at limit of plate			
7831	ac	8752	" 12, "	21 -15	72	~~not as bright as~~ e seen. Nova probably n.s	
7842	am	5170	" 23, "	21 -6	60	(seen. Nova),	
7847		5176	" 28, "	22 0	121	Nova n.s.	<e <12.0
7853	ac	8829	Oct. 4, "	21 -15	63	" "	<d <11.3
7858		8848	" 9, "	21 -15	67	" "	<e <12.0
7859	am ac	5194 8855	" 9, 10, "	22 0	79	" "	<c <10.7
7871		8905	" 22, "	21 -15	68	" "	<e <12.0
7873		8920	" 24, "	21 -15	65	A faint star is seen. Nova or q?	
*			(Superposed with 8664 but difficult to decide.				
7875		8929	Oct. 26, 1907	21 -15	61	n.s.	<e <12.0
7879		8936	" 30 "	21 -15	61	n.s	<e <12.0
7880		8945					
7881		8956	Nov. 1, "	22 -9.5	60 65	n.s	<d <11.3

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1925phae.proj.12110

Am 5244 Nov. 6, 1907 22.0 61 Regim Eff.
AC 8977 November 9, 1907 22h 0m 60s <d <11.3

[redacted]

Date	Magnitude.
1907, July 16	[12.0 v
August 8	8.4 v (Ross)
" 12	9.1
" 14.620	9.7 v
" 14.703	9.8 v
" 16	10.2 v
" 18	10.6 v
" 27	12.6 v

Nova
<11.5
<11.5 d=.2 at least
<12.2
9.7
10.2
12.X6
, fainter than Nova
assumed to be
uld be too faint.
<11.6 d=.3 at least
was exam, as
just off edge of

1925phae.proj.121.tif

< d < 11.3

14.8

241							Nova	
7690	um	4784	April 24,	1907	21-15	63	< 11.5	
< 10.7	7725	4871	May 29,	"	21-15	58	< 11.5	d = .2 at least
	7734	4909	June 7,	"	21-15	60	< 12.2	
	7802	5061	August 14,	"	21-15	128	9.7	
	7804	5070	" 16,	"	21-15	67	10.2	
	7815	5099	" 27,	"	21-15	65	12.X6	

Very poor pl

Star f distinctly seen, fainter than Nova
Star seen in center is assumed to be
Nova only, as g & h would be too faint.

as b. as d < 11.3
later than e < 12.0

7872	5224	October 23,	"	21-15	68	< 11.6	d = .3 at least	

< 12.0
S. < ~~12.6~~ 13.0

All 5052 August 7, 1907 (20 0) 52m4 was exam. as date is very important. Just off edge of region.

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1925phae.proj..121W

Magns. 137 K Bks. 7, p. 140 from MC 6689
Marked on a C 8664 & B 10068

		Corr.	
1	8.56	+0.11	8.67
2	9.42	0.17	9.59
3	10.21	0.22	10.43
4	10.82	0.23	11.05
5	11.12	.24	11.36
6	11.70	.24	11.94
7	12.01	.24	12.25
8	12.12	.24	12.36
9	12.55	.25	12.80
10	13.40	.26	1366

Brightest & First Appearance
On 8664 Nova slightly brighter than 1 = 8.4

(unless distance from center affects magn- more than I have allowed)

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Corr. Magns. 1 to 5 est. by comp. with 137 K

Nova Seg. Stars nearest Nova - (not a full seg.)

AC 8920, AC 8664, & B39224

a	1	9.2	based on Magns, p. 120.			9.2
b	2	10.0				10.0
c	3	10.7				10.7
d	4	11.3	AX 815	A 9929		11.3
e	5	12.0	B39224	12.1		12.0
f	6		12.6 ?	13.0	adopted (13.0)	13.0
g	7		13.4 ?	(14.0)	14.5 est. by grades	14.5
h	8		13.6 ?	(14.5)	14.8	14.8

B39224 ft. stars estimated in grades. A comparison was made with B28318, a 10m plate of 137 K. Images are very different but magns. seem good approximations.

See A 9929

AX 815 excellent plate — both seq. exam.

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Fk stars – see AN 12359 ac 25631

Pass Object. Plates listed do not show the star. On all, star

ac Plates 21h 0°

ac 6750	Sept. 28,	1905	63
10941 12531	August 21, Sept. 1,	1910 1911	61 56
16478	May 18,	1915	50
16573	July 9,	"	62
16953	November 8,	"	75
17883	Sept. 14,	1916	60
18124	Nov. 7,	"	54
18171	" 15,	"	62
19097	Sept. 8,	1917	60
19370	Nov. 2,	"	76
19389	" 4,	"	65
20258	July 10,	1918	70
20296	" 20,	"	75
20713	Nov. 23,	"	64
21469	May 25,	1919	62
21592	July 8,	"	54
21999	Nov. 14,	"	61
22890	Sept. 21,	1920	60
24141	Sept. 24,	1921	60
25629	Sept. 18,	1924	60
25632	" 19,	"	60
25636	" 25	"	60

23

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1925phae.proj.12114

(page 117)

as faint as c, are seen; on many, fainter stars are seen.
(Perhaps majority show d)
Therefore Nova would have been as faint as c, usually
fainter. Never as bright as on 1907 plates which
show it.

am Plates $21^h\ 0^\circ$

am	29	July 29, 1899	Ef. 79
	6424	July 28, 1909	65
	9331	August 8, 1913	60
	10078	August 19, 1914	74
	10507	April 26, 1915	30
	10672	June 12, 1915	95
	10950	August 3, "	65
	11003	" 15, "	61
	11008	" 16, "	60
	11279	September 28, "	61
	11319	October 5, "	59
	11391	" 23, "	76
	11401	" 30, "	65
	11959	June 11, 1916	54
	12066	" 24, "	60
	12074	" 27, "	60
	12359	August 22, "	60
	12374	" 25, "	93
	12379	" 26, "	60
	13491	August 9, 1917	60
*	13538	" 25, "	60

* note — 2 exposures on this plate. A star is in position of Nova but it is in regular field of the other exposure. Plates not superposed and this doubtless explains this star.

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am plates Cont. Not showing object

21 o Cont. Ef

am	13541	August	27, 1917	60
	13734	December	3, "	33
	14264	August	5, 1918	62
	14270	"	7, "	62
	14273	"	8, "	62
	14358	"	29, "	65
	14365	"	30, "	69
	14489	October	4, "	60
	14965	August	27, 1919	62
	15398	August	10 1920	61
	15652	August	3, 1921	62
	16404	Sept.	5, 1923	60

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1925phae.proj.121-10

AC Plates 22^h 0° Not showing Nova — Showing as faint stars as C at last.

AC 1005	Sept. 19, 1900	98	
1553	June 17 1901	52	C barely seen
1917	October 28, 1901	78	
1922	Oct. 29, "	60	
1948	Nov. 3, "	70	
2006	" 27, "	87	
2042	Dec. 4, "	75	
2872	Oct. ?, 1902	69	
3034	Dec. 2, "	87	
3750	July 3, 1903	88	
3754	July 4, "	70	
3784	July 26, "	65	
3967	Sept. 22, "	88	
3988	Sept. 25, "	86	
4283	Nov. 30, "	69	
4363	Dec. 14, "	50	
4371	" 15, "	101	
Slide 4253	~~5016~~		
5046	July 9, 1904	96	
5202	August 29, "	53	
5247	Sept. 15, "	76	
5337	October 6, "	68	
5408	" 22, "	70	
5419	" 24, "	66	
5447	" 29, "	81	
5485	November 5, "	73	
5510	" 11, "	62	
5622	" 28, "	85	

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1925phae.proj.1211w

On many of these plates c is about at limit of plate.

Cont. AC Plates at 22h 0m Not showing Nova

			Exp.
AC	5679	December 7, 1904	75m
	6534	July 21, 1905	60
	6540	" 22, "	58
	6628	August 23, "	56
	6641	" 29, "	103
	6701	Sept. 21, "	66
	6728	" 25, "	73
	6782	October 5, "	60
	6879	" 23, "	74
	7002	November 18, "	60
	7049	" 25, "	62
	7637	June 29, 1906	56
	7796	Sept. 6, "	106
	7817	" 17, "	60
	7917	October 13, "	58
	8050	November 24, "	72
	~~8077~~	" 9, "	60
	9614	July 8, 1908	55
	9755	Sept. 29, "	60
	9805	October 12, "	62
	10708	August 11, 1909	60
	10819	Sept. 17, "	67
	11123	December 6, "	60
	11789	July 14, 1910	75
	12064	October 29, "	60
	12556	Sept. 12, 1911	65
	12630	October 10, "	?
	13411	" 31, 1912	60
	13525	November 30, 1912	103

For Plates of 1907 see page 118

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AC Plates at 52h 0° Cont. Not showing Nora

AC	14282	August 21, 1913	60²
	14444	October 21, "	60
	14493	November 1, "	59
	14500	" 3, "	77
	14597	" 26, "	59
See object fol. 128 #	15410	August 26, 1914	69
	15443	September 8, 1914	60
	15475	" 14, "	68
	15491	" 16, "	64
	15537	" 26, "	69
	15716	November 14, "	67
	15801	" 28, "	58
	16840	October 13, 1915	82
	17071	December 4, "	62
	17809	August 20, 1916	60
	17829	" 29, "	88
	17902	Sept. 19, "	71
	18015	October 14, "	66
	18066	" 27, "	63
	19240	October 3, 1917	70
	20376	August 17, 1918	60
	21726	August 22, 1919	61
	21917	October 18, "	92
	21963	" 29, "	60
	24009	August 24, 1921	64
	24263	October 20, "	60
	24978	November 16, 1922	130
	25658	October 22, 1924	58

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All Plates, 22^h 0° Not showing Nova

			Eff.
am	24	July 27, 1899	62
Slide 306	131	Sept. 5, "	62
	288	November 18, "	60
	579	August 2, 1900	62
	623	Sept. 3, "	60
	724	Nov. 21, "	71
	821	May 28, 1901	60
	910	July 10, "	61
	940	July 24, "	69
	1023	Sept. 3, "	60
	1039	" 5, "	74
	1273	May 26, 1902	60
	1425	July 3, "	60
	1456	" 11, "	61
	1473	" 14, "	60
	1525	Sept. 6, "	392
	1566	" 25, "	62
	1577	" 26, "	60
Slide 201	1587	" 29, "	62
	1940	May 14, 1903	60
	1975	" 29, "	68
	2093	July 2, "	60
	2130	" 15, "	60
	2149	" 23, "	60
	2227	Aug. 20, "	301m
	2254	Sept. 2, "	60
	2277	" 17, "	66
	2659	May 18, 1904	60
	2758	June 18, 1904	60

Defect in position Sl

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			Eq.
Aul	2818	July 6, 1904	65
	2861	" 21, "	61
	2912	August 3, "	63
	2943	" 12, "	60
	2961	" 18, "	68
	3011	Sept. 3, "	63
	3020	" 7, "	60
Slide 3140	3157	October 28, "	62
	3177	November 2, "	61
	3184	" 3, "	63
	3626	June 12, 1905	61
	3660	" 23, "	60
	3723	July 12, "	60
	3730	" 22, "	60
	3796	August 17, "	60
	3851	Sept. 6, "	60
	3899	" 19, "	60
	3966	Nov. 1, "	60
	4218	May 10, 1906	61
	4272	" 29, "	63
	4341	June 22, "	69
	4405	July 13, "	63
	4423	" 21, "	60
	4476	August 8, "	60
	4557	Sept. 8, "	60
Slide 3043	4626	October 12, "	60
	4676	Nov. 10, "	60
	~~5194~~	~~October 9, 1907~~	~~82~~ } p. 118
	~~5244~~	~~Nov. 6, "~~	~~61~~ }
	5643	July 7, 1908	62

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aI Plates of 1907 $20^h\ 0^\circ$

Examined 1907 plates. Too poor to show as faint stars as needed.

Do not use whole set of aI Plates -
D. S.

aH Plates $22^h\ 0^\circ$ cont.

aH	5665	July 21, 1908	122
	5742	August 6, "	60
	5789	Sept. 3, "	122
	5809	" 12, "	62
	5893	Nov. 8, "	64
	6299	June 27, 1909	83
	6305	June 29, "	61
	6337	July 10, "	67
	6344	" 12, "	125
	6355	" 14, "	127
	6363	" 16, "	130
	6396	" 22, "	68
	6590	Sept. 13, "	60
	6594	" 15, "	125
	6612	" 20, "	121
	6626	" 25, "	64
	6736	Nov. 2, "	60
	6741	" 3, "	122
	6761	" 6, "	122
	7045	June 28, 1910	60

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and 22^h 0 Cont.

			Eff.
all	7059	July 1, 1910	60
	7133	" 14, "	123
	7142	" 18, "	64
	7248	Sept. 1, "	120
	7655	August 4, 1911	69
	7685	" 16, "	61
Slide 2884	7721	" 26, "	60
	7859	October 10, "	69
	8200	May 18, 1912	60
	8426	July 9, "	60
	8526	August 2, "	60
	8569	" 19, "	60
	8765	Nov. 19, "	60
	9243	July 24, 1913	60
	9339	August 9, "	59
	9433	Sept. 8, "	57
	10117	Sept 12, 1914	66
	10191	Oct. 15, "	67
	10198	" 16, "	61
	10222	" 23, "	60
	10247	" 30, "	60
	10251	" 31, "	60
	10274	Nov. 11, "	60
	10774	July 10, 1915	60
	10835	" 17, "	62
	10844	" 18, "	60
	11081	Sept. 5, "	62
	11106	" 8, "	62
	12537	Sept 30, 1916	34
	14458	" 29 1918	60

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Cont.

All Plates not showing Nova

22^h 0°

			Eff.
aH	15830	May 31, 1922	60m
	15888	June 26, 1922	60
	15963	July 17, "	60
	15982	" 24, "	60
	16006	Aug. 3, "	60
	16110	Oct. 11, "	60
	16316	July 7, 1923	115
	16368	Aug. 16, "	70
	16397	Sept. 3, "	60

9

aK 21^h-15

			Eff.
	524	Oct. 15, 1909	60m
	580	Nov. 16, "	60

2

aX 20^h 0°

	1160	June 17-18, 1925	90m
	1188	June 24-25, 1925	90

2

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aX 1205 shows ft. stars — Excellent plate
815 excellent

aX Plates 22 0

			Eff.
aX	599	June 9, 1924	120
	628	" 25, "	90
	659	July 1, "	90
	720	" 25, "	90
	791	Sept. 3, "	90
	868	Oct. 18, "	90.
	890	" 27, "	90
	1101	May 28-29 "	30
	8		

21h -15

aX	~~1205~~ 393	Nov. 2, 1923	66
317	342	Dec. 3, 1923	61
	567	May 28, 1924	121
	573	" 29, "	90
	604	June 12, "	60
	646	June 28, "	90
	679	July 4, "	91
	761	August 20, "	90
	876	October 22, "	90
	1073	May 21-22, 1925	90
	815	Sept. 18, 1924	90
	1081	May 23-24, 1925	90
	1169	June 20-21, "	90
	1205		
	T5		

AX 22 -15

	290	Nov. 1, 1923	64
	331	" 28 "	129
	2		

Apparently there are no aX plates at 21h 0°

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aY Plates Not showing Nova
$22^h\ 0^m\ 0°$
no plates found

a Plates —
Show faint stars
Nova N. S.

			Exp.
a	5711	October 9, 1901	60^m
	10197	July 16, 1910	61
	9929	October 30, 1909	60

aY Plates $20^h\ 0°$
Near edge of this region but good plates

		Exp.
123	June 30, 1924	122^m
206	August 18, "	60
375	November 18, "	128
712	July 19-20, 1925	158
717	July 24-25, "	127

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ac Plates 21^h -15° Not showing Nova

			Ex.
ac	372	July 30, 1899	63
	485	Oct. 21, "	85
	900	June 25, 1900	63
	1523	June 10 1901	42
	1528	June 11, "	44
	1830	October 5, "	74
	1910	" 26, "	85
	1946	Nov. 3, "	79
	2739	August 12, 1902	63
	3004	Nov. 20, "	102
	3783	July 26, 1903	64
	3821	August 13, "	65
	3922	Sept. 12, "	59
	3966	" 22, "	65
	3979	" 24, "	55
	4201	Nov. 2, "	132
	5055	July 13, 1904	69
	5151	August 18, "	84
	5190	" 27, "	93
	5245	Sept. 15, "	58
	5293	" 28, "	65
	5311	Oct. 1, "	77
	5473	Nov. 2, "	107
	6468	June 28, 1905	62
	6487	July 4, "	61
	6545	" 25, "	62
	6584	August 6, "	102
	6633	" 26, "	65
	6700	Sept. 21, "	64

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1925phae.proj.12110

AC Plates $21^h - 15^o$ Cont.

			Eff.
AC	6751	Sept. 28, 1905	63
	7044	Nov. 24, "	75
	7671	July 18, 1906	60
	7709	August 15, "	66
	7732	" 19, "	62
	7754	" 28, "	96
	7781	Sept. 4, "	69
	7882	Oct. 8, "	59
	7991	Nov. 8, "	60
	8011	" 14, "	71
	9513	June 4, 1908	48
	9586	" 28, "	60
	9622	July 10, "	81
	9640	" 16, "	61
	9686	Aug. 27, "	62
	9698	" 29, "	60
	9715	Sept. 3, "	60
	9811	Oct. 13, "	62
	9819	" 14, "	60
See image	9843	" 22, "	60
Defect P. Undoubtedly.			
	10607	June 30, 1909	60
	10639	July 17, "	60
	10644	" 19, "	60
	10661	" 25, "	60
	10707	Aug. 11, "	60
	10862	Oct. 4, "	60
	10876	" 6, "	70

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1925phae.proj.1211

21 -15 Cont

				Eff.
ac	11749	July 4,	1910	61
	11780	" 11,	"	60
	11798	" 26,	"	60
	11818	" 30,	"	60
	11853	August 12,	"	88
	11957	Sept. 28,	"	60
	11968	" 29,	"	60
	12133	Nov. 19,	"	60
	12509	August 19,	1911,	60
	12555	Sept. 12,	"	66
	12572	" 19,	"	53
	12591	" 28,	"	45
	12592	" 28,	"	60
	13401	Oct. 30,	1912	60
	13466	Nov. 10,	"	60
	14151	July 6,	1913	60
	14162	" 10,	"	60
	14167	" 11,	"	60
	14209	" 25,	"	63
	14229	" 30,	"	62
	14253	August 12,	"	60
	14280	" 21,	"	47
	14443	October 21,	"	60
	14480	" 31,	"	71
	14562	November 17,	"	72
	15326	July 18,	1914	60
	15332	" 19,	"	72
	15370	August 15,	"	73
	15384	" 22,	"	62

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1925phae.proj.1211N

Ac Plates 21^h $-15°$ Cont. Not showing Nova.

			Exp. m
Ac	15458	Sept. 11, 1914	58
	15498	Sept. 17, "	63
	15586	October 7, "	61
	16634	August 10, 1915	60
	16839	October 13, "	59
	17686	June 26, 1916	63
	17755	August 2, "	8 ?
	17806	" 19, "	85 ?
	17821	" 28, "	66
	18014	Oct. 14, "	66
Slide 4449	18905	June 20, 1917	70
	19028	August 12, "	72
	19255	October 7, "	62
	20183	June 8, 1918	42
	20336	August 1, "	70
	20584	October 9, "	62
	20781	December 5, "	59
	21554	June 22, 1919	58
	21658	August 2, "	61
	21861	October 1, "	60
	23760	June 4, 1921	66
	23924	August 8, "	64
24306	25392	Oct. 26 20, 1923	63 76
	25436	Nov. 3, "	78

25

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1925phae.proj.121tw

All Plates $21^h - 15^o$ Not showing Nova

Insert 1899-1902, below.

			Eff	
Am 1499	August 12,	1902	62	
1613	October 7,	"	60	
1649	" 20,	"	64	
1728	Dec. 2,	"	60	
1904	May 4,	1903	64	
1983	June 1,	"	61	
2010	" 6,	"	60	
2064	" 22,	"	60	
2177	August 10,	"	60	
2194	" 12,	"	62	
2209	" 14,	"	60	
2210	" 15,	"	350	cl. C
2301	Oct. 8,	"	65	
2318	" 10,	"	67	
2396	December 10,	"	70	

Insert above.

Am 57	August 3,	1899	61	
81	" 8,	"	71	
105	" 23,	"	60	
117	" 25,	"	100	
Slide 214 220	October 13,	"	214	
253	" 27,	"	64	
575	August 1,	1900	60	
601	" 30,	"	62	
686	October 15,	"	60	
863	June 20,	1901	61	
872	" 21,	"	61	
966	August 7,	"	60	

27

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1925phae.proj.1211N

ft. Stars — 2663 2773 | cycl. images 2728 2848

All Plates 21h-15° Cont. —

			Exp.
All	983	August 10, 1901	60m
	1085	October 3, "	60
	1303	June 4, 1902	60
In "Valuable Book, Map of Sky	1307	" 5, "	60
	1346	" 12, "	60
	1365	" 14, "	60
	2582	April 23, 1904	61
	2663	May 19, "	60
	2671	" 23, "	60
	2773	June 22, "	61
	2841	July 17, "	60
	2848	" 20, "	62
	2900	August 1, "	60
	2967	" 19, "	65
	3043	Sept. 16, "	61
	3084	" 29, "	60
	3100	October 1, "	63
	3125	" 11, "	63
Slide 3084	3204	November 9, "	64
	3508	May 9, 1905	61
	3591	June 4, "	60
	3617	" 10, "	62
	3722	July 12, "	60
	3759	August 7, "	61
Slide 3052	3812	" 19, "	60
	3892	Sept. 18, "	60
	3923	October 2, "	60

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1925phae.proj.12110

AM 21^h-15^g Cont.

				Eff.	
Aur	3998	November	28, 1905	64	
	4002	December	4, "	60	
	4340	June	22, 1906	81	
	4343	"	23, "	63	
	4422	July	21, "	60	
	4488	August	10, "	60	
	4507	"	20, "	66	
	4536	"	25, "	73	
	4564	Sept.	11, "	60	
	4614	October	9, "	60	
	4659	"	21, "	62	
	4691	November	14, "	96	
	~~4784~~	~~April~~	~~24, 1907~~	~~63~~	p. 119
	~~4871~~	~~May~~	~~29, "~~	~~58~~	
	~~4909~~	~~June~~	~~7, "~~	~~60~~	
	5507	May	29, 1908	60	
	5594	June	22, "	60	
	5618	"	30, "	120	
	5675	July	22, "	60	
	5726	August	4, "	66	
	5782		30, "	120	
5821	~~5821~~	~~Sept~~	~~14, "~~	~~120~~	67
	5879	October	26, "	120	
	6142	May	16, 1909	60	
	6193	"	30, "	68	
	6212	June	11, "	60	
	6242	"	17, "	60	
	6279	"	23, "	122	
	6362	July	15, "	70	
	6419	"	27, "	66	

27

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1925phae.proj.1211N

Aur 21^h −15° Cont.

			Exp.
Aur	6464	August 14, 1909	61^m
	6485	" 19, "	122
6515	6566	Sept. 9, "	63 60
	6644	October 8, "	121
	6677	" 16, "	61
	7042	June 27, 1910	60
	7072	July 3, "	60
	7152	" 27, "	60
	7187	August 4, "	121
	7228	" 28, "	60
	7259	Sept. 3, "	60
	7487	June 25, 1911	60
	7498	" 27, "	61
	7526	July 6, "	61
	7551	" 15, "	66
	7593	" 21, "	62
	7642	August 2, "	58
	7653	" 4, "	65
	7753	Sept. 15, "	59
	7793	" 20, "	60
	7857	October 10, "	61
	7887	" 17, "	61
	7913	" 24, "	62
	8223	May 21, 1912	60
	8320	June 10, "	61
	8376	" 21, "	55
	8406	July 6, "	60
	8435	" 10, "	61
	8473	" 17, "	60

T30

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1925phae.proj.1211N

				Eff.
Aur	8534	August	3, 1912	60
	8535	"	3, "	66
	8554	"	16, "	63
	8647	September	16, "	60
	8675	October	2, "	60
	8985	May	31, 1913	55
	8994	June	2, "	61
	9008	"	4, "	48
	9101	"	24, "	60

Star d is defective and at first glance seems bright.

	9144	June	30, 1913	140
	9164	July	3, "	67
	9178	"	7, "	60
	9195	"	9, "	60
	9211	"	13, "	62
	9226	"	22, "	60
	9284	"	31, "	62
	9301	August	4, "	62
	9315	"	6, "	59
	9321	"	7, "	59
	9330	"	8, "	60
	9399	Sept.	3, "	57
	9430	"	7, "	66
	9480	"	23, "	61
	9551	Oct.	4, "	58
9843	9959	July	22 20, 1914	58 60
	10082	August	20, "	62
	10112	Sept.	11, "	62

28

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1925phae.proj.1211N

AM $21^h -15^\circ$ Cont.

			Ref.
AM	10123	Sept. 14, 1914	63
	10149	" 23, "	69
	10184	October 9, "	62
	10206	" 18, "	127
	10216	" 22, "	59
	10752	July 3, 1915	61
	10808	" 14, "	69
	10851	" 19, "	60
	11087	Sept. 6, "	60
	11137	" 12, "	67
	11278	" 28, "	61
	11789	May 23, 1916	30
	11850	May 28, 1916	30
	11880	June 2, "	30
12250		July 23, "	60
	12283	July 28, "	82
	12407	Sept. 14, "	60
	14383	Sept. 7, 1918	63
	15512	Sept. 17, 1920	63
	15829	May 31, 1922	60
	15895	June 27, "	67
	15960	July 17, "	60
	16029	Aug. 14, "	60
	16066	Sept. 9, "	60
	16081	Sept. 20, "	60
	16085	" 25, "	60
	16112	October 12, "	68
	16240	April 26, 1923	62
	16337	July 17, "	58

29

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Am 21h-15 Cont

			Exp.
Am	16243	July 18, 1923	60m
	16373	Aug. 17, "	60
	16395	Sept. 3, "	60
	16438	October 9, "	60

4

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1925phae.proj.1211W

ac Plates 22^h -15°

			Eff.
ac	18161	Nov. 11, 1916	62
	18978	July 27, 1917	68
	19081	Sept. 5, 1917	62
	19431	Nov. 10, "	58
	20246	July 3, 1918	68
	20318	" 27, "	54
	20529	Sept. 24, "	68
	21614	July 20, 1919	64
	21799	Sept. 13, "	88
	22874	Sept. 17, 1920	56
	24399	Nov. 19, 1921	104
	25429	Nov. 2, 1923	63
	25461	Nov. 19, "	63

13

am Plates 22^h -15°

am	5719	August 3, 1908	61
	10634	June 5, 1915	60
	10942	August 2, "	58
	11067	Aug. 28, "	66
	11341	Oct. 7, "	60
	11392	" 23, "	69
	12594	Oct. 16, 1916	66
	12638	" 20, "	72
	12664	" 23, "	69
	13056	April 25, 1917	30
	14359	Aug. 29, 1918	66
	14482	Oct. 3, "	60

12

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Am 22^h -15°

			Eff.
Am	15049	Oct. 25, 1919	67
	15399	Aug. 10, 1920	61

Plates 20^h 0° were found to not show regim.

Plates at 20^h -15° were looked over for regim to cover. Centers were nearly all too far over — Nova regim would be just off edge. A few more found at centers exceeding 20^h slightly. These were exam. Regim on extreme edge. Nova N.S. Star c always seen.

Am	3944	October 9, 1905	57
	10445	April 19, 1915	60
	10633	June 5, 1915	61
	10657	June 10, "	60
	11007	August 16, "	62
	11066	Aug. 28, "	60
	13537	Aug. 25, 1917	60
	~~15535~~	~~Sept. 26,~~	

Ac	15535	Sept. 26, 1914	62

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1925phae.proj.12114

Exam. of I & B Plates

No attempt made to find all plates but did cover one or more of each year — Per Dr. S.

				Exp.
I	1570	August 3,	1890	13
	4130	Sept. 2,	1891	14
	7272	October 6,	1892	8
	8851	July 20,	1893	12
	13394	Sept. 3,	1895	5
	27689	Oct 4,	1901	17
B	10068	Aug. 1,	1893	10
B	12590	Nov. 16,	1894	10
	16727	July 8,	1896	12
	~~39224~~	~~June 21,~~	~~1908~~	~~10~~
	17913	Nov. 13,	1896	10
	19385	June 3,	1897	10
	21643	June 11,	1898	10
	23386	July 10,	1899	12
	28042	July 26,	1901	10
	28438	Sept. 4,	"	60
	28805	Nov. 13,	"	10
	29775	May 17,	1902	10
	30195	June 26,	"	10
	31866	May 22,	1903	10
	32225	July 15,	"	12
	32367	" 31,	"	10

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1925phae.proj.1211

B 23367 good images

			Eff.
B	32433	August 13, 1903	10
	34028	June 8, 1904	10
	34188	" 23, "	10
	36480	July 22, 1905	10
	36666	August 17, "	10
	39224	June 21, 1908	10
	41526	June 27, 1910	13
	41689	July 17, "	11
	41916	Sept. 21, "	10
	43951	July 13, 1913	13
	48499	Sept. 29, 1916	10
	27		

Later exam:

			Eff.
	I 21146	Sept. 5, 1898	61

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150

Reported to Dr. S. T. November

Summary:

Region is outside our limits of Milky Way.

Region very well covered, several over-lapping sets of plates.

Examined only a few of early I & B plates, 1 or more each year from 1890 to 1899

Dates after 1899 covered by Ac & Ad. 1899 to 1924

Star C, estimated 10.7, always shows.

Nova never seen.

Faintest stars on A plates probably 16th Magn.

Nova never seen, even as faint star, except in August, 1907. It was <12.0 on July 16 and on August 8 was 8.4. It faded quickly and evenly. August 27 it was 12.6 and not seen on later plates.

Prof. Ross' observation was August 12.

H.B.

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Plates examined: Count -

	page	No.		check Total
I	148	6		I 6
B	148, 149	27	+1 Bpl. of 1907 = 28	B 28
aC	see below	231		aC 248
aM	" "	341		aM 358
aK	132	2		aK 2
aX	132, ~~133~~	1		aX 27
	133	25		aY 5
aY	134	5		a 3
				677 ✓
a	134	3		
		642		
Plates of 1907	118 & 119	35		
		677		

	p.	no			p.	no	
aC	122	23	21h 0°	aM	123	21	21h 0°
	125	28	22 0		124	12	"
	126	28	"		128	29	22 0
	127	28	"		129	27	"
	135	29	21-15		130	20	"
	136	27	"		131	30	"
	137	29	"		132	9	"
	138	25	"		139	27	21-15
	146	13	22-15		140	27	"
	147	1	20-15		141	27	"
		231			142	30	"
	118-9	17			143	28	"
		248			144	29	"
					145	4	"
					146	12	22-15

22-15
22-15
20-15

No. 231 + 27 = 341 - 358

page 147 147 118-9

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1925phae.proj.121m

Ross Suspected Nova proved to be variable 57 to 153

Friday, December 11, 1925.

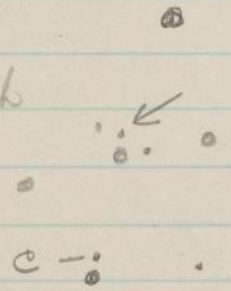
Letter from Frank E. Ross, Yerkes Obs. Dec. 8, 1925

Suspected Nova

$23^h 15^m 24^s$ $+49^\circ 19'.2$ (1875)

		Magn	
18535	August 16, 1909	11 ±	Var = c
20690	July 11, 1915	less than 15	
24492	Dec. 7, 1925	16	(barely rig. in 40")

Copied from Ross' Sketch



Comp. star c = 11 ±

a B 17679 = 23 14 31 +49 2.1 (1875)
= +48°4003

S

Star is proved to be a variable (long-period ?) appearing several times on Harvard plates.

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1925phae.proj.121.tif

GM
(A. Gess. 17679 +48°4003 23 13 35.0 +48 55.9 8.7 (1855)
(Bonn) 14 31 +49 2.1 (1875)

Gesell. Prec. for Cat. star α +2ˢ.7687 δ +19″.661
25 yrs
+69ˢ.22 +49′.525

23 14 31 +49 2.1
+69 +8.2
+48°4003 23 15 40 +49 10.3 (1900)

Variable For proof: Br. 13371 N.S. 34201
and range
Ross position 23 15 24 +49 19.2 (1875)
+69 +8.2
23 16 33 +49 27.4 (1900)

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1925phae.proj.121m

Marked on I 13371 and A 1019 and AC 10458 (regim)

Plates examined:

J.D.			eff.	
2412006	I 4 395	September 30, 1891	10	stars extremely faint. Var. possibly barely seen
13439	13371	Sept. 2, 1895 slide 1393	10	Var. ~~pmuch~~ brighter than C
15030	24421	January 10, 1900	31	about = C
15694 710	27993	Nov. 21, 1901	20	very ft. but seen
13112	A 1019	October 10, 1894	18	a little brighter than C
15984	A 6122	August 22, 1902	10	brighter than C
find	A 1697			
2412357	I 7042	Sept. 15, 1892	17m	N.S. 24
14154	18562	August 17, 1897	10	N.S. A good plate. N.S.
15740	28099	December 21, 1901	10	N.S.
16427	31118	November 8, 1903	16	N.S.
17445	34201	August 22, 1906	22	N.S.

Any A plates at +50 ?

No MC plate - 6886 just off edge

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Ross Variable

This star is too faint for AC Plates. Examination of 1909 plates, including August, barely show the stars adjacent (south) of this. As this star is fainter than at maximum, it seems useless to exam. AC plates

AC	10458	April 24,	1909	60m
	10680	August 1,	"	60
	10709	Aug. 11,	"	62
	10718	" 13,	"	60
	10738	" 21,	"	60
	10769	" 28,	"	62
	10820	Sept. 17,	"	61
	10848	" 30,	"	64
	10851	" 30,	"	60
	10890	October 7,	"	60

Period

13112		
13439	327	1 × 327
15030	1591	5 × 318
15710	680	2 × 340
15984	293	1 × 293 not full Max
18535	2551	8 × 330
		5) 1608
		322

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1925phae.proj.12110

Summary — Provisional Period

			J.D	Computed P = 3.20 days J.D. 13112 Max	Min (±163 / 13272)
Max?	1891	Sept. 30	12006	12152	
Min	1892	Sept. 15	12357		12312
Max	1894	Oct. 10	13112	13112 (used)	
Max	1895	Sept. 2	13439	13432	13272
Min	1897	Aug 17	14154		13912
Max	1900	Jan. 16	15030	15032	14232
Ft. but seen	1901	Mar. 21	15710	15352 / 15672	15192 / 15512
Min.	1901	Dec. 21	15740		15832
Max	1902	Aug. 22	15984	15992	16152
Min.	1903	Nov. 8	16427	16312	16472
Min	1906	Aug. 22	17445	16632	17432
Near Max	1909	Aug. 16	18535	18552	18392 / 18712
Min	1915	July 11	20690		20632
Min	1925	Dec. 7	24492	24312	24472
Predicted Max	(1926	April 26	24632)	24632	

Max. & Min. plotted approximately

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1925phae.proj.121w

Friday, February 5, 1926.

For Mr. Fisher

Object on I 45057 Nov. 20-21, 1925.
Plate taken for Meteors.
Dr. Fisher found hazy obj. which he thinks is not a meteor.
Looks like Comet?

Hazy, long;
17h 34m +30.0 (1855)

Mr. Campbell identifies this with Peltier's Comet.

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V

page 159 to 165

Reported to D.S. March 25) 1926.

Wednesday, March 10, 1926

Letter of Frank Ross, Yerkes, to Dr. Shapley, March 6, 1926

BD
To look up +34° 531. Not on his plates. Kustner states the star was in sky October 21, 1856.
Was it a nova?

+34° 531 $2^h 43^m 40.^s5$ +34° 0.'6 mag. 9.3 (1855)

Look up on available plates.

In Var. Cat.? No.

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1925phae.proj.12117

Ross +34°531

Also, I 24652 shining ft. stars, and ac 24276

I marked on I 16736 region of:

+33 531 2 43 40.7 +33 57.5 9.3

+34 531 2 43 40.5 +34 0.6 9.3

(Coincidence!) NB. Nos. are identical

+34 531 is N.S.

Not a Variable; never appears.

Several unchartered bright stars near.

Summary plates exam.:

page 161	+ a Plates	1	
" 161, 162	I	" 26	58
		32	
" 163	ac	" 24	53
164		29	
165	ax	1	10
165	ay	9	
			122

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1925phae.proj.12117

Wednesday, March 24, 1926.

Ross.

Plates examined: No trace of +34° 531
+33° 531 always bright.

a 6902 August 22, 1904
1

Eff
I 2005 October 17, 1890 15m
2184 1890.
2424 1890
2705 1891
2875 1891
2931 1891
4880 1891
4894 1891
7695 1892
7899 1893
9547 1893
10080 1893
10250 1893
12082 1894
13150 1895
14371 1896
15556 1896
15792 1896
15958 1896
16059 1896
16307 1896
16736 16888 1896 1896
16963 1897
17203 1897
18392 1897

26

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1925phae.proj.12110

Ross +34° 531

I 18469	1897
18723	1897
19284	1897
19456	1897
19482	1897
19860	1897
19995	1898
21614	1898
21762	1898
22249	1899
22342	1899
24544	1900
24563	1900
24652	1900
24697	1900
25606	1900
26464	1901
26492	1901
26611	1901
27678	1901
29700	1902
29915	1903
30727	1903
32353	1904
34553	1907
38261	1913
38262	1913
38263	1913
38264	1913
40699	1921
41561	1922
32 41606	1922

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Ross.

ac Plates Regions 2^h to 3^h $+30°$

ac	17247	1916
	17860	1916
	18399	1917
	18676	1917
	23444	1921
	~~23963~~	~~1921~~
	23214	1921
	23260	1921
	23336	1921
	23376	1921
	23569	1921
	23963	1921
	24026	1921
	24060	1921
	24099	1921
	24155	1921
	24211	1921
	24223	1921
	24276	1921
	24359	1921
	24415	1921
	24454	1921
	24533	1921
	25687	1924
	25719	1924

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Ross. +34° 531

Additional AC Plates to cover years not included in preceding plates

AC	6925	1905
	7110	1905
	7347	1906
	7996	1906
	9942	1908
	10041	1908
	10073	1908
	10764	1909
	11284	1910
	12584	1911
	12666	1911
	12798	1911
	12938	1912
	13284	1912
	13415	1912
	13430	1912
	14788	1914
	16162	1915
19790	16674	1915 — 1918
20566	21680	1919 — 1918
	21937	1919
	21966	1919
	22343	1920
	22978	1920
	23138	1920
	25474	1923) region 3h +45°
	25481	1923)

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1925phae.proj.1211

Rrrs.

aX 221	1923
1	
aY 326	1924
365	1924
396	1924
402	1924
747	1925
775	1925
789	1925
843	1925
865	1925
9	

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1925phae.proj.1211N

Cont. from page 109

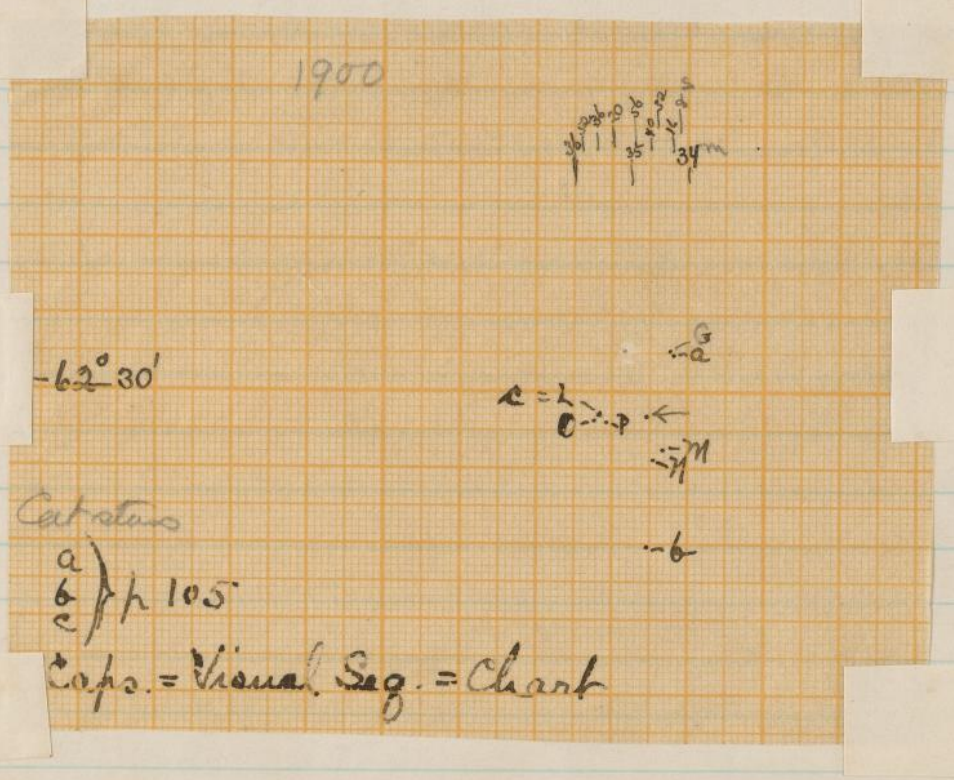
Nova Pictoris Continued

Mr. Campbell's faint stars in sequence.

Marked, p. 105, using visual sequence letters in Capitals

See print of Sequence.

Visual Seq.	(1900 positions)		
L	=	-62 679	
M	6 34 25.7	-62 37.6	
N	6 34 38.3	-62 39.1	
O	6 35 36.2	-62 33.8	
P	6 35 26.2	-62 34.0	
G	6 34 18.9	-62 24.9	



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1925phae.proj.1211W

Continued on page 214

Nora, page 104, $6^h\ 34^m\ 42^s.8\ -62^\circ\ 33'.1$ (1900)

Usual Seq. See print.

See letters, page 105

Reset as measured for Nora, page 105

film of a 5772

Measured directly from Nora.

	mm	mm	x - Nora	y - Nora	x×4	sec δ = 2.169 (mul)
Nora	9.00	29.00				
O.	2.85	28.30	-6.15	-0.70	24.60	53.35740
P	4.00	28.08	-5.00	-0.92	20.00	43.38000
N	9.52	23.00	+0.52	-6.00	2.08	4.51152
M	10.97	24.52	+1.97	-4.48	7.88	17.09172
G	11.76	37.18	+2.76	+8.18	11.04	23.94576

Nora $6\ 34\ 42.8\ -62\ 33.1$ (1900)

$53.4 \qquad 0.7$

O $6\ 35\cdot 36.2\ -62\cdot 33.8$ (1900)

Nora $6\ 34\ 42.8\ -62\ 33.1$ (1900)

$43.4 \qquad 0.9$

P $6\ 35\cdot 26.2\ -62\cdot 34.0$ (1900)

Nora $6\ 34\ 42.8\ -62\ 33.1$ (1900)

$4.5 \qquad 6.0$

N $6\ 34\cdot 38.3\ -62\cdot 39.1$ (1900)

Nora $6\ 34\ 42.8\ -62\ 33.1$ (1900)

$17.1 \qquad 4.5$

M $6\ 34\cdot 25.7\ -62\cdot 37.6$ (1900)

Nora $6\ 34\ 42.8\ -62\ 33.1$ (1900)

$24.0\ (23.9) \qquad 8.2$

G $6\cdot 34\cdot 18.8^9\ -62\cdot 24.9$ (1900)

May be a slight error from resetting but it would be only in orientation, as readings of Nora are set exactly. Orientation was also carefully set — see page 105 for stars used.

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1925phae.proj.121.tif

Reported to Dr. S. March 3 1927.

Saturday, February 26, 1927

For Dr. Shapley

Letter from Van Biesbroeck, Yerkes, Feb. 24, 1927.

Pogo — New Variable, Pogo.

→ $8^h\ 53^m.1\ -0^\circ\ 38'.2$ (1900)

Var. see statement of material exam. and plot of region — Pogo

" Maximum Feb. 6, 1897 mag 9.5 13962

March 10, 1915 20567

Minima Jan (late), 1927 / fainter than 15.5

Feb. early, " /

Probable Period ∠ 300 days."

→ New — Not in Card Cat.

List made of Observations from fol. pages

To send, see letter

1) Maxima estimates

2) Minima estimates < 13.0

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1925phae.proj.121.169

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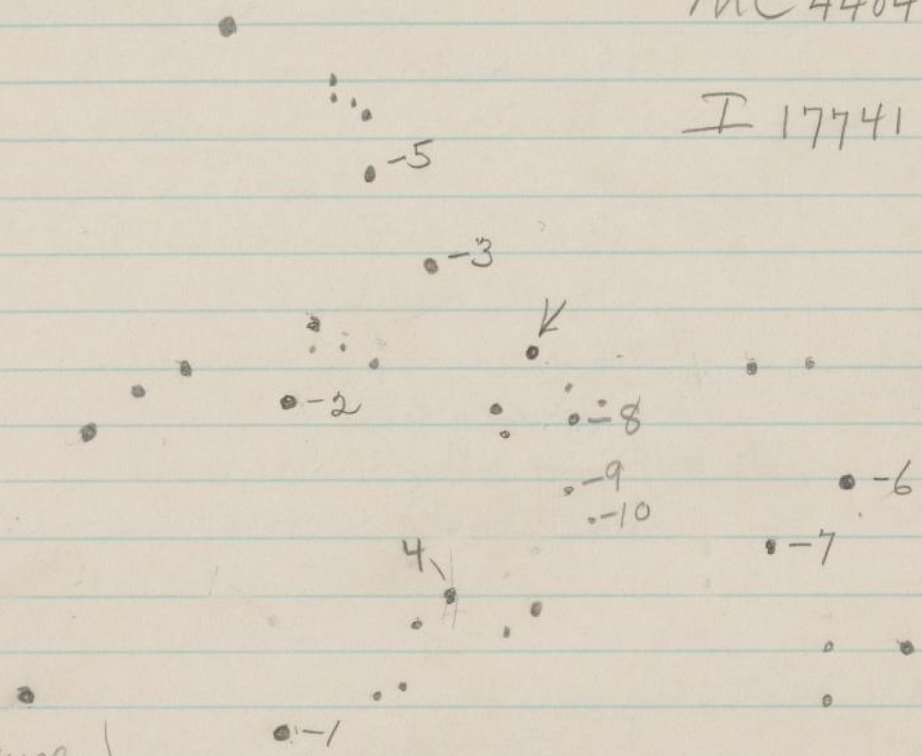
1925phae.proj.121W

085300

A 7296 var. Br.

MC 4404 var. very Ft.

I 17741



A7296, sequence is near north edge, not to be estimated

Var is very close to marked sequence

Sequence of 100 K marked on MC 4404

2 estimates

Seq. of Variable, A7296

Compared also with 3 plate

	Seq.		Mean	Corr. 1922		Use	
On MC4404	1	10.6	10.5 =	10.55	+0.22	10.77	10.7*
	2	10.7	10.6 =	10.65	+0.22	10.87	10.9
	3	11.4	11.3 =	11.35	+0.24	11.59	11.6
	4	11.8	11.9 =	11.85	+0.24	12.09	12.1
Ft. Magno.	5	11.9	11.9 =	11.90	+0.24	12.14	12.2*
perhaps uncertain	6	12.5	12.4 =	12.45	+0.24	12.69	12.7
MC4404 is	7	12.6	12.6 =	12.60	+0.25	12.85	12.9*
excellent plate	8	13.3	13.4 =	13.35	+0.26	13.61	13.6
Interval too large if needed	9	14.6	14.4 =	14.50	+0.25	14.75	14.8
	10	15.0	15.2 =	15.10	+0.24	15.34	15.3

1 to 10, Diff Mean = 4.55

Est. grades

1-2 = 2
2-3 = 6
3-4 = 4
4-5 = 1
5-6 = 6
6-7 = 2
7-8 = 8
8-9 = 12 ?
9-10 = 3

44 ✓

Not included in mean

For Checks only

*= Interval seems better than tenth as would be read from Cor. magn. Col.

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1925phae.proj.12114

Segmnce of 100 K, MC 4404,
Magno. Bk. 19, page 55

1	8.34
2	9.06
3	8.91
4	9.43
5	9.92
6	10.44
7	10.82
8	11.35
9	11.78
10	12.01
11	12.16
12	12.16
13	12.64
14	13.06
15	13.62
16	14.18
n B 17	13.68
18	14.75

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1925phae.proj.121.tif

085300

			Eff m		Plot
				241 ✓	
<13.6	B15313	January 11, 1896	11	3570	
13.7	25140	April 18, 1900	10	5128	✓
<13.6	25400	May 23, 1900	11	5163	✓
<13.6	27035	March 30, 1901	10	5474	✓
<13.6	27193	April 16, 1901	10	5491	✓
<12.9	27239	April 23, 1901	10	5498	✓
<13.6	27422	May 27 1901	11	5532	✓
11.5	29544	April 30 1902	10	5870	✓
12.2	31383	March 23 1903	62	6197	✓
12.9	31702	May 7 1903	10	6248	✓
<12.9	35181	Nov. 4 19?	10	?	
<13.8	35425	Jan. 9 1905	Stw (8 abmt, 2)	6855	✓
12.4	38703	April 11 1908	12 14	8043	
abmt 12.7	46211	Jan 3, 1916	10	20866	✓

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1925phae.proj.1241u

				Eff. m		Plot
13.4	I	17741	April 1, 1897	14	4016	
<12.9		26910	April 27, 1901	10	5502	IV
<12.5		28360	Jan. 27, 1902	17	5777	V
<12.9		28413	Feb. 5, "	60	5786	V
* 11.4		14934	April 16, 1896	13	3666	

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1925phae.proj.1211N

85300 → Plates of 1905 selected as A 7296 is 1905

Var. near ~~eq~~ extreme edge (fol.) J.D.
am Plates $8^h\ 00.\ 0^\circ$ Exp 241

<12.2	N.S.	am	3183	Nov. 2	1904	63m N.S. 5 barely Seen	6787
<10.9			3245	Nov. 17	1904	60 NS 2 " "	~~6~~6802
<11.6			3311	Jan 10,	1905	60 NS 3 Seen	6856
<12.2			4138	Mar. 24	1906	70 NS 5 "	~~6~~7294
<12.2			4199	May 4	1906	60 NS 5 "	7335
<12.2			3378	Mar. 13	1905	62 NS 5 "	6918
<10.9			3416	Mar. 30	"	60 NS 2	6935
<10.9			3491	May 1	"	62 " 2 or 3 ?	6967
11.2			3545	May 22	"	62 "	6988
<10.9			4052	Jan 26	1906	64 " 2	7237
11.5?			4117	Feb. 17	1906	61	7259
11.3			4690	Nov. 13	1906	60	7528

Regin $9^h\ 0^\circ$

<12.2		am	3437	April 5	1905	61 NS 5 Seen	6941

→ 1913 am plates $8^h\ 0^\circ$ 242

<12.2		am	9578	October 23,	1913	NS 63m 5 Seen	0041

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1925phae.proj.1211

Region near edge

Plates as poor no est. is made before faintest star seen of reg. For example, 6055 may show Star 3 = .2 or so.

→ 1905 ac Plates

ac	8h 0°		Exp.			J.D. 241
< 11.6	6055	Feb. 23, 1905	54m	NS	3 barely seen	6900
< 12.2	6133	Mar 6 "	107		5	6911
< 12.2	6213	Mar 23 "	74		5	6928
< 10.9	6271	Apr. 7 "	78		2	6943
< 11.6	6310	" 23 "	64		3	6959
< 10.9	6335	May 1 "	60		2	6967
< 10.9	6905	Oct. 28 "	60	NS	2 or 3?	7147
11.0	7317	Feb. 23, 1906	67			7265
< 12.9	7425	March 31, 1906	82		7?	7301
probably about 11.1	7978	Nov. 6 1906	54	Very poor		7521
perhaps 11.6	8121	Dec. 19 "	76	" "		7574

→ ac 1913 Selected Plates

	8h 0°					241-242
< 11.6	13652	Jan. 14 1913	60	NS	3 seen	9782
< 12.2	13687	Jan. 27 "	65	"	5 "	9795
< 12.1	13725	Feb 2 "	61	"	4 "	9801
< 11.6	13879	March 12, "	84	"	3 "	9839
< 11.6	14592	Nov. 23, "	64	"	3 "	0095
< 12.7	14637	Dec. 9, "	61	"	6 "	0111
< 12.2	14718	Dec. 28 "	60	"	5 "	0130
< 12.2	13631	Jan. 9, "	65	"	5	2419777
< 12.1	14782	Jan. 17, 1914	60		4	20150
< 12.2	14905	Feb. 24, 1914	79		5	0188
< 11.6	14991	March 19 "	63		3	0211

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1925phae.proj.1211N

~~Dec 1905~~
~~Regin~~ S

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1925phae.proj.12110

Selected Plates

J.D

→ 1905 A plate exp. 241

11.0 A 7296 May 9, 1905 60 6975

out of focus

Magn. verified by Dr. S. March 1, 1927.

→ 1913 MC Estimate of Min.

MC

15.8 4404 November 6, 1913 60m 242 0098

Magn. verified by Dr. S. March 1.

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1925phae.proj.1211N

178 16995 Good plate

085300 Selected Plates 1915

	ac	ac	$8^h\ 0^\circ$ & $9^h\ 0^\circ$	Eqx.			242
-	11.9	16124	February 18, 1915	75^m			0547
-	11.5	16209	March 10, "	65	(9^h 8)		0567
-	11.3	17105	Dec. 11, "	63			0843
-	11.3	16995	Nov. 13 "	63	90		0815
	<12.9	17204	Jan. 8 1916	60	NS 9	7 sec	0871

same date

am $8^h\ 0^\circ$

	<12.7	10539	May 4, 1915	60	NS 6	5 sec	0622
-	11.4	11458	November 13, 1915	61			0815
	<12.2	11795	May 25 1916	30	NS 5	" "	1009 Very poor

am $9^h\ 0^\circ$

	am <12.9	10447	April 20, 1915	60		7 sec	0608 ~~0944~~
Slide 3702	—	10617	June 4 "	30			0653 Too poor
	<12.2	10673	" 13 "	30		5 "	0662
	<12.2	11922	June 8 1916	30		5 "	1023
	<12.2	11949	June 11 "	35		5	1026
	<12.1	10412	April 14, 1915	60		4	0602
	<12.9	10420	April 17, 1915	60		7	0605
	<12.1	12048	June 23, 1916	30		4	1038

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1925phae.proj.1211N

AC 1901, 1902, 1903. Not making estimates of poor plates or those in which star does not show, except near date of Comp. Max.

Reg. $8^h\ 0^\circ$

Most of these plates are very poor

				Eff			Plot
<12.2	AC	1271	Feb. 21, 1901	70m	N.S.	5 seen 5437	✓
<12.2		2137	Jan. 1, 1902	73	N.S.	5 " 5751	✓
<12.2		2205	Jan. 17 "	61	N.S.	5 " 5767	✓
<12.1		2333	Feb. 15 "	61	N.S.	4 " 5796	✓
Seen 11.3		H100	Oct. 25 1903	67		6413	✓
?			perhaps, est. uncertain, very poor				
<11		6413 2	Oct 29 1903	57	N.S.	3 seen 6417	✓
? 11.5		4359	Dec. 13, 1903	51		6462	✓
? 11.9		4418	Dec. 22 1903	60		6471	✓

AM $8^h\ 0^\circ$

11.2		1265	May 19, 1902	60		5889	✓
<11	6	1684	Nov. 7, 1902	60	3 seen	N.S. 6061	✓

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1925phae.proj.1211W

085300 Late Plates

9h 0° ac

ac 23219 Jan. 3, 1921 60m NS 5 seen
23296 Jan. 18 " 60 " 6 "

8h 0°

11.2 ay 910 Dec 17-18 1925 79 24502
1208 Nov. 3-4 1926 64 NS 5 em

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1925phae.proj.121W

182

Reported

Sat. February 26, 1927

Dr Shapley

Letter of Ross, February 11, 1927 (Yerkes)

→ Var. A BD +11° 809 9.5

5 20 42 +11 19.1 (1875.0)

M 10 Nov. 11, 1909 M 11 Dec 28 1926

+11° 809 = 5 19 34.5 +11 17.7 9.5 (1855)

Seq Based in 73 K

Mlsd I 32160 Var & Cat St.

→ I 31266 good plate for ft. stars.

Confirmed as about 3 mags by Dr. Shapley March 7, 1927

(See (Confirm) Range 3 mags ± 10.9 to 13.9) See mags in Ledger map 10.6

Mlsd I 41791

Star 2, 11.1, and Var. at Min., 13.9, marked. Star 2 is a trifle fainter than Var. at Max.

J.D

Ross: Nov 11, 1909 10m 18622

Dec. 28, 1926 11m 24878

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1925phae.proj.1211

Index:

184 Sequence, plot & magns.
185 Comp. Seq., 73 K
186 Exam. of II plates
(no. B Pl.)
~~190, 2~~ ac pl. 1899 to 19~~25~~
190 to 208
198 am pl $6^h 0^\circ$
200 am " 5 +15
202 aY "
196 a pl.

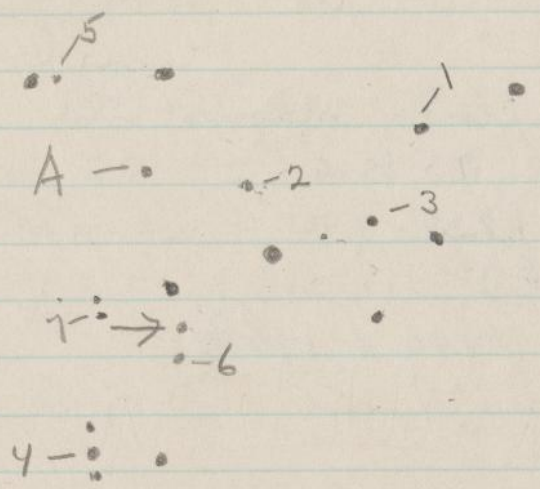
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1925phae.proj.121W

Roro 05+21 911 ?

I 24367

Mkd AC 6927



Difficult. Too much distance between letters

Seq. & Var. ⊙ Standard

	I 24367	I 5465	Mean	Corr.		Use
1						
2	10.8	11.0	10.90	+0.23	11.13	11.1
3	11.3	11.3	11.30	+0.24	11.54	11.5
4	11.8	11.6	11.70	+0.24	11.94	11.9
5	12.1	12.0	12.05	+0.24	12.29	12.3
* 6	12.7	12.8	12.75	+0.25	13.00	13.0 — ?
7	13.3	—	13.3	+0.26	13.56	13.5*

better interval

Seq. sent by Dr. Shapley.

AC 10228

A	10.5	10.5	10.50	+0.22	10.72

*

Star 6, 13.0, looks much brighter that 5, 12.3, on many AC plates. As these are both about at limit of the plates variation cannot be proved. If sequence should be published, check 13.0 from better I or A plates, if possible

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1925phae.proj.1211

73 K marked on MC 2050
Magnus. Bk. 19, p. 18

trans. to I 24367

large interval

1			Corr.
2	9.67	~~+0.19~~	~~9.86~~
3	10.82	~~+0.23~~	~~11.05~~
4	11.68	~~+0.24~~	
5	—		
5a	— not mkd on MC 2050		
6	12.27		
7	12.66		
8	12.82		
9	13.24		
10	13.51		
11	13.80		
12	14.54		
13			
14			

possible

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1925phae.proj.121.1W

0522 11 Exam of plates

No B plates

I Plates

373

611

11.4	2650	Dec. 29, 1890	10	
11.8	2920	Jan 26 1891	13	
<11.5	4705	Nov. 3, 1891	11	
11.8	5184	Dec. 16, 1891	15	
11.7	5219	Dec. 17, 1891	10	
11.2	5371	Jan. 8, 1892	10	
11.6	5419	Jan. 20, 1892	17	
11.9	5465	Jan. 26, 1892	27	
11.8	5477	Jan. 31, "	10	
11.8	7717	Dec. 22, "	20	
<13.2	7781	Dec 29 "	14	
<12.3	7935	Jan 21, 1893	12	Probably seen and perhaps <13.0
11.0?	10439	Jan. 17, 1894	14	
11.3	10533	Jan. 22 "	10	
<11.5	12395	Feb. 20, 1895		Poor
13.7	14862	April 10, 1896	10	
12.1?	17325	Feb. 13, 1897	10	
Br.	17338	Feb. 16, "		Poor, Black
10.8	19228	Oct. 9, "	10	Poor
10.9	19889	Jan. 1, 1898	13	
12.1?	20100	Jan. 29 "	13	
13.4	13.4 22160	Jan. 19, 1899	11	
<13.0	22238	Jan. 26, "	12	
13.1	22426	Feb. 24, "	11	

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1925phae.proj.12119

Plot ✓

11731
1759
2040
2083
2084
2106
2118
2124
2129
2455
2462
2485 ○ 4b is good image?
2846
2851
3245
3660
3969
3972
4207
4291
4319
4674
4681
4710

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1925phae.proj.121[illegible]

		I Pl.		Eff	
about	11.2?	23872	Oct. 20, 1899	11	Tor pos
	13.0	24367	Jan. 2, 1900	69	
	12.0	24904	Mar. 21, 1900	10	
	11.0	26195	Dec. 9, "	13	Pos
	13.7	26577	Feb. 7, 1901	20	
	12.8	26654	Feb. 18, "	22	
	12.2?	26778	March 12, "	10	
10.6?	10.8	30791	August 31, 1903	15	
	10.9	31255	Dec. 11, 1903	64	Pos
	11.8	31266	Dec. 13, "	63	
		39746			
		40230			
		40957	Feb. 2, 1922	11	
	13.2	41679	Oct. 1, "	10	
14.0	13.9	41791	Oct. 28, "	12	

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1925phae.proj.1211

J.D.
241
4948
5022
5100
5363
5423
5434
5456
6358
6460
6462

23088
3329
3356

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1925phae.proj.121W

5^h $+15°$ Trying AC plates at Max dates –

page 186, I plates show Max. on
Dec. 1900
Aug. 1903
Exam. plates 1903 to 1905.
Very many rejected, too poor to show ft stars
Insert p 194 of this sequence

AC	δ +15	Date	Exp	
<12.3	3212	Jan. 23, 1903	107	
Perhaps seen at 13 or 13.2				
	3300	Feb. 14,	65	
Trace, perhaps about 12.0				
11.8? 11.8	3337	Feb. 22, 1903	64	hazy, large, but not
<11.5	3347	Feb. 23, 1903	47	
but seen				
<11.5	4025	Oct. 2, 1903	73	
about 12.1	4130	Oct. 29, "	60	
10.8	4348	Dec. 11, "	64	
probably				
<11.2	4442	Dec. 26, "		
10.6?	4506	Jan 7, 1904	76	
10.8?	4552	Jan. 19, "	66	
Brightest? 10.5 or 10.6	4564	Jan. 25	56	
		estimated directly with Standard Seq.		
10.8?	4598	Feb. 3, 1904	56	
10.5 or 6	4620	Feb. 8, "	64	
<see p. 192>		est. directly with St. seq.		
<11.5	5617	Nov. 27,	115	
12.0	5688	Dec. 8	65	
12.2	5708	Dec. 11	66	
12.2 to 12.4	5724	Dec. 14	60	

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1925phae.proj.1211

Plots

J.D.
241
6136

6160

Blacks 6168
6169

6390
6417
6460

6475
6487
6499
6505

6514
6519

6812
6823
6826
6829

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1925phae.proj.121.tif

Insert A 190

	ac	$5^h + 15^\circ$	Eq.	
<11.9	5324	Oct. 3, 1904	61	~~67~~ 57
<11.5	5413	Oct. 22, "	53	67
<11.9	5470	Nov. 1, "	72	
Better reject? 10.8	5747	Dec. 18, 1904	62	Very poor
or brighter				
<11.5	5873	Jan. 22, 1905	60	
	6034	Feb. 19, 1905	64	
	Seen, bright, but too poor to estimate			
Perhaps 11.8	6115	Mar. 4, 1905	59	
" 10.8	6152	Mar. 11. "	67	
? — <11.5	6263	April 6, "	71	
11.5 ~~<11.5~~	6671	Sept. 8	63	
Seen	6775	Oct. 4,	63	
	Too poor to est.			
11.0	6794	Oct. 6	53	
11.8	6927	Nov. 1	66	
~~11.4~~	~~6976~~			
11.4	7220	Jan 27 1906	56	
<12.0	7287	Feb 16 1906	67	
11.5	7374	Mar 14 "	66	
<11.9	7861	Sept 28 "	84	
about 11.4	8010	Nov 13 "	58	
10.6	8095	Dec 7 "	67	
11.6	8144	Jan 9 1907	64	
10.9	8245	Feb 12 1907	62	
See Seq. 10.8?	9140	Jan 3 1908	62	
11.5	9215	Jan 30 "	60	
10.5	9282	Feb. 22 "	57	

Cont. p. 204

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1925phae.proj.1211

Plot

J.D.
6757
6776
6786

6833

6868
6896

6909
6916
6942
7097
7123

7125
7151

7238
7258
7284
7482
7528
7552
7585
7629
7944
7971
7994

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$5^h +15^\circ$ Plates of 1901 etc

	ac		Exp.
12.8	1261	Feb. 19, 1901	61
11.6?	1385	March 30, 1901	71
11.3?	1786	Sept 25 "	100
12.8?	1845	Oct 7 "	79
12.8	1952	Nov 3, "	84
13.2	2033	Dec. 1, "	74
13.0	2176	Jan 10, 1902	60
(10.6 or 7	2262	Feb 3, "	90
10.6	2308	Feb. 10, "	77

last two plates est. with Standard Seq.

10.7	2372	March 1, "	57

about 13.0	158	Jan. 17 1899	84
135th finder	2862	Oct. 6 1902	72

about 12.6?	2930	Oct 23 1902	143
12.6?	2983	Nov 7 "	63
<12.3	3089	Dec 20 "	43
<12.3	3129	Dec 31 "	86

Cont. see p. 190

13.6	ac 164	Jan 18 1899	59
<13.0	ac 566	Dec 4 "	63
13.1	650	Jan 3 1900	73
2nd meas see above 11.3	1786	Sept 25 1901.	100
Br. See Seq. See above	2262	Feb 3 1902	90

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1925phae.proj.12:1

P[illegible]

J.D.
5435
5474
5653
5665
5692
5720
5760
5784
5791

5810

4672
6032

6046
6061
6104
6111 X5

14673
4993
5023
5653

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Ross

Probably 10.8 A 7137 Jan. 12, 1905. 10m Plate 241 6858

N MC Pl.

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All 6^h 0° Eq. on this region years 1 to 1908
near corner of plate. No errata found except
~~11.2 3310~~ this recorded.

12.1	2295	Sept. 29, 1903	60	16387
11.2	3310	Jan. 10, 1905	78	6856

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Am Plates 5^h $+15^\circ$ plate

	am		Exp.	
11.8	698	October 16, 1900	60	15306
* 10.7	2241	August 31, 1903	61	16358
12.3	3054	Sept 19, 1904	60	16743

*2241 comp. directly with Stand Seq., also.

11.7	3917	Sept. 28, 1905	60	17117
10.9	3950	Oct. 9, 1905	75	7128
11.6	4057	Jan. 27, 1906	63	7238
11.7	4630	Oct 12 "	60	7496
11.7	4650	Oct. 17, "	73	7501
? 10.8	4715	Nov 26 "	60	7541
11.4	4721	Dec. 13, "	60	7558
11.6	5045	Aug 4 1907	48	7792
11.3	5206	Oct. 15, "	89	7864
11.8	5231	Oct 28 "	123	7877
11.6	5243	Nov. 2, "	76	7882
10.8	5302	Feb. 5, 1908	74	7977

est directly with Stand Seq.

11.8	5857	Sept 24 1908	62	8209
perhaps 12.3 or little lighter?	6693	October 20, 1909	124	8600
10.7	6773	Nov. 12, 1909	60	8623
10.7	6799	Dec 5, "	121	8646
* 10.7	6813	Dec 11, "	62	8652
11.2	11446	Nov 12, 1915	2081/4	

* Plates between exam. Not good enough.

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AY plates

not plotted

				Eff	242
about 125?	895	Dec 10-11	1925	60	4495
125	894	Dec 10-11	"	60	4495
127	896	Dec 10-11	"	62	4495
Probable <130	824	Oct 10-11	-11	60	4434

X All eyes. ~~No~~ Few estimates. No maxima seen. 1925 & 1926

omit <119 279

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1925phae.proj.121.1N

cont. from p 192

	α	δ + 15°		Eff.
11.8?	10059	Dec. 15,	1908	61
125	10092	Dec 23,	"	62
Tr of from 122	~~10196~~	~~Feb 1~~	~~1909~~	~~79~~
108	10228	Feb 13	1909	66
120	10212	Feb 6	1909	60
about 122	10135	Jan 1	1909	60
130	10288	Mar 8	"	60
120	10940	Oct 18	1909	60
104	11130	Dec 6	1909	60
about 120	11192	Dec 21	"	60
? " 120	11266	Jan 8	1910	61
117	11354	Feb 5	"	60
110	11449	Mar 9	"	61
103	11460	Mar 11	"	60
121	12061	Oct 28	"	60
118	12103	Nov 8	"	60
118	12107	Nov 11	"	60
116	12166	Dec 2	"	58
about 125	12113	Nov 12	"	66
*	very faint plate but see Nov 11 & 12 Mags			
* 102	12029	Dec 22	1910	65
May				
103	12241	Dec 27	"	61
about * 10.0	12276	Jan 5	1911	75
May				
102	12327	Feb 16	"	60
122	12683	Oct 27	"	61
117	12779	Dec 10	"	60
? 128	12839	Jan 10	1912	60
118	12908	Feb 10	"	60

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1925phae.proj.1211w

18291
8299

8351
8344
8308
8374
8598
8647
8662
8680
8708
8740
8742
8973
8984
8987
9008
8988

9028

9033
9042

9084
9337
9381
9412
9443

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1925phae.proj.1211w

	ae Pl	5h +15°	Eff.
116	ae 12928	Feb. 16, 1912	35
110	12985	Mar 10 "	60
<119	13352	Oct 16, "	60
120	13377	Oct 20, "	60
114	13434	Nov 3, "	60
103	13534	Dec. 1, "	60
<119	13609	Dec 30 "	64
<119	13614	Jan 1 1913	55
<119	13648	Jan 14 "	60
<119	13689	Jan 28 "	64
<119	13741	Feb 6 "	63
<119	13752	Feb 8 "	64
117	14505	Nov 4, 1913	63
117	14524	Nov 6 "	62
118	14572	Nov 20 "	60
117	14615	Dec 3 "	54
117	14629	Dec 8 "	65
125?	14715	Dec 28 "	63
<120	14726	Dec. 29 "	60
114	14741	Jan 5 1914	61
114	14791	Jan 18 "	60
118	14799	Jan 22 "	62
<130	14902	Feb 24 "	60
<119	14919	Feb. 27 "	70
110	15714	Nov 12 "	60
109	15732	Nov 16, "	62
110	15759	Nov 21, "	94
108	15875	Dec 16 "	69
105	15885	Dec 17 "	65
104	15898	Dec 18 "	70

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1925phae.proj.1211

Plat ✓

19449
9472
9692
9696
9710
9738
9767
9769
9782
9796
9805
19807
20076
20078
0092
0105
0110
0130
0131
0138
0151
0155
~~0188~~ 0188.
0191.
0449
0453
0458
0483
0484
0485

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	ac Pl.	5h +15°	Ecf.
108	15916	Dec. 22, 1914	58
11.1	15986	Jan 8 1915	60
116	16018	Jan 13 1915	62
11.0	16032	Jan 20 "	60
122	16110	Feb 17 "	60
113	16856	Oct 17 "	60
✗123	17068	Dec 3 "	60
<125	17079	Dec 7, "	64
About 122	18046	Oct 23, 1916	56
120	18324	Dec 19 "	73
Br. Too faint to see	18354	Dec 28 "	60
113	19763	Feb 2 1918	79
<120	23424	Feb 12 1921	60
<119	24301	Oct 25 "	52
114?	25772	Jan 30 1925	64

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Plot V

20489
0506
0511
0518
0546
0788
0835
0839
1160
1217
1226

1627
2733
2988
4181

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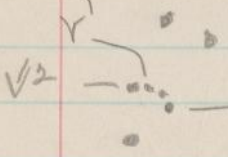
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1925phae.proj.1211N

Ross Letter y Feb 11 Star B
23 30 28 +16 2 (1875)
Sketch given.
V' & V?
"A most interesting system, if verified, as the 2 Vars are only 10" apart and may form a system of some sort".

$V' = 13^m - 16^m$.
$V^2 = 15$ and fainter

V^2 is 10" east of V'
North



— marked on MC 7273

Cannot verify.
One star is seen that may be V^2 or combined image. Our few plates are not long exp.

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Eclm.

MC 7273 December 17, 1914 10m
this shows a ft star in position of one of the Vars
or may be combined image

MC 18939 August 21, 1922 22m
very ft, one image only,

a 1702 Sept. 19, 1895. Ecl 40m
one ft image

a 3896 August 18, 1899 Ecl. 10m
very poor, one ft image

I 33390 Sept 25, 1905 19m

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1925phae.proj.1211W

Wednesday, March 28, 1928

Original plates = aX 1013

Nova Pictoris.

Receipt of plates from South Africa (first shipment, new Boyden Station) to exam. plates of Nova Pictoris for magnitude.

aX 2056 marked 1927
aX 2019 Sept 30
2056 Nov 3
2057 Nov 3
2070 Nov 16
2119 Dec 30 not sent

MF 11033 mkd
MF 11033 Sept 21-22
11106 Oct 23-24
11139 Oct 29
11164 Nov 16 many faint stars
11186 Nov 24
11188 Nov 24
11195 Nov 25
11196 Nov 25
11241 Dec 19 very large images

a little change?

aX 2055 Nov 3 $3^h - 60^\circ$ not cover
a little faint aX 2083 Nov 24 Large Mag Cl —

Between Comp. Stars 3-4 (5.8-6.8) 6.5 ± .2

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1925phae..61..121W

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1925phae.proj.121w

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Ara Pictoris

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1925phae.proj.121W

Nova Pictoris. Watson Index.

HB 821
33
447

Bk. page

80 first identification

92 etc B plates, A, A M, exam for var. in Cat star, and looking for variable in nearby stars.

98 Magn. of ft. star, normal

100 } plot of Sequence stars
101 }

102 Magns of " " , Spectra, etc.

104 Magns of Comp Seq.

105 Positions " " "

106–109 Exam. of late plates. (Magns. not given)

166 Mr. Campbell's visual Sequence

214 Exam. later plates (South Africa)

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1925phae.proj.121W

Nova Pictoris. Summary

first exam. as C.P.D.-62° 679
N just precedes this Cat. star.

examined Cat. star on plates 1890 to 1924 for variation
After identification as ft. star, plates were examined
again for change in this star. always about 12.8.

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1925phae.proj.121.tif

aX 1013 original plate Terra Pictoris 1927 6.4 a 6.5 ± .2
Between 3 - 4 (5.8 - 6.8) Bb. 33, f. 214
(aX 2056 mkd)
aX 2019 Sept 30
2056 Nov 3
2057 Nov 3
2070 Nov 16
2119 Dec 30 not sent

(MF 11033 mkd)
MF 11033 Sept 21-22
11106 Oct 23-24
11139 Oct 29
11164 Nov 16 many ft stars
11186 Nov 24
11188 Nov 24
11195 Nov 25
11196 Nov 25
11241 Dec 19 very large images

some chg?

aX 2055 Nov 3 3-60 not cover
aX* 2083 Nov 24 Large May Cl
* fainter?

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