

1921phae.proj.2227C

























Tuesday, September 20, 1921

Examination of plates of X Sagittarii

B42692

Sp. g. H<sub>γ</sub> n.s.

Rachis dense, except in violet

X Sag.

174127

W Sag.

175828

Dense.

g

H<sub>γ</sub> n.s.

B42317

X Sag. Dense H<sub>γ</sub> stronger than in 42692

W not in



Sept 20, 1921

X Sag M 43253  
Fis pond.

M Sag G 0-5

M 43311

X Sag Fis

M Sag G 0-5. Same as on 43253

M 40329  
X Sag G 0 H $\beta$  + H $\gamma$  fainter than  
in M 43253

M Sag G 5

Sept. 20, 1921

B 43301

~~Mr~~ X Sag. Fls. <sup>Best.</sup> Star evidently near  
max.

Mr Sag. G 0-5 Same as in previous plates

B 43214

X Sag. Long dense. Not earlier  
than G.

B 5184

Mr Sag. Good  
G 0. 4077 strong, also other  
enhanced lines.

X unknown



Sept. 20, 1921

B 9827

W Sag. 95.

X not in

x Sag. B22826 slant  
Too dense. Hg strong. Probably for

B 13838

x Sag. 78

W Sag. 96-5-

B 13163

x Sag. Too dense

W Sag. not in

Sept. 20, 1921

W. S. G.

The following plates were looked up  
without finding any certain change  
from Class E spectrum.

B 42721

43479

43733

14176

17092

40612

7732

7820

8233

~~13767~~

On B40334 H $\gamma$  is a bit stronger, as  
if of Class F1

On B43409 the line H $\gamma$  is strong  
and the ultra. violet series of hydrogen  
lines are as strong as in Class F1.



Wed. Sept. 21, 1921

2 Hercules 175315  
 Fig. Algol var. Rachi pec. class for Algol.  
 Looked up in  
 No. 22 in I 37919  
 I 37782 long

Rachi narrow. Certainly not earlier  
 than Fig.

I 22978 long  
 Hazy def. not the best.  
 Fig.

Too poor in I 25292 short.

On I 37859 the spectrum appears the  
 composite from H $\beta$  to H $\gamma$ , it resembles  
 Class V, but H $\delta$  is very short, and  
 H $\epsilon$  is not seen clearly.

Sept. 21, 1921

174306 J Ophiuchi Cepheid var.  
 M. 26 m B24207  
 M. 4 m B44163

Also looked up on

M24102 poor def.

B24064  
 G<sub>5</sub>-

Contrast in light stamp.

B23812 Aug. 11, 1899  
 Sp. quite sharp.  
 B or G<sub>5</sub>-

B22818 Aug. 12, 1899  
 Def. poor.

No certain change found.



Sept. 21, 1921

J 22978

for Z ~~Draco~~ <sup>Herculis</sup>✓ 1. 4 Fsp. Hazy, H<sub>2</sub> very strong, K line  
not clearly seen

Thursday, Sept. 22, 1921

M. Serpenti

M 22982 in port.

B 21257

Is band seen, also H $\alpha$  H $\gamma$ .

H $\beta$  higher?

M 23025

Dense. Is band seen

B 39111

for index

B 40590

Pre. dark bands.  
are about half way from  
H $\beta$  to H $\gamma$ .

B 40639

Port. Br. but H $\beta$  & H $\gamma$ .



Sept. 22, 1921  
W. Sup

B390852  
G band seen

B39359  
Almost cent, except for G band  
and direction of features

B38062      39400      39460  
near edge

B39405 best.

Adopt  
this place  
for  
W. Sup's

H&K very narrow, especially H.  
Several other narrow lines seen.  
G band quite strong.

Monday, Sept. 26, 1921

U Sapphirae

no. 27 on

B14619.

In a cluster

Looked up for change of spectrum on

B14620

Star bright

Sept. 13, 1895

F18. Enhanced lines not clearly seen.

H $\gamma$  & H $\delta$  narrow.

B20206

Star fairly bright

sp. diff. from B14620

Certainly B5 perhaps later

Definitive but very good

B11321

F18

bright

B40455

Star ft.

Image blurred by superposition of other spectrum due to bad clock ratio



Sept. 26, 1895

U. Sagittarii

B 40864  
K5

fainter than normal

B 40594  
K0

best faint.

Inspection of B 14620 (best bright)  
and B 40594 (best faint) shows a certain  
change in brightness and spectrum  
sp. F8 to K0.

Star must have been at max. on  
Sept. 13, 1895 when B 14619 and 14620  
were taken, as both show F8 spectrum

Sept. 26, 1921

yz

Sag.

184316

B38080 no. 322.

B20060 like sp. in B38080

Hf very narrow &amp; strong

~~Another~~ <sup>alt</sup> fine line seen, 4172-79 being  
most char. ~~Also~~ one of the greater  
than H<sub>5</sub>.B11480 focus too poor  
No change in general type

B17038

Perhaps more banded than in  
38080, but plate is slightly less.

B41797

Too narrow &amp; dense,

B40620

Sp. same as 38080

B14620

H<sub>5</sub> sp. seems slight fainter than in  
20060, and there may be more  
absorption, but not sure



Sept. 26, 1921

B11321  
Gosh  
G5

B20206  
near Edge.  
Faint: 1K or K5 -  
but lack of focus may vitiate obs.

I can not say that these plates  
show a certain change in sp -  
but it may change from G5 to K200.

B20060 is the best plate.  
G5p Sub. 6.

But B40619 seems to show 4227  
stronger than in B38080.

Tuesday, Sept. 27, 1921

R R Cte.

M 451

As

I 25862 same

I 21937 same

I 17189

Blurry, no lines clearly seen

M 4360

As - high lines seen



Sept 27, 1921

13 Cephei

Sp. on I 40482

marked on AC 21541 yellow

AC 20277 blue

September 27, 1921

U. W. D. racinus  
 Called M. on I 32998 where  
 a rather wide bright band seems  
 to coincide with H $\gamma$ .  
 Other plates show the beginning  
 even more marked, but I am  
 not sure what is for - for  
 several other plates on  
 plate I have it.



Saturday, Oct. 1, 1921

Inis Ashall's bar.

+37° 47' 17"

33749

255-

Looked up also on

91617

92290

91527

93105.9

923749

927943 not corr

but too poor to call  
it till anything at all.

Tuesday, Nov. 8, 1921

I 35424 for missing star 7.7 mag.

+48°28'91" Two stars near DM position

a n. p. =  $\frac{1}{2}$  <sup>sub</sup>  $\frac{1}{2}$  a precedes 6<sup>e</sup>, north 1'

b s. p. = K5 p. <sup>3</sup> traces of bright lines, may  
not be real

In chart plates the s. p. is slightly brighter and is probably the DM star considering spectrum for it must be over a magn. brighter visually than photographically

See A.D.N. 9, 102 for measures of these two objects. She concludes that the DM pos. 19 19 52.6 +48 5.6 is the mean of the two stars and the Gesell-schlag position corresponds to the following +1 inch, (K5 star)

✓ I 35440

a =  $\frac{1}{2}$

b = K5 wide absorption at 4227



Wednesday, Nov. 9, 1921

134242 missing stars.

$+40^{\circ}37'17''$

3 K<sub>2</sub>

Ident. check M. & G.

$+42^{\circ}35'3''$

3 ~~K<sub>2</sub>~~ - Ma

Ident. check M. & G.

Bright spaces quite conspicuous.  
A close inspection and superposition  
shows that these bright spaces  
are the heads of an Ma star.

Nov. 9, 1921

Dobson shot for missing stars

✓  
1.  $+57^{\circ}2577$ 

3 K5

✓  
2.  $+50^{\circ}2771$ 

3 K2

✓  
3.  $+51^{\circ}2572$ 

3 K2



Nov. 9, 1921

I 2561.6 short, for missing stars.

✓  
1. +60°1939

3 K<sub>2</sub>

✓  
2. +61°1842

1 Ma

✓  
3. +61°1820

2 K<sub>2</sub>

Thursday, Nov. 10, 1921

I 23117 (short) for missing 8.0 stars

+1401937

Pec.  
All light bet. H $\beta$  & H $\gamma$

Also broad abs. band of ~~absorption~~ <sup>quartz</sup>  
> than H $\gamma$ .

See I 18573  
dense

I 14630 Ma? Faint

About a dozen plates examined  
I 16025 probably the best.

I 16025

K5 p

All bright bet. H $\beta$  & H $\gamma$ .

Absorption near 4698

Broad line or band near H $\gamma$ ,  
and bet. H $\beta$  and H $\gamma$ .

Beginning of titan bands seen



Nov. 10, 1921

+14°1937

Van susp because Hf seems higher

Looked up by L. D. W. on the  
fall. Apn plates  
No van found

+14° 1937

Identified on I 27417

19 22.8 + 14 53. x (1855)

8. 0 мая

Please look up 10 to 20 plates  
for van Lerp. by E. J. C.  
for spectrum which is slightly  
per and may contain higher  
lines.

Nov. 10, 1821.

cc. 23745  
find no evidence  
find van der W.

on  
AM 599  
" 1088  
" 1998  
" 3751  
" 41356  
" 5362  
" 6294  
" 6453  
" 6998  
" 7774  
" ac 808  
" 2069  
" 2267  
" 23567  
" 2464  
" 2592  
" 2686  
" 2766  
" 2886

Saturday, Nov. 12, 1921

J. 36701 lamp

1. 45 7 H<sub>2</sub>d. lines strong

on J. 37348 very strong in violet



Monday, Nov. 14, 1921

M. Aquilar 192407

no. 8 in B10078

B44121 Same as B10078  
Hyd. ring

B44056  
Hyd. families

HS families than 4077

Star is several tenths families  
girding from Sp. than in two  
previous plates.

The change resembles that in  
5 Cepheid

Tuesday, Nov. 15, 1921

242 6  $\frac{138509}{f_{12}}$  cmh-fm 137.32

SU Cygn  
4077 + 4172 thing, also p128-31



Tuesday, Nov. 22, 1921

I ~~18573~~ 23117

+14°3937

Evidently very red star.  
All the light is between H $\gamma$  and H $\beta$ .

K5p

I ~~18573~~ very narrow

This plate shows spectrum to H $\delta$  K band,

Wed. Nov. 23, 1921.

I 36773 for Bu. 8849, 6.5 to 8.5

Classified as m I 37884.

A difficult bleed.

On I 36773 H $\gamma$  & H $\delta$  appear double. R is fl. Metallic lines strong but. H $\beta$  & H $\gamma$ .

The brighter star is <sup>visually</sup> probably of F5 and fainter of A1, and the photographic brightness must be somewhat equal.



Nov. 23, 1921.

Plates looked over for spec. sp. having  
3869 or 3867 clump. See H.A.

1315742 clump

15149

15188

7530

7531

13127

38750

Scale too small & sp. too dense  
to be sure of line

Friday, Nov. 25, 1921

Examination of <sup>late</sup> X plates for Dr. Hapley  
commencing with ~~last~~ box.

X 13282, 281, 280, 279, 277, 272, 271  
for Nov. Cy. min. being pos.  
21 32 + 42  
1 K star, very thin.

X 13278 X Oph.  
H $\beta$ , H $\gamma$ , H $\delta$  etc.

X 13275 X Arae dense  
H $\beta$  etc.  
K star on plates not strong

X 13273 X Arae  
H $\beta$  strong & bright  
2 K stars.

X 13268 17 24 - 49.8  
1 K star.



Nov. 25, 1921

X 13267 16 47-42  
 $\xi_1$  Scorpion, 5th type stars  
 $\xi_2$  Whitford as others.

13266  $\kappa^1$  Cepheus, broken Pen  
 Hp barely seen as h

X 13250  $\mu$  Crab. all lines dark

X 13249  $\mu$  Crucis  
 Hp not h?

X 13247  $\eta$  Crab  
 Too dense. No R stars

X 13246  $\beta$  Canine  
 Br. Hp M.S.  
 From by Penne  
 See H.C. 224

Mar. 25, 1921

X 13245 for 1237 - 62.5  
H $\beta$  ran?  
not covering.

X 13244 J. Vel. H $\beta$  dark  
10 17 - 55.8  
K stars on plates

X 13212  $\alpha$  Puppis  
K stars on plates

X 13213  $\eta$  Car.

K stars on plates - 10 Car.

13200  
whole box examined



Monday, Dec. 5, 1921

B 20542 sheet (broken)  
good definition.

✓ 1. Rsp no. 262 m B39661  
but better m B20542

Cyanogen band 4025-4041 very strong.

Friday, Dec. 9, 1921

+1104673 See letter of Merrill to  
Dr. Shapley (Nov. 15, 1921)

21 46.2 +12 9  
J 38122, 45-

Get early plates.

J 38093 Oct. 29, 1912  
H $\beta$ , H $\gamma$ , H $\delta$  h.  
H $\beta$  strongish

J 21670 Nov. 7, 1898  
H $\beta$  H $\gamma$  h. 'near edges'  
H $\beta$  strongish

J 15678 Aug. 11, 1896  
Too poor near edge.  
H $\beta$  h.?

J 21387 E. Too poor.

J 9910 Nov. 11, 1893  
H $\beta$ , H $\gamma$ , H $\delta$  higher  
Poor from



Dec. 9, 1921

I 9906 Nov. 10, 1893  
For near E,

I 37966 Sept. 6, 1912  
narrow.

123, 148, 15 h.

Dark H $\alpha$  displaced to violet.

This star has been looked up for  
variability by L. D. W. See her "Book  
for Objects looked up by Request"

She finds it fainter about 0.3 or 0.4  
in 1921 than on earlier plates  
and thinks the change has been  
somewhat progressive

See A I 14107 1915  
A I 20207 1921

Monday, Dec. 12, 1921

+35° 1095-

5- 19.0 +35° 33

8.3 mag

Found by A. J. C. when bright H $\beta$  on  
I 37365, No. 127. Conf. on C 18342,  
18347, ~~but for the purpose~~

I 498 Jan 16, 1890 (short)  
not decisive. Probably no change.  
H $\beta$  not clearly seen but it looks  
like a bright line star

I 35070 Dec. 12, 1907 (short)  
H $\beta$  probably bright



Dec 12, 1921

+37° 1160    15.8 +37    35    7.39

J 37365 No. 208 H $\beta$  a decidedly  
bright line

B 3161 near edge focus too  
poor n.s. as a dark line.

+36° 1021    509    +36    49    7.8  
H $\beta$  n.s. Is this a bright line star?

This is H.D. 33152 Remmick states  
H $\beta$  susp. blue light.

Dec. 12, 1921

H. D. 12 0467 R<sub>5</sub>  
- 21° 37' 81

13 44.5 - 21 36

Looked up for see letter to  
Dr. Shapley. Fairly large p. m. found

Sp. best in B23432,

4227 strong

Also strong lines bet. A p & H<sub>γ</sub>.



Dec. 12, 1921

7 7.1 - 21 38

Classified on B42935 where  $H\beta$  is not clearly seen.

I 43606 at narrow images, shows this star on edge. A narrow bright line is seen at exactly the position of  $H\beta$ .

Thursday Jan 5, 1922

Mc plates

Mc 18276

Comp. sp

no. 41-09 I 38959, Bl. 87, 168

Class. Ks

+560779 (1853) 2 57.6 +565 8.8

Clearly comp. on Mc 18276.

here  
Comp.

Rfc. H5 strong. In band seen.

{ Ma  
A2

Comp. on I 33437 short  
I 35601

I 31601

K5  
A3



Friday, Jan. 6, 1921

MC plates.

MC 18278

No. 1 Class Nb.  $+38^{\circ} 03' 5''$   
Known

No. 2 Class Nb.  $+35^{\circ} 10' 46''$

$5-9.5 +35 38 2.9$  (1855)  
Known

Ann by Espin. but not heliographic  
comp. photographs.

MC 18285 note:

MC 18271

18289

0 min. Nb. Dwarf?

Jan. 6, 1922

Mc 18290

1 hb  
7 18.4 - 22 47 km

2. hb.  
near?

near.  
Mc 18288  
Comp.  
Comp. from I 21325, 31013  
K band ft.

Mc 18286  
Small ft. m. class

Mc 18287 nothing.



Jan. 6, 1922

MC 18284 23 50 +61.3

1 H $\beta$ 

+59° 28' 10"

23 56.2 +59

More light than

Perhaps R8

Portion of dark band  
almost as h. as that to red2. H $\beta$  bright?

No. 8 m D38937

Difficult on all plates. Uncertain.

+60° 26' 37" 23 47.0 +60 47.8 7.3 (1855)

MC 18282

Dray star

2 46.0 +71 11

Jan 6, 1922

MC 18281

8 20 + 61 Pec.  
 Look up  
 To pt. in all plates as far found.  
 136149, 140 pt.

18274

18277 brooding.

18272 Class O km

18273 244 + 512

See about fainter stars



Jan 6, 1822

Mc 18280

Class K + O.  
Run

(Mc 18274

nothing of great interest

Mc 18283

Mc 18281

Mc p.  
Sept. in I 36549

and even in Mc 18281.

Mc 18275

Pec. red ~~clap~~<sup>sp</sup> near to star.  
Probably K5

Class O Run

V 159 + 159

See I 32397 for chart of same  
region

Thursday, Jan 12, 1922

J 3356: short

1 2 B Probably B0

J 3135 short

1	2	K5
2	4	G5
3	4	B
4	3	F0

Bright lines suspected

J 32311 short

1	1	K5
2	2	K5



✓ 1 +39° 4130 20 13.5- +32 46 8.0

✓ 1 +50° 3171 20 38.4 +50 30 7.9  
 ✓ 2 +50° 3174 20 38.8 +50 37 8.0  
 ✓ 3 +53 2485 7.5-  
 ✓ 4 +49 3393 8.6

1 +50 3048 20 14.6 +50 27 7.8  
 2 +50 3049 20 15.0 +50 26 7.8

Wednesday, Jan 18, 1922

37244 short

✓ 1.  $\frac{95}{20}$  4 Component

+67° 1443 22 26.8 +67 42

No. 31 on 3888V,

✓ 2. 4  $\frac{95}{20}$  Image blurry, perhaps due to compen  
No. 13 on 3888V



Friday, Jan. 20, 1922

I 18153 shunt (for F10 class meter)

1.  $\beta^4$  B

+48° 33' 52"

20 37.7 +49 13 8.0

✓ 2. B F10

+48° 32' 10"

20 42.7 +48 19 8.0

✓ 3. B F10

+47° 31' 69"

20 37.6 +47 6 8.0

✓ 4. B G0

✓ +46° 50' 16"

20 37.7 +46 52 8.0

Saturday, Jan 21, 1922

I 32729 for spectrum of stars  
near  $\delta$  Aurigae  
Comp. star 8.0 =  $+47^{\circ}1267$  (85)

Sp. K<sub>2</sub>  
also K<sub>2</sub> in H. D.  
Star 10.1 within D. M.  
Sp. G<sub>0</sub>

Star suspected by Mr. Olcott  
appears other of Class Ma, or K<sub>5</sub>.  
This faint and not very well  
defined.

Chart plates

I 40889 taken Jan. 16, 1922

Ac 24588 " " " "

I 40889 star ft.

Ac 24588

Star very ft. Certainly

Feb. 25, 1921 Ac 23565 same as Ac 24588

Dec. 13, 1911 & Ac 12788



Wednesday, Jan. 24, 1922

For - 27° 1, 944 see letter of P.W.  
Merrill to Dr. Chapley (Jan. 7, 1922)

Merrill finds the spectrum something  
like P Cyg. (H. D. H. D.)  
B 22826 shows the object. This is the  
following of two stars. H $\beta$  is seen to  
the right, but nothing more  
is seen.

B 40329 to par.

Marched B 32277  
See also L. D. W's Book "Request" p. 18  
She finds no evidence of variation  
in 18 B plates. The adjacent star is  
too close for A M plates.

Tuesday Jan <sup>3</sup> 21, 1922

ms 1338 cont. for 140, 164

68	4	Fe
69	4	A
70	4	As
71	2	Fe
72	4	As
73	2	As
74	6	As
75	3	As
76	2	As
77	1	A
78	4	Ma
79	6	A
80	2	Fe
81	3	Fe
82	4	As
83	5	As
84	4	B8
85	3	B5
86	2	Fe
87	3	B9
88	2	Fe
89	1	Fe
90	2	As
91	1	A
92	2	As

4227 string?





Jan. 31, 1922  
M. H. 1338 cont.

93	1	K <sub>5</sub>	Strong wide bands	Per?
94	6	A		
95	2	A		
96	3	A		
97	3	A		
98	1	F <sub>2</sub>		
99	6	A		
100	4	A		
101	4	A		
102	2	A		
103	2	A <sub>2</sub>		
104	4	A <sub>5</sub>		
105	1	A		
106	2	A <sub>2</sub>	narrow?	
107	1	A		
108	2	K <sub>2</sub>		
109	1	F		
110	1	F		
111	2	K <sub>0</sub>	Cyan 4215-41 strong	
112	1	A <sub>5</sub>		
113	2	F <sub>5</sub>		
114	1	F		
115	2	F <sub>8</sub>		
116	3	F <sub>10</sub>		
117	4	F <sub>5</sub>		
118	2	A <sub>5</sub>		





Jan. 31, 1902  
M H 1338

119	2	A3	
120	4	A2	
121	2	A	
122	2	F?	
123	1	K5	Bands strong, incl. one near H $\gamma$ core
124	3	A2	
125	2	A2	
126	4	A0	
127	4	F8	
128	3	A	
129	<del>4</del> 2	<del>A</del> A	
130	4	B9	
131	3	K0	
132	1	K2	
133	2	A2	
134	5	A0	
135	7	K0	
136	5	B9	
137	5	F10	
138	1	K0	
139	<del>1</del> 1	<del>A5</del> A5	
140	5	A0	
141	3	A	
142	2	B8?	
143	2	F8	
144	3	K0	





Jan 31, 922  
M F 1338

145	2	A	wide lines
146	4	A <sub>2</sub>	
147	7	A <sub>2</sub>	
148	1	K <sub>2</sub>	
149	7	A	ft. stem Class A sup. in fall
150	7	B8	
151	1	K <sub>5</sub>	
152	1	A	
153	4	B8	
154	1	K <sub>0</sub>	
155	3	G <sub>0</sub>	
156	3	A <sub>2</sub>	
157	9	A	
158	5	A	
159	1	A	
160	5	G <sub>0</sub>	4077 strong as H <sub>δ</sub>
161	2	A	
162	1	A	Arcturus sup. in spec.
163	4	G <sub>0</sub>	
164	2	G <sub>0</sub>	
165	5	G <sub>0</sub>	
166	3	G <sub>0</sub>	
167	1	A <sub>5</sub>	lines wide
168	1	A	
169	4	G <sub>0</sub>	
170	2	A <sub>2</sub>	
171	8	A <sub>0</sub>	





Jan. 31, 1922  
on #1338

172	2	Az
173	1	Ks
174	4	Ast
175	6	As
176	2	A3
177	2	F8
178	5	As
179	7	As
180	1	F5
181	3	F5
182	2	A
183	4	B9
184	3	As
185	6	K2
186	1	G5
187	2	G0
188	2	G0
189	1	G
190	1	As
191	2	A
192	4	F8
193	6	G5
194	7	A
195	3	K2
196	6	A
197	1	A
198	3	A

Another sp. on spec. Also not seen

2 specimens seen, just same

long bands Cyan?





200	4	Ar
201	2	Ar
202	2	B5-8
203	6	Ar
204	2	g
205	5	A3
206	5	A2
207	2	K2
208	1	F1
209	3	Ar
210	1	A
211	1	K5
212	4	A
213	6	G0
214	5	A
215	8	A
216	1	g
217	7	K0
218	1	F15-
219	3	F15-
220	1	g
221	1	A
222	2	A
223	2	A
224	3	A
225	1	F8

K line ph?

Perhaps B8





Monday, July 16, 1923

J38937 cont. from 137, 166

97	2	G <sup>-</sup>	+64°1818	92 m	J37909
98	2	H <sup>-</sup>	+67 1542	24 "	"
99	2	H <sup>-</sup>	+66 1630	25 "	"
100	2	K <sup>-</sup>	+68 1423	63 "	"
101					



117 114 112















































1921phae.proj.2227c







Friday, February 3, 1922

'3867' star  
 Intensity of series lines.  
 Contrast 139431

4713 2 broad band

4121 2 sharp narrow

3867 15 double? At bottom of  
 sp. shorter & comp. stronger  
 Whole line estimated

4388 12

4143 11

4609 10

3926 14 whole band

3871



Feb. 3, 1922

x7978 J 0 min

4713 3

4121 7

3867 5

4388 9

4144 10

4019 ~~10~~ 83926 ~~8~~  
4

3871 2

Tuesday, Feb 7, 1922

MC 18385-

Numbers the same as in MC 6447

Temp. H.D.	no. in MC 6447		Adopt. H.P.	Adopted	MC 6447	Series	
629 <sup>+</sup> A <sub>0</sub>	73	A <sub>2</sub>	+2	A <sub>2</sub>	A <sub>0</sub>	A <sub>2</sub>	R <sub>2</sub>
651 F <sub>8</sub>	77	F <sub>5</sub> -	9.5 -4	F <sub>4</sub>	F <sub>8</sub>	F <sub>8</sub>	33
5286 <sup>+</sup> F <sub>8</sub>	79	F <sub>8</sub>	9.9 -2	F <sub>6</sub>	F <sub>8</sub>	F <sub>5</sub> ?	149
486 G <sub>0</sub>	80	F <sub>5</sub> -	9.7 -8	F <sub>2</sub> poor	G <sub>0</sub>	?	R <sub>1</sub>
410 A <sub>0</sub>	84	A <sub>2</sub>	7.9 +2	A <sub>2</sub>	A <sub>0</sub>	A <sub>2</sub>	53
365 <sup>-</sup> A <sub>2</sub>	88	A <sub>5</sub> -	8.6 +2	A <sub>4</sub>	A <sub>2</sub>	A <sub>3</sub>	
311 A <sub>0</sub>	89	A <sub>0</sub>	8.5 0	A <sub>0</sub>	A <sub>0</sub>	A <sub>2</sub>	
163 F <sub>5</sub>	96	F <sub>0</sub>	9.3 -5	F <sub>0</sub>	F <sub>5</sub>	F <sub>2</sub>	
235 A <sub>0</sub>	98	A <sub>0</sub>	8.0 0	A <sub>0</sub>	A <sub>0</sub>	A <sub>2</sub>	
327 F <sub>8</sub>	101	F <sub>5</sub> -	9.7 4077	F <sub>2</sub>	F <sub>8</sub>	F <sub>5</sub> ?	
372 F <sub>8</sub>	102	F <sub>5</sub> -	9.7 -8	F <sub>1</sub>	F <sub>8</sub>	G	
381 G <sub>0</sub>	103	G	9.0 -5	F <sub>5</sub>	G <sub>0</sub>	G?	
390 A <sub>0</sub>	104	A	8.4 0	A	A <sub>0</sub>	A <sub>2</sub>	
399 A <sub>0</sub>	105	A <sub>3</sub>	7.8 +3	A <sub>3</sub>	A <sub>0</sub>	A <sub>5</sub>	
358 <sup>+</sup> A <sub>2</sub>	107	A <sub>8</sub>	9.0 +6	A <sub>8</sub>	A <sub>2</sub>	A <sub>5</sub>	
221 G	111	G	10.3 Defective	G?	G	G	
187 G	112	F <sub>5</sub>	10.3 -5	F <sub>5</sub> -	G	G?	
180 F <sub>5</sub>	113	F <sub>2</sub>	9.5 -5	F <sub>0</sub>	F <sub>5</sub>	F <sub>2</sub>	
208 A <sub>2</sub>	114	A <sub>5</sub>	8.9 +4	A <sub>6</sub>	A <sub>2</sub>	A <sub>5</sub>	
162 A <sub>0</sub>	115	A <sub>0</sub>	8.8 0	A <sub>0</sub>	A <sub>0</sub>	A <sub>2</sub>	
118 A <sub>2</sub>	116	F <sub>0</sub>	9.5 +8	F <sub>0</sub>	A <sub>2</sub>	F <sub>0</sub>	
75 F <sub>8</sub>	117	F <sub>8</sub>	10.1 -2	F <sub>6</sub>	F <sub>8</sub>	G?	
131 G <sub>5</sub>	119	G <sub>5</sub>	10.3 Hypothesis	G <sub>5</sub>	G <sub>5</sub>	G?	

forces from H<sub>γ</sub> to violet as in



H.D.				Abspec	mc	131553
R21 G5-31	G	10.8		Abspec-H.D. -5	6447	G
331 F8 91	F2	9.8	<del>2</del> R ft?	-6	F2	F5-
149 F8-95	F0	9.3		-7	A8	F0
R41 F8 152	F15	10.1	R ft?	-8	F	F5-
53 G5-202	K0	9.9		+5	K	K

S 20 K0  
S 175 G5-

Cyanogen bands strong

Wed. Feb. 22<sup>nd</sup> 1822

937913 cont. from 86, 106.

161 2 20

162 2 10



✓	161	+42	4246	21	88.7	+42	34	f.0
✓	162	+42	4249	21	89.2	+42	34	f.0

Feb. 22, 1922

J 25984 phot.

1. +45 3564

g<sub>5</sub>-  
On 187913 sup. on 150.



Feb. 22, 1922

I 23969

R T Lacertae

gs-

Feb. 12, 1922  
J38526, cont. from 137, 112

85	1	Ko
86	1	<del>Ho</del>
87	1	Ho



85	+56	2590	21	28.1	+56	54	f.o
86	+58	2288	21	30	+58	48	f.o
87	+60	2290	21	42	+60	26	f.o

Thursday, Feb. 23, 1922

MC 18413

$11^h + 30.$

Good example of dwarf sp.

also MC 18392

$8^h 40 + 72$

Dwarf at  $8^h 49 + 71$



Saturday, Feb 25, 1922

14042  
for 13 Cepheus  
Lumin. narrow.  
B9p

Hyd. very narrow ultraviolet pt.

Sunday, Feb. 26, 1922

MC 18488

H<sub>β</sub> h.  
+61° 623

3 28.1 + 61 21 8.7

Probably new



Tuesday, Sept. 26, 1922

J 34818

1. As- 3 19 46.6 +55 10  
 K line well seen.  
 hr. 8 m J 38807

J 27918 short

1. K<sub>2</sub> 3  
 +12° 4122 19 48.7 +13 0

Saturday, Oct. 14, 1922

I 36278 Short

✓

1. Fr. 2

no. 68 m 138900



Friday, Oct. 20, 1922

I 38502 long.

Re-classification of some sp. which are questioned  
or wrong in I 38510. Nos. 36 & 37 on that plate  
seem to be in entirely wrong class. Perhaps the  
wrong letter was recorded. Slaps stream  
was recorded and she was new at it.

36

1. 2 F

2. 2 As

Oct. 20, 1922

J36781. Short

For some ft. stars classified on J38510

1	3	A	
2	3	A	
3	2	B8?	Hazy, difficult
4	2	A	
5	52	A3	
6	1	A	
7	1	A-F	very wide lines
8	1	B0	
9	2	F	
10	3	A	



1	+28° 3762					42	m 138510
2	+28 3763					43	"
3	+27 3738					44	"
4	+26° 3911	20	23.3	+26	36	8.8	51
✓ 5	+27 3758	20	23.1	+27	2	9.0	52 m
6	+28 3829						76 " "
7	+28 3841						77 " "
✓ 8							83 " "
✓ 9							36 " "
✓ 10							37 " "

Friday, October 27, 1902

MC 19143 (2 hours exp.)

Peculiar sp. at 19 44 + 35-20

H $\beta$ , H $\gamma$ , H $\delta$ , H $\epsilon$ , H $\zeta$  br.  
also 4640 & 4586. Susp. by at 4900-5000.  
It resembles sp. of R S Ophiuchus

I plate taken October 24 shows  
the object no brighter than on a  
plate of 1901

Has it remained for variability. Perhaps  
it has had an outburst at some  
time.



October 27, 1922  
 MC 19144

R Class R already found in 130687

Pec. ? Pec. ? May be defective  
 Not found distinct enough on  
 all plates.

n. A.D. Cygnus ?  
 Pec. R.

October 27, 1922  
I 33603 short

1. 3 Ko



1	+47°31'17"	20	24.2	+47	8	7.2	12x m	37874
---	------------	----	------	-----	---	-----	-------	-------

October 27, 1922  
Mira Persei, 1922

J 1660 Aug. 20, 1890  
11.7

1755 Aug. 30, 1890  
11.6

Aug. 13, 1922  
J 41441, used for enlargement



November 3, 1922

Measure of new spec. obj. found in MC19143,  
serp. 104.

Sequence of  $\chi$  Cygni used, <sup>in MC5767</sup> Rather  
faint, but probably sufficiently accurate  
measurements can be made.

J 41757

var = 2 but smaller

11.88

Sequence selected near var  
max. based on seq. of  $\chi$  Cygni

var = 11.4

J 1430

11.4

July 11, 1890

J 9632

Aug. 2, 1893

m.s.

< 12.2

J 11375

Aug. 21, 1894

11.5

J 13205

Aug. 8, 1895

11.6

J 1539

Aug. 1, 1890

11.7

Nov. 3, 1922  
22769 Apr. 20, 1899  
Bright.

Brightest probably in summer of 1911

AC 12514 Aug. 20, 1911  
Almost as bright as  $\gamma$  and  
no comparison with  $\gamma$ .

Est. 10.5

AC 12508 Aug. 19, 1911  
Brighter than  $\gamma$ , which is perhaps  
in poor focus.

AC 12710 Nov. 3, 1911  
Slightly fainter than  $\gamma$ .  
Est. 10.6

AC 12530 Sept. 1, 1911  
Too poor to est.  
Seen as a line

AC 12488 ~~Aug. 12, 1911~~ July 2, 1911  
Too poor. Ft. plus n.s.



Monday, Nov. 6, 1922

Ac 12494  
Est. 10.5

Ac 12432  
Too poor. 4.5

Ac 12440 July 9  
Too poor.

Ac 12484 Aug. 12, 1911  
Est. ~~X~~ 10.6

Monday, Nov. 13, 1922

233685 phot.

1. 1 K5-



1 +66°1227 19 38.8 +66 36 8.7 128m 137333

Nov. 24, 1922  
 List of I plates examined by Miss Wells  
 for spec. objects on Dec. 19173. See pp. 104, 109

(1900) 19 46 29 + 35 28.8 (A.D.M. measured)

J 1537, 1660, 1755, 4015, 8961, 9032, 11379, 13205, 13353,  
 18927, 20992, 21263, 22769, 23074, 23131, 23460, 25160, 25183,  
 25197, 25663, 30130, 30399, 30401, 30560, 30756, 41756, 1430.  
 A.C. 133, 502, 5303, 6550, 7993, 8889, 9778, 9804, 10049,  
 12514, 14428, 15512, 21517, 23146.





Fridg. Nov. 24, 1922

S S Scorpio 164832

Mr. Jordan is measuring this star and  
finds it subject to sudden outbursts  
of light.

This H.D.

Sp. K2

The following plates were examined for peculiarities  
or changes in the spectrum

1517050 Aug. 4, 1896

23252 July 3, 1899 h. line? Perhaps due to narrowness  
of spectrum

39338 July 21, 1908 near edge

39354 July 23, 1908 near edge

40086 April 22, 1909 " "

40441 June 17, 1909 near edge

40631 July 23, 19

40744 Aug. 21, 1909 dark lines per?



Nov. 24, 1922

S S Seaper

B13766

June 14, 1895

Thin

The spectrum shows great contrast between  
the two portions separated by H $\gamma$ ,  
but the M fluctuations are not well defined.

The outbursts were later found due to  
isochromatic plates!

Nov. 24, 1922

MC 19182

H $\beta$  strong h. line. H $\gamma$  fl. bright line+ 56' 240  
but already found by Merrill & Hermann

A.S.P. 32, 336



Mar. 24, 1922  
J 23686

1 Ma  
no sun J 37277 where it is very faint.

Sunday, Dec. 4, 1922

I 37160 short



Tuesday, Dec. 5, 1922

Confirmation of variable found on  
M.F. 7928 (B.G. 46, 101) =  $-69^{\circ}15'08''$ , 96

11 12.0 - 69 22 (1900)

Br. in B 25-357 Check  
ph. " B 5-198 "  
Br. " B 4838 "

not in M.F. 7851 sp.

A m ~~4194~~<sup>1899</sup> very bright  
brighter than star south of it on  
which spectrum is partly superposed  
on M.F. 7928

Compared with ref. of Stark Region

A. m. mean in May 4, 1903  
Am ~~4194~~<sup>1899</sup> April 30, 1906  
var. bet. S & J 10.82  
11.52

Est. 11.2

Am H194 Apr. 30, 1906  
var. gr. 12.5

Am 1258 May 17, 1902  
h. 11.3

Am 1268 June 22, 1909  
med. 12.6

Am 13803 Apr. 2, 1908, barely flaring  
very fl. < C = 13.2 var. = 13.3

Dec. 5, 1922

 $-69^{\circ} 1508$ 

A m 13931

May 1, 1918

n.s.  $\angle 12$ 

13957

May 7, 1918

11.5

13962

May 8

1918

13974

May 10

Ah mag.

11.3 - 11.5

Br. than star at S. =  $-69^{\circ} 1507$ , mag. 9.6

13989

May 18, 1918

Somewhat fainter than star at S.  
about 11.9

14157

July 13, 1918

No prob

Med. about as on May 18

14708

May 21, 1919

Br. than star to S.

14735 May 30, 1919

Certainly fainter than star to S.

14630

Apr. 23, 1919

Br. = 11.4



Dec. 5, 1922  
 68° 15' 08" Am 15764 May 10, 1920.  
 15751 May 16 "

Star about 11.6 on boat

Am 6152 May 22, 1909  
 12.0

March 16, 1903 Am 1839  
 12.5

Am 1970 May 27-29, 1903  
 slightly pt. then s. to south

Am 15389 Aug. 7, 1920  
 N.S. poor place  
 < 12

Am 3487 Apr. 28, 1905  
 Br = Star to south  
 11.7

Am 15234 June 7, 1920  
 Br = 11.4

Am 15095 Apr. 10, 1920  
 Br = 11.3

Dec. 5, 1922

-69° 1508

Obs. 14774

Par. height

June 19, 1919  
= 11.4

Range 11.8 - 13.2 International scale,

segs. of U.S. region 12-75



Saturday, Dec. 9, 1922

J23173

✓ 1. 4 F10  
on 14m J37874

20 5.8 + 4.8 37

✓ 2. 3 B0  
R X Cygni. No 65m J38477

Monday, Dec 18, 1922

I 36.45-

✓ 1. 3 To

no ~~22~~<sup>28</sup> m J 38796

2. 4 B

no 22 m J 38796



Thursday Feb 22, 1923

B 10108 long.

1. 7 95

Mo in B 41861 to dense

12 Capricornis.  
at this moment.

- C 15988 can not be found

Tuesday, Dec 19, 1922

		M F 7824	Am. 550. RA (1855) Dec. Magn. 11.0
1	1	Ko	+1° 1586 6 47.1+1 56.3 9.3
2	2	Az	+2° 1462 6 47.8+2 22.4 9.3
3	1	Az	Approx (1855) 6 47.2+2 36
4	1	Go	+2° 1459 6 47.2+2 34.5 9.3
5	3	Bg	+2° 1458 6 47.1+2 56.2 9.0
6	2	As	+2° 1461 6 47.4+2 57.2 9.3
7	1	Ko	+2° 1459 6 47.2+2 54.5 9.3
8	3	Az	Approx (1855) 6 47.5+2 56
9	4	Az	+3° 1462 6 47.7+3 0.1 9.3
10	2	Ks	+2° 1463 6 47.9+2 45.4 8.8
11	1	A	+2° 1468 6 48.4+2 32.6 8.6
12	6	Ko	+2° 1465 6 48.3+2 28.6 9.2
13	2	Az	+2° 1465 6 48.3+2 17.6 9.5
14	3	As	+2° 1468 6 48.6+2 30.3 8.2
15	3	Fr	+2° 1472 6 49.0+2 46.5 9.3
16	2	Fr	+2° 1476 6 49.5+2 41.8 9.5
17	2	As	+2° 1477 6 49.6 42.3
18	1	K	+2° 1478 6 49.6+2 55.4 9.1
19	1	K	+2° 1481 6 49.8+2 30.5 9.3
20	1	A3	+2° 1479 6 49.6+2 4.6 9.2
21	3	As	+2° 1480 6 49.7+2 4.7 9.2
22	1	Go	+2° 1482 6 50.2+2 31.5 9.2
23	1	A	+2° 1490 6 51.2+2 21.9 9.3
24	2	A3	+2° 1492 6 51.5+2 29.5 9.1
25	1	A	+2° 1486 6 50.9+2 2.9 9.3
26	1	A	Approx (1855) 6 51.5+2
			+2° 1493 6 51.9+2 32.6 9.3
			Approx (1855) 6 52.1+2 36
			+2° 1491 6 51.4+2 44.8 9.5





Dec. 19, 1922  
M. F. 8.14

			Alt. no.	R.A. (1855)	Dec.	mag.	H.D.
27	1	F8					
28	5	Ko					
29	2	As					
30	1	As					
31	3	F5-					
32	3	Ko					
33	4	K5					
34	5	F8					
35	5	As					
36	1	As					
37	1	F5-					
38	2	K2					
39	5	Ko					
40	2	Go					
41	2	G2					
42	1	K2					
43	3	A2					
44	2	A5					
45	2	K2					
46	2	A3					
47	4	A2					
48	2	As					
49	1	G5-					
50	1	Ko					
51	1	A					
52	1	A					

Alt. no. R.A. (1855) Dec. mag.

Approx (1855) 6 52.0 + 3 0

+ 2° 1496 6 52.2 + 2 34.5 - 8.8 Ko

+ 3° 1496 6 52.3 + 3 28 9.5

+ 3° 1498 6 52.7 + 3 1.5 9.5

+ 2° 1503 6 52.9 + 2 51.3 9.0

+ 2° 1495 6 52.1 + 2 18.2 8.6

+ 2° 1499 6 52.7 + 2 12.9 8.1 K2

+ 2° 1506 6 53.1 + 2 32.9 8.7 50

+ 1° 1634 6 52.8 + 1 48.4 9.0

+ 2° 1505 6 53.1 + 2 36.7 9.2 A

Approx (1855) 6 52.9 + 2 11

+ 2° 1507 6 53.2 + 2 13.7 9.5

+ 2° 1510 6 53.5 + 2 2.6 8.6 Ko

+ 1° 1642 6 53.7 + 1 59.9 9.3

+ 2° 1512 6 53.9 + 2 22.8 9.5

+ 2° 1515 6 54.1 + 2 6.8 8.9

+ 2° 1516 6 54.2 + 2 3.7 9.3

+ 1° 1641 6 53.5 + 1 35.4 9.5

+ 1° 1637 6 53.2 + 1 20.7 9.3

+ 1° 1639 6 53.2 + 1 15.7 9.0

+ 1° 1645 6 54.3 + 1 19.1 9.1

+ 1° 1652 6 54.9 + 1 22.9 9.3

+ 1° 1649 6 54.7 + 1 32.0 9.3

+ 1° 1650 6 54.7 + 1 54.7 9.5



6 55.1 + 1 21  
6 55.2 + 1 38

Wednesday Dec. 20, 1922

In Fy 824

53	2	F <sub>6</sub>
54	1	B <sub>9</sub>
55	1	K <sub>5</sub> <sup>-</sup>
56	2	K <sub>2</sub>
57	1	K
58	3	A <sub>0</sub>
59	1	F
60	1	K
61	3	K <sub>0</sub>
62	1	A <sub>3</sub>
63	2	B <sub>8</sub>
64	3	A <sub>0</sub>
65	2	A <sub>5</sub> <sup>-</sup>
66	2	A
67	3	A <sub>5</sub> <sup>-</sup>
68	2	A
69	1	K
70	2	G <sub>5</sub> <sup>-</sup>
71	2	A <sub>0</sub>
72	1	A
73	2	A <sub>2</sub>
74	3	F <sub>0</sub>
75	1	G <sub>5</sub>
76	1	G <sub>0</sub>
77	1	K <sub>2</sub>
78	2	A <sub>2</sub>

*Another sp. sup.?*

A<sub>0</sub>



53	+ 2°	1521	6	54.9	+2	14	9.5
54	+ 2°	1519	6	54.6	+2	22	9.5
55	+ 2°	1522	6	<del>54.6</del> 55.0	+2	<del>52</del> 49	9.3
56	+ 2°	1523	6	55.1	+2	53	8.8
57	+ 2°	1525	6	55.2 <sup>5</sup>	+2	<del>48</del> 44.0	9.3
58	+ 2°	1526	6	55.5	+2	44.8	9.3
59			6	55.5	+2	32	
60	+ 2	1528	6	55.6	+2	24	9.4
61	+ 2°	1656	6	56.0	+1	60.4	9.3
62	+ 1°	1664	6	56.8	+1	34.7	9.5
63	+ 1°	1661	6	56.8 <sup>5</sup>	+1	16.6	9.5
64	+ 1°	1666	6	56.8	+1°	18.5	9.3
65	+ 1°	1667	6	57.0	+1	22.5	9.3
66	+ 1°	1668	6	57.1	+1	20.6	9.4
67	+ 1°	1682	6	57.3	+1	26.1	9.5
68	+ 1°	1681	6	58.0	+1	48.4	9.5
69	+ 1°	1683	6	58.2	+1	39.0	9.3
70	+ 1°	1684	6	58.3	+1	30.8	9.5
71	=		6	59.2 <sup>2</sup>	+1	45	
72			6	59.2	+1	24	
73	+ 1°	1688	6	59.0	+1	16.6	9.5
74	+ 2°	1683	6	59.5	+2	5.9	9.3
75	+ 1	1692	6	59.5	+1	45.4	9.5
76	+ 1°	1694	6	0.0	+1	24.7	9.5
77	+ 1°	1700	7	0.5	+1	7.9	9.2
78	+ 1°	1702	7	0.6	+1	15.8	9.4

ft. star  
preceding + south  
superposed.

Dec. 20, 1922  
In front

79	3	As-
80	3	Fr
81	1	As-
82	1	A
83	2	Ho
84	1	A
85	1	Ar
86	1	As-
87	3	Ar
88	1	gs-
89	1	A
90	1	Go
91	3	Bg
92	2	Ar
93	1	Ar
94	1	ks
95	1	gs-
96	3	Bs-
97	1	Fr
98	1	A
99	1	A
100	2	Ag
101	2	ks
102		
103		
104	3	Ar

Bg



79			7	0.8	+ 1	37	
80	+1°	1709	7	1.8	+ 1	23	9.2
81	+1°	1712	7	2.0	+ 1	45	9.4
82	+1°	1716	7	2.7	+ 1	26	9.4
83	+1°	1717	7	2.8	+ 1	15	9.3
84			7	3.7	+ 1	59	
85	+2°	1587	7	3.3	+ 2	16	9.5
86			7	4.1	+ 2	13	
87	+2°	1593	7	4.4	+ 2	21	9.3
88	+1°	1724	7	4.2	+ 1	43	9.5
88 <sup>9</sup>	+1°	1725	7	4.4	+ 1	57	9.5
90	+1°	1731	7	5.7	+ 1	59	9.5
91							
92	+1°	1733	7	6.1	+ 1	58.7	9.3
93	+1°	1734	7	6.2	+ 1	20.0	9.4
94	+0°	1860	7	7.0	+ 0	59	9.0
95	+0	1863	7	7.1	+ 0	50	9.2
96	+1°	1747	7	7.9	+ 1	2	9.3
97	+1°	1748	7	8.0	+ 1	35	9.5
98		1883	7	7.6	+ 1	53	
99	+1°	1745	7	7.7	+ 1	57	9.5
100	+2°	1614	7	7.7	+ 2	4.6	9.3
	+2°	1615	7	7.8	+ 2	19	8.9
101	+2°	1614	7	7.7	+ 2	4.6	9.3
102	+2°	1607	7	6.5	+ 2	15	9.5
103	+2°	1606	7	6.3	+ 2	14	9.5
104	+2°	1605	7	6.1	+ 2	17	9.3

This is probably the right identification although there is a fainter star which may be the catalogue star. See chart p. 25084

January 1923  
M 7824

Helen Haynes, recorder.

105	2	40							
106	3	40							
107	2	92							
108	2	B9							
109	1	X2							
110	2	40							
111	3	A2							A0
112	1	80							
113	1	X5							
114	3	X0							
115	2	90							
116	2	A3							
117	2	A3			80				
118	2	A2							
119	1	A2							
120	2	A0							
121	1	X5							
122	1	A							
123	2	A5							
124	1	X2							
125	2	48							
126	2	A0							
127	4	48	X-Limp faint <del>direction</del>						95
128	3	X5							
129	1	X5							
130	3	A2							



106 <sup>5</sup>	+1°	1742	7	6.9	+1	58	9.5
106	+1°	1738	7	6.4	+1	34	9.3
107	+1°	1735	7	6.3	+1	1.1	9.4
108			7	6.4	+1	8	
109	+1°	1736	7	6.3	+1	13.0	9.2
110	+1°	1751	7	8.3	+1	46	9.5
111	+1°	1752	7	8.6	+1	42	9.3
112	+1°	1753	7	8.7	+1	38	9.4
113	+1°	1754	7	8.7	+1	9	9.4
114	+1°	1756	7	9.1	+1	12	9.3
115	+0°	1879	7	9.3	+0	57	9.2
116	+2°	1625	7	9.5	+2	13	9.3
117	+1°	1766	7	10.3	+1	56	9.3
118	+1°	1769	7	11.0	+1	35	9.5
119			7	11.0	+1	49	
120			7	11.2	+0	<del>55</del> 22	
121	+0°	1896	7	11.5	+0	56	9.1
122			7	12.1	+1	15	
123	+1°	1776	7	12.7	+1	20	9.5
124	+1°	1777	7	12.9	+1	10	9.3
125			7	12.9	+1	14	
126			7	12.8	+1	21	
127	+1°	1778	7	13.1	+1	22	9.0
128	+2°	1636	7	11.2	+2	11	8.8
129	+2°	1627	7	9.7	+2	43	9.5
130	+2°	1630	7	10.1	+2	50	9.0

Jan. 1923  
M 7824

131	2	G <sub>0</sub>	
132	2	A <sub>0</sub>	
133	2	A <sub>2</sub>	
134	1	A	Another star sup.
135	2	G <sub>5</sub>	
136	#	<del>Pec.</del>	
137	2	F <sub>5</sub>	
138	2	A <sub>0</sub>	
139	2	F <sub>5</sub>	
140	1	F <sub>5</sub>	<del>Pec. questioned</del> Pec.?
141	1	G <sub>0</sub>	
142	3	A <sub>2</sub>	
143	1	F <sub>2</sub>	
144	1	F <sub>5</sub>	
145	3	A <sub>3</sub>	
146	1	A <sub>2</sub>	Lines wide.
147	2	A <sub>0</sub>	
148	2	F <sub>0</sub>	
149	2	F <sub>?</sub>	
150	1	F	
151	2	F <sub>0</sub>	
152	3	A <sub>2</sub>	
153	3	A <sub>2</sub>	
154	3	F <sub>5</sub>	
155	1	A	
156	2	G <sub>1</sub>	

A<sub>3</sub>G<sub>0</sub>



131	+2°	1635	7	11.1	+2	36.8	9.0
132	+3°	1637	7	11.2	+3	11.0	9.5
133	+2°	1641	7	12.0	+2	46.7	9.3
134	+2°	1645	7	12.6	+2	1.0	9.0
135	+2°	1649	7	13.4	+2	11.2	9.0
136	+2°	1653	7	14.3	+2	39.9	9.0
137	+3°	1659	7	14.5	+3	16.9	8.0
138							
139			7	14.5	+2	27	
140	+2°	1656	7	14.8	+2	31	9.0
141	+2°	1660	7	15.3	+2	37.8	9.3
142	+2°	1659	7	16.1	+2	58.6	9.3
143	+3°	1665	7	15.4	+3	2.4	9.5
144	+2°	1663	7	16.3	+2	18.0	8.8
145	+1°	1789	7	16.7	+1	59.6	9.0
146	+1°	1790	7	16.7	+1	57	9.4
147	+1°	1797	7	17.5	+1	30	9.3
148	+1°	1799	7	17.8	+1	30	8.9
149	+1°	1801	7	18.3	+1	34	9.2
150	+1°	1802	7	18.3	+1	43	9.5
151	+1°	1804	7	18.5	+1	40	9.4
152	+1°	1806	7	18.9	+1	57	9.0
153	+2°	1671	7	18.3	+2	22	9.3
154	+2°	1673	7	18.7	+2	32	8.8
155							
156	+1°	1810	7	19.6	+1	53	9.0

Jan

1923

M 7824

Ar

157	3	A0
158	2	A2
159	2	F
160	2	F5
161	2	F5
162	2	F8
163	1	F5
164	1	A
165	2	A2
166	3	F0
167	3	A2
168	2	F0
169	1	F5
170	1	B1
171	4	F5
172	3	F0
173	1	A
174	1	F0
175	4	A3
176	2	A3
177	2	F0
178	2	A5
179	4	A3
180	3	F5
181	2	F5
182	1	F5
183	2	A3

Asymptotic strong at 4227  
Perhaps MA.



157	+1°	1812	7	20.3	+1	53	9.0
158							
159							
160	+3°	1684	7	19.0	+3	6	8.8
161	+3°	1683	7	19.0	+3	20	8.8
162	+3°	1678	7	17.8	+3	9	9.5
163	+2°	1669	7	17.5	+2	55	9.3
164							
165	+2°	1668	7	17.2	+2	19	9.5
166	+2°	1666	7	17.1	+2	11	9.0
167			7	17.1	+2	28	
168			7	17.0	+2	41	
169	+2°	1867	7	17.1	+2	51	9.3
170							
171	+2°	1662	7	15.8	+2	41	8.7
172	+3°	1666	7	15.5	+3	34	9.2
173							
174	+3°	1663	7	15.2	+3	53	9.5
175	+3°	1664	7	15.2	+3	39	9.2
176	+4°	1683	7	15.7	+4	0.7	9.5
177	+4°	1685	7	16.3	+4	1.0	9.0
178	+3°	1668	7	16.5	+3	30	9.3
179	+3°	1671	7	16.8	+3	41	9.2
180	+4°	1690	7	17.4	+4	1	9.3
181	+3°	1675	7	17.4	+3	58	9.0
182	+4°	1694	7	17.9	+4	8	9.4
183	+3°	1680	7	18.3	+3	57	9.3

Do not know whether 169 or 170  
is +2° 1667. Low

Thursday, Feb. 15, 1923

In F17814

Adeline Ames, records.

184	3	F8	
185	1	G	
186	1	K <sub>2</sub>	
187	3	F8	
188	1	A3	
189	1	A0	
190	2	K <sub>2</sub>	
191	3	K0	
192	2	K5	
193	2	F5	
194	2	G0	
195	1	K5	
196	3	F2	
197	2	A5	
198	3	K0	
199	2	A2	
200	1	A2	
201	1	G	indistinct
202	1	K5	
203	2	A0	
204	1	K	
205	2	F8	
206	2	G0	
207	2	F0	
208	1	K <sub>2</sub>	
209	1	A0	
210	1	A0	



Identified on B<sup>I</sup> 40128

184	+4° 1697	7	18.5	+4	18	8.8	
185	+4° 1696	7	18.5	+4	22	9.4	
186	+4° 1701	7	19.2	+4	20	9.4	
187	+4° 1702	7	19.4	+4	14	9.3	
188							
189	+4° 1704	7	19.9	+4	8	9.5	
190	+4° 1706	7	20.1	+4	32	9.0	
191	+4° 1707	7	20.2	+4	42	9.0	
192	+4° 1714	7	20.6	+4	19	8.8	
193	+4° 1709	7	20.4	+4	8	9.5	
194	+4° 1713	7	20.8	+4	3	9.2	
195	+3° 1687	7	19.4	+3	41	9.0	
196	+3° 1690	7	20.3	+3	34	9.2	
197	+2° 1539	6	57.7	+2	4	9.3	
198	+2° 1541	6	57.8	+2	15	9.3	
199	+2° 1545	6	58.1	+2	30	9.5	
200	+2° 1548	6	58.6	+2	23	9.5	
201	+2° 1547	6	58.5	+2	41	9.5	
202	+2° 1538	6	57.7	+2	58	9.4	
203							
204	+2° 1549	6	58.6	+2	58	9.5	
205	+2° 1552	6	59.5	+2	34	9.5	
206	+2° 1561	7	0.4	+2	31	9.5	
207	+2° 1567	7	0.9	+2	30	9.5	
208	+2° 1568	7	0.9	+2	6	9.3	✓
209	+2° 1577	7	1.7	+2	13	9.5	✓
210		7	0.7	+2	29		

Feb. 15, 1923

M 17824

211	1	K <sub>2</sub>	
212	2	A	partly super. on star at N.
213	2	G <sub>0</sub>	
214	2	A <sub>3</sub>	
215	1	A <sub>0</sub>	
216	2	F <sub>0</sub>	
217	2	F <sub>0</sub>	
218	1	A <sub>0</sub>	
219	1	K <sub>0</sub>	
220	1	A <sub>2</sub>	
221	4	G <sub>5</sub>	
222	2	A <sub>0</sub>	
223	2	A <sub>5</sub>	
224	1	G <sub>0</sub>	
225	1	K <sub>5</sub>	
226	1	A	
227	1	A <sub>2</sub>	
228	1	K	
229	3	A <sub>3</sub>	
230	1	A	
231	2	A <sub>0</sub>	
232	2	A <sub>3</sub>	
233	2	K <sub>0</sub>	
234	2	A <sub>0</sub>	
235	4	B <sub>8</sub>	
236	2	A <sub>2</sub>	(another star super ?) Jcs. at S. end.
237	3	B <sub>9</sub>	



Identified on B W 0128

211	+ 2°	1565 <sup>6</sup>	7	0.9	+ 2	44	9.1	✓
212	+ 2°	1560	7	0.4	+ 2	<del>50</del>	9.5	✓
213	+ 3°	1562	7	0.7	+ 3	<del>37</del>	9.5	✓
214			7	1.0	+ 3	19		
215	+ 3°	1567	7	1.2	+ 3	27	9.5	✓
216	+ 3°	1568	7	1.2	+ 3	36	9.4	✓
217	+ 3°	1571	7	1.6	+ 3	10	9.4	✓
218			7	2.0	+ 3	14		
219	+ 3°	1575	7	2.1	+ 3	23	9.3	✓
220			7	2.2	+ 2	56		
221	+ 2°	1581	7	2.3	+ 2	59	9.0	✓
222	+ 3	1576	7	2.3	+ 3	2	9.5	✓
223	+ 3°	1578	7	2.7	+ 3	21	9.5	✓
224	+ 3°	1580	7	3.1	+ 3	15	9.0	✓
225	+ 2°	1591	7	3.9	+ 2	34	8.8	✓
226	+ 2°	1595	7	4.8	+ 2	37	9.5	✓
227			7	4.2	+ 3	18		
228	+ 3°	1594	7	4.7	+ 3	23	9.5	✓
229	+ 3	1600	7	5.6	+ 3	5	9.3	✓
230			7	5.6	+ 2	58		
231	+ 2°	1601	7	5.7	+ 2	59.6	9.5	✓
232	+ 3°	1603	7	5.9	+ 3	25	9.5	✓
233	+ 3°	1602	7	5.8	+ 3	40	9.0	✓
234			7	6.6 <sup>5</sup>	+ 3	23		
235	+ 3°	1613	7	7.0	+ 3	8	8.9	✓
236			7	7.5	+ 2	43		✓
237	+ 2°	1612	7	7.6	+ 2	52	9.5	✓

Feb. 15, 1923

M 7824

238 2 F2

239 1 F0

240 1 A lines very wide; double? *Yes, double in chart pl.*

241 2 F0

242 2 G0

243 3 A0

244 1 A2

245 4 G5

246 2 A2

247 1 A3

248 1 G0

249 1 Ma

250 1 A2

251 2 K0

252 1 A2

253 2 X2 partly super. on bright stars

254 1 K0

255 3 K0

256 2 A2

257 2 A0

258 1 K0

259 1 A2

260 1 G0

261 1 A

262 1 K0

263 1 K5

264 1 G0



Identified on I 40128

238	+2° 1617	7	8.3	+2	26.3	9.3	* should not this be 29.3? see chart/pl. B 40128
239	+2° 1618	7	8.5	+2	28	9.5	✓
240	+2° 1619	7	8.6	+2	18	9.4	✓
241	+3° 1619	7	8.5	+3	13	9.4	✓
242	+3° 1621	7	8.8	+3	4	9.2	✓
243	+2° 1620	7	8.9	+2	58	9.3	✓
244		7	9.1	+2	58		
245	+3° 1622	7	8.8	+3	27	8.8	✓
246	+3° 1624	7	9.0	+3	40	9.0	✓
247	+3° 1626	7	9.4	+3	39	9.2	✓
248		7	10.2	+3	29		
249	<del>+3° 1634</del>	<del>7</del>	<del>11.0</del>	<del>+3</del>	<del>22.5</del>	<del>9.3</del>	
250	+3° 1640	7	11.5	+3	24	9.3	According to plate I 40128 there is an <del>follows</del> +3° 1641
251	+3° 1642	7	11.9	+3	24	9.1	✓
252		7	11.7	+3	38		
253	+3° 1650	7	13.1	+3	38	9.0	✓
254	+3° 1653	7	13.7	+3	23	9.3	✓
255	+3° 1661	7	14.6	+3	54	9.0	✓
256	<del>This may be</del> +4° 1671	7	13.9	+4	21.8	9.4	* we assume an error in dec. There is no star at 7 13.9 + 4 22 on B 40128 but there is one at about 7 13.9 + 4 26
257	+4° 1669	7	13.5	+4	32	9.3	✓
258	+4° 1674	7	14.2	+4	28	9.0	✓
259	+4° 1672	7	13.9	+4	59.6	9.4	✓
260	+4° 1679	7	14.9	+4	58	9.3	✓
261		7	15.1	+5	4		✓
262	+5° 1645	7	16.3	+5	8	9.0	✓
263	+4° 1686	7	16.7	+4	34	9.3	✓
264	<del>this may be</del> +4° 1686	<del>7</del>	<del>16.9</del>	<del>+4</del>	<del>37</del>	<del>9.3</del>	* we assume an error in dec. in this cat. There is no star on B 40128 at 7 16.7 + 4 34 but there is one at about 7 16.7 + 4 37

Feb 15, 1923

M F 7824

265	1	A	Pines broad.
266	1	F	
267	2	F0	
268	1	A	another star super at S.
269	2	A5	
270	1	G0	
271	1	G0	
272	2	G5	
273	1	F5	
274	1	Ma	
275	1	A	
276	1	A	
277	2	F2	
278	1	F5	
279	2	A2	
280	1	A0	
281	3	A2	
282	2	A2	
283	3	A2	
284	2	B8	
285	3	K0	
286	3	A2	
287	2	A2	
288	1	A3	
289	2	G0	
290	1	A0	
291	1	K5	



Identified on B 39845

265	+ 4° 1688	7 <sub>6</sub>	17.3	+ 4	53	9.4 <sup>3</sup>
266	+ 2° 1465	X <sub>6</sub>	48.2	+ 2	46	9.5 ✓
267	+ 4° 1510	6 <sub>6</sub>	48.1	+ 4	10	9.4 ✓
268	+ 3° 1474	X <sub>6</sub>	49.7	+ 3	44	9.5 ✓
269	+ 3° 1475	X <sub>6</sub>	49.7	+ 3	46	9.3 ✓
270	+ 3° 1478	7 <sub>6</sub>	49.9	+ 3	49	9.3 ✓
271	+ 3° 1479	7 <sub>6</sub>	50.2	+ 3	37	9.5 ✓
272	+ 3° 1481	7 <sub>6</sub>	50.6	+ 3	33	9.2 ✓
273	+ 3° 1487	X <sub>6</sub>	51.0	+ 3	5	9.3 ✓
274	+ 3° 1484	X <sub>6</sub>	50.7	+ 3°	42	8.9 ✓
275		X <sub>6</sub>	51.0	+ 3	28	
276		X <sub>6</sub>	51.3	+ 3	32	
277	+ 3° 1489	X <sub>6</sub>	51.5	+ 3	52	9.5 ✓
278	+ 3° 1491	X <sub>6</sub>	51.6	+ 3	49	9.5 ✓
279	+ 3° 1497	7 <sub>6</sub>	52.5	+ 3	37	9.5 ✓
280		X <sub>6</sub>	52.6	+ 3	53	
281	+ 4° 1539	6 <sub>6</sub>	52.6	+ 4	0	9.4 ✓
282	+ 3° 1499	X <sub>6</sub>	52.8	+ 3	49	9.5 ✓
283	+ 3° 1500	X <sub>6</sub>	52.9	+ 3	36	9.2 ✓
284	+ 3° 1501	X <sub>6</sub>	52.9	+ 3	44	9.3 ✓
285	+ 3° 1502	X <sub>6</sub>	53.2	+ 3	42	9.0 ✓
286	+ 3° 1504	X <sub>6</sub>	53.4	+ 3	36	9.1 ✓
287	+ 3° 1503	X <sub>6</sub>	53.2	+ 3	21	9.2 ✓
288	+ 3° 1506	X <sub>6</sub>	53.4	+ 3	9	9.4 ✓
289	+ 3° 1512	X <sub>6</sub>	54.4	+ 3	31	9.0 ✓
290	+ 3° 1518	X <sub>6</sub>	55.0	+ 3	3	9.3 ✓
291	+ 3° 1523	X <sub>6</sub>	55.8	+ 3	5	9.0 ✓

Feb. 15, 1923

M F 7 8 24

292	2	A2
293	1	A2
294	1	K2
295	1	G5
296	1	A0
297	2	K2
298	1	K2
299	2	A5
300	1	A
301	2	A3
302	1	A0
303	1	A5
304	1	A
305	2	<sup>0</sup> G5
306	2	G5
307	1	A
308	2	B5
309	2	F2
310	2	A2
311	1	K5
312	1	A
313	2	F0
314	2	A2
315	2	A0
316	3	A2
317	2	A
318	1	K0

another star appears at S.



		Identified on B 39845 to				318	318 identified on B 35221
292	+3° 1524	6	55.8	+3	32	9.2	✓
293	+3° 1527	6	56.2	+3	43	9.2	✓
294	+3° 1528	6	56.3	+3	49	9.3	✓
295	+3° 1529	6	56.6	+3	44	9.5	✓
296	+3° 1531	6	57.0	+3	21	9.1	✓
297	+3° 1532	6	57.0	+3	29	9.1	✓
298	+3° 1537	6	57.7	+3	15	9.3	✓
299	+3° 1538	6	57.7	+3	22	9.5	✓
300	+3° 1548	6	57.0	+2	10		
301	+3° 1544	6	58.8	+3	13	9.5	✓
302	+3° 1544	6	58.6	+3	20	9.5	✓
303	+3° 1549	6	59.2	+3	24	9.5	✓
304	+3° 1553	6	59.7	+3	32	9.2	✓
305	+3° 1554	6	59.9	+3	38	8.9	✓
306	+3° 1555	7	0.2	+3	2	9.5	✓
307	+3° 1565	7	0.9	+3	55	9.5	✓
308	+4° 1600	7	1.0	+4	2	9.0	✓
309	+4° 1607	7	1.9	+4	10	9.3	✓
310	+4° 1612	7	2.6	+4	7	9.0	✓
311		7	3.2	+3	59		
312	+3° 1582	7	3.4	+3	41	9.3	✓
313	+3° 1572	7	1.6	+3	39	9.5	✓
314	+3° 1592	7	4.3	+3	37	9.4	✓
315	+3° 1593	7	4.6	+3	58	9.0	✓
316	+3° 1598	7	5.4	+3	46	9.0	✓
317	+4° 1624	7	5.8	+4	5	9.0	✓

293-294 might be identified as 318

although 294 seems to be more likely to be the cataloged star.

slight error in dec. about 2 in 1000

Feb. 15, 1923

M F7824

319	3	B9	
320	2	F0	
321	1	F(?)	
322	1	A	
323	2	A5	lines very broad. Double? Image diff. shape from observation
324	2	F5	
325	1	F0	
326	1	A	
327	2	F5	
328	3	G0	
329	1	K5	(perhaps Ma.)
330	1	A	
331	2	A0	
332	1	A0	
333	1	F	
334	1	A5	
335	1	K0	
336	1	A	
337	1	G0	
338	1	A	
339	1	F5	
340	1	G	
341	1	G5	
342	2	A0	
343	2	A2	
344	1	A0	
345	1	K5	



Identified on B 35220						
319	+N°	1626	7	6.0	+4	22 9.2 ✓
320	+N°	1630	7	6.5	+4	12 9.2 ✓
321	+3°	1610	7	6.9	+3	58 9.5 ✓
322	+3°	1620	7	8.7	+3	58 9.4 ✓
323	Both probably	1652	7?	10.4	+4	36 9.1 ✓
324		1649		9.3	+4	45 9.0
325	+N°	1657	7	11.1	+4	3 9.3 ✓
326	+3°	1635	7	10.9	+3	45 9.5 ✓
327	+N°	1659	7	11.6	+4	4 8.8 ✓
328						
329	+N°	1518	6	50.2	+4	35 9.3 ✓
330	+N°	1519	6	50.3	+4	41 9.5 ✓
331	+N°	1520	6	50.5	+4	44 9.3 ✓
332			6	50.3	+3	55
333	+N°	1521	6	50.5	+4	5 9.3 ✓
334	+N°	1526	6	51.3	+4	11 9.4 ✓ ✓
335	+N°	1528	6	51.4	+4	2 9.5 ✓
336	+N°	1531	6	51.7	+4	10 9.4 ✓
337	+N°	1534	6	51.9	+4	15 9.5 ✓
338			6	52.1	+4	36
339	+N°	1535	6	52.0	+4	47 9.5 ✓
340	+N°	1541	6	52.8	+4	58 9.4 ✓
341	+N°	1541 <sup>3</sup>	6	52.7	+4	58 9.4 ✓
342	+N°	1538	6	52.6	+4	33 9.5 ✓
343	+N°	1549	6	53.6	+4	34 9.5 ✓
344			6	54.2	+4	48
345	+N°	1553	6	54.4	+4	11 9.0 ✓

Feb. 15, 1923

M 7824

346	1	A	
347	1	G5	
348	1	K5	
349	2	F0	
350	1	B9	
351	1	A0	
352	1	G5	
353	1	K	
354	2	A0	
355	3	A0	lines narrow.
356	3	A3	
357	3	A2	
358	3	K0	
359	2	F5	
360	1	K2	
361	1	K2	
362	1	K5	
363	1	A3	
364	1	G0	
365	3	A2	
366	2	A5	
367	1	K5	
368	1	K5	"
369	3	K2	
370	2	A2	
371	1	A	
372	2	A0	



## Identified on B 35221

346	+N° 1556	b 54.6	+4	12	9.5	✓
347	+N° 1559	b 55.1	+4	53	9.1	✓
348	+N° 1562	b 56.2	+4	24	9.0	✓
349	+N° 1570	b 57.0	+4	36	9.3	✓
350	+N° 1571	b 57.1	+4	14	9.5	✓
351	<del>+3 1536</del>	b 57.5	+3	59		
352	+N° 1573	b 57.4	+4	20	9.3	✓
353	+N° 1574	b 57.5	+4	11	9.5	✓
354	+N° 1576	b 57.6	+4	36	9.5	✓
355	+N° 1578	b 57.9	+4	34	9.5	✓
356	+N° 1580	b 58.2	+4	22	9.2	✓
357	+N° 1585	b 58.7	+4	3	9.2	✓
358	+3° 1547	b 58.7	+3	57	8.9	✓
359	+3° 1543	b 58.5	+3	44	9.1	✓
360	+3° 1545	b 58.6	+3	45	9.3	✓
361	+N° 1591	b 59.5	+4	5	9.1	✓
362	+N° 1597	7 0.7	+4	7	9.3	✓
363	+4° 1593	7 0.0	+4	48	9.5	✓
364	+N° 1596	7 0.4	+4	53	9.2	✓
365	+5° 1548	7 0.1	+5	4	9.3	✓
366	+5° 1546	b 59.8	+5	9	9.4	✓
367	+5° 1553	7 0.9	+5	0	9.2	✓ ✓
368	+5° 1552	7 0.8	+5	7	9.2	✓
369	+N° 1601	7 1.1	+4	43	9.0	✓
370	+N° 1605	7 1.6	+4	24	9.4	✓
371		7 2.6	+4	19		
372	+N° 1611	7 2.6	+4	29	9.5	✓

The preceding of two  
 both may  
 be + 3° 1543

Feb. 15, 1923

M 7824

373	2	A0
374	2	A2
375	2	B9
376	1	A
377	4	A2
378	2	A3
379	2	B9
380	2	A2
381	2	F0
382	2	F0
383	2	G0
384	1	G
385	2	A0
386	1	G
387	1	K
388	1	A
389	1	A
390	3	A0
391	3	A3
392	2	K0
393	1	G5
394	2	F8
395	2	K0
396	2	A2
397	1	K.
398	1	A5
399	2	G0

Lines double ft. due to smut



Identified on B 35221

373	+4° 1613	7	2.7	+4	40	9.5	✓
374	+5° 1564	7	2.4	+5	8	9.2	✓
375	+5° 1567	7	2.8	+5	8	9.3	✓
376	+4° 1614	7	3.1	+4	33	9.5	✓
377	+4° 1617	7	3.8	+4	33	9.0	✓
378	+4° 1616	7	3.3	+4	12	9.4	✓
379	+5° 1585	7	5.0	+5	10	9.5	✓
380	+5° 1586	7	5.1	+5	19	9.0	✓
381		7	6.0	+5	12		
382	+5° 1592	7	6.4	+5	10	9.4	✓
383	+5° 1593	7	6.4	+5	24	9.2	✓
384	+5° 1591	7	6.3	+5	0	9.4	✓
385	+5° 1594	7	6.5	+5	9	9.1	✓
386	+5° 1595	7	6.6	+5	3	9.4	✓
387	+5° 1600	7	7.1	+5	4	9.0	✓
388		7	7.3	+4	55		
389	<i>The preceding of two stars of which may be</i> +5° 1604	7	7.6	+5	2	9.5	✓
390	+4° 1639	7	7.6	+4	N1	9.5	✓
391	+4° 16N0	7	7.9	+4	N6	9.2	✓
392	+5° 1607	7	8.1	+5	10	9.0	✓
393	+5° 1609	7	8.4	+5	6	9.1	✓
394	+5° 1611	7	8.8 <sup>4</sup>	+5	20 <sup>2</sup>	9.2 <sup>2</sup> 8.4	✓
395	+5° 1612	7	8.8	+5	37	9.0	✓
396	+4° 16N9	7	9.3	+4	45	9.0	✓
397	+5° 1618	7	9.5	+5	3	9.3	✓
398	+5° 1620	7	10.0	+5	20	9.5	✓
399	+6° 1596	7	9.7	+6	4	9.1	✓

Monday Feb 19-23

M 7824

400	1	A0	lines very broad
401	2	G0	
402	1	F5	
403	1	G0	
404	2	G0	
405	1	A5	
406	1	K0	
407	1	A0	
408	1	A2	lines rather narrow
409	1	A	
410	1	F?	
411	1	A0	
412	1	A	
413	1	A	
414	1	A	
415	1	A	
416	1	*G	E 1
417	1	A	
418	1	G?	probably too faint (confuse)
419	2	F8	
420	1	G0	
421	1	K5	
422	2	F0	
423	1	*K2	
424	1	F	
425	1	A	another star super? No, very bright in this field.
426	2	A2	



Identified on B 35221

N00		7	9.5	+6	0	
N01	+6° 1603	7	10.6	+6	<sup>34</sup> 35	9.4 ✓
N02	+6° 1605	7	10.7	+6	34	9.5 ✓
N03		7	11.2	+6	39	
N04		7	12.0	+6	23	
N05		7	12.4	+6	37	
N06	+6° 1619	7	12.6	+6	31	9.3 ✓
N07	+6° 1618	7	12.6	+6	0	9.5 ✓
N08	+5° 1625	7	12.0	+5	48	9.4 ✓
N09		7	11.8	+5	49	
N10	+5° 1624	7	11.7	+5	45	9.4 ✓
N11	+4° 1662	7	12.0	+4	34	9.5 ✓
N12		7	12.1	+4	30	
N13		7	12.4	+4	25	
N14		7	12.3	+4	32	
N15		7	13.3	+5	0	
N16	+4° 1666	7	13.3	+4	40	9.3 ✓
N17		7	12.6	+5	18	
N18		7	12.5	+5	26	
N19	+5° 1628	7	13.3	+5	54	8.9 ✓
N20	+5° 1631	7	13.8	+5	57	9.5 ✓
N21	+6° 1622	7	13.7	+6	5	9.4 ✓
N22	+6° 1627	7	14.2	+6	10	9.4 ✓
N23	+5° 1634	7	14.6	+5	48	9.3 ✓
N24		7	14.7	+5	40	
N25		7	15.3	+5	40	
N26	+6 1634	7	15.0	+6	13	9.5 ✓

Feb 19, 1923

M F 7824

427	2	A2	
428	1	K2	
429	3	G0	
430	2	K2	
431	1	G0	look up strong line
432	3	G0	
433	1	K2	
434	1	F	lines double?
435	1	A2	
436	1	K0	
437	1	G0	
438	1	F5	
439	2	F5	
440	1	A	
441	2	A0	
442	1	K5	
443	1	G	
444	1	A	
445	1	F8	
446	1	K5	
447	1	K	
448	1	A	
449	1	A0	
450	1	K2	
451	1	K0	
452	2	A2	
453	2	K0	



Identified on B 35221 ~~eye~~ <sup>to</sup> ~~NN4~~ -  
 Identified on B 15012 after NN4

N27	+5° 1646	7	16.5 +5	52	9.1	✓
N28	+5° 1643	7	16.1 +5	34	9.0	✓
N29	+5° 1639	7	15.3 +5	27	8.9	✓
N30	+5° 1637	7	15.0 +5	27	9.0	✓
N31	+5° 1647	7	16.7 +5	32	9.4	✓
N32	+5° 16 <sup>19</sup> 54	7	16.9 +5	33	9.2	✓
N33		7	17.4 +5	14		
N34	+5° 1650	7	17.5 +5	18	9.5	✓
N35	+5° 1663	7	18.7 +5	9	9.5	✓
N36	+4° 16 <sup>9</sup> 58	7	18.8 +4	57	9.2	✓
N37	+5° 1670	7	19.7 +5	7	9.2	✓
N38		7	19.1 +5	16		
N39	+5° 1664	7	19.1 +5	28	9.2	✓
N40	+5° 1661	7	18.6 +5	34	9.5	✓
NN1	+5° 1660	7	18.5 +5	113	9.5	✓✓
NN2	+5° 1659	7	18.5 +5	52	9.2	✓✓
NN3		7	18.5 +5	27		
N44	+6° 1665	7	18.9 +6	12	9.5	✓
N45	+6° 1667	7	19.0 +6	17	9.5	✓
N46	+6° 1670	7	19.1 +6	27	9.4	✓
N47	+6° 1673	7	19.7 +6	26	9.4	✓
N48		7	19.8 +6	30 26	9.4	
N49	+6° 1671	7	19.4 +6	49	9.5	✓
N50	+6° 1676	7	20.2 +6	5	9.2	✓
N51	+5° 1671	7	20.1 +5	51	9.2	✓
N52	+5° 1669	7	19.7 +5	54	9.2	✓
N53	+5° 1666	7	19.4 +5	50	8.9	✓

Feb 19, 1923

M J 7824

454	1	G
455	4	F8
456	1	A2
457	1	K5
458	1	A
459	3	G0
460	2	K5
461	3	F8
462	1	K2
463	1	A5
464	1	A0
465	1	A2
466	1	K5
467	2	G0
468	2	Ma
469	1	F8
470	1	K
471	1	G?
472	1	K5
473	3	A
474	3	A2
475	1	Ma
476	2	G5
477	1	K
478	2	K0
479	1	A
480	1	A2

another star series on following



Identified on B 15012

2134	+5° 1665	7	19.1	+5	39	9.5	✓
2135	+5° 1667	7	19.5	+5	26	8.7	✓
2156		7	19.6	+5	25		✓
2137	+11° 1705	7	20.0	+4	54	9.0	✓
2138		7	20.1	+4	47		✓
2159	+5° 1674	7	20.8	+5	25	9.3	✓
2160	+6° 1658	7	17.6	+6	3	9.3	✓
2161	+6° 1660	7	17.8	+6	14	9.2	✓
2162	+6° 1655	7	17.2	+6	16	9.4	✓
2163	+6° 1657	7	17.3	+6	19	9.5	✓
2164	+6° 1661	7	18.0	+6	52	9.5	✓
2165	+7° 1724	7	19.1	+7	14	9.5	✓
2166	+7° 1715	7	17.3	+7	12	9.2	✓
2167	+7° 1713	7	16.6	+7	26	9.0	✓
2168	+6° 1644	7	15.9	+6	58	8.7	✓
2169	+6° 1642	7	15.7	+6	19	9.1	✓
2170	+6° 1639	7	15.6	+6	18	9.1	✓
2171	+6° 1638	7	15.5	+6	35	9.5	✓
2172	+6° 1635	7	15.1	+6	29	9.2	✓
2173	+6° 1631	7	14.8	+6	35	9.3	✓
2174	+6° 1629	7	14.3	+6	19	9.4	✓
2175	+6° 1628	7	14.2	+6	59	8.9	✓
2176	+6° 1626	7	13.9	+6	51	8.9	✓
2177	+6° 1624	7	13.8	+6	41	9.3	✓
2178	+6° 1620	7	13.0	+6	46	9.3	✓
2179		7	13.4	+7	15		
2180	+7° 1690	7	13.1	+7	22	9.5	✓

The southern following of lines

Feb 19, 1923

M F 7824

481	1	A
482	2	K0
483	1	F0
484	1	G
485	1	K2
486	1	K5
487	3	F5
488	2	F0
489	3	G0
490	1	K5
491	3	F0
492	2	K2
493	1	F8
494	3	A0
495	1	G5
496	1	K0
497	1	A
498	3	K0
499	1	G
500	1	G0
501	2	K2
502	3	F8
503	2	A5
504	2	F0
505	2	A
506	3	K0
507	1	K



*Identified on B 15012*

481		7	13.3	+7	30		
482	+7° 1687	7	12.7	+7	7	9.1	✓
483		7	12.3	+7	0		✓
484		7	12.0	+6	54		
485	+7° 1680	7	11.6	+7	24	9.0	✓
486	+7° 1678	7	11.3	+7	39	9.0	✓
487	+7° 1677	7	11.3	+7	32	9.0	✓
488	+6° 1608	7	11.0	+6	59	9.4	✓
489	+6° 1609	7	11.3	+6	52	8.8	✓
490	+6° 1602	7	10.5	+6	54	9.5	✓
491	+6° 1601	7	10.5	+6	60	9.1	✓
492	+7 1670	7	10.0	+7	4	9.0	✓
493	+6° 1598	7	10.0	+6	42	9.5	✓
494	+6° 1595	7	9.7	+6	40	9.4	✓
495	+6° 1597	7	9.8	+6	58	9.4	✓
496	+6° 1593	7	9.4	+6	36	9.5	✓
497	+6° 1588	7	8.0	+6	52	9.5	✓
498	+6° 1582	7	7.2	+6	50	8.9	✓
499	+6° 1580	7	6.9	+6	47	9.4	✓
500	+6° 1579	7	6.6	+6	31	9.5	✓
501	+6° 1578	7	6.5	+6	8	9.0	✓
502	+6° 1574	7	6.1	+6	13	9.2	✓
503	+6° 1573	7	6.1	+6	0	9.5	✓
504		7	6.1	+5	52		
505	+5° 1590	7	6.2	+5	44	9.4	✓
506	+5° 1589	7	5.6	+5	29	9.0	✓
507	+5° 1596	7	6.7	+5	46	9.5	✓

*the southern of either or  
two both + 5 1590*

Tuesday, October 30, 1923  
 In F782 ✓

See  
 preceding  
 page

1  
 508  
 2  
 3  
 4  
 5  
 6  
 7

508	1	K5
509	3	K2
510	2	B9
511	1	F2
512	1	A
513	4	K2
514	4	K5
515	3	A2
516	1	K
517	2	K2
518	3	K0
519	2	A5
520	3	F2
521	3	A3
522	4	A2
523	1	A
524	3	A0
525	4	F5

the full of 2



To 517 identified on B 16012  
 from 517 identified on B 39845

508	+6. 1578 1581	7	6.570	+6	6854	9.2	9.4	✓
	+5 1607	7	7.3	+5	47	8.8		
509	+5° 1603	7	7.5	+5	54	9.2		✓
510		7	7.9	+5	57			
511		7	7.7	+5	19			
512		7	8.7	+6	2			
513	+4° 1664	7	12.4	+4	50	9.2		✓
514	+4° 1668	7	12.5	+4	50	8.8		✓
515	+4° 1673	7	14.0	+4	22	9.0		✓
516	+3° 1673	7	17.3	+3	51	9.3		✓
517	+3° 1453	6	47.0	+3	51	9.4		✓
518	+3° 1456	6	47.2	+3	45	9.0		✓
519	+3° 1460	6	47.5	+3	46	9.5		✓
520	+4° 1499	6	46.7	+4	13	9.1		✓
521	+4° 1503	6	47.3	+4	20	9.3		✓
522	+4° 1507	6	47.7	+4	4	9.3		✓
523		6	48.2	+4	32			✓
524	+5 1475	6	48.1	+5	6	9.4		✓
525	+5° 1480	6	48.6	+5	12	9.0		✓
526								

Tuesday. October 30, 1923.  
M. H. H. H.

526	3	Ko
527	2	Bg
528	4	Bg
529	2	B8
530	1	Ao
531	4	F8
532	3	Bg
533	2	Fo
534	1	Bg
535	3	G5
536	2	Ao
537	1	A8
538	4	G5
539	4	A3
540	4	F5
541	2	K5
542	2	A2
543	3	Fo
544	2	A9
545	2	A6
546	3	Ao
547	2	A2
548	1	A2
549	1	Ko
550	2	A2



Identified on B 39845

526	+5° 1483	6	48.9	+5	18	9.0 ✓
527		6	49.6	+5	<sup>39</sup> 40	✓
528	+4° 1515	6	49.1	+4	55	9.2 ✓
529	+4° 1517	6	49.4	+4	48	9.5 ✓
530		6	49.2	+5	30	✓
531	+5° 1488	6	49.6	+5	0	9.0 ✓
532	+5° 1490	6	50.2	+5	12	9.3 ✓
533	+5° 1492	6	50.6	+5	14	9.5 ✓
534	+5° 1495	6	51.1	+5	18	9.5 ✓
535	+5° 1502	6	51.5	+5	16	9.0 ✓
536	+5° 1497	6	51.2	+5	23	9.5 ✓
537	+5° 1496	6	51.1	+5	25	9.4 ✓
538	+5° 1503	6	52.2	+5	53	9.0 ✓
539	+5° 1505	6	52.4	+5	41	9.3 ✓
540	+5° 1508	6	53.0	+5	26	9.0 ✓
541	+5° 1509	6	53.2	+5	115	9.1 ✓
541	+5° 1479	6	48.5	+5	48	9.0 ✓
542	+6° 1480	6	53.4	+6	4	9.5 ✓
542	+6° 1481	6	48.0	+6	8	9.1 ✓
543	+6° 1481	6	53.5	+6	14	9.4 ✓
543	+6° 1438	6	47.4	+6	28	9.25 ✓
544	+6° 1486	6	54.2	+6	14	9.5 ✓
544	+6° 1429	6	48.0	+6	23	9.1 ✓
545	+6° 1485	6	54.6	+6	17	9.4 ✓
545	+6° 1442	6	48.6	+6	18	9.5 ✓
546	+6° 1491	6	53.0	+6	6	9.4 ✓
546	+6° 1450	6	49.2	+6	23	9.5 ✓
547	+6° 1494	6	55.1	+6	14	9.5 ✓
548	+6° 1496	6	55.4	+6	5	9.3 ✓
549	+6° 1497	6	55.7	+6	11	9.3 ✓
549	+5° 1489	6	49.9	+5	48	9.3 ✓
550	+6° 1456	6	50.0	+6	7	9.0 ✓

Tuesday, October 30, 1923.

M #2824

551	1	K8	
552	2	A3	
553	1	G5	
554	3	F2	
555	2	A0	
556	2	A0	
557	1	F	
558	1	A5	
559	2	A4	
560	1	F	
561	1	F8	
562	2	A0	
563	1	A	
564	2	K7	
565	2	G0?	Look up indistinct
566	1	A	
567	1	G	
568	2	A0	Lines broad
569	2	A0	
570	2	K0	
571	2	G5	
572	1	G5	
573	1	G?	
574	2	F2	
575	1	G	



Identified on B 39845

551	+6° 1502	6	56.0	+6	14	9.5	✓
552		<del>6</del> 5	55.6	+5	28		✓
553	+5° 1522	6	56.0	+5	31	9.5	✓
554		6	56.3	+5	28		✓
555		6	57.4	+5	25		✓
556	+5° 1529	6	57.4	+5	42	9.4	✓
557		6	56.7	+4	35		✓
558		6	57.0	+ <del>5</del> <sup>4</sup>	50		✓
559	+4° 1582	6	58.2	+4	49	9.3	✓
560	+4° 1584	6	58.6	+4	45	9.5	✓
561		6	58.7	+4	30		✓
562	<i>one of these</i> +4° 1582	6	58.8	+4	23	9.5	✓
563		6	58.9	+4	23		✓
564	+5° 1538	6	58.6	+5	12	9.2	✓
565	+5° 1538	6	58.6	+5	28	9.2	✓
566		6	58.0	+5	25		✓
567	+5° 1533	6	58.1	+5	33	9.5	✓
568		6	57.8	+5	37		✓
569		6	58.4	+6	0		✓
570	+6° 1517	6	58.6	+6	17	9.0	✓
571	+6° 1522	6	59.3	+6	10	9.2	✓
572	+6° 1521	6	59.2	+6	24	9.3	✓
573	+5° 1541	6	59.1	+5	43	9.4	✓
574	+5° 1544	6	59.7	+5	33	9.4	✓
575	<del>+5° 1547</del>	6	59.9	+5	<del>38</del> 38	<del>9.4</del> 9.4	✓

Mrs. Cannon  
thinks the  
preceding star  
is undoubtedly  
the cataloged  
star.

Tuesday, October 30 1923.

Mc Fitzgery

576	2	A <sub>0</sub>
577	2	F <sub>0</sub>
578	2	A <sub>2</sub>
579	2	A <sub>6</sub>
580	3	A <sub>2</sub>
581	1	K <sub>5</sub>
582	1	F
583	1	A <sub>2</sub>
584	3	A <sub>2</sub>
585	1	G
586	1	K <sub>7</sub>
587	1	K <sub>0</sub>
588	5	A <sub>2</sub>
589	2	G <sub>0</sub>
590	1	K <sub>6</sub>
591	2	A <sub>8</sub>
592	2	F <sub>8</sub>
593	3	F <sub>0</sub>
594	2	A <sub>2</sub>
595	2	G <sub>0</sub>
596	3	B <sub>8</sub>
597	2	M <sub>e</sub>
598	1	A
599	2	A <sub>0</sub>
600	1	A

another star sup. at 2.



Identified on B 39845

576	+5°	1549	7	0.6	+5	59.9	9.5 ✓
577	rh <sup>is</sup> is probably	+5° 1555	7	1.6	+5	41.7	9.5 ✓
578		+5° 1556	7	1.6	+5	58	9.4 ✓
579		+5° 1559	7	2.0	+5	56	9.5 ✓
580		+5° 1562	7	2.1	+5	23	9.5 ✓
581			7	3.5	+5	49	✓
582		+5° <sup>74</sup> 1568	7	3.6	+5	<sup>57</sup> 58	9.5 ✓
583			7	3.9	+5	59	✓
584		+6° 1558	7	3.8	+6	6	9.3 ✓
585		+6° 1562	7	4.6	+6	6	9.5 ✓
586		+5° 1587	7	5.3	+5	58	9.3 ✓
587		+5° 1584	7	4.9	+5	34	9.3 ✓
588		+6° 1561	7	4.3	+6	36	8.9 ✓
589		+6° 1555	7	3.5	+6	20	9.3 ✓
590		+6° 1553	7	3.2	+6	40	9.2 ✓
591		+6° 1552	7	3.1	+6	35	9.4 ✓
592		+6° 1540	7	1.8	+6	39	9.5 ✓
593		+7° 1623	7	2.7	+7	40	9.2 ✓
594		+7° 1622	7	2.6	+7	45	9.3 ✓
595		+7° 1624	7	3.0	+7	40	9.2 ✓
596		+7° 1636	7	4.8	+7	34	9.5 ✓
597		+8° 1696	7	5.2	+8	3	8.9 ✓
598		+8° 1695	7	5.1	+8	10	9.4 ✓
599		+7° 1639	7	5.6	+7	34.0	9.4 ✓

But the dec. is +5 H.M. instead of +5 M. 7. Error in Dec.?

Very slight error in dec. in Dec. cat. According to chart plate B 39845 this star is south rather than north of +7 1638 +7 5.4 +7 33.7

600

7 5.9 +7 22

Tuesday October 30 1923.

McFiszv

601	2	K0	
602	3	A2	
603	2	F5	
604	1	F0	
605	2	A2	
606	3	K5	
607	4	A3	
608	4	A2	
609	2	A3	
610	2	G	
611	1	A7	
612	2	A0	
613	1	A	
614	2	F0	
615	2	K5	
616	3	K5	
617	3	K	sup. on 618.
618	2	A	
619	2	K5	
620	2	A0	
621	2	F8	
622	2	G5	
623	1	K	
624	2	K0	
625	3	A3	



## Identified on I 40128

601	+7° 1641	7	5.9	+7	29	8.9	✓
602	+7 1642	7	5.9	+7	6	9.3	✓
603	+7° 1647	7	6.5	+7	16	9.5	✓
604		7	6.9	+7	3		
605	+7° 1652	7	7.3	+7	53	9.5	✓
	+8° 1711	7	7.5	+8	8	9.3	✓
606	+7° 1664	7	9.1	+7	38	9.3	
607	+8° 1715	7	8.2	+8	4	9.1	✓
608	+8° 1721	7	9.8	+8	5	9.3	✓
609	+7° 1664	7	9.1	+7	38	9.3	✓
610	+7° 1658	7	8.0	+7	18	9.5	✓
611		7	10.2	+7	16		
612		7	10.5	+7	39		
613		7	10.7	+7	38		
614	+8° 1736	7	11.1	+8	8	9.5	✓
615	+8° 1738	7	11.5	+8	32	8.8	✓
616	+8° 1742	7	12.4	+8	49	9.0	✓
617	+7° 1685	7	12.2	+7	38	9.0	✓
618	+7° 1686	7	12.2	+7	42	9.2	✓
619	+7° 1688	7	12.8	+7	54	9.4	✓
620		7	13.1	+7	55		
621	+8° 1746	7	13.4	+8	2	9.5	✓
622	+8° 1744	7	12.5	+8	18	9.4	✓
623	+7° 1693	7	13.8	+7	45	9.6	✓
624	+7° 1695	7	14.2	+7	39	8.9	✓
625	+7° 1696	7	14.2	+7	46	9.1	✓
626							

\* slight error in  
class. in Pm. Cat.  
should be month  
of +7 1644 7 6.2  
see plate I 40128

Tuesday • October 30, 1923.  
M 717824

626	3	A2
627	2	K0
628	1	Gm
629	3	A3
630	1	A
631	2	A3
632	1	A
633	2	A3
634	1	K5
635	2	G5
636	1	K5
637	3	K0
638	2	A0
639	3	K5
640	3	K8
641	4	F0
642	3	A3
643	4	K0
644	4	B9
645	1	A
646	2	K0
647	1	A
648	4	B9
649	4	A2
650	2	G5



To bwt identified on I 40128  
Beginning with bwt identified on B 27082

626	+7°	1698	7	14.3	+7	57	9.2	✓
627	+7°	1702	7	14.8	+7	38	8.8	✓
628	+7°	1701	7	14.7	+7	30	8.8	✓
629	+7°	1700	7	14.6	+7	19	9.2	✓
630			7	15.0	+7	17		
631	+7°	1710	7	15.5	+7	34	9.5	✓
632	+7°	1707	7	15.2	+7	4	9.5	✓
633			7	16.3	+7	18		
634	+7°	1714	7	17.2	+7	54	9.0	✓
635	+8°	1762	7	17.6	+8	6	9.1	✓
636	+8°	1763	7	17.7	+8	7	9.1	✓
637	+8°	1767	7	18.2	+8	4	9.0	✓
638	+8°	1769	7	18.6	+8	7	9.3	✓
639	+8°	1771	7	18.8	+8	4	8.9	✓
640	+8°	1772	7	18.8	+8	18	8.6	✓
641	+5	1479	6	48.5	+5	48	9.0	✓
642	+6°	1438	6	48.0	+6	28	9.1	✓
643	+6°	1438	6	47.7	+6	28	9.2	✓
644	+6°	1440	6	48.0	+6	23	9.1	✓
645	+6°	1442	6	48.6	+6	18	9.5	✓
646	+6°	1450	6	49.2	+6	23	9.5	✓
647			6	49.2	+6	1		
648	+6	1451	6	49.7	+6	1	9.3	✓
649	+5	1489	6	49.9	+5	48	9.3	✓
650	+6°	1456	6	50.0	+6	7	9.2	✓

Tuesday

October 30, 1923.

M 7824

651	1	a
652	1	a
653	1	a
654	1	a
655	2	a3
656	4	g5
657	1	a
658	1	g
659	3	f2
660	3	a4
661	2	g5
662	3	a2
663	2	B9
664	4	a6
665	3	a7
666	1	a
667	3	a2
668	13	K0.
669	3	a0
670	3	a2
671	2	f
672	3	K2
673	4	a0
674	2	g5
675	3	g5



Identified on B 27082

651		6	50.5	+ 5	50	
652		6	50.4	+ 5	59	
653		6	50.7	+ 5	57	
654		6	50.7	+ 6	2	
655	+6° 1465	6	50.9	+ 6	3	9.5 ✓
656	+6° 1461	6	50.6	+ 6	6	9.0 ✓
657		6	51.0	+ 6	22	
658	+6° 1469	6	51.4	+ 6	15	9.3 ✓
659	+6° 1470	6	51.6	+ 6	10	9.5 ✓
660	+6° 1475	6	52.3	+ 6	12	9.5 ✓
661	+6° 1473	6	52.1	+ 6	25	9.3 ✓
662	+6° 1457	6	50.1	+ 6	38	9.3 ✓
663	+6° 1463	6	50.7	+ 6	51	9.3 ✓
664	+6° 1464	6	50.8	+ 6	32	9.1 ✓
665	+6° 1467	6	51.1	+ 6	46	9.3 ✓
666		6	51.0	+ 6	55	
667	+7° 1545	6	51.8	+ 7	5	9.3 ✓
668	+7° 1542	6	51.2	+ 7	8	9.1 ✓
669	+7° 1541	6	51.1	+ 7	12	9.5 ✓
670	+7° 1535	6	50.3	+ 7	12	9.4 ✓
671		6	50.6	+ 7	18	
672	+7° 1537	6	50.6	+ 7	37	8.8 ✓
673	+7° 1532	6	49.9	+ 7	44	9.0 ✓
674	+7° 1530	6	49.8	+ 7	45	9.2 ✓
675	+7° 1531	6	49.9	+ 7	58	9.3 ✓

Tuesday Oct. 30, 1923.

M 7824

676	2	Fo	
677	2	B <sub>8</sub>	following of tor.
678	1	A	
679	2	Ao	
680	2	A <sub>2</sub>	
681	2	Ao	Lines broad
682	2	Ao	
683	2	Ko	
684	5	Ao	
685	1	Ko	
686	2	Fo	
687	2	A <sub>2</sub>	
688	1	Ao	
689	1	Ko	
690	1	A	
691	2	A <sub>2</sub>	
692	2	F <sub>2</sub>	
693	2	A <sub>3</sub>	
694	1	A <sub>7</sub>	
695	2	B <sub>9</sub>	
696	1	K	
697	12	F <sub>5</sub>	
698	<del>2</del> 3	Ao K <sub>2</sub>	
699	1	A	
700	1	K <sub>5</sub>	

cont. Bl. 148, 80



Identified on B 29082

676		6	51.4	+7	20	
677	+7° 1546	6	51.9	+7	33	9.5 ✓
678		6	52.3	+7	27	
679	+7° 1548	6	52.3	+7	40	9.5 ✓
680	+7° 1552	6	52.9	+7	19	9.4 ✓
681	+6° 1477	6	53.1	+6	49	9.4 ✓
682	+6° 1478	6	53.2	+6	38	9.3 ✓
683	+6° 1487	6	54.2	+6	37	9.4 ✓
684	+6° 1493	6	55.1	+6	37	9.1 ✓
685	+6° 1495	6	55.3	+6	30	9.5 ✓
686	+6° 1498	6	55.7	+6	26	9.5 ✓
687	+6° 1500	6	55.8	+6	35	9.5 ✓
688		6	56.5	+6	38	
689	+6° 1507	6	56.9	+6	19	9.3 ✓
690	+5° <del>1528</del> 1527	6	<del>57.3</del> 57.2	+5	<del>58</del> 57	<del>9.5</del> 9.4 ✓
691	+6° 1515	6	58.3	+6	37	9.5 ✓
692	+6° 1511	6	57.7	+6	54	9.5 ✓
693	+6° 1518	6	58.7	+6	48	9.5 ✓
694		6	58.2	+6	43 <sup>2</sup>	
695	+6° 1523	6	59.4	+6	52	9.5 ✓
696	+6° 1529	7/6	0.1	+6	30	9.5 ✓
697	+7° 1606	6	59.8	+6	4	9.2 ✓
698	+6° 1525	6	59.7	+6	39	9.5 ✓
699		6	59.7	+6	45	
700	+7° 1598	6	58.8	+7	19	9.4 ✓

Friday, March 23, 1923

MC19618      7 17 +15      March 14, 1923

Run      071714       $H_p + H_\gamma$  bright  
 $H_\gamma = 1.0$   $H_p = 1.2$   
 Sp. continuous

19619      9 12 +15      March 14, '23  
 R5      98.3 +14 37  
 Run

19609      7 08 +60      March 9, 1921

Comp. = 230 m J37526 = H.D. 53349  
 75p. Remarks says prob. Comp.

Comp. conf. on MC19609

Br =  $G_0$   
 It = A.

No. 141 m J37526 K2  
 Dwarf?      4215 ft.

+59° 1071      7 7.3 +59 30.3 7.0  
 Look up proper motion



March 23, 1923

MC 19610

9 14-15

March 9, '23

Br. A

This star is No. 25 in B 13154,

K 2

-15° 2778

9 16.7

-15 11

A 2

Proper Motion? The spectrum looks pec. in the B plate.

Saturday, June 16, 1923

B 53184

Definition not very good.

1	2	a
2	1	K5
3	4	a
4	1	a
5	4	a
6	1	a
7	1	K2
8	2	a
9	1	a
10	1	y5
11	6	K0
12	3	F5
13	3	a
14	2	F8
15	1	a
16	3	a
17	2	K5
18	3	a
19	3	a
20	6	F2
21	5	a
22	3	K0
23	3	F5
24	2	a
25	3	a



									mg.
✓	1	+22°	3623	19	6.9	<sup>+22</sup> 19	25	9.5	
✓	2	+22°	3627	19	7.2	+22	32	9.5	
✓	3	+22°	3632	19	8.1	+22	53	9.3	
✓	4	+							Not in Dm.
✓	5	+22°	3635	19	8	7	+22	28	9.2
		<del>+22°</del>	<del>3635</del>	<del>19</del>	<del>8</del>	<del>7</del>	<del>+22</del>	<del>28</del>	<del>9.2</del>
✓	6								Not in Dm.
✓	7	+23°	3605	19	9.	3	+23	5	9.4
✓	8	+23°	3606	19	9.	4	+23	0	9.4
✓	9								Not in Dm.
✓	10	+23°	3614	19	10	5	+23	12	9.5
✓	11	+23°	3612	19	10	2	+23	30	8.5
✓	12	+23°	3615	19	10	9	+23	33	9.2
✓	13								
✓	14	+23°	3616	19	11	1	+23	33	9.4
✓	15								Not in Dm.
✓	16	+24°	3702	19	10	9	+24	4	9.3
✓	17	+24°	3704	19	11	1	+24	5	9.0
✓	18	+23°	3617	19	11.	4	+23	55	9.5
✓	19	+24°	3705	19	11	4	+24	5	9.3
✓	20	+23°	3621	19	12	6	+23	36	8.3
✓	21	+23°	3624	19	13	1	+23	16	8.6
✓	22	+23°	3628	19	13	9	+23	30	8.7
✓	23	+23°	3629	19	14	0	+23	22	9.1
✓	24								Not in Dm.
✓	25	+24°	3710	19	12	9	+24	7	9.1

Same  
star in Dm  
for both of  
these

Saturday June 16, 1923

B 53184

26	1	K5
27	1	Ma
28	3	G5
29	3	B8
30	2	K5
31	1	K5
32	3	K0
33	2	K5
34	2	K5
35	1	G
36	2	G Probably comp. K line ft.
37	2	F5
38	1	A5
39	4	A5
40	2	F0
41	3	B5
42	4	A5
43	4	K0
44	5	B9
45	1	K0
46	3	G5
47	3	G? Omit too much sup. <sup>Probably</sup> Class G
48	2	A
49	2	G5
50	4	F2



✓	26 + 24°	3712	19.	13.	5 + 24	10	9.3 <sub>3</sub>
✓	27 + 24	371 <sup>9</sup> 6	19	14.	<del>1</del> + 24	<del>5</del>	9.4
✓	28 + 23°	3630	19	14.	<del>9</del> + 23	53	9.4
✓	29 + 23°	3632	19	14.	3 + 23	59	9.4
✓	30 + 24°	371 <sup>9</sup> 8	19	14.	<sup>7</sup> + 24	<del>12</del>	9.5
✓	31 + 24°	3722	19	15.	8 + 24	6	9.3
✓	32 + 24°	3724	19	16.	1 + 24	8	9.4
✓	33 + 24°	3725	19	16.	3 + 24	18	9.3
✓	34 + 23	3638	19	16.	4 + 23	39	9.3
✓	35						Not in DM.
✓	36 + 23°	36 <sup>3</sup> 9	19	17.	0 + 23	0	9.4
✓	37						Not in DM.
✓	38						Not in DM.
✓	39 + 23°	3643	19	17.	6 + 23	39	9.1
✓	40						Not in DM.
✓	41 + 23°	3644	19	18	0 + 23	36	9.1
✓	42 + 23°	3645	19	18.	4 + 23	30	9.0
✓	43 + 23°	3646	19	18.	6 + 23	20	8.0
✓	44 + 23°	3648	19	19	0 + 23	31	8.6
✓	45 + 23°	3647	19	18	7 + 23	3	9.5
✓	46 + 23°	3651	19	19	5 + 23	21	9.5
✓	[47] + 23°	3653	19	19	7 + 23	11	9.5
✓	48						Not in DM.
✓	49 + 23°	3654	19	19.	9 + 23	6	9.5
✓	50 + 22	3695	19	20.	1 22	59	8.9

Saturday June 16, 1923

B 53184

51	3	A0
52	2	F8
53	4	B9
54	1	G5
55	1	F0
56	2	A3
57	1	M
58	1	G
59	2	G0
60	2	F0
61	1	G
62	1	A5
63	3	F5
64	1	G
65	2	A3
66	2	G0
67	2	F5
68	2	G5
69	2	A5
70	3	K0
71	3	F0
72	3	F0
73	3	A2
74	3	A2
75	3	A0



many stars  
washed

	+25°	3640	19	17.	2	+23	59	9.5
✓	51 +22°	3700	19	20.	5	22	51	9.5
	+23°	3642	19	17	5	23	57	9.4
✓	52 +22°	3703	19	21.	0	22	45	9.3
✓	53 +24°	3730	19	17.	9	+24	16	9.1
✓	54 +24°	3732	19	18.	0	+24	24	9.5
✓	55 +24°	3739	19	19.	7	+24	26	9.5
✓	56 +24°	3741	19	19.	8	+24	21	9.1
✓	57							Not in DM.
✓	58 +23°	3650	19	19	4	+23	49	9.5
✓	59 +23°	3652	19	19	6	+23	49	9.5
✓	60							Not in DM.
✓	61							Not in DM.
✓	62							Not in DM.
✓	63 +23°	3655	19	20	3	+23	33	9.1
✓	64							Not in DM.
✓	65							Not in DM.
✓	66 +23°	3658	19	21.	1	+23	4	9.5
✓	67 +23°	3659	19	21.	1	+23	12	9.5
✓	68 +23°	3657	19	21	1	+23	18	9.5
✓	69							Not in DM.
✓	70 +23°	3660	19	21	3	+23	23	9.1
✓	71 +23°	3656	19	21	0	+23	48	9.1
✓	72 +23°	3662	19	21.	9	+23	44	9.0
✓	73 +23°	3663	19	22	3	+23	34	9.1
✓	74 +23°	3664	19	22	7	+23	29	9.2
✓	75 +22°	3703	19	21.	0	+22	45	9.3

190

Saturday June 16, 1923

B 53184

76	1	G5
77	3	G5
78	2	G5
79	2	Ma
80	1	K0
81	3	G0
82	2	G5
83	1	G5
84	2	A3
85	2	K0
86	3	K2
87	1	K0
88	2	G0
89	3	A5
90	2	K2
91	2	G0
92	2	A0
93	3	G0
94	2	A0
95	1	A
96	1	G5
97	2	K0
98	2	G5
99	2	A3
100	2	A

Perhaps comp. Look up.



✓	76								Not in DM.
✓	77	+22°	3702	19	21.	9	+22	24	9.3
✓	78	+22°	3704	19	22.	1	+22	4	9.5
✓	79	+22°	3706	19	22.	3	+22	23	9.4
✓	80	+22°	3707	19	22.	6	+22	30	9.3
✓	81	+22°	3709	19	22.	7	+22	22	9.3
✓	82	+22°	3711	19	23.	2	+22	7	9.5
✓	83	+22°	3716	19	24.				Not in DM.
✓	84								Not in DM.
✓	85	+23°	3666	19	23.	3	+23°	5	9.5
✓	85	+22°	3716	19	24.	1	+22	27	9.3
✓	86	+23°	3668	19	23.	9	+23	20	8.9
✓	87	+22°	3715	19	24.	1	+22	27	9.5
✓	88	+22°	3716	19	24.	1	+22	37	9.3
✓	89	+22°	3717	19	24	2	+22	47	9.2
✓	90	+23°	3673	19	24	7	+23	1	9.3
✓	91	+23°	3674	19	24	8	+23	59	9.4
✓	92	+23°	3676	19	25	1	+23	14	9.4
✓	93	+23°	3671	19	23	4	+23	38	9.3
✓	94	+23°	3667	19	23	7	+23	43	9.5
✓	95								Not in DM.
✓	96	+23°	3669	19	24	1	+23	59	9.5
✓	97	+24°	3766	19	24	2	+24	4	9.1
✓	98	+23°	3677	19	25	7	+23	37	9.5
✓	99	+23°	3678	19	26	2	+23	37	9.1
✓	100	+24°	3773	19	26	2	+23	1	9.2

Saturday June 16, 1923

B 53184

101	2	F0
102	1	K0
103	2	K0
104	2	G5
105	3	G5
106	3	K0
107	2	K5
108	1	K0
109	3	G0
110	3	G0
111	2	K5
112	3	F2
113	3	G5
114	3	G0
115	2	K0
116	2	F0
117	3	F5
118	2	K2
119	3	K0
120	2	A
121	2	M
122	3	A2
123	3	A3
124	2	F0
125	2	A



✓	101	+23°	3680	19	26	4	+23	50	9.3	
✓	102	+23°	3679	19	26	4	+23	29	9.5	
✓	103	+23°	3681	19	26	6	+23	24	9.4	
✓	104	+23°	3684	19	27	3	+23	11	8.0	Not in DM.
✓	105									Not in DM.
✓	106	+23°	3688	19	27	7	+23	2	9.1	
✓	107	+22°	3731	19	26	9	+22	27	9.3	
✓	108	+22°	3732	19	27	6	+22	11	9.5	
✓	109	+21°	3823	19	27	2	+21	51	9.3	
✓	110	+21°	3821	19	26	0	+21	21	9.3	
✓	111	+21°	3825	19	27	5	+21	12	9.0	
✓	112	+21°	3828	19	27	8	+21	26	9.4	
✓	113	+21°	3832	19	28	2	+21	36	9.2	
✓	114	+21°	3837	19	29	0	+21	46	9.4	
✓	115	+21°	3839	19	29	6	+21	59	9.5	
✓	116	+22°	3734	19	28	0	+22	10	9.5	
✓	117	+22°	3735	19	29	2	+22	36	9.4	
✓	118	+23°	3703	19	29	2	+23	1	9.2	
	119	+23°	3698	19	26	8	+23	9	9.4	Not in DM.
✓	120	+23°	3700	19	28	9	+23	19	9.5	
✓	121	+23°	3694	19	28	6	+23	34	8.4	
✓	122	+23°	3692	19	28	4	+23	32	9.3	
✓	123									Not in DM.
✓	124	+23°	3695	19	27	5	+23	54	9.3	
✓	125	+23°	3696	19	27	4	+23	55	9.5	

Saturday June 16, 1923

B 53184

126	2	K0
127	3	F0
128	4	K0
129	2	A3
130	2	G0
131	2	K0
132	2	A
133	3	G0
134	1	K5
135	1	A
136		
137	2	A
138	3	A
139	4	A0
140		
141		
142		
143		
144		
145		
146		
147		
148		
149		
150		

Too much sub. on 137



✓	126	$+19^\circ$	40.13	19	24.3	$+19$	47	9.3	Not in DM.
		$+22^\circ$	37.25	$+19$	25.85	$+22^\circ$	5	9.3	
✓	127	$+19^\circ$	40.35	19	22.4	$+19$	26	9.5	
		$+21^\circ$	38.07	19	24.8	$+21^\circ$	43	8.8	
✓	128	$+19^\circ$	40.33	19	22.4	$+19$	38	9.4	
		$+21^\circ$	38.05						
✓	129	$+21^\circ$	38.15	19	24.2	$+21$	41	9.5	
		$+20^\circ$	41.66	19	24.0	$+20$	0	9.3	
✓	131	$+19^\circ$	40.33	19	22.3	$+19$	38	9.4	
✓	132	$+19^\circ$	40.35	19	22.5	$+19$	26	9.5	
✓	133	$+19^\circ$	40.37	19	22.9	$+19$	52	9.3	
✓	134	$+20^\circ$	41.56	19	22.6	$+20$	4	9.5	
✓	135	$+20^\circ$	41.57	19	22.6	$+20$	40	9.5	
✓	136	$+20^\circ$	41.60	19	23.0	$+20$	58	9.5	
		$+20^\circ$	41.54	19	22.4	$+20$	55	9.4	
✓	137	$+20^\circ$	41.54	19	22.4	$+20$	55	9.4	Not in DM.
✓	138	$+19$	40.43	19	24.3	$+19$	47	9.3	
✓	139	$+20^\circ$	41.84	19	27.6	$+20$	45	9.2	

Identified on cards by J. Crossman  
 " in book by R. Morison  
 Cards compared by " "







9.6





0.00











m<sub>0</sub>

















Saturday, July 14, 1923

$\sqrt{322640}$

1.3

$\frac{1}{2}$

1 m  $\sqrt{38835}$

22 35.6 + 1857

















































1921phae.proj.2227C