KG
11365
958

Book XXXV.
Objects looked up by Request.

KG11365,958

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Objects looked up by Request.

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Saturday, June 13, 1914

Examination of Plates for Jupiter's Eighth Satellite. See Letter of Mr. J. Jackson Dated June 4, 1914

Mr. Jackson furnishes the following ephemerides

(1)

1899	$\alpha_{\mathrm{VIII}} - \alpha_{4}$	$\delta_{\mathrm{VIII}} - \delta_{4}$
May 26	$+4^m\ 20^s.0$	$-101'\ 55''$
June 15	$+4\ 37.9$	$-102\ 45$
July 5	$+5\ 0.4$	$-101\ 43$

(2)

May 26	$+3\ 52.4$	$-109\ 8$
June 15	$4\ 11.0$	$-109\ 48$
July 5	$4\ 34.7$	$-108\ 28$

(1) is computed for inclination = 153° 43'.7
(2) " " " " = 150° 0'.0

The inclination is not determined satisfactorily, and considerable errors may be introduced into the calculation for 1899. For this reason Dr. Jackson made two sets of calculations, copied above.

Took list of plates given in H.C. 97 for Jupiter in 1899. Marked the approximate positions for June 27, according to above ephemerides, on A 3657. Superposed A 3654 taken the preceding day, June 26. The exposures were 120^m and 74^m for A 3654 and A 3657. A region about 25' in diameter was examined, with the two plates superposed. No evidence of motion could be detected in any star, though images

(over)

Sat. June 13, 1914

[Cont] at the limit of visibility were examined. If the Eighth Satellite is in the region examined, it must be fainter than the Sixth Satellite by more than a magnitude. The apparent difference in magnitude between Satellite VI and mags at the limit of visibility in the region examined is more than two magnitudes. The region is at such a distance from the centre of the plate that the fainter stars are probably lost

Plates 3655, June 26, Exp. 30^m and
3658 " 27 " 30
were superposed and the same region examined on Plates 3654 and 3657 was looked at, with negative results. On these plates, the Sixth Satellite is somewhat more than a magnitude brighter than the limit of visibility of stars near the centre

Plates A 3554, May 30, Exp. 180^m and
A 3556 May 31, Exp. 90^m
A region about 30′ in diameter was examined on the above plates. The region is near the edge, and it is doubtful if stars as faint as the fifteenth magnitude are seen, even on A 3554.

Sat. June $\overset{13}{X}$, 1914.

Plate A 3666, June 30, Exp. 124^m, is broken and was not found this afternoon. It could be suitably superposed on A 3669, Exp. 120^m, July 1, 1899.

Plate A 3550, May 29, 1899 $\overset{Exp.\ 158^m}{\wedge}$ has been broken and mended on a glass plate. Superposed on A 3554, May 30, Exp. 180^m, mentioned above. Very near edge of plate. No faint stars seen. Results negative

Plate A 3669, July 1, 120^m superposed on
A $36\overset{5}{\wedge}7$ June 27, 174^m (see p. 7)
Near edge. Results negative.

Tuesday, June 23, 1914.

Examination of Plates for Eros.
Ephemerides given in H.C. 183

~~Jm~~

MC 5712, June 17, 1914
Position $23^h\ 3\overset{5}{\cancel{7}}^m.8$ $+1^\circ\ 52'$ (1855)

MC 5741, June 21, 1914
Position $23^h\ 41^m.4$ $+2^\circ\ 54'$ (1855)

According to the ephemeris the planet is now moving at the rate about 25′ of arc a day, or more than a minute an hour. On MC plates this would be about 5/8 of a millimetre per hour, or a little less than an eighth of a millimetre during the 10^m exposure of the plates

The entire region between the two positions given above and for more than a degree beyond and on each side was examined with the plates superposed and also separately. No object was found which was not common to both and no trail, even extremely faint, was seen. These plates show objects of the magnitude or fainter, though the images are not very good. Eros is supposed to be of about the twelfth magnitude, but may be much fainter photographically and hence may be lost, on account of the rapid motion.

Positions of Eros (from HC. 183)

June 17	23^h	$35^m.8$	$+1^\circ$	52′
18	23	37.2	+2	7
21	23	41.4	+2	54
22		42.8	+3	9
26		48.0	+4	12
30		52.8	+5	16
July 4		57.2	+6	19
8	0	1.2	+7	23
12		49	+8	28
16		8.3	9	33
20		11.3	10	38
24		14.0	11	44
28		16.2	12	50

Monday, July 6, 1914.

Examination of Plates for Eros.

MC 5826, July 3, 1914
5837 July 4, 1914.

Examination of these plates shows no object that can with certainty be identified as Eros. Extremely faint objects near the positions given by the Ephemeris in N.C. 183 are probably defects on the plates.

Thursday, July 9, 1914

Examination of Plates for M 5

The stars fainter than m cannot safely be measured on MC plates, on account of the crowding of images.

Star e comes out very bright on Plate 22 and other plates taken with the 26-inch McCormick Reflector, with iso plate and yellow screen. It is thus seen to be very red in comparison with other stars of sequence.

Residuals are larger than those of other stars both on MC and on H plates. Examination of plates does not show any certain variation as it is usually intermediate between d and f. Accidental errors of measurement are probably larger for this star on account of its slightly different appearance from the others.

H Series 752, 753, 754. Plate 753, on Cluster, is excellent and may well be used for relative magnitudes. But both plates on Pole are too poor for comparison. Reject Series

H Series 747, 748, 749 too poor to use

H Series 745, 746 Rej. H745 im. elongated. H746, circular

H Series 767, 768, 769 Fair, though ft. stars are not seen.

Thursday, September 17, 1914

4 05 Examination of Plates for Suspected Variable in the same Field with 193732 TT Cygni. See Letters of Mr. Harry L. Baldwin. Aug. 31, 1914

Suspected Var. and Comparison stars a, b, and c marked on Plate AC 15391 by A. J. C.

AC 15391	a2V2b
AC 2924	a2V1b
AC 4739	a2V2b
AC 2866	a2V1b
AC 2772	a3a'0V1b
AC 7733	a3a'0V1b trails
AC 6685	a3a'0V1b
AC 6294	a3a'1V0b4c
AC 5530	a2V1a'1b4c
AC 5303	a1a'1V1b4c
AC 11686	a2a'1V2b3c
AC 11016	a1a'1V1b3c
AC 10843	a2a'1V2b2c
AC 9798	a2a'1V2b2c
AC 2635	a2a'0V½b3c
AC 2572	a2a'0V2b2c
AC 10895	a2a'1V2b
AC 8623	a2a'0V2b
AC 15416	a3a'0V1b3c
AC 8623	a1V1a'0b5c
AC 15416	a2V1a'1b3c

~~AC 86~~ The above plates, handed me by Miss
4 25 Cannon, show no apparent variation in the star marked by her, at least none greater than 0.1 magn.

Tuesday, October 27, 1914

Examination of Plates for S Y Geminorum DM+31° 1380
Marked on I 26615

The region of the suspected ~~object~~ star was examined and the faintest stars seen were compared with stars in the Sequence for Nova Geminorum No. 1.

On the following plates the ~~object~~ star must have been fainter than star m of Seq. (Magn. =

AC 12992	AC 13331
12991	13264
AM 283	13244
AM 8024	13131
AC 13890 iso	13057
AC 14869 iso	13031
AC 13015	

On the following plates the ~~object~~ star must have been fainter than star r of Seq. (magn. =

AC 12998	AC 12323	AC 14747
12993	12312	14716
12986	12305	14616
12929	12251	14188
12880	12184	14545
12868	12151	13830
12813	13762 Feb. 10, 1913	13619
12737	13658	13535
12695	AM 280 Nov. 13, 1899	13462
12344	AC 14883	13425
12333	14826	13356
12328	14810	

Wednesday, October 28, 1914

For S Y Geminorum

Estimates of magnitudes of stars m and r of Seq. for Nova Gem. No. 1 in terms of Polar Seq., by direct comparison with Polar Plates.

MC 5318			
Comp. with MC 5317		m = 11.3	r = 12.5
	5321	11.3	12.4
MC 4398			
Comp. with MC 4396		11.0	12.4
	4402	11.0	12.5
MC 4837			
Comp with	4834	11.0	12.5
	4840	11.0	12.5
			28
		6	6
		6	
		11.10	12.47

The three series are accordant and show that the magnitudes of m and r are about 11.1 and 12.5, respectively.

There are therefore 48 plates which show S Y Geminorum fainter than the 11th magnitude, of which 35 show it fainter than 12.5. (See preceding page. It was not seen

Wednesday, Oct. 28, 1914.

S Y Geminorum

AC 4820	Apr 12, 1904	< 12.5
4829	Apr 13, 1904	< 11.5
4879	May 4, 1904	< 10.8
4865	Apr 30, 1904	< 10.8
4828	Apr 13, 1904	< 12.0
8110	Dec. 18, 1906	< 12.5
8153	Jan 11, 1907	< 12.5
8105	Dec. 17, 1906	< 12.5

Enebo writes that the star was seen by him ~~April 18, 1904~~ December 24, 1906, mag. 9.4, and by Herr Schroeter at Christiania, Apr. 18, 1904, mag. 9.5 It has not been seen at any other time. The above observations show that within 5 days before of the date in 1904 the star could not have been brighter than the mag. 11.5, and 10 days after that date it could not have been brighter than 10.8 7 days before the date in 1906 it was not brighter than 12.5, and 18 days after that date also it was not brighter than 9.5.

There are two faint stars (14.0±) near the Dm position, but neither of them coincides with it.

Wednesday, December 2, 1914

47 Tucanae – Limiting Magnitude.

Mr. Bailey desires the magnitudes of Stars w and w′ near limit of visibility of X plates with an hour's exposure.

7″ plate A 8105

Exposures of 30m each on H.S. Reg. C 2
and 47 Tucanae

Images for C2 are round but very hazy and large. Images for 47 Tucanae somewhat elongated, sharper than for C 2.

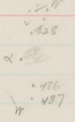
29 1 w
30 n.s

27 4 w′
w′ 1 29
No. 28 superposed.
The faint images are easily compared.

Final magnitudes have not been obtained for C2, but from 3 plates, the magnitudes are
No. 27, 14.1 No. 29, 14.6

According to this estimate, therefore, the magnitude of w is about 14.7, and that of w′ about 14.5.

47 Tucanae Cont.



Star α does not compare well at all with images of C2, but with a very low magnifying power it appears not far from the magnitude of No. 14, or about the magnitude 10.8

On AM 6732, having 2 exposures of 30m each on Regions B1 and 2h, −75°.
Star 15 1 α
α 2 16

Comparison not difficult. This would indicate that α was of about the magnitude 10.3, as Stars 15 and 16 are of about the magnitudes 10.2, and 10.6, respectively

Thursday, December 3, 1914

47 Tucanae Cont.

A 8203 "I" plate with 2 exposures of 30m each on Small Magellanic Cloud and on C 12.

31	2	w	15.5
w	1	32	-
29	4	w'	15.1
w'	1	30	14.7

Approx. magn.

29	14.7
30	14.8
31	15.3
32	.

According to the above observations, the magnitude of w would be about 15.5
w' " " " 14.9

Estimated on A 8105, w, 14.7
w' 14.5

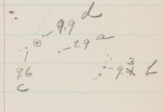
On A 8203 the cluster, near edge, is compared with seq. C12 at centre, but the plate is of good quality and images of these faint stars were comparable.

A 8205 is poor, as the images of seq. C2 are much larger and dimmer than those of 47 Tucanae. Measures on A 8203 probably the best. The mean would give
w = 15.1 w' = 14.7

Friday, December 4, 1914

024462 J X Cassiopeiae (H.S.L. Var No. 2)

Minima looked up by request of R.J. McDiarmid of Princeton
See letter of Nov. 25, 1914



AC 8088 (marked
9.4

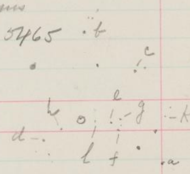
↓	AC 1697	9.5
↓	AC 1084	9.5
Max. ↓	AC 3251	9.3
Max. ↓	AC 3243	9.3
↓	AC 5480	9.5
↓	AC 6754	9.4
↓	AC 5369	9.7
↓	AC 4093	9.8
↓	AC 3903	9.7
↓	AC 3747	9.5
↓	AC 3746	9.6
↓	AC 5863	9.4
↓	AC 4426	9.6
↓	AC 5402	9.5
↓	AC 6047	9.7
Max. ↓	AC 1171	9.3
Max. ↓	AC 752	9.3
Max. ↓	AC 935	9.2
Max ↓	AC 1131	9.~~4~~3

Cont. p 24

Friday, Dec. 4, 1914

T Leonis Minoris (H.S.L. Var. 190)
For Mr. R.J. McDiarmid

Estimate of Prov. Seq. on AC 2339 in terms of Slate of Polar Seq. on AC 5465



		adopt	
a	9.7_{3}	9.7	
b	10.0	10.0	
c	10.2^{2}	10.3	
d	10.5^{3}	10.5	
e	10.5^{0}	10.6	
f	10.9^{4}_{2}	10.8	
g	11.1	11.1	
h	11.5^{4}	11.4	double
k	11.7^{2}_{2}	~~11.8~~ 11.7	
l	11.9	12.0	

a 3 b 4 c 2 d 1 e 2 f 2 g 3 h 4 k 4 l

Friday, Dec. 4, 1914

T Leonis Minoris Cont.

Observations of the Variable

max.	√	AC 2339	9.9	
	√	AC 2514	10.5	
	√	AC 1102	10.1	
	√	AC 205	10.1	
	√	AC 2160	9.9	
	√	AC 3234	10.0	
	√	AC 11094	10.7	
	√	AC 3391	11.4	
	√	AC 5570	11.9	
	√	AC 2951	11.3	
	√	AC 8060	10.3	Examined and confirmed Sat. Dec. 12.
max.	√	AC 8112	10.0	
	√	AC 13639	10.1	
	√	AC 14709	10.4	

21 plates examined including and following AC 13639

Tuesday, Dec. 8, 1914

√	I 20327	11.8
√	I 24056	11.0
√	I 24053	11.2
√	I 3515	10.2
√	I 3510	10.1
√	I 5666	10.3
√	I 5748	10.0
√	I 21812	10.1

Friday, Dec. 4, 1914

TX Cass. Cont. from page 21

↓	AC 14476	9.5
↓	AC 8238	9.6
↓	AC 10213	9.4
↓	AC 9980	9.7
↓	AC 8892	9.6
↓	AC 8695	9.6

Including the above plates 32 plates were examined in addition to those examined by M.S.O'R.

Tuesday, December 8, 1914

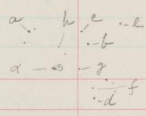
↓ marked	I 19769	9.3
↓	I 1915	9.6
↓	I 1916	9.7
↓	I 18511	9.5
↓	I 21808	9.6

Monday, December 7, 1914

070473 SS Camelop. (A.J.C. Var. 71)

Estimates of poss. seq. on AC 10259 in terms of Polar seq. on AC 5465

		Adopt
a	8.5	8.5
b	8.9^{4}	9.2
c	9.6^{7}	9.6
d	9.8^{2}	9.8
e	10.2^{4}	10.1
f	10.3^{1}	$10.\overset{6}{\cancel{7}}$
g	10.8^{5}	$1\overset{1}{0}.0$
h	11.2^{4}	11.2



α = Miss Cannon's a
b = " " b
d = " " c
a = " " d

a 6 b 3 c 2 d 3 e 5 f 3 g 2 h

Monday, Dec. 7, 1914

SS ~~Cassiop.~~ Camelop. Cont.

Estimates of Brightness

✓		AC 10259	9.9
✓		AC 4417	11.1
✓		AC 5388	9.9
✓		AC 5846	10.6? poor
✓		AC 3572	10.9? "
		~~AC 3372~~	~~10.1? "~~ los poor
✓		AC 5567	11.0
✓		AC 13580	9.9
✓		AC 5403	10.9
✓		AC 13458	10.0
✓	max	AC 9882	9.8
✓	~~[illegible]~~	AC 7346	9.9
✓	max	AC 11304	9.8
✓	"	AC 11503	9.8
✓	"	AC 7204	9.8
✓	"	AC 6895	9.8
✓		AC 1043	11.0
✓		AC 811	10.8
✓		AC 490	9.9
✓		AC 156	9.9
✓		AC 2048	10.6
		AC 5217	los poor
✓		AC 3614	" "
✓	max.	AC 1157	9.7
✓	max.	AC 139	9.7

Monday, Dec. 7, 1914.

SS ~~Cassiop.~~ Camelop. Cont.

✓		AC 4413	10.4?
		AC 4538	los poor
✓	max.	AC 4197	9.8
✓	max.	AC 2028	9.8
✓		AC 1777	9.9
✓	max.	AC 4836	9.7

Saturday, December 12, 1914

I 25108	10.2?	15120.550
I 16926	10.2?	13923.931

Faint only on the above out of 26 I plates taken between March 8, 1890 and Apr. 10, 190
Faintness not certain on either plate.

Tuesday, December 8, 1914

The Nebula of Orion.
Estimates of the magnitudes of stars
for Professor F. Slocum. See Letter Dec 7, 1914
In order to obtain Color Indices

Blue plate MC 4395

p.c. 4 4 303 $\overset{2}{\cancel{3}}$ 5 10.43 10.57 10.50

star 5 1 497 1 6 10.57 10.58 10.58 from p.c. 10.87 10.73 10.80

p.c. 554 5 1 7.61 7.61?

p.c. 3 4 757 2 $\overset{5}{\cancel{4}}$ 9.29 9.83 $\overset{10}{\cancel{9}}$.83 9.56

p.c. 2 2 924 8.83

p.c. 3 6 $\overset{7}{\cancel{9}}$46 1 4 9.49 9.93 9.71?

Blue plate MC 4$\overset{9}{\cancel{3}}$95 Exp. 20s and 1m
Exp. 20s
star 4 3 303 $\overset{2}{\cancel{3}}$ 5
p.c. • 554 4 1
star 3 6 7$\overset{5}{\cancel{7}}$7 1 4
star 3 3 924 5 4
star 3 - 746 1 4
star 6 1 497 5 7

554 10 924 8 7$\overset{5}{\cancel{7}}$7 2 746 8 303 3 497

Tuesday, Dec. 8, 1914

Nebula of Orion Cont.

Yellow Plate MC 4942
Order 1, 2, 3, 4, $\overset{n}{7}$, 6, 5, 5a, 5b, 5c, $\overset{m}{\cancel{A}}$ $\overset{n}{12}$, $\overset{w}{8}$, 9, 10, 11

star 4 4 303 0 7 4 6
p.c. 554 5 1
star 3 6 757 1 4
3 1 924 6 4
3 8 746 2 4
4 2 $\overset{4}{\cancel{7}}$97 1 7

554 - 924 5 746 1 757 3 497 1 303

Tuesday, January 5, 1915

Comet Westland (Campbell's Comet)

Search on Plates taken in the spring of 1914. See letter and ephemeris sent by ~~J.H.~~ C. J. Merfield, Melbourne Observatory, November 1, 1914.

No plates were taken covering the region of the comet during the time covered by the ephemeris, except with the 1-inch Cooke. Only three plates were found on which the region was not on the extreme edge, and on none was it close to the centre.

AC 14994. Center 12^h, $+30^{\circ}$ Exp. 61^m Position of Comet $\overset{2}{13}^h$ $\overset{43}{\cancel{26}}^m$, $+\cancel{34}^{\circ}.4$ $+37^{\circ}.3$ March 19, 1914.

Poor plate, images elongated. Probable limit of visibility in region of comet not fainter than 10 magn. No trace of comet

AC 15123, April 23, 1914. Center $10^h.0$ Exp. 67^m $+30^{\circ}.0$

Position of Comet approx $10^h 40^m$ $+32^{\circ}.3$

AC 15146, May 1, 1914, Center $10^h.0$ Exp. 55^m $+30.0$

Position of Comet $10^h 19^m$ $+29.3$

The above two plates are good, and on AC 15123 the position of comet is fairly near the centre. Probable limit of visibility about 10.8 magn. Prob. limit on AC 15146 in region of Comet, about 10.5

No trace of comet seen. Plates were exposed for an hour. As the Comet was moving about 45′ a day, or nearly 2′ an hour, it would make a decided trail on

Tuesday, Jan 5, 1915

Comet Westland cont.

AC plates, whose scale is about 600″ = 1 mm. The length of trail would be about a sixth of a millimetre; unless the comet were very bright, therefore, there would be little probability of finding it on these plates

Saturday, January 23, 1915

Plates taken with the 2-inch McCormick Telescope, sent by Professor Mitchell

B52 Exp. 124^m. Chester Pers. Cramer Iso Plate #8348 Form 4 Size 4 Def 4 Qual. 4
An excellent plate.
All stars can be well seen on H 1377, lim. 14.5?, and fairly well on H1390, lim 14.2?. Photo visual limits, 13.6? and 13.3?.
Stars somewhat fainter seen on Iso plate MC 819. Exp. 60^m

B54 Pleiades. Exp. 120^m; 10^m Form 3 Size 3 Def. 3 Qual. 4-
(120^m) 0 6 0' 0'=0.3 p n.s.
(10^m) m 4 m' m'=0.1 n n.s.
Hammer Special backed

B56 Pleiades Exp. 120^m, 10^m Form 2 Size 3 Def ~~3~~ 4 Qual. 3+
(120^m) 0 4 0' 0'=0.2 p n.s.
(10^m) ~~m~~ m' 8 m'' m''=0.2 m' n.s.
Hammer Special backed

B58 Pleiades Exp. 120^m, 10^m Form 3 Size 4 Def 4 Qual. 4
(120^m) 0 5 0' 0'=0.4 p o.o? (very doubtful
(10^m) m' 4 n n=0.2 0 n.s.

Saturday, January 23, 1915

Plates sent by Prof. Mitchell cont.

Pleiades. Star p can be seen probably, on MC 811, Iso. (Cramer?) but film is not in good condition. Star o' is well seen (0.2)
MC 800 Star o' 0.2 p n.s. (Cramer iso?)
MC 6773 Star o = 0.1 o' n.s. (Hammer backed)
There are no good H plates of this region.

Friday, January 29, 1915

B50 Chester Perseus Cramer Inst. Iso #8348 B screen
Exp. 125^m Form 4 Size 4 Def. 4 Quality 4+

Shows stars more than a magnitude fainter than B 52 and half a magnitude or more fainter than MC 819 (Exp. 15^m)
Limiting magnitude probably 15.0 or fainter.

Friday, Jan. 29, 1915

Cluster in Perseus.

Estimates of Magnitudes on Yellow plate. On Plate MC 6162, No 15 is at the limit of visibility, and No. 14 about 0.3 magn brighter than the limit. Pole plates of this series have limiting magn. of about 13.0 photographic.

This star is fully 3 magnitudes brighter than the limit of visibility on Plate B50 (McCormick), which must have a limiting magnitude fainter than 15.0 photometric.

Monday, February 8, 1915

Scale of Plates taken with the 26-inch MC Cormick Telescope.

Measures in millimetres between different stars of Polar Sequence.

Polar Seq. Stars	MC Cormick Plate 6.	H1412		MC Cormick Scale
	m m	mm	= "	~~20.57" = 0.1cm~~
14-18	52.5	18.0	1080	20.57" = 0.1cm
14-16	39.3	13.7	822	20.92
14-52	42.6	14.9	894	20.99
16-52	50.0	17.3	1038	20.76
				32 4 4
				20.8" = 1 m m

Wednesday, March 3, 1915

3 33

R T Persei

Observations on plates taken previous to 1904 for Professor Dugan.

Magnitudes Book 9a page 88

Ledger Copied in Miscellaneous Letters, pp107-126

					Dec. day
✓	AC 664	10.9	~~Sat~~ Jan. 6, 1900	5026	.569
✓	AC 71	10.7	Oct. 24, 1898	4587	.657
✓	AC 107	10.5	Dec. 7, 1898	4631	.664
✓	AC 106	t.p.	Dec. 7, 1898	4631	.634
✓	AC 101	t.p.	Nov. 7, 1898	4601	.
✓	504	10.5	Nov. 7, 1899	4966	.488
✓	579	10.7	Dec. 9, 1899	4998	.639
✓	588	t.p.	Dec. 13, 1899	5002	.582
✓	680	11.6	Jan. 21, 1900	5041	.579

3 40

5 00 ✓	AC 957	t.p.	Aug. 9, 1900	5241	.625
✓	1006	10.5	Sept. 19, 1900	5282	.746
✓	1007	t.p.	Sept. 19, 1900	5282	.798
✓	1015	10.5	Sept. 24, 1900	5287	.623
✓	1054	11.7	Dec. 14, 1900	5368	.578
✓	1182	11.1?	Jan. 29, 1901 Faint and poor	5414	.631
✓	1290	t.p.	Feb. 25, 1901	5441	~~.622~~ 580
✓	1291	t.p.	Feb. 25, 1901	5441	.690 622
✓	1294	t.p.	Feb. 26, 1901	5442	.503
✓	1853	10.9?	poor Oct. 8, 1901	5666	.791
✓	2135	11.3	Jan. 1, 1902	5751	.644
✓	2235	10.7	poor Jan. 12, 1902	5774	.657
✓	2261	10.5	Feb. 3, 1902	5784	.568
✓	2306	10.5	Feb. 10, 1902	5791	.480

Wed. March 3, 1915

5 15

R T Persei Cont.

✓	~~MC~~ ac 2743	10.5	Aug. 12, 1902	5974	.852
✓	2913	10.7?	Oct. 20, '02 Very poor	6043	.765
✓	2938	10.6	Oct. 25, 1902	6048	.873
✓	2987	10.6	Nov. 8, 1902	6062	.826
✓	3009	10.7	Nov. 22, 1902	6076	.829
✓	3036	t.p.	Dec. 3, 1902	6087	.600
✓	3061	10.6	Dec. 8, 1902	6092	.682
✓	3108	10.5	Dec. 27, 1902	6111	.646
✓	3118	10.6	Dec. 30, 1902	6114	.578
✓	3150	t.p.	Jan. 9, 1903	6124	.620
✓	3183	10.7	Jan. 18, 1903	6133	.621
✓	3199	10.5	Jan. 21, 1903	6136	.562
✓	3299	10.5	Feb. 14, 1903	6160	.576
✓	3345	11.0	Feb. 23, 1903	6169	.544
✓	3376	11.8	Mar. 1, '03	6170	.537
✓	3435	10.5	Mar. 17, 1903	6191	.534
✓	3948	11.0?	Sept. 18, 1903 Images elongated. Var. shorter than others	6376	.811
✓	4035	10.8	Oct. 13, '03	6401	.770
✓	4139	10.5?	Image of d defective →Oct. 30, 1903	6418	→.731
✓	4180	10.8	Nov. 8, 1903	6427	.747
✓	4262	11.1	Nov. 25, 1903	6444	.725
✓	4317	10.5	Dec. 6, 1903	6455	.748
✓	7 4398	10.8	Dec. 18, 1903	6467	.669
✓	4415	10.6	Dec. 22, 1903	6471	.624
✓	4454	10.6?	Dec. 28, '03 Very poor	6477	.532
✓	4487	t.p.	Jan. 4, 1904	6484	.698
✓	4542	10.7	Jan. 18, 1904	6498	.591

5 30

Wed. March 3, 1915

5 32

RT Persei Cont.

✓	AC4551	10.8	Jan. 19, 1904	6499	.585
✓	5186	10.5	Aug. 26, 1904	6719	.808
✓	5232	10.5	Sept. 6, 1904	6730	.867
✓	5267	tp	Sept. 19, 1904	6743	.774
✓	5377	10.7	Oct. 16, 1904	6770	.747
✓	5525	10.6	Nov. 14, 1904	6799	.613
✓	5535	tp	Nov. 15, 1904	6800	~~.193~~ ~~.695~~
✓	5597	10.7	Nov. 25, 1904	6810	.670

5 38 ~~42~~

Plates at 4^{h}, +60°

5 40

✓	AC 514	10.9	Nov. 10, 1899	4969	.782
✓	559	10.6	Nov. 26, 1899	4985	.770
✓	662	10.5	poor Jan. 6, 1900	5026	.479
✓	1084	10.5	Dec. 22, 1900	5376	.744
✓	1171	10.5?	Jan. 24, 1901	5409	.566
✓	1252	10.5	Feb. 17, 1901	5433	.548
✓	1818	10.5	Oct. 3, 1901	5661	.831
✓	1945	10.6	Nov. 2, 1901	5691	.888

545

As many or more plates were taken out of the covers and found too poor without recording the fact.

Variable apparently of β Lyrae type.

Thursday March 4, 1915

RT Persei Cont

Plates at ^{3m} 4^{h}, +60° Cont

9 40

✓	AC4395	10.7	Dec. 18, 1903	6467	.527
✓	4484	10.5	Jan. 4, 1904	6484	.529
✓	4555	10.8	" 24, 1904	6504	.640
✓	4619	11.7	Feb. 8, 1904	6519	.534
✓	5271	10.5?,	Sept. 21, 1904	6745	.722
✓	5369	~~10.5~~ 10.5	Oct. 15, 1904	6769	.770
			Oct. 1, 1904	6755	.700
✓	5314	11.5?,	Very poor. Certainly faint		
✓	5606	10.5	Nov. 26, 1904	6811	.519
✓	5723	10.6?,	Dec. 14, 1904	6829	.623

In addition to the above, 24 plates between 1901 and 1905 were examined and found to be too poor

9 50

Thursday, March 4, 1915

12 12 R T Persei Cont. 12 38

			J.D.	South at fp		
✓ I20151	11.9	Feb. 4, 1898	4325	11.9	11.90	00
✓ 17095	10.5	Jan. 18, 1897.	3943	10.5	10.50	00
✓ 29705	10.6	Dec. 23, 1902	6107	10.5?	10.55?	01
✓ 4858	fp	~~Dec. 18, 189~~	.	fp	.	
✓ 5246	11.7	Dec. 18, 1891	2085	11.9	11.80	11
✓ 2566	10.6	Dec. 22, 1890	1724	10.5	10.55	01
✓ 4929	10.6	Dec. 1, 1891.	2068	10.6	10.60	00
✓ 2754	10.7	Jan. 9, 1891.	1742	10.7	10.70	00
✓ 11703	10.8	Oct. 17, 1894.	3119	10.7?	10.75?	01
✓ 11851	10.6?	Nov. 11, 1894 poor	3144	10.8?	10.70?	11
✓ 14202	10.7?	Jan. 1, 1896. very poor	3560	10.5?	10.60?	11
✓ 23552	10.8	Sept. 16, 1899.	4914	10.9	10.85	01
✓ 7739	11.1	Dec. 24, 1892	2457	11.2	11.15	10
✓ 10967	10.7	Apr. 3, 1894	2922	10.6	10.65	10
✓ 19998	10.6	Jan. 8, 1898.	4298	10.6	10.60	00
✓ 10251	10.7	Dec. 23, 1893.	2821	10.6	10.65	10
✓ 16965	10.8	Jan. 1, 1897	3926	10.8	10.80	00
✓ 19484	10.7	Nov. 6, 1897	4235	10.7	10.70	00
✓ 26584	10.7	Feb. 7, 1901	5423	10.5	10.60	11
✓ 24548	10.7	Feb. 5, 1900 near edge	5056	10.5	10.60	11
✓ 27594	10.7	Sept. 26, 1901	5654.	10.7	10.70	00
✓ 28151	11.0	Dec. 27, 1901	5746.636	10.9	10.95	01

12 27

+5 +3
-3 -7
21 21
+0.01 -0.02
±.043

12 50

Thursday, March 4, 1915

12 55 R T Persei Cont.

Plates for Nova Pers. No. 2 Region near edge

✓ I28052	10.6?		Dec. 6, 1901	5725.
✓ 28053	10.7?		Dec. 6, 1901	5725.
✓ 28038	11.0?	very poor	Dec. 4, 1901	5723.590.
✓ 28844	10.9?		May 30, 1902	5900.799
✓ 28863	fp		June 1, 1902	5902
✓ 28930	11.0		June 28, 1902	5929.807
✓ 29688	10.8?	poor	Dec. 20, 1902	6104.
✓ 29439	10.8?		Oct. 23, 1902	6046.
✓ 29434	fp		Oct. 22, 1902	6045.
✓ 29440	10.7?		Oct. 23, 1902	6046.
✓ 29426	10.7?		Oct. 21, 1902	6044
✓ 29091	10.7?		Aug. 9, 1902	5971.
✓ 26788	fp		Mar. 12, 1901	5456.
✓ 26907	fp		Apr. 27, 1901	5502.
✓ 27174	10.7?		July 2, 1901	5568.
✓ 27113	fp		June 17, 1901	5553
✓ 27196	10.7?		July 13, 1901	5579.
✓ 27202	10.5?		July 14, 1901	5580.
✓ 27330	11.9		Aug. 18, 1901	5615.753
✓ 27482	10.6		Sept. 13, 1901	5641.
✓ 27512	10.7		Sept. 21, 1901	5649.
✓ 10082	10.5?		Nov. 26, 1893	2794
✓ 21764	10.8		Nov. 23, 1898	4617
✓ 26809	10.7		Mar. 19, 1901	5463.
✓ 26836	10.8		Mar. 27, 1901	5471.
✓ 26875	11.1		Apr. 12, 1901	5487.543

1 10 In addition to the above, about 20 plates were examined and found too poor

Thurs. Mar. 4, 1915.

1 15

R T Persei Cont

Plates for Moon Pers. Star near edge

				J.D.
✓	I 27746	10.8?	Oct. 7, 1901	5665.
✓	27785	10.8	Oct. 15, 1901	5673.
✓	27794	10.8	Oct. 16, 1901	5674.
✓	26825	10.8	Mar. 23, 1901	5467.
✓	24699	11.7?	edge Mar. 7, 1900	5086.593
✓	29772	10.8?	Dec. 31, 1902	6115.
✓	414	10.6?	Dec. 31, 1889.	1368
✓	25979	10.6?	Oct. 21, 1900	5314.
✓	3059	10.8?	Feb. 13, 1891.	1777
✓	5007	10.7?	Dec. 8, 1891.	2075
✓	27539	10.7?	Sept. 23, 1901	5651.
✓	22255	10.7?	Jan. 27, 1899	4682.
✓	26053	10.7?	Nov. 12, 1900	5336.
✓	27571	10.7?	Sept. 25, 1901	5653.
✓	26687	10.6?	Feb. 24, 1901	5440.
✓	27811	10.7?	Oct. 19, 1901	5677.

1 25

Besides the above, more than a dozen plates were examined and found to be too poor.

Thurs. Mar. 4, 1915.

1 25

R T Persei Cont.

✓	I 2868	10.5 ?		Jan. 20, 1891.	1753.
✓	101	11.9	edge	Nov. 10, 1889	1317.
✓	7727	10.6 ?		Dec. 23, 1892	2456.
✓	21649	10.6?		Nov. 3, 1898	4597.
✓	22000	10.8?	edge	Dec. 23, 1898	4647.
✓	2248	n.s. <11.4		Nov. 13, 1890.	1685.
✓	3269	10.5?		Mar. 11, 1891.	1803
✓	4928	10.6?		Dec. 1, 1891	2068.
✓	5031	10.5?		Dec. 10, 1891.	2077
✓	2071	10.6 ?		Oct. 26, 1890.	1667
✓	7958	10.6?		Jan. 25, 1893	2489.
✓	11614	10.8?		Oct 11, 1894	3113.

1 35

On all the above plates, the region is near the edge

Friday, March 12, 1915

4 45 ~~RT~~ Z Draconis

Observations in 1903, especially to determine brightness at maximum

For Professor Dugan.

Magnitudes derived from Series plates, 1915

a 9.5 b 10.1 c 10.4 d 10.9 e 11.2 f 11.4 f′ 11.8 g 12.3
h 12.7 k 12.8 l′ 12.9 m 13.6

J	AC 3752	10.5	6300	.593	July 4 '03
J	3756	10.5?	6302	.662	" 6 03
J	3704	10.6	6266	.581	May 31, 03
J	3700	edge	~~6~~ 16265	.675	May 30' 03
J	3486	too poor	16215	.779	Apr. ~~31~~ 10, 03
J	4108	11.5	6414	.908	Oct. 26, 03
J	4123	10.5	6416	.912	Oct. 28, 03
	~~4174~~				
J	4191	10.4	6428	.858	Nov 9. 03
J	42~~27~~ 42	10.5	6439	.896	Nov. 20 '03.
J	4272	10.4	6445	.876	" 26, 03

Friday, March 19, 1915

Suspicious Object at R $8^{h}\,47^{m}\,22^{s}$, $+30^{\circ}\,54'$
Seen by pupil of Professor Wilson with transit instrument when looking for a catalogue star "Perhaps a Nova".

Plates I 39103 and I 39104 taken March 18, after receiving message from Professor Wilson

Superposing on Plates I 24052 and I 26801 discloses no conspicuous object on the plates taken last evening which is not on the earlier plate. The region was examined cursorily but an object as bright as the ~~tenth~~ eleventh magnitude would not probably have been overlooked. Even if the object were as faint as magn. 12.5 it would probably have been found.

Probably there was an error in setting at the Astronomical Laboratory.

Tuesday, June 1, 1915

Examination of DM + 17° 2610
Suspected of Variability by J. A. Miller.
See letter of May 27, 1915

Mr. Miller finds no trace of this object on plates taken ^{1915} Jan. 4, 8, 14, and May 23

On Jan. 25 and 29 and May 15, he finds it as bright as DM + 18° 2707 (magn. 8.5).

On May 9 considerably fainter than + 18° 2707
May 10 brighter than prev. evening, but fainter than "

Marked on I 24431, AC 11282.

The star is near Region C 7 and can be directly compared with stars of that sequence.

AC 15992 Jan. 8, 1915
101 V, 11
AC 16118 Feb. 17, 1915
10, V, 11 near edge
AC 16160 Feb. 26, 1915
9 3 V 0 10, 2 11
AC 16251 March 12, 1915 Off edge

AC 16384 April 8, 1915
Too near edge to compare direct with C 7
e 4 V, 1 f &
V 2 g
AC 16403 too near edge
AC 16412 " " "
AC 16453 off plate
AC 16474 May 18, 1915
e 5 V, f
C 7 too near edge

Tuesday, June 1, 1915

DM + 17° 2610 cont.

Preliminary Magn. Sequence C 7.

Star	Magn
9	9.77
10	10.09
11	10.11

The suspected star is constantly of the magnitude 10.1 on the plates examined on the previous page.

The magnitude is constant, 10.1, on the plates given below. No variation seen in any adjacent star.

It should be noticed that AC 15992 on which the brightness was normal, was taken ~~June~~ Jan. 8, ~~14~~ 1915, one of the dates on which Miller found the suspected star faint.

Is it possible that the star is on the edge of the plates taken by him and is perhaps affected by irregularities in the film?

The comparison star, +18° 2707 is thus compared with stars of Seq. C 7:–

^{896}6 2 [+18° 2707]$^{9.19}$ 0 7 4 8$^{9.59}$ $\overset{9.16}{\overset{9.19}{9.19}}$ 9.18 2 11

This star is 0.9 magn. brighter than the suspected star.

Plates on which DM + 17° 2610 is of normal brightness

Ac 4890 May 6 '04
Ac 4904 May 12 '04
Ac 4957 June 12, '04
Ac 5052 July 13, 04
Ac 57$\overset{5}{4}$7 Dec. 19. 04
Ac 5820 Jan. 8, '05
Ac 5961 Feb. 7, 05
Ac 6068 Feb. 25, 05

Ac 6095 Mar. 1, '05
Ac 6159 ~~May~~ Mar. 12, 05
Ac 6225 Mar. 27. 05
Ac 6274 Apr. 7, 05
Ac 6312 Apr. 23, 05.
Ac 6338 May 1, 05
Ac 6382 May 20, '05
Ac 7170 Jan. 10. 06

Ac 7297 Feb. 11, '06.
Ac 7378 Mar. 14, '06.
Ac 7447 Apr. 4, '06.
Ac 7454 Apr. 6, '06.
Ac 7468 Apr. 13, '06.
Ac 15247 June 10, 1914
Ac 15254 June 12, 1914.
Ac 15265 June 16, 1914

Monday, June 7, 1915

CDM -41° 5805 Suspected of Variability by Leon Campbell. See Letter April 2, 1915

Marked on B26982. Also Sample Print

Examination of about 150 AM plates fails to show any variation in this star. The adjacent star RR Velorum, CDM -41° 5804, is seen faint on several plates.

The star -41° 5804 at maximum is nearly 2 magnitudes fainter than -41° 5805 and it does not seem natural to select one as a comparison star for the other. The comparison magnitudes in CDM and CPD are

	CDM Magn.	CPD Magn.	
CDM -41° 5804	9.9	10.6	CPD -41° 4511
-41° 5805	9.1	8.6	-41° 4513

It is therefore fainter visually also by nearly a magnitude.

Mr. Campbell finds a period for -41° 5805 of about 0^d.9960, or about 6 minutes short of one day, and explains the failure of Roberts to discover variation while observing RR Velorum by this fact, as the variation might have taken place in daylight hours at the period of Roberts' observations. Mr. Campbell sends a smooth light curve for the ascending branch, based on observations of several evenings April 18-24. The comparisons on earlier evenings were made with RR, assumed to be at ~~con-stant~~ maximum, which was not certain.

Is there some mistake in Campbell's identification?

Monday, June 7, 1915

RR Velorum

Seen faint on

AM 3377
4129
9693
(8917)

Bright on
AM 3476
6904
977$\overset{?}{8}$ (02777$\overset{?}{8}$, 027728)

Monday, June 21, 1915

Examination of H.S. Region C 10 for stars of marked "Doubtful by Professor Philip Fox on chart accompanying letter of June 19, 1915.

Certain stars marked doubtful.

"Not one of these 2 stars"

Seen on Prints both D 16559 (MW 369, exp. 70^{m})
and D 14248 (A 7680

"Seems Double"

Confirmed on both prints

"This star doubtful"

Configuration slightly different on Drawing of Prof. Fox, from that on charts. Perhaps there are some marked differences in the colors of stars in this region. The "doubtful" star might be one of 4 faint objects, seen on D16559 which may have come out bright visually.

"Blemish on paper"

A star image near this position is seen on both prints.

These faint stars are not seen on yellow plates MC 8469, exp 60^{m}
or H 1133 exp. 15

On both of the above plates, star 24 is the faintest seen

The faintest stars charted by Fox are between Stars 30 and 31 on the prints, or about 16.5 magn

---

Tuesday, June 22, 1915

C 10 Cont.

On MW 1263 iso with yellow screen, exp. 60^{m} the faintest star seen is No. 34 (=0.3)
Star 33 comes out very bright

27 $_{3}$ 28 $_{4}$ 29 $_{0}$ 33 $_{4}$ 30 $_{5}$ 31 $_{3}$ 32 $_{4}$ 34

The faintest stars on the drawing of Professor Fox are about as bright as No. 28.

Thursday, June 24, 1915

ξ and ι Coronae Borealis.
Examination for Variability.
See Post Card from H. E. Lau Rec'd June, 1915.

Lau states that the difference ξ – ι varies 5 steps in a period of 2½ days. Thinks that ι is the variable.

The region is well situated on AI plates having the centre 17ʰ, + 30°.
Comparison stars used were ζ, and ε Coronae, π Serpentis, β and γ Herculis for ι
Comparison stars ε, σ, ν, 23 Coronae for ξ

About 100 plates examined.
Almost invariably ι appears
about 7 grades fainter than γ Herculis
1 or 2 " brighter than π Serpentis
4 or 5 " " " ε Coronae
~~4~~ 5 or ~~5~~ 6 " " " ζ Coronae

~~It~~ ι is suspected of being slightly brighter than Normal on AI 9134 August 17, 1910
γ Herc. 3 ι
ι 4 π Serp
ι 7 ε Coronae
Suspected of being slightly faint on AI 2216
γ Herc 7 ι
ι 1 π Serp
ι 5 ε
These differences are probably purely

photographic. On no other plate was it seen so bright as on AI 9134. The range found on about 100 plates is apparently less than 0.2 magn.

ξ shows no variation at all. It appears to be always about 0.5 magn fainter than ~~ζ~~ σ and 0.5 magn. brighter than 23. It sometimes appears equal to ν and sometimes a grade brighter or fainter.

It is difficult to understand the observation of Lau, giving a regular period. The stars are so far apart and comparison stars so distant that a visual range of 5 grades might be very uncertain. A photographic range of this amount ought to be clearly seen.

Monday, July 26, 1915

Examination of Plates for Comparison Star r for 193449 R Cygni, suspected of variability by F.C. Leonard. See Letter of July 23, 1915.

Examination of the plates given below shows the light of this star to be as constant as that of others in the same region. There are apparently slight fluctuations, amounting to a tenth or two tenths of a magnitude in several of these stars. There are great differences of color among them, and this may account for the differences observed, especially among such faint images as these are on ~~MC~~ AC Plates.

AC 6482	~~AC~~	AC 8726
5181		3495
4084		1268
2659		3877
943		16173
12508		16234
11782		16408
10547		16440
10539		7766
12710		7799
13969		7813
10188		7833

The above plates show no variation in Comparison star r, which is always

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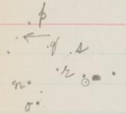
Comp. Star r for R Cygni Cont.



of about the magnitude of the star in marginal chart indicated by arrow. On AC 3906, taken Sept. 18, 1903, and AC 5207, taken August 30, 1904, the star is suspected of being about 0.2 magn. fainter than usual, but this may be a photographic effect.

Plates MC 5792 and MC 6052, blue show the ~~variable~~ star r of the same brightness as on AC plates. The two yellow plates MC 60$\overset{7}{9}$7 and 6256 show the ~~variable~~ star r between q and s.

There is no good evidence that Star r varies.

Mr. Leonard's chart is incorrectly drawn and indicates a star nearly in the position of s, magnitude 11.3. Is this possibly the star he observed, instead of Star r?

Tuesday August 17, 1915

165631 R V Herculis

Examination of Star g (11.8) observed as brighter than f (11.2) by H.C. Bancroft Jr. on the night of August 10, 1915. See ~~letter~~ card Aug 11, 1915

Plate MC 3224 shows star f clearly but not star g, showing that g was certainly at least 0.5 magn. fainter than f

Examination of AC plates seems to show a real change in relative brightness of these two stars, though observations are not very reliable on account of faintness.

g Bright	g Faint
AC 16263	AC 14508
16557	13153
15232	16604
14296	3724
12619	8268
	8448
	8326

On the following ac plates there is little if any change: 16037, 16477, 14989, 15128, 12934, 12983 13890, 13105, 13946, 7389, 10163, 11483, 11580,

Star g gives a small, sharp image and is apparently red. On some plates f appears to be somewhat fainter than normal. But the effect may be photographic. Apparent mag of g on the above plates is 0.5 magn. or less.

Wednesday, August 18, 1915

RV Herculis. Comparison Star g Cont.

The following I plates were examined, and neither star f nor star g show any evidence of variation

I32031
16087
20662
11101 May 4, 1894
18954
22953
26972
26075
25359
25021
36066 Jan. 11, 1909
36068

Wednesday, August 18, 1915

160625 RU Herculis

Examination of Star p (11.9) observed as fainter than r (123) by H.C. Bancroft Jr., on the evening of Aug. 10, 1915. See Card, Aug. 11, '15

The stars of this region do not come out well on AC plates. No yellow MC plate shows them.

Miss O'Reilly examined a number of I plates (16) and found no evidence of variation. See her Book 2, page 78

Plates I25207, 25749, and 18291 examined by H.S.L. and found to show no evidence of variation in either p or r

Saturday, ~~Sept~~ August 28, 1915

Hagen Star near R and S Tauri

See Letter from Father Hagen rec'd Aug., 1915

Star 12 on Chart 1577 R Tauri
13 " " 1582 S Tauri

Four observations by Hagen on Harvard scale, seeing very good.

1894	Dec. 17 = Magn.	10.57
1895	Jan. 17	10.95
1895	Dec 16	11.07
1896	Feb. 11	10.60

Hagen's figures of photographs show similar fluctuations.

The star was examined on the following plates. It is always fainter than Star 15, nearly equal to Star 18, and brighter than Star 23 on Chart 1582 for S Tauri. There is no evidence of photographic variation

I5035	Dec. 10, 1891	B30815	Oct. 9, 1902
I10075	Nov. 26, 1893	I32064	Sept. 21, 1904
I14525	Feb. 25, 1896	I32188	Oct. 16, 1904
I20097	Jan. 29, 1898	B38383	Nov. 14, 1907
I21419	Oct. 15, 1898		
I24294	Dec. 20, 1899		
I24410	Jan. 8, 1900		
I24637	Feb. 20, 1900		
I28005	Nov. 21, 1901		
I28093	Dec. 20, 1901		
I29030	Dec. 28, 1901		

New Variable near DM +54° 2755
Discovered by Barnard.

See Book 37: 213, 214

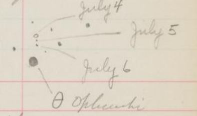
Friday, November 12, 1915

Suspicious object near θ Ophiuchi.
On Yerkes plates sent by Barnard.
See Letter Oct. 25, 1915

Professor Barnard considered this object to be a Nova, as it appears on July 5 and July 6, 1894, but not on July 4. His charts of these three dates show that the position is not the same on July 5 and July 6. In a letter of November 8 he writes that he has discovered this fact, but he still thinks it an object of interest perhaps a slow moving planet. If this were the case it should have been seen on July 4, as appears from the accompanying diagram, unless it ~~passed through its~~ reversed its direction.

Motion between July 5 and July 6, about 1.0.

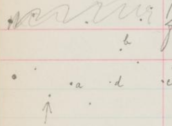
Professor Barnard's charts show the position of the object on July 5 and 6 as in the diagram



On July 4 it ought to have been in the position of the open circle unless it had reversed its direction and diminished in speed greatly, and come ~~from behind θ~~. a position concealed by θ Ophiuchi.
The only plate of that year taken here is B11285, taken May 23, ~~1915~~ 1894. A semicircle south of θ, about ~~5'~~ a degree in diameter was examined, but no object not on A 9375, taken June 14, 1909 was seen, though an object as bright as that on Barnard's plates would have been conspicuous

Saturday November 20, 1915

Examination of DM −18° 5844
Suspected of Variability by W. V. Brown
of De Pauw University. See letter of Nov. 10, 1915.
Marked on I 23219
The star was observed on the following plates. It is always equal to or a little fainter than c (= DM −17° 6129) and brighter than d (DM −17° 6144). There is no variation seen to exceed 0.2 magn



		J.D.
am 4002	Dec. 4, 1905	17184
am $\overset{4}{3}$422	July 26, 1906	17418
ac 9513	June 4, 1908	18097
am 5782	Aug. 30, 1908	18184
ac 9819	Oct. 14, 1908	18229
am 7042	June 27, 1910	18850
ac 12133	Nov. 19, 1910	18995
am 7913	Oct. 24, 1911	19334
ac 14209	July 25, 1913	19974
ac 16839	Oct. 13, 1915	20784

Wednesday November 24, 1915

Star having Large Color Index +43° 53
Found by Miss Cannon.
Estimates of Brightness

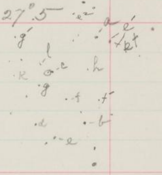
MC 9353 blue Oct. 11, 1913
12.9 (Compared with Pole plate MC 9357
12.9 " " " " MC 9352

MC 9407 yellow Oct. 22, 1915
7.5 (Compared with Poleplate MC 9405)

If this object does not vary, it has a color-index of about 5½ magnitudes, and is as red as S Cephei.

Monday, December 6, 1915

Mr. Metcalf's new Variable near the Pleiades
Approx. position 3h 45m +27°.5



Marked on I24161
Var. seen ?.

MC6628
v o l ?

MC9318
v < h ~~A~~ n.s.

MC6710
l 1 v ?

MC6503
v o l

I33291
f 2 N

I33449
h 3 N

I33448
h 3 N

I 33446
g 4 N

I33423
h 5 v ?
v o k ?

I33340
g 2 N

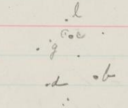
I24161
h 2 N

The star observed on this page is not the variable, but is much nearer comp. star c than the latter. Variable not seen on any of the above plates

---

Monday, December 6, 1915

Metcalf's Variable Cont.



B2311
1559 l 1 v
v = 0.1

This is not the same star observed on plates on preceding page, but is a little farther from c. It is nearly twice as far from c as the object on MC plates, and a little to the north of that star.

Provisional Magnitudes employed below. See p.68

B1033
13.~~26~~30 e⁻ 1 v 13.~~36~~40
v 4 f 13.80 13.40
13.~~36~~42 e 4 v 13.~~76~~82

B1021
13.~~26~~30 e⁻ 1 v 13.~~36~~40
v 4 f 13.80 13.40

B1981 too poor

B1046
~~f~~ d 4 v
v 0 e⁻ 13.~~26~~30 13.~~26~~30
v 5 f 13.80 13.30
13.~~36~~42 e 1 v 13.52

B1982 too poor

B1997
14.58 g 1 v ? 14.62?
h n.s.
ident. of v uncertain

B348 too poor

Monday, Dec. 15, 1915

Mr. Metcalf's Variable Cont.

B 20$\overset{57}{\cancel{78}}$ ~~too poor~~

13.$\overset{80}{\cancel{76}}$ f 1v 13.90

g def.

h m s.

B 2010 too poor

B 2072 too poor

B 2113 too poor

B 2205

14.5$\overset{2}{\cancel{8}}$ g 2 v ? 14.7$\overset{2}{\cancel{8}}$

v 2 h ? 14.98 (15.01) 14.$\overset{81}{\cancel{78}}$

B 3129

Too near edge

B 3142

Too poor

B 248 too poor

B 190 too poor

Monday, Dec. 5, 1915

Mr. Metcalf's Variable—

Estimates of magnitudes of Comparison

Stars e, e′, f, g, h, k, l,

In terms of Ref. Seq. for Dm Region

~~4h 9m +~~ 3h 50m +27°.5

MC 6503

			Prov. Magn	
13.04 (12) 4 e		13.44	13.36	08, 03, 11
e 0 (13) 13.39		13.39		
e 5 (14) 13.75		13.25		
13.75 (14) 1 f		13.85	13.80	05, 06
f 2 (15) 13.94		13.74		
14.54 (17) 1 g		14.64	14.58	06, 05
g 2 (18) 14.73		14.53		
14.88 (19) 2 h		15.08	14.98	10, 09
h 3 (20) 15.19		14.89		
15.19 (20) 1 k			15.29	a.
(20) 4 l			15.59	a.
13.04 (12) 2 e′		13.24	13.26	07, 03
e′ 1 (13) 13.39		13.29		

Magnitudes used for above reduction are those of Ref. Seq. Mt Book II p. 113

Metcalf's Var. Comp. Stars Cont.

MC6710 MC6503

13.39 (13) 2 e^2 13.59 13.52 07,07 .
e^2 3 (14) 13.75 13.45

14.25 (16) 2 g 14.45 14.44 01,00 14.58
g 1 (17) 14.54 14.44

13.39 (13) 1 e 13.49 13.47 02,02 13.36
e 3 (14) 13.75 13.45

14.73 (18) 1 g′ 14.83 14.70 13,12 .
g′ 3 19 14.88 14.58

14.88 (19) 1 h 14.98 15.04 06,05 14.98
h 1 (20) 15.19 15.09

13.94 (15) 1 f′ 14.04 14.00 04 ~~13.99 05,0~~05 .
f′ 3 (16) 14.25 13.95

15.19 (20) 2 K 15.39 15.39 a 15.29
(20) 4 l : 15.59 a 15.59

13.75 (14) 1 f 13.85 13.80 05,06 13.80
f 2 (15) 13.94 13.74

13.04 (12) 2 e′ 13.24 13.33 09,06,02 13.26
e′ 0 13 13.39 13.39
e′ 4 14 13.75 13.35

Wednesday, December 8, 1915

Metcalf's Variable Cont from p. 66

B20688
14.51 g 1 V 14.61
V 3 g′ 14.70 14.40

I199
V n.s.
14.51 g = 0.3
near edge

I24393
V n.s.
15.01 h = 0.1

I17782
V n.s.
15.59 l = 0.1

I17460
15.01 h 1 V ? 15.11 ?
V 0 K ? 15.~~29~~34 15.34 ?
V 2 l ? 15.59 15.39 ?
Very faint, near edge

I3005 too poor
I207 too poor

Wednesday, Dec. 8, 1915

Metcalf's Var. Cont.
Plates re-starred

B1997
14.51 g 1 v ?
h n.s.
At limit of visibility. Ident. of v not certain

B1033
13.52 l^2 1 v 13.62
v 4 f 13.80 13.40

B1021 prec.
13.42 l 2 v 13.62
v 0 l^2 13.52 13.52
v 4 f 13.80 13.40

B1021 foll
too poor

B1046
13.52 l^2 1 v 13.62
v 3 f 13.80 13.50

B2057
13.80 f 1 v 13.90
v 2 f′ 14.00 13.80

B 2070
13.80 f 1 v 13.90
v 2 f′ 14.00 13.80
very poor

Metcalf's Var. Cont.

B2205
14.51 g 2 v ? 14.71
v 0 g′ ? 14.70 14.70
h n.s.
Very poor. Variable certainly seen

March 9, 1916

Limiting Magnitudes on Milky Way Charts Estimated for Professor Bailey.

Plate	Region	Sq.	Pos.	Ref. Plate	Faintest Star Plate	Faintest Star Print	Limit Plate	Limit Print
aK 788	$18^{h}\,59^{m}$ $+8^{\circ}\,49'$	Carte	$19^{h}.0$ $+10^{m}.5$	MC 6375	16=0.3	14	13.1	12.1
an 11	19 41 +26 12	7 K2	19.6 +30.0	3599	12=0.5	12	14.6	14.1
an 12	20 37 +42 36	40 K	20.8 +45	497	11=0.2	equal to 8	14.7	13.1
an 39	~~8~~ 22 9 +56 4	V Lacert.	22.7 +56	3969	2=0.3	" " p	14.5	13.1
aK 777	0 40 +62 0	8 K	1.0 +60	3727	13=0.1	" " 10	14.3	13.1
an 35	3 11 +56 24	Carte	3.0 +54	6438	19=0.1	16	14.2	13.4
an 36	4 43 +42 34	24 K	4.6 +45	2604	12=0.3	equal to 9	13.7	12.2
an 37	5 39 +26 12	Ref. seq. ~~R 3 Aurig~~ Ref. Seq.	5.8 +32.5	6740	10=0.1			
" "	" "	R 3 Aurigae	5.7 +32	6740	m′=0.2		14.3	
" "	" "	23 K2	5.8 +30.7	2574	12=0.3	8?	13.9	11.5?
aK 831	6 21 +8 48	RV Monoc.	6.5 +8.8	7841	n=0.4	l	13.8	12.1

March 28, 1916

Plate	Sq.	Plate repeated	Print repeated	Ptg. Print	Plate	Half Tone	Ptg. Print
aK 788	Carte 19 +10.5	~~16=0.3~~ 19=0.1?	16=0.1	19=0.2	14.3	12.9	14.4
an 11	7 K2	12=~~0.6~~ 1.0	⑫=0.2	12=1.2	15.0	14.4	16.2
an 12	40 K	12=0.1	⑤=0.5?	12=0.1	14.9	12.5	14.9
an 39	V Lacert	②=0.5	⑫=0.1	②=0.~~2~~ 8	14.7	14.3	15.0
aK 777	8 K	~~12~~ 13=0.~~1~~ 1	⑩=0.4	⑬=0.3	14.3	13.4	14.5
an 35	Carte ~~R 3 Aurig.~~ 30, +54	19=0.2	18=0.3	19=0.5	14.3	13.9	14.6
an 36	24 K ~~R 3 Aurig.~~	13=0.1	⑩=0.4	13=0.4	13.9	13.2	14.2
an 37	23 K2	~~13~~ 14=0.1	⑫ 0.1	14=0.2	14.6	13.7	14.7
an 37 ~~aK 831~~	R 3 Aurigae ~~RW Monoc.~~	m′=0.2	(m) 0.2	m′=0.3	14.3	13.7	14.4
aK 831	RV Monoc.	p=0.2	(m) 0.1	p=0.4	14.3	13.4	14.5

Designations enclosed in circles ⑫ signify that the actual comparison was made with stars of about the same magn., in their seq.

Wednesday, March 22, 1916

Estimates of Magnitude for Professor Barnard's new variable near DM +17° 3168

Marked on am 3421. See O'R Book 2:124

Compared with H.S. Sequence C9

am	3421	10.8	Mar. 30, 1905	✓
am	3090	n.s. < 11.0	Sept. 30, 1904	✓
	5581	n.s. < 12.8	June 19, 1908	✓
	5600	n.s. < 11.5	June 25, 1908	✓
	5414	n.s. < 12.0	Apr. 25, 1908	✓
	~~2834~~ 2617	n.s. < 12.5	May 5, 1904	✓
	2580	n.s. < 11.5	Apr. 23, 1904	✓
	2895	11.4	Aug. 1, 1904	✓
	~~3074~~ 2693	10.6	June 2, 1904	✓
	6936	11.5	May 27, 1910.	✓
	2654	12.2	May 11, 1904	✓
	2824	10.5	July 7, 1904	✓
	2764	10.1	June 20, 1904	✓
ac	10524	~~9~~ 10.3	May 25, 1909	✓
	6280	10.5	Apr. 8, 1905	✓
	5053	10.7	July 13, 1904	✓
MC	3370	n.s. < 14.2	May 7, 1913	✓
	5698	11.0	June 17, 1914	✓
	8795	13.8	July 12, 1915	
	5488	13.0	May 1, 1914	✓
	8575	11.2?	May 18, 1915	✓
	6174	14.0	Sept 10, 1914	✓
	475	14.4	July 11, 1910	✓
	1117	15.6?	June 1, 1911	✓
	5234	15.8?	Apr. 3, 1914	✓

Thursday, March 23, 1916.

Barnards Var. Cet
Observations on Plates taken in 1914

AC 1②564	10.8	June 14, 1914 ✓
15288	11.1	June 22, 1914 ✓
15250	10.7	June 10, 1914 ✓
15227	10.5	June 1, 1914 ✓
15211	10.4	May 28, 1914 ✓
AM 10005	12.2	July 29, 1914 ✓
10014	12.4	August 1, 1914 ✓

Friday, May 19, 1916

Nebula G C 3242 in Hydra
Approx. 10h 20m -18° (1855)

Marked on B 27043

Bright star seen in centre by Professor W. H. Pickering in . Not now seen. Mentioned also in Webb's Celestial Objects.

On B plates of 10m exposure, it is a round, star-like object, very intense. Cannot be compared with star images, on account of noticeable disc. Was examined on the following plates for evidence of unusual central condensation, such as might be seen if a bright star were at the centre. Results were negative.

I 621	Feb. 6, 1890
I 1069	April 25, 1890
B 6169	June 2, 1891
B 7569	May 12, 1892
B 9252	May 1, 1893
B 10978	April 20, 1894
B 13612	June 5, 1895
B 13640	June 6, 1895
B 15840	May 13, 1896
B 18144	Nov. 30, 1896
B 22756	May 8, 1899
B 22838	May 16, 1899
B 24673	Feb. 20, 1900
B 25248	May 8, 1900
B 25405	May 23, 1900
B 26865	Dec. 29, 1900
B 27043	March 30, 1901
B 28883	Nov. 30, 1901
B 29351	April 14, 1902
B 29787	May 19, 1902
B 30092	June 17, 1902

Thursday, May 25, 1916

Stars of about the Magnitude of Planet O marked by Professor W. H. Pickering on MC 10181

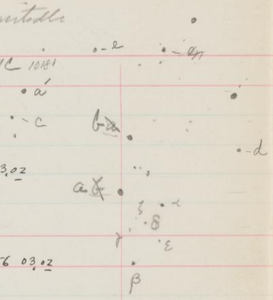


Plate AC 16294

Compared with Seq. 98 K

a 0 3 9.49 9.59 9.56 03,02
a 3 4 9.84 9.54

9.49 3 1 b 9.59 9.56 03,02
b 3 4 9.84 9.54

12.11 9 4 α 12.51 12.44 07,07
α 1 10 12.47 12.37

12.47 10 2 β 12.67 12.92 25,25
13.07 11 1 b 13.17
. 12 n.s.

Compared with Carte at 7h, −2°.5

8.83 4 3 a 9.13 9.13 00,00
a 2 5 9.33 9.13

8.83 4 4 b 9.23 9.23 00,00
b 1 5 9.33 9.23

12.27 10 1 α 12.37 12.30 07,06
α 1 11 12.34 12.24

12.34 11 1 β 12.44 12.49 05,05
12.44 12 1 β 12.54
12.98 13 n.s.

Thursday May 25, 1916

Stars near Path of Planet O cont.

Plate MC 10181

γ 1 a p.c.
γ 2 b p.c.

δ 0 a pc
δ 1 b pc

a pc 3 ε
b pc 3 ε

ε 5 ζ ?

MC 10181 Comparisons with grating

Magn. p. 79 9.38 b 2 γ 9.58 9.62 04,03 +3.74 = 13.36
γ 1 c 9.75 9.65

9.38 b 2 δ 9.58 9.56 02,03 13.30
δ 2 c 9.75 9.55

9.75 c 2 ε 9.95 9.94 01,00 13.68
ε 2 d 10.14 9.94

10.14 d 2 ζ 10.34 10.52 18,19 14.26
ζ 2 e 10.91 10.71

Thursday, May 25, 1916

Stars near Path of Planet O cont.

Plate AC 16294

Compared with 9 8K

						p.76
	a 1 3	9.49	9.59	9.59	a .	9.06
9.49	$\overset{8}{3}$ 1 b		9.59	9.56	03, 02	9.56
	b 3 4	9.84	9.54			
9.49	3 2 c		9.79	9.76	03, 02	
	c 1 4	9.84	9.74			
10.13	5 1 d		10.23	10.34	11, 11	
	d 36	10.75	10.45			
10.75	6 1 e		10.85	11.02	17, 18	
	e 27	11.40	11.20			

Compared with Cacti 7h, −2°5

9.33	5 $\overset{3}{\cancel{2}}$ c		9.63	9.74	11, 12	
	c 3^{4} 6	10.26	9.86			
9.33	5 5 d		9.83	9.94	11, 12	
	d 2 6	10.26	10.06			
10.45	7 2 e		10.65	10.80	15, 14	
	e 3 8	11.24	10.94			
8.83	4 3 b		9.13	9.18	05, 05	9.23
	b 1 5	9.33	9.23			

Thursday, May 25, 1916

Stars near Path of Planet O cont.

	Seq. 7K		Seq Cacti		Mean	
Star	p.76	p.78	p.76	p.78		
a	9.56	9.$\overset{56}{\cancel{13}}$	9.$\overset{13}{\cancel{56}}$	[9.13]	9.34	22, 22, 21. 21
b	9.56	9.$\overset{56}{\cancel{23}}$	9.$\overset{23}{\cancel{56}}$	9.18	9.38	18, 18, 15, 20
c	.	9.76	~~9.76~~	9.74	9.75	. 01 . 01
d	.	10.34	~~10.34~~	9.94	10.14	. 20 . 20
e	.	11.02	~~11.02~~	10.80	10.91	. 11 . 11

Friday, February 25, 1916

G.C. 3242 in Hydra   Cont. from page 75.

Examination of this object on the following AC and Am plates shows no variation of brightness greater than what would be accounted for by differences in the quality of the plate:—

AC 276,	Apr. 10, 1899	AC 9319	March 7, 1908
574	Dec. 6, 1899	10106	Dec. 27, 1908
641	Dec. 30, 1899	Am 8817	Apr. 7, 1913
774	May 9, 1901	AC 16014	Jan. 10, 1913
3380	March 1, 1903	AC 17347	Feb. 26, 1916
4348	Apr. 17, 1904	AC 17495	Apr. 7, 1916
7199	Jan. 24, 1906		
7248	Feb. 2, 1906		

On the following A plates, no evidence of a bright nucleus was found:—

A 3516	
4290	Apr. 9, 1900
4384	May 17, 1900
4438	June 8, 1900
5760	May 11, 1901
6408	June 12, 1903

Monday, June 5, 1916

Star having Large Proper Motion. Near DM +4°3560

See Letter of Prof. Frost, June 2, 1916

R.A. = 17h 53m 44s Dec = +4° 27'.4 (1916)

Follows BD+4°3560 by 9s.5, north 0'.4

For magnitude, see page 82.

Identified by A. D. Walker on I 31836, July 8, 1904, and ~~B~~ I 1013, April 13, 1890. (Corner of plate, images poor)

On the following plates the images are suitable for measurement:—

✓	B 2653	May 22, 1888	corner. Images much elongated
✓	* ~~I 1732~~	~~Aug. 29, 1890~~	
✓	I 4063	Aug. 20, 1891	
✓	I 6607	July 18, 1892	
✓	I ~~8475~~ 8745	July 11, 1893	
✓	I 25806	Sept. 18, 1900	
~~✓~~	I 31836	July 8, 1904	
~~✓~~	B 41629	July 14, 1910	
	A 3773	July 25, 1899	mended on glass near edge. im. elongated
	A 5210	May 24, 1901	
	A 9447	June 27, 1909	
	* I 1720	August 28, 1890	

Series plates for Carte Region 18h, +4°.5 cover this region.

Plates checked in margin ready to send to Professor Schlesinger in accordance with his suggestion in letter of July 5, 1916.

July 15, 1916

Tuesday, June 6, 1916

Star near DM +~~8~~4° 3560 Cont. (Proper Motion)

Estimates of brightness on plates taken in series for Carte Region $18^h 00^m$ +4°.5

MC 8438

998 No. 5 Q^4 Star 1 $6^{10.58}$ 0 $7^{10.79}$ $18^{11.00}$ [10.38] 10.48 10.79 10.90 10.94 — 311 10.78 (40) 30 01 12 16

Star 3 $9^{11.24}$

Grating 10.586 1 Star 0 $7^{10.79}$ $18^{11.00}$ 10.68 10.79 10.90 — 237 10.79 · 11 00 11

MC 9637

^{998}5 4 star $06^{10.58}$ $07^{10.79}$ 4 $9^{11.24}$ Star 8 def. [10.38] 10.58 10.79 10.84 — 221 10.74 ㊱ 16 05 10

Grating 998 5 5 star

10.586 2 star [10.48] 10.78 10.89 10.94 — 261 10.87 ㊴ 09 02 07

10.797 1 star 3 $9^{11.24}$

All 10.78 02 Magn. 10.80 A.D. ± .040

10.79 01

10.74 06

10.87 07

318 7-9

$\overset{4}{10.80}$ ±.040

Comparisons with Star 5 omitted, as the interval was evidently too large for safe estimate, and there were always at least three other stars.

Magnitudes used for reduction Book 32, page 119.

Monday, July 2, 1916.

Examination of Stars DM −10° 5588 and −10° 5592

See Lowell Observatory Bulletin No. 73. Table C.

These two stars gave very large residuals from positions found on plates measured at Tacubaya, Mexico.

Examination of the following these plates shows no evidence of proper motion in either star.

B6021, May 21, 1891

B16727 July 8, 1896

B42020 October 13, 1910

Miss Hodgdon finds the following residuals from the original measures in declination:—Res

−10° 5588 −0".3

−0.2

+0.4

−10° 5592 +0".5

−1.4

+1.0

The residuals from the Tacubaya plates, in declination, were +3".66 and +8".04, respectively.

Miss Hodgdon finds no evidence of proper motion in other catalogues.

Monday, July 9, 1916.

MC
6893 7283

Star	Prelim. Magn.
5	9.20
[5a	9.23]
6	9.56
~~7~~ 6a	9.47
7	9.96
8	10.66
9	10.76

Examination of Plates for New Variable in Approx. Pos. $15^h 9^m.6$ $-5° 13'$ (1855)

See Letter from Professor Barnard, July 1, 1916

Marked on B27552

~~Preliminary values stars 5, 6, 6a, 7, 8, 9 in Bk 9 p. 138. See Magn.~~

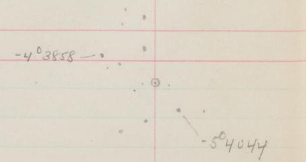
This variable is not on Miss Cannon's list of Variables, nor on suspected list.

It shows variation of somewhat less than a magnitude on the following plates:

I B27552	June 5, 1901,	bright ✓
B 27839	July 6, 1901	bright ✓
B 22788	May 9, 1899	bright ✓
I B25102^{3}	April 9, 1900	bright ✓
I 17428	Feb. 24, 1897	bright ✓
I 31824	July 4, 1904	medium
B14$\overset{021}{\cancel{20}}$1	July 9, 1895	faint ✓
I 25067	April 7, 1900	faint ✓

This may be a variable of the β Lyrae type as it is seen more often bright than faint, though the brightness when near maximum does not seem to be constant.

We have not at present any series plates for this region.



Wednesday, November 8, 1916

Examination of Plates for Star 9.4 in Sequence for S S Cygni – Suspected of Variability by L. Campbell

On Yellow Plates MC 11022, Aug. 14, 1916
MC 11282, Oct. 10, 1916

Star 9.4 appears 0.2 or 0.3 magn. brighter than Star 9.6, which appears about 0.4 brighter than Star 10.0. On Yellow Plate MC 1991, Sept. 10, 1912, Star 9.4 appears nearly equal to Star 9.6, which appears about 0.4 brighter than 10.0, as on the former plates. The apparent change may be due to the different color correction for the plates, as MC 1991 was taken before the lens was re-ground, and with a different color screen from the one now in use.

The color of the suspected star is reddish, as it appears about 0.3 magn. fainter than Star 9.6 and 0.1 magn. brighter than Star 10.0, on the following blue plates taken between May 11, 1916, and Oct. 27, 1916:– MC 10742, 10990, 11062, 11098, 11133, 11341, 11383, 11419. It appears also of the same magn. on MC 491, taken July 29, 1910–

An examination of about 15 AC plates taken in September and October of 1916 and the same months of 1912 shows no variation to exceed 0.2 magn.

Monday, January 22, 1917.

DM +56° 547 Star 5a in Sequence for Cluster in Perseus.

Suspected of Variability by Dr. van den Bilt

Comparison of Dr. van den Bilt's stars a and b, and v with stars of seq.

Prelim. Magn.
Book 9a, p. 138, 140
Plates MC 6893, 7283

Star	Prelim. Magn.	P.C.
5	9.~~20~~ 9.10	9.00
[5a	9.23]	9.71]
6	9.56 9.70	9.84
7	9.96 9.96	9.96
8	10.66 10.68	10.69
9	10.76 10.89	11.02
6a	9.47 ?	10.91
10	11.32	·

Provisional Magn. of Nov. 2.
For ledger to be sent to Plummer

6a 10.00
s 10.04
t 10.82

AC ~~7940~~ 13328
b 3 v? 10.66? Image of v very hazy looks double

5 2 a 9.~~2~~30 a = 9.3~~8~~5 ~~07, 07~~ 05, 05
9.26 9.40 a 3 6
7 4 b 10.36 b = 10.46 10, 10
10.56 v 1 8

8 2 v? 10.8~~8~~ v = 10.~~88~~ 90? ~~01, 09, 07~~ 02, 01, 02
v 0 9? 10.89
v 4 10? 1092 v = 9.27 (comp. 6a) 2
V 2 6a ~~9.27~~ ~~10.06~~ 9.90 v = ~~10.06~~ 9.90 (6a) v = 10.66? (b) ↓ v = 8.8 9

AC 7940
a 5 v ~~9.10~~ 9.87 5 2 a 9.~~2~~30 a = 9.3~~3~~5 7 3 b 10.26 b = 10.3~~6~~7
10.26 v 1 b 9.40 ~~9.26~~ a 3 6 10.48 b 2 8
7 1 v 10.06 v = 10.~~16~~17 ~~10, 10~~ 11, 11 v = 10.19 (a, b) v ..
10.28 v 4 8

AC 6047
b 1 v 5 3 a 9.50 a = 9.43 7 3 b 10.26 b = 10.31
9.36 a 2 6 10.36 b 3 8
7 2 v 10.16 v = 10.21
10.26 v 4 8
v = 10.46 (b) v ..

Monday, Jan. 22, 1917

AC 89~~1~~42
5 2 a 9.3~~4~~0 a = 9.4~~3~~5
9.46 9.60 a 1 6
7 3 b 10.26 b = 10.3~~6~~7
10.48 b 2 8
7 4 v 10.36 v = 10.5~~3~~8 ~~17, 13, 03~~ 22, 10, 11
10.68 v 0 8
v 2 9 10.~~56~~69 v ↓ 10.0
v 0 6a ~~9.47~~ 10.10 v = ~~9.47 (comp. 6a)~~ 10.~~26~~10 (6a)
b 2 v 10.56 (b)

AC 8953
b 1 v v = 10.46 (b)
5 3 a 9.~~5~~40 a = 9.4~~3~~5
9.~~36~~50 a 2 6
7 4 b 10.36 b = 10.47
10.58 b 1 8
b 0 6a 9.47 ~~v = 10.26 (6a)~~
7 4 v 10.36 10.58 22, 10, 11
10.68 v 0 8
10.69 v 2 9 v ↓ 10.0
v 0 6a v = 10.~~26~~16 (6a)

AC 17080
a 7 v ~~9.80~~ v = 10.24 (a, b)
v 1 b
5 2 a 9.30 a = 9.45
9.60 a 1 6
7 3 b 10.26 b = 10.37
10.48 b 2 8
b 0 6a
7 1 v 10.06 v = 10.22
10.38 v 3 8 ↓ v 9.8
v 2 6a v = ~~10.06~~ 9.90 (6a)

AC 6664

Too poor
v apparently fainter than b and as faint as 9. But image may be defective.

Monday, Jan. 22, 1917

+56° 547 Cont.

AC 5945

5 1 $a^{9.20}$ a = 9.30

9.40 a 3 6

7 2 $b^{10.16}$ b = 10.22

10.28 b 4 8

10.26 6a 1 b

a 7 v v = 10.24 (a, b)

v 1 b

7 1 $v^{10.06}$ v = 10.17 (omitting 6a)

v 0 6a v = 10.~~26~~10 (6a)

10.28 v 4 8 v 10.0

AC 5863

b 1 v v = 10.26 (b)

5 2 $a^{9.30}$ a = 9.35

9.40 a 3 6

7 3 $b^{10.26}$ b = 10.37

10.48 b 2 8

b 0 6a 6a = 10.36 (b

7 4 $v^{10.36}$ v = 10.42 (omitting 6a)

6a ~~2~~1 v v = 10.~~36~~28 (6a)

10.48 v 2 8 v 10.1

AC 8088

5 1 $a^{9.20}$ a = 9.30

9.40 a 3 6

7 3 $b^{10.26}$ b = 10.37

10.48 b 2 8

6a 2 b 6a = 10.16 (b)

a 6 v v = 10.24 (a, b)

v 2 b

7 1 $v^{10.06}$ v = 10.17 (from 7 and 8)

10.28 v 4 8

6a 0 v a = 10.~~26~~10 (6a) v 10.0

AC 14476

b 2 v ? v = 10.53? (b) Im. of v very hazy

5 2 $a^{9.30}$ a = 9.35

9.40 a 3 6

7 2 $b^{10.16}$ b = 10.27 (7 and 8)

10.38 b 3 8

b 4 6a

v 1 6a v = 10.~~36~~20 (6a) v 9.9

8 2 $v^{10.68?}$? v = 10.84? (8 and 9)

v 1 9 10.79?

Images of v and 6a (both red) are comparable – Other stars quite non-comparable

Monday, Jan. 22, 1917

Cont.

AC 14426

5 1 $a^{9.20}$ a = 9.25

9.30 a 4 6

7 3 $b^{10.26}$ b = 10.37 (7 + 8)

10.48 b 2 8

b 2 6a 6a = 10.56 (b)

b 3 v v = 10.66 (b

7 5 $v^{10.46}$ v = 10.52 (7, 8)

10.58 v 1 8

6a 1 v v = 10.~~36~~20 (6a) √ v 10.1

AC 14704

5 1 $a^{9.20}$ a = 9.35

9.50 a 2 6

7 2 $b^{10.16}$ b = 10.32 (7, 8)

10.48 b 2 8

6a 1 b 6a = 10.26 (b)

a 3 v v = 10.22 (a, b

v 4 b

6 2 $v^{9.90}$ v = 9.88 (6, 7)

9.86 v 1 7

v 3 6a v = 9.~~96~~80 (6a)

v 9.7

AC 5723

5 2 × $a^{9.30}$ a = 9.35

9.40 a × 3 6

7 3 $b^{10.26}$ b = 10.32 (7, 8)

10.38 b 3 8

6a 1 b 6a = 10.16 (b

a 7 v

v 0 b v = 10.36 (b)

7~~6~~ 2 $v^{10.16}$ v = 10.22 (7, 8)

10.28 v 4 8

v 0 6a v = 10.~~26~~10 (6a)

v 10.0

AC 4555

a 5 v v = 10.22 (a, b

v 2 b

5 2 $a^{9.30}$ a = 9.40

9.50 a 2 6

7 4 $b^{10.36}$ b = 10.42 (7, 8)

10.48 b 2 8

6a 3 b 6a = 9.96 (b

6a 0 v v = 10.~~26~~10 (6a) v 10.0

7 1 $b^{10.06}$ v = 10.17 (7, 8)

10.28 v ~~2~~4 8

Monday, Jan. 22, 1917

Cont.

AC13612

5 2 $a^{9.30}$ a = 9.35

$^{9.40}$a 3 6

7 3 $b^{10.26}$ b = 10.32 (7,8)

$^{10.48}$b 2 8

b 5 6a? (6a hazy)

b 4 v? ~~10.76?~~

8 2 v? 10.88? v = 10.84? (8,9)

v 1 9? 10.79?

v 1 6a v = 10.~~76~~^{00} (6a) ~~v 9.9~~

Images of v and 6a very hazy, comparable with each other. Not comparable with other stars.

s 1 v v = 10.~~44~~^{12} (s v = 10.06 (6a, s)

s also resembles v in appearance

s 1 6a

v = 10.25^{06} (6a, s)

9.90, 10.14 v = 10.02 12, 12

AC 13445

b 5 v? v hazy

5 3 $a^{9.40}$ a = 9.45

$^{9.50}$a 2 6

7 3 $b^{10.26}$ b = 10.32 (7,8

$^{10.38}$b 3 8

b 3 6a? ~~9.76?~~ 6a = 10.66?

b 0 s? $^{10.34?}$ s ~~v = 10.15~~ $^{10.34?}$? (6a, s)

s 2 6a

s 2 $v^{10.22}$ v = 10.16 (s, 6a

v 0 $6a^{10.10}$

Stars v, s, and 6a are all hazy. Compare well with each other. Do not compare at all with other stars.

10.00, 10.24 v = 10.12 12, 12

Monday, Jan. 22, 1917

Cont.

AC 15873

$^{10.16}$a 5 $v^{9.87}$ v = 10.02 (a, b)

v 2 b

5 2 $a^{9.30}$ a = 9.45

$^{9.60}$a 1 6

7 1 $b^{10.06}$ b = 10.27 (7,8)

$^{10.48}$b 2 8

6a 1 b

s 1 6a

v 1 $s^{9.92}$ v = 9.96 (6a, s)

v 1 $6a^{10.00}$ 9.90, 9.94

v = 9.92 02, 02

Images of v, s, and 6a rather large.

AC15923

a 4 v v = 10.~~20~~^{03} (a, b)

v 2 b

5 2 $a^{9.30}$ a = 9.40

$^{9.50}$a 2 6

7 3 $b^{10.26}$ b = 10.42 (7,8

$^{10.58}$b 1 8

6a 2 b

s 0 6a

6 2 $v^{9.90}$ v = 10.05 (6,7,8)

$^{9.96}$v 0 7

v 4 $8^{10.28}$

v 1 $6a^{10.00}$ v = 10.01 (6a, s)

$^{10.02}$v 0 s

9.99, 10.04

v = 9.97 07, 07

AC15967

a 5 v v = 10.08 (a, b)

v 2 b

6a 1 s

6a 0 $v^{10.10}$ v = 10.01 (6a, s)

$^{9.92}$v 1 s 10.00, 9.94 v = 9.97 03, 03

6 3 $v^{10.00}$ v = 10.09

$^{9.96}$v 0 7

v 4 $8^{10.28}$

7 3 $b^{10.26}$ b = 10.37

$^{10.48}$b 2 8

AC13669 poor

$^{9.76}$6 ~~7~~^{3} $b^{10.00}$ b = 9.88 (6,7

b 2 7

6 4 $6a^{10.10}$ 6a = 10.03

$^{9.96}$6a 0 7

6a 0 s

b 3 v? v = 10.66? (b)

6a 1 $v^{10.20}$ v = 10.21 (6a, s)

$^{10.22}$s 2 v 10.10, 10.24 v = 10.17 07, 07

b 2 s

v, 6a, and s very hazy, not comp. with other stars.

Monday, Jan. 22, 1917

Cont.

AC 14894
a 5 ~~b~~ v v = 9.98 (a, b
v 3 b
7 2 b 10.16 b = 10.32 (7, 8)
10.48 b 2 8
10.00 v 1 6a v = 9.96 (6a, s)
9.92 v 1 s 9.90, 9.94 v = 9.92 02, 02
s 2 b
6a 1 s
6 2 v 9.90 v = 9.88 (6, 7)
9.86 v 1 7

All images sharp
and comparable

AC 15394
7 3 b 10.26 b = 10.37
10.48 b 2 8
b 3 v v = 10.66 (b)
s 0 b
b 2 6a
8 1 v 10.78 v = 10.78 (8, 9)
10.79 v 1 9
7 4 s 10.36 s = 10.47 (7, 8)
10.58 s 1 8
8 1 6a 10.78 9.90 10.24
8 1 v 10.78 v = 10.07 17, 17
~~v = 9.90 a~~
10.50 v 1 6a v = 10.00 (6a)
a 2 v

v, 6a, and s hazy
not comp. with other stars

AC 8695
7 3 b 10.26 b = 10.32 b 2 v
10.38 b 3 8
b 1 s
s 1 6a
7 4 s 10.36 s = 10.42
10.48 s 2 8
7 5 6a 10.46 6a = 10.52
10.58 6a 1 8
7 6 v 10.46 v = 10.61 (7, 8, 9)
v 0 8 10.68
v 2 9 10.69
s 2 v 10.22 v = 10.16 (s, 6a)
10.10 v 0 6a 10.24, 10.00 v = 10.12 12, 12

v, 6a, and s hazy, not comp.
with other stars

Monday, Jan. 22, 1917

Cont.

AC 15750
a 5 v v = 10.19 (a, b)
v 1 b
6 4 v 10.10 v = 9.95 (6, 7, 8)
9.56 v 4 7
v ~~5~~ 5 8 10.18
7 3 b 10.26 b = 10.37
10.48 b 2 8
s 0 6a
6a 1 b
9.82 v 2 s v = 9.86 (6a, s
9.90 v 2 6a 9.80, 9.84 v = 9.82 02, 02

v, s, and 6a
rather hazy, but
fairly comp. with other stars.

AC 6$\overset{6}{\cancel{8}}$30
b 3 v v = 10.66 (b)
7 3 b 10.26 b = 10.32
10.38 b 3 8
s 0 6a
6a 0 b
7 4 ~~6a~~ s 10.36 s = 10.37
10.38 s 3 8
7 3 6a 10.26 6a = 10.32
10.38 6a 3 8
s 3 v 10.32 v = 10.43 (6a, s, t)
6a 3 v 10.40 10.30, 10.34, 10.52
v 3 t 10.57) v = 10.3~~8~~9 09, 05, 13 ~~08, 04, 1~~

AC 6588
b 3 v v = 10.66 (b)
7 4 b 10.36 b = 10.42
10.48 b 2 8
s 0 b
b 1 6a
7 2 s 10.16 s = 10.27
10.38 s 3 8
s 4 v 10.42 v = 10.43 (6a, s, t)
10.40 6a 3 v 10.30, 10.44, 10.42
10.47 v 4 t ~~v = 10.36 06, 06~~ v = 10.39 09, 05, 03
7 5 v 10.46 v = 10.64
10.68 v 0 8
v 1 9 10.79

Monday, Jan. 22, 1917

DM + 56° 547. Cont.

A few plates Reversed 180°

ac 7940

a 7 v   v = 10.24 (a, b)

v 1 b

5 1 a$^{9.20}$ a = 9.30

$^{9.40}$a 3 6

6 3 v$^{10.00}$ v = 10.05 (6, 7, 8)

$^{9.96}$v 0 7

v 5 8$^{10.18}$

s 0 6a

6a 1 b

6 4 6a$^{10.10}$ 6a = 10.08 (6, 7, 8)

$^{9.96}$6a 0 7

6a $\overset{5}{\cancel{4}}$ 8$^{10.18}$

6a 0 v$^{10.10}$ v = 10.06 (6a, s)

s 0 v$^{10.02}$ 10.00, 10.04, 10.32

v 5 t [10.37]   v = 10.02   12, 08, 20

8 1 t$^{10.78}$ t = 10.78

$^{10.79}$t 1 9

Images sharp and comparable

ac ~~13445~~ 4555

6a 0 v$^{10.10}$ v = 10.01 (6a, s)

$^{9.92}$v 1 s   10.00 9.94 10.02?

v 8 t?   v = 9.97   03, 03 ⑤?

v 3 b   v = 10.06 (b)

8 2 t$^{10.88}$ t = 10.88

$^{10.89}$t 0 9

ac 57③2

6a 0 v$^{10.10}$ v = 10.06 (6a, s)

$^{10.02}$v 0 s   10.00, 10.04, 10.02

(10.07) v 8 t   v = 10.02   02, 02, 00

v 2 b   v = 10.16 (b

8 2 t$^{10.88}$ t = 10.84

$^{10.79}$t 1 9

6 5 v$^{10.20}$ v = 10.18 (6, 7, 8)

$^{9.96}$v 0 7

v 5 8$^{10.38}$

Images comp.

Monday, Jan. 22, 1917

Cont.

ac 14704

a 2 v   v = 9.72 (a, b

v 4 b

6 2 v$^{9.90}$ v = 9.83 (6, 7)

v 3 6a$^{9.80}$ v = 9.76 (6a, s)

v 3 s$^{9.72}$ 9.70, 9.72, 9.92?

$^{9.76}$v 2 7   v = 9.71   01, 01, ㉑?

v 9 t?

Im. comp.

ac H14426

b 2 v   v = 10.56 (b)

7 2 b$^{10.16}$ b = 10.22

$^{10.28}$b 4 8

7 5 v$^{10.46}$ v = 10.47 (7, 8)

$^{10.48}$v 2 8

7 2 s$^{10.16}$ s = 10.16 (7)

s 1 6a

6a $\overset{3}{\cancel{2}}$ v$^{10.40}$ v = 10.44 (6a, t)

$^{10.47}$v 4 5 t   10.30, 10.42

v = 10.36   06, 06

ac 14476

s 0 v$^{10.02}$ v = 10.06 (a, 6a

v 0 6a$^{10.10}$ v = 10.00

Not comp. with other stars

ac 8088

a 7 v   v = 10.24 (a, b

v 1 b

6 4 v$^{10.10}$ v = 10.05 (6, 7, 8)

v 0 s$^{10.02}$

v 0 6a$^{10.10}$ v = 10.06 (s, 6a)

v 0 7$^{9.96}$ 10.00, 10.04

v 6 8$^{10.08}$ v = 10.02   02, 02

v – t

ac 58③6

v 0 b   10.36

7 3 b$^{10.26}$ b = 10.32 (7, 8)

$^{10.38}$b 3 8

6 4 7

7 1 6a$^{10.36}$ 6a = 10.36 (7)

6a 0 s

s 2 v$^{10.22}$ v = 10.22 (s)

v 3 8?$^{10.38?}$ 10.24, 10.32

v 5 t   v = 10.28   04, 04

ac 5145

6a 0 s

s 1 v$^{10.12}$ v = 10.12 (s)

v 4 t   10.14, 10.42

v = 10.28   14, 14

Monday, January 22, 1917

+56° 547 Cont.

AC 17080
7 2 b$^{10.16}$ b = 10.27
10.38 v 3 8
6 4 v$^{10.10}$ v = 10.08 (6, 7, 8)
9.86 v 1 7
v 0 s$^{10.02}$ v = 9.96 (6a, s)
v 2 6a
s 2 6a$^{9.90}$ 9.80, 10.04
10.38 v = 9.92 12, 12
6a 3 8 6a = 10.37
6a 0 b$^{10.36}$
v 10 ~~b~~ t
v 4 8$^{10.28}$

AC 8~~7~~^{9}53
b 1 v 10.46 (b)
7 2 s$^{10.16}$
s 0 6a v = 10.06 (6a, s)
s 0 v$^{10.02}$
6a 0 v$^{10.10}$ 19.00, 10.04, 10.22
v 4 8$^{10.28}$ 10.09 09, 05, 13
v 6 t

AC 8942
s 1 v$^{10.12}$ v = 10.06 (6a, s)
v 1 6a$^{10.00}$ 10.14, 9.90
v = 10.02 12, 12
Other stars
diff to comp.

AC 13328
s 1 v$^{10.12}$ v = 10.06 (6a, s)
v 1 6a$^{10.00}$ 10.14, 9.90
v = 10.02 12, 12
Other stars not
comparable

Tuesday, January 23, 1917

+56° 547 Cont.
Estimates on MC Plates

MC 6496 (p.c.)
7 3 6a$^{10.26}$ 6a = 10.27
10.28 6a 4 8
7 2 s$^{10.16}$ s = 10.17
10.18 s 5 ~~6a~~ 8
8 3 t$^{10.98}$
10.87 t 0 9 t = 10.96
11.02 t 3 10
7 1 v$^{10.06}$ v = 10.07 (7, 8)
10.08 v 6 8
v ~~5a~~ 1 s$^{9.92}$ v = 9.91 (6a, s)
v 0 6a$^{9.90}$ 9.80, 9.94
s 0 6a v = 9.87 07, 07

MC 4019
p.c. soft

MC 6621 (p.c.)
6 3 v$^{10.00}$ v = 9.93 (6, 7)
9.86 v 1 7
a 6 v$^{9.97}$
9.96 v 4 b v = 9.96 (a, b
v 1 s$^{9.92}$
v 1 6a$^{10.00}$ v = 9.96 (6a, s)
6a 0 s 9.90, ~~9.94~~ 10.04
v = 9.97 07, 07
6 5 6a$^{10.20}$ 6a = 10.11
9.96 6a 0 7
10.18 6a 5 8
6 5 s$^{10.20}$ s = 10.11
9.96 s 0 7
10.38 s 5 8

MC 7113 (grating)
a 6 v$^{9.97}$ v = 9.96 (a, b)
9.96 v 4 b
v 0 6a$^{10.10}$ v = 10.06 (6a, s)
v 0 s$^{10.02}$ 10.00, 10.04
v = 10.02 02, 02
6 3 v$^{10.00}$ v = 9.93 (6, 7)
9.86 v 1 7
6 3 6a$^{10.00}$ 6a = 10.01
9.96 6a 0 7
10.08 6a 6 8
6a 0 s s = 9.83
6 1 s$^{9.80}$
9.86 s 1 7

Tues. Jan. 23, 1917

Cont

MC 7283 p.c.

a 7 ~~5a~~ v 10.07 — v=10.12(a,b)

10.16 v ~~5a~~ 2 b

v 2 6a 9.90 — v = 9.91 (6a,2)

v 6a 1 s 9.92 — 9.80, 9.94

v = 9.87 07, 07

6 3 v 10.00 — v=10.01 (6,7,8)

9.96 v 0 7

10.08 v 6 8

7 1 6a 10.06 — 6a=10.07

10.08 6a 6 8

6 4 s 10.10 — s=10.05

9.96 s 0 7

10.08 s 6 8

8 1 t 10.78 — t=10.78

10.79 t 1 9

MC 6893 p.c.

a 6 v 9.97 — v=9.96(a,b

9.96 v 4 b

v 1 6a 10.00 — v=9.96 (6a,s)

v 1 s 9.92 — 9.90, 9.94

v = 9.92 02, 02

6a 1 s

6 4 6a 10.10 — 6a=10.05

9.96 6a 0 7

10.08 6a 6 8

6 3 s 10.00 — s=10.01

9.96 s 0 7

10.08 s 6 8

6 2 v 9.90 — v=9.88 (6,7)

9.86 v 1 7

7 3 b 10.26 — b=~~9~~10.32

10.38 b 3 8

Tues. Jan. 23, 1917

Cont.

MC 11907 grating

a 7 v 10.07 — v=10.06(a,b

10.06 v 3 b

6 3 v 10.00

v 1 6a 10.00 — v=10.01 (6a,s)

v 0 s 10.02 — 9.90, 9.94

7 2 6a 10.16 — v=9.92 02, 02

6a=10.12

10.08 6a 6 8

6 3 v 10.00 — v=9.95 (6,7,8)

9.96 v 0 7

9.88 v 8 s

6 4 s 10.10 — s=9.98

9.96 s 0 7

9.88 s 8 8

7 5 b 10.46

10.38 b 3 8 — b=10.42

MC 7921 p.a.

v normal

MC 7322

v normal

6a 1 v 10.20 — v=10.16 (6a, s)

s 1 v 10.12 — 9.90, 9.94

v=9.92 02, 02

~~Monday~~ Tuesday, Jan. 2~~2~~3, 1917

+56° 547 Cont.
Estimates on Yellow Plates

Reduction made with magnitudes derived from comparisons with Pole Plates pp 101–103

MC10366 yellow
2 – V
8.09 V 0 3 v = 8.06
7.93 V 1 4
6a 1 V 8.17
V 5 S –
6a 0 3
6a 2 4
4 5 S
S 1 5

MC 7998 gr. yellow
2 8 V v = 7.80
7.89 V 2 3
7.63 V 4 4
7.97 V 1 6a

V ~~4~~ 5 S ? (primary[illegible])
2 9 6a q
6a 1 3 q
4 4 S star
S 1 5 "
5 3 a
a 2 6
7 8 b
b 0 8
b 2 9

MC 6162 yellow
2 – V
7.89 V 2 3 (p.c.) v = 7.90
7.83 V 2 4 p.c.
7.97 V 1 6a p.c.
V ~~4~~ 5 S ? star
6a 0 3 p.c.
6a 0 4 p.c.
4 5 S star
S 0 5
S 5 6
5 3 a
a 2 6
8 1 b
b 2 9

MC 395 yellow
Normal

Tues. Jan. 23, 1917

+56° 547 Cont.
Estimates of brightness of Comparison Stars a, b, 6a, 6b, 2, 3, 4, 5, 6, V on Yellow Series Plates, compared with Pole Plates

MC6162
Comp. with MC6158 Pole

p.c p 4r 1 2 8.~~36~~20 3 = 8.~~30~~21
p.c ~~8.51~~ 8.36 3 2 1 p 5r
p.c p 8 0 ~~7~~ 3 7.97
p.c 8.31 3 ~~7~~ 3 p 9

p.c p 8 1 4 8.07 4 = 8.19
p.c 8.31 4 3 p 9

star p 10 3 5 9.24 5 = ~~25~~ 9.28
" 9.20 5 1 p 11
" p 6r 2 5 9.~~45~~22
" 9.47 5 2 p 7r

p.c p 4r 1 6a 8.20 6a = 8.26
" 6a 3 p 5r 8.16
" p 8 2 ~~4~~ 6a 8.23
" 8.54 6a 2 p 9

star p 10 1 S 9.04 ~~R~~ S = 8.87
" 8.96 S 4 p 11
" 5r 1 S 8.56
" 8.92 S 1 6r
"

p.c. p 7 2 V 7.66 v = 8.01
" V 0 8 8.03 p
" V 4 p 9 8.34

Tues. Jan. 23, 1917.

Cont.

MC 6162 Comp. with
MC 6164 Pole

p.c. $\overset{P}{8}$ 4 $3^{8.43}$ 3 = 8.26
$^{8.34}3$ 3 $\overset{P}{9}$
$^{8.00}3$ 1 4r

4 = 3 4 = 8.26

Star $\overset{P}{10}$ 2 $5^{9.08}$ 5 = $\overset{8}{\cancel{9}}$.96
$^{9.06}5$ 3 $\overset{P}{11}$
5r 3 $5^{8.76}$
$^{8.92}5$ 1 6r

p.c. $\overset{P}{8}$ 1 $6a^{8.13}$ 6a = 8.16
$^{8.34}6a$ – 4 $\overset{P}{9}$
$^{8.00}6a$ 1 4r

~~3x~~
p.c. $\overset{P}{3r}$ 3 $v^{7.71}$ v = 7.88
$^{7.90}v$ 2 $\overset{P}{4r}$
$^{8.03}v$ 0 8

Star 5r 1 $S^{8.56}$ S = 8.92
$^{8.92}S$ 1 6r

Tuesday, Jan. 23, 1917

Cont.

MC ~~7998~~ 10366 Comp.
with MC ~~7998~~ 10367 Pole

Star $\overset{P}{7}$ 4 $3^{7.86}$ ~~3 = 7.84~~
$^{7.83}3$ 2 $\overset{P}{8}$

" 4 2 $\overset{P}{8}$ 4 = 7.84

" 3r 3 $3^{7.71}$ 3 = 7.80
3 3 $4r^{7.80}$

$\overset{P}{8}$ 4 $5^{8.43}$ $\overset{5}{\cancel{8}}$ = 8.69
$^{8.64}5$ 1 $\overset{P}{9}$
5r 3 $5^{8.76}$
$^{8.92}5$ 1 6r

$\overset{P}{7}$ 3 $6a^{7.76}$ 6a = 7.74
$^{7.73}6a$ 3 $\overset{P}{8}$

3r 4 $6a^{7.81}$ 6a = 7.86
$^{7.90}6a$ 2 4r

5r $\overset{2}{\cancel{2}}$ $S^{8.66}$ S = 8.74
$^{8.82}S$ 2 6r

$\overset{P}{7}$ 3 $V^{7.76}$ v = 7.78
$^{7.83}V$ 2 $\overset{P}{8}$
3r 3 $V^{7.71}$
$^{7.80}V$ 3 4r

Tues. Jan. 23, 1917.

Cont.

MC 6162 Comp. with
MC 6164 Plte

P 8.43
p.c. 8 4 3 3=8.26
8.34 P
3 3 9
8.00
3 1 4r

4 = 3 4=8.26

P 9.08 8
Star 10 2 5 5=~~9~~.96
9.06 P
5 3 11
8.76
5r 3 5
8.92
5 1 6r

P 8.13
p.c. 8 1 6a 6a=8.16
8.34 P
6a 4 9
8.00
6a 1 4r

~~3x~~
P 7.71
p.c. 3r 3 V v=7.88
7.90 P
V 2 4r
8.03
V 0 8

8.56
Star 5r 1 S S=8.92
~~8.92~~
S 1 6r

Tuesday, Jan. 23, 1917

Cont.

MC ~~7998~~ 10366 Comp.
with MC ~~7998~~ 10367 Plte

P 7.86
Star 7 4 3 ~~3=7.84~~
7.83 P
3 2 8

P
" 4 2 8 4=7.84

7.71
" 3r 3 3 3=7.80
7.80
3 3 4r

P 8.43 5
8 4 5 ~~8~~=8.69
8.64 P
5 1 9
8.76
5r 3 5
8.92
5 1 6r

P 7.76
7 3 6a 6a=7.74
7.73 P
6a 3 8

7.81
3r 4 6a 6a=7.86
7.90
6a 2 4r

2 8.66
5r ~~1~~ S S=8.74
8.82
S 2 6r

P 7.76
7 3 V v=7.78
7.83 P
V 2 8
7.71
3r 3 V
7.80
V 3 4r

Tues. Jan. 23, 1917

+56° 547 Cont.

Estimates on MD plates taken simultaneously with yellow MC plates

MD 10366
a 1 v
v 6 b
6a 1 v 10.20   v = 10.16 (6a, s)
s 1 v 10.12   10.10, 10.14
v = 10.12 02, 02
6 2 v 9.90   v = 9.88 (6, 7)
v 1 7 9.86

MD 6162
a 2 v
v 6 b
v 1 6a 10.00   v = 9.96 (6a, s)
v 1 s 9.92   9.90, 9.94
v = 9.92 02, 02
6 1 v 9.80   v = 9.73 (6, 7)
v 3 7 9.66

MD 7998
a 6 0 v
v 10 b
v 2 6a 9.90   v = 9.86 (6a, s)
v 2 s 9.82   9.89, 9.84
v = 9.82 02, 02
5 3 v 9.40   v = 9.50 (5, 6)
v 1 6 9.60

MD 3915
a 1 v
v 8 d
6a ~~8~~ 1 v 10.20   v = 10.11 (6a, s)
v 0 s 10.02   10.10, 10.04
v = 10.07 03, 03
6 1 v 9.80   v = 9.78 (6, 7)
9.76 v 2 7

MC 7998 (yellow) grating
7.87 v 2 6a   v = 7.73
7.69 v 4 3
7.63 v 4 H

MC 6162 (yellow —
7.82 v fr 2 6a fr   v = 7.78
7.69 v fr ~~4~~ H 3 fr

MC 10366 (yellow
8.09 v 0 3   v = 8.10
8.03 v 0 4
8.17 6a 1 v

MC 3915 (yellow)
6a 2 v 8.27   v = 8.10
v 0 3 8.09?
v 1 4 7.93?

Tues. Jan. 23, 1917

+56° 547 Cont.

Repeated Estimates on a few AC plates

AC 14704
6 3 v 10.00   v = 9.94 06 04 02
v 2 6a 9.90   9.80, 9.94
v 1 s 9.92   v = 9.87 07, 07

AC 14426
6a 3 v 10.40   v = 10.48 01 01 (06)
s 4 v 10.42   10.30, 10.44, 10.42
v 4 ~~10.92~~ 7 [10.47]   10.35 09, 05, 03
v near limit of plate but image appears excellent with high power

AC 5863
6a 2 v 10.30   10.21 09 09 (35)
s 1 v 10.12   10.20, 10.14, 10.52
v 3 t 10.57]   10.29 09, 15, 23

AC 5863
6a 3 v 10.40   v = 10.36 04 04 (21)
s 3 v 10.32   10.30, 10.34, 10.42
10.57 v ~~6a~~ 4 t   v = ~~35~~ 10.35 05, 01, 07

AC 17080
9.90 v 2 6a   v = 9.91 01 01
9.92 v 1 s   9.80, 9.94
v – t   v = 9.87 07, 07

AC 13328
s 2 v 10.22   v = 10.11 11, 11
10.00 v 1 6a   9.90, 10.24
v = 10.07 17, 17

AC 6588
6a 2 v 10.30   v = 10.26 04, 04, (21)
s 2 v 10.22   10.20, 10.24, 10.42
10.47 v 4 t   v = 10.29 09, 05, 13

AC 6630
6a 3 v 10.40   v = 10.36 04, 04 (21)
s 3 v 10.32   10.30, 10.34, 10.42
10.57 v 4 t   v = 10.35 05, 01, 07

AC 14894
v 0 6a 10.10   v = 10.01 09, 09
9.92 v 1 s   10.00, 9.94
v -- t   v = 9.97 03, 03

AC 15750
9.90 v 2 6a   v = 9.86 04, 04
9.82 v 2 s   9.80, 9.84
v -- t   v = 9.82 02, 02

AC 10897
9.90 v 2 6a   v = 9.86 04, 04
9.82 v 2 s   9.80, 9.84
v -- t   v = 9.82 02, 02

Tues. Jan. 23, 1917.

+ 56° 547 Cont.

AC 11908
9.80 v 3 6a v = 9.81 01, 01
9.82 v 2 S 9.70, 9.84
v — t v = 9.77 07, 07

AC 11983
10.02 v 0 S v = 9.96 06, 06
9.90 v 2 6a 10.04, 9.80
v = 9.92 12, 12

AC 12012
10.02 v 0 S v = 10.06 04, 04
10.10 v 0 6a 10.00, 10.04
v = 10.02 02, 02

AC 11908 rev
9.92 v 1 S v = 9.86 06, 06
9.80 v 3 6a 9.70, 9.92
v — t v = 9.81 11, 11

AC 10897 rev
10.00 v 1 6a v = 9.96 04, 04
9.92 v 2 S 9.90, 9.84
v — t v = 9.87 03, 03

AC 11983 rev
10.02 v 0 S v = 9.96 06, 06
9.90 v 2 6a 9.80, 10.04
v = 9.92 12, 12

AC 12012 rev
10.12 S 1 v v = 10.11 01, 01
10.10 v 0 6a 10.00, 10.14
v = t v = 10.07 02, 07

Tuesday, Jan. 23, 1917

+56° 547 Cont.

The observations confirm the variability with a range of about 0.4 magn. from 9.9 to 10.3. Possibly it grows as faint as 10.4.

The variable is red, spectrum K5 and frequently appears nebulous on AC plates. When this is the case, stars 6a and s also appear nebulous. Both have spectra of Class K5. They were selected because on the plates their images resembled that of the variable. Therefore, it should often be possible to pick out red stars on AC plates from their hazy images. The effect may be less marked near centre of plates.

When variable is compared with white stars estimates were usually too faint on those plates which show it apparently nebulous. Such a star cannot safely be compared with white stars.

Thursday February 1, 1917

Examination of plates to determine approximate color indices of stars in list given me by Miss Cannon

+50° 920

MC 9364 (blue) Comp. with Ref. Seq. for N.Y.C. 1528.

⑭ 1 S 2 ⑮ 13.38
13.48 Image of S hazy S = 13.43 $\underline{05}$, 05.

MC 9393 (yellow)

⑥ 1 S 1 ⑦ 10.44
10.21 S = 10.32

MC 9586 (blue)

⑭ 2 S 0 ⑮ 3 ⑯ 13.48
13.68
13.80 S = 13.65 $\underline{17}$ 03 15

MC 9778 (yellow)

⑥ 1 S 0 ⑦ 6 ⑧ 10.44
10.31
10.56 S = 10.44

Star	Blue Lo 1:196	Lo 2:157	Mean blue
14	13.20	13.36	13.28
15	13.57	13.78	13.68
16	14.20	14.00	14.10
	Yellow		
6	10.34		
7	10.31		
8	11.16		

Mean blue 13.54 $\underline{11}$, 11

Mean yellow 10.38 06, 06

Color Index 3.16

Star S obviously very red.

Thurs. Feb. 1, 1917

Color Indices Cont

Star S obviously white

Star $\overset{\alpha}{?}$ noticed near by and measured for a check. Quite red. Marked on MC 9506.

α = +59° 175

+59° 174

MC $\overset{9569}{\cancel{9559}}$ (blue) p.c.

③ 2 S 0 ④ 4 ⑤ 9.75
9.61
9.78 S = 9.71 04, $\underline{10}$, 07

? = 11.50?

Star $\overset{\alpha}{?}$ just shows grating im. So does star 10 of sequence. Assume Star ? is equal to Star 10. Too far from centre for estimate of primary im.

MC 9259 (yellow)

④ 2 S 1 ⑤ 9.82
9.80 S = 9.81 01, $\underline{01}$

⑤ 2 $\overset{\alpha}{?}$ 0 ⑥ 5 ⑦ 10.10
10.22
10.16 α ? = 10.16 $\underline{06}$, 06, 00

MC 950$\overset{6}{5}$ (blue) p.c.

③ 2 S 0 ④ 3 ⑤ 9.75
9.61
9.88 S = 9.75 00, $\underline{14}$, 13

Star $\overset{\alpha}{?}$ = 10 ?

α ? = 11.50 ?

MC 9408 (yellow)

③ 4 S 0 ④ 4 ⑤ 9.75
9.62
9.70 S = 9.69 06, $\underline{07}$, 01

⑤ 1 $\overset{\alpha}{?}$ 1 ⑥. 10.00
10.12 α ? = 10.06

Star	Blue O 17:59 MC 9569	Yellow Lo 3:194 MC 9259	Lo 4:78 MC 9408	Mean Yellow
3	9.55	9.18	9.52	9.35 $\underline{17}$, 17
4	9.61	9.54	$9.\overset{70}{\cancel{64}}$	9.62 $\underline{08}$, 08
5	10.18	9.72	10.07	9.90 $\underline{18}$, 17
10	11.50	10.82	$\underline{10.94}$	$\underline{10.88}$ $\underline{06}$, 06
6	10.26	10.17	10.27	10.22 $\underline{05}$, 05
7	10.59	10.64	10.69	10.66 $\underline{02}$, 02

S Mean blue 9.73 $\underline{02}$, 02

mean yellow 9.75 06, $\underline{06}$

Color Index −0.02

α ? mean blue 11.50? 00, 00

mean yellow 10.11 05, $\underline{05}$

Color ind. 1.39

Thurs. Feb. 1, 1917

Color Indices Cont.

Carte Seq. 0^h, +64°.5
blue Magn.

Star	
1	8.70
2	9.60
3	10.22
4	10.48
5	10.76
6	11.11

+63° 56 = β
S = +62° 92

MC 7130 (blue p.c.)
① 4 S 1 ② 9.10 9.50 S = 9.30
~~② 1 $\overset{\alpha}{?}$ 3 ③~~ 9.70 9.92 ? = 9.81

MC 10022 (yellow)
① 2 S 0 ② 6 ③ 8.71, 8.81, $\overset{R}{9.26}$ S = 8.76 05,05 $\overset{R}{㊾}$
~~γ 2 $\overset{2}{\underset{\alpha}{?}}$~~
β 2 ? (grating) ~~8.18~~, 8.02 ? = $8.1\overset{0}{8}$ 08,08
γ 2 $\overset{\alpha}{?}$ (grating)

MC 7271 (blue p.c.)
① 3 S 1 ② 9.00 9.50 S = 9.25

② 2 $\overset{\alpha}{?}$ 1 ③ 9.80 10.12 ? = 9.97

MC 10022 (yellow) Stars 1, 2, 3, β, γ, $\overset{\alpha}{?}$, S
Comp. with Blue Plates

Comp. MC 10018
8P 4 ① 2 9P 8.43, 8.54 8.48 05,06
9P 0 ② 0 10P 8.74, 8.88 8.81 07,07
12P 2 ③ 2 13P 9.78, 9.88 9.83 05,05
8P 1 ~~β~~ δ 8.13 (grating 8.13 a .
7P 3 γ 1 8P 7.76, 7.9^3 (grating) 7.84 08,09
8P 2 ~~β~~ $\overset{\alpha}{?}$ " 8.23 a .
8P 6 S 0 9P 1 10P 8.63, 8.74, 8.78 8.72 02, 02, 06

Thurs. Feb. 1, 1917

Color Indices Cont.
[+63° 56]
MC 10022 (yellow) Cont.
Comp. MC 10023

			Mean Yellow
8P 4 ① 1 9P	8.43, 8.64	8.54 09,10	① 8.51 03,03
9P 1 ② 1 10P	8.84, 8.78	8.81 03,03	② 8.81 00,00
12P 3 ③ 2 13P	9.88, 9.88	9.88, 00,00	③ 9.86 03,02
7P 3 β 1 8P	7.76, 7.9^3 (grating)	7.84 08,09	β 7.98 15,15
7P 3 γ 2 8P	7.76, 7.83	7.80 04,03	γ 7.82 02,02
8P 1 $\overset{\alpha}{?}$	"	8.13 a .	? 8.18? 05,05
8P 4 S 2 9P	8.43, 8.54	8.48 05,06	S 8.60 12,12

+62°92 S Mean blue 9.28 02,03
Mean Yellow 8.69 07, 03, 09
Color Index 0.59

+65° 25 $\overset{\alpha}{?}$ Mean blue 9.89 08,08
Mean Yellow 8.17 07, 06, 01
Color Index 1.72

Star S is not striking for contrast of color on plate.
Star ? near by noticed and measured for a check. Marked on MC 7130 = α (+65° 25)
For Star β, see page 115
Star β = +63° 56, the star desired

Thurs. Feb. 1, 1917

Color Indices Cont

+44° 1288

AC 16111 (blue)
Comp. with Seq. for X 25K)
③ - S 2 ④ S= 10.09

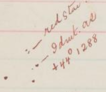
AC 16104 (yellow)
④ 1 S - ⑤

We have no yellow magn. for region

AC 16111 (blue)
Comp. with Seq. B2
⑮ 2 S 1 ⑯ 10.27, 10.01 S= 10.14

AC 16104 (yellow)
⑯ - S 0 ⑰ S= 9.~~7~~86

S mean blue 10.12 0̲3, 02 (from 25 K and B2)
yellow 9.86 (from B2, very uncertain)
Color Index 0.26



Star S is whiter on plate than star of nearly the same magnitude south following.

On H 1779 spectrum is seen. Configuration is different.
No star in position on either blue or yellow AC plates.
AC 16104 only yellow plate examined

13th magn. stars seen on MC 2611. Is red star one of these? magn. about 13.5

See page 116

Friday, February 2, 1917

Color Indices Cont.

+57° 702

AC 14789 (blue)
Comp. with Seq. 9K
③ 4 S 1 ④ 9.09, 9.14 S=9.12 0̲3, 02

From 9K

S mean blue 9.22 1̲0, 11
mean yellow 7.7
Color Index 1.52

Plm magn. Star 1, in Seq. 9K, 7.28

AC 13489 (yellow
① 3 S .. ② ~~Plm magn.~~ S= 7.6

AC 13649 (blue)
④ 1 S 3 ⑤ 9.24, 9.33 S= 9.28 04, 05
Im. of S very hazy

AC 17089 (yellow)
① 5 S 4 ② S= 7.8

From Chester Perseus
S mean blue 9.50 0̲2, 02
mean yellow 8.22 20, 20
Color Index 1.28
Mean Color Index 1.40

Comparisons with Chester Perseus

Blue prov. magn.
Star 5 = 9.01
6 = 9.41
7 = 9.93

AC 14789 (blue)
⑤ 4 S 0 ⑥ 3 ⑦ 9.60 (41), 9.57 (41), 9.66 (3) S= 9.61 (48) ~~01, 04, 05~~ 07, 07, 15

AC 17089 (yellow)
② - S 0 ③ 1 ④ 8.42, 8.42 S = 8.42 00, 00

Yellow prov. magn.
Star 2 = 7.12
3 = 8.42
4 = 8.52

AC 13649 (blue
⑤ 4 S 0 ⑥ 2 ⑦ 9.62 (41), 9.57 (41), 9.76 (3) S= 9.52 1̲1, 1̲1, 21

AC 13489 (yellow
② - S 4 ④ 5 ③ 8.12, 7.92 S= 8.02 10, 1̲0

Friday, Feb. 2, 1917

Color Indices Cont.

+27° 1024

Compared with Ref. Seq. for N.G.C. 2168 (6h, +25°.0)

~~AC 18313 (blue)~~
~~② 1 S 3 ③~~

Blue Magn. MC 9699
Lo 2:54 ~~O 19:54~~

AC 17 ~~250~~ 331 (yellow
② 3 S 2 (2a) 8.72, 8.98 S = 8.85 13, 13

Star 6 10.65
Star 7 11.28

AC 18313 (blue)
⑥ 3 S 2 ⑦ 10.95, 11.08 S = 11.02 07, 06

Yellow Magn. MC 10003
O 19:29

Star 2 8.42
2a 9.18

AC 14616 (blue)
⑥ 3 S 2 ⑦ 10.95, 11.08 S = 11.02 07, 06

AC 14963 (yellow) 8.92, 9.08 S = 9.00 08, 08
② 5 S 1 (2a)

mean blue, 11.02 00, 00
mean yellow 8.92 07, 08
Color Index 2.10

Saturday Feb. 3, 1917

Color Indices Cont.

+63° 56 Cont. from page 111

For magnitudes of stars in Carte Sequence see page 110

Star β near +63° 56 = +63° 56
Comp. with Carte Seq. 0h +64°5

MC 7130 ~~grating~~ p.c. (blue
⑤ 1 β 1 ⑥ 10.86, 11.01 β = 10.94 08, 11, 07

For yellow plates, see p. 111

MC 10022 (yellow
② 2 β 5 ③ 9.01, 9.36 β = 9.18

MC 7366 (blue) p.c.
④ 3 β 1 ⑤ 2 ⑥ 10.78, 10.66, 10.91 β = 10.~~85~~ 78 ~~07~~ 00, 12, 13

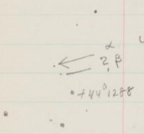
~~MC 9259 (yellow)~~

+63° 56 = β mean blue 10.86 08, 08
yellow 9.18
Color Index 1.68

Saturday, February 3, 1917.

Color Indices Cont.

+44° 1288 cont. from page 112
Star marked with arrow is star ?



MC 2611 (blue
→ 13.4
? 13.4

MC 2197 ~~(yellow)~~ blue
The two stars appear nearly equal, that marked → (α) slightly brighter. Images poor

Remark
February 17, 1917
Yellow Plate MC 12286
shows α bright,
showing conclusive-
ly that it is
the red star.

AC 16194 (yellow)
Star ~~β~~ α seen near limit of vis. magn. 9.5?

AC 17250 (yellow)
Too poor
AC 11864 (blue)
- not seen
AC 16104
Does not show ft stars

It is difficult to decide by comparison with Plate H 1779 whether the red star is α or β, but the position appears to me to be more nearly that of β. The star seen on AC 16194, however, seems to be α.

Tuesday, February 6, 1917

Examination of Plates taken with Different Cooke Lenses to estimate quality of images. Requested by Professor King.

AC 18505 and AC 18507.

The region of good definition is in each case about 10 centimeters in diameter the short way of the plate and on AC 18505 is about the same the long way of the plate. On AC 18507 it is about 11 centimeters in diameter the long way of the plate. These estimates were made twice independently for each plate last Saturday and this morning, with uniform results. Within the circle the images on the two plates are about equally good. The images near the corners are better on AC 18507. Plate 18505, however, is more fogged than the other and this may affect the quality. Both plates are rather badly fogged and the images of faint stars, for this reason are not satisfactory on either.

On the whole AC 10507 seems to be the better plate, but I am not sure that the lens is any better. The images of red stars are somewhat sharper on AC 10505.

Saturday February 17, 1917

Color Index of +44° 1288 Cont from page 116

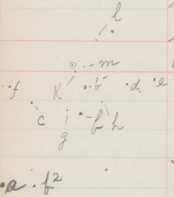
~~MD~~

MC 12286

The star marked α on chart in the margin on page 116 is bright and is evidently the red star desired.

Observations of Star α

(Comparison with Seq. for 25 K)



MC 2611 (blue)

$^{13.59}$⑫ $\frac{4}{x}$ V 2 ⑬$^{14.11}$ 13.49, 13.91 13.95 (04, 04 (Comp. Kapteyn Reg)

K 3 V 13.90, 13.80, 13.66 13.79 11, 01, 13 (from Seq.

V 0 l Mean 13.87 08, 08

V 5 m

For magnitudes of selected comparison stars, see pp 120, 121

MC 12286 (yellow)

③ - V - 1 ④

a $\frac{2}{x}$ V 9.37, 9.17, 9.69 9.41 04, 24, 28

V 0 b [p.120 9.22

V 6 C Mean 9.32 09, 10

MD 12286 (blue) See page 118

$^{12.60}$~~⑨ 1 V~~ ! ~~12.70? a. Reject~~

~~10 n.s.~~

~~K 1 V~~ ? ~~13.70, 13.70 13.70? 00.00~~

~~V 1 l~~ ? Some mistake. See page 121

V near limit of visibility.

blue

Des	blue	Yellow
a	9.58	9.17
b	10.09	9.17
b⁻	10.09	9.57
b²	10.19	9.83
c	10.51	10.29
d	.	10.16
e	.	10.84
f	.	11.40
g	12.35	11.30
h	13.44	11.96
k	13.60	.
l	13.80	.
m	14.16	.

+44° 1288 Cont.

AC 16194 (yellow)

④ - V 0 ⑤ 3 ⑥

c 1 V 10.39, 10.06 10.22 17, 16

V 1 d

MC 2197 (blue)

$^{12.95}$⑩ 2 V 2 ⑪$^{13.39}$ 2. 13.15, 13.19 13.17 02, 02

g 4 V 12.75, 13.34 ~~11.70, 11.86~~ 13.04 29, 30

V 1 h Mean 13.10 07, 06

Image of V very hazy

AC 16111 (blue)

V not seen n.s. < 13.0

h = 0.1

⑪ = 0.1

⑩ = 0.2

AC 16184 (yellow)

④ 6 V 2 ⑤

b 5 V 9.67, 9.83, 9.99 9.83 16, 00, 16

V 0 b²

V 3 C

Saturday, Feb. 17, 1917

Color Index of +44° 1288.

Estimates of brightness of comparison stars on Yellow Style Plate MC 12286 in comparison with Pole Plate MC 12287

MC 12286

⑩ 2 a 1 ⑪	9.08, 9.26	9.17	09, 09
⑩ 2 b 1 ⑪	9.08, 9.26	9.17	09, 09
⑪ 3 b′ 1 ⑫	9.66, 9.48	9.57	09, 09
⑫ 1 b² 1 ⑬	9.68, 9.98	9.83	15, 15
⑬ 2 c 0 ⑭ 3 ⑮	10.28, 10.24, 10.34	10.29	01, 05, 05
⑬ 1 d 1 ⑭	10.18, 10.14	10.16	02, 02
⑮ 2 e 1 ⑯	10.84, 10.84	10.84	00, 00
⑰ 3 f 1 ⑱	11.34, $1\overset{1}{0}$.46	11.40	06, 06
⑰ 2 g 2 ⑱	11.24, 11.36	11.30	06, 06
⑲ 1 h 3 ⑳	12.04, 11.89	11.96	08, 07
⑩ 3 V 1 ⑪	9.18, 9.26	9.22	04, 04

Images on MC 12286 much less sharply defined than on Pole Plate Comparisons difficult

Reduced with preliminary (approx.) ptv. magn.

Saturday, February 17, 1917.

Color Index of +44° 1288

Estimates of brightness of comparison stars on blue Plate in terms of Seq. K 25, MC 2611

9.17 ③ 2 a 5 ④ 10.29	$9.\overset{3}{2}7$, 9.79	9.58	21, 21
③ – b 2 ④	10.09	10.09	. a
3 – b′ 2 ④	10.09	10.09	. a
③ – b² 1 ④	10.19	10.19	. a
③ – c 0 ④ 4 ⑤ 11.13	10.29, 10.73	$10.5\overset{1}{2}$	22, 22
12.12 ⑦ 2 g 1 ⑧ 12.48	12.32, 12.38	$12.3\overset{5}{6}$	03, 03
13.39 ⑪ 1 h 2 ⑫ 13.59	13.49, 13.39	13.44	05, 05
⑪ 2 k 0 ⑫ 5 ⑬ 14.11	13.59, 13.59, 13.61	13.60	01, 01, 01
⑫ 2 l 3 ⑬	13.79, 13.81	13.80	01, 01
⑫ 4 m 0 ~~⑫~~ ⑬ 3 ⑭ 14.69	13.99, 14.11, 14.39	14.16	17, 05, 23

Reduced with magnitudes in Book 7.

MD 12286 Estimate Repeated

g 2 V 12.55, 13.44 13.00 45, 44

V 0 h

~~v~~ k not seen

12.43 ⑧ 2 V ⑨, ⑩, ⑪ not seen 12.63 a

Mean of 3 Observations 12.87 32, 57, 24

There seems to have been some mistakes in estimates on page 118, as comparison stars ⑨, k, and l are not seen on the plate. Variable near limit of visibility

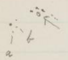
Saturday February 17, 1917

Color Index of +44° 1288 (cont.)
Summary.

Blue		Yellow		Color Index
Plate	Magn.	Plate	Magn.	
MC2611	13.87	AC16104	9.83	
2197	13.10	16194	10.22	
MD 12286	12.87?	MC 12286	9.32	
AC 16111	< 13.0			
Mean	13.28		9.79	3.49
MC+MD 12286	~~12~~			3.55
Range	1.00		0.90	

Friday, March 9, 1917

NGC 6153
Suspected of Variability by A.J.C.



Compared with stars a and b near limit of visibility of average plates.

The following AM plates were examined and show no variation, the nebula always being of about the same magnitude as a and b.

AM 656	Sept. 15, 1900	marked by A.J.C. (slightly faint Dso)
2624	June 13, 1903	marked by A.J.C.
3810	August 19, 1905	
3822	August 22, 1905	
3873	Sept. 9, 1905	
3928	Oct. 5, 1905	
4174	April 24, 1906	
4249	May 22, 1906	
4273	June 1, 1906	
5450	May 8, 1908	
5529	June 5, 1908	
5575	June 18, 1908	
5607	June 26, 1908	
6410	July 25, 1909	

Tuesday, April 7, 1917

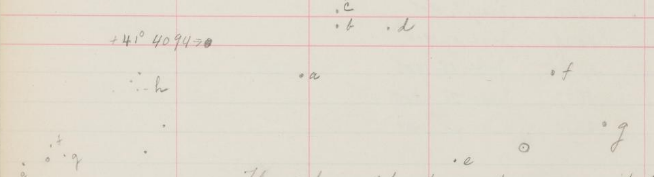
Star near DM + 41° 4094

R.A. = 21h 15m 9s Dec = +41° 28′ 41″

Suspected of Variability by Dr. J. van der Bilt. See Letter of April 14, 1917.

The suspected object was seen at a plate taken at Vassar College October 18, 1908, having three exposures. The images of the suspected object are circular. There is no trace of the star on another Vassar plate, dated Oct, 14, 1896. The examination of Donner's Region 894 was made by him with a stereocomparator.

Plates AC 9814, 9848 taken October 13 and October 23, 1908, respectively, do not show the brightest comparison stars, the limit being more than a magnitude brighter than 12.0 assigned to the object by Dr. van der Bilt



Star	Magn
a	10.7
g	11.5
e	11.8
Var	11.7

The above chart and magnitudes are copied from Dr van der Bilt's letter. He states that the variable was below the magnitudes of g and e.

Miss A. D. Walker looked up the object and made the statement pasted on page 124

Tuesday, April 7, 1917

Variable near DM + 41° 4094 Cont.

Miss Walker has found the variable on I 24098, taken November 20, 1899. Var. 13.1

The region appears on Plate MC 11061, taken in series Aug. 28, 1916.

The mag. [illegible] reference sequence are given in
magnitude of Stars a, g,
ref. seq. are as follows

1282 7 12.70 141 e 1280 7 1304 15 2 h 1324 14
1260 15 e 115 1304 1294 7 h 3 16 1327 1297 13
1284 9 1287 13.10
1275

MC 11061, and fainter
14.~~7~~8

thirteenth Magnitude
taken Nov. 8, 1904

Var.? near +41° 4094.

AC plates not useful.

On the following plates no star was seen in the given place of the variable:

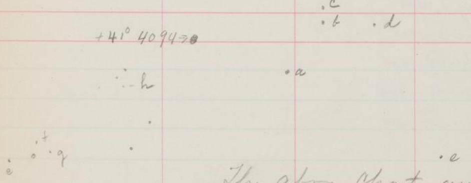
	Limit on van der Bilt's scale	Harvard Scale	
I 2802	11.5	12.8	MC 11061
6836	11.6	12.9	1917 edge
7317	12.5	13.8	1933 edge
8856	11.5	12.8	
29838	13.5	14.5	a 6034 14.5
25545	12.5	13.8	876 13.5
29729	12.0	13.3	Comparison stars
29733	13.5	14.5	marked on
29828	13.0	14.0	I 29838

I 35587 ~~<10.5~~ 12.5 and I 35592 ~~<10.5~~ <11.5 were taken Oct. 16 and 17, 1908, but do not show the var. — near edge. AC 9814 and 9848 were taken Oct. 1908.

Tuesday, April 7, 1917

Star near DM + 41° 4094
R.A. = 21h 15m 9s Dec = +41° 28′ 41″
Suspected of Variability by Dr. J. van der Bilt
See Letter of April 14, 1917.

The suspected object was seen at a plate (taken at Vassar College) October 18, 1908
three exposures. The imag
object are circular. Thre
star on another (Vassar) pla
The examination of Dominic's Re
by him with a stereocom
Plates AC 9814, 9848 taken
October 23, 1908, respectively
brightest comparison stars,
more than a magnitud
assigned to the object by D



The above chart and
copied from Dr van de
states that the variable
tudes of g and e.
Miss A. D. Walker
and made the statemen
124

Tuesday, April 7, 1917

Variable near DM + 41° 4094 Cont.

Miss Walker has found the variable on I 24098, taken November 20, 1899. Var. 13.1
The region appears on Plate MC 11061, taken in series Aug. 28, 1916.
The magnitudes of reference sequence are given in Ld Bk 52:73. The magnitude of Stars a, g, and e +h referred to ref. seq. are as follows

11.16 9 3 a	11.46 11	12.22 13 6 g	12.82 7	12.70 14 1 e	12.80 7	13.04 15 2 h	13.24 14
a 0 10 11.65	11.65 08	g 1 14 12.70	12.60 15	e 1 15 13.04	12.94 7	h 3 16 13.27	12.97 13
	11.60 03		12.84 9				13.10
a 3 11 11.90	11.57	g 2 15 13.04	12.75		12.87		

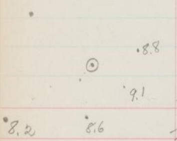
Variable not seen on MC 11061, and fainter than the magnitude 14.~~7~~8

Seen also as of the thirteenth magnitude on Plate AC 5494, taken Nov. 8, 1904

Tuesday, May 1, 1917

Examination to Confirm Variability of Object marked on Multiple-Exposure Plate AM 921 by Rev. Joel Metcalf.

R.A. = 17h 9m.5 Dec. = +16° 29′



The star shows variation of small range. Compared with sequence C9, which is very near by, on the following plates, using magnitudes printed in H.A. 71, 4.

Marked, with Comp. Stars magn. on A$\overset{m}{\text{C}}$ 7003

The magnitudes of comparison stars on above chart were estimated by comparison with H.S. Sequence C9

AM 7003	8.6
AC 1469	8.5
AC 1626	8.6
AC 1665	8.6
AC 1651	8.7
AC 9556	8.8
AC 8454	8.8
AC 1576	8.5
AC 10527	8.5
AC 10524	8.4
AC 9744	8.5
AC 9548	8.3
AC 9673	8.5
AC 7656	8.5
AM 3421	8.7
AM 2764	8.5
AM 5707	8.6
AM 7106	8.7
AM 6936	8.7

A difficult object to observe, but variation of 0.3 or 0.4 magn. is certainly established by the above observations

---

Tuesday, May 1, 1917

Examination to Confirm Variability of Object Marked by J.C. Mackie on Plate B 27807

22h 1m.5 −0° 5′.4

This star shows a variation of about 0.5 magn. It is bright on B27807 and B19790

Faint on I 29418, 29427

Tuesday, May 1, 1917

Examination of Plates for Suspected Nova in N.G.C. 4527 (R.A. = 12h 29m.0 Dec = +3° 13', 1900)

See letter of H. D. Curtis. April 25, 1917

A 12th magnitude star was seen about 45" following and 8" north of nucleus of this spiral nebula, on plates taken March 20 and April 15, 1915. No trace on plates taken March 15 and May 8, 1901 nor on April 18, 1917.

Miss Walker has looked up plates for this object. See her book 11:35.

The Nebula is seen on a number of AC +AM plates taken in March and April, 1915, but no star is seen near nucleus, and it is evident that the object is too faint for these plates. No B, I, or MC plates cover region between March 10 to May 1, 1915

Plates taken in 1914 with 1-inch do not show any trace of the object, though the Nebula is sometimes well seen.

Plate AM 10609, taken June 3, 1915 shows an object at the limit of visibility, near the required position which may be the Nova. Plate AC 16024, taken January 13, 1915 and showing stars fainter by a magnitude, has no trace of the object. Plates MC 10724, 10723, and 10726, taken April 30, 1916 and showing the 15th magn. or fainter, show no trace of the Nova. Plates I 24575 and I 32649 taken Feb. 6, 1900, exp. 61m and Feb. 11, 1905 exp. 18m, respectively, do not show the object.

Wednesday, May 2, 1917

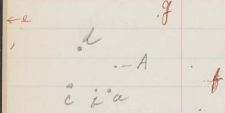
Suspected Nova in N.G.C. 4527 Cont.

The following is a list of AC and AM plates which were examined.

AC	15214	May 29, 1914	AM	9867	June 16, 1914
	15254	June 12, 1914		9880	June 20, 1914
	15265	June 16, 1914		10339	March 13, 1915
	15992	January 8, 1915		10345	" 24, 1915
	16024	January 13, 1915		10380	April 5, 1915
	16116	February 17, 1915		10424	" 17, 1915
	16160	February 26, 1915		10431	" 18, 1915
	16231	March 10, 1915		10432	" 18, 1915
	16241	" 11, 1915		10450	" 20, 1915
	16265	" 14, 1915		10451	" 20, 1915
	16289	" 18, 1915		10470	" 22, 1915
	16311	" 23, 1915		10535	May 3, 1915
	16366	April 4, 1915		10554	" 6, 1915
	16430	May 6, 1915		10566	" 8, 1915
	17298	February 7, 1916		10609	June 3, 1915
				10628	" 5, 1915

Tuesday May 29, 1917

Examination of Plates to Confirm Variability announced by Barnard for two stars-



A R.A. = 18h 25m 23s Dec = +13° 24'.0 (1900)
B 18 25 5 +9 47.5
See letter of E. E. Barnard May 26, 1917

Copies of Chart in letter of Barnard
red ink added H.S.L.

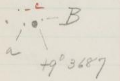


Plate I 18798 (marked) Exp. 10m, Sept. 4, 1897 Limit ~~13.5~~ 14.0 magn.?
A not seen. Not less than 3 magnitudes fainter than ~~B~~ star b. g=0.0 Var. <14
B not seen. At least a magnitude fainter than star a $\frac{c=0.1}{B<14}$

I 21359 Exp. 14m Limit 13.2? Oct. 8, 1898
A not seen
B 12.0? B 12.5

I 6620 Exp. 35m Limit ~~13.5~~ 14.0? July 20, 1892
A 11.5? 0.2 fainter than star b $\frac{b\ 3\ A}{A\ 6\ e}$ 12.54
B 12.0? 0.4 brighter than star a B = 12.7

I 8792 Exp. 12m July 11, 1893
A n.s. < 13.8 e n.s. b = 0.8 V < 13.0
B n.s. < 13.8 a n.s.

I 11389 Exp. 17m Aug. 22, 1894
A off edge
B 0.5 > than a 12.0? 12.5

The above plates show variation well

Tuesday May 29, 1917

Magnitudes of Comparison Stars for Barnard's Variables.

MC 10912 July 6, 1916
Compared with Sequence for RX Herculis

11.95 (n) 4 b 12.35
b 2 o 12.53 12.33
12.34 01, 01

12.69 g 3 e 12.99
e o r 12.85 12.85
e 2 s 13.51 13.31
13.05 06, 20, 26

13.51 s 1 f 13.61
f 2 t 13.75 13.55
13.58

13.75 t 2 g 13.95
g 1 u 14.16 14.06
14.00

Variable A not seen g=0.4 Var < 14.0
Variable B off edge

MC 11223 Sept. 21, 1916
12.34 b 3 A 12.64 B not seen
A 6 e 13.05 12.45
12.54

12.85 n ~~2~~ 1 a (seq. B 12.95
a ~~4~~ s 13.51 13.11
13.03

12.85 n 3 b (seq. B) 13.15
b 1 s 13.51 13.41
13.28

14.16 u 1 c (seq. B) 14.3

Wednesday, July 18, 1917

Hertzsprung's Variable DM+32° 1772
8^h $30^m.1$ +32° 18' (1855)
See letter of June 2, 1917

Miss O'Reilly examined plates. See her Book 2:196.

Confirmed by H.S.L. on the following plates. (Marked on AC 14784

Of uniform brightness on 11 plates. (O2: 196)
AC 7207
13070
13633
14784

Slightly faint on AC 17389
Very faint on AC 4520

Using seq for 52K. magns as follows:-

	JD+Dec. Day	Magn.
ac 4520	~~16860~~ 16494.762	11.20
ac 7207	17236.742	9.50
ac 17389	20932.650	9.93

Thursday July 26, 1917

Kapteyn Area 31, Stars 9 and 14

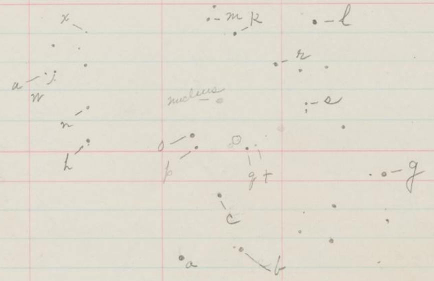
Kapteyn questions whether these stars are variable on account of Discordances between Harvard Standard Magnitudes and K. Catalogue Magn. of 13.5 and 11.1 magn., respectively Compared with Stars 8, 10, 13, and 15: magnitudes 11.4, 12.4, 13.3, 13.8, respectively.

	Plate	Star ~~8~~ 9	Star 14	
marked	I 24531	11.9	13.5	Feb. 2, 1900
	22757	11.9	~~n.s. >13.0~~ too poor	Apr. 22, 1899
	34434	11.8	13.6	Dec. 11, 1906
	24335	11.8	13.5	Dec. 27, 1899
	~~24293~~ 17778	11.9	13.6	Apr. 2, 1897
	~~10580~~	~~too poor~~		
	~~12107~~	~~11.[illegible] too poor~~		
	6140	11.7	too poor	Apr. 23, 1892

Saturday, July 28, 1917

Ritchey's Nova in Spiral Nebula
H. IV 76 Cephei
R.A. = 20h 32m.4 Dec = +59°44
105" south of Nucleus and 37" preceding

Provisional Sequence marked on MC 5984



Star a is not in the Durchmusterung.
The Nova is probably not far from Star g on the above chart.

Drawn from Plate 62 in
Publications of the Lick Observatory
Volume VIII, 1908

Selected on Plate MC 5984.
More stars are perhaps included than will be required in the final sequence, which must be revised when there are better plates. Very bright stars are included in order that diffraction images may be used.

Monday July 30, 1917

Ritchey's Nova cont.
Estimates by Argelander's Method of brightness of stars in seq. on preceding page, in terms of ~~Sequence for S Cygni.~~
~~Capital letters used for S Cygni Seq.~~
~~Order of S Cygni Seq. A C E D B G F K L M H N O P P' Q~~
Reference Seq. at R.A. 20h 15m Dec. +57°.5

Provisional Magn. of Ref. Seq. See BK 38:3 Star	
1	7.42
2	8.62
3	8.78
4	~~8.60~~ 9.55
5	9.80
6	9.90
7	10.22
8	10.78
9	10.88
10	11.42
11	11.68
12	12.38
13	13.25
14	13.84
15	13.84
16	14.32
17	14.82
18	14.82
19	14.90
20	15.26

MC 5984

p.c. 3 7 a 9.48
a 2 5 9.60

9 3 b 11.18
b 1 10 11.32

10 1 c 11.52
c 4 11 11.28

10 3 d 11.72
d 1 11 11.58

11 2 e 11.88
e 2 12 12.18

12 2 f 12.58
f 3 13 12.95

12 4 g 12.78
g 1 13 13.15

12 5 h 12.88
h 0 13 13.25
h 2 14 13.64

13 1 k 13.35
k 2 14 13.64

13 3 l 13.55
l 1 14 13.74

14 1 m 13.94
m 1 15 13.74

15 1 n 1 13.94
n 2 16 14.12

15 2 0 14.04
0 1 16 14.22

15 3 p 4 15.14
p 0 16 14.32
p 4 17 14.52

16 3 q 14.62
q 2 17 14.62

16 3 r 14.62
r 2 17 14.62

16 4 s 14.72
s 1 17 14.72

16 5 t 14.82
t 0 17 14.82
t 0 18 14.82
t 3 20 14.96

18 1 u 14.92
u 2 20 15.06

18 3 w 15.12
w 1 20 15.16

Ritchey's Nova Cont
Provisional Sequence Cont.

MC5813

4 1 a 9.65
a, 5 9.70

8 1 b 10.88
b 2 9 10.78

8 3 c 11.08
c 0 9 10.88
c 3 10 11.12

d, e, f, l, too poor

13 3 g 13.55
g 1 14 13.74

14 3 h $1\overset{4}{5}.14$
h 0 15 13.84
h 2 16 14.12

15 1 k 13.94
k 2 16 14.12

16 2 m 14.52
m 1 17 14.72

16 3 n 14.72
n 0 17 14.82
n 3 19 $14.\overset{60}{\cancel{52}}$

16 3 0 14.72
0 0 17 14.82
0 4 19 14.50

17 1 p 14.92
p 3 19 14.60

17 4 q 15.22
q 0 19 14.90
q 2 20 15.06

17 3 r 15.12
r 1 19 14.80

s too poor

t not seen

Images very poor and Comparisons extremly difficult with reference sequence, which is go

Ritchey's Nova
Magnitudes of Stars in Provisional Sequence.

See pages 135, 136

	Reject MC5813	MC5984	Diff.
a	9.68	9.54	-14
b	10.73	11.25	+52
c	11.03	11.40	+37
d	.	11.65	.
e	.	12.03	.
f	.	12.76	.
g	13.64	12.96	+32
h	14.03	13.26	-67
k	14.03	13.50	-53
l	.	13.64	.
m	14.62	13.84	-78
n	14.71	14.03	-68
o	14.68	14.13	-55
p	14.76	14.32	-44
q	15.06	14.62	-44
r	14.96	14.62	-34
s	.	14.72	
t	.	14.83	
u	.	15.04	
w	.	15.14	

Notice that the sequence is in corner of the above plates. MC 5984 is by far the better of the two, but comparisons with central ~~star~~ sequence were very difficult, while on MC $5\overset{8}{9}13$ they were nearly impossible. Reject MC5813

Monday July 30, 1917

Ritchey's Nova

Positions of Provisional Sequence of Comparison stars measured in milli-meters from the nucleus, by laying glass plate ruled in half-millimeters on Plate 62 in Publications of Lick Observatory Volume VIII, 1908. Oriented by edge ~~side~~ of engraving. Scale of engraving about 10" = 1 mm

Star	mm x y ~~mm x~~	x ~~y~~	y " ~~x~~	x " ~~y~~
a	~~-19.5~~ -34.4	~~-2.8~~ +3.5	-344	+35
b	-30.2	-8.5	-302	-85
c	-19.5	-2.8	-195	-28
d				
e				
f				
g				
h	-9.4	+26.7	-94	+267
k	+17.2	-38	+172	-38
l				
m	+20.7	+4.0	+207	+40
n	-1.2	+30.2	-12	+302
o	-7.0	+4.8	-70	+48
p	-9.7	+3.2	-97	+32
q	-10.6 ~~-7.0~~	-6.8 ~~+4.8~~	-106	-68
r	+11.4	-13.4	+114	-134
s	+2.1	-20.0	+21	-200
t	-10.2	-86	-102	-86
u				
w				
nucleus			0	0

Tuesday July 31, 1917

Ritchey's Nova

Positions Cont.

Star	y	x
a	-343	+3.5
b	-30.2	-8.5
d	Dist.	
e	Dist.	
f	Dist	
g	Dist	
l	Dist.	
o	-7.2	+4.9
p	-9.7	+3.3
q	-10.7	-6.7
nucleus	0	0
Knot near Nova	-10.3	-2.7

The position as announced for the Nova is very near a knot in the nebula which seems to be 9.2" north of Star c and in the same right ascension. ~~This~~ The latter follows the announced position by about 10", but a change of orientation would bring it somewhat closer

July 31, 1917

Ritchey's Nova Cont.

MC 13074 Ritchey July 30, 1917 Exp. ~~30~~ 60m.

This plate has nearly the same limiting magnitude as MC 5984, on which the sequence was selected. The limiting magnitude of the series in which the latter was taken is about 15.3 magn. This plate may show stars a tenth or two fainter.

The knot in the Nebula which is near the announced position is rather conspicuous on this plate, being about 0.2 magn. brighter than stars w and x of the sequence, but still near the limit of visibility. It is not seen on MC 5984. If the object is in this knot, it must be as faint as the fifteenth Magnitude.

Estimates of faint stars in terms of diffraction images.

a 10.0 + 3.7 = 13.7
b 11.2 + 3.7 = 14.9
c 11.4 + 3.7 = 15.1

a 3 m 14.0
m – b

a 1 o 13.8
o – p

a 7 p 14.4 14.30
p 7 b 14.2

a – q
q 5 b 14.4

a – r
r 6 b 14.3

a – s
s 2 b 14.7

a – t
t 1 b 14.8

b 1 w 15.0
w 0 c 15.1 15.05

c 2 x 15.3

c 1 Knot 15.2

July 31, 1917

Ritchey's Nova

Estimates of Certain Comparison Stars in Terms of Polar Sequence. ~~Plates~~
MC 13073 (Nebula) 13072 (Pole) 13071 (Neb)

Star	MC 13073	MC 13071	Mean	Est. p. 137 MC5984	p. 140	Prov. Magn.	
a	10.0	10.0	10.00	9.54		10.0	a ⑤ R
b	11.3	11.1	11.20	11.25		11.2	0 . 0
c	11.4	11.5	11.45	11.40		11.4	0 . 0
o	13.8	13.8	13.80	14.13	13.8	13.9	1 2 1
p	14.0	14.1	14.05	14.32	14.3	14.2	2 1 1
q	n.s.	14.~~4~~3	14.3?	14.62	14.4	14.4	1 2 0
r	14.2?	n.s.	14.2?	14.62	14.3	14.4	2 2 1
s	·	·		14.72	14.7	14.7	· 0 0
t	·	·		14.83	14.8	14.8	· 0 0
u	·	·		15.04	·	15.0	· a ·
w	·	·		15.14	15.05	15.1	· 0 1
x	·	·		·	15.3	15.3	· · a
h	13.2	13.2	13.20	13.26	·	13.2	0 1 ·
k	13.2	13.3	13.25	13.50	·	13.4	2 1 ·
m	13.5	13.8	13.65	13.84	14.0	13.8	2 0 2
n	13.6	14.2	13.90	14.03		14.0	1 0 ·

$\frac{12-34}{31}$ ±0.084

Stars h, k, m, n, o, p, q, r are too near the limit of visibility for safe estimates.

The estimates on MC 5984 in comparison with Reference Sequence are, on the whole, in good agreement with those on MC 13071, 13073 in comparison with the Pole, on MC 13072.

[over]

July 31, 1917.

Ritchey's Suspected Nova.
Summary of Preliminary Observations.

The announced position is near that of a knot in the Nebula H IV 76 Cephei. A provisional sequence was selected and estimates were made on MC 5813 and MC 5984 in comparison with the Reference Sequence at R.A. = $20^h\ 15^m$, Dec. = +57°.5. The first of these was very poor and very discordant from MC 5984, a very good plate. MC 5813 rejected. Estimates were made on MC 13071 and MC 13073 in direct comparison with the Polar Sequence on MC 13072. The two plates are accordant with each other and also with MC 5984, except for a, the brightest star. This is rejected on MC 5984, as comparisons with the Pole seem to be much safer.

On MC 13074, exposure 60^m, comparisons of the faint stars were made with diffraction images of a, b, and c, using the mean magnitudes 10.0, 11.0, 11.4, and increasing them by 3.7 magn., the constant for the grating. The magnitudes thus obtained agree closely with those on MC 5984. The means of the three determinations are the provisional magnitudes. Average deviation, ±0.08 magn.

No star in the position of the suspected Nova is seen on Plate

July 31, 1917.

MC 12979, taken June ~~24~~ 25, 1917. Star t is seen, and about 0.2 brighter than the limit of visibility, 15.2. A knot in the Nebula which is within 10" of the announced position of the Nova is not seen on this plate.

On MC 13074 taken July 30, 1917, the knot in the ~~nucleus~~ nebula is plainly seen, and is slightly brighter than star x of the sequence. Limiting magnitude of the plate, about 15.4. Magnitude of the "knot" about 15.2

If the supposed Nova is in this knot therefore, it must be as faint as the fifteenth magnitude.

Thursday, August 9, 1917

Novae in N.G.C. 4321

R.A = 12h 17m.9 Dec = 16h 23′ (1900)

See letter of H.D. Curtis, Aug. 2, 1917

First Nova appeared prior to March 17, 1901, magn. 13.5
a magn. fainter in April. Has disappeared
110″ west and 4″ north of nucleus.

Second Nova appeared prior to March 2, 1914, mag. 14
24″ east and 111″ south of nucleus

Plate MC 1660 Feb. 22, 1912. Exp. 60m Lim. 16.2 magn
MC 1711 March 13, 1912 60 15.5
MC 2692 Feb. 10, 1913 20 15.2
A 1875 June 30, 1896 62 15.5

None of the above plates show any object near the positions given for the two Novae.

I 24729 March 8, 1900 Exp. 22m Lim mag. 14.5
26488 Jan. 16, 1901 61 (near edge) 14.0
28750 May 5, 1902 51 (near edge) 14.0
Not seen on the above plates
I 6181, 20764, 28750, are all too poor

AC 1269, Feb. 20, 1901 Exp. 81m Lim. magn. 11.9
14892 Feb. 17, 1914 76 12.5
Nebula well seen
14937 too poor

Saturday, August 31, 1917

201434 AH Cygni

Discordant Observations in H.A. 47, 2,
looked up for Felix de Roi
See letter of Aug. 10, 1917

I 18200 Spectrum plate. J.D. 14078
10.52 e 3, 1 f 10.74 10.82, 10.64 10.73 09.09

I 16143 J.D. 13842
N.S. < p 13.27 < 13.3
q 7

The above observations are reduced with the magnitudes for comp. stars published in H.A. 47
In both ~~pla~~ cases the original observation in B bk 33 placed the variable between m and n. The wrong identification must have been made, as the above observations are not open to question. They confirm the computed magnitudes sent by le Roy,

Saturday August 31, 1917.

201152 X Telescopii

See letter of Felix de Roy
August 10, 1917

B 7892, J.D. 1226
Var. not seen
12.11, q = 0.1 <12.1 [original <12.0]
Very poor plate

B 17693 J.D. 13847
11.58 o 3 v 11.88, 11.73 11.80 08, 07
v 1 p 11.83 Orig. Obs. 11.76

B 17624 J.D. 13845
11.58 o 4 v 11.98, 11.83, 11.71 11.84 14, 01, 13
v 0 p 11.83 Orig. Obs. 11.92
v 4 q 12.11

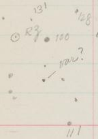
B 16642 J.D 13744 Badly scratched
not seen < q Orig. Obs. 12.22
12.11 q = 0.3 <12.1

B 8522 J.D. 12350
10.33 h 4 v 10.73, 10.51 10.62 11.11 [Orig. <12.4]
v 1 k 10.61
Orig. Obs. on this plate obviously wrong identification

The above observations confirm those in H.A. 47, 2, with the exception of B 8522, J.D. 12350.

Tuesday, October 23, 1917.

Star in the Field of R Z Cygni. Suspected of Variability by L. Campbell because it appears much fainter on the photograph than in the sky though it does not look very red.



AC 7614
var? not seen
< star 119 = 0.3

AC 10768
n.s.
star 111 = 0.5

AC 9525
n.s.
star 111 = 0.7

AC 12148
n.s.
star 11.1 = 0.7

AC 6620
n.s.
star 119 = 0.5

AC 5494
n.s.
star 12.4 = 0.0
119 > 0.7

AC 4077
n.s.
star 119 = 0.2

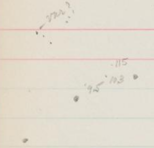
AC 3539
too poor

AC 1966
star 119 = 05
Var? n.s.

AC 6981
n.s.
star 124 = 0.0

There is no evidence that the suspected star ever becomes as bright within 0.5 magn. as ~~of~~ star 119. The photographic order of stars 100, 105, 106, 111, 119, 124 is the same as visual order.
No evidence of variability

Tuesday, Oct. 23, 1917



Star in Field of T Z Cygni
Suspected of variability by L. C. because of faintness on photographic enlargement.

AC 6989 8.~~7~~8	AC 10333 8.8
AC 5181 8.6	AC 11689 8.8
AC 943 8.8	AC 11809 8.7
AC 5207 8.8	AC 9520 8.7
AC 3789 8.7 -	AC 8530 8.8

No evidence of variability. In this case and that of the star on the preceding page, the redness of the star evidently was the cause of suspected variation.

Thursday, November 1, 1917

S S Aurigae.
Examination of Plates taken near Aug. 18 when it was found bright by

AC 19030 Aug. 12, 1917
Var. n.s.
b = 0.2 < 8.5

AC 19069 Aug. 27, 1917
Var. n.s.
c = 0.2 < 8.5

AC 19127 Sept. 12, 1917
Var. n.s.
f = 0.1 < 10.5

Magnitudes of stars b, c, f, compared with Polar Stars on MC 6741 and MC 6744 (same series)

~~a~~ b 8.3
c ~~9.0~~ 8.3
f 10.4

Monday, November 12, 1917

Messier 5

Examination of MC Cormick Plates (yellow) for Color Index of certain variables of very short period. (For Professor Bailey)

Var.	Plate 22	Plate 32
31	Not seen	Not seen
34	" "	" "
35	7? = n = o?	" "
44	not seen	" "
62	7? = n? = o?	" "
66	not seen	" "
79	7? = n? = o?	" "
80	not seen	" "
88	" "	" "

The above observations give no material for determining color indices.

Magnitudes of Comparison Stars

h	14.72	yellow	14.82	blue
n	15.22	"	15.60	"
o	15.12?	"	15.92	"

Thursday, November 22, 1917

DM + 57° 171' (9.5)

Visual magn. 10.11 (for Mr. Campbell)

Photo " 10.01

Bouton's Obs. 1917 Sept. 28 9.0

Oct 27 9.6

Comparison Star for W Cassiopeiae

Marked on I 17656, AC 18548

On AC 19208 and 19209, taken September 28, the star suspected by Bouton of being bright, appears normal as compared with the following plates:—

AC 12528,	Aug. 23, 1911
19232	Oct. 2, 1917
19209	Sept. 28, 1917
2751	Aug. 14, 1902
6635	Aug. 27, 1905
5789	Jan. 1, 1905
4128	Oct. 29, 1903
656	Jan. 4, 1900
2077	Dec. 15, 1901
1996	Nov. 21, 1901
18548	Feb. 12, 1917
I 17656	March 25, 1897

The magnitude on all of the above plates is about 11.5 by comparison with the sequence for Kapteyn Area 8

Monday, December 3, 1917

1 30 Examination of −54° 2816 suspected of Variability by R. T. A. Innes. See Letter Sept. 17, 1917.

Usually 7th magn. but Innes found it faint on a Sydney astrographic plate. Suspected a deflection image.

Examined on the following plates and found to be about the magn. 7 on all, with no evidence of variability.

AM 5973
8828
5942
3467
3194
2476
1803
6948
1921
469

1 40

Monday, December 3, 1917

2 05 Examination of Images on Multiple Exposure Plates suspected of variability by Miss A of Toronto, under the direction of Professor Chant

~~AM~~ C 15712 1 Bright star in centre of ring shows no variation
$22^h 40^m +45°$ No other star within circle shows variation

$\overset{3}{\cancel{2}}$ ~~"Ref"~~

③ Ref No star within circle shows variation

ρ " " " " " "

π 2 " " " " " "

μ Known var. " " " " " " "

ν " " " " " " "

α " " " " " " "

δ Known var. " " " " " " "

ι " " " " " " "

97 " " " " " " "

6 " " " " " " "

β " No star near position — " "

τ " " " — " "

Monday December 3, 1917.

Multiple exposure Plates examined by
Miss A cont.

Star

AC 13(8)71 12² +60° y 78 No variation seen

3 " " "

β " " "

"y" signifies marked with yellow ink

γ " " "

y 79 Image 5 appears slightly brighter than normal, apparently a photographic effect. The line of images shows no effect of variation

y 80 No variation seen

y 81 " " "

~~4~~ " " "

~~22~~ " " "

y 82 Image 5 defective. Appears slightly faint. Line of images does not show variation

24 No variation seen

λ " " "

α " " "

83 Images 4, 5, and six appear faint. May be variable. Look up

60 No variation seen

p " " "

66 " " "

δ " " "

y 84 " " " one image rather sharp

γ " " "

21 " " "

~~24~~ " " "

7 " " "

Monday, Dec. 3, 1917.

Multiple Exp. Plates cont.

AC 13871 cont. "Star near no 21, number effaced. Remark 'Image 10 missing'." No star in vicinity found

85?: to show variation.

x No sign of variation seen

AC 18241 8² +45° 24 No variation seen

~~29~~ " " "

86 " " " Image 7 defective, apparently

87 Images after 5 (ft.) not seen. Very faint star. May be var. Look up

87 re-examined Dec. 4. No variation seen. Do not look up

88 Resembles 87. Look up

89 Image 7 faint, ~~f~~ but variation improbable

90 No variation seen

91 Images 8 and 9 ft? Possibly var?

92 Images 7 and 8 faint. Prob. not var.

93 Images 9 and 10 ft – Probably photographic effect.

94 No variation seen

Monday, Dec. 3, 1917

Multiple Im. Plates Cont

AC 18235 0^{h} +30°	95	Some slight appearance of variation Look up	
	96	Probably variable	
AC 14734 9^{h} +60°	99	Two stars are partially superposed No appearance of variability in either	
AC 14402 $22^{h}38^{m}$ +44°.3	98	(same as 97) No evidence of variability	
AC 18237 8^{h} 0°	2	No variation seen. Film defective	
	3	~~Possibly variable~~ - Faint and poor No variation seen	
	4	No variation seen some sharp images	
	5	" " " " " "	
	6	" " " " " "	
	7	" " "	
	8	" " "	
	9	" " "	
	10	Images 5 & 6 faint? poor. Possibly var.	
	11	No variation seen	
	12	" " "	
	13	" " "	
	14	" " "	
	15	" " " Sharp defect	
	16	" " "	
	17	" " "	
	18	" " "	

Monday, Dec 3, 1917

AC 18237 Cont	19	No variation seen	
	20	" " "	
	21	" " "	
	40	Defect	
	22	No variation seen	
	23	Mark erased? No variation seen in any image near	
	24	No variation seen	
	25	" " "	
	26	Images 2 and 3 faint. Possibly var.	
	27	No variation seen	
	28	Resembles 26	
	29	No variation seen	
	30	" " "	
	31	" " "	
	32	" " "	
	33	" " "	
	34	" " "	
	35	Defect	
	36	No variation seen	7
	37	" " "	7
	38	" " "	7
	39	" " "	7
	41	" " "	7
	42	" " "	7
	43	" " "	7

Monday Dec 3, 1917

AC18237 Cont.	44	No variation seen	F
	46	" " "	F
	47	" " "	F
	48	" " "	F
	49	" " "	F
	50	" " "	Def.
	51	" " "	F
	52	" " "	F
	53	" " "	F
	54	" " "	F
	55	" " "	F
	56	" " "	F
	57	" " "	Def.
	58	" " "	F
	59	" " "	F
	60	" " "	F
	61	" " "	F
	62	" " "	F
	63	" " "	F
	64	" " "	F
	65	" " "	F
	66	" " "	F
	67	" " "	F
	68	Possibly variable	F
	69	No variation seen	F
	71	" " "	F
	72	" " "	F
	73	" " "	F
	74	" " "	F
	75	" " "	

Monday, Dec. 3, 1917

AC18237 Cont	76	No variation seen	F
	77	" " "	F

All the suspected variables on this plate are so near the limit of visibility that no reliance can be placed on slight apparent changes of brightness. After No. 35, the letter F has been entered to indicate that the object is extremely faint. This is true of the stars not so marked on this plate.

Look up the following Stars

Star	Plate	Reg		
10	AC18237	8^{h}	0°	No variation found
26	"	"	"	" " "
68	"	"	"	" " "
83	13871	12	+60	" " "
~~87~~	18241	8	+45	No variation found
88	"	"	"	" " "
91	"	"	"	" " "
95	18235	0	+30	
96	"	"	"	Probably var

3 50

Tuesday, December 4, 1917

12 00 Examination of Variables suspected by Miss A (see pp 153 159

No. 10 Examined on the following plates and no variation found.

AC 4835
2333
4132
1217
6827
~~457~~

AM 457
4052
AC 103$\overset{4}{\cancel{5}}$7
13009
14991

No. 26 examined on the plates mentioned above. No variation found.

No. 68 examined on the above plates, except AM 457, and AC 14991, on which it is off the edge. Also AM 7877, AC 13478 No variation found.

Nos 87, 88, 91.
all examined on the plates below, but no variation found.

AC 16945
16222
18092
16134
15117

AC 17451
19476
18737
18429
18315

12 45

Tuesday, December 4, 1917

Examination of Variables Cont.

No. 83 Examined on the following plates and no variation found

AC 7432
15811
7066
8460
11195

AC 13129
13641
13104
7427
17452

Cont. Page 163

Star in Field of R Normae.
Marked "Suspected" on Sample
Chart and on Plate B 13970.

The star was examined on the following plates and no variation found in it or in any adjacent star.

B 13970
15558
11020
10852
14030
30219

B 20275
15785
23048
31878
30552

Report given to Miss Mabel Gill, Dec. 5, 1917.

Examination of Variables Suspected
by Miss A cont. from p. 161

No. 96

AC 467 Multiple Image

Images 5, 6, 7, 8, 9 brightest. Fainter at each end.

AC 979 multiple im. too poor

AC 980 " " " "

AC 16722 bright 9.1
14433 bright 9.1
AC 3785 9.6 ✓
13604 9.7 ✓
11988 9.3 ✓
11811 9.2 ✓
10848 9.8 ✓

Provisional Comparison stars marked on AC 3785.
Magnitudes estimated by comparison with Sequence for Carte 23^h +39°.5

May also be compared with Seq. for B^9_r and 42K

Sequence changed

Marked on I 32113

DM +37°4717

22^h 47^m.0 +37° 9′ (1855) 8.6
22 49 .1 +37 23 (1900)

Not in any list of known or suspected variables here.

Monday December 10, 1917

Stars Suspected of Variability by Miss A
No 96 Cont.

AC 14402 J.D. 20038

					Corrected
Im 1		.492	Im 1	9.5? ✓	9.4?
2		.510	2	9.1? ✓	9.1?
3		.531	3	9.2? ✓	9.2?
4		.552	4	sup. ✓	.
5		.573	5	9.2? ✓	9.2?
6		.594	6 (long	9.4 ✓	9.3
7	9.~~9~~ 8	.615	7 7	9.8 ✓	9.7
8	9.~~8~~ 9		8	10.0 ✓	9.9
9		.635	8 ~~9~~	9.5 ✓	9.4
10		.656	9 ~~10~~	9.3 ✓	9.3
11		.677	10 ~~11~~	9.3 ✓	9.3
12		.698	11 ~~12~~	9.0 ✓	9.0
13		.700	12 ~~13~~	7 ✓	
14			~~14~~	7 ✓	

Monday, Dec. 10, 1917

No. 96 Cont.

AC 15712

							Corrected
				1	7		
		.450		2	7 ✓		
				3	7		
1	.450	.468	2	4	9.~~8~~ 9 ✓		9.8
2	.~~489~~ 468	.489	3	5	9.8 ✓		9.7
3	.~~589~~ 489	.510	4	6	9.6 ✓		9.5
4	.~~530~~ 531	.531	5	7	9.~~6~~ 3 ✓		9.3
5	.531	.551	6	8 a b	9.2 ✓		9.2
6	.551	.572	7	9	9.1 ✓		9.1
7	.572	.593	8	10	9.2	9.30 ✓	9.3
				11	9.4		
8	.593	.614	9	12	9.~~7~~ 5	9.65 ✓	9.6
				13	9.8		
9	.614	.635	10	14	10.0	10.0 ✓	9.9
				15	n.s.		
			~~14~~	~~16~~	~~10.0~~		
10	.635	.656	~~16~~ 11	~~17~~	9.9 ✓		9.8
11	.656	.676	~~17~~ 12	18	7 ✓		
				19			
12	.674	.678	13	18	n.s ✓		
				19			

AC 467

.528	1	7	✓
.545	2	10.0	✓
.565	3	9.8	✓
.586	4	~~9.2~~ 9.9	✓
.607	5	~~9.3~~ 9.5	✓
.~~6~~28	6	9.4	✓
.649	7	~~9.6~~ 9.2	✓
.670	8	~~9.4~~ 9.1	✓
.690	9	~~10.1~~ 9.2	✓
.711	10	~~10.1~~ 9.3	✓
.732	11	9.3	✓
.753	12	9.6?	✓
.774	13	9.8? 7	✓
.794	14	n.s.	
.815	15	n.s	
.836	16	n.s	
.855	17	n.s	

Repeat these measures
Some mistakes
made.
Dec. 20, 1917.

Poor plate

Images 8, 9, and 10 ~~are~~ looked and separate portions were observed. Notice that the separate parts of Nos. 8 and 9 confirm rapid increase of faintness

Numbering of images changed after examining plate, February 7, 1918.

Monday, December 10, 1917

Stars Suspected of Variability by Nisle

No. 95 shows no variability on the following plates:-

AC 3785
18971
19391
19429
17013
12741
14416
6841
3216
18297
3785

No. 97 (=98) shows no change on the following plates:-

AC 18850	AC 17668
18357	16043
18221	16707
18249	16600
17924	16723

Tuesday, December 11, 1917

Variable 96 cont from Page 165

AC 18235

.435	1	~~n.s.~~ 9.0? 7 ✓
.447	2	9.1 ✓
.468	3	9.4 ✓
.489	4	9.~~5~~7 ✓
.510	5	10.0 ✓
.531	6	9.9 ✓
.551	7	9.6 ✓
.572	8	9.3 ✓
.593	9	9.1 ✓
.614	10	9.2 ✓
.635	11	9.2 ✓
.638	12	n.s. ✓

AC 14389 JD. 20035

.513	1		9.3 ✓
.531	2		9.2 ✓
.552	3		9.5 ✓
.573	4		9.~~6~~7 ✓
.594 long	5		9.5 ✓
.615	6	~~6~~	9.4 ✓
		~~7~~	
.635	7	~~8~~	9.2 ? ✓
		~~9~~	9.1 ✓
.656	8	~~10~~	9.1 ✓
.677	9	~~11~~	9.2 ✓
.698	10	~~12~~	9.3 ✓
.711	11	~~13~~	7 ✓

Secondary minimum ?

Wednesday December 12, 1917

10 50 Miss A's Var. 96 cont

AC 14390
too poor

AC 14398 √
9.1 ? e g/

Wrong Plate No. AC 14412 √
9.4 ? e

AC 14432
too poor

AC 14434 √
9.6 ? e

AC 14396 √
9.3

AC 14431 √
9.5

AC 19458 J.D. 21546

.454 1 9.9 √
.468 2 9.6 √
.489 3 9.~~4~~5 √
.510 4 9.3 √
.531 5 9.2 √
.551 6 9.2 √
.572 7 9.5 √
.593 8 9.7 √
.614 9 9.9 √
.635 10 10.0 √
.656 11 9.6 √
~~12~~

AC 18352 too poor

11 05

Thursday, Dec. 13, 1917

Miss A's Var. 96 Cont. +37° 4717

11 55 AC 14385

.497 1 9.~~4~~7 √
.510 2 9.4 √
.531 3 9.2 √
.552 4 9.1 √
.573 5 9.4 √
.594 6 9.7 √
.615 7 9.9 √
.635 8 9.6 √
.656 9 9.3 √
.677 10 9.1 √
.698 11 9.2 √
.715 12 9.4 √

AC 14410 √
9.4 ? e

AC 14430 √
~~too poor~~ 9.4?

Wrong Plate No. This is at 1h, +30° AC 18058 √
9.7

AC 15754 √
9.7

AC 15893 √
9.5

12 20

AC 15411 √
9.3

AC 15431 √
9.3 g/

AC 15444 √
9.3

AC 15499 √
9.8

AC 15564 √
9.8 g/

AC 15726 √
9.3 e

AC 15763 √
9.4 ? e

AC 18244 √
9.2

AC 18362 √
9.9

Var. "96" +37° 4717 cont.

AC 18172 ✓
9.7

AC 18408 ✓
9.7

054974 V Camelopardalis

See also BK 39:210
EW 1:38

Plates between April 1 and June 1, 1917, looked up at the request of Mr. Crane. Two observers found it bright (from {March 13 to Apr. 18 9.8 to 10.4}) during this time, which should have been near minimum.

The following plates show no trace of the variable, though stars of the magnitudes indicated (compared with sequence for a ?)

AC 15974,	Jan. 7, 1915 lim.	12.9
16145	Feb 20 1915	12.5
16143	" " "	12.5
16156	Feb 25, 1915.	12.5
16257	March 13, 1915	12.7
16238	" 11, 1915	12.0
16429	May 6, 1915	11.5
16397	Apr. 13 1915	12.

Look up plates near maximum (to be obtained from Mr. Campbell) and get photographic magnitude. Compare with visual magnitude to obtain color index. That will show how ~~faint stars should have~~ bright it could have been visually on the plates taken above.

Maxima J.D.	Vis.		Ptg	Color Index
19330	9.5	1911 Oct. 20	10.8 (Oct. 9) 11.0 (Oct. 23) 10.8 (Nov. 2)	1.3
19840	9.5	1912 Mar. 13	No plates near this date	
20400?	?	1914 Sept. 24?	" " " " "	
20860	8.5	1915 Dec. 28	10.5 (Dec. 30) 10.5 (Dec. 16) 10.1 (Jan. 7, 1916)	2.0 (? Vis. maximum too high ?
21380	11.0	1917 May 31	No plates.	

Even if the color index is as much as 2 magnitudes variable should have been seen on March 13 (photograph) if as bright as 10.6 visually.

Tuesday
~~Monday~~, Dec. 1~~7~~8, 1917

Var "96" +37° 4717
Comparison Stars Marked on AC 6709
(Different Stars from those used on pages 163-170 Comp. Star Plate I 32113

AC 6709 Estimates in terms of

	Bq	~~42K~~ Carte 23h +39.5
a	8.~~9~~8	8.7
a' ~~b~~	9.0	8.8
b ~~c~~	9.1	8.9
c ~~d~~	9.4	9.2?
d ~~e~~	9.6	9.5?
e ~~f~~	9.~~6~~8	9.9

AC 3190

	(Bq)	Carte
a	8.7	8.~~7~~6
a' ~~b~~	8.7	8.6
b ~~c~~	8.9	8.8
c ~~d~~	9.4	9.2
d ~~e~~	9.5	9.3
e ~~f~~	9.8	9.9

~~AC 3190~~

a
b
c
d
e
f

Magnitudes used for B q are those published in H.A. 71, 4. For Carte Region 23h, +39°.5, the magnitudes are those in the copy being prepared for the printer. They show a satisfactory accordance

Wednesday, December 19, 1917

+37° 4717 Comp. Stars Cont.

AC ~~B~~18065

	Comp. Bq	Carte
a	8.9	8.9
a' ~~b~~	8.9	9.0
b ~~c~~	indef.	.
c ~~d~~	~~indef.~~ 9.3?	9.4
d ~~e~~	9.6	9.7
e ~~f~~	10.1	10.1

AC 9547

a	8.8	8.9
a' ~~b~~	8.8	8.6
b ~~c~~	9.3	9.1
c ~~d~~	9.4	9.4
d ~~e~~	9.6	9.6
e ~~f~~	10.0	9.9

Estimates in Grades

~~AC 9547~~

AC 9547 a 0 $\overset{a'}{\cancel{b}}$ ~~4~~3 $\overset{b}{\cancel{c}}$ 2 $\overset{c}{\cancel{d}}$ 3 $\overset{d}{\cancel{e}}$ 4 ~~f~~ e
AC 6922 a 0 $\overset{a'}{\cancel{b}}$ 4 $\overset{b}{\cancel{c}}$ 1 $\overset{c}{\cancel{d}}$ 3 $\overset{d}{\cancel{e}}$ 4 ~~f~~ e
AC 8632 a 2 $\overset{a'}{\cancel{b}}$ 4 $\overset{b}{\cancel{c}}$ 1 $\overset{c}{\cancel{d}}$ 3 $\overset{d}{\cancel{e}}$ 4 ~~f~~ e
AC 5092 a 1 $\overset{a'}{\cancel{b}}$ 5 $\overset{b}{\cancel{c}}$ 0 $\overset{c}{\cancel{d}}$ 4 $\overset{d}{\cancel{e}}$ 3 ~~f~~ e

Wednesday December 19, 1917

12 30 Variable +37° 4717

Observations on Multiple Image Plates

a = 8.8
b = 9.1
c = 9.3
d = 9.6
~~e = 10.0~~

	AC18235 ✓		AC14402 ✓				AC15712 ✓
1	n.s.	1	9.5			1	7
2	9.1	2	9.3	.450	1	2	9.9
3	9.2	3	9.2	.468	2	3	9.8
4	9.~~5~~4	4	9.1?	.489	3	4	9.4
5	10.0	5	9.2	.510	4	5	9.3
6	9.9	6 long	9.5	.531	5	6	9.1
7	9.5	7 long	9.8	.551	6	7	9.~~7~~
8	9.2	8	9.6	.572	7	8 long	9.2
9	9.0	9	9.4	.593	8	9 long	9.5
10	9.2	10	9.2	.614	9	10 long	9.8
11	9.2	11	9.1	.635	10	11	9.~~7~~8?
12	n.s.	12	7	.656	11	12	9.8?f
				.674	12	13	7

AC951 - too poor

1 10

Wed. Dec. 19, 1917

+37° 4717 Cont.

	AC467 ✓		AC14385 ✓		AC14389 ✓
1	~~10~~?f	1	~~9~~ n.s.	1	9.2
2	10.0?f	2	9.2	2	9.2
3	9.8?	3	9.2	3	9.5
4	9.6?	4	9.0	4	9.~~7~~8
5	9.4?	5	9.3	5	9.5
6	9.2	6 long	9.6	6 long	9.2
7	9.4	7	10.0	7 long	9.2
8	9.6?	8	9.5	8	9.1
9	9.9	9	9.3	9	9.3
10	10.0	10	9.0	10	9.4
11	7	11	9.0	11	7
12	9.5?	12	9.1	~~12~~	
.774 13	too poor			~~13~~	
14	n.s.				
15	n.s.				
16	n.s.				
17	n.s.				

Very poor plate
Observations uncertain

	AC19458 ✓
1	~~9.5?:~~ tp
2	9.7
3	9.3
4	9.2
5	9.1
6	9.1
7	9.2
8	9.5
9	9.9
10	9.8
11	9.5?

Thursday, December 20, 1917

11 45 Var. +37° 3717. Direct Estimates

✓ aC67
9.4

✓ aC487
9.5

✓ aC 4494
9.4

✓ aC7752
9.8

✓ aC396
9.2

✓ aC11820
9.3

✓ aC 3785
9.8

✓ aC6922
9.7

✓ aC 2076
9.3

aC 14431
tp

✓ aC18065
9.9

✓ aC 2241
9.1

✓ aC5092
9.6

✓
* aC6907
9.4

✓ aC954X 7
9.9

✓ aC 3190
9.7

✓ aC103
9.2

✓ aC373
9.7

* Assumed to be aC6709 as remark for 6907 is:- "Too Black to see anything on plate"

Thursday Dec. 20, 1917

+37° 3717

✓ aC399
9.5

aC570
t.p.

✓ aC902
9.1

aC954
tp

✓ aC1052
9.3

✓ aC1240
9.4

✓ aC1579
9.3

✓ aC1662
9.9

aC1737
tp

✓ aC1833
9.2

✓ aC1892
9.6

✓ aC1900
9.2

✓ aC1942
9.5

✓ aC14300
9.6

✓ aC8632
9.2

✓ aC16799
9.3e

✓ aC17167
9.2e

✓ aC19124
9.9

aC19147
tp

✓ aC19181
9.9

12 10

Thursday, Dec. 20, 1917

12 10 +37° 3717

✓ ac192$\overset{2}{3}$3
9.7

✓ ac19243
9.1

✓ ac19260
9.9

✓ ac19441
9.6?

✓ ac16860
9.5? g

✓ ac17168
9.3?

✓ ac17188
P 9.3e

✓ ac17272
9.5

✓ ac17548
9.1 p

ac17575
tp

✓ ac17680
9.3

✓ ac17757
9.2

✓ ac17784
9.2? e

✓ ac17790
9.2

✓ ac17886
9.9

✓ ac17906
10.0

✓ ac17~~939~~967
9.1

✓ ac18105
9.3 e

✓ ac18223
9.7? e

✓ ac18390
9.4? e

Thur. Dec. 20, 1917

+37° 3717

✓ ac18503
9.9

✓ ac18915
9.3 g

✓ ac19045
9.7

ac19084
tp

✓ ac19140
9.2? e

ac19174
tp

✓ ac19190
9.5? e

✓ ac19224
9.5 g

✓ ac19272
9.2

~~12 15~~

✓ ac14049
9.1

✓ ac14211
9.4? g

ac14224
tp

✓ ac14257
9.7

✓ ac14268
9.2? f

ac14315
tp

✓ ac14396
9.2

✓ ac14433
9.1

✓ ac14517
9.4? g

✓ ac14529
9.2

✓ ac14533
9.4 g

✓ ac14620
9.3

✓ ac14655
9.3 q

✓ ac15221
9.8

✓ ac15270
9.7

✓ ac15411
9.2

ac15431
tp

✓ ac15444
9.2

✓ ac15499
9.7

ac15564
tp

✓ ac15754
9.4 q

✓ ac15893
9.4

ac14126
tp

ac14186
tp

✓ ac14274
9.2

✓ ac14410
9.4?e

✓ ac14430
9.3?e

✓ ac14481
9.2?e

✓ ac14510
9.6?e

✓ ac14619
9.2 e

✓ ac15304
9.6?e

12 45

✓ ac15462
9.3?e

✓ ac15467
9.7e

✓ ac15483
9.3?e

✓ ac1985
9.7

✓ ac2037
9.9

✓ ac2583
9.2

ac2656
tp

ac2692
tp

✓ ac2747
9.4

✓ ac2758
10.0

✓ ac2761
9.7?q

✓ ac2867
9.8

✓ ac2909
9.3?q

✓ ac2979
9.3?q

ac3043
tp

✓ ac3050
9.4?q

✓ ac3068
9.5

✓ ac3092
9.6?

✓ ac3101
9.4

ac3146
tp

Thurs. Dec. 20, 1917

12 55 +37° $\overset{4}{3}$717

		AC 17939 Class C	✓ Mean		AC 17939 reversed
21133.499	1	ns		1	n.s.
.510	2	9.3	9.30	2	9.3
.531	3	10.0	9.90	3	$9.\overset{8}{9}$
.551	4	9.9	9.95	4	10.0
.572	5	9.3	9.35	5	9.4
.593	6	9.2	9.20	6	9.2
.614	7	9.1	9.10	7	9.1
.635	8	9.1	9.15	8	9.2
.656	9	9.2	9.25	9	9.3
.676	10	ns		10	n.s.
.688	11	n.s.			

Images of Star e too poor to use for comparison.

1 15

Thursday Dec. 20, 1917

+37° $\overset{4}{3}$717

		✓ AC 17958
21137.494	1	f.
.510	2	9.3
.531	3	9.4
.551	4	9.8
.572	5	9.6
.593	6	9.3
.614	7	9.1
.635	8	9.1
.656	9	9.3
.676	10	9.5?
.697	11	7

Friday, December 21, 1917

2.05

+37° 4717

✓ ac4137
9.3

✓ ac4178
9.2

ac4204
*p

✓ ac4276
9.6

✓ ac4300
9.3q

✓ ac4323
9.9

✓ ac4343
9.7?

✓ ac4389
9.7

✓ ac4453
9.7

ac4965
*p

✓ ac4982
9.7

✓ ac5058
9.9

ac5108
*p

✓ ac5137
9.5

✓ ac5174
9.6

✓ ac5184
9.9

✓ ac5259
9.3

✓ ac5285
9.9

✓ ac5362
9.4?

✓ ac5409
9.7q

Friday, Dec 21, 1917

+37° 4717

✓ ac5448
9.4

✓ ac5467
9.4

✓ ac5479
9.2

✓ ac5504
9.6

✓ ac5553
9.8

✓ ac12533
9.7

✓ ac12541
9.3

✓ ac12550
9.5

✓ ac12673
9.7

✓ ac12735
9.6

✓ ac13177
9.4?

✓ ac13303
9.8q ✓

ac13307
*p

✓ ac13324
9.6?q

✓ ac13335
9.8

ac11163
trail

✓ ac11200 T'
9.2

✓ ac11210
9.4?

✓ ac11231
9.7

ac11243
Tr

Friday, Dec 21, 1917

+37° 4717

√ ac11252
9.3

√ ac11374
9.6

√ ac11290
9.3

ac11350
+p

√ ac11712
9.2

√ ac11811
9.2

√ ac11830
9.7

√ ac11871
9.6

√ ac11879+1
9.1

√ ac11907
9.4?

√ ac11942
9.3

√ ac11961
9.5

√ ac11988
9.2

√ ac12038
9.3

√ ac12076
9.7

√ ac12085
9.5

√ ac12122
9.4?q

√ ac12178
9.8

√ ac12217
9.3

√ ac12249
9.8

Friday, Dec 21, 1917

+37° 4717

√ ac12264
9.3

ac12293
+p

√ ac12457
9.9

√ ac12466
9.2

√ ac12472
9.2

√ ac12495
9.4?q

√ ac12520
9.5

ac9051
+p e

√ ac9058
9.3

√ ac9064
9.2?q

√ ac9075
10.0q

√ ac9077
9.5q

√ ac9089
9.4?

ac9096
+p

ac9628
×p

√ ac9703
9.5

√ ac9765
9.1

ac9806
+p

√ ac9827
9.6

√ ac9870
9.4

Friday, Dec 21, 1917

+37° 4717

✓ ac9938
9.3

✓ ac9989
9.4?

✓ ac10029
out of focus
9.5

✓ ac10098
9.4

✓ ac10458
9.4?q

✓ ac10680
9.6?q

✓ ac10709
9.7

✓ ac10718
9.3

✓ ac10738
9.5

✓ ac10769
9.1q

✓ ac10820
9.3

✓ ac10848
9.8

✓ ac10851
9.5

✓ ac10890
9.3

✓ ac10904
9.2

✓ ac10912
9.3

✓ ac10949
9.9

ac11004
*p

✓ ac11088
9.9

Friday, Dec 21, 1917

+37° 4717

✓ ac11110
9.1

✓ ac13412
9.2

✓ ac13449
9.4?q

✓ ac13467
9.6

✓ ac13604
9.8

✓ ac13627 T'
1) 9.2 9.2
2) 9.9

✓ ac16131
9.2

✓ ac16530
9.3?q

ac16655
*p

✓ ac16683
9.1q

ac16725
*p

ac16830
*p

ac16962
*p

ac17013
*p

ac178*86
*p

ac18971
*p

✓ ac8700
9.7?

✓ ac8717
9.4?

✓ ac8773
9.2?q

Friday, Dec 21, 1917

+37° 4717

✓ ac8799
9.4?

ac8821
Ap

ac8837
Ap

✓ ac8864
9.2

✓ ac8877
9.8

✓ ac8892
9.4

✓ ac8917
9.4? q

✓ ac8938
9.8

✓ ac8982
9.9

ac9004
Ap

ac9089
Ap

✓ ac9040
9.7

✓ ac5607
9.6?

✓ ac5663
9.9

✓ ac5676
9.8

✓ ac5721
9.3

✓ ac5744
9.5

✓ ac5821
9.8

✓ ac5930
x 9.7

ac6394
Ap

Friday, Dec 21, 1917

+37° 4717

✓ ac6426
9.5? q

ac6489
Ap

✓ ac6575
9.3? q

✓ ac6557
9.4? q

✓ ac6567
9.2? q

✓ ac6840
9.2

✓ ac6864
9.4?

✓ ac6903
9.9

✓ ac7027
9.5?

ac7099
+p

✓ ac7105
9.4

✓ ac7114
9.5

✓ ac7186
9.5

ac7242
+p

ac7285
+p

✓ ac7670
9.1 q

ac7718
+p

✓ ac7791
9.6?

✓ ac7820
9.3

✓ ac7857
9.2

Friday, Dec 21, 1917

+37° 4717

✓ AC8006
9.7

✓ AC8021
9.3

✓ AC8071
9.5?

AC8065
+p

AC8190
+p

AC8229
+p

2.50
2.55 ✓ AC12610
9.3?

AC12562
+p

✓ AC4938
9.1

AC2062
+p

AC2074
+p

AC1603
+p

✓ AC1803
10.0

✓ AC1843
9.6?

✓ AC1881
9.4

AC1919
+p

✓ AC2015
9.9

3.00

E. E. W.

Thursday January 3, 1918

+37° 4717 Repeated Measures

Exp.	AC 467 unrinsed	Rinsed
1	n.s.	n.s. < 9.7
2	10.0 ✓	10.0 ✓
3	9.8 ✓	9.8 ✓
4	9.7 ✓	9.7 ✓
5	9.3 ✓	9.2 ✓
6	9.2 ✓	9.3 ✓
7	9.3 ✓	9.4 ✓
8	9.6? ✓	9.6 ✓
9	10.0 ✓	10.0 ✓
10	9.8 ✓	9.8 ✓
11	9.1? ✓	9.1 ✓
12	9.1? ✓	9.3 ✓
13	9.3?? ✓	9.2
14		
15		
16		
17		

AC67
9.5 ✓

AC103
9.3 ✓

AC373
9.7 ✓

AC396
9.2 ✓

AC399
9.5 ✓

Tuesday, January 8, 1917^{8}

Double Star HD 29 = Burnham's Cat. 333

Not found by W. S. Franks. See card from F. A. Bellamy, Dec. 7, 1917.

R.A. 0^h 31^m Dec. +1° 26′ (1880)

Examination of I 31962, Aug. 18, 1904, shows no double star in the position given. A pair follows about 1^m, south about 0′.6, magn. about 10, the faint component is distant about 10.8^{25}, south preceding. The position angle seems to preclude identification with Wendell's star, which had the faint component north preceding (angle 325±)

Burnham publishes an observation (1903.81) at Kirkwood, position angle 324°.0 dist. 23″.48

Is the companion variable?

Hd 28, +2° 73 R.A. 0^h 29^m.2 Dec. +2° 38′ (1880)

This star examined on the plate mentioned above. The companion is north preceding as according to Wendell's description, but the distance is about 0′.4. As Wendell gives 12″±, it appears probable that the distance recorded by him is wrong by 10″.

Tuesday, January 8, 1918

Double Star Hd 29 Burnham 333

Examination on the following I plates shows no evidence of a companion to any star near the position

I 31962
21776
11724
15912
15664
13834
12687
9493
2731
4720

Wednesday, Feb. 6, 1918

4 30 +37° 4717 Estimates [illegible]

ac 16131
✓ 9.1

✓ ac 12076
9.7 diff.

Not in ledger. wrong number?
ac 19391
9.3?e

ac 17757
✓ 9.1

ac 17886
91?e

✓ ac 18390
too far from
edge
Reject plate

ac 19429
Reject. edge

ac 19566
9.2?e

ac 19660
t.p.

ac 12038
✓ 9.2 g

✓ ac 4389
9.5?

✓ ac 4453
9.6?

✓ ac 4494
9.3?

ac 4965
t.p.

✓ ac 4982
9.7 g

✓ ac 5409
9.9 g

ac 5448
✓ 9.2

✓ ac 5467
too far from trails

Wednesday, Feb. 6, 1918

+37° 4717 Cont.

✓ ac 15754
9.4? g

✓ ac 15893
9.5?

✓ D 11879
9.7?e

✓ D21471
9.9

D34422
B

D32163
B

✓ D29499
9.2?b

D26234
t.p.

✓ D23818
9.2

5 00

✓ D21566
9.1?

✓ D4447
9.5?

✓ D7019
9.1?

✓ D7179
9.2

✓ D9090
9.9

✓ D9442
9.7?

D18897 iso
Reject

ac 17886
9.1e
On page 196 9.1?e In ledger 9.9
Reject 9.9

ac 15754
9.4?
Top of page 9.4? g. In ledger 9.7, 9.4 g
Reject 9.7

Thursday February 7, 1918

12 15 +37° 4717 Cont.

I16181
tp

I13431
9.1?

I4417
tpe

I4563
tpe

I4996
tpe

I7041 -
9.8e
certainly faint

I9013
tpe

I26229
tpe

I26318
tpe

I28100
tpe

I3117
tpe

I25611
tpe

I23799
tpe

I18946
9.7? e

I16271
9.9e
certainly faint

I3789
9.9e
certainly faint

I13659
tpe

I13168
tpe

I13075
tp

Thursday, Feb. 7, 1918

+37° 4717 Cont

I13053
tpe

I13027
tp

I12363
tp

I11456
10.0
certainly very faint

I4361
off edge

I4805
not faint
too poor e

I7127
tpe

I7260
tpe

I7524
tpe

12 35

I7816
tpe

I8742
tp

Thursday, Feb. 7, 1918

+37° 4717 Cont.

Examination of Certain Multiple Image Plates

AC 467 unmeasured

1	7
2	9.9 ✓
3	9.7 ✓
4	t.f. ✓
5	t.f. ✓
6	9.2 ✓
7	9.3 ✓
8	9.6? ✓
9	9.9 ✓
10	9.~~8~~7? ✓
11	7 ✓
12	9.1 ✓
13	9.2 ✓

Very poor plate Reject Images 1, 4, 5, 11

+37° 4717 Cont

AC 15712 unmeasured

				p.165
4 Images	1	✓ 9.8 ✓		9.8
	2	✓ 9.~~2~~8 ✓		9.~~8~~7
	3	✓ 9.3		9.~~[illegible]~~5
hazy, long	4	✓ 9.3		9.3
close dbl	5	✓ 9.1		9.2
	6	✓ 9.1		9.1
double	7	✓ 9.2		9.30
double	8	✓ 9.4, 9.6	9.50	9.6~~5~~
	9	✓ ~~9.8~~ 9.9		~~10.10~~ 9.9
	10	✓ 9.6		9.~~7~~8
faint	11	too poor		7
ft double	12	n.s.		n.s.

AC 19458 unmeasured

1	7
2	9.8 ✓
3	9.4? ✓
4	9.1? ✓
5	9.1? ✓
6	9.2? ✓
7	9.3? ✓
8	9.7 ✓
9	9.9 ✓
10	10.0 ✓
11	9.5? ✓

No comparison stars except e can be used, and estimates are very uncertain

Monday February ~~10~~ 11, 1918

11 35 +37° 4717

11 45 Repeated estimates on I plate

I ~~13431~~ 16271
9.9 ✓

I 8946
too poor ✓

I 2(7)41
10.0 ✓

I 21566
9.3? e ✓

I 23818 ✓
9.2?

I 4447
too poor ✓

I 7041
9.6? e ✓

I 7019
9.2? ✓

I 9090 ✓
9.9

I 9442
9.6? ✓

I ~~X~~11456
10.0 e ✓

I 11879
t p e ✓

~~I 13053~~
off edge

I 13789
9.8? e ✓

I 13659
t p e

Tuesday, February 19, 1918

3 55 +37° 4717

Repeated Estimates on Discordant Plates

AC 5663
9.6 ✓
Prev. Est. 9.9 ✓
certainly wrong. Rej.

AC 6903
9.7? ✓
Rej. prev. est. 9.9 ✓

AC 7186
9.5
Prev. est. 9.5 ✓

AC 8917 ✓
9.4 ✓

AC 10851 ✓
9.5? g ✓

AC 11231
9.7 ✓

AC 2747
9.4? ✓

AC 2758
99 ✓

AC 2761
9.6 ✓

AC 3092
9.5 ✓

AC 3190
9.6 ✓

AC 5285
9.8 ✓
Reject prev. est. 9.9 ✓

AC 5504
9.7 ✓

AC 10912
9.3 ✓

AC 487
9.3 ✓
Reject prev. est. 9.5 ✓

AC 1240
Too poor. Reject plate ✓

Tuesday, Feb. 19, 1918

+37° 4717
Repeated Estimates Cont.

AC 4389
9.5? ✓
Very uncertain

AC 4453
9.7?
Too poor.
Reject plate

AC 9703
9.6 ✓

AC 10029
9.4? ✓

AC 10890
9.2? ✓

AC 15564
Too poor
Reject plate. ✓

AC 17272
9.4? ✓
Reject prev. est. 9.5 ✓

AC 17757
9.1 ✓

AC 19260
Too poor. Reject ✓

AC 18503
9.9 ✓

AC 191$\overset{9}{4}$0
Too near edge. Reject plate ✓

AC 19140
Too near edge. Reject plate ✓

Tuesday, Feb. 19, 1918

+37° 4717 Cont.

AC 467

1	7
2	10.0 ✓
3	9.9 ✓
4	9.7? ✓
5	9.5 ✓
6	9.3 ✓
7	9.2 ✓
8	t.p. ✓
9	9.9? ✓
10	10.0 ✓
11	7 ✓
12	t.p. ✓
13	t.p. ✓

AC 19458

1	7
2	9.9? ✓
3	9.5? ✓
4	9.2? ✓
5	9.1 ✓
6	9.1 ✓
7	9.2 ✓
8	9.6 ✓
9	9.9 ✓
10	9.8? ✓
11	9.4? ✓

4 35

Tuesday, March 12, 1918

5 00 +37° 4717 Repeated Estimates

AC 9040
✓ 9.7

AC 9089
✓ 9.5?

AC 4343
✓ 9.5?

AC 4494
✓ 9.2? q

AC 5137
✓ 9.6?

AC 5663
✓ trails t.p.

AC 5744
t.p.

AC 5821
✓ trails t.p.
d faint

AC 8917
✓ too poor
d faint

AC 7027
✓ 9.5?

AC 7105
✓ 9.~~2~~4?
d faint

✓ AC 7791
trails t.p.

AC 8006
~~9.7?~~
✓ trails t.p.

AC 1942
✓ 9.5?

AC 1985
✓ 9.5?

AC 2747
✓ trails t.p.

✓ AC 2761
9.7?

Tues March 12, 1918

+37° 4717

AC 3050
✓ 9.5?

AC 3092
✓ 9.6?

AC 3101
✓ 9.4?

AC 3190
✓ 9.6?

AC 14410
✓ too poor

AC 14431
✓ too poor

AC 15754
✓ 9.5?

AC 12038
✓ trails t.p.

AC 12520
✓ trails t.p.

AC 12550
✓ 9.6?

AC 12735
✓ 9.5?

AC 13604
✓ 9.8

AC 10949
✓ trails t.p.

AC 11210
✓ trails t.p.

AC 11252
✓ t.p.

AC 11811
✓ 9.2?

AC 11830
✓ t.p.

AC 9703
✓ t.p.

AC 9870
✓ t.p.

AC 10029
✓ 9.4? q

Tuesday, March $\overset{12}{\cancel{1}}918$

+37° 4717

AC 10458
✓ tp

AC 10709
✓ tp

AC 10848
✓ 9.7?

AC 10851
✓ trails tp

AC 10890
✓ trails tp,

AC 10912
✓ tp.

AC 8632
✓ 9.2?

AC 8700
✓ 9.8?

AC 8717
✓ 9.4?

AC 8799
✓ 9.2?

AC 8892
✓ 9.4?

AC 19772
✓ trails tp.

AC 19566
✓ tp e

AC 19660
✓ tp e

AC 19045
✓ trails tp,

AC $182\overset{2}{3}3$
✓ tp e

AC 17757
✓ 9.2?

AC 14430
✓ tp e

AC 14510
✓ tp e

AC 15304
✓ 9.8? e

Tuesday March 12, 1918

+37° 4717

AC 16861
not in ledger 9.2? e

AC 1843
✓ 9.6?

AC 1881
✓ 9.4?

AC 4313
tp e

AC 4387
tp e

AC 14300
✓ 9.6? e

I 29499
✓ too difficult

I 9090
✓ 9.8

5 40

Monday, May 6, 1918

+37° $\overset{4}{3}$717 Re-examination of Plates

AC 17757
√ 9.2 good

AC 1881
9.5?

√ AC 16861
9.2? e

√ AC 16860
9.5?

√ AC 9089
9.4?

√ AC 10029
Too poor

√ AC 12735
9.6?

√ AC 15754
Too poor

√ AC 5285
9.9

√ AC 5137
t. p. elongated

√ AC 5607
Too poor
elongated

√ AC 5830
9.7

√ AC 8632
9.3?
too poor

√ AC 8700
9.6?

√ AC 9021
Too poor
trails

√ AC 1942
9.5?

√ AC 1985
9.6?
very poor - reject?

√ AC 3050 Too poor

√ AC 3101
9.5?

AC 4323
9.8?

AC 7027
9.5?
Very uncertain

AC 3092
9.7?

AC 1843
9.5?