KG
11366
191

1920phae.proj.1193w

Ida E. Woods
Book 15
Examination of AM & AC Plates

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KG11366.191
For Range —
Regime Bks. 18
Magn. Bks. 34 & 48

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Harvard College Observatory.

Ida E. Woods. Book No. 15.

Cont. from Bk. 14.

Examination of Plates for Novae and other Interesting Objects.

A Mand AC Plates covering the Milky Way (Southern)

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1920phe..pro..MSCH

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KC11366.197

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Thursday, December 9, 1920.

Examination of AW & ac Plates -

Regions 7^h $-15°$

ac 23105 December 6, 1920, Exp. 90m

This plate was taken for comparison with 23098, for Object 126, Bk. 14, page 209. Var. N.S.

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√ 5

1 Extra star near No. edge.

December 9, 1920.

Exam. of All Plates

Region 15^h $-30°$

Ann 15388, August 7, 1920, Eff. 68^m

Ann 11900, June 6, 1916, Eff 60^m

(15388 superposed)

No. 134 Mars.

Position from Nautical Almanac, August 7, 1920,

$14^h 40^m 55^s.93$ $-17° 17' 2''.9$

No. 135 Defect —

No. 136 Extra image near No. edge —

Does not belong to region —

See Ann 15179, 15^h $-45°$

Time — about 40 minutes.

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Friday, December 10, 1920.

Examination of AM Regions.

Region 14^h $-75°$

AM 15310 July 17, 1920, Eff. 60m
AM 4772 April 18, 1907 Eff. 62m
(15310 superposed)

15310 four stars, four, trailed images. Examination can be made, only for brighter stars. Variation could not be readily detected with such images.

No. 137 hr. 4772 " ft. 15310

Time :- about 25 minutes.

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finish observation of Apollo

See 15104 with note, Bk 14, p. 147

See object on Ann 7416

Saturday, December 11, 1920.

Examination of Ann Regions

Region 12^h $-75°$

Ann 15387, August 7, 1920, Eff. 61m

Ann 7438, June 8, 1911, Eff. 61m

(15387 superposed)

No. 138 seen on Ann 7416

Defect: Ann 7416 was compared for a certain star on the plate and an object near N edge was noticed. This has been entered in Obj. Nos. but a complete comparison of 7416 was not made.

Shown to Miss Leavitt ✓

No plate (Ann) of near date can be found

No. 139 Br. Seen on Ann 7438 N.S. 15387

N.S. 7376 March 27, 1911

7416 May 20, "

7415 June 13, "

7533 July 8 "

No. 140 See extra stars (if star images) on 15387

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December 11, 1920,
and Tuesday, December 14, 1920.

Examination of Ant Plates

Regions $13^h30^m - 60°$

ant 15382, August 6, 1920, Exp. 82^m
ant ~~10410~~ 12302 ~~April 3~~, 1915, August 4, Exp. ~~76~~ 30^m)

(12302 superposed)

12302 is cracked entire length.

No. 140 br. 15382 ft 12302

140959 R Centauri 14 9.4 -59 27 (1900)
(verified by print)

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December 14, 1920. Very dark, stormy.

Examination of all Plates

Region $20^h - 15^\circ$

	15396,	August 9, 1920,	Exp. 62m
	10703	June 18, 1915,	Exp. 34
	(15396 superposed)		

No. 141 Seen 10703.

Comet? or Defect N. S. 10633 June 5 1915
10657 June 10 "

Assume Another spot like this is on same plate South of this object.

Defect.

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December 14, 1920.

Examination of Am Plates

Regim $17^h - 15°$

Am	15312	July 17, 1920,	Exp. 75^m
	10804	July 14, 1915,	Exp. 63^m
	(10804 superposed)		

15312 is very poor plate, long trails.

This regim has not been examined in 1920, so I made a quick survey of brighter stars.

No. 142 Seen 10804

Comet or Cluster? Seen, 15376, $17^h - 3°$ hazy image.

✓ Cluster, probably belongs to regim

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Wednesday, December 15, 1920.

Examination of all Plates -

Region 17h -30°

All 15376 August 4, 1920, Exp. 60m
12342 August 17, 1916, Exp. 60m
(15376 superposed)

No. 143 Already published on 15376
Br. 15376 Ft. 12342.

165030 RR Scorpii 16h 50m.3 -30° 25' (1900)
(Verified by print)

No. 144 Br. 12342 N. S. 15376

164844 RS Scorpii 16h 48m.4 - 44° 56' (1900)
(Verified by print)

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Friday, December 17, 1920.

Examination of Ann Plates

Regim $18^h - 15^o$

Ann 15384, August 6, 1920, Exp. 60m
Ann 12626, October 19, 1916, Exp. 32m
(15384 superposed)

15384 from plate, slightly elongated images
fainter stars do not show on 12626

No. 145 Comet or Defect?
N.S. on AC 22496 Aug. 6, a from plate.

No. 146 Br. 15384 Ft. 12626
181625 X Z Sagittarii
$18^h 16^m.0 - 26^o 17'$ (1900) Cannon.
(Verified by identification)

No. 147 Br. (rev br.) 12626 N.S. 15384
Eighth star near No. edge. Does not
belong to regim. See Ann 10257 (18-30)

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Saturday, December 18, 1920.

Examination of Southern Regions.

Region $9^h -15^\circ$

ac 23142 December 16, 1920 Eff. 6^2

ac 17174 December 30, 1915 Eff.

(23142 superposed)

23142 is fine plate. Est. of Skjellerup's Comet for Dec. 16 was made =

$9^h 11^m -4^\circ 38'$

(See H.B. 735 and telegram of Frost, Dec. 18)

Skjellerup's Comet not on this plate

Dec. 13 8 55 -9 1

17 9 16 -3 10

4) 0 21 -5 51 Motion for 4 days

0 5 41 28 Daily Motion

Frost's position Dec. 17 9 16 -3 10

-0 5 -1 28

9 11 -4 38

Exam. made around this position.

No obj. seen.

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For Comp. Stars
23495
39051

Wednesday, December 22, 1920.

Object No. 103, Bk. 14, p. 164.
New Variable ? $17^h 40^m.8 - 28° 7'$ (1900)
174028

Slight, if any, change on these plates.

Examination of B Plates.

B 8712	October 6,	1892
Slightly fainter? 9209		
16447	June 19,	1896
19114	May 13,	1897
20424	Sept. 17,	"
21077	March 26,	1898
22006	Oct. 8,	"
23495	July 17,	1899
25123	Apr. 11,	1900
25559	June 18,	"
25917	Sept. 3,	"
26343	Oct. 3,	"
26482	Oct. 24	"
26490	Oct. 25	"
27155	Apr. 11,	1901
26432	Oct. 15,	1900
28254	Aug. 22,	1901
29255	April 2,	1902
30347	July 12,	"
30586	Sept. 13	"
31727	May 7	1903
31916	June 2	"

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Am 14260

B	32277	July 17, 1903
	32649	October 8, "
	33300	April 11, 1904
	33921	June 2 1904
	34004	" 6. "
	34623	Aug. 8, "
	35713	March 30, 1905
	36791	August 22, "
	39051	May 29, 1908
	43122	" 24, 1912
	44536	June 4, 1914

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Br. 14782 For proof

Thursday, December 23, 1920.

174028

Bright on three plates

Examination of Ann plates at -30°

Ann	14260	Aug. 4, 1918
	14266	" 6, "
	14782	June 21, 1919
	14807	" 26, "
	14938	Aug 21 "
	14958	Aug 26 "
	15417	

Bright on three plates: —

Wanted: To find plate showing Star faint.

Ann	15	July 26,	1899
	137	Sept. 6,	1899
	461	May 8	1900
	538	July 23	"
	614	Sept. 1	"
Br. *	802	May 22	1901
Br. *	817	" 28	"
	907	July 9	"
	1028	Sept. 4	"
	1236	May 2,	1902
	1252	May 15,	"
	1278	May 27,	"
	1414	July 2	"
	1422	July 3	"
	1428	July 7	"
	1437	July 9	"

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1920phae.proj.1193w

Comp. St
14260
14885

174028

Broken plates not used in this exam.

→ Bright (normal) on these plates.

are	1487	July 29,	1902
	1528	Sept. 13,	"
	1543	" 17,	"
	1589	" 20	"
Br *	1917	May 6	1903
	1952	" 18	"
Br *	2085	July 1	"
	2109	July 12	"
	2129	" 15	"
Slightly *	2147	" 23	"
faint ?	2244	Sept. 1	"
	2261	" 3	"
	2572	Apr. 22	1904
	2639	May 7	"
	2713	June 4,	"
	2756	June 18,	"
	2797	July 1	"
Br. *	2854	" 21	"
	2916	Aug. 4	"
	2956	" 18,	"
	3002	Sept. 2	"
	3392	March 17	1905
	3448	Apr. 7	"
	3496	May 2	"
	3537	" 13	"

Ft. —— for proof – 3625, June 12, 1905

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18

Identification checked by Miss Walker.
Var. Nebr. checked by Miss Walker -

* → Confirmed by Miss Leavitt, December 23.
Small range.

174028

For proof: —

Br. B 29255
43122
* Aug 1917
* 817

Ft. * Aug 3625
* Aug 12309
3883
5090
* 5390
** 9131
** 9304

(March 14, 1921)
Estimates of Range:

Pwr. Means.
1 = 9.38
2 = 9.82
3 = 10.65

Comp. Seq. = 40 Ks B 44676 Bb. 34:118
On Aug 9131 v about = Star 3 = 10.6
Aug 1917 var is bet. 1-2 Star 1 2 V, V 2 Star 2
V = 9.6

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174028 Br. (Normal) unless otherwise marked –
Plates at –30°

Cont. from page 17 a little faint → Ann 3689 July 5, 1905
Ann 3883 Sept. 16, 1905
4205 May 4, 1906
4269 " 29 "
4311 June 14 "
4339 " 22 "
4365 July 2 "
4388 " 11 "
4527 Aug. 2 "
4539 " 27 "
4562 Sept. 11 "
4620 Oct. 11 "
4804 May 7 1907
4954 July 1 "
5013 " 17 "
5024 " 30 "
F.t. — 5090 Aug. 25 "
5114 Sept. 1 "
Slightly ft.? 5340 March 26 1908
5390 April 10 "
5444 May 7 "
5576 June 18 "
5640 July 7 "
5683 " 25 "
5712 Aug. 2 "
sl. ft.? 5752 " 17 "

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174028

Seen, normal, unless otherwise stated.

Am 5820	Sept. 14,	1908
5854	Sept. 24,	"
6011	March 29,	1909
6114	May 11,	"
6136	May 15	"
6170	" 26,	"
6228	June 14,	"
6338	July 11,	"
Brighter? 6343	July 12,	"
Normal 6347	" 13	"
6374	July 18	"
Faint 6454	Aug. 12	"
6592	Sept. 15	"
6613	" 21	"
6946	May 28	1910
6952	" 29	"
7033	June 25	"
7084	July 6	"
7163	" 31	"
7265	Sept. 4	"
7458	June 16	1911
Ft.? 8081		

Am. ·x ·x Out of focus plate, but star apparently does not show, while star = (?) x does show. This ~~star~~ star is, at normal, equal to or a trifle brighter than x.

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174028

Seem, normal, unless otherwise stated.

	Aud 8122	April 25,	1912
	8124	" 25,	"
	8165	May 9,	"
	8206	" 19,	"
	8230	" 22,	"
Brighter?	8301	June 7,	"
"	8307	" 8,	"
	8369	" 18,	"
	8390	July 4,	"
	8423	" 9,	"
	8469	" 17,	"
	8485	" 19,	"
	8492	" 20,	"
Faint	8522	August 2,	"
	8559	" 17,	"
	8578	" 30,	"
	8579	" 30,	"
	8598	Sept. 4,	"
	8624	" 11,	"
	8748	Nov. 4,	"
Faint or Defective?	8851	May 1,	1913
	8883	" 7,	"
	8903	" 10,	"
	8937	" 23,	"
	8944	" 24,	"
	8999	June 3,	"
	9068	" 12,	"

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9131 - exc. plate.
11084
13440
9012 -45°
174028

Normal, unless otherwise stated.

Faint	Ane	9090	June 23,	1913
Faint!		9131	" 28,	"
		9146	July 1,	"
		9153	" 2,	"
		9197	" 10,	"
		9203	" 12,	"
		9237	" 24,	"
		9267	" 28,	"
Faint!		9304	August 5,	"
		9386	" 9,	"
		9386	Sept. 1,	"
		9392	" 2,	"
		9455	" 16,	"
		9541	October 3,	"
		9860	June 13,	1914
		9889	" 22,	"
		9891	" 23,	"
Brighter?		9937	July 14,	"
		9943	" 15,	"
Faint		9947	" 16,	"
		9977	" 23,	"
		10570	May 8,	1915
		10623	June 4,	"
		10632	June 5,	"
Different image.		10662	" 11,	"
		10741	July 3,	"
		10764	" 9,	"

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174028

Normal, unless otherwise stated.

Am	10788	July 12,	1915
	10822	" 16,	"
	10902	" 29,	"
	10973	August 10,	"
	11084	Sept. 6,	"
	11276	" 28,	"
	11775	May 22,	1916
	11785	" 23,	"
	11829	" 27,	"
	12127	July 3,	"
	12208	" 17,	"
	12235	" 21,	"
Brighter?	12285	August 1,	"
	12296	" 3,	"
	12508	Sept. 28	"
	12535	" 30	"
	13400	July 14	1917
~~Brighter?~~	13417	" 17,	"
	13434	" 20,	"
	13440	" 27,	"

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174028

Minima

	Date	J.D.
Aw 3625	June 12, 1905	2417009
5090	Aug. 25, 1907	17813
6454	" 12, 1909	18531
8081?	April 18, 1912	19511
8522	August 2, "	19617
9090	June 23, 1913	19942
9131	" 28, "	19947
9304	Aug. 5, "	19985
9947	July 16, 1914.	20330

To get approx. period.

P = 38 d?

no. epochs	
804 — 21	
718 — 19	
980 — 26	
106 — 3	
325 — 9	
.	→ see page 26)
38	
345 — 9	

87) 3321 (38 87
261
711
696
15

P = no

			J.D.	Diff.
Aw 9090	June 23,	1913	19942	
9131	" 28,	"	19947	5
9162	July 3,	"	19952	5
9304	Aug. 5,	"	19985	37

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P=5d ?
no ephs

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Tuesday, December 28, 1920.

17 4028

Exam. of period, p. 24, shows that 2 plates, 9090 and 9131, indicate a period of about 5 d., if these are separate minima. Examine 1913 plates, getting out overlapping regions.

	Ledger of	1913			
Am	8999	(-30°)	June 3	Br.	
	9012	(-30)	" 5	Br	
	9038	-45	" 9	Br.	
	9057	-15	" 11	Br.	
	9061	-45	" 11	Too poor	
	9067	15	" 12	Br	
	9068	30	" 12	Br	19931
–	9090	30	" 23	Ft	19942
	9098	45	" 24	Br	43
	9099	15	" 24	Br	43
	9115	45	" 26	Br	45
	9123	30	" 27	Too poor	
–	9131	30	" 28	Ft	19947
	9146	30	July 1	Br.	19950
	9152	15	July 2	Too poor	
	9153	30	" 2	Br.	19951
–	9162	45	" 3	Ft?	19952
	9182	45	" 8	Br.	19957
	9193	15	" 9	Too poor	
	9197	30	" 10	Br	19959
	9203	30	" 12	Br.	19961

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Am	9222	-15°	1913 July 22	Br. 19971
	9231	45	" 23	Br. 19972
Brighter?	9237	30	" 24	Br. 19973
	9238	45	" 24	Br. 19973
	9264	15	" 27	Br. 19976
	9267	30	" 28	Br. 19977
	9296	45	Aug. 2	Br. 19982
	9304	30	" 5	Fl. 85
	9336	30	" 9	Br 89
	9347	15	" 13	Too faint
	9376	30	" 28	Too faint
	9375	30	" 28	Br. 20005
	9386	30	Sept. 1	Br. 20012

(Note, July 8 - 5d. after July 3 - Br. not Fl.)

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Saturday, December 25, 1920.

New Var.? Bk. 14, p. 212, Obj. 127

Dm -20° 2380 $7^h\ 59^m\ 32.^s5$ $-20°\ 32'.5$ 8.2 (1855)

Is this defective image on AC 23098 ?

Var. is brighter unless otherwise stated.

Exam. of AC plates, $-30°$, 8^h

AC 6013	March 30,	1909
6064	April 25,	"
6712	Oct. 23,	"
6760	Nov. 5,	"
Br.! * 6762	" 8	"
Ft. — 6815	Dec. 11,	"
6816	Dec. 11,	"
6851	March 19,	1910
6881	April 16	"
7392	" 17	1911
7397	" 26	"
7976	Dec. 20	"
8046	April 8,	1912
8098	" 22,	"
8132	" 27	"
8137	May 4,	"
8744	Oct. 22,	"
8825	April 23,	1913
8924	May 22	"
9678	Feb. 13,	1914
9681	" 21,	"
9691	Mar. 15,	"
9692	" 30	"
Br.! 9694	Apr. 3	"
9716	" 18,	"
9728	" 22,	"

Cont. p. 30

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1920phae..prof..1135W

For proof :—
Br. 6767
AC 23098 ~~6815~~ Very br. ?

Ft. ~~6815 AC 23098~~ 6815

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Cont. from p. 28.

Plates at -30°

$07^h\ 59^m\ 32^s$ $-20°\ 3'2$ (1855)

Var. is bright, unless otherwise stated.

Must find another Min. 6815 only one to go for

Aug 9766 May 14, 1914.
10230 Oct. 24, "
10342 Mar. 14, 1915
10665 June 12, "
11268 Sept. 26, "
11303 Oct. 3, "
11337 " 6, "
11449 Nov. 12, "
11575 March 27, 1916
11660 May 3, "
11821 " 27, "
11854 " 29, "
12441 Sept. 18, "
12505 " 27, "
12532 " 29, "
12879 Mar. 5, 1917
12899 " 25, "
12901 " 26, "
12922 " 29, "
13015 Apr. 16, "
13156 May 18, "

12956 Apr. 10, "
12964 " 11, "
12988 " 13, "

13170 May 20, "
13172 " 21, "
A Slight chng? 13626 Sept. 23, "

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1920phae.proj.1193w

Comp. st. 13791
14453
14601
15177

Object — Trail near this star on Am 13791. Other trails on plate.

7 59 32 -20-32 (1855) Plates at -30°

	Am 13675	Oct. 11,	1917
	13781	Mar. 9,	1918
Brighter?	13791	Mar. 18,	"
	13824	April 8,	"
	13830	April 9,	"
	13923	" 30,	"
	13948	May 5,	"
Brighter?	13988	" 18,	"
	14008	" 31,	"
	14040	June 7,	"
	14050	June 11,	"
	14453	Sept. 28	"
	14500	Oct. 5	"
	14594	March 31,	1919
	14601	April 4	"
	14604	" 5,	"
	14626	" 22,	"
	14649	" 27,	"
	14711	May 22,	"
	15080	March 9,	1920
	15103	April 14,	"
	15114	" 19,	"
	15131	" 22,	"
	15177	May 13,	"
	15254	June 16,	"

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1920phae.proj.1193w

Var? $7^h\ 59^m\ 32^s - 20^\circ\ 8'\ 2$ (1855)

Exam. of plates at -15° 7^h
Var. bright, unless otherwise stated.

ac	491	Oct. 21, 1899
	567	Dec. 4, "
	686	Jan. 22, 1900
	718	Feb. 18, "
	1057	Dec. 14, "
	1254	Feb. 17, 1901
	1989	Nov. 20, "
	2058	Dec. 5, "
	2118	Dec. 30, "
Plates found to be out of order in box.	2180	Jan. 12, 1902
	2204	Jan. 17, "
	2274	Feb. 5 "
~~Am~~	~~2315~~	~~Oct. 9 1903~~
	2389	Mar. 6, 1902
	2407	" 14, "
	Am 2500	April 4, 1904
	Am 2315	Oct. 9, 1903
ac	3231	Jan 31, 1903
	2922	Oct. 21 1902
	3139	Jan. 1 1903
Am	3216	Nov. 10, 1904
	3237	In Sf. Box — not exam.
	3267	Dec. 6, 1904
ac	3326	Feb. 20, 1903
Am	3333	Jan. 14, 1905
ac	3377	March 11, 1903

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1920phae.proj.1193w

Var.? $7^h\ 59^m\ 32^s$ -20 32 (1855)
Plates at -15°

Var. bright, unless otherwise stated.

ac 4064 October 19, 1903.
4232 Nov. 19, 1903
4254 Nov. 24, "
4271 " 26, "
4289 " 30, "
4399 Dec. 18, "
4448 " 27, "
4507 Jan. 7, 1904
4543 " 18, "
4621 Feb. 8, "
4633 Feb. 10, "
4712 March 8, "
5380 Oct. 16, "
5507 Nov. 9, "
5601 Nov. 25, "
5634 " 30, "
5701 Dec. 10, "
5766 " 21, "
5814 Jan. 8, 1905
5947 Feb. 4, "
5894 Jan. 26, "
6064 Feb. 25, "
6101 March 2, "
6202 " 22, "
6852 Oct. 16, "
6889 " 25, "
6966 Nov. 9, "

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$7^h\ 59\ 32^s\ -20^\circ\ 32'$ (1855)

Plates pt-15°. Var. bright, unless otherwise stated.

Ce	7079	December 1, 1905
	7196	January 24, 1906
	7277	February 11, "
	7336	March 1, "
	7412	" 24, "
	7969	Nov. 4, "
Br?	7987	" 7, "
	8067	" 29, "
	8074	Dec. 1, "
	8125	Jan. 4, 1907
	8169	" 21, "
	8211	Feb. 6, "
	8258	" 15, "
	8418	Apr. 15, "
	9105	Dec. 26, "
	9119	" 31, "
	9149	Jan. 6, 1908
	9173	" 14, "
	9245	Feb. 7, "
	9283	" 22, "
	9313	Mar. 5, "
	9320	" 9, "
	9341	" 16, "
	9353	" 21, "
	9883	Nov. 4, "
	9974	Dec. 1 "
	10075	" 19 "
	10094	" 23 "

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Friday, December 31, 1920.

Examination of Arc plates

Region 17^h $-45°$

Arc 10213 October 20, 1914.

1989 June 2, 1903, Exp. 61m

(10213 superposed)

Neither of these plates is recent, but this region has not been fully covered, so I have chosen years that have not been compared in this region.

1989 is marked with several variables. These markings cover some stars

No. 148 "

No. 149

No. 150 Comet? or Defect — On 10213

N.S. Arc 10200 (17^h $-60°$) Oct. 17, 1914

Object Defect?, on Arc 10221, Oct. 23, 1914 18^h $-60°$

No B Pl. of these dates

" a " " " "

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— 1921 —

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Try 5634 with better plate

Saturday January 1, 1921.

Examination of Southern Regions.

Region 7h -15°

ac 23184 December 25, 1920, Exp. 60m

ab ~~5634~~ 5894 ~~January 20~~ 26, 1901, 5 Exp. 44 79m

(23184 superposed)

23184 very black, poor plate.

No objects of interest were found.

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1920phae.proj.1193w

Wednesday, January 5, 1921.

Examination of Southern Regions

Region 6^h $-15°$

AC 23215 January 3, 1921, Exp. 62m

AC 18108 November 3, 1916, Exp. 60m

(18108 superposed)

No. 151 Br. 23215 Ft. 18108

065208 $6^h 52^m.4$ $-8°$ 56′ (1900)

~~X~~ Monocerotis (Fleming)

(Verified by print)

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1920phae.proj.1193w

Shipment rec'd Jan. 4.

January 5, 1921.

Examination of Arc Plates

Regim

$18^h - 60°$

Arc 15503, September 16, 1920, Exp. 67m

Arc 12152, July 6, 1916, Exp. 60m

(12152 superposed)

No. 152 Br. 12152 N.S. or Fk. 15503

N.S. 15467

164844 RS Scorpii $16^h 48^m.4$ $-44° 56'$ (1900)

(Verified by print)

No. 153 Seen on 15503

Defect?

Assume Defect, not star image.

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1920phae.proj.1193w

N.B. two pairs of plates on this page – Note per count of regions –

Thursday, January 6, 1921.

Examination of Ame Plates – Dark – stormy.

Region 16h – 30°

Ame 15467 September 6, 1920, Exp. 62m
8935 May 23, 1913, Exp. 60m
(8935 superposed)

No. 154 Br. on 15467
Is this defect or trail?
16h 29m 26.0 (approx. 1900) No stars on B 19195

No. 155 Br. on 15467.
See 156 below Defect? or Object?
Mars. 15h 54m 6.86 –22° 5' 10.0 September 6, 1920
Position from Almanac –

Region 16h – 30m
Ame 15488, September 13, 1920, Exp. 60m
Ame 8468, July 17, 1912, Exp. 60m
(15488 superposed)
Same region as above, but 1920 plates are a week apart.

No. 156 Br. on 15488 – Same obj. as No. 155 above, different position.
Moving Obj.
Mars. 16h 13m 26.72 –22° 59' 2".3 Sept. 13, 1920.
Position from Almanac.

No. 157 Br. on 8468
Jupiter 16h 16m 41.34 –20° 40' 15".9 July 17, 1912
Position from Almanac.

No. 158 Br. 15488 N.S 8468
Nova? Of star image?
165030 Br. 15467
RR Scorpii Br. 15466 17 – 45 Sept. 5
16h 50m.3 –30° 25' Br. 15298 16 – 30 July 11

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1920phae.proj.1193w

January 6, 1921

Examination of All Plates -

Region $19^h - 45^\circ$

All 15469, September 14, 1920, Exp. 87m
6434, August 4, 1909, Exp. 63m
(15496 superposed)

No. 159 Br. 6434 { N.S. 15496 or defective

Confirmed by 6113

Probably defective image. Miss Leavitt

Seen 15468 Sept. 6, 1920.
15486 " 12 "

No. 160 Br. 6434 " N.S. 15496

N.S. 6113 May 11, 1909

Moving object.

N.S. 6354 July 14,
N.S. 6404 July 24,
Seen 6449 Aug. 11,
very different position -

Ceres (see Nautical Almanac, British)

Seen 6546, Sept. 11.

6434 Appar. 1900 $19^h 13^m - 31.^\circ 2$

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1920phae.proj.1193w

~~Finish Iowa section y/pt.~~

January 6, 1921.

No. 161

Var.? Probably not much change on later exam. Not id.
a ft. star on B 13534

No. 162 Br. on 15496.
Assumed to be defect.

No. 163 Br. 15496 Ft. 6434.
S Pavonis $19^h 46.^m8$ $-59° 27'$ (1900)
(Verified by print)

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1920phae.proj.1193W

Friday, January 7, 1921.

Examination of All Plates

Region $18^h - 30°$

All 15486 September 12, 1920, Exp. 73m
All 8903 May 10, 1913, Exp. 63m
(8903 superposed)

No. 164 Moving Object or Defect?
Linkage not like stars.
Assume Bright on 15486.
Defect - Other objects found later like this on plates.

No. 165 Comet? "
Bright on 15486
Assume
Defect - Miss Leavitt saw this object.

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1920phae.proj.1193w

V

January 7, 1921.

Examination of All Plates -

Region 19 -45

All 15468, September 6, 1920, Eff. 60m
All 7009, June 8, 1910; Eff. 120m
(15468 superposed)
Same region as p. 44 but 1920 plates are a week apart.

No. 166 Br. 7009 - Ft. 15468 -
6434 Ft. 15496 -

182133
R V Sagittarii $18^h 21.^m4 - 33° 23' (1900)$

(Verified by print)

No. 167 Br. 7009 - Ft. 15468 -
6434. Ft. 15496.

201139
R T Sagittarii $20^h 11.^m1 - 39° 25' (1900)$

(Verified by print.)

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1920phae.proj.1193w

Two regions on this page.

Saturday, January 8, 1921.

Examination of Arc Plates. Dark day.

Region $17^h - 45°$

arc 15466, September 5, 1920, Exp. 73m

arc 4455 August 6, 1906, Exp. 70m

(15466 superposed)

No. 168 Defect or Trail? Seen on 4455

Looks like two images of stars.

✓ Double image on arc 4367 July 2, 1906

4455 shows many stars not seen on 15466.

No. 169 Br. 4455 Ft. or Defective 15466

Probably not bright on 4455,

near edge, out of focus.

✓

Region $17^h - 15°$ Completed on Jan. 12.

arc 15485, September 12, 1920, Exp. 75m

arc 8422 July 9, 1912, Exp. 64m

(15485 superposed)

Continued on page 51.

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1920phae.proj.1193w

Tuesday January 11, 1921.

Examination of Am Plates.

Region $19^h - 15°$

Am 15504, September 16, 1920, Exp. 58m
Am 7040, June 26, 1910, Exp. 60m
(7040 superposed)

Plates Am 15495, Sept. 14 } for
Am 15504, Sept. 16, } choice
15495 trailed images
15504, small images, but chosen

No. 170. Dr. 15504
Nova? Confirmed by 15495 Sept. 14
" 15505 Sept. 16, 1920
N.S. AC 22745, July 16, "
N.S. AC 22960 Oct. 9 " } Too faint

-18 53 23 AR Sagittarii $18^h 53^m.6 -23° 50'$ (1900)
DM $-26° 14922$ (Cannon)
(Verified by identifications)

No. 171 Dr. 15504 Ft. 7040
2 Sculi $18^h 37^m.6 -5° 55'$
183705
DM. $-5° 4734$ (Cannon)
(Verified by identification) Cont.
(See page 50)

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1920phae.proj.1193w

January 11, 1921.

19 -15 Continued -

No. 172 Br. 7040

Nining Obj. Br. 7023 June 11, 1910, different position

Hranicz June 25, 1910, position, $19^h 44^m 14^s.09 - 21° 48' 55''.0$
(From British Nautical Almanac.)

No. 173 Fk. Defect or Comet? or 7040

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1920phae.proj.1193w

Wednesday, January 12, 1921.

Regin $17^h - 15^\circ$ (cont. from page 48.)

No. 174 Br. on 8422
Planet 16 13 -20.6
Jupiter $16^h 18^m 44^s.04 - 20^\circ 43' 33''.7$ July 9, 1912
(Position from British Naut. Almanac.)

No. 175 Br. on 15485
Planet 16 8 -22.6
Mars. $16^h 10^m 38^s.15 - 22^\circ 51' 47''.1$ Sept. 12, 1920.
(Position from Am. Ephemeris)

No. 176 Br. on 15485
Trail 17 45 -25 (approx.)
May be Vesta. Dates not given after July 18, 1920.
July 18 = $17^h 20^m - 22^\circ 29'$ (see Kleine Planeten, p. 64)

No. 177 Br. on 15485 - Ft. 8422
165030 $16^h 50^m.3 - 30^\circ 25'$ (1900)
RR Scorpii

No. 178 Cloud, or Comet? on 15485
16 13 - 20.6

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1920phae.proj.1193w

Use AC 18443.
with better plate

January 12, 1921.

Examination of Southern Regions.

Region	8^h	-15°		
	AC	23225,	January 4, 1921,	Ef. 58^m
	AC	18702	March 24, 1917,	Ef. 54
		(b 3225 superposed)		
	AC	23225	Shows very few stars, small images. Comparison unsatisfactory	

No objects of interest were found.

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1920phae.proj.1103w

Friday, January 14, 1921.

Examination of all Plates -

Region 18^h -60°

all 15474, September 9, 1920, Exp. 68m
all 7403 April 27, 1911; Exp. 60m
(15474 superposed)

No. 179 Br. 7403 Ft. 15474
164844
R Scorpii $16^h 48^m.4$ - 44° 56' (900)

No. 180 Br. 7403 Ft. 15474 Iden. B9686
Probably defective image on 15474
Br. on 15503 Sept. 16, 1920
C.D.-49° 11358 $17^h 12^m 15^s.9$ -49° 38'.2 8.0 (1875)

See fr. 55.

No. 181 Br. 7403 Ft. 15474 Iden. on B16158
Var.? Br. 14856 July 21, 1919
B.I. 15503 Sept 16, 1920
Br. 15468 Sept. 6, "
15291 July 8 "
15496 Sept. 14 "
1807 53 C.P.D. -52° 53° 11087 9011 18^h $14^m 37^s.63$ -52° 10' 0" $4^m 34^s.3$ -53° 6'.4 8.2 (1875)

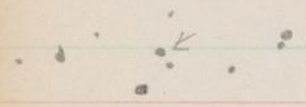
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1920phae.proj.1193W

18h -60° Cont.

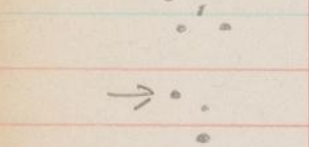
No. 182 ~~Ft.~~ Br. 7403 ~~Br.~~ Ft. 15474

Defect? Var.? or Nova?



Not a defect. Confirmed on 14710, May 21, 1919.
Looked up on a few plates,
No variation Slight, if any evidence of variation.
~~7403~~ 15474, star is faint and near limit of visibility, other stars show faint images, that compare with this star on other plates.

No. 183 Br. 7403 Ft. 15474



Br. 15496
Br. 15503

18 17 -52 C.P.D. ~~-52~~ -53° 9011 ~~11087~~ 18h ~~14 37.6 -52 10.0~~ 4m 34.3 -53° 6.4 8.2

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1920phae.proj.1193w

V

Ans 631
3463
4246

Saturday, January 15, 1921.

Nos. 181 and 183 pages 53 and 54.
Examination of these objects to prove if they are Algols or defective images. Both are faint on Ans 15474, apparently no defect in film.

Both stars normal on these plates, unless otherwise stated. Also examined No. 180, page 53, which was evidently a defective image.

Assume that Ans 15474 had defective film, as there were three cases of images lost on this plate. No evidence of variation in these plates in each of the three cases. Miss Leavitt ✓ saw these stars.

Ans 468	May 18, 1900		Ans 3066	Sept. 21, 1904
585	Aug. 3 "		3463	April 21, 1905
631	Sept. 4 "		3479	Apr. 24 "
787	May 14, 1901		3495	May 2 "
1447	July 10, 1902		3544	May 15 "
1460	" 12, 1902		3784	Aug. 11 "
1471	" 14 "		3874	Sept. 9 "
1584	Sept. 29, "		4204	May 4, 1906
2101	July 6, 1903		4558	Sept. 10 "
2121	July 14, "		4955	July 1 1907
2188	" 15, "		5001	" 15 "
2243	Sept. 1, "		5147	Sept 16 "
2267	" 10, "		5171	" 24 "
2288	" 21, "			
2571	April 22, 1904			
2598	May 3 "			
2712	June 4, "			
2772	" 21, "			
2914	Aug. 4 "			
2944	" 13 "			
3003	Sept. 2 "			

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1920phae.proj.1193W

V

Object Var? Bks. 9, f: 176.
(Nghd. 176 on Am 13964)

C.P.D. – 72° 2055 $17^h 8^m 15^s.5$ – 72° 26'.7 (1875) 9.8
a suspected Algol.
A faint star on Am 14860
N.S. or very faint on Am 13964

To examine plates to prove variation.

No variation can be proved.

Conclusion: B plates examined instead of Am as
At limit of because of faintness of star, also larger
visibility of range of date.
stars on the
plate and
apparently
did not vary,
although it
seems fainter
relatively
than on other
plate.
Miss Leavitt
saw this Obj.

B 3780	July 9,	1889	B 15593	April 11,	1896
3786	?	"	16361	June 15,	"
3921	?		16362	" 15	"
4026	August 16,	"	17180	Aug. 15,	"
5470	June 20,	1890	19173	May 22,	1897
6294	June 13,	1891	19321	June 1	"
6319	" 14,	"	20498	Sept 23	"
9162	April 27	1893	22555	Apr. 8	1899
9163.	?		22888	May 20,	"
9269	May 1	"	23476	July 15	"
11122	" 14	1894	24986	Apr. 6,	1900
11556	July 13	"	25118	" 11	"
11561	" 14	"	25272	May 8	"
11903	Aug. 14	"	25500	June 2	"
12954	April 8	1895	25561	" 19	"
12961	" 8	"	25633	" 27,	"
12998	" 10	"	25966	Sept. 4	"

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$-72^\circ 2055\ 17^h 8^m 15^s.5 \quad -72^\circ 20'.7$ (1875) Continued.

B	26286	Sept. 24, 1900
	27145	Apr. 11, 1901
	27687	June 10, "
	28407	Sept. 31 "
	29756	May 17, 1902
	30537	Aug. 11 "
	31643	May 5 1903
	32621	Sept 3 "
	33529	May 2 1904
	34283	July 2 "
	35707	March 30 1905
	35846	April 21 "
	36578	August 10 "
	36663	" 17 "
	37565	June 1 1907
	39132	June 9 1908
	39423	August 5 "
	39908	March 14, 1909
	48005	July 22 1916
	48110	" 28 "
	50141	April 18 1917
	50174	" 25 "

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1920phae.proj.1193W

Saturday, January 22, 1921.

Examination of Southern Regions-
6^h $-15°$

Regions

ac 23282 January 17, 1921, Exp. 60^m
ac 16235 March 11, 1915, Exp. 66^m
~~ac~~ (23282 superposed)

No. 184
BF Orionis
053206

Br. 23282 Ft. 16235-

$5^h 32^m.4 - 6° 39'$ (Leavitt 1904)
DM. $-6° 1259$
(Verified by identification.)

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1920phae.proj.1193w

* VB 13939 see fr. st. near-
see page 60.
Found January 22, 1921.

See Bk. 9 P. 169. (1875)

Expan. of cDM −44° 13538 h 19 m 38 s 14.4 −44° 50'.3

Examination of B Plates of region. Wanted: To find this star bright.

Normal on all these plates unless otherwise stated.

N.S	B 6153	June 1, 1891	
Ft	6154	" 1, "	
	9217		
	11643	July 21 "	
	13939	July 3 1895	See object entered above.
	13667	June 6 "	
	14095	July 10 "	
	14402	July. 20 "	
	14506	Sept 5 "	
	16292	June 12, 1896	
17372	17968	Nov. 20, "	Sept. 5, 1896.
	20568	Oct. 4, 1897	
	21340	April 30, 1898	
	22559	April 8 1899	
	23067	June 16, "	
	23854	Aug. 15 "	
	24416	Oct. 14, "	
	26056	Sept. 11, 1900	
	27522	May 29, 1901	
	27640	June 10, "	
	28172	Aug. 8 "	
	28311	" 24 "	
	29456	Apr. 26, 1902	
	29659	May 14, "	

Continued, page 62

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1920phae.proj:1103W

60

Informed by Miss Leavitt Jan. 25, 1921.

In selecting comparison stars, avoid using -44° 13538 — see page 63. Watch the Cat. star for variation.

Examination of Object found near

Obj. -44° 13538 19h 38m 14.4 -44° 50.3 (1875)

-44° 13538

3 stars about equal. Fbl. & North star varies and has perhaps at least three mags. range.

Approx. position 1875 =

This was found, p. 59, on B13939, dated July 3, 1895, and has characteristics of a Nova.

Ledger of 1895:

Ft	B 13667	June 6		
N.S.	13787	" 17	Cl. O	Too faint
N.S.	13792	" 18	Cl. O	Too faint
Max.? Bright	13939	July 3		
Bright	14095	" 10		
N.S.	14362	Aug. 13	Cl. O.	Too faint
Bright but lefs than 14093	14402	" 20		
Faint.	14503	Sept. 5		

13760 Cl. O June 13 not found

Continuing & exam. -44° 13538 and exam. this star also.

But bright on B 17968, November 20, 1896

Bright	B 22158,	Nov. 10,	1898
"	B 23854	Aug. 15	1899
Minimum? N.S.	B 24416	Oct. 14,	1899
" ? N.S.	B 26056	Sept. 11,	1900
Faint	27522	May 29	1901
Min. N.S.	11643	July 21	1894
Min. N.S.	9217		

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1920phae.proj.1193w

BP Sagittarii

Var. announced H.C. 225
Leltus — A.N. 215, 185

For proof *32357 mat
*13939
not Max — *MF4423

min
24416
26056 pm
MF6781

Examined also on plates of p. 59 and continued. When star is normal (faint, about equal to adj. star), record of plate is not repeated here. On poorer plates star is N.D. because no other stars of that magn. show. So, only plates approaching Max. and Min. mags. are recorded here —

Bright	B 28172	August 8, 1901	
Not Max. Brighter than normal	B 28311	Aug. 24, "	
Faint	30017	June 12, 1902	
Min? N.S. or Faint	30299	July 7, "	
Bright	32128	July 6, 1903	
Brightest?	32357	July 31, "	
Brighter than normal	33498	April 23 1904	
Min. N.S.	39144	June 9, 1908	
Min M.S.	34256	July 1 1904	
	37546	May 31, 1907	
	41462	June 19, 1910	
Very Ft.	MF 6781	Aug. 16, 1920	
Bi., not Max	MF 4423	Aug. 15, 1919	

In B 45558 is brighter than var. at min.; distal var. is nearer on B 24416. Var. = < 13.5

19 38 14.4 −44 50.3 (1875)
Approx. 25 yrs. from 2c. 1 470 +3.5
19 40 1 −44 46.8 (1900)

March 10, 1921. Estimates of Range :—

Comparison Seq = 183K Bh 34175 B 45558
" 48175

Star 4 = 10.18
5 = 10.78
15 = 13.57

On B 32357 Comp Seq is near edge. A star near Var. was selected about = to var. This was compared with Seq. on B45558. Star 4 is brighter than V., 5 is fainter.
Var. = 10.5

On B 24416 faint stars near var. are seen that do not show on B45558. Therefore, faintest star of comp. Seq.

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1920phae.proj.1193W

Continued from page 59.

Dm. -44° 13538

B	29878	May 28, 1902
	30017	June 12 1902
	30299	July 7 "
	31738	May 7 1903
	32128	July 6 "
	32357	July 31 "
	33498	April 23 1904
	39144	June 9 1908
	34256	July 1, 1904
	36195	June 13, 1905
	37043	Oct. 2 1905
	37118	Oct. 16 " "
	37546	May 31 1907
	40408	June 9, 1909
	41462	June 19 1910

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1920phae.proj.1193w

V

Monday, January 24, 1921.

C. Dur. -44° 13538

See MF 4423
6781

Ledger of 1919.

Regin			
20-45	Aur 14792	June 23	Ft.
19-45	14868	July 25	Br.
20-30	14877	July 31	Br.
19-30	14887	Aug. 2	Br.
20-45	14891	Aug. 4	Br.
1930-60	14927	Aug. 17	Very ft. or N. S.
	14940		N. S.
	14950		
	14959		
	MF 4423	Aug. 15	Normal

Miss Leavitt examined this star —
Conclusion: — Watch this while measr.
the variable on page 60.
Is probably not a Nova — photographic
change may be due to emulsion
plates showing it bright are nearly of
same date —
— Especially this has not much
range. Not considered as a Nova
but may be variable.
Enter on suspected list —
Do not use as comparison star.

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1920phae.proj.1193W

Tuesday, January 25, 1921.

Examination of Ann Plates

Region 18^h $-45°$

ann 14934, August 20, 1919.

This plate was taken for 20^h00 $-45°$ but is found to iden. at 18^h.
A plate has already been exam. for Aug. 21, 1919, so this plate is not exam.
See Bk. 9, p. 102.

After reduction, estimate of range, etc., this variable was found to be in list of Mrs. Beach.

April 5, 1921.

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1920phae.proj.1193w

Wednesday, January 26, 1921.

Confirmed by Miss Leavitt, Jan. 29, 1921.
Idem checked by Miss Walker.
New Var. " " "Heir Var ?

See the chart, enlarged of eta Carinae region. This star has been marked, green ink, on this chart, by Miss Leavitt, Jan. 29.

C.P.D. -60° 2370 10^h 49^m 4.0^s -60° 25.6' (1875) 9.4

→ Object No. 24, Bk. 14, page 126.

1875
10 49 4.0 -60 25.6
+59 -8.0
10 50 3 -60 33.6
(1921)

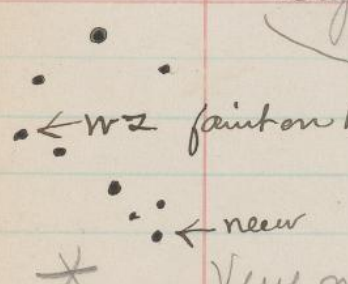
Examination of all Plates at -60°

Bright	Medium	Faint
*13109	6108	5512
*13128	6123	13796
*13135	5533	*13840
15112	14667	*13854
15132	14735	*13924
15164	14784	14822
15191	14786	
	15229	

For proof of range:—

	Br.	Ft.
Brightest	13128	13840
	13135	13854
	15132	13924
	15164	
	B46630	
Very near	105160	= -60° 2386, Var. of Prof. Pickering

See Bk. 14, p. 23, Marked on 13109, = WZ Carinae.



March 25, 1921. Estimate of Range: B46630, 29 Ks, Bk. 48: 124

5 = 9.85 } Prel. Mag. on B46630 Var. about = Star 5 Var. = 9.8 to 10.8
8 = 10.76 } on B[illegible]13854 Var. " = " 8

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1920phae.proj.1193w

See page 70

Tuesday, February 1, 1921.

Examination of Southern Plates.

Region 6^h $-15°$

ac 23337 January 25, 1921, Exp. 60m

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1920phae.proj.1193W

Saturday, January 29, 1921.

Obj. No. 53, Bk. 14, p. 143

C.Dm. -32° 2193.

Examined on Plates -
" by Miss Leavitt.

Conclusion: — no evidence of being bright, except on 11301;
Apparently a little brighter on B18620.
and 11298, also taken on Oct. 3, 1915, show it faint.
Ft. on all these plates: —

AM 7351	AM 5229
7974	5262
9727	7346
10446	11298
12622	AC 16908
11374	
AC 17211	
22888	

* Assume the bright image to be one of the extra stars near edge & superposed on or identical with, image of Cat. star.

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Tuesday, February 1, 1921.

Examination of Southern Regions.

Region 6^h $-15°$

AC 28337 January 25, 1921, Exp. 60m
AH 12872 February 10, 1917, Exp. 60m
(AC 28337 superposed)
Many defects on this pair of plates.

No. 185 trail of defect.
Bn. on 12872 N.S. 28337

(Approx. 1855)
$6^h\,55^m$ $-6.°5$, on Feb. 10, 1917.
No asteroid of this date & position.
Trail — probably South Pole Exposure. At least one other similar trail on this plate.

Time — about 25 minutes.

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1920phae.proj.1193w

14480 cracked

Mlsd 14938, 15257

Grnd pl. 15375

Wednesday, February 2, 1921.

Look up furtles

Examination of plates for New Var.(?)
Object p, 29, Bk. 9.

Miss L. sees this

Faint on 14951 Br. on other plates examined earlier

Brightest? 12142
12507
14782
15375
4273

Br. on these plates

Plates at −30°	at −45°
dul 14480	12126
14782	12142
14807	12286
14823	12291
14885	12498
14938	12507
14958	15257
15183	15375
15298	
15	

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1920phae.proj.1193W

72 New Algol Var.
Confirmed by Miss L.
Edem. checked by Miss Walker –
New Var. " " " "

Looking further
Miss L. saw this

Object p, 30, Bk. 9.
C.D. -54° 9757 16 27.3 -54 32 (1900)

Br. 12126
Confirmed by Miss Leavitt February 5, 1921
Edem 12142 Poor pl.
Edem 12286 " "
12507

Brightest on 2299?
For proof: —
* Ft 4612 Oct. 9, 1906
Ft. 4773 Apr. 18, 1907
Ft. 5529 June 5, 1908

For Proof:
Edem. B19366
Algol? * Ft 4773 Apr. 18
Br 4778 Apr. 20

Estimates of Range: —
Comp. Seq. Nova Aquae B52999 Bk. 45:92
On B52999 Var. is br. but not near center, not comparable with Seq.

m 9.88 AM 2299 m 3 m = 10.1
n 10.11 4778 n 2 3 = 10.3
o 10.64
r 11.90 On Aw 14951 n barely seen – Var. N. S. (?)
Var. < r = < 11.9

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1920phae.proj.1193w

Good pl. 6732 — 7209 good pl

* 4778

Bk. 15

Obj. in page 71 is bright on these plates

" " " 72 " " " " " " when pl. is good enough to show faint stars - except when stated ft.

Aur 124	4612	
225	Star of 72, ft.	
366	on 4612!	
2177	4773 —	
219.1	(72 also ft on	
2212	4773)	
2299	4778	6971
2523	5450	6975
2541	5575	7069
2615	5607	7170
2636	———	7209
2655	Obj. 72 has not been	7819
2691	exam. on plates after	8189
2751	this no.	8214
2825	6105	
2832	6190	
3703	6196	
3762	6239	
3822	6287	
3873	6348	
3928	6398	
4174	6410	
4249	6432	
4329	6448	
4367	6481	
4455	6582	
4486	6861	
4590	6927	

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1920phae.proj.1103W

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February 2, 1921.

Examination of Southern Regions.

Region 6^h -15°

ac 23375 January 31, 1921, Exp. 58m

ac 20791 December 6, 1918, Exp. 52

(20791 superposed)

One corner of 23375 is badly fogged.

Many defects on these plates.

or Second exposure?

These objects have not been looked up as images are rounder than the star images and do not seem to belong to region of the plate.

No objects found.

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1920phae.proj.1193w

Saturday, ~~Friday~~, February 5, 1921.

Object $18^h\ 3.^m2 - 32.^\circ1$ (1900)
See Bk. 9, page 114.

4th star pc

Found April 17, 1920.

Examination of B plates: a faint star.
Br. 32353 Ft. 22478.
Is this a defective image? Does not look defective.
Algol var.?

Ft. B9280
Ft. 9482

This is prismatic companion of bright star which is near. Object is nearly superposed on the faint star but closer examination of B 32353 shows both the faint star and the brighter prismatic companion. The star is always faint on the few plates exam. No further examination is made.

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1920phae.proj.1193w

February 5, 1921

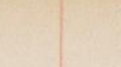
Confirmed by Miss Leavitt
February 8, 1921.

Examination of Object Bks. 9, p. 160.
New Var.? $14^h\ 55^m\ 34.1^s$ (Appox 1900)

See note on preceding page 78	Marked on B 14022 Plates $15^h - 45°$				
	N.S. Aug 1979	June 1, 1903	*NS Aug 2737	Shows ft. stars June 11 1904	
	N.S 2607	May 4	2815	July 6, 1904	
	N.S. 5396		5389	April 10 1908	
	N.S. 5407	Apr. 24 1908	Br. Seen 14046	Plates at $15^h - 30°$ June 10, 1918	
	NS 5423	" 30 "	Ft 13970	May 9 "	
	NS 5463	May 10 "	Ft 13983	" 17 "	
	NS 5542	June 7 "	Ft. 14015	June 2 1918	
?	Ft 5574	" 18 "	Br 14035 14020	June 4 "	
	NS 5655	July 10 "	Br. 14125 14046	" 6 " June 10 1918	
*	Ft 5706	Aug. 1 "	N.S. 14957	July 1 1918	
	NS 6010	Mar. 29 1909	Ft. *15102	Aug. 26 1919	
	NS 6023	Apr. 7 "	Ft. *15166	shows ft. stars Apr. 13, 1920	
	NS 6037	" 20 "	Ft 15237	May 18, 1920	
	NS 6130	May 14 "	NS 15378	June 7 "	
?	Ft. 6181	" 29 "	Ft 14715	August 5 "	
	NS 6222	June 13 "	Br. 14745	May 22 1919	
	NS 6237	" 19 "	Ft 14780	June 1 "	
			Ft 14814	" 22 "	
	NS 2045	June 16 1903	Ft 14820 14918	" 29 "	
	NS 2059	" 22 "	Ft 15193	Aug. 15 "	
	NS 2073	" 27 "	Ft 15302	May 16 "	
	NS 2169	Aug 4 "	N.S 15388	July 14 "	
	NS 2507	Apr. 7 1904		Aug 7 "	
	NS 2548	" 16 "	N.S 11698		
	NS 2633	May 7 "			
	NS 2687	June 1 "			

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1920phae.proj.1193w



← very ft. see B40172

Obj. p. 160 B69 14 55 −34.1 (1900 approx.)

For prof:—

Br. am 14046, 14745 *B 43333

N.S. or Ft. am 15102, 14918 *B 14022, 40172

43333 broken, slide 3484

See marked on B14022, comp. these two plates

* —— This star is not star which shows on some am plates but is preceding (See p. 77) and north of that star.

→ am 14918 is specially good am plate as both the var. and adj. star show. Var. is faint on this plate.

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1920phae.proj.1193w

14 55 -34.1 (appx. 1900)

B Plates examined:

HSB 14022
16277
29373
32467
33475
34123
Ft 40172
36698
Bn 43333 (Slide 3484) July 19 1912

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1920phae.proj.1103W

$14^h\ 55^m$ -34.1 (1900)

Plates examined:
$-30°$

Sem Ant 12244
" 12264
N S 12367
N S 12371

Medium MF 5226

(March 8, 1921)
Estimate of Range: —
Cepheid $15^h\ 0^m$ $-31°$ B 46887 Bk. 35: 116.

Ant 14046 7 = 10.22
Star 7 2 var., var 3 Star 8 8 = 10.69
var = 10.4 (15 = 13.48
13 = 12.32
Confirmed by B 43333 as to bright image, but estimate is difficult as all images are very hazy.

B 14022
Star 15 = at least .1 var. U.S. or merely Trace
var = < 13.5 (15 = 13.48 .1 faintest = 13.58)

April 25, 1921 Estimate of star near, about = Star 13 on Ant ~~14046~~ 14918 = 12.3

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1920phae.proj.1193w

14 55-34

Measure for position MF 5226

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1920phae.proj.1103w

Monday, February 7, 1921.

Examination of plates, Object, Bk. 9, p. 162.

cDur -41° 9373 14h 52m 40.5 -41° 59.4 (1875)

New Var. ? 14h 54m.0 -42.1 (Approx. 1900)

Plates at -45°

*	Br.? 1979	June 1 1903
	Br. 2045	" 16 "
	Ft 2059	" 22 "
	* 2073	" 27 "
	Ft 2169	Aug. 4 "
	N.S. 2507	April 7 1904
	NS 2548	" 16 "
	Ft 2633	May 7 "
	* 2687	June 1 "
*	Br. 2737	" 11 "
	* 14814	June 29 1919 - 30
	x 5706	Aug. 1 1908
	Ft 6010	Mar. 29 1909
	Ft 6023	April 7 "
	NS 6130	May 14 "
	NS 6181	" 29 "
	NS 6237	June 17 "
	Br. 2815	July 6 1904
	NS 5389	Apr. 10 1908
	NS 5396	April 22, "
	NS 5542	June 7 "
	Ft 5574	" 18 "

* between Min & Max.

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1920phae.proj.1193w

Thursday
~~Tuesday~~, February 10, 1921

Examination of plates, Object, Bla. 8, h. 12.27

New Var?

List of plates examined — wanted, to find star faint. Algol Var.?

Star is bright on these plates.

AM 5332,	March 25,	1908	9223	July 22,	1913
5451	May 8	"	9273	July 29,	"
5486	" 20	"	9306	Aug. 5	"
5562	June 16	"	9803	May 29	1914
5669	July 23	"	9822	June 3	"
5695	" 27	"	9854	June 11	"
5730	Aug. 5	"	10443	Apr. 19,	1915
5791	Sept 5	"	10489	" 24	"
5959	Feb. 23	1909			
6207	June 9	"			
6379	July 19	"			
7403	April 27,	1911			
7589	July 21,	"			
7845	October 2,	"			
8199	May 18	1912			
8372	June 21	"			
8457	July 15	"			
8692	Oct. 9	"			
8907	May 14	1913			
8914	May 15	"			
8974	May 29	"			
9092	June 23	"			

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1920phae.proj.1193w

Friday, February 11, 1921.

Examination of Southern Regions.

Region	7^h $-15°$		
ac	23414	February 8, 1921,	Exp. 70m
~~ac~~	11285	September 28, 1915	Exp. 30
	(11285	superposed)	

No. 186

ac	10635	Too faint	June 6, 1915
	11347	Oct. 7 1915	Too faint N.S.
	11436	Nov. 9, 1915	N.S.
	11465	" 14 "	N.S.
	11524	Mar. 3 1916	Too faint NS

Preceding, southern corner of 23414 is not exposed, faint stars do not show at all, very bright stars show faint images.

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1920phae.proj.1193w

Wednesday, February 16, 1921.

Examination of Plates for Winnecke's Comet

MC 17140 February 6, 1921.
17150 " 8 "
17153 " 12 "

A few suspected objects were marked -
Object marked at $13^h 39^m +21.^\circ 5$ (1855)
on all three plates -
Identified by I 10589
Marked on A 4321

90
20.5
67.5
N.P. dist.

This object is not in Dreyer's Catalogue.

See page 88 for MC 17137
" " 93 " MC 17161

13 39 +21.5 (1855)
2.1 -0.2 (14')
13 41.1 +21.3

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1920phae.proj.193W

Thursday, February 17, 1921.

Examination of Plates for
Suspected Variables for Prof. Bailey

CPD -51° 8453 $15^h 34^m 22^s.7$ -51° 13'.6 7.6 (1875)
= Dom -51 9417 15^s 34 23.2 -51 13.5 7.5
Iden. checked by Miss M. Gill. Iden. by 1316261

Sp. K2

On Feb. 17, 1921, Prof. Bailey examind chart $15^h 45^m$ -52° of Union Obs., comparing regions of Nova Normae, no. 2, with Ann 15375, for identification of region of Nova.
See letter of Innes, ——
In this identification, Prof. Bailey noted that the star $-51^\circ 8453$ is faint on Union chart and bright on Ann 15375.

→ Exam. of Ann plates. " Star marked on Ann 14367

b-
c-
d
a

Max. 14479 ?

Little, if any, change noted on these plates, unless otherwise stated :—
b always fainter than a; brighter than c

Ann 14367	Sept. 2, 1918		
14362	Aug. 30	"	
14374	Sept. 6	"	
14398	" 14	"	
14479	Oct. 3	"	slightly brighter ?
14487	Oct 4	"	
14783	June 21 1919		
14808	" 26	"	

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1920phae.proj.1193w

Ane 14880	Aug. 1, 1919	
14951	Aug 25 "	
15083	March 17 1920	
15375	Aug. 4 "	
15171	May 11 "	
15257	June 16 "	Slightly fainter ?
15293	July 10 "	

original of
Date of Illumin Chart is July 5, 1916
Plate at -60° is same date
Ane 12140 shows star bright !
Chart shows star faint

No A plate of date

	Time St.	Time End
See B 47792, 2' July 5, 1916	15 32	15 42
Ane 12140 July 5, 1916	14 48	15 48

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1920phae.proj.1193w

February 17, 1921.

Examination of Plate for
Wimnecke's Comet -

MC 17137 (broken) February , 1921.

Plate examined.
Long, broken streak marked at
center of plate.

Object of page 85 is same position
and magnitude as on other
plates examined.

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1920phae.proj.1193w

Marked on AM 10820

Saturday, February 19, 1921.

Examination of plates for
New Var. ? Bk. 14, p. 187, Obj. 112a
Dec.– 3° 40' 40" 16h 52m 10.2s –3° 59' 4" 7.3 (1855)
may be defective image on Am 15424.
Wanted ;— to find this star faint on
another plate !

No evidence

10820	July 16, 1915
11686	May 8, 1916
11699	May 10 "
11803	May 25 "
11844	May 28 "
11860	May 29 "
13006	April 14, 1917
9820	June 3, 1914
9879	June 19, "

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1920phae.proj.1193w

Monday, February 21, 1921.

Examination of plates for new Variable,
$17^h 40^m - 58.8^\circ$ (1900)

Object was Bk. 12, page 37.

This star appeared, bright in 1919, confirmed on several plates.
Suspected of being Nova, plates examined.
Found bright on other dates.
marked on B35816, 20488 Ref. position in red
For Prof:- Br. ** B 35816 Am ** 14811 Am 5486

N. S. or Ft. ** B *1949 Show ft. stars
*Am 5451, Ath 6204 Am 5332

Bright.
B35816 Apr. 12, 1905

Am 5549 June 9, 1908
5486 May 20 "

Ft. or N. S.
B20488 Sept 22, 1897
31949 June 3, 1903
37747 July 9, 1907
31681 May 6, 1903
33536 May 2, 1904
Am 5451 May 8, 1908
2492 March 23, 1904
1527 Sept. 13, 1902
Slide 275
7403 April 27, 1911
6461 Aug. 14, 1909
6379 July 19, 1909

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1920phae.proj.1193w

Confirmed by Miss Leavitt, February 22, 1921.

Fr.

A.M. 6 207 June 9, 1909
5332 March 25, 1908

N.B. dates { 14881 Aug 1 1919 Bc
14934 Aug 20 " N.S.

{ 5486 May 20, 1908 Bc.
{ 5451 May 8, 1908 N.S.

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1920phae.proj.1193w

Tuesday, February 22, 1921.

New Variables —

Estimates of Range —

174058

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1920phae.proj.1193w

Wednesday, February 23, 1921.

Examination of MC 17161 for
Wirnecke's Comet -
Also, for Nebula (?) marked on
earlier plates; see p. 85
This nebulous object has been on all MC
plates of this region exam.
Is marked on 17161 by I.E.W.
→ Also, 2 other objects, Defects?

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1920phae.proj.1193w

Friday, February 25, 1921.

New Var.?

In examing plates for range of new Var.
(J.E.W.) -20 13 14 6h 4m.7 -20 11 (1855)
See Bk. 12, p. 200

Examing plates. — Seq. Carte Regions.

I noticed a star on MC 7924. near star 6,

* ~~H.S.~~ 4571 Sept. 12, 1906
4729 Dec. 17, 1906
Br. MC 7924 Feb. 19, 1915.
Try for 1915 plates

* This is probably seen. There are three stars on MC plate but two are so close together they appear as one star on all plates.

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1920phae.proj.1193w

N.B. 2 regions on this page

Saturday, February 26, 1921.

Examination of Southern Regions.

Regions $5^h -15°$

ac 23448 February 16, 1921, Exp. 60m
am 6675 · October 13, 1909, Exp. 60m
(23448 superposed)

A great many defects in region. Southern, preceding corner of plate is not exposed – 23448. No objects were found –

Regions $9^h -15°$

ac 23466, February 18, 1921, Exp. 56m
am 3269, December 6, 1904, Exp. 60m
(3269 superposed)

No. 187 Br. 3269 Dec. 6, 1904 N.S. or defective 23466
first pl.? — 3232 Nov. 14, 1904 N.S. 2631 May 7 1904.
2648 " 13 "
2688 June 2 "
3346 Jan. 25, 1905
3357 Feb. 28, "
3394 Mar. 27 "
3437 Apr. 5 "

085008
T Hydrae
$8^h 58.8 - 8° 46'$ (1900)

Verified by print.

N.S.
No. 188. Br. 23466 ~~H~~ 3269
N.S. 23142 Dec. 16, 1920
N.S. AI 20442 Feb 16, 1921

near. $-13°$ 2465 8 10 6.4 -13 19.3 9.2

Not a known var.
Nova?

See next page –

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1920phae.proj.1193W

For Range —

B 15476 B 22424

New Var. Mkd on B 21204, 15476

Cont.

Br. B15476 Mar. 31, 1896 Ft. * B 21204

AC 573 Dec. 6, 1899 N.S. B 22424 Apr. 4, 1899

23466 (1921) * Ft 25246 May 8 1900

MC 7756 Shows ft stars

25373 May 22, 1900 ~~N.S 25373 May 22, 1900~~

3269

Confirmed by Miss Leavitt, March 3, 1921

Estimates of Range: —

Find 7756 Conf. Seq. 124 K MC 7756 13h. 34 ; 16
~~48~~ ; 16

B 15476 Stars 2 1 V, V, 1 Star 3 Not Max.

on AC 23466 var. is 9.5 (Miss Walker verified this)

B 22424 Stars 12 = .1, 13 N.S. Var. N.S.

(12 = 13.06) Var. < 13.1 (or possibly trace.

on MC 7756 Var is very Ft.

Est 10.0 ? (Miss Walker verified this.)

(124K)

Stars 1 = 9.11

2 = 10.60

3 = 10.71

12 = 13.06

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1920phae.proj 1193w

~~Faint spot section~~

Tuesday, March 1, 1921.

Expumation of Southern Regions.

Regions
7h -15°
ac 23425 February 12, 1921, Ef. 58m
ac 19577 December 10, 1917, Ef. 60m
(23425 superposed)

No 189 Br. 19577 N.S 23425
~~Probably~~ defect. !

No. 190 Br. 19577 N.S 23425
6h 30m -1.°3 (approx. 1855)
Not a known var.
Not a moving obj. Confirmed: Ft. 19755, Feb. 1, 1918.
Plates 7h -15°
N.S. ac 18379 Dec. 30, 1916
N.S. ac 18500 Feb. 1 1917
New Var. N Sa Veg Ft. 18588 Feb. 21, 1917
NS 18717 Mar. 26 "
Poor Pl. 19258 Oct. 7 "
Seen? 19297 Oct. 16 "
Probably defect.
N.S. 20569 Oct 3 1918
Plates 7 -15
N.S Aur 13117 May 13, 1917
NS 13134 May 15, "

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1920phae.proj.1193w

Wednesday, March 2, 1921.

Exam. of Obj. 190.

N.S. Am	13597	Sept 15, 1917.
N.S.	13602	Sept. 16, "
N.S.	13607	Sept 17, "
N.S.	13788	Mar. 11, 1918.
N.S.	13943	May 3, 1918
N.S.	13951	May 6, "
N.S	13960	" 8, "

Plates 6 - 15

? N.S. Am	18412	Jan. 11, 1917
N S	18453	" " 17 "
N S	18617	March 6 "
Too poor	19168	
Seen	19376	Nov. 2 "
"	19454	Nov. 12 "
" L'	19510	" 26 "

Poor pl.	19723	Jun 21 1918
" " L'	19742	" 29 "
N.S.	20482	Sept 10 "
N.S.	20635	Nov. 2 "

N S. Am	12865	Feb 8 1917
N S	12872	" 10 "
~~N S.~~ Too poor	13061	Apr. 29 "
Seen?	13762	Dec. 13 "

Poor plate

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1920phae.proj.1193w

063101

Cumm. of plates 6^h 0°

Seen? Ac 19265 Oct. 11, 1917.
Faint?,
Seen 19287 " 14 "
Br. L' 19328 " 25 "
Br. 19498 Nov. 25 "
Br. 19576 Dec. 10 "
Br. 19607 Dec. 15 "
Br. 19663 Jan. 12 1918
Seen L' 19732 " 23, "
Ft 19786 Feb. 5, "
Ft. 19916 Mar. 11 "

? Ft 22513 Mar. 18, 1920

Confirmed by Miss Leavitt, March 3, 1921.

For prof :—
Br. B14952 (not Max) Ac 19577
*31105 19755 19576
Ft. B*27079 *26764 28840 ft., seen.
28722 ft. 23425

For range Ac 19577 Ac 19755 B 31105
26764 chron ft. stars - try A plate
For position B 28722 or 31105

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1920phae.proj.1193w

063101

Obj. Not seen on these plates.

AC 17025	Mar. 22, 1915	
17211	Jan. 14 1916	
17256	Jan. 28 "	
17375	Mar. 1 "	
17938	Sept 25 "	
18155	Nov. 10 1916	
20686	Nov. 11, 1918	
20791	Dec. 6 1918	Defect on
20903	Jan. 4. 1919	faint star
21807	Sept. 17 "	
21980	Nov. 8, "	
22015	" 20 "	
22184	Jan. 2 1920	
22463	March 1 "	
22888	Sept. 19, "	
23058	Nov. 12, "	
23215	Jan. 3, 1921	
23282	" 17, "	

For Plates of 1917 & 1918 see pages 97-99

See 22513, page 99

AW 12831	Dec. 20, 1916	
14574	Feb. 16, 1919	
14648	April 27, "	
14658	April 29, "	Too poor.

For plates of 1915 1918 see pages 97 to 99

Plates at $7^h - 15°$

AR 9105	Dec. 26, 1907
9119	" 31 "
9149	Jan. 6, 1908

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1920phae.proj.1193w

Measure B 28722 for position.

063101

Obj. not seen on these plates
AC 9173 Jan. 14, 1908

Exam. of B plates :—
B 27079 N. S. April 8, 1901
Seen. 14952 Oct. 24, 1895
but Not at Max

B 28840 Nov. 14, 1901 Seen, faint.
28722 Oct. 8 " Br.
29002 Dec. 20 " N. S.
29411 April 25, 1902 N. S.
Bright 31105 Nov. 19, 1902 Bright

✳ Estimates of Range:
Comp. Seq. 26 K S R6 { 34 : 105 / 48 : 120 } MC 5173

✓ On AC 19577 2 Sequence Stars 3 & V, V 3 Star 4 3 = 9.22 4 = 10.20 10 = 13.49
var = 9.6

On B 26764 10 faintest stars of Comp. Seq. Seen = .1
var = < 13.5

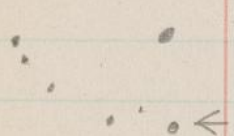
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~~Tabulated Data~~

Region $7^h - 15^\circ$ Cent.

No. 191



Defect?

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1920phae.proj.1193w

~~Lookup 192 in next plate of region~~

Tuesday, March 8, 1921.

Examinations of Southern Regions.

Regim 8^h $-15°$.

ac 23504 March 4, 1921, Eff. .62m

ac 20677 November 10, 1918. Eff. .55m

(20677 superposed)

Prec., southern, corner of 23504 is underexposed

No. 192 Br. 23504 ~~N.S. Ft.~~ 20677 Ft.

~~Defect?~~ N. S. on ac 23184, Dec. 25, 1920

7 26 -20.4 (approx. 1855)

2 Puppis

0728 26 6 7 28.3 -20 27 1900 See also B14969

Verified by print

No. 193 on 20677

trail?

or defect-

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1920phae.proj.1193w

* Use 23503 sometime with a later good plate.

Thursday, March 10, 1921.

Examination of Southern Regions.

Region + 6h - 15°

aC 23503 March 4, 1921, Exp. 60m
18108 Nov. 3, 1916, Exp. 60
(23503 superposed)
(18108 has already been exam. but no other pl. can be found)

23503 is an excellent plate
Stars near edges of comp. plate are not at all comparable -
Use 23503 again.
In reference to quality 18108 should be superposed on 23503, but lines are already drawn on this plate.

No faint variable could be detected on these plates.

No objects of interest were found -

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1920phae.proj.1193w

Friday, March 18, 1921.

Examination of Southern Regions.

Region 8^h -15°.

ac 23528 March 16, 1921, Exp. 58m

Ant 10465 April 22, 1915; Exp. 60m

(23528 superposed)

No. 194 Comet? On 10465

Fogging or defect

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1920phae.proj.1193w

Continued from Bk. 14, page 207.
March 19, 1921.

153252 Nova Normae, No. 2.

Examination of plates at -45°
Nova not seen.

Arc	2507	April 7, 1904
	2548	" 16 "
	2607	May 4 "
	2633	" 7 "
	2687	June 1 "
	2737	" 11 "
	2815	July 6 "
	2845	" 20 "
	2905	Aug. 2 "
	3402	March 28, 1905
	3429	April 1 "
	3523	June 8 "
	3584	" 8 "
	3630	" 13 "
	3702	July 10 "
	3774	Aug. 10 "
	3872	Sept 9 "
	4096	Feb. 2 1906
	4121	" 17 "
	4141	Mar. 24 "
	4161	Apr. 13 "
	4173	" 24 "
	4282	June 9 "
	4234	May 14 "
	4318	June 15, "
	4526	Aug. 24 "
	4838	May 15 1907
	4859	" 23 "

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1920phae.proj.1193w

Plates at -45° Nova not seen -

Aud 4916	June 8, 1907
4939	June 28, "
5004	July 16, "
5055	Aug. 12, "
5062	" 15, "
5308	Feb. 5, 1908
5321	Mar. 14, "
5339	" 26, "
5354	April 1, "
5389	" 10, "
5396	" 22, "
5407	" 24, "
5423	" 30, "
5463	May 10, "
5542	June 7 "
5574	" 18 "
5655	July 10 "
5706	Aug. 1, "
6010	March 29, 1909
6023	April 7, "
6037	" 20, "
6130	May 14, "
6181	" 29, "
6222	June 13, "
6237	" 17, "
6275	" 23, "
6346	July 13, "
6382	" 20, "

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1920phae.proj.1193w

Plates at −45° Nova N. S.

Am 6442	August 9, 1909	
6469	" 15, "	Slide 2989
6857	March 19, 1910	Slide 2961
6886	April 17, "	
6934	May 27, "	
6951	" 29 "	
6994	June 5 "	
7017	" 10 "	
7038	" 26 "	
7067	July 3 "	
7169	Aug. 1 "	
7377	March 27 1911	
7382	April 9, "	
7399	" 26, "	
7409	May 2, "	
7447	June 13, "	
7472	" 24, "	
7448	" 15, "	
7522	July 6, "	
7537	" 9, "	
7613	" 24 "	
7627	Aug. 1 "	
7657	Aug. 5 "	
7689	" 18, "	
8102	April 22 1912	
8070	" 17 "	
8155	May 8 "	
8188	" 17 "	

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1920phae.proj.1193w

Aur 8218	May 21, 1912	
8274	June 3, "	
8306	" 8, "	
8342	" 14, "	
8421	July 9, "	
8451	" 13, "	
8501	" 21, "	
8575	Aug. 29, "	
8843	April 30, 1913	
~~8854~~	~~May 3,~~ "	2.1
8867	" 5, "	
8881	" 7, "	
8982	" 31, "	
8997	June 3, "	
9005	" 4, "	
9150	July 2, "	
9114	June 26, "	
9255	July 26, "	
9363	July 26, "	
9712	April 15, 1914	
9784	May 25 "	
9790	May 26, "	
9845	June 10, "	
9846	" 10, "	
9869	" 16, "	
9881	" 20, "	
9884	" 22, "	
9896	" 24, "	

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1920phae.proj.1193w

Plates at -45° Nova N. S.

Am 9905	June 29, 1914	
9924	July 10,	"
9932	" 13,	"
9949	" 17,	"
9975	" 23,	"
9976	" 23,	"
9991	" 26	"
10013	Aug. 1	"
10095	" 28	"
10487	April 24	1915
10461	" 21	" Slide 4171
10454	" 20	"
10496	" 25	"
10549	May 5	"
10556	" 6	"
10630	June 5	"
10639	" 6	"
10652	" 8	"
10683	" 15	"
10721	" 21	"
10761	July 9	"
10810	" 15	"
10817	" 16	"
10838	" 18	"
10979	Aug. 12	"
11101	Sept. 8	"
11144	" 13	"
11258	" 26	"

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1920phae.proj.1193w

11658 13153
11666
11768
12124

Aw	11515	Feb. 28, 1916
	11530	March 3, "
	11562	" 15 "
	11610	April 5 "
	11619	" 6, "
	11633	" 10, "
	11658	May 1 "
	11666	" 3 "
	11768	" 21 "
	11867	" 30 "
	11868	June 1 "
	11891	" 4 "
	11942	" 10 "
	11954	" 11 "
	~~11963~~	~~" 12 "~~ L.
	12115	July 2 "
	12124	July 3 "
	12239	" 22 "
	12281	" 28 "
	12284	August 1 "
	12381	" 27 "
	12401	Sept. 4 "
	12484	" 22 "
	12652	Oct 22 "
	12892	Mar. 23 1917
	12919	" 28 "
	12994	April 13 "
	13032	" 17 "

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1920phae.proj.1193w

Plates at −45° Nova N. S.

Aur	13053	April 25, 1917	
	13107	May 11	"
	13131	" 14	"
	13146	" 14	"
	13153	" 17	"
	13251	June 11	"
	13253	" 11	"
	13260	" 12	"
	13299	" 18	"
	13323	" 21	"
	13334	" 23	"
	13394	July 12	" Slide 4463
	13426	" 19	"
	13525	Aug. 19	"
	13529	" 21	"
	13532	" 24	"
	13927	April 30	1918
	13940	May 2	"
	13992	" 18	"
	14021	June 4	"
	14034	" 6	"
	14047	" 10	"
	14068	" 13	"
	14131	July 2	"
	14135	" 7	"
	14138	" 8	"
	14362	August 30	"
	14374	Sept. 6	"

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Rec	14398	Sept. 14, 1918
	14487	Oct. 4 "
	14783	June 21 1919
	14808	" 26 "
	14880	Aug. 1 "
	15083	March 17 1920
	15171	May 11 "

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1920phae.proj.1193w

3 Extra Stars

Thursday, March 24, 1921.

Examination of Southern Regions.

Region 16h -15°

AC 23541 March 18, 1921, Exp. 58m

AM 14044 June 7, 1918, Exp. 60m

(14044 Superposed)

Nos. 195, 196, 197 3 extra stars near No. edge of plate.

No. 198 on AM 14044 Cannot prove:

Comet? Defect? N.S. on AC 20168 June 3

" " AM 14022 June 4

" " 14037 " 6

" " 14048 " 10 "

" " 14061 " 12 "

No. 199 Star missing on 23541

Probably due to spot in glass.

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Friday, March 25, 1921.

Region 6^h $-15°$.

ac 23544, March 22, 1921, Exp. 60m

ac 13762 December 13, 1917, Exp. 30m

(23544 superposed)

Many defects on 23544.

No objects were found -

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1920phae.proj 1193w

Saturday, April 2, 1921.

Cont. from Bk. 12, p. 49.

New Examination of Susp. Var.

$-59^\circ 2101$ $10^h 20.9$ -59.7 (1900)

For Proof :—

*	15229	-60°	
*	15132		
X	13924	-60	
*	13858	-60	
ft. ant	* 14784	-60°	
	14629	-60	
	* 2041	-75	
	2023	-75	
	** 14737	-75	

Confirmed by Miss Leavitt, April 4, 1921.
Iden. Checked by Miss Walker.

	1870	Apr. 1903	
	1891	"	"
ft	838	June 7, 1901	"
ft	755	Apr. 10	"
	1749	Dec. 6	1902
	1754	Dec. 9	1902
	1772	Dec 23	"
	14599	Apr. 3	1919
	14737	May 31	"
	15132	Apr. 22	1920
	2023	June 13	1903
	2041	" 16	"
	14784	June 22	1919
	15229	June 6	1920
	14629	Apr. 03	1919
	13924	Apr. 30	1918
	13858	Apr. 16	"

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1920phae.proj.1193w

For estimate of range:
Compared with 29 Ks on B46630, Bk.48: p.124

1=8.76
2=8.90
3=9.52
4=9.53
5=9.85
6=10.28

On 15132, a little fainter than 2 = 9.0
On 15229, bet. 1 and 2 = 8.8
On 14784, a little brighter than 5 = 9.8
On 14737 bet. 5 & 6 = 10.1

This var. has been marked on chart of η Carinae by Miss Leavitt, April 24, 1912. (D5492)
The var. is faint on the chart.

Miss Leavitt thinks by plates shown her that this is an interesting var. Measure as soon as possible and get type of variable and period.

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1920phae.proj 1193w

Tuesday, April 19, 1921.

Examination of Southern Regions.

Region $18^h - 30^b$

And 8624 September 11, 1912, Exp. 70m
6952 May 29, 1910 Exp. 60m
(6952 superposed)

As no plates have come from Arequipa for a long time, I chose two plates of a region that has not been examined much. These years have not been examined.

No. 200 Br. 6952 Fk. 8624
181119 W Z Sagittarii $18^h 11^m.1 - 19° 7' (1900)$
Verified by print.

No. 201 Br. 6952 Already marked
175327 Nova Sagittarii, No. 2 $17^h 53^m.8 - 27° 33' (?)$ (1900?)
Verified by print.

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1920phae.proj.1193w

Continued on page 139

April , 1921:

New Var.? G.P.D. - 53° 5912 {14 6.6 - 53 12} 548 KO. a2
{14 6.6 - 53 12}

Suspected on Yellow plate while making estimates of Nova Normae, No. 2.

See Br. AM 15213 Ft. AM 15212
15359

Examined many plates but no prof.
This star is always bright on blue or yellow plates.

? ? → Why any change on 15212?

-53° 5915, near, is known variable but range is that of a faint star.

-53° 5915, near, is 14--53

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1920phae.proj.1193w

May 3, 1921.

(1900)

New Var.? C.P.D. -54° 5933 14 6.9 -54 9

Algol Var.? Sp. = B9

Marked on Am 4215

While examining plates for Object, p. ~~120~~ 119, a bright star near, identified as abnormal, was suspected of variation. Difficult to estimate, very bright.

× This star is faint on yellow plates.

Compare with:

Sequence R Centauri, B 46929

On Am 4063 Var is nearly as bright as b

4859 " " about = c

Confirmed on 3774

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1920phae.proj.1193w

Max(?) and Min.(?) marked ** —
For proof

List of plates showing Var.:—

Bright	Faint.	
2113	**1434	July 9, 1902
1924	3523	May 11 ?
3383	**3774	Aug 10 1905
*3533	**4859	May 23, 1907
3698	6002	
4063	**7383	April 9, 1911
4832	**7658	Aug. 5, "
4985	~~—~~ 9432	Sept. 8, 1913
(small images)	9549	Oct. 4, "
*5310	9931	July 12, 1914
**5388	9950	" 18, "
5489	10818	" 16, 1915
*5331	**11083	Sept. 6, "
**6125	**11165	" 15, "
**7650	11561	March 12, 1916
	11611	April 5, "
	11772	May 22, "
	11781	" 23, "
	**11800	" 25, "
	11840	" 28, "
	**12460	Sept. 20, "
	*12883	March 21, 1917
	13112	May 12, "
	13159	" 18, "
	13178	" 21, "
	13388	July 11, "

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1920phae.proj.1193w

Ft. Cont

**13436	July	21,	1917
**13451	"	30,	"
14719	May	21,	1919
14821	July	1,	1919

30 ~~29~~ plates

These are all the plates that show var. faint out of about 200 plates which were examined.

For additional minima data on plates at -45°, see page 128.

N. B. special data:

3523 ft -45°
3533 ft "

1413
1434 ft
1453

9928
9931 ft.

? ** Are 1916 plates all faint?

In center of plate 14362

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1920phae.proj.1193w

Plates for comp. stars: 745, 5360

Algol Var.?

Plates showing star		normal. (Bright)	Plates at -60°
AM 27	July 29, 1899	2696	May 6, 1904
379	March 2, 1900	2656	" 16, "
398	March 30, "	2687	June 1 "
454	May 7, "	2711	June 4, "
525	July 19, "	2748	" 15, "
745	March 30, 1901	2771	" 21, "
775	May 9, "	2802	July 2, "
815	" 28, "	2864	" 22, "
848	July 11, "	3372	March 6, 1905
929	July 23, "	3383	" 13 "
937	July 24, "	3457	Apr. 15 "
1050	Sept. 7, "	3498	May 5 "
1235	May 2, 1902	3533	" 13, "
1249	" 15, "	3605	June 9, "
1284	" 28, "	3646	" 21, "
1809	Jan. 17, 1903	3698	July 8, "
1413	July 2, 1902	3783	July 11, "
1453	" 11, "	3837	" 29 "
1908	May 5, 1903	3841	Sept 5 "
1924	" 7, "	3872	" 9 "
1936	" 14, "	4063	Jan. 27 1906
1971	" 29, "	4147	Ma. 27 "
2090	July 2, "	4215	May 10 "
2113	" 13, "	4302	June 13 "
2259	Sept. 3, "	4402	July 13 "
2460	Jan. 16, 1904	4806	May 8, 1907
2483	Mar. 17, "	4832	May 13 "
2555	Apr. 18, "	4836	" 15 "
2590	May 2, "		

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1920phae.proj:1193W

Fairlook — 106 ft — 14362 to add nearer center.
?

1853
2073
4234

Cont.

Variable	Normal	Plates at -60°	
Am 4877	May 31, 1907	Am 6887	April 17, 1910
4935	June 21, "	6910	May 5 "
4951	July 1, "	6961	" 31 "
5010	" 17 "	6969	June 1 "
5310	Feb. 20, 1908	7082	July 6 "
5331	Mar. 25 "	7094	" 8 "
5360	April 4, "	7162	" 31 "
5388	" 10, "	7439	June 8 1911
5442	May 7, "	7449	" 15 "
5489	May 21, "	7468	" 23 "
5551	June 9, "	7534	July 8 "
5623	July 3, "	7554	" 16 "
5663	" 21, "	7650	Aug. 4 "
5739	Aug. 6, "	8057	April 3 1912
5976	Mar. 19, 1909	8103	" 22, "
6002	" 28, "	8110	" 23 "
6034	April 17, "	8157	May 8 "
6086	May 7, "	8212	" 20 "
6125	" 13, "	8275	June 3 "
6154	" 23, "	8286	" 5 "
6168	" 26, "	8367	" 18 "
6243	June 18, "	8394	July 5 "
6258	" 20, "	8493	" 20 "
6329	July 9, "	8530	Aug 3 "
6333	" 10, "	9469	Sept 22 1913
6373	" 18, "	9821	June 3 1914
6427	" 29, "	9928	July 11 "
6855	March 19, 1910	9981	" 24 "

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1920phea.proj-1193w

Cont.

Variable, Normal — Plates at −60°

AM	10024	August 4, 1914
	10025	" 4, "
	10050	" 13, "
	10118	Sept. 13, "
	10132	" 16, "
	10739	July 2, 1915
	10762	" 9, "
	10910	" 30, "
	11670	May 6, 1916
	11678	" 7, "
	13331	June 22, 1917
	13398	July 14 "
	13984	May 17 1918
	14164	July 15 "
	14386	Sept. 8 "
	14732	May 29 1919
	15394	Aug. 9, 1920

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1920phae.proj.1193w

Broken plates not examined

Am 1445	-60°	~~Slide~~ In WA stacks	
3001	-60	Slide	2809
3344	-60		2931
3473	-60		3011
4384	-60		3013
4750	-60		3138
14824	-60		4689

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1920phae.proj.1193w

Variable bright (Normal) on plates at -45° or nearly at Mot.

am43	August	2, 1899	4121	Feb. 17,	1906
955	"	3 1901	4141	Mar. 24	"
979	"	10 "	4173	Apr. 24	"
1174	April	2 1902	4318	June 15	"
1188	"	7 "	4377	July 10	"
1205	"	18 " ft?	4526	Aug. 24	"
1212	"	28 "	4838	May 15	1907
1324	June	10 1902	4916	June 8,	"
1332	"	11 "	4939	June 28	"
1362	"	14 "	5004	July 16	"
1373	"	17 "	5055	Aug. 12	"
1388	"	25 "	5062	Aug. 15,	"
1512	Aug	21 "	5308	Feb. 5,	1908
1826	Feb	20 1903	5321	Mar. 14	"
1861	Apr.	17 "	14374	Sept. 6,	1918
2045	June	16 "	14398	" 14,	"
2169	Aug.	4 "			
2507	Apr.	7, 1904			
2548	Apr.	16, "			
2633	May	7, "			
2737	June	11, "			
2815	July	6, "			
2905	Aug.	2, "			
3402	March	28, 1905			
3584	June	3, "			
3630	June	13, "			
3702	July	10, "			

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1920phae.proj.1193w

Add plates ent for Kora Norman 2

Variable faint in plates at −45°

See also page 122.

60 Aug. 4, 1899
* AM 106 Aug. 24, 1899
764 Apl. 24 1901
** 1853 Apr. 3 1903 ~~ft.?~~
2845 July 20 1904
4096 Feb. 2 1906
2073 June 27 1903
** 4234 May 14, 1906

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1920phae.proj.11099

2 regions on large

Friday, May 20, 1921.

Examination of Southern Regions.

Region 20^h $-15°$

ac 23684 May 11, 1921, Exp. 38m

aw 11066 August 28, 1915, Exp. 60m

(11066 superposed)

Both plates are poor. Only brighter stars can be compared

No objects of interest

Region 16^h ~~ac 23682~~ $-15°$

ac 23682 May 11, 1921, Exp. 60m

ac 21297 March 24, 1919, Exp. 64m

(23682 superposed)

No objects of interest

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1920phae.proj.1193w

Saturday, May 28, 1921.

Examination of Southern Regions.

Region $18^h - 15°$

A 23683 May 11, 1921

A 13312 June 19, 1917

(23683 superposed)

No objects of interest found.

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1920phae.proj.11933

?

Thursday, June 2, 1921.

Examination of Southern Regions.

Region $18^h - 15^\circ$

aCe 23740 May 30, 1921, Eff. 60m

aCe 17733 July 19, 1916, Eff. 63m

(23740 superposed)

* No objects of interest found, except a long trail, broken, apparently not scratch, on 17733.

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1920phae.proj.1193w

Wednesday, June 8, 1921.

Examination of Southern Regions.

Region 19h -15°

ac 23753 June 2, 1921. Exp. 58m

AM 5570 June 17, 1908 Exp. 60m

(23753 superposed)

No. 202

191019 Br. 5570 N.S. 23753

R Sagittarii 19h 10.8m -19° 29' (1900)

Verified by print.

No. 203 Br. 5570

Moving Object - Br. 5725 Aug. 4, 1908.

Ordinate. See Almanac for position

19h 8m 22.s98 -22° 56' 33.''8,

June 17, 1908.

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1920phae.proj.1193w

2 regions on this page.

Thursday, June 9, 1921.

Examination of Southern Regions.

Region $17^h - 15°$

ac 23752 June 2, 1921, Eff. 68 m
ant 5670 July 22, 1908, Eff. 64 m
(23752 superposed)

No objects of interest were found.

Region $16^h - 15°$

ac 23723 May 26, 1921
ant 10612 June 3, 1915
(23723 superposed)

No objects of interest.

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1920phae.proj.1193W

July 1, 1921.

Examination of Arc Plates.

As no plates have been received from Arequipa for a long time, I am filling in a few dates not covered by plates examined earlier.

Regim 17^h-45^m

Am 5450 May 8, 1908 Eff. 68
9375 August 28, 1913, Eff. 60^m
(9375 superposed)

No. 204 Probably defect.

No. 205 Defect?
Br. 9375 N.S. Am 9296 Aug. 2, 1913.
9387 Sept. 1, "
9405 Sept. 4, "

No. 206 Defects
∴ all defects probably

No. 207 Br. 9375 N.S. 5450
174551 N.S. 9296 Aug. 2.
N Arae Br. 9387 Sept. 1
$17^h45^m.7-51°40'$ (1900)
Verified by print.

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1920phae.proj.1193w

Saturday, July 2, 1921.

Examination of Am Plates.

Region $19^h - 45^\circ$

Am 1099, October 10, 1901, Ef. 68m
6113, May 11, 1909, Ef. 63m
(6113 superposed)

No. 208 Br. 6113 N.S. 1099

194929 R R Sagittarii $19^h 49^m.7 - 29^\circ 27' (1900)$

(confirmed by print)

No. 209 Br. 1099 N.S. 6113

P Probably defect.

No. 210 Br. 6113 N.S. 1099.

W Arae 17 49.2 - 49 47

174949 confirmed by D 11633 Comparison star plate

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1920phae.proj.1193w

Monday, July 4, 1921.

Examination of All Plates.

Region $19^h - 45^\circ$

am 3616 June 10, 1905. Exp. 63m

8629 September 12, 1912, Exp. 60m

(8629 superposed)

No objects of interest were found.

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1920phae.proj.1193w

3 regions on page

Nos. 212 and 213 in Bk. 13

Thursday, August 4, 1921.

Examination of Southern Plates

Region 16h -15°

ac 23878 July 26, 1921, Exp. 62m

am 14501 October 7, 1918. Exp 30.

(23878 superposed) 23878 for plate.

No. 211 Mars. 16h 8m 42s.4 -22° 4' 59".9 Position from Almanac, Oct. 7, 1918.

Bu. 14501

Region 18h -15

ac 23879, July 26, 1921, Exp. 72m

am 12053 June 23, 1916, Exp. 60m

(23879 superposed)

no objects found.

Region 20h -15

ac 23880, July 26, 1921, Exp. 62m

am 12045 June 22, 1916, Exp. 60

(23880 superposed)

no objects found.

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1920phae.proj.1193w

2 regions on this page.

No. 216, 217, 218 – 225. in Book 13.

Friday, August 12, 1921.

Examination of All Plates.

Region $19^h - 15^\circ$

ac 23915, August 5, 1921, Exp. 68m

ac 9463 May 2, 1908, Exp. 71m

(23915 superposed)

No. 214

185901 Dm. +1° 3877

SZ Aquilae $18^h 59^m.6$ +1° 9' (1900)

(Cannon)

(Verified by identification Dm. No.)

No. 215 Oranges

$19^h 13^m$ $19^\circ - 22^\circ 47'$ (approx. for (1908) Almanac –

Region $17^h - 15^\circ$

ac 23922, August 8, 1921, Exp. 60m

ac 8634, July 27, 1907, Exp. 60m

(23922 superposed)

No objects found.

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1920phae.proj.1193w

Exc. pl. 745 1924

Saturday, August 13, 1921.

and Monday August 15, 1921.

Var.? C.P.D. -53° 5912 See page 119

Is this star faint on any plate except Am 15212?

Brights on these plates: — Multiple image plates, Cl. C., especially Exam. These are marked "Mt." Yellow plates marked "L"

Plates at -60° Am 27 July 29, 1899
398 March 30, 1900
Mt 452 May 5, "
454 " 7, "
Mt 467 May 18, "
Mt 471 " 21, "
Mt 485 " 29, "
525 July 19, "
Slide 127 533
745 March 30, 1901
775 May 9, "
815 " 28, "
848 June 11, 1901
929 July 23, "
937 " 24, "
1050 Sept. 7, "
1235 May 2, 1902
Mt 1240
1249 May 15, "
1284 " 28, "
1413 July 2, "
1434 " 9, "
Slide 2717 1435
Br 1445
1453 July 11, "
Slide 275 1527

Am 1809 Jan. 17, 1903
1847 Mar. 30, "
1908 May 5 "
1924 " 7, "
1936 " 14, "
1971 " 29, "
2090 July 2, "
2113 " 13, "
2158 " 27 "
2259 Sept. 3, "
2273 " 17, "
2460 Jan. 16, 1904
2483 Mar. 17, "
2555 April 18, "
2590 May 2, "
2626 " 6, "
Mt 2640 " 10, "
2656 " 16, "
Mt 2665 " 21, "
2711 June 4, 1904
2748 " 15, "

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1920phae.proj.1193w

6086

Am	2771	June 21, 1904.		3837	Aug. 29, 1905
	2802	July 2, "		3841	Sept. 5, "
	2864	" 22, "		4063	Jan. 27, 1906
Slide 2809	3001			4147	March 27, "
" 2931	3344				
	3372	March 6, 1905		4951	July 1, 1907
	3383	" 13, "		5010	July 17, "
	3457	April 15, "		5310	Feb. 20, 1906
Slide 3011	3473	April 22, "		5331	Mar. 25, "
* insert	4215	May 10, 1906		5360	April 4, "
M+	4251	May 23, "		5386	" 10, "
	4302	June 13, "	M+	5424	May 1, "
Slide 3013	4384	July 11, "		5430	" 5, "
	4402	July 13, 1906		5442	" 7, "
	4431	" 24, "		5489	" 21, "
Slide 3136	4750	Too poor.		5551	June 9, "
	4806	May 8, 1907		5615	" 30, "
	4832	" 13, "		5623	July 3, "
	4836	" 15, "		5663	" 21, "
	4877	" 31, "		5739	Aug. 6, "
	4935	June 21, "		5976	Mar. 19, 1909
				6002	" 28, "
*	3498	May 5, 1905		6034	April 17, 1909
	3533	May 13, "		6086	May 7, "
	3605	June 9, "		6125	" 13, "
	3646	" 21, "		6154	" 23, "
	3698	July 8, "		6168	" 26, "
	3783	August 11, "		6243	June 18, "

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1920phae.proj.1193w

-53° 5912

Am	6258	June	20, 1909	Am	8275	June 3, 1912
	6329	July	9, "		8286	" 5, "
	6333	"	10, "		8367	" 18, "
	6373	"	18, "		8394	July 5, "
	6427	"	29, "		8493	" 20, "
	6855	March	19, 1910		8530	Aug. 3, " ✓
	6887	April	17, "		9432	Sept. 8, 1913 ✓
	6910	May	5, "		9469	" 22, "
	6961	May	31, "		9549	Oct. 4, "
	6969	June	1, "		9765	May 11, 1914
	7082	July	6, "		9785	" 25 "
	7094	"	8, "		9791	" 26, "
	7162	"	31, "		9821	June 3, "
	7383	April	9, 1911		9911	" 30, "
	7439	June	8, "	L'	9921	July 2, "
	7449	"	15, "		9928	" 11, "
	7468	"	23, "		9931	" 12, "
Slide 2787	7504	July	2, "		~~9944~~	~~Slide 3559~~
	7534	July	8, "		9950	" 18, "
	7554	"	16, "		9981	" 24, "
	7650	Aug.	4, "		10024	Aug. 4, "
	7658	"	5, "		10025	" 4, "
	8057	April	13, 1912		10050	" 13, "
	8103	"	22, "		10118	Sept. 13, "
	8110	"	23, "		10132	" 16, "
	8157	May	8, "	L'	10529	May 2, 1915
	8187	"	17, "		10739	July 2, "
	8212	"	20, "		10762	" 9, "

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1920phae.proj.1193w

Ex. plates 11772

	10818	July 16, 1915	Am	13159	May 18, 1917
	10855	" 20, "		13178	" 21, "
	10910	" 30, "		13331	June 22 "
	11083	Sept. 6, "		13368	July 2, "
	11165	" 15, "		13375	" 7, "
	11182	" 16, "		13388	" 11, "
L'	11182	" 17, "		13398	" 14, "
	11561	March 12, 1916		13420	" 18, "
L'	11574	" 25, "		13431	" 20, "
	11611	April 5, "		13436	" 21, "
	11637	" 11, "		13451	" 30, "
	11638	" 13, "		13984	May 17, 1918
	11670	May 6, "		14126	July 1, "
	11678	" 7, "		14158	" 4, "
	11718	" 13, "		14164	" 15, "
	11741	" 15, "	L'	14170	" 16, "
	11781	" 23, "	L'	14176	" 18, "
	11800	" 25, "		14386	Sept. 8, "
	11840	" 28, "		14710	May 21, 1919
	12103	July 1, "		14732	" 29, "
	12135	" 4, "		14824	July 2, " Slide 4689
L'	12167	" 9, "		14826	July 3, "
	12176	" 10, "		14989	Sept. 3, "
L'	12182	" 11, "		15297	July 11, 1920
	12460	Sept. 20, "			
	12883	May 21, 1917			
L'	13077	— —			
	13112	May 12, 1917			

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Conclusion: -53° 5912

at -60°

Over 200 plates were examined, dates from 1899 to 1920. Examined on plates looked up for Nova Normae, 2, page 119, which may include some plates not exam. in this special investigation. Not found to be faint on any plate except Ame 15212. This plate is on same date as 15213.

Plates at -45° were not specially examined. Some of these were looked at on earlier date, p. 119, but not recorded.

* No reason except defective plate can be given for this faint image.

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1920phae.proj.1193w

2 Regions on this page.

Saturday, September 10, 1921.

Examination of Southern Regions.

Regin 20h -15°
ac 24063, September 7, 1921, Eff. 64m.
ac 18863 May 25, 1917, Eff. 46m
(24063 superposed)

No objects were found.

Regin 18h -15°.
ac 24062 September 7, 1921, Eff. 66m
ac 10701 June 18, 1915, Eff. 60m
(24062 superposed)
No objects were found.

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1920phae.proj.1193w

Wednesday, September 21, 1921.

Examination of Southern Regions.

Region $20^h -15^\circ$

AC 24115, September 19, 1921, Exp. 56m
ANM 12097, June 30, 1916, Exp. 62m
(24115 superposed)

24115 shows much fainter stars than plates have been showing recently.

No. 226 Br. 12097 Ft. 24115

V Aquarii h m
204102 $20^h 41.8 +2^\circ 4'$ (1900) 1891 de Ball
Dm +1° 4359 Verified by identification.

No. 227 Br. 24115 N. S. 12097
~~Not~~ Faint on 24063 — Sept. 7.
N. S. 12079

T Aquarii h m
204405 $20^h 44.7 -5^\circ 31'$ (1900) Goldschmidt (1861)
Dm. -5° 5390 Verified by identification.

No. 228 Br. 12097 Ft. 24115
Br. 12079

Cont. page 146

$-7^\circ 5271$ $20^h 14^m 26^s.9 -7^\circ 48'.2$ 9.4
Apparently New? Not in Variable Star Cat.
Not in H.C. 225

No. 229 Br. 24115 Ft. 12097
Ft 12079

R Sagittarii
191019 $19^h 10^m.8 -19^\circ 29'$ (1900)
Verified by print.

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1920phae.proj.1193w

No. 230 Br. 24115 N.S. 12097
On extreme edge.
Probably due to difference in edge of exposed region—
—Belongs to region, See Am 11087

No. 228, page 145, Continued.
-7° 5271 Wanted: To prove star faint.
Br. Am 10633 June 5, 1915
Am 10703 June 18, "
"
Br. Am 8994 June 2, 1913
9008 " 4, "
9101 " 24, "
9144 " 30, "
9178 July 7, "
9211 " 13, "
9226 " 22, "
9284 " 31, "
9301 Aug. 4, "
** Plates at -21-15 are too poor for proof, star near edge and out of focus

Plates at 20h 0m
Br Am 10507 (at 21d) Apr. 26, 1915
9396 Sept. 3, 1913
9398 Sept. 3, 1913

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1920phae.proj 1193w

1462
1590

am
Br. 9458 Sept. 17, 1913.
16478 May 18, 1915

B Plates examined, list on page 150

B 30205 June 26, 1902, only plate shows Step faint.

dc & ane plates of 1902, etc., not examined.

Br. ane	1263	May 17, 1902.	
	1271		Slide 2725 Not looked up
Br.	1288	May 28, 1902	
Br.	1416	July 2, "	
*	1439	" 9 "	Special Box (* not looked up)
Br	1462	July 12, 1902	
Br.	1537	Sept. 15, "	
Br.	1540	Sept. 16, "	
Br.	1599	" 30, "	
~~Br~~	~~1547~~	~~June~~	
Br. dc	1547	June 16, 1901	
Br.	1931	Oct. 31, "	
→ Faint	1947	Nov. 3, "	
Br.	2021	" 30, "	
Br.	2594	May 30, 1902	
Br.	2905	Oct. 17, "	
Br.	2911	Oct. 20, "	
Br.	2954	" 31, "	
Possibly Ft.	3008	Nov. 21, "	Coon plate.

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1920phae.proj.1193w

*1968
*2133
2274

Variable bright on these plates unless otherwise stated
Ac Plates not good enough to show faint stars in
general. Examination made of Arc plates
from beginning.

Plates at 20h 0°

Arc	16	July 26, 1899.	2414862
	29	" 29, "	14865
	30	" 29, "	14865
	129	Sept. 1, "	14899
	164	" 27, "	14925
	181	" 30 "	14928
	464	May 8, 1900	15148
	535	July 2, "	15203
	549	" 24, "	15225
	624	Sept. 3, "	15266
	653	" 13, "	15276
Bk. 19 f. 31 Faint Br.	801	May 22, 1901	15527
	811	" 27, "	15532
	946	July 25, "	15591
	965	Aug. 18, "	15615
Insert f. 147 ←	1690	Nov. 18, 1902	16072
	1920	May 6, 1903	16241
	1955	May 18, "	16253
	1968	" 23, "	16258
~~Br.~~	2094	July 2, "	16298 Slide 3008
Minn. * 19:31	2120	July 14, "	16310
Br.	2133	July 15 "	16311
	2161	" 27, "	16323
	2270	Sept. 14, "	16372
	2274	Sept. 17, "	16375 Slide 3009
	2289	Sept 21 "	16379

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1920phae.proj.1193w

Continued, after announcement, for further study, Bks. 18, f. 56

	Ame 2591	May 2, 1904	16603
	~~Plate~~ ~~2623~~	~~June 9,~~ "	
Min. 19:31	3162	Oct. 31, 1904	16785
	2		

Broken plates, not looked up, but included in these dates :—

	Ame 1022	Sept. 3, 1901	Slide 3007
	1037	Sept. 5, "	" 156

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1920phae.proj.1193w

These plates repeated, Bk. 19, p. 60, etc
If marked = 1

List of BP plates examined. Bright on all
except 30205
Var. always between
Estimate made = = normal.

/	B 9897	July 22, 1893	
/	10447	Oct. 20, "	
/	13510	June 1, 1895	
/	16622	July 2, 1896	
/	16810	" 11, "	
/	16908	" 18, "	
/	16940	" 20, "	
/	17560	Oct. 6, "	
/	23978	Aug. 24, 1899	
/	25457	May 24, 1900	
/	27767	June 25, 1901	
/	29894	May 28, 1902	
* Min. / →	30205	June 26, "	
/	31775	May 14, 1903	
/	31971	June 5, "	
/	33597	May 3, 1904	
/	33895	" 31, "	
/	37673	June 28, 1907	
/	45977	Oct. 4, 1915	
/	45997	" 5, "	
/	47148	Jun 7, 1916	
/	47674	" 28, "	
/	47766	July 2 "	
/	48374	[illegible] "	

2 plates

For Magn. (later)
See Sheets 32: 144
means 35: 51

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1920phae.proj.1193w

✓ Iden. checked by Miss Walker –
✓ New Var. " " " "
✓ Confirmed by Miss Cannon, September 23.

Dm.-7° 5271 $20^h 16.8^m$ -7° 40' (1900) 1900 Pos. fr. N.D. Cat.
Sp. A2.

For proofs:

Bb. 19, p. 62 — Br. B 27767 — Fh. B 30205 — Bb 19, p. 62
" 19, " 11 — Am 9569 — Ac 24115 — " 18, p. 145
Am 2120 — " 18, p. 148

~~MC 6307~~

Of 64 plates examined, these are dates of Min.

		J.D.	
~~Ac 1947~~	~~Nov. 3, 1901~~		
Am 801	May 22, 1901	2415527	165
Ac 1947	Nov. 3, 1901	15692	
B 30205	June 26, 1902	15927	235
Am 2120	July 14, 1903	16310	383
Am 3162	Oct. 31, 1904	16785	475
Ac 24115	Sept. 19, 1921	22952	6167

Algol ? July 14, 1903, Min.
July 15, 1903, Br.

Estimates of Magn. Seq. of Carte 20^h -10° MC 6307.

Magn Bb. 32:144
1 = 9.70
2 = 10.14
6 = 11.12

On Am 2133 and 2097, var. is a little fainter than Star 1, much brighter than Star 2. = Max. Min. star is about = to star close to it. On 2133 this is about = Star 6.

Range of Var. = 9.8 – 11.1

See Bb. 18, p. 56

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1920phae.proj.1193w

No. 234 in Book No. 13

Thursday, September 22, 1921.

Examination of Southern Regions.

Region $18^h - 15^\circ$

AC 24114, September 19, 1921, Exp. 62m
AM 14797, June 24, 1919, Exp. 62m
(24114 superposed)
Comparison plate is much better than 1921 plate.

No. 231
~~Venus~~ Moon, Oct. 21, 1917,
$18^h - 23^\circ$

AM 13689, October 21, 1917, selected for comparison plate, shows ~~Venus~~ Moon on plate. That portion of plate is fogged, so this is rejected.

No. 232 Br. 14797 Ft. 24114

Var. or Defective image?

184300 Nova Aquilae, No. 3. $18^h 43^m.8$ $+0^\circ 28'$ (1900)

new, Bk. 13, p 80.

No. 233 New Var of S.E.W., recently found. Est. made = 10.6
Br. 14797 Ft. 24114 J.D. = 22952

173806 $-6^\circ 4638$ $17^h 38^m.6$ $-6^\circ 14'$ (1900)

24114, exposure of Southern part of plate is cut off by ——? (Dome?) so few stars show.

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1920phae.proj.1193w

2 regions on this page

Wednesday, September 28, 1921.

Examination of Southern Regions.

Region $20^h - 15^\circ$

ac 24121, September 22, 1921, Exp. 64m

ac 12034 June 20, 1916, Exp. 71m

(ac 24121 superposed)

No. 235 Br. 12034 Ft. 24121

V Aquarii

204102 $20^h 41^m 1.8 + 2^\circ 4' (1900)$

Compared with object No. 226 for iden.

No. 236 Br. 24121 Ft. 12034

T Aquarii

204405 $20^h 44^m.7 - 5^\circ 31' (1900)$

Compared with object No. 227 for iden.

No. 237 Br 24121 Ft. 12034

R Sagittarii

194019 $19^h 10^m.8 - 19^\circ 29' (1900)$

Compared with object No. 229 for iden.

Region $6^h - 15^\circ$

ac 24096, September 13, 1921, Exp. 56m

ac 18412, January 11, 1917, Exp. 60m

(24096 superposed.)

both these plates are fogged.

No objects of interest found.

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1920phae.proj.1193w

2 regions on this page.

Thursday, October 6, 1921.

Examination of Southern Regions.

Region 18h -15°

AC 24158 September 27, 1921, Exp. 64m
AM 11128 September 11, 1915, Exp. 60m
(24158 superposed)

24158 does not show ft. Stars.

No objects of interest were found.

Region 6h -15°

AC 24138 Sept. 23, 1921, Exp. 58m
AC 19376 Nov. 2, 1917, Exp. 50m
(24138 superposed)

Both plates fogged — difficult, as there is much danger of overlooking an object. Also, many defects on plates. These plates were examined wholly by holding them to the light by hand, — not on the frame.

No. 238 Pl. 19376 Ft. 24138
061702 V Monocerotis 6h 17.7m -2° 9' (1900)
Identified Dun. No.

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Arequipa plates recd, Oct. 3 !

2 regions on this page

not a Milky Way region.

Regin 21h -15°
ac 24018, August 25, 1921, Eff. 52m
auc 4691 November 14, 1906, Eff. 96m
(24018 superposed)
24018 stars, tiny Very small and faint.
No objects of interest found.

Regin 19h -15°
ac 24008 August 24, 1921, Eff. 54m
auc 2827 July 7, 1904, Eff. 74m
(24008 superposed)

24008 shows few stars.
No objects of interest found.

Regin 9h -45°
auc 15577 May 10, 1921, Eff. 62m
auc 6924 May 26, 1910, Eff. 60m
(15577 superposed.)
A region is marked in Auc 6924.

No. 239
a faint star.
Bk. 15577 Ft. 6924
084047 S W Velorum, 8h 40m.4 -47° 3' (1900)

Star (disc. by Miss Cannon) was marked with her number on B plate used for ide

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9-45 Cont. fr. page 155.

No 240 Defect ? Very starlike.

No. 241 Br.

a 30-56

100661 S Carinae $10^h 6.^m2 -61° 4'$ (1900)
Identified by print.

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1920phae.proj.1193w

2 regions on this page.

Friday, October 7, 1921.

Examination of Southern Regions.

Region $5^h -15^\circ$

ac 24197, October 5, 1921, Exp. 62m
ann 1748, December 6, 1902, Exp. 60m
(24197 superposed)

No objects of interest were found.

Region $7^h -15^\circ$

ac 24198, October 5, 1921, Exp. 58m
ac 3139, January 1, 1903, Exp. 63m
(24198 superposed)
24198 does not show faint stars.

~~Region~~ —

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October 7, 1921.

Regions $19^h - 30^\circ$
Ard 15536, October 9, 1921, Exp. 61m
Ard 13304, June 18, 1917, Exp. 60m
(15536 superposed)
15536 very small images.

No. 242 Br. 13304 Very ft. 15536. Iden. on B 27489
C.Dnl. -23° 15742 $19^h\,39^m\,41.^s2 - 23^\circ\,40.'9$ 8,8 (1875)
Apparently new! Iden. checked by M. A. Gill,

No. 243 Br. 15536 N.S. 13304

No. 242 Continued.
→ To find Var.(?) faint on another plate.
Br. 15320 July 19, 1920 20 -30
Br. 15469 Sept. 6, " 20 -30
Br. 15505 " 16, "

Br. 12921 May 28, 1917
13278 June 14, "
13333 June 22, "
13402 July 14, "
13424 " 18, "
13430 " 19, "
13489 Aug. 9, "

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Br. on these plates unless otherwise stated.

AM 13503 Aug. 12, 1917
13563 Sept. 5 "
14232 July 29, 1918
14236 " 30, "
14369 Sept. 2, "
14376 " 6, "
14388 " 8, "
14399 " 14, "
14877 July 31, 1919
15017 Sept. 22, "
15024 " 27, "

And 12 Broken Pl. 69 Not ex.
23 July 27, 1899
34 " 31, "
138 Sept. 6, "
174 " 29, "
298 Nov. 21, "
463 May 8, 1900
482 " 28, "
534 July 21, "
557 " 25, "
615 Sept. 1, "
669 Sept. 19, "
796 May 21, 1901
810 Br. Slide 147. Not ex.
819 " 28 "

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1044

2275

Am 898 Br. Sl. 2/15. Not ex.

1029 Sept. 4, 1901
1044 " 6, "
1244 May 10, 1902
1256 " 16, "
1262 " 17, "
1272 " 26, "
1415 July 2, "
1438 " 9, "
~~1529~~ Sept. 13, "
1536 " 15, "
1541 " 16, "
1675 Nov. 6, "
1708 " 25, "
1919 May 6, 1903
1954 " 18, "
1967 " 23, "
2095 July 2, "
2111 " 12, "
2122 " 14, "
2160 " 27, "
2271 Sept. 14, "
2275 " 17, "
2290 " 21, "
2381 Nov. 19, "
2646 May 12, 1904
2750 June 15, "
2782 " 23, "

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Ar	2807	July 5, 1904
	2866	" 22, "
	2924	Aug. 5, "
	2941	" 12, "
	2996	Sept. 1, "
	3067	" 21, "
	3120	Oct. 7, "
	3156	" 28, "

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Saturday, October 8, 1921.

Examination of Southern Regions.

Region $18^h - 45^\circ$

Ad 15535, October 9, 1920, Exp. 65^m

Ad 11888, June 3, 1916, Exp. 61^m

(15535 superposed)

Centres in Dec. are not coincident so a little space of each plate (north on 15535 and south on 11888) cannot be examined.

No. 244 Br 15535 ff 11888

Apparently New! Small range

If a real variable.

C.Dm. $-28^\circ 13577$ $17^h 39^m 11^s.5$ $-28^\circ 6'.3$ 9.2.

Br. 11903 June 6, 1916

11944 June 10, "

Br. 14791 June 23, 1919

14854 July 21, "

14864 " 24, "

Ff. 14881 Aug. 1, "

Br. 14934 Aug. 20, "

Br. 14939 " 21, "

Br 15239 June 7, 1920

1740 28

Same as object 103.

New, I.E.F., announced in N.C. 225.

$17^h 40^m 46^s$ -28° 7.1

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1920phae.proj.1193w

regions on this page

Monday, October 10, 1921.

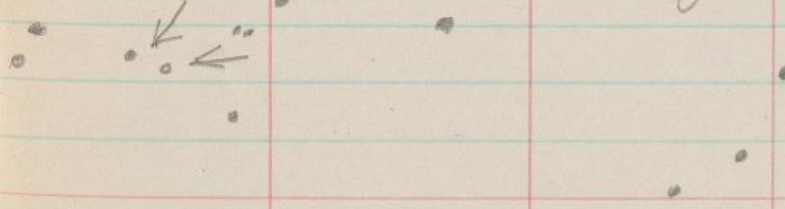
Examination of Southern Regions.

Region $11^h -45^\circ$
Ame 15578, May 10, 1921, Eff. 61m
ame 4720 December 12, 1906, Eff. 63m
(15578 superposed)

No. 245 Defective? Hazy on 4720.
Many Lazy effects on this plate
but not like this one.

Region $12^h -45^\circ$
ame 15569 April 30, 1921, Eff. 61m
ame 13859 April 16, 1918, Eff. 60m
(15569 superposed)

Nos. 246, 247, 248. Extra stars on plate 13859
near No. edge of plate.
Do not belong to region, see ame 15571,
$12^h -60^\circ$.



No. 249. This star on 13859 belongs to region but does not come out on 15569. Near edge. Stars nearer edge come out except in this small section.

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1920phae.proj.1193w

October 19, 1921.

Regin $12^h - 60°$

All 15571 May 2, 1921, Exp. 65m

All ~~5342~~ ~~March 28, 1908, Exp. 127m~~

4212 May 10, 1906, 60

(15571 superposed)

5342 Was very long exp. and showed so many stars, it would be better to use with a better plate than 15571 which shows good, though small images, but not the faintest stars.

No. 250 Br. 4212 N.S. 15571

Not on 5342 March 28, 1908

Is this a star image?

N.S. 4194 April 30, 1906

4300 June 13, "

at -45° 4185 Apr. 28, "

4225 May 12, "

4287 June 11, "

Probably defect.

No. 251 ~~Comet or Defect~~ ?

Br. 4212 Ft. 15571

Small range? near edge of plate.

-59° 1705 ?

Several stars in Cat. Try to prove change.

Not known variable.

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No. 252 Bi. 15571 Ft 4212

large range

100661 δ Carinae $10^h 6.^m2 - 61° 4'$ (1900) Verified by print.

No. 253 Comet or Defect? nr 15571

Probably defect –

No. 254 ~~Defective?~~

Br. 4212 Ft. 15571

Ft. on B 24734, used for iden.

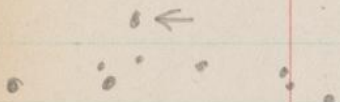
105364 XX Carinae $10^h 53.^m4 - 64° 36'$ Leavitt.

No. 255 Br. ~~15571~~ 4212 Ft. ~~4212~~ 15571

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No. 256



No. 257 Br. 4212 F.M.S. 15571

Br. 4364 July 2, 1906.



Not a moving object.

140959 R Centauri 14 9.4 -59 27 (1900)

(Verified by print.)

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1920phae.proj.1193w

No. 258

Look up in later plates

Tuesday, October 11, 1921.

Examination of Southern Regions

Region 1 — $13^h - 45^\circ$

Am 15574, May 9, 1921, Exp. 69m

Am 5416, April 26, 1908, Exp. 120m

(15574 superposed)

15574 does not show faint stars. It would be difficult to discover any small variations or fast objects on these plates.

No. 258 Defect or image?

Am 15575 is too poor for proof. Shaped much like stars in this portion of the plate but probably defect.

An unsatisfactory plate -

Region 1 — $14^h - 30^\circ$

Am 15575 May 9, 1921, Exp. 60m

Am 4975 July 4, 1907, Exp. 77m

(15575 superposed)

15575 poor plate.

Unsatisfactory -

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1920phae.proj.1193w

Examination of Southern Regions.

Region 19h −15°
dc 24168 October 1, 1921, Eff. 60m
Ald 2725 June 7, 1904, Eff. 66m
(24168 superposed)
24168 fogged.

No. 259 Br. 24168 Ft. 2725
Dnl −19°4945
18 11 19 W Z Sagittarii 18h 11m.1 −19° 7′ (1900) Cannon, 1908.
Verified by identification of Dnl. No.

No. 260 Defect ? on 24168

✓

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1920phae.proj.1193w

Wednesday, October 12, 1921.

Examination of all Plates -

Region $15^h - 60°$

All 15580, May 10, 1921, Exp. 67m

All 6427, July 29, 1909; Exp. 62m

(15580 superposed)

(6427 very dark)

Note for page 171.

~~Plates are not~~ Complete in Dec. zone ~~portion of each plate is not examined.~~

No. 261.

Br. 6427 Ft. 15580

Br. 6373 July 18, 1909

Iden. B27269. ✓

C. Dm. -50° 8727 $14^h\ 3^m\ 59^s.0$ -50° 12.7 8.1 (1875)

Identt. checked by Miss Walker.

Continued on page 178.

Probably defective image on 15580. Image exam. also by Professor Bailey.

No. 262 Br. 6427 N. S. 15580

140959 R Centauri $14^h\ 9^m.4$ -59° 27' (1900)

Verified by print.

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1920phae.proj.1193w

negative on film proj

Saturday, October 22, 1921.

Examination of Southern Regions.

Region 19h -15°

ac 24247, October 14, 1921, Exp. 60m

and 2052, June 18 1903, Exp. 60m

(24247 superposed)

Southern portion of 24247 not exposed to stars. One bright object assumed to be defect.

No objects of interest.

Region 7h -15°

ac 24258 October 14, 1921, Exp. 64m

and 1775 December 26, 1902, Exp. 60m

(1775 superposed)

No objects of interest.

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1920phae.proj.1193w

Monday, October 24, 1921.

Examination of Southern Regions.

Region $10^h 30^m - 60°$

Dnc 15566 December 11, 1920, Eff. 60m
Anc 10433 April 18, 1915, Eff. 60m
(15566 superposed)

Plates are not coincident in Dec., as a portion of each plate is not examined.

No. 263 Br. 15566 Ft. 10433

small range 2den. B 29155.

CDnc. $-48° 5401$ $10^h 7^m 15^s.4$ $-48° 39'.0$ 9.6

Idem. checked by Miss Walker.

Not in Van. Cat. "Fair" "

see page 172 for exam. of plates.

No. 264 Br. 15566 Ft. 10433

A very br. star but increase in image is not accounted for by diff. in plates. Four bl. stars near to compare.

Verified by no Cat. ident. of

Not defect.

(1875) $0 12' (1901)$

U Carinae 105359 CPD. $-59° 2888$ 10 52 440 -59 4.0 7.9 $10^h 53^m.7$ $-59° 12'$ 1891 Roberts

No 265 Comet? on 10433.

N.S. on Anc 10430 April 18, 1915

N.S. on Anc 10457 April 21, "

✓ Assume Defect.

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1920phae.proj:1193w

3320

For Proof & Range: See page 173.

Obj. 263, page 171. Cont. -48° 5401

Ex. of plates at -45° (11h)

For proof = *

	~~Ft~~	AM 2428	Dec. 24, 1903
	Ft	2469	(Poor)
*	Br.	2493	March 26, 1904
	?	2502	April 4, "
	Br.	2516	April 6, 1904
*	Br.	2562	Apr. 20 "
	?	2605	May 4, "
	Ft	2667	May 23, "
x	Br.	2699	June 3, "
	B	2742	" 12, "
	?	2821	July 7, "
	?	3271	Dec. 6, "
xx	Br.	3320	Jan. 12, 1905
	Br.	3353	Feb. 25, "
*	Br.	3439	April 5, "
	?	3469	" 22, "
	?	3528	May 12, "
	Br.	3556	" 25, "
	?	3573	June 2, "
	?	3628	" 13, "
*	** Ft.	3718	July 12, "

(* N. B. Smaller image?)

	?	4015	Dec. 5 "
	?	4076	Jan. 30, 1906
	Br.	4098	Feb. 3, "
	Br.	4133	Mar. 17, "

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* * Range 9.7 to 10.4 as below

Br.	Am 4185	April 28,	1906
Br.	4225	May 12,	"
Br.	4287	June 11,	"
Br.	4352	June 29,	"
** Ft.	4720	Dec. 12,	"
Br.	4765	Apr. 16,	1907
Br.	4848	May 22,	"
Br.	5309	Feb. 20,	1908
Br.	5381	Apr. 9,	"
Ft. ?	5400	" 23,	"
Br.	5432	May 6,	"
?	5539	June 7,	"
?	5932	Dec. 21,	"
?	5949	Feb. 1,	1909

For Prof's Range: not in Draper Cat.

Br. 3320,

Ft. 2667 ~~3718~~ ~~4720~~ 10433

Estimates of Range made on October 27, 1921.

174 K

2 = 9.54

3 = 10.71

Comp. Seq. 174 K (10 37.4 -45) on B 27299

Magn. Bk. 48 : 66.

Am 3320, var. = .2 < Stan 2 (9.54) = 9.7

" 4720, " = .3 > " 3 (10.71) = 10.4 confirmed by 3718

** See B 33783, May 21, 1904, only B or A plate near the plates of Mim. on pages 172 & 173.

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1920phae.proj.1193w

October 24, 1921.

Examination of Southern Regions.

Region $12^h - 60^0$

AM 15579 May 10, 1921, Exp. 60m

AM 9180 June 8, 1913, Exp. 57m

(15579 superposed)

No objects of interest.

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1920phae.proj.1193w

3 regions on this page

Tuesday, October 25, 1921.

Examination of Southern Regions.

Regin $4^h 30^m - 60°$

Auc 15568 April 30, 1921, Eff. 61m
Auc 12633 October 19, 1916, Eff.
(15568 superposed)

12633 broken, Slide 4565.

No objects of interest.

Regin $19^h - 15°$

Ac 24280 October 22, 1921, Eff. 73m
Auc 2184 August 11, 1903, Eff. 63m
(24280 superposed)

No objects of interest.

Regin $7^h - 45°$

Auc 15576 May 10, 1921, Eff. 40m
Auc 4719 December 12, 1906. Eff. 60m
(15576 superposed)
15576 shows very few stars compared with good plates of region.

No. 266 Comet? Defect? in good plate, 4719.
Does not belong to region, N.S. 4695, Nov. 15, 1906.

N.S. 4729, Dec. 17, 1906
Many other similar defects on same plate.
Assumed defect.

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1920phae.proj.1193w

176 Compare 15565 with some good later plate. October 25, 1921.

15565 probably best plate of recent shipment.

3 regions on this page

Region Examn of Southern Regions.

8^h $-45°$

am 15565 December 11, 1920, Eff. 60m

am 13657 October 7, 1917, Eff. 30m

(15565 superposed)

15565 is much better than Comp. pl. but there are not many plates of this region.

No. 267 Br. 13657 N.S. 15565

Confirmed by 13674, October 11, 1917.

091649 R W Velorum $9^h 16.^m 9$ $-49° 6'$ $-48°$ 4613

Verified by iden. Dm. No. 1909 Cannon

Region 9^h $-60°$

am 15572 May 9, 1921, Eff. 65m

am 9682 February 21, 1914, Eff. 72m

(15572 superposed on 9682)

No. 268 Meteor trail (?)

Mr. Fisher calls this a scratch. Feb. 25, 1925

15572, very small images and many defects that are similar to the other images. A new star or var. might very easily be missed.

Region 9^h $-15°$

am 15570, May 2, 1921, Eff. 71m

am 4139, March 24, 1906, Eff. 70m

(15570 superposed)

No. 269 Br. 4139 N.S. 15570

093014 ☆ Hydrae $9^h 30.^m 7$ $-14° 15'$ (1904) Verified by iden. Dm. No. 2893

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1920phae.proj.1193w

No. 270 Br. 4139 N.S. 15570. Asteroid?
Not on Ann 4129, Mar. 13, 1906
" " Ann 4158, Mar. 29, "
Defect, probably.
Not on AC 7408 March 23, 1906.

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1920phae.proj.1193w

Wednesday October 26, 1921.

Exam. of Plates for confirmation of Object No. 261, page 169.
May be defective on 15580.

Always Br. on these plates:

Ann 5442	May 7, 1908	Ann 7439	June 8, 1911.
5489	May 21, "	7449	" 15, "
5549	June 9, "	7468	" 23, "
5551	June 9, "	7534	July 8, "
5623	July 3, "	7554	" 16, "
5663	July 21, "	7589	" 21, "
5739	Aug. 6, "	7650	Aug. 4, "
5976	Mar. 19, 1909	7658	Aug. 5, "
6002	Mar. 28, "	8212	May 20, 1912
6034	Apr. 17, "	8275	June 3, "
6086	May 7, "	8286	" 5, "
6125	May 13, "	8367	" 18, "
6154	" 23, "	8394	July 5, "
6168	" 26, "	8493	" 20, "
6243	June 18, "	8530	Aug. 3, "
6461	Aug. 14, "	9432	Sept. 8, 1913.
6855	March 19, 1910	9469	" 22, "
6887	April 17, "	9549	Oct. 4, "
6910	May 5, "	9785	May 25, 1914.
6961	" 31, "	9791	" 26, "
6969	June 1, "	9821	June 3, "
7082	July 6, "	9911	" 30, "
7094	" 8, "	9928	July 11, "
7162	" 31, "	9931	" 12, "
7383	April 9, 1911	9981	" 24, "

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1920phae.proj.1193w

October 26, 1921.

Examination of Southern Regions.

Region 10^h $-75°$

Arc 15581, May 11, 1921, Eff. 60m
Arc 10545, May 5, 1915, Eff. 60m
(15581 superposed)

No objects of interest.

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Friday, October 28, 1921.

Examination of Southern Regions.

Region 5^h $-15°$

ac 24300 October 25, 1921, Exp. 68^m

am 2226 August 19, 1903, Exp. 60^m

(24300 superposed)

No objects of interest.

No. 271 = Nova Puppis, — October 31, 1921

Position, Bk. 16, p. 30

" of faint star near, Bk. 16, p. 31.

Magn. of Nova for light curve & dates, pages, 182, 183

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1920phae.proj.11993

See ? on p 182

Saturday, October 29, 1921,
and Monday, October 31, 1921.
Examination of Southern Regions.

Region 7h -15°

AC 24303 October 25, 1921, Exp. 54m
and 2423 December 23, 1903, Exp. 76m
(24303 superposed)

No. 270 3 fairly bright stars on 24303, not on 2423, which has defective film in this spot. If these stars were not part of region, they would be peculiar to 24303. But they are on 1819, Feb. 19, 1903.

Region 9h -15°

AC 24304 October 25, 1921, Exp. 58m
AC 3046 December 5, 1903, Exp. 61m
(24304 superposed)

Formulas Oct. 31. AC 24304, very poor plate, dark.
~~AC 3046~~

No. 271 Br. 3046 N.S. 24304.
Nova? or Var.?

See page 182 for list of plates.

8h 9m -26.4 Approx. (1900) Not in Var. Star Cat.

Meas. Pos.

8 8 39.5 -26 11.4 (1875)

8 9 86.4 -26 15.8 (1900) Bb. 16, p. 30.

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182 ** See Morning Obs. (?) on Aur 1639 For comp. St. 1786

Eq. Pl. 1896 Showing Many Stars.

*	Aur 1648	Oct. 13, 1902	-45°	16036	< 9.4	Verified N.S. by Miss	Wa
	Aur 1662	" 24, "	-45	16047	< 10.3	" " "	
Verified list, no gaps in dates.	ϑ 31003	" 28, "		No est.	Aperture edge. N.S.	" " "	

Object 271, page 181. For Sequence used, see 183.

Plates of 1902-1903.

N.S.	Aur 1320	June 19, 1902	-15	2415911	< Star 10	< 10.9	
N.S.	Aur 1358	June 14, 1902	-15	N.S.	< Star 10	< 10.9	2415915
N.S.	1581	Sept. 26, "		16019	-30° Star 10:2	Nova N.S.	< 11.0
N.S.	1639	October 10, 1902	-15°	16033	< Star 10	< 10.9	
Very Br.	aC 3003	Nov. 19 (17) "	-15	16073	7.0		
" "	Aur 1707	Nov. 24, "	-30	16078	~~6.9~~ 7.0		
" "	aI 494	Nov. 28				No estimate made. Seen.	See page 194
" "	Aur 1736	Dec. 4, "	-15	16088	~~6.8~~ 7.0		
	1743	Dec. 5, "	-15	16089	~~6.9~~ 7.0		
	3046	Dec. 5, "	-15	"	~~7.0~~ 7.0		
Faint	aC 3140	Jan. 1, 1903	-15	16116	8.8		
~~Ft.~~ Br.	Aur 1786	" 3, "	-30	16118	8.1		
	1798	" 15, "	-30	Plate missing			
Faint	aC 3194	" 19, "	-15	16134	9.1		
Ft.	3291	Feb. 13, "	-15	16159	"	Too poor for estimate.	
Very Ft.	3322	" 19, "	-15	16165 about	10.8?	Plate too poor for est. On limit of vis. Star 10 barely seen.	
Very Ft.	Aur 1820	" 19, "	-15	16165	10.6		
Ft.	aC 3362	" 26, "	-15	16172	10.4		
Ft	Aur 1832	Mar. 5, "	-30	16179	10.1		
?	Aur 1840	" 18, "	-30	16192	10.1	Comp. only with St. 9.	*
Poor	aC 3437	" 17, "	-15	Too poor,			
Ft	aC 3388	" 2, "	-15	16176	10.4		
Ft.	Aur 1868	April 21, "	-15	16226	10.3		
Ft.	Aur 1883	" 25, "	-15	16230	10.2		
Ft.	1896	May 4, "	-30	16239	10.4		
Ft	1932	" 14, "	-30	16249	10.5		
Ft.	1957	" 19, "	-30	16254	10.5		
	~~B~~ 1995	June 3, "	-15	16269	10.4?	Poor. Nova distinctly seen.	

* Is Star 8 of Comp. Seq. Var.? See 1840, which is very poor.

See p. 204.

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Comp. St. marked on Ac 3046.

For pos. certain. 31506 a 5124 31244 – 4th stars

Walker.
"
"

by large dot.

	B Plates	1902 – 1903		Pos. marked approx. B 26676		
Very Br.	B	31241	Jan. 15, 1903	crowded	24 16130	9.3
" "	B	31244	Jan. 15, 1903		16130	9.1
		31262	" 16, "		16131	8.8? Edge
		31506	April 21,		16226	10.4
		31544	" 25, "		16230	10.6? Edge
		31555	" 28, "		16233	10.6? Edge
		32890	Dec. 10, "		16459	? Extreme Edge. Difficult. Nora Seen?

June 1902 – Jan. 1903 no B plates of region.

Marked on Ac 5124

Used for Comparison Sequence, Carte $8^h\ 00^m - 23^\circ.5$
Seq. on MC 78447
Magn., Bk. 35, page 86

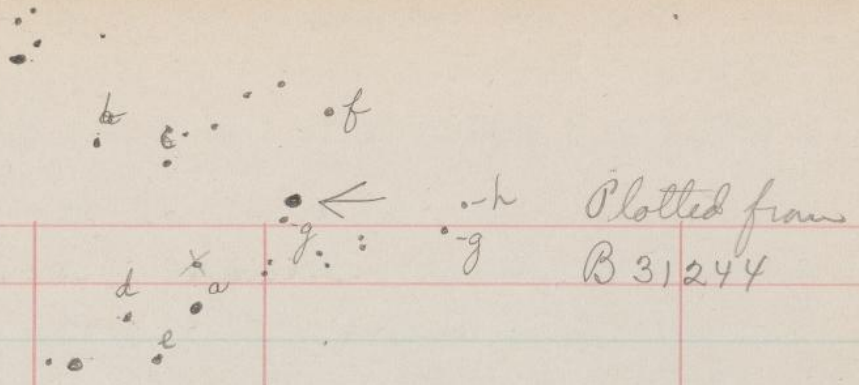
1 = 6.6
2 = 7.2
3 = 7.8
4 = 8.3
5 = 8.7
6 = 9.4

etc.

Magn. of faint star, following, south, compared with 18 = 13.52

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Plotted from B 31244

Faint stars lettered to show limit of plate

Examination of Ann Plates at −30° to prove another appearance of this star.

Nova(?) Not seen on these plates.

		Faintest star near.
Ann 317	Nov. 27, 1899	Limit = g (see above)
349	Slide 3122	
382	Mar. 10, 1900	Limit = a
391	" 28, "	e
721	Nov. 17, "	" g
723	" 20, "	f
735	Mar. 25 1901	b
785	May 14 "	g
1113	Nov. 12, "	
1160	Mar. 12, 1902	
1231	May 2, "	
1291	" 29, "	

Plates of 1902-1903, see page 182.

2371	Nov. 16, 1903	
2387	" 19, "	
2451	Jan. 14, 1904	
2479	Mar. 11, "	
2540	Apr 20, "	

Total 17

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Camp St.
1113
3501
4039

Plates at -30°

Nova Not Seen on these plates.

au 2593 May 3, 1904
3098 Sept. 30, "
3160 Slide 4766
3193 Nov. 4, "
3222 Nov. 11, "
3281 Dec. 8, "
3298 Jan. 8, 1905
3340 Jan. 23, "
3367 March 6, "
3501 May 29, "
4039 Jan. 1, 1906
4045 " 25, "
4118 Feb. 17, "
4159 March 29, "
4198 May 4, "
4237 " 15, "
4669 Nov. 8, "
4735 Jan. 3, 1907
4744 Mar. 16, "
5223 Oct. 17, "
5254 Nov. 13, "
5276 Too poor -
5291 Jan. 30, 1908.
5334 Too poor
5379 April 9, 1908
5445 May 8, "
5904 Nov. 18, "
6013 March 30, 1909

Total 26

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Plates at −30°

Nova Aur Seq.

Aur 6064 April 25, 1909
6712 Oct. 23, "
6760 Nov. 5, "
6767 Nov. 8, "
6816 Dec. 11, "
6881 Apr. 16, 1910
7392 April 17, 1911
7397 Apr. 26, "
7996 Dec. 20, "
8036 March 30, 1912
8046 April 8, "
8098 " 22, "
8132 Apr. 27, "
8137 May 4, "
8744 Oct. 22, "
8825 April 23, 1913
8858 May 4, "
8924 May 22, "
8947 " 26, "
9678 Feb. 13, 1914
9681 Feb. 21, "
9691 March 15, "
9692 " 30, "
9694 April 3, "
9716 Apr. 18, "
9728 " 22, "
9766 May 14, "
10230 Oct. 24, "

Total 26

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* 12899
12901
13791

Plates at −30°

Nova Aql Dec

Aql	10542	March 14, 1915
	10582.	Slide 4094
	10584	May 15, "
	10665	June 12, "
	11268	Sept. 26, "
	11449	Nov. 12, "
	11575	March 27, 1916
	11660	May 3, "
	11821	May 27, "
	11854	" 29, "
	12441	Sept. 18, "
	12505	" 27, "
	12532	Sept. 29, "
	12879	March 5, 1917
	12899	Mar. 25, "
	12922	Mar. 29, "
	12956	April 10, "
	12964	" 11, "
	12988	" 13, "
	13015	" 16, "
	13156	May 18, "
	13170	" 20, "
	13172	" 21, "
	13626	Sept. 23, "
	13675	Oct. 11, "
	13781	March 9, 1918
	13791	" 18, "

Total 26

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15080

Nova Aquilae

Aql 13824 April 8, 1918
13830 " 9, "
13948 May 5, "
13988 " 18, "
14008 " 31, "
14040 June 7, "
14050 " 11, "
14453 Sept. 28, "
14500 Oct. 5, "
14594 March 31, 1919.
14597 April 1, "
14601 April 4, "
14604 " 5, "
14626 " 22, "
14649 " 27, "
14711 May 22, "
15091 April 9, 1920
15103 " 14, "
15114 " 19, "
15131 " 22, "
15177 May 13, "
15254 June 16, "

22 stars

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*** Enlarged A 5124, ~~if needed~~.

A Plates of regin

Star near marked on A 5124

A 5081 March 30, 1901 Eff. 10m No trace of this star
(limit of plate =
Exp. pl. * A 5124 April 20, 1901 Eff. 60m No trace of this star
(limit of pl. =
A 7217 March 11, 1905 Eff. 10m ~~No trace of this star.~~
(limit of pl. = See Bulletin
Seems, faint

Summary of Plates
No MC plates of Regin See p.
" MF " " " "
" A " " gives dates

For Positon, see A 5124, compared with B 31244
Is Nova one of the faint stars seen on A 5124?

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Thursday, November 3, 1921.

Nova Puppis

9h −15°

Examination of plates at −15° for earlier appearance of this star.

Not seen in these plates

Ac 573 December 6, 1899.
785 Too poor
818 Too poor.
1068 Dec. 17, 1900
1089 Dec. 25, "
1235 Feb. 10, 1901
1379 Mar. 27, "
1964 Nov. 6, "
2059 Dec. 5, "
2106 " 25, " "
2127 " 31, "
2147 Jan. 3, 1902
2295 Feb. 7, "
2381 March 3, "
2512 May 1, "

plates of 1902–1923, see page

4254 Nov. 24, 1903
4377 Dec. 15, "
4419 Dec. 22, "
4515 Jan. 10, 1904
4557 " 24, "
4670 Feb. 22, "
4734 Mar. 12, "
4807 April 5, "

(21)

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AC at -15°

Nova Not seen

AC 5543. November 16, 1904
5620 " 27, "
5661 December 3, "
5717 " 13, "
5755 " 19, "
5919 January 30, 1905
5983 Feb. 11, "
6054 " 23, "
6092 March 1, "
6119 " 4, "
6236 " 31, "
6284 Slide 3071
7084 Dec. 5, "
7130 " 27, "
7190 Jan. 21, 1906
7294 Feb. 17, "
7358 March 6, "
7426 " 31, "
8038 Nov. 22, "
8069 " 29, "
8075 Dec. 1, "
8126 Jan. 1, 1907
8146 " 9, "
8170 " 21, "
8233 Feb. 10, 11
8273 " 21, "
(26) 8291 " 23, "

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Ac Plates at −15°
Nora Not seen

Ac	8343	March 11, 1907
	8449	April 21, "
	9144	January 5, 1908
	9225	Feb. 2, "
	9246	Feb. 9, "
	9264	" 11, "
	9304	" 29, "
	9309	March 3, "
	9322	" 9, "
	9327	" 10, "
	9360	" 24, "
	9383	April 3, "
	9388	" 4, "
	9398	" 9, "
	9875	Nov. 1, "
	9944	" 21, "
	9986	Dec. 2, "
	10026	" 9, "
	10085	" 21, "
	10104	" 27, "
	10126	" 31, "
	10235	Feb. 17, 1909
	10401	April 8, "
	11080	Nov. 26, "
	11118	Dec. 4, "
	11170	" 18, "
(26)	11259	Jan. 7, 1910
	11306	" 15, "

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ac Plates at -15°
Nova Not seen.

ac 11321 January 19, 1910
11355 Feb. 5, "
11409 " 25, "
11423 March 3, "
11477 " 15, "
11504 " 19, "
11575 April 13, "
12102 Nov. 7, "
12142 " 19, "
12199 Dec. 9, "
12212 " 12, "
12285 " 25, "
12334 Feb. 18, 1911
12749 Nov. 18, "
12815 Dec. 25, "
12832 Jan. 7, 1912
12841 " 10, "
12912 Feb. 10, "
12948 " 27, "
12968 " 29, "
13496 Nov. 18, "
13531 Nov. 30, "
13542 Dec. 2, "
13632 Jan. 9, 1913
13713 Feb. 1, "
13832 Mar. 2, "
14607 Nov. 26, "
14631 Dec. 8, "
14561 Nov. 14, "

Continued, page 195

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Estimates on B. Plates

Method: Stars were selected near Nova on one of the B plates which shows it in center. These were chosen covering magns. on the various B plates.
These stars were estimated on an Agl plate in terms of the Comp. Deg., $8^h\,00^m - 23.5°$, and, with these values, the Nova was compared directly on B plates with the chosen stars.

aI Plates of region covering dates of Nova.

aI 394			
aI 425	N. S.		Oct. 25, 1902
aI 494	Seen	7.5 ? Near edge.	Nov. 28, 1902
506	Dec. 3, 1902		
525	Dec. 8, 1902		
556	Dec. 23, "		
581	" 30, "		
591	" 31, "		
650	Jan. 19, 1903		
661	" 21, "		
684	" 30, "		

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Continued from page 193. Ac Plates at -15°
Nova Not seen

Ac 14694 Dec. 19, 1913
14812 Jan. 25, 1914
14844 Feb. 7, "
15001 Mar. 20, "
15734 Nov. 16, "
15768 " 22, "
15900 Dec. 18, "
15938 " 26, "
15978 Jan. 7, 1915
16001 " 9, "
16021 " 13, "
16113 Feb. 17, "
16157 " 25, "
16882 Oct. 24, "
17123 Dec. 15, "
17174 Dec. 30, "
18256 Dec. 6, 1916
18327 " 19, "
18380 " 30, "
18501 Feb. 1, 1917
18565 " 16, "
18575 " 18, "
18755 April 4, "
19298 Oct. 16, "
19579 Dec. 10, "
19756 Feb. 1, 1918
19817 " 13, "
20194 Dec. 6, "

(28)

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ac Plates at -15°
Nora not seen

ac 20875 Dec. 25, 1918
21042 Feb. 1, 1919
21102 " 9, "
21358 April 21, "
22150 Dec. 25, 11
22058 " 2, "
22407 Feb. 16, 1920
22456 " 27, "
23099 Dec. 2, " defect almost in position
23142 " 16, "
23466 Feb. 18, 1921
page 181 24304 Oct. 25 "
(12)

acm Plates at -15° Nora not seen
acm 358 Dec. 6, 1899
730 Dec. 13, 1900
749 Slide 133
1143 Dec. 28, 1901
1172 Apr. 2, 1902
1221 Apr. 30, "
? — 1995
2028 June 14, 1903
2409 Dec. 12, "
2427 Dec. 24, "
2473 Feb. 23, 1904
2503 April 7, "
(12) 2536 " 13, "

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All Plates at −15°
Nova Not seen

Ann	2538	April 14, 1904
	2681	May 7, "
	2648	May 13, "
	2688	June 2, "
	3232	Nov. 14, "
	3269	Slide 12
	3357	Feb. 28, 1905 Defect near frame
	3394	March 27, "
	3527	May 12, "
	3555	" 25, "
	4068	Jan. 29, 1906
	4179	Too poor.
	4230	May 14, 1906
	4924	Dec. 13, "
	4755	April 11, 1907
	5305	Feb. 5, 1908
	5368	April 6, "
	5399	Apr. 23, "
	5454	May 9, "
	5928	Dec. 3, "
	5929	" 20, "
	6045	April 22, 1909
	6050	" 23, "
	6874	April 13, 1910
	6894	" 21, "
	6912	May 7, "
	7982	Dec. 21, 1911
(26)	8067	April 17, 1912

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Are Plates at -15°
Nora Not Sent

Are	8095	April 21, 1912
	8153	May 8, "
	8289	June 6, "
	8790	Jan. 6, 1913
	8804	Feb. 5, "
	8833	April 5, "
	8833	" 25, "
	8863	May 5, "
	8923	" 21, "
	8995	June 3, "
	9698	April 4, 1914
	9786	May 26, "
	10331	March 7, 1915
	10343	" 14, "
	10551	May 6, "
	11521	March 2, 1916
	11534	" 7, "
	11587	" 29, "
	11591	" 30, "
(20)	11704	May 11, "
	12743	Oct. 31, "
	13173	May 21, 1917
	13244	June 10, "
	14591	March 30, 1919
	14639	April 25, "
	14695	May 3, "
	15189	May 16, "

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Late MC Plates:

MC 18187, November 24, 1921, an excellent plate of the region, shows stars at least as faint as 15.0. Nova Not seen.

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15307

List of B plates not showing Nova

The faint star near is seen on many of these plates but is assumed to not be the Nova as it is constant and is seen on B plates which show Nova to be separate. See list of B plates (1903), showing Nova, on page 183.

B 4907 April 5, 1890
7490 Slide 585
9179
9180 April 28, 1893
10529
10530
10557
10903
13013 April 11, 1895
15078 October 31, "
15227 Dec. 16, "
15233 " 16, "
15306 Jan. 11, 1896
15307 " 11, " Slide 421
15311 Slide 1096
17935
17939 Nov. 13, "
18051 " 25, "
18078 " 27, "
20602 Oct. 6, 1897
20659 " 23, "
20993 March 2, 1898

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35965

Nova Not seen.

B Plates.

B 21205 April 13, 1898
22425 " 4, 1899
22622 " 22, "
22666 May 2, "
24372 Oct. 12, "
24479 Nov. 10, "
24526 " 13, "
24549 " 20, "
24959 April 6, 1900
25090 " 11, "
25157 " 20, "
26676 Nov. 19, "
26900 Jan. 12, 1901
27009 March 29, "
27063 April 6, "
27209 April 17, "
27420 May 27, "
28850 Nov. 18, "
29126 Feb. 27, 1902
29214 April 1, "
29242 " 2, "

31241 Cracked pl.
33186 March 19, 1904
33199 April 2, "
33552 May 3, "
35868 April 22, 1905
38470 March 25, 1908
35965 May 18, 1905

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B	38495	March 26, 1908
	38537	April 1, "
	38577	" 8, "
	38604	" 9, "
	38654	" 10, "
	39954	March 29, 1909
	39959	" 29, "
	42961	" 30 1912
	49652	Mar. 26, 1917
	50211	April 30 "
	50315	—
	52197	March 10, 1918
	52251	April 2, "
	52287	" 3, "
	52345	" 8, "
	52346	" 8, "
	52369	" 9, "
	52370	" 9, "
	52393	" 10, "
	52400	" 11, "
	52401	" 11, "
	52436	" 12, "
	52438	" 12, "
	52462	" 13, "
	52464	" 13, "
	52486	" 17, "
	52488	" 17, "
	52668	" 30, "

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B 52749 May 6, 1918
52788 " 9, "
52812 " 10, "

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1920phae.proj.1193w

1786
3298

Bo. 3222

Saturday, November 12, 1921.

Exam. of Suspected Var. page 182.

Star 8 of Carte Sequence $-8^h -23°$

Iden. on MC 7847 as $= -22° 2146$ $7^h 59^m.1 -22° 55'$

Not in Var. Cat.

Being a sequence star, this should be looked up carfully.

Plates at -30° Bright on these plates - (a faint star. Magn. in Carte
are 317 Nov. 27, 1899 Seq. = 10.04 Bb. 35, p. 86)
382 March 10, 1900
391 " 28, "
721 Nov. 17, "
723 " 20, "
735 March 25, 1901
785 May 14, "
1113 Nov. 12, "
1160 March 12, 1902.
1231 May 2, "
1291 " 29, "
~~2371 Nov. 16, 1903~~
1581 Sept. 26, 1902
1707 Nov. 24, "
1786 Jan. 3, 1903
1832 Nov. 5, "
1896 May 4, "
1932 " 14, "
1957 " 19, "
2371 Nov. 16, "
2387 " 19, "
2451 Jan. 14, 1904
2479 Mar. 11, "
2560 April 20, "

am 2593 May 3, 1904
3098 Sept. 30, "
3193 Nov. 4, "
3222 " 11, "
3281 Dec. 8, "
3298 Jan. 8, 1905
3340 " 23, "
3367 Mar. 6, "
3501 May 9, "
4039 Jan. 1, 1906
4045 " 25, "
4118 Feb. 17, "
4198 May 4, "
4237 " 15, "
4667 Nov. 8, "
4735 Jan. 3, 1907
5223 Oct. 17, "
5254 Nov. 13, "
5291 Jan. 30, "
5379 Apr. 9, 1908
5445 May 8, "

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ann 5904 Nov. 18, 1908
6013 Mar. 30, 1909
6064 Apr. 25 "
6712 Oct. 23, "
6760 Nov. 5, "
6767 " 8, "
6816 Dec. 11, "
6881 Apr. 16, 1910 V
7392 " 17, 1911 V
7397 " 26, "
7976 Dec. 20, "
8036 Mar. 30, 1912

56+ plates

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Wednesday, November 16, 1921.

Examination of southern regions.

Region 8^h $-15°$

ac 24362 November 5, 1921, Eff. 62m

anl 14016 June 4, 1918, Eff. 30m

(24362 superposed)

No. 272 Br. ac 24362 N.S 14016

not on ac 23466 Feb. 18, 1921.

Approx. (1855) $8^h 44^m$ $-13° 2'$

not in Yar. Star Cat.

Not on ac 24304, Oct. 25, 1921.

" " aI 21332, Nov. 7, "

Not a Planet.

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Harvard — Yale Game.

Saturday, November 19, 1921.

Region 8^h -15°

ac 24394, November 15, 1921, Exp. 60m

ac 17213, January 14, 1920, Exp. 66m

(24394 superposed)

24394 very black — poor — can be exam. for brighter objects only. Many defects.

No. 273 Probably defect — on 24394

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Friday, December 9, 1921.

Examination of Southern Regions.

Regions

7^h $-15°$

aC 24426 December 5, 1921. Eff. 62m

and 5222 October 17, 1907, Eff. 60m

(22426 superposed)

No objects of interest.

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Thursday December 22, 1921.
and Saturday December 24, 1921.

Examination of Southern Regions.

Region 18^h -30°

AM 15663, September 1, 1921, Eff. 62m
AM 10902, July 29, 1915, Eff. 60m
(15663 superposed)

No. 274 Br. 10902 N. S. 15663
found Dec. 24 10902 is the better plate but stars fainter than this appear on 15663
Confirmed on 10822, July 16, 1915

Br 11829 May 27 1916.
Br. 6228 June 14, 1909.
7033 June 25, 1910.

$-17^\circ 4978$ $17^h\ 50^m\ 57^s.0$ $-17^\circ\ 23'.0$ 9.1
175317 WX Sagittarii — Camera
Verified by Due, Ast. iden.

No. 275 Br. 10902 N. S. 15663

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1920phae.proj.1193w

Friday, December 30, 1921.

Examination of Southern Regions.

Region 9h -15°

ac 24484 December 15, 1921, Eff. 64m

3527 May 12, 1905, Eff. 64m

(24484 superposed)

24484, a very dark plate, shows very few stars.

Only a quick survey can be made as so few stars appear on 24484 and the images are faint.

No objects of interest.

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Saturday, December 31, 1921.

Examination of Southern Regions.

Region $5^h - 15^\circ$

ac 24493 December 19, 1921, Exp. 64m

am 2415 Dec. 17, 1903, Exp. 62

(24493 superposed)

No. 276 Br. 24493 Fl. 2415

045903 U.X Orionis 4^h — —

$-4^\circ 1029$

(Verified by iden. of Dnl. No.)

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— 1922 —

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1920phae.proj.1193w

Monday, January 2, 1922.

Examination of Doubtful Regions.

Regin 17h - 30°
ADC 15649, August 3, 1921, Exp. 63m
12592, October 16, 1916, Exp. 30m
12592 superposed.

No. 277 Br. 12592 ft 15649
15609 11316
RR Scorpii

Regin 17h - 30°
ADC 15609, June 13, 1921, Exp. 60m
ADC 11316 October 5, 1915, Exp. 32m
(11316 superposed)

No. 278
same as 277
Br. 15609 Ft 11316

No. 279 Extra star near edge — on 11316
Does not belong to region — See
ADC 14864 17h 45m

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1920phae.proj.1193w

May 12, 1922.

Examination of AM Plates

Regina 18^h $-45°$

AM 15631 June 30, 1921, Eff. 69m
AM 12582 October 14, 1916, Eff. 60m
(12582 superposed)

No. 280 Br. 12582 . N.S. 15631
Moving Object See 12535 Sept. 30, 1916
!
same as Bb, p.

See page 215

See p. 215

No. 281 Extra star on 12582 near No. edge.

No. 282 Extra star on 12582 near No. edge.

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1920phae.proj.1193w

May 12, 1922.

Examination of Arc Plates.

Region $16^h 30^m$ $-60°$

Arc 15630 June 30, 1921.

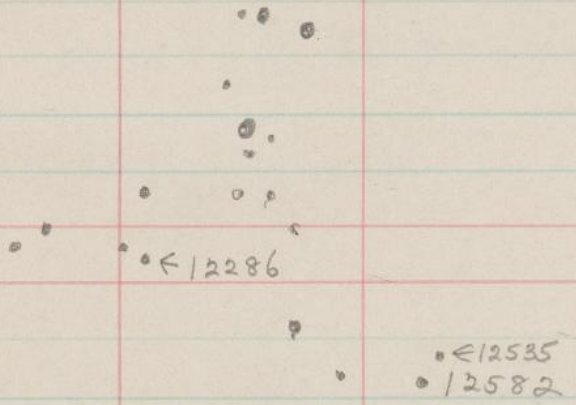
Arc 10631 June 5, 1915.

(10631 superposed)

No. 283 Br. on 10631

Comet? No object seen like this on Arc 10677, $16^h 30^m$ $-60°$, June 13, 1915.

Object 280, page 214.



12286 August 1, 1916

12535 September 30, 1916

12582 October 14, 1916

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1920phae.proj.1193w

May 13, 1922.

Examination of Arc Plates.

Region $16^h - 45^\circ$

Arc 15629 June 30, 1921, Eff. 65m
12994 April 13, 1917, Eff. 60
(15629 superposed)

No. 284 Br. 15629 Ft. 12994
R R Scorpii
16 52? −30

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1920phae.proj.1193w

3 regions on this page

May 15, 1922.

Examination of All Plates.

Regin 12^h $-45°$

Ad 15616 June 27, 1921, Exp. 63m
Ad 13482 August 8, 1917 Exp. 30m
(13482 superposed)

No. 285 Probably difective image on 13482.

Regin 15^h $-30°$

Ad 15607 June 13, 1921, Exp. 62m
11622 April 6, 1916, Exp. 52
(15607 superposed)

No. 286 Br. 15607 H.S. 11622
15619 June 27 is too poor to show
(16-15) faint stars in this regin.
150018
R T Librae 15 0.8 -18 21 (1900)
-18°3975 Verified by identification

Regin 12^h $-75°$

Ad 15605 June 13, 1921, Exp. 63m
Ad 8841 April 30, 1913 Exp. 67m
(15605 superposed)
Corner of 8841 missing. (North, preceding)

cont., see p. 218

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1920phae.proj.1193w

No. 287 Br. 8841 N.S. 15605

No. 288 Br. 15605 Ft. or defective 8841

No. 289 Br. 15605 N.S. 8841

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1920phae.proj.1193w

Regina $19^h -30^\circ$
ane 15602 June 9, 1921, Eff. 60m
ane 11317 October 5, 1915 Eff. 32m
(15602 superposed)

No. 290 Br. 11317 N.S. 15602
191019 R Sagittarii 19 10.8 -19 29
19° 5367
Verified by identification.

No. 291 Br. 11317 N.S. 15602

292 Eqlia stars on 11317
293

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1920phae.proj.1193w

2 regions on page.

May 16, 1922.

Examination of Am Plates.

Region $14^h = 45^\circ$

Am 15606, June 13, 1921, Eff. 60^m
Am ~~10976~~ 12347, August ~~12, 1915~~ 18, 1916, Eff. ~~38^m~~ 30^m
(15606 superposed)
needed better plate for comparison with 15606.

No objects of interest.

Region $18^h - 45^\circ$

Am 15601 June 9, 1921, Eff. 65^m
Am 12286 August 1, 1916, Eff. 61^m
(15601 superposed)

For further exam. No. 294 see Bk. 18, p. 14.
No. 294 Br. ~~12286~~ 15601 ~~Ft. 15601~~ N. Sonneberg ft. 12286
Nov, if Var. -36° 13 ~~22~~ 39 19 5 54.1 -36 27.3 (1870)
1.7 +2
19 7.6 -36 25

Is 12286 defective? Does not appear to be.

No. 295

cont. next page.

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