KG
11366
200

1923phae.proj.1202w

Ida E. Woods
Book 24
Special Examination of MC Plates

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KG 11366.200

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35 regions this p. 63

Galactic Latitude of ±20° to be taken as limit of announcing Vars. as being in Gal. Pole regions.

Sept. 1923.

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Harvard College Observatory

Ida E. Woods.

Book No. 24. Cont. from Bk. 20.

Special Examination of Regions of
M C Plates.

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KG 11366.20.6

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Friday, June 22, 1923.

Regim $16^h 46^m +46.0°$
MC 1823 May 18, 1912 Exp. 60m
19651 March 24, 1923 Exp. 39
1823 superposed

Images of two plates are widely different

Nebulae (best seen on 19651)

New 16 33 +44.7 N P D = 45.3
Not in NGC
" " Index I or II

✓ Neb. 16 46.2 +45.7 N.P.D. = 44.3
NGC 6241 16 46 0 44 20.4

New Neb. 16 46.5 +45.7 44.3
Not in NGC
" " Index I & II

New Neb. 16 47.2 +47.4 42.8
Not in NGC
" " Index I or II

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1923phae.proj.1202V

Regin $15^h 10^m$ $+14.6^\circ$

MC 1712 March 13, 1912 Eff. 60m

19788 May 9, 1923 Eff. 30m

not exam.

1712 from plate compared with late pl. Repeat.

cont. from p. 6.

Neb. 16 30.4 +46.7 NPD = ~~43.3~~ 43.3

V 1st Index 1221 16 30 38 43° 17.9 (1860)

Neb 16 31.2 +46.~~6~~5 43.5

V 1st Index 1222 16 30 57 43° 28.9

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1923phae.proj.1202N

Thursday, June 28, 1923.

Regim 13 40 +25.0
MC 15834 April 2, 1919, Ef. 32m
19525 February 15, 1923, Ef. 30
19525 superposed
Nebulae — numbered on 19525
No. 1 13 27.8 +26.9 (1855)

No. 2 13 30 +25.8 (1855)

No. 3 Possibly a very ft. star but seems larger.
13 48.5 +25.8 (1855)

Regim 14 31 +50.0
MC 17547 June 9, 1921, Ef. 40
19735 April 21, 1923, Ef. 42
19735 superposed
Nebulae — numbered on MC 17547
No. 1 14 17.2 +51.3 (1855)

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1923phae.proj.1202W

No. 2 14 21 +49,3 (1855)

No. 3 14 24,3 +50.3 (1855)

No. 4 14 26,8 +50.6 (1855)

No. 5 14 27,5 +50.5 (1855)

No. 6 14 27.6 +50,1 (1855)

No. 7 14 30.2 +49.4 (1855)

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1923phae.proj.1202W

no. 8 14 32.4 +52.2 (1855)

no. 9 14 40.7 +51.0 (1855)

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Ghost?

Request for new plate 11

Friday, June 29, 1923.

Regim 14h 56 +22.5

MC 15720 February 24, 1919 Eff. 30m

19787 May 9, 1923, Eff. 38m

15720 superposed.

15720 has been compared with 2600. Bk. 20, p. 31 but found a new plate had been taken so compared these. NPD 652

Both plates show an object at 14 39 +24.8 Nebulous but changed between the two pl.; "Smudge"? Dr. S.

→ If so, why connected with the same stars in years 1919 and 1923.?

MC 2600 Feb. 6, 1913 does not show this Obj; the four ft. stars in it are seen in corner of plate

a 6794 Eff. 60m July 2, 1904, shows all the faint stars, no nebulosity

* ac Plates do not show ft. enough stars so:

Best ac pl. exam. 21023

Trial: AC 21023 Jan. 30, 1919, Eff. 60m

23521 March 11, 1921 64

23608 April 5, 1921 60

23768 June 7, 1921 54

24515 Dec. 21, 1921 58

I 41124 Apr. 20, 1922 14

~~42149 April 14, 1923~~ shows ftest stars, no neb.

42149 April 14, 1923 8 does not show ft. stars

~~42~~

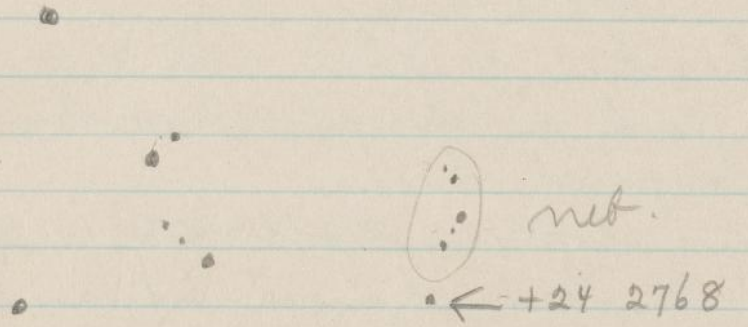
42208 May 6, 1923 6 does not show ft. stars.

* No other I plates between dates,

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1923phae.proj.1202N

Neb. not in N.G.C. nor Index I & II.
2nd Index ~~N.G.C~~ 4495 is not just this position "vF, vS, R"
I 41124



not in HD. Cat + 24 2768 $14^h\ 38^m\ 51^s.7$ $+24^\circ\ 34'.5$ 9.3

Sequence plate of RU Bootis on MC 3137
No mean magns.
Bb. 9, p. 147.

Sequence plate of Carte 15^h $+25^\circ$ MC 5717
magns. Bb. 32, p. 81.

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1923phae.proj.1202N

[Continued f. 19

MC 3137 Apr 7, 1913 Eff. 10m
3169 " 9, " 10
do not show ft. stars.

New plates taken for object:
I 42347 June 30
42348 " 30
do not show nebulosity, 42348 shows faintest star but very faint.
Continued below.

* 1917 plate

See MC 12860 May 19, 1917 Eff. 40m
Faint stars seen no trace of neb.
Note defect on plate
MC 2599 off region
Plates at +20° do not cover
" " 15,0 do not cover

New plates taken for object.

MC 19885	July 8, 1923		Seen, center like orig. pl.
19888	July 9		
MD 19888	July 9		
MC 19889	" 10		N.S. center 14,6 +25
MD 19889	" 10		
MC 19891	" 11		
MD 19891	" 11		
I 42374	" 9		
I 42375	" 10		
I 42376	" 11		
MC 19895	" 12		
I 42377	" 12		
MD 19889	" 10		

Cont. p. 30

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1923phae.proj.1202W

Regin $15^h\ 40^m\ +10.0^\circ$
MC 12794 April 14, 1917 Exp. 37m
19528 Feb. 15, 1923, Exp. 30
12794 superposed

No objects found

Regin $15^h\ 48^m\ +47.5^\circ$
MC 18656 April 25, 1922 Exp. 37m
19814 May 19, 1923 38
19814 superposed

Nebulae — on both plates.
Nos. on ~~12794~~ 19814
No. 1. 15 40 +46.5 (1855) *PD = 43.5
Not in NGC
Not in Index I or ~~II~~
Very ft on 19814 but distinctly seen

Nur?
N.B. especially br. for an unknown neb.

No. 2 15 47.0 ✓ +47.7 (1855) = N PD = 42.3
✓ Not in NGC
✓ Not in Index I or II

N.B. Same note as 2

No. 3 15 51.2 ✓ +48.4 (1855) N PD = 41.6
Not in NGC
Not in Index I or II

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1923phae.proj.12024

No. 4 15 52.2 +48.5 (1855) NPD = 41.5
Not in NGC
✓ Index 1152 15 52 21 41 30.2

No. 5 15 52.6 +48.6 (1855) NPD = 41.4
Not in NGC
✓ Index 1153 15 52 36 41 25.4

No. 6 15 55.0 +48.9 (1855) NPD = 41.1
Not in NGC
Not in Index I or II
Rather faint but distinct even on 19814 — Long.

No. 7 15 57.5 +47.7 (1855) NPD = 42.3
Not in NGC
Not in Index I or II
May be ft star but seems much larger

No. 8 15 59.2 +49.7 (1855) NPD = 40.3
Not in NGC
Not in Index I or II
Same note as No. 7

No. 9 15 3.0 +48.1 (1855) NPD = 41.9
Not in NGC
Not in Index I or II
Seen both pl.

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1923phae.proj.1202W

Saturday, June 30, 1923.

Regim $17^h\,00^m\,+42.5$

MC 18825 , June 23, 1922, Eq. 32ª.
19780 , May 7, 1923, Eq. 30
18825 superposed.

Cluster at $17^h\,12.6\,+43.^\circ3$ (1855)

Nebulae: No. 1 $16\;45.6\;+42.^\circ8$ (1855) NPD - 47.2

V 6239 16 45 39 .47 0.8

No. 2 17 0.0 +42.2
faint st. or Neb ?

No. 3 17 0.5 + 41.9

No. 4 17 06 +43.3

No. 5 17 ~~10.2~~ 8.1 +43.0

No. 6 17 10.2 +43.1

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1923phae.proj..120

Regions 17 52 +45.1

MC 18945 August 29, 1922, Eff. 30m

19723 April 18, 1923, Eff. 30.

18945 superposed

Nebulae:

Enter

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1923phae.proj.1202N

Monday, July 2, 1923.

Region $15^h 48^m$ $+47.5^\circ$

MC 18656 April 25, 1922, Eff. 37ⁿ

omit in count 19814 May 19, 1923, Eff. 38

exam. on p. 14.

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1923phae.proj..1202N

~~Tuesday~~ ~~Wednesday~~ ~~Saturday~~, July 10/11, 1923.

Regions — Nebulous Obj.

Instructions

Cont. from p. 13.

✓ Mark DM stars of regions with positions
See I 24647, a 6415

✓ Identify on a 6794
Neb. 2nd Index 4495 $14^h 37^m 58^s$ NPD 65° 50.6
(Janelle Neb.) = +24 9.4 (1860)
Prec. α $2^s.69 \times 5 = -13$ -13 -1.3
δ $15''.4 \times 5 = 77.0$ 14 37 45 +24 8.1 1855
Marked on a 6415
DM +24 2763 $\times^3$ 14 37 29.4 +24 0.3 9.4 (1855)
2766 14 38 29.1 +24 8.1 8.8 (1855)
$\alpha = 2763 + \frac{1}{4}(2766 - 63)$
follows 2763, same δ as 2766
a faint star there (slightly less δ) no Neb.
See also MC 12860 possibly trace
" " 19891 faint star only.

✓ Exam. for overlapping MC Plates

✓ Yellow plate of region
MC 5035 taken for RU Boots
Does not show any ft. stars

✓ Estimate of Magn. of 3 ~~surrounding~~ enclosed stars

On I 24647, compared with seq. of Carte $15^h 25^s$
(marked on MC 5717), the bright stars are
between 18 & 19, 13.88 & 14.23

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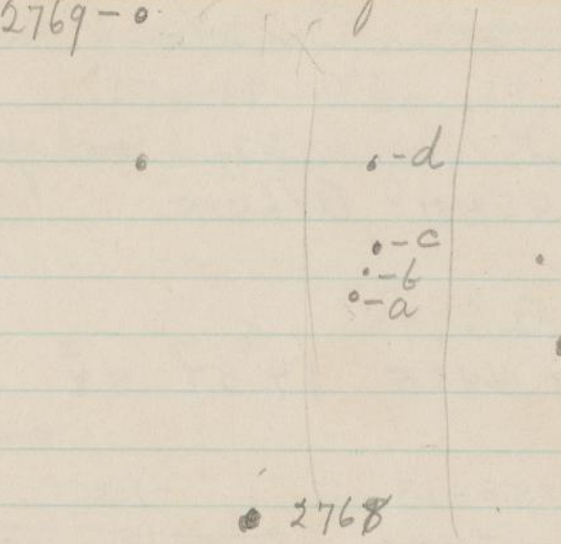
1923phae.proj.1202N

Nebula. Based on DM Positions

July 10, 1923
mm a 6415
glass up.

Measure of Position of 4 stars

2769 - o



2765. Error in Dec position

DM +24° 2765 14 38 1.7 +24 44.3 9.5
2768 14 38 51.7 +24 34.5 9.3
2769 14 39 9.3 +24 56.3 9.5

Iden. on I 18265
Orient by:
+24 2773 14 40 29.3 +24 34.4 9.4
+25 2832 14 40 29.1 +25 23.6 9.1

Reject 2765 — on ~~magn~~ 22

from 2765	14 38 42.7	+24 45.1	0.2	+~~1.0~~ 09	
2768	14 38 42.5	+24 43.8	00	−0.3 04	
2769	14 38 42.3	+24 43.6	−0.2	−0.5 06	
	15	125		+09 −10	
a Mean (1855)	14 38 ~~42.5~~	+24 44.2			$2^s.6789$
	2 ~~35.9~~ 0.8	−11.6			
	40 43.1				
(1900)	14 41 ~~8.4~~ 7.0	+24 32.6			
	1 ~~26.6~~	−6.4			
(1925)	14 ~~42~~ ~~35.0~~ 41 50.1	+24 26.2			

Z.C. Prec. $\alpha = {}^s3.4651 = 1$ yr.
$120.^s55 - {}^s55.^s93 = 45$ yr.
$66.^s97 \quad 86.^s63 = 25$ yr.
$\delta = 15.''4348 = 1$
$11.'6 = 694.''5660 = 45$
$6.4 = 385.''87 \quad 25$

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1923phae.proj..1202N

2765 14 38.0 +24 44.3 based on
2.6 -11.6
14 40.6 +24 32.7 Rec. of a
1.4 -6.4
14 42.0 +24 26.3

film of a6415

	x	y	x	y	Mean x	Mean y
2765	-3.90	-12.28	-3.92	-12.27	-3.91	-12.28
2768	+7.50	-20.72	+7.50	-20.72	+7.50	-20.72
2769	+11.52	+1.22	+11.55	+1.22	+11.54	+1.22
a	+5.42	-11.45	+5.40	-11.47	+5.41	-11.46
b	+5.08	-11.00	+5.07	-11.00	+5.08	-11.00
c	+4.70	-10.27	+4.68	-10.25	+4.69	-10.26
d	+4.75	-7.47	+4.78	-7.45	+4.76	-7.46

x = Star a y - Star a x × 60" y × 60"

2765-932	-0.82	-559.20	-49.20	
2768+2.09	-9.26	+125.40	-555.60	= 9' 15.60
2769+6.13	+12.68	+367.80	+760.80	= 12 40.80
b	-0.33	+0.46	-19.80	+27.60
c	-0.72	+1.20	-43.20	+72.00
d	-0.65	+4.00	-39.00	+240.00

2765 14 38 1.7 +24 44.3 ? error in B.D
-41.0 -0.8
14 38 42.7 +24 45.1

sec δ = 1.1010
559.20
15)615.679200
41.045+

2768 14 38 51.7 +24 34.5
+9.2 -9.3
14 38 42.5 +24 43.8

1.0996
125.40
15)137.889840
9.19

2769 14 39 9.3 +24 56.3
+27.0 +12.7
14 38 42.3 +24 43.6

1.1028
367.80
15)405.609840
27.04

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1923phae.proj.1202w

Omitting 2765, Mean of 2768 & 2769 only.

		h	m	s	°	′	″	
Mean (1855)	a	14	38	42.4	+24	43.7		Ec. Prec. α $2^s.6792 = 1y.$
			2	0.6		−11.6		$120^s.5640 = 45y.$
(1900)		14	40	43.0	+24	32.1		$66^s.98 = 25y.$
			1	7.0		−6.4		$\delta = 15''.4349 = 1y.$
(1925)		14	41	50.0	+24	25.7		$694''.5705 = 45y.$
								$385''.87 = 25y.$

1925	a	14	41	50.0	+24	25.7		1.0983
				−1.4		0.5		19.80
1925	b	14	41	48.6	+24	26.2		$15)\overline{21.746340}$
								$1^s.45-$
	a	14	41	50.0	+24	25.7		1,0983
				3.2		1.2		43.20
1925	c	14	41	46.8	+24	26.9		$15)\overline{47.446560}$
								$3^s.16$
	a	14	41	50.0	+24	25.7		1.0983
				2.9		4.0		39.00
1925	d	14	41	47.1	+24	29.7		$15)\overline{42.833700}$
								$2^s.86$

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Spectrum Plates

A1388 1895 Too poor.
I 24949
I 42378

Neb.
24, p. 8
9
16
17

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Spectrum Plates

A1388 1895 Too poor.
I 24949
I 42378

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1923phae.proj.1202W

All I plates exam. to see if faint stars are seen.
Seen only on a few. For list of additional I plates exam. see p. 25

A trace or stars seen:

I 20679
24353
24813
26902 Sl. 1730
30262
31980
32693
34689
37140

13004
26761
34007 Exp. 52m
24647

These I pl. exam. by Dr. S. July 11

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1923phae.proj.1202W

I Plates not showing a trace of the 4th mag. stars

1038
1258
1271
1637
6355
10833
10878
Round * ~~13004~~
stars, Trace Rec 15367
18265
22461
22492
24855
* ~~26761~~
28627
32874
34787
40348
30614
26~

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Thursday, July 12, 1923.

Exam. of plates for susp. Var. of
Dm. +24° 2769
a possible B star (Miss Cannon)
as iden. on I 24647
Sp. exam. by Miss C. on

× 1038
× 1258
× 1271
× 1637
× 6355
× (10833)
Br? 10878
× 13004
× 15367
Br? 22461
Br? 22492
× 24855
× 28627
× 30614
× 40348
× 20679
× 18265
Is this large? 34787
" " normal? 26761
× 24353
× 24893
* Br? 26902
× 30262
× 31980
× 34007

32693 is 2765 larger?
× 34689
37140 R 2765 Br?
24647 Is 2765 ff?

2765 cf. 37140 34787
24647

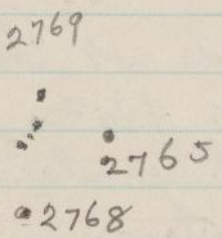
276 q Br.? 26761 Fk.? 28627

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1923phae.proj.1202w

2769 Ff 18265
28627
Ap 34787
26761
22461

2765 br? 26761 ff 34787
29855



Normally
2765 is br. than 2769
2768 " " " 2765
See
24647 corner, bad fears

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1923phae.proj.1202W

AC Plates at 15^h $+30°$ exam. for Var. of either Catal. Stars.
14^h regions on extreme edge and out of focus

Abnt $\frac{2}{3}$ of the plates do not show these stars
No record made of plates exam. and found not to show these stars, only of the plates showing ft. stars.

$+24°$ 2765 & 2769 apparently normal on these plates.

AC	1275	23521
	1348	23738
	1565	
	1633	22272
	2130	18459
	6005	16319
	16259	19926
	16299	~~17930~~
	16439	23251
	16476	20250 ?
	18708	1306
	18812	1416
	19968	17416
	20088	
	21023	
	21235	
	21248	
	22304	
	22489	
	23311	

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1923phae.proj.1202w

Selected Normal plates

22272
*18459
16319
*19926

2765 suspected of being ft. or

*23251
20250 ?
23311
*1306 1901
**1416 1901
17416
21248

2765 nebulous image ? extremely ft.
ac 16476

2769 nebulous ?
ac 23311

Yellow Pl.

ac 17589 is the only Yellow pl. of those exam. that shows the faint stars. Apparently normal

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Cont. from p. 13.

MD 19891 July 11
aΔ 142 July 11
ac 25-306 July 11

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1923phae.proj.1202V

Nebula

Comp. Sequence RU Bootis — Seq. MC 3137
Carte 15h+25° MC 5717

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1923phae.proj..1202N

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1923phae.proj.1202W

Saturday, July 14, 1923.

Regin 17h 10m +22°.5
MC 19696 April 9, 1923, Eff. 30m
19852 June 11, 1923, Eff. 30
19852 suspected

1 Nebula 17 14.8 +25.1 (1855) λ PD=64.9
Not in N.G.C.
" " Index I or II
or Ft. star blurred?
Confirmed? on A 7927, 60m Eff.

2 Defect Bl. MC 19852
17h 14m +23°.0 (1855)

3 Var. or Defect
17 15 +20.4 (1855)
Very ft. Is it like star? Sun 19696
A very ft. star on A 6059 slightly diff. pos.
~~Dbt. star~~

4 Scratch or Asteroid? on 19852
17 3 +23.2 (1855)

Asteroids of April 1923 are 13h Positions

Confirmed by Dr. S. as probably Asteroid
Feb. 20, 1924.
meas. Bb. 21, f. 98

5 Asteroid? Probably scratch
16 59.8 +21.5 (1855) on 19696
Confirmed by Dr. S. as probably Asteroid
Feb. 20, 1924.
Pos. meas. Bb. 21, f. 100

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1923phae.proj..1202W

Too ft. for I plates. Var.? below
No B Rl. Bright on MC & A

Seen by Miss Cannon
Take plates

6 Var.? A very ft. star but change is indicated
Br. 19696 Ft. 19852

find 17 9.0 +22.6 (1855)
MC 18936 Br. 19696 Ft 19852
a 6059
MC 12864
a 5576
a 3060
~~I 18874~~

a 9602 Too poor
a 9603 Too poor
a 457 Br.
926 Too poor.
I 27144 at limit of magn. pl.

N.S. below limit of pl.
I 8631
25135
23164 * best for ft. star.
18874

Do this ft. on I 23164?
Probably not.

7 Var.? Dbl. Sh. Br. 19696 Ft 19852
17 8.6 +22.6 (1855)
Dbl. star on a 6059 with faint one the following
Probably no change

✓ 8 Cat Var. 17 15.8 +23.0 (1855) Br. 19852 Ft. 19696
+23 3090 17 15 38.5 +23 4.2 Var.
17 17 23 RS Herculis 17 17.5 +23 1 (1900)
Verified by Cat. iden.

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1923phae.proj.1202W

Wednesday, August 15, 1923.

Regim 22h 15 +15°5

MC 18997 September 13, 1922, Cf. 30
19937 August 6, 1923, 34
19937 superposed

New? Var.? 22 20.3 +16.1 (1855)
2.2 0.2
Br. 19937 Ft. 18997

222216 22 22.5 +16.3 (1900)

Not in Var. Cat.

Marked on I 23247, 40708

See p. 44

Nova? or Var.? 22 14.6 +13.0 (1855) N.S. 19937
2.2 0.2 Br. 18997
New Var. 22 16.8 +13.2 (1900)
Position meas. Bb. 19, p. 156

Apparently not moving obj.

Do not 22 13 24 +13 5 TX Pegasi Miss Leavitt
NC 0, C.2 142 10.0 - 11.2

Neb Ft. Neb. 22 4 +16.4 (1855) N.P.D. = 73.6
On both plates. Is this a string of ft. stars?
Not in N.G.C.
" " Index I & II
Var. Marked on I 40708
I 41462 shows Var. Br. & adj. ft. stars.
27735 " " Ft " " " "

90K
9 = 12.25
10 = 12.94
11 = 13.80
12 = 13.55
13 14.01
15 = 15.28

For Range :- MC 3606, 90K; Magns. Bb. 19, p. 23
MC 18997, Var extreme edge, but little out of focus, about = to 10 to 11 of 90K, seq. in center = 13.2
Faint star close to var (x, p. 39) = a little br. than Stg. 13 = 13.9

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1923phae.proj..1202W

* Confirmed by Dr. Shapley, August 23

Var. 22 16h.8 +13.2, f .38.

For Comp. { Br. I 16031, 23653, 41462, MC 18997
For Range { Ft. 18639, 21035, 27735 19937, 19977

Br. *16031 Sept. 26, 1896
16313 Oct. 26, 1896
16354 Oct. 27, "
23613 Sept. 21, 1899
*23653 Sept. 23, 1899
28098 Dec. 21, 1901
40708 Nov. 16, 1921
*41462 Aug. 14, 1922

Request for plate, Aug. 15.

This would be 1855 = 22 11.2 +12.9

*I 23653 Miss L's star = 393. This is just off the MC plates, prec. & S. of the new Var.

Ft. 27735 Oct. 6, 1901
*18639 Sept. 3, 1897
n.s. *21035 Aug. 5, 1898
26105 Nov. 16, 1900
26179 Dec. 8, 1900
29419 Oct. 20, 1902
31055 Oct. 25, 1903
41723 Oct. 21, 1922

Compare 41462 & 41733 for dates.
" 27735 & 41462, showing ft. stars.

List of a plates, see p. 55

MC 19937 Barely a trace of Var. seen
Star 15 = at least .2

Ft. a n.s.
19977 Aug. 18, 1923
19981 " 18, "
19988 " 19, "
19987 " 20, "
19998 " 22, "
Possibly trace

Range 13.2 to 15.5
Corr. = 13.5 to 15.7

139

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1923phae.proj.1202W

Thursday, August 16, 1923.

Region $22^h\ 20^m\ +25.0°$

MC 1923 September 21, 1922 Exp. 30m
1932 August 5, 1923 30
1932 Superposed

Unsatisfactory for comparison, as 1932 has a secondary image, with slight trail between, for all except the faintest stars.

1923 1932

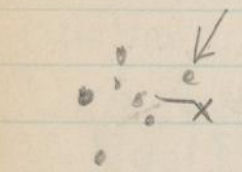
New? Var.? Br. ~~1932~~ Ft ~~1923~~

22 17.5 +26.0 (1855) = +26° 4421

22 17 23.5 +26 0.4 9.5
2.1 +15

(1900) = 22 19.5 +26 15

Not in Var. Cat.



I 33370 good plate for iden. of Seq.
23847 } Brightest, 15660, 11545
21056 } Faintest stars seen
18933

Reduced Pos., see Bh. 19, p. 160
22 19 29.0
+26 14.0
(1900)

9094 Too poor, also, 26187, 4389, 4293

I Plates exam.

Normal = bright			Ft.
I 6934	18895	31056	40621
7126	18933	33370	
7259	21199		
13455	21603		
15660	23847		
15882	29457		

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1923phae.proj..120W

Confirmed by Dr. Shapley, August 25, 1923.

Var. p. 40 For Proof:

Br. MC ~~19932~~ 19923 Ft. MC ~~19023~~ 19932

I 15660 I 40621

23847

29457

11545

MC 20040 not Map.

Est. of Range;

No sequence near this region.

Plate MC 15606 Seq. of 47K. This is not Map,

compared with MC 19023.

Var. about = 8 = 12.6 Corr. Mag.

* Range ~~12.6 to~~ 13.8 Corr. Mag.

Images are faintest on MC 19932

Var. about = x, p. 40. This star, on 19023 is nearly = 11 of 19023

11 = 13,86 Corr.

Min. = 13.8 Corr.

Magns. provisional

Note

6 11,54 I 11545 On this plate, Seq. 66K, See

7 12.00 MC 3584, Magns. Bk. 7, p. 69,

and Var. are about equally distant from center in opposite directions.

Var = 11.7 - 11.9 Var. about .2 fainter than Star 6

Fully as bright on I 23847

I 23847 11.7 = 11.9

Miss Walker I 40621 13.0 = 13.2

plates cont p. 42

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1923phae.proj.1202W

~~22 19 25~~

Regin 22 20 +25 Cont. from p. 40
Cont.

Defect on 19023

Defect on 19023

Var., Nova, —? on 19023 N.S. on 19932
Not in Var. Cat.
22 10.2 +27.2 (1855)
Too faint for I plates - 15660 & 29457,
best of these exam. on p. 40, do
not show so faint stars.
Confirmed by Dr. Shapley Sept. 19

Card request for plate.

Sept. 19, 1923 Confirmed Br. by MC 20040 Sept. 14.
S Repeat — Prove ~~faint~~ bright. (all I plates which show star x pure Faint see below)

Eq. 60 a 7000 Oct. 13, 1904 Trace very ft.
14 a 1010 Oct. 10, 1894 N.S. Too poor.
a 4778 Too poor.
a 4779 Too poor

I 18895 Sept. 17, 1897 Shows ft. stars but not the
not seen on I plates, some of which show faint star
marked x above

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1923phae.proj.1202w

Monday, August 20, 1923.

Regim 23h 10m +27°.5
MC 13485 September 14, 1917, Eff. 20m
19939 August 6, 1923, Eff. 31
13485 superposed

Defect Br. 13485

Defect Br. 13485
Other defects on plate
These are all very much alike.
Do not seem like defects.
Second Eff.?

Position meas. Bk. 19, p. 162.

For Range, see p. 63
For overlapping MC Plates see p. 63.

I 11545 Oct. 6, 1894 N.S.
I 12065 Dec 13 1894 N.S.
13455 Sept. 5 1895
15660 Aug. 10 1896
18895 Sept 17 1896
21199 Sept 14, 1896
I 23847 Oct 19, 1899
29498 Nov. 2, 1902
32136 Oct. 6, 1904

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1923phae.proj.1202W

New Var. Cont. from f. 38.
22 22.5 +16.3 (1900)

Confirmed by I plates.
Usually ft.

Ft. on I	6933	Sept. 8, 1892	I 28098 Dec. 21, 1901
	7125	Sept. 20, "	29539 Nov. 17, 1902
	11563	Oct. 10, 1894	31055 Oct. 25, 1903
	16313	Oct. 26, 1896	40708 Nov. 16, 1921
	16354	Oct. 27, 1896	41462 Aug. 14, 1922
	18662	Sept. 5, 1897	
	18696	Sept. 6, "	Ft. a 1998
	21184	Sept. 13, 1898	
	23613	" 21, 1899	
	23949	Oct. 30, "	
	26105	Nov. 16, 1900	
	26131	Nov. 23, 1900	

Br. on I 7095
* 29419 Oct. 20, 1902
* 23247 July 28, 1899
a 2125 October 12, 1896

MC Plates Br.? 3606 Ft.
Br. 19937 quite Ft. 18997 MC 19987
19977 not May? 19981 ~~Aug. 19~~
Aug. 18, 1923 19982 Aug. 18.

N.B. Change on one date

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1923phae.proj.1202N

Confirmed by Dr. Shapley, August 23.

For Prof's Range

Max. MC 19937, 19977
I 23247, 29419
Fr. MC 18997, 19981
I 18696, 18662, 26105

Est. of Range: Conf. Seq. 90 K, MC 3606, Bk. 19, p. 23.
Max. 19937 .5 – 6 = 11.2?
I plates show the Var. abt .5 brighter than MC 19937
Min 18997 10 – 11 = 13.0

* Position meas., Bk. 19, p. 150 22 22 30.98 +16 17 53.0

90K 5 10.52
n.B. large diff – 5–6 6 11.62

10 12.94
11 13.30

Range 11.2 to 13.0
Corrd = 11.4 to 13.3

Aug. 20

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1923phae.proj.120W

Thursday, August 23, 1923.

Regions $23^h\ 25^m\ -5^\circ$

NC 16142 July 30, 1917 Exp. 30m
19980 Aug. 18, 1923 Exp. 33
16142 superposed

A portion of both plates not covered as centers do not agree.

Missing Object or Defect?
23 11.0 -4 see p. 92 Brighter 19980 Notice glass defect near — not similar.
✓ Defect — seen by Dr. S.

✓ Missing Obj. or Defect? 19980
Defect — seen by Dr. S.

2 Distinct Nebulae best on 19980
✓ 23 10.0 -5.6 (1855) n P D = 95.6
N.G.C. 7576 23 10 11 95 29.8 (1860) F

✓ 23 10.8 -5.5 (1855) 95.5
N.G.C. 7585 23 10 48 95 24.8 (1860) p. B

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1923phae.proj.12027

Monday, August 27, 1923.

Regin 23h10m −4.°0

MC 19015 September 18, 1923, Eff. 30m
19979 August 18, 1923, Eff. 33m
19979 superposed

Asteroid on 19979
— Defect

Neb. on both plates – rather bright.
23 10.8 − 5.4 (1855) N.P.D. = 95.°4
✓ N.G.C. 7585 ~~Probable~~ 23 10 48 95 24.8 p.B

Probably Defect ~ 19015

Asteroid on 19979
23 14.8 − 3.6 (1855)
2.3 0.2
approx (1900) 23 17.1 − 3.4
Aug. 18 (1925) 23 19.4 − 3.2
→ Iphigenia

Aug. 28 23 12.3 − 3 33
Sept. 5 23 5.3 − 4 2
etc.

Corr.
6 = 11.57
7 = 11.96

Magn. = See MC 15606 (6 − 7) = about 11.7 Corr.
Verified
adopt 11.5

Position meas. Bk. 21, p. 84.

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1923phae.proj.1202w

Aug. 27, 1923

Region 22 36 +0,6
MC 1198
19954

1198 not satisfactory for comparison.
Good plate but only in center.
Also, second exp., probably Pole.
Repeat.

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1923phae.proj.1202w

Tuesday, August 28, 1923.

Regim $22^h\ 00^m\ +25.^\circ0$
MC 18948 August 29, 1922, Eff. 32^m
19936 August 6, 1923, Eff. 31
18948 superposed.

X assume defect seen by Dr. S.
Comet? 19936 $22^h\ 1.^m3\ +26.^\circ4$ (1855)
See AC 25322 22+30 Aug. 6
25313 22+30 July 6

Regim $23^h\ 00^m\ +19.^\circ8$
MC 18917 August 14, 1922, Eff. 30^m
19948 August 9, 1923, Eff. 32.
19948 superposed.
18917 rather dark plate.
Not to be counted in Regims examined

Comet? 19948 $22^h\ 58.^m3\ +21.^\circ1$ (1855)
Seen by Dr. S.
Would MC 19997 cover this? 1' Aug. 22
23 20 +15
I 42537 23.4 +18 Aug. 18

Is this same object as m 19936?
Plotted ✓
Brighter on later plate.
18914 is not good enough — Repeat.

Regim $22^h\ 00^m\ -5.^\circ0$
MC 19047 September 25, 1922 Eff. 30^m
19938 August 6, 1923 Eff. 30
19938 not good enough — Repeat.

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1923phae.proj.1202W

Repeated, p. 98.

August 28, 1923.

Regin $22^h\ 00^m$ -15.0°

MC 19048 September 25, 1922, Eph. 30^m

19942 August 8, 1923, Eph. 31^m

19942 superposed.

Defect or Var? Image is not just like stars. ~~Carmen~~?

Asteroid?

Meas. Pos. = Bb. 21, p. 38

on 19048

21 46.1	−16.6	(1855)	
	2.5	+0.2	
21 48.6	−16.4	(1900)	
21 51.1	−16.2	(1925)	

Asteroid on 19048

~~Carmen~~ 1922 Eph. p. 43

Sophrosyne ~~Charyb dis~~, 1922 Eph., p. 44.

Pos. meas. Bb. 21, p. 36.

21 51.6	−15.3	(1855)	
	2.5	+0.2	
	−15.1		
21 54.1	15.1	(1900)	
21 56.6	−14.9	(1925)	

19942 does not show faint stars. Repeat.

Repeat regin

Faint Neb. Barely seen on 19942. But distinct on 19048

V 21 53.0 −14.0 (1855) H.P.D. = 104.0

NGC 7171 21 53 27 103 56.5

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1923phae.proj.1202N

Monday, September 3, 1923.

Examination of a few Milky Regions —
These plates are not of close centers but have been selected from long exposure MC plates as having nearest centers in common.
20^h $+20°$ to $+40°$ Cygnus Regions

Regin 20 $+35.0$ MC 17670. July 27, 1921 Exp. 38m
20 10 $+32.0$ MC 11050 August 19, 1916, Exp. 95m
17670 superposed
Images on edge of one plate have to be compared with center of other.
Only ¼ of each plate in common.
— No objects found —

Regin 20 24 +35 MC 13054 July 26, 1917 Exp. 25m
20 30 +32 13475 Sept. 13, 1917 Exp. 30
13054 superposed
Less than one-half of plates in common.
Edge of one is on center of other.

2 Defects?
Superposed on faint stars, giving appearance of variation.

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1923phae.proj.1202W

September 3, 1923.

Regin 20 30 +22.5

MC 13032, July 22, 1917, Ef. 20m

15973 June 21, 1919, Ef. 24

13032 superposed

Asteroid or Defect? MC 13032

20 27.6 +22.2 (1855)

(asteroids of 20h and July are –)

13027 – exam., mean date & region.

No asteroid found.

Sept. 4.

This obj. exam. by Miss Walker who considers it a defect.

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1923phae.proj.1200

Saturday, September 8, 1923.

Regim $22^h 30^m - 8^\circ$ See also f.54.
MC 15328 October 1, 1918 Eff. 30m
19913 July 19, 1923 Eff. 36m
15328 superposed.
Only ½ of ~~both~~ plates in common.

No objects found.

Regim $22^h 00^m - 5.^\circ 0$
MC 19047 September 25, 1922 Eff. 30m
19938 August 6, 1923 Eff. 30
19938 superposed

NB similar object & Var. Nebula on 19047
Bks. 24, p. 11, is seen on 19938
Reflection from bright star?

*?

Defect? Round, hazy on 19938

Regim $22^h 00^m + 30^\circ$
MC 18916 August 14, 1922, Eff. 30m
19921 July 20, 1923 Eff. 33
19921 superposed
Both are excellent plates
22.1 + 30.7 (1855) N.P.D. = 59.3
N.G.C. 7217 $22^h 1^s 37^s 59^\circ 19.4$ (1860)

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1923phae.proj.1202W

Monday, September 10, 1923.

Regin $22^h\ 30^m\ -8^\circ$

MC 15328, October 1, 1918, Eqf. 30"
20019 September 4, 1923, Eqf. 30"
20019 superposed

No objects found.

X See "reflections" near bright stars on edge —

Regin $22^h\ 40^m\ +30^\circ$

MC 16236 September 4, 1919 Eqf. 30
19908 July 17, 1923 Eqf. 30
19908 superposed

No objects found.

Regin $23^h\ 56^m\ +28^\circ$

MC 19078, September 28, 1922, Eqf. 30"
19988 August 20, 1923, Eqf. 30"
19988 superposed

No objects found.

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1923phae.proj.12027

New Var. 221613 Cont. from f. 39

Chart of A plates
(An A plate is wanted for meas. pos.)
For Pos. use original Mc Plate. No A pl or ~~another~~ Mc except Minima.

	A 920	Too poor
	A 965	Too poor for faint stars.
Aug. 18, 1896	A 2015	faint stars near barely seen. Var. probably N.S.
Aug. 20, 1906	A 8021	faint stars near Var are seen, Var. N.S.
Aug. 4, 1909	A 9620	faint " " " " " Var. N.S.

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1923phae.proj.1202W

Thursday, September 13, 1923

Regim $23^h 20^m - 15^\circ$

MC 19062 September 26, 1922 Exp. 31^m
19275 November 21, 1922, Exp. 2^m
19275 superposed

Exams. made but neg. plate called for
No objects found.

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1923phae.proj.12027

Friday, September 14, 1923

Region $22^h\ 50^m$ $+27°.5$

MC 11652 November 16, 1916 Eqf. 53m

20027 September 6, 1923, Eqf. 27m

20027 superposed.

11652 is labeled "Yellow, but no screen?"

Streaks of fog — otherwise an excellent plate,

20027 does not show ft stars — short exp.

Defect? on 11652 N.S. 20027

Ft. Nebulae

V No. 1 On both plates

22 54.0 +29.3 (1855) N.P.D. = 607

N.G.C. 7457 22 54 18 60 36.4 (1860)

No. 2 On 11652

Top ft. on 20027 faint star or neb?

22 51.0 +25.3 (1855) N.P.D. = 647

V N.G.C. 7433

35

36

Defects, bright, large, Lazy — 20027

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1923phae.proj.1202W

Sept. 14, 1923

Region $22^h 50^m +25^\circ$

	MC 16196	Exp. 30m	August 21, 1919 all taken for Metcalf's Comet
*	—— 16197	34	
	16198	32	

MC 20026 Exp. 40 September 6, 1923

16196-97-98 all trailed slightly for search for comet.

16197 chosen for comparison.

Almost two hrs for comparison. No objects found. Compared hastily

20026

20027 , taken same date, are nice plates, and overlapping regions. Compared hastily

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1923phae.proj..1202W

Monday, September 17, 1923.

Regin 0 50 +7.5
MC 15253 September 14, 1918, Eff. 30m
20044 Sept. 14, 1923 Eff. 34m
15253 superposed
Defect? on 20044

Regin 23 40 -5.0
MC 19016 September 18, 1922 Eff. 30m
20042 September 14, 1923 Eff. 35
19016 superposed

Nebula No. 1 On both plates.
23 31.2 -7.4 (1855) N PD = 97.4
V NGC. 7721 23 31 36 97 17.6

Asteroid on 20042
Family of 2, N.
23 31.2 -3.1 (1855) Heeuba
2.3 +15'
23 33.5 -2.9 (1907) 1923 Eph. f. 48
23 35.8 -2.7 (1925)

Position meas. Bk. 21, f. 42 Heeuba

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1923phae.proj.1202W

Continued — Tuesday, September 18, 1923.

Asteroid or ~~1906~~ 20042

Bn of 2, S.

23 31.0 -3.7 (1855) Zelia Eph. 1923
2.3 +15' J. 48

23 33.3 -3.5 (1900)

23 35.6 -3.3 (1925)

Positim Meas. Bks. 21, f. 40.

Zelia

Nebula No. 2 On both plates

23 34.2 -4.4 1855 N.P.D. = ~~85.6~~ 94.4

V Index 1505 23 34 12 94 20.3

Nebula No. 3 On both plates

? Prec. & N. of 2 NPD about ~~85~~ 94.3

New ?

Not in NGC

" " Index I

(where is Ind II ?)

This is familiar thru Prec. Neb.

Is this ~~cut~~ faint stars ?

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1923phae.proj.1202N

September 18, 1923

Regim 22h 30m, +27.5°
MC 19922 July 20, 1923, Ecf. 44m
20041 September 14, 1923, Ecf. 32m
19922 superposed

Nebula on both plates.

V 22 21.0 +28.3 (1855) N.P.D. 61.7
N.G.C. 7286 22 20 52 61 36.8 (1860)

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1923phae.proj.1202N

Wednesday September 19, 1923.

Regin $22^h 20^m +25°$

MC 19023 see f. 40

20040 September 14, 1923, Eff. 30^m

20040 taken for Var., f. 42

The portion of plates in common is compared. The 2 Vars. already found are only objects.

221227 66K 22 +30

MC 3584 Magns. Bk. 7, f. 69

Limit 15.2

Carte $22^h +31°$

MC 5911 Magns. Bk. 10, f. 73

5911 shows to star 20 18922 shows a little fainter. But does not show Var., ∴ < 15.2

Var. on MC 20040 is about = to 13-14 on 5911. by comp. plates directly. ∴ about = 12.8

5911 is 10^m Eff.

Compared on 19921 at 30, not covering Var. Star about = Var. = $\overset{\text{star}}{15.}$ = 13.49

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1923phae.proj..1202N

See I Asteroid? 11545

Friday, September 21, 1923.

Cont. from p. 43

New Var. 221227

MC Plates, Additional

13021 Probably Ft. Trace of Star x. Extreme Corner.
July 13, 1917
13478 Sept. 13, 1917 Min. x seen.
16096 Too poor
16945 just off edge.
18916 Aug. 14 1922 Min x seen just extreme corner
18921 just off edge
18922 Aug. 15, 1922 Min x seen
18930 Aug. 16, 1922 Min.
18948 Aug 29, 1922 Possibly Trace x Br.
19921 July 20, 1923 N.S. x probably Extreme edge of film
Exam Oct. 20 19936 Aug. 6 1923 N.S. x seen.
← 20074 Oct. 15 1923 Extreme edge of film

Estimate of Range Approx. 2 magns. Estimated on MC Plates

Mrx.

(brightness 20074)

19023 abont 13.5 to <15.2
20040 Corr. 13.8 to <15.4
20074 <15.6?
18922 shows fainter stars?

Approx., as some plates do not cover both regions. Fairly satisfactory agreeing with est. Range on MC plates of 2 magns.

Min 19932 Miss Walker's
13478 12.6 <14.8
18922 <15.2 I check Mrx

Star x is a little fainter, abont 14.0

Cont. p. 62.

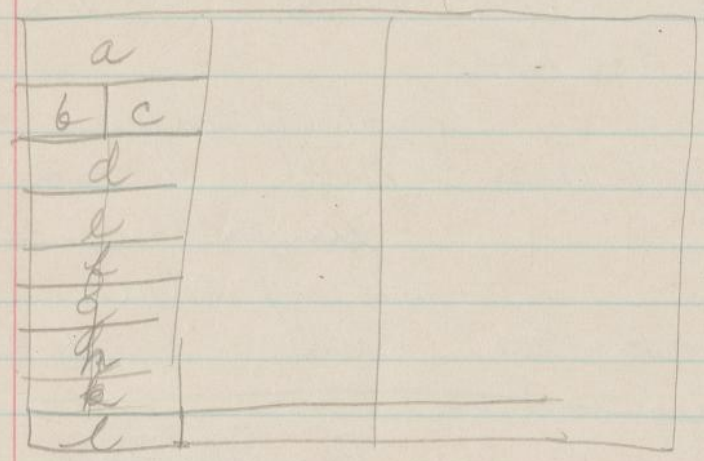
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1923phae.proj.1202w

Count of an MC plate, Galactic Pole Region.

MC 19526 $14^{h}10^{m}$ $+19.1^{\circ}$

Marked plate in small sections, each with a letter



sections as large as a fend to be too large to count at once but later used by cutting off portions by a Card.

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1923phae.proj.1202N

a	210
b	79
c	109
d	140
e	156
f	154
g	157
h	185
k	159
l	116
m	105
n	92
o	78
p	108
q	87
r	72
s	113
t	88
u	93
	2301

a to u = ½ of plate

Total plate = about #600 stars including all ft. but distinct enough to examine

added first
checked by Monroe

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1923phae.proj.1202N

September 29, 1923.

MC
Count of 19361 $1^h\ 50^m\ -12.5^\circ$

a	142
b	144
c	136
d	144
e	138
f	105
g	105
h	72
k	100
l	103
m	113
n	122
o	139
p	127
q	110
r	107
s	108
t	103
u	83
w	84
x	74
y	84

$\frac{1}{2}$ plate = 2443

whole appox 4886

V. 2443

Checked by Monroe mock.

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1923phae.proj.1202w

Tuesday, October 2, 1923.

Region $1^h\,30^m - 2.^\circ 5$

MC 18105 October 25, 1921 Ef. 36

20045 Sept. 14, 1923, 31

20045 superposed.

Does Nb. 8 change? Many faint nebulae seen on both plates.

No. 1

No. 2

No. 3

No. 4

No. 5

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1923phae.proj.1202N

No. 6

No. 7

No. 8

No. 9

No. 10

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1923phae.proj.1202W

No. 11

No. 12

No. 13

No. 14

No. 15

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1923phae.proj.1202v

No. 16

No. 17

No. 18

No. 19

No. 20

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1923phae.proj.1202N

No. 21

No. 22

No. 23

No. 24

No. 25

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1923phae.proj.1202w

No. 26

No. 27

No. 28

No. 29

No. 30

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1923phae.proj.1202W

No. 31

No. 32

No. 33

No. 34

No. 35

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1923phae.proj.1202N

No. 36

No. 37

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1923phae.proj.1202N

October 2, 1923.

Regim $2^h 40^m + 20^\circ.0$

MC 19108 October 1, 1922 Ref. 44a
20035 September 12, 1923, Ref. 37
20035 superposed

Asteroid as 19108 Oct. 1, 1922

2 29.8 +19.1 (1855)
2.5 +0.2
2 32.3 +19.3 (1900)

Georgia?

Position meas. Bk. 21, f. 46.

Nebulae: No. on 19108

No. 1 2 25.5 +20.3 (1855) NPD = 69.7
✓ N.G.C. 976 2 26 11 7 69 39.7 (1860)

✓ No. 2 2 29.2 +20.4 (1855) NPD = 69.6
N.G.C. 992 2 29 23 69 30.7 (1860)

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1923phae.proj.1202N

✓ No. 3 2 32.2 +18.7 (1855) NPD = 71.3°
NGC 1036 2 32 40 71 19.3

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1923phae.proj.1202W

Wednesday, October 3, 1923.

Regim $0^h 40^m -15.0$

MC 16217 August 25, 1919, Exp. 31^2

20054 September 17, 1923. Exp. 46

16217 superposed -

16217 not nearly as good for ft. stars as 20054.

Repeat regim

2 Nebulae fund.

No. 1

No. 2

Regim $2^h 40^m -15.0$

MC 19054 September 25, 1922, Exp. 31^2

20057 September 17, 1923, Exp. 32

20057 superposed.

Faint Nebulae

No. 1

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1923phae.proj.1202V

No. 2

No. 3

No. 4

No. 5

No. 6

No. 7

Cont. p. 85.

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1923phae.proj.1202W

October 3, 1923.

Regin $3^h 40^m - 10^\circ$

MC 19238 November 13, 1922, Ef. 49m
20058 September 17, 1923, Ef. 43
19238 superposed.

1 Nebula - or fn. star?
Sw extreme corner -
3 48.6 -8.0 (1855) MPD = 98.0
Not in NGC
" " Index Cat II.

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1923phae.proj.1202v

Thursday, October 4, 1923.

Region $1^h\,40^m$ $-15°$

MC 19253 November 16, 1922, Eff. 23^m
20055 September 17, 1923, Eff. 46
19253 superposed.

Moving Object? on 19253
1 47.5 − 16.1 (1855)
Is this Asteroid or Var.?

If an actual image this is probably an Asteroid

No trace on MC 13528, Sept. 16, 1917 Eff. 10^m
tho' stars of apparently equal magn. are seen.
Good plate B 17129
B 12607 } shows fainter stars than this
20380 }
32506 shows very ft. stars, Eff. 60^m
this star not seen.
List of B plates exam. see p. 82.

Cont. p. 83

Nebulae on both plates. 19253 is not as good as 20055
No. 1 1 39.8 − 15.2 (1855) NPD = ~~74.8~~ 105.2°
New? ✓ Not in NGC
✓ " " Index I or II

✓ No. 2 1 42.0 − 15.8 (1855). NPD = ~~74.2~~ 105.8°
~~Not in NGC~~ NGC 682 1 42 18 105 39.9
" " ~~Index I or II~~

1 & 2 distinctly seen on both plates — 2 is brighter

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1923phae.proj.1202W

No. 3 | 45,5 -14.9 104.9
Not in N.G.C.
New? " " Index. I or II

No. 4 | 46.0 - 14.5 Apparently coincident
Bright. with B.D. star
N.P.D. = 104.5
✓ N.G.C 720 | 46 12 104 25.8

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1923phae.proj.12027

Object on p. 81.
Is it a Var.?
Might show on a good B plate if plate showed ft. stars and was taken at Max. of Var.

N. S. on any plate

B 10455
12607 Nov. 16, 1894
14246 July 31, 1895
17129 Aug. 13, 1896
17769 Nov. 6, 1896
20219 Aug. 31, 1897
20380 Sept. 15, 1897
23629 July 25, 1899
25851 Aug. 31, 1900
28341 Aug. 24, 1901

B 30268 June 30, 1902
32506 Aug. 28, 1903
34800 Sept. 1, 1904.
39612 Sept. 14, 1908
42049 Oct. 14, 1910

Look up A plates

X Roma would be 1 54 −15 21 by Eph. for just off edge of this plate.

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1923phae.proj.1202N

Regim 240-15 Cont. from p. 79

No. 8

No. 9

No. 10

No. 11

No. 12

No. 13

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1923phae.proj.1202W

Friday, October 5, 1923

Regim 14h 55m +13°.

MC 19778 May 7, 1923, Exf. 26m
19856 June 16, 1923, Exf. 30m
19856 superposed

See Bb. 20, p. 174.

These plates were taken for Var. found on regim on earlier exam!

No new objects found.

Var. still is found faint — no sign of Map.

Regim 0h 50m +23°

MC 18941 August 28, 1922, Exf. 30m
20033 September 12, 1923, Exf. 42
20033 superposed

This regim already exam. Bb. 20, p. 78.
One plate not very good.

No new objects found.

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1923phae.proj.1202v

AAVSO meeting Saturday, October 13, 1923.

Region $1^h 40^m$ $-10°$

MC 13613 September 25, 1917, Eff. 37m
20119 October 7, 1923 Eff. 27
13613 superposed.
13613 not nearly as good a plate as 20119
Objects numbered on 20119.

No. 1 Neb. on both plates
1 25.8 −7.8 (1855) λPD = 97.8
V MC 596 1 25 51 97 45.1 (1860)

No. 2 Undoubtedly defect as star on MC 20119
1. 31.0 −10.8
V Defect

No. 3 Long nebula? MC 20119
1 37.6 −10.4 λPD = 100.4
Not in NGC
Not in Index I or II
Is this defect?

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1923phae.proj.1202W

No. 4 Neb. on both (?) plates
1 39.2 -11.5 (1855) n PD 101.5
? Not in NGC
Not in Index I or II

No. 5 Probably defect - trail like asteroid
on NC 13613
✓ Glassy defect.

No. 6 Neb. on both plates
1 42.0 -11.1 (1855) n PD = 101.1
✓ NGC 681 1 42 15 101 7.3

No. 7 Long neb. br. on No 19, ft. but
probably confirmed on 13613
✓ ~~NGC 701~~ 1 43.9 -10.4 1855 n PD = 100.4
NGC 701 1 44 8 100° 23.8

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1923phae.proj.1202w

No. 8 Fk. star or neb. both plates.
1 44.2 -9.2 (1855) NPD = 99.2
✓ NGC 707 1 44 31 99 12.0 (1860)

No. 9 Asteroid? or Defect? 20119
1 42.5 -8.9 (1855) Oct. 7, 1923

Probably defect.

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1923phae.proj.1202N

October 13, 1923.

Regim $22^h 40^m -10°$

MC 19274 November 21, 1922, Eff. 38^m
20113 October 6, 1923, Eff. 31
20113 superfluid.

Uranus on 19274 See Bk. 20, p. 129.

Asteroid on 19274
22 35.6 −9.5 (1855)

Themis Nov. 21, 1922
agrees with Mars. Eph. 663.
Position meas. Bk. 21, p. 44.

Faint Nebulae on both plates.
Neb. No. 1, 22 46.5 −12.0 N.P.D. = 102.0°
Not in NGC
" " Index I or II

No. 2 22 45.0 −10.1 NPD = 100.1
Not in NGC
" " Index I or II

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1923phae.proj.1202N

No. 3 22 44.0 −10.1 NPD = 100.1
Not in NGC
" " Index I or II

No. 4 22 38.5 −11.8 NPD = 101.8
? Index I
? 1451 22 38 46 +10 1/2° 6.3 v f, s,
Not in NGC

No. 5 22 26.8 −11.1 NPD = 101.1
Not in NGC
" " Index I or II

No. 6 22 29.5 −9.4 NPD = 99.4
Is this neb. or defective image?
See Index 1449
22 27 46 99 29.9

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1923phae.proj.1202N

Monday, October 15, 1923.

Comet?

Regina $23^h 16^m$ $+7.5^o$

MC 19955 August 13, 1923, Exp. 30m
20087 October 3, 1923, Exp. 32m
19955 superposed

Comet or Defect? on 19955 Aug. 13
23 12.8 + 5.0 (1855)

Nearest plate MC 19948, Aug 9 = 23.0 +20

Aug. 18 MC 19980 see object already exam., p. 46
23 11.0 — 4.0 (1855)
Can these be same object?
I 42481 Aug. 9
42515 Aug 16 } Exam. Nothing seen
42514 Aug. 16

for iden, I 16149
18625

~~Var. 23 13.2 +8.1 1855~~
~~Cat. Var.~~

AC 25334 0.0^h $+0^o$ Aug. 13.
A ft. object seems to be about in place of this Comet(?).

✓

Exam. by Dr. S. Considered defect.

Chart
~~Cat~~. Var. 23 13.2 + 8.1 (1855)

✓ 5 Pegasi B.D. +8 5047 a 23 15.5 +8 22 (1900)
Confirmed by iden.

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1923phae.proj.12020

? Asteroid on 20087
23 12.8 +7.9 (1855)
See image
Pos. Meas. Bk. 21, p. 52.
Identt. = ?

Nebulae
No. 1
23 5.5 +5.5 (1855) NPD = 84.5
? Is this NGC 7518 23 6 5 84°26' ?

No. 2 23 7.0 +7.0 (1855) NPD = 83.0
Not in NGC
" " Index I or II
Probably nebulous.

No. 3 23 8.7 +5.9 (1855) NPD = 84.1
√ NGC 7562 23 8 51 84 4.5 1860

No. 4 23 7.8 +8.9 (1855) NPD = 81.1
not in NGC
" " Index I or II
Very ft but distinctly neb.

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1923phae.proj.1202N

No.5 23 9.2 +8.1 (1855) NPD = 81.9
not in NGC.
" " Index I or II
? Pretty bright for new?

No.6 23 11.0 +5.7 (1855) NPD = 84.3
V NGC 7591 23 11 10 84 11 (1860)

? No.7 23 11.8 +7.5 (1855) NPD = 82.5
? Is this NGC 7608 23 12 8 82 24.8 ?

No.8 23 12.2 +7.4 (1855) NPD 82.6
? Su 7611

No.9 23 12.3 +7.8 (1855) NPD = 82.2
V NGC 7612 23 12 38 82 11.1

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1923phae.proj.1202N

No. 10 23 13.0 +7.4 (1855) MPD = 826
√ NGC 7617 23 13. 0 82 36 (1860)

No. 11 23 13.1 +7.5 (1855) MPD = 82.5
√ {7619
{7621
and others

√ No. 12 23 13.2 +7.3 (1855) MPD = 82.7

No. 13 23 14.1 +7.3 (1855) MPD = 827
√ NGC 7631

No. 14 23 14.3 +8.2 (1855) MPD = 818
√ NGC 7634 23 17 86 81 53.0

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1923phae.proj.1202N

No. 15 23 16.5 +8.8 (1855) NPD = 81.2
V NGC. 7648 23 16 48 81 5.9

No. 16 23 17.8 +7.4 (1855) NPD = 82.6
Not in N.G.C.
" " Index I or II
Very faint — nebulous.

No. 17 23 20.8 +7.9 (1855) NPD = 82.1
V NGC 7674 23 20 50 81 59.5
~~7675 23 21 0 82 0.1~~

No. 18 23 20.9 +7.9 (1855) NPD 82.1
foll. & S. of No. 17
V NGC. 7675 23 21 0 82 0.1

No. 19 23 12.0 +5.1 (1855) NPD = 84.9
Not in N.G.C.
" " Index I or II
? Pretty bright for new?

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1923phae.proj.1202N

Tuesday, October 16, 1923.

Regim 22.0 +15.0
MC 19048 Sept. 25, 1922, Eff. 30m
20102 October 5, 1923, Eff. 32
19048 superposed

19048 already exam. with power plate, f.50
Bright obj. on 20102, see below.
One naive neb. marked on this exam.
Very ft., on both plates. Faint star, or neb.?
22 8.8 -16.8 (1855) NPD = 106.8
✓ Index 1440 22 8 58 106 42,5 (1860)

Regim 22.0 -15.0
other plates were taken for this regim
MC 20079 October 2, 1923, Eff. 40m
20102 Oct. 5, 1923, Eff. 32
20079 superposed

Bright object on both plates — (2m 20079)
Same object?

Oct. 5 20102 22 3.2 -12.9 (1855)
Oct. 2 20079 21 45.5 -16.1
21 46.0 -16.5
Not one of the Planets — Ephemeris compared.

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1923phae.proj.12029

Asteroid

22 1.6 -14.8 (1855) on 20079 Oct. 2
22 1.4 -14.9 on 20102 Oct 5

Prec. = 2.4 45 yrs. δ = 0.2

1855)	22	1.6	-14.8	22	1.4	-14.9	
		2.4	0.2		2.4	0.2	
Appx 1900)	22	4.0	-14.6	22	3.8	-14.7	
		1.2	0.1		1.2	0.1	
Appx. 1923	22	5.2	-14.5	22	5.0	-14.6	

Roberta?

Position meas. : MC 20079, Oct. 2, Bk. 24, p. 48
MC 20102, Oct. 5, Bk. 24, p. 50

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1923phae.proj.1202W

October 16, 1923.

Regin $23^h 00^m$ $+20°$

NC 19948 August 9, 1923, Exp. 32.
20086 October 3, 1923, Exp. 34m
20086 superposed

2 Bright Defects, one on each plate.
Note that the defect on 20086 is in same part of plate and similar to those on 20079, Oct. 2.

On 19948 22 58.2 +21.1 (1855)

On 20086 22 47.0 +18.4 (1855)

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1923phae.proj.1202V

Thursday, October 25, 1923.

Regin $2^h 40^m$ -5.0

Early plate not comparable.

Repeat regin

Regin 2 45 -7.0

NGC 20091 October 3, 1923, Exp. 41m

20121 Oct. 7, " " 31

20121 superposed

These dates are ~~too~~ close together but are only plates we have of regin.

Bright defect n 20091

Faint Nebulae — Some are brighter than usual — undoubtedly Call Neb. On both pl.

No. 1 2 29.8 -6.0 (1855) NPD= ~~84.0~~ 96.0

Not in NGC

" " Index ~~I~~ or ~~II~~

Very faint, large, both pl.

No. 2 2 31.2 - 7.3 (1855) NPD= ~~82.7~~ 97.3

~~Not in NGC~~

√ NGC 1022 2 31 37 97 17.1 (B)

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1923phae.proj.1202W

No. 3 2 33.9 -7.6 (1855) NPD = ~~82.4~~ 97.6

~~Not in NGC~~

V NGC 1051 2 34 8 97 32.2 (1860)

No. 4 BD Star ? -8° 507 2h 33m 58s.3 -8° 53'.4 9.9 (1855)

2 34.0 -8.9 1855 NPD = ~~82.1~~ 98.9

Nebulous on B34619

V NGC 1052 2 34 12 98 51.5 B

No. 5 2 51.8 -8.8 (1855) NPD ~~81.2~~ 98.8

Not in NGC.

" " Index I or II

Large, very fr., distinct on both pl.

No. 6 2 39.0 -8.1 (1855) NPD = ~~81.9~~ 98.1

V 1084 2 39 7 98 10.2 (1860).

No. 7 2 43.5 -7.4 (1855) NPD = ~~82.6~~ 97.4

Not in NGC.

Not in Index I or II

Very distinct both pl.

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1923phae.proj.12027

No. 8 2 47.8 -6.9 (1855) N PD = ~~83.1~~ 96.9
Not in NGC.
" " Index I or II
Very distinct both pl.

7
No. 9 2 50.0 -8.2 (1855) N PD = ~~81.8~~ 98.2
9.9
✓ NGC. 1148 2 50 10 98 15.8 (1860)

No. 10 2 50.2 -8.3 (1855) N PD = ~~81.7~~ 98.3
foll. & S. of No. 9.
✓ NGC. 1152 2 50 42 98 19.8 (1860)

No. 11 2 51.8 -5.1 (1855) N PD = ~~84.9~~ 95.1
~~Not~~ in N.G.C.
" " Index I or II
Seems hazy, may be faint star.
Both pl.

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1923phae.proj.1202W

October 25, 1923.

Regim $0^h 40^m$ 0.0
Repeat regim

Regim $22^h 30^m$ −18.0
MC 19249 November 16, 1922. Eff 30m
MC 20080 October 2, 1923, 34
~~Repeat regim~~
20080 superposed
Br. object on 20080 — Defect or Asteroid?
Not like star images.
22 15.0 −19.7 (1855)
Reports - Carola — ?

Meas. of Position, Bk. 21, p. 72.

Nebula or ft. star — hazy ?
On both plates.
22 27.8 −16.0 (1855) NPD = 116.0
V NGC 7313 22 27 46 116 50 (1855)

D16311
Costs of orig asteroid from I1920b

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1923phae.proj.1202N

Saturday, November 3, 1923

Not a Galactic Region ?

Region $5^h\ 00^m\ +15.^\circ 2$ Very thick region.

MC 19242 November 13, 1922, Exp. 3h

20135 October 8, 1923, Exp ?

20135 superposed

— Image of star probably defective on 19242

$5^h\ 5.6\ +16.^\circ 4$

Asteroid or defect on 20135 Oct 8, 1923

5 5.6 +16.4 (1855) Rather faint, not like stars.

Identify ?

5h asteroids, 1923, are in Dec —

Pos. of Taurinensis, about Dec 26 agree with this

Mean. position, Bk. 21, p. 66.

Not one of these asteroids — Enter on list of Defects — Defect or Asteroid (?) Jan. 22 1924

Nebula ? Very faint.

Image of star defective on 19242

Image of star def. on 19242

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1923phae.proj.1202W

November 3, 1923.

Image of star defective on 19242

Bright Moving object or Defect on 19242

4 45.9 +12,7 (1855) Nov. 13, 1922

Papagena.

Position meas. Bk. 21, p. 55

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1923phae.proj.1202V

Monday, November 5, 1923.

Regin $3^h 20^m$ $+20.0$
MC 19033 September 22, 1922, Eff. 30m
20036 Sept. 12, 1923 Eff. 31m
20036 superseed

Assume.
Dfect Comet-like object on 20036
3 23.0 +19.2 (1855)
* see also f. 108, Asteroid (?)

Regin $3^h 20^m$ -10.0
MC 19055 September 25, 1922, Eff. 30m
20122 October 7, 1923, Eff. 31
20122 superseed.

* Object ~~like~~ similar to Suspected Variable Nebula, f. 11, this Bk. on both plates, but slightly diffrent positon! Objects are very much alike. 1922 much brighter.

On 20122 3 23.5 − 8.0 1855
19055 3 23.6 − 7.8 1855

1922 Slightly following & North & brighter
verified by plates

MC 20098 3 20 −5 Oct. 4, just does not cover this regin.

Plates taken for regin
MC 20227 center 3 25 −8 Eff 31 × Nov. 10, 1923
20228 " Eff 50 " 10, 1923
do not show object.

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1923phae.proj.1202W

Regim 3 20 +20 Cont. frm f. 107.
Faint Asteroid trail on obs 36
3 27 +20.1 (1855) : Sept. 12, 1923.
Position meas. Bk. 21, p. 64. 68.

Beagle
or ~~Norris~~

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1923phae.proj.1202V

3 20 -10 Cont. from f. 107

Variable. Great Range.
B1. ~~19055~~ 20122 FT 19055

3 5.0 -12.5 (1855) Not BD star
SS Eridani BZ 1920 No. 45 Wolfe

* If range is not known, announce ? from these plates
BZ 1922-4
AN 215, 185-
BZ. 1923, 1
from Card Cat. Vars.
Approx. Magns.
Using Magns
On 15806.

	Corr.
Max = 3-4	10.5
Min = 9	13.1

(Checks more carefully (if for announcement))

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1923phae.proj.1202W

3h 20m -10° Cont from p. 109

Fr. Nebulae — on both plates

No. 1 3 4.2 -9.4 (1855) NPD = 99.4

✓ No. 1 folo & N.
NGC 4242 3 4 31 99 26.4 (1860)

✓ No. 2 3.4.2 -9.4 NPD = 99.4

No. 2 prec. slightly & S.
NGC 4241 3 4 27 99 27.5 (1860)

✓ No. 3 3 10.8 -7.8 (1855) NPD = 97.8

NGC 1285 3 11 5 97 48.6 (1860)

✓ No. 4 3 13.8 -7.9 (1855) NPD = 97.9

NGC. 1303 3 12 51 97 54.0 (1860)

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1923phae.proj.1202N

No. 5 3 9.1 −7.7 (1855) NPD 97.7
Not in NGC
New " " Index I or II
? but distinct on both plates and apparently not faint star.

No. 6 3 21.0 − 8.9 (1855) N.P.D. 98.9
long, ~~extended~~ fm N prec. to S fol.

V NGC 1337 3 21 17 98 53.2 (1860)
" eF, vL "

No. 7 3 27.9 − 10.4 (1855) NPD 100.4

V NGC 1363 3 28. 6 100 18.8
NGC 1364 3 28 16 100 18.1

No. 8 3 22.0 − 10.7 (1855) NPD 100.7
Not in NGC
" " Index I or II
New? Faint but distinct on both plates −

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1923phae.proj.1202W

Tuesday, November 6, 1923.

Regim $3^h\ 30^m\ +32°.5$
MC 19068 September 26, 1922, Exp. 30^m
20109 October 5, 1923; Exp. 39^m
19068 superposed

N.B. trail like defects in prec. North corner of 20109 and 1 near center.

1912 NW Asteroid? on 19068 $3^h\ 19^m.0\ +32°.0$ (1855)
Position meas. Bk. 21, f. 58

Regim $2^h\ 55^m\ +30°.0$
MC 19350 December 13, 1922, Exp. 47^m
20108 October 5, 1923 Exp. 34^m
20108 superposed
19350 trailed images.

Meteor Trail on 20108
X Confirmed by Dr. S., Jan. 22, 1924.
faint meteor.

Defective star (N Prec pt. of plate)
Probably due to large white spot on 20108, the plate which shows it faintly.

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1923phae.proj.12024

Comet-like obj. on 20108
Probably defect.

Defect. Dr. S. Jan. 22, 1924.

Bright obj. on 19350, near center
probably defect.

Faint obj. on both plates resmd Nebulous-
But is probably two ft. stars at
limit of magn of plates.

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1923phae.proj.1202W

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1923phae.proj.1202N

Wednesday, November 7, 1923.

Regim h m s ° '
1 50 +27.5
MC 19031 September 22, 1922, Eq. 30m
MC 20034 Sept. 12, 1923, Eq. 48
20034 superposed

Asteroid on 20034 Sept 12, 1923
1 51.6 +28.1 (1855)
Position meas. Bk. 21, p. 60.

Var. Br 19031 Ph 20034
1 59 +27.3 (1855)
Noted added Nov. 10 This is same Nov. Var. as found later on p. 123 but looked up there shows smaller range on these plates.
Defect (?) on 20034
1 59.8 +27.5 (1855)
See p. 127

Nebulae — on both plates.

✳ Is there change in No. 6?

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1923phae.proj.1202W

1. 50 +27 Cont.

No. 1

1 35.0 +27.0 (1855) NPD = 63.0
Not in NGC.
Not in Index I or II
Very ft. on both plates

V No. 2 1 36.0 +28.0 (1855) NPD = 62.0
NGC 661 1 36 21 62 1.4 (1860)

No. 3 1 38.9 +28.0 (1855) NPD = 62.0
Not in NGC
Not in Index I or II
Ft. Very distinct on both plates

No. 4 1 39.4 +27.2 (1855) NPD = 62.8
V NGC 670 1 39 32 62 49.0 (1860)

No. 5 1 39.5 + 26.6 (1855) NPD = 63.4
Not in NGC
" " Index I or II
Long — distinct on both pl.

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1923phae.proj.1202W

No. 6 | 39.7 +26.7 (1855) NPD = 63.3
✓ NGC 672 | 40 0 63 16.1 (1860)

No. 7 | 42.0 +26.9 (1855) NPD = 63.1
✓ NGC 684 | 42 21 63 3.1 (1860)

No. 8 | 45.2 +25.3 (1855) NPD = 64.7
Not in NGC
" " Index I + II
On both pl. Probably neb., not faint stars together

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1923phae.proj.1202w

Regim

Thursday, November 8, 1923.

1^h 24^m $+30°$

MC 19079 September 28, 1922 Eff. 35
20106 October 5, 1923 47
19079 superposed.

N.B. How much fainter stars and especially nebula at
Come out on a little longer exp.

19079 hardly shows fainter stars.

* N.B. beautiful plate of this.

Spiral Neb. seen; 20106 excellent plate
~~No record~~ I have made, no record of the small
separate nebulae in this small
field. Some of these might be
uncatalogued. A survey of this
special regim would be needed to determine
if any new nebulae.
Defective spot near fol., S. Corner.
on 20106

Bright Defect(?) on 20106

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1923phae.proj.1202N

Faint Nebulae

Is No. 8 a small star image, not Neb.?
Is No. 9 a chain of ft. stars?

No. 1 1 8 +29.7 (1855) hPD = 60.3
not in N.G.C.
" " Index I
✓ Index II 659 1 8 21 60 23.1

✓ No. 2 1 8 +30.2 (1855) hPD = 59.8
N.G.C. 452 1 8 29 59 42.7 (1860)

No. 3 1 12.0 +31.7 (1855) hPD = 58.3
(4683)

No. 4 1 12.5 +28.9 (1855) hPD = 61.1
✓ Index I 96 1 12 34 61 4.0

No. 5 1 13.2 +31.5 (1855) hPD = 58.5
not in N.G.C.
" " Index I or II
spread at 57° in Index II
very faint

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1923phae.proj.1202N

No. 6 1 14.2 + 31.5 (1855) NPD = 585
No. 6 fol. & N. of No. 5.
Not in NGC
" " Index I or II
several at 57°
very faint but distinct.

No. 7 1 15.6 + 30.0 (1855) NPD = 60.0
Not in NGC
" " Index I or II
New? distinct

No. 8 1. 15.6 +30.0 (1855) NPD = 60.0
No 8 Rec. & S. of No. 7
Not in NGC
" " Index I
New? distinct

No. 9 1 16.5 +29.8 (1855) NPD = 60.2
Not in NGC.
" " Index I or II
May be faint stars?

No. 10 1 16.8 + 31.4 (1855) NPD = 58.6
Not in NGC
" " Index I or II
? very tr. for an unknown Neb.?

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1923phae.proj.12024

No. 11 1 17.5 + 31.3 (1855) NPD = 58.7
Not in NGC
" " Index I or II
?
! Long, see 20106

No. 12 1 19.8 + 30.8 (1855) NPD = 59.2
Not in NGC.
?
! " " Index I or II
Long, see 20106

✓ No. 13 1 20.8 + 31.6 (1855) NPD = 58.4
NGC 566 1 21 11 58 23.8

No. 14 1 23.0 + 30.4 (1855) NPD = 59.6
Not in NGC.
" " Index I or II
Areal at 129, 59 & 60 in Index I
Maybe faint stars.

No. 15 1 29.0 + 28.1 1855 NPD = 61.9
Not in NGC.
?
! " " Index I or II
Quite bright for nebulous Neb.

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1923phae.proj.1202W

Friday, November 9, 1923.

Over ½ of this pair plates coincides with pair, p. 115

Regin 2h 00m +25.°0

MC 19040 September 24, 1922, Eff. 30m
20107 October 5, 1923, Eff. 35m
19040 superfrnd

Comet-like defect? on 20107
1 56.0 +24.7 (1855)
one or more similar in preced. part of plate.

Same as p. 115 fund Nov. 7.

Var. ~~on~~
Br. 19040 Ft. 20107
1 59.3 +27.3 (1855) not BD
2. +0.1
2 1 +27.4
Not in Var. Cat.
→ I 28374 shows ft. stars.

Brightest? on I 16885

Examination of plates, magns., etc., See page 127

Configuration of 3 stars —
Var could have been found on I plates

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1923phae.proj.1202W

Nrumber 9

2^h +25.0 Cont.

Meteor or Scratch on 20107

a slight change suspected in

not evident later.

Faint nebulae on both plates.

No. 1 1 54.3 +26.8 (1855) NPD = 63.2

Not in NGC

Not in Index I or II

Diastinct on both plates

No. 2 1 53.2 +25.7 (1855) NPD = 64.3

Not in NGC

~~Index I 187 1 53 56 64 12.4~~

~~Are these same~~ ?

Not in Index I or II

Seems nebulous — may be ft. star

No. 3 1 53.7 +25.8 (1855) NPD = 64.2

Not in NGC

✓ Index I 187 1 53 56 64 12.4

Probably ~~Are these~~ are same

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1923phae.proj.12027

November 9

$2^h + 25.0°$ Cont.

No. 4 1 58.8 +23.0 (1855) nPD = 67.0

V NGC 776 1 52 5 67 2.3 (1860)

No. 5 1 53.8 +22.9 (1855) nPD = 67.1

Not in NGC

V Index I 189 1 54 5 67 7.7 (1860)

190 1 54 19 67 7.9 (1860)

No. 6 1 54.2 +25.4 (1855) nPD = 64.6

Not in NGC

Not in Index I or II

Is this 2 faint stars?

No. 7 1 55.7 +25.2 (1855) nPD = 64.8

? Not in NGC

New! Not in Index I or II

Quite bright

No. 8 2 1.0 +24.9 (1855) nPD = 65.1

Not in NGC

Not in Index I or II

Distinct on both plates.

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1923phae.proj.1202W

November 9.

$2^h + 25^\circ.0$ Cont.

No. 9 2 5.6 +27.2 (1855) h P D = 62.8

V NGC. 855 2 5 52 62 46.9 (1860)

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1923phae.proj.12027

New variable, p. 123 cont.

2.0 +27° 6'

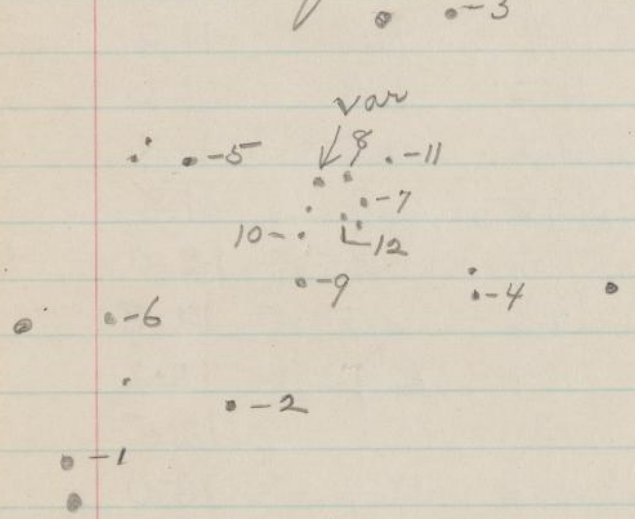
For Prod:

Br. MC 19040 — Ft. MC 20107

I 16885 — 28075 — glare faint stars

T. 16359 — 24695

Pred. Sequence on MC 19040



Br. = Star 6

Abmt = 3 on 20449

Range:

See p. 130, 131

11.2 on I 16885 to 14.8 or fainter on I 28075 Corr. Magns.

11.9 on MC 19040 to 14.6 on MC 20107

Verified by Miss Walker —

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1923phae.proj.1202W

Var. 020227

Comp. Sequence R Arietis
on NPC 4120.; Magns. Bk. 9, f. 30

Estimates unsatisfactory
Comp. Seq. is on fol. edge of NC 19040
Var. Seq. " " North " " "

	Approximate Magns. Sequence. (1)	Seq. f 129 (2)	(3)	Mean	Corrected (Scale 1922)
1		10.8	10.7	10.8	11.0
2		11.0	10.9	11.0	11.2
3		11.4	11.3	11.4	11.6
4		11.5	11.5	11.5	11.7
5		11.7	11.6	11.6	11.8
6	11.7	12.0	11.7	11.8	12.0
7	12.6	12.5	12.3	12.5	12.8
8	12.9	13.1	12.7	12.9	13.2
9	13.2	13.3	13.0	13.2	13.5
10	13.7	13.7	13.6	13.7	14.0
11	14.1	14.3	14.1	14.2	14.5 Use
12	14.4	14.6	14.5	14.5	14.8

Uncorrected Magns.

Assuming 6 = 11.7, Eye estimates of grades on I 16885 confirmed on I 41660

1		10.7
2	2	10.9
3	4	11.3
4	2	11.5
5	1	11.6
6	1	(11.7)

confirmed also, on 24460, except that 2 seems a trifle brighter. These are best selected of the I plates

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1923phae.proj.12027

Method of deriving magns. p 128.

(Scale = ?)

1) 6 = 11.7 compared with R Arietis Seq.

	Diff.	
6 = by scale meas.	2.2	= 11.7
7 = 3.1	9	12.6
8 = 3.4	3	12.9
9 = 3.7	3	13.2
10 = 4.2	5	13.7
11 = 4.6	4	14.1
12 = 4.9	3	14.4

2) Estimates comparing images with Seq. 47K on MC 10606, ~~the method used for~~ estimates of magns. of Asteroids Magns. used, Uncorrected, Cover of Bk 21.

3) Assume 6 afent equal to mí of (MC 19040) R Arietis Seq., allowing for size of mí eye estimates of grades.

6	6	(11.7)
7		12.3
8	4	12.7
9	3	13.0
10	6	13.6
11	5	14.1
12	4	14.5

Br. stars not est. on MC plate. Seq. too near edge.

An attempt was made to est. Var. Seq. in terms of R Arietis but found to be too difficult The seq. of R. Arietis is uncertain as prime stars are used and results of magns. are uncertain. Sequences also much separated on pl.

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020227

Corr. Mags used, p. 128.

Estimates on I Plates.

			J.D.
12.7	I5238	Dec. 18, 1891	2412085
11.7?	7528	Nov. 16, 1892	2419
"	12038	Too poor – probably ft.	
11.5	16359	October 27, 1896	3860
11.2	16885	Dec. 26, 1896	3920
11.6	19947	Jan. 5, 1897	3930
about 13.0	24435	Jan. 16, 1900	5036
< 14.0	24695	March 7, 1900	5086
13.2	25706	Aug. 30, 1900	5262
11.7	26460	Jan. 8, 1901	5393
140	28036	Dec. 2, 1901	5721
14.8 or fainter	28075	Dec. 15, 1901 Barely a trace; images trailed	5734
13.4	28374	Jan. 28, 1902	5778
13.3	29228	Sept. 2, 1902	5995
11.8	29677	December 18, 1902	6102
13.3?	29830	Jan. 17, 1903	16132
11.8	41660	Sept. 28, 1922	23326

audite of 1904.0

Long period of large range ?

14.9	a 6535	Sept. 2, 1903	16360
11.5	a 6966	Sept. 20, 1904	16744

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1923phae.proj.12027

Card request for more plates -
Max of 1923-1924.

			J.D.
12,5	MC 19031	Sept. 22, 1922	2423320
11.9	MC 19040	September 24, 1922	- 3322
13.6	20034	September 12, 1923	3675
14.6	20107	October 5, 1923	23698.
	20449	Feb. 9, 1924	

Confirmed by Miss Cannon, January 18, 1924.

Measure for position MC 19031
A plate on which measures might be possible
Star var. extremely faint.

Position measured Feb. 19, 1.176.

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1923phae.proj.1202W

Tuesday, December 18, 1923. Enlarged on p. 146

Regions 23 26 +7.5

MC 19949 August 9, 1923, Ef. 30m

20289 December 7, 1923, Ef. 41m

19949 superposed.

Defects? Dirt on one plate only.

A On 19949

B On 19949 star like, near Center. Note for color.

C Wedge shaped, faint, on 19949

D Comet-like on 20289

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~~Fk. Nebulae on both plates.~~
~~Nos. on 19949~~

1

2

3

4

5

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6

7

8

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1923phae.proj.1202w

Tuesday, November 20, 1923.

Regim 4h 00m +30.0°

MC 20110 October 5, 1923, Eff. 32m
20149 October 17, 1923, Eff. 30
20110 superposed.

Not long interval between these dates, but would show a short period variable change.

Before exam. plates, noted a bright star on MC not on the other. see Var(?) below.

Several bright, large defects(?) on 20149.

Var(?) Br. 20149 Ft. 20110
+27°623 3 55 1.2 +27 45.6 8.2 (1855)
RW Tauri 3 57.8 +27 58 (1900)

Est. Min. = 11.3 (Comparing MC 15606) range about 4 magn.? See Var. Cat. Seems even larger range on this pair of MC plates

Est. Max. = 7.6 (Using 15606) or brighter.

Has RW Tau light curve been studied?
?

Scale A.
Max -1.8? = 7.6
Min -3.7 = 11.3
Scale 5.0 = 3.7

Scale is not given beyond -1.0

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1923phae.proj..1202W

Comet-like object on MC 20110

Assume defect

Regim $1^h 00^m + 30°$ ~~+8~~

MC 19039 Sept. 24, 1922, Exp. 30m

20128 October 8, 1923, Exp. 34m

19039 superposed

✓ Seen by Dr. S. See long streaks, N to S, prec. center of 19039. Does not seem like a scratch, is nearly even in color and width, except near north end, a break.

Probably a "star image" Dr. S. See object marked on 19039 with ? Is this a faint star? Does not show on 20128, though fainter stars are distinctly seen

$0^h 53.3 + 29.5$ (1855)

a 8027 Exp. 60m

region on extreme edge –

N.S., other faint stars N.S.

MC 15604 Exp. 31m poor pl. N.S.

~~15604~~

✓ Take new plate.

Probably can not prove variation.

MC 20263 Taken Nov. 27, 1923, for this object, Exp. 57, does not show it.

Assume defect?

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1923phae.proj.1202W

Var.?
A slight change suspected.
Very slight if any, on these plates.

Several faint nebulae. On both plates.
* Does No. 5 change?
See Nile marked on MC 20263 Ecl. 57m but fogged.
No. 1. 0 44.3 +28.9 (1855) NPD = 6.1.1
Not in NGC
Not in Index I or II

No. 2. 0 45.1 +28.3 (1855) NPD = 61.7
Not in NGC
Not in Index I or II

No. 3 0 44.7 +29.8 (1855) NPD = 60.2
✓ NGC 282 0 45 11 60 7.4 (1860)

No. 4. 0 47.2 +30.7 (1855) NPD = ~~59~~ 59.3
✓ NGC 295 0h 47 30 59 13.8 (1860)

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1923phae.proj.1202W

Does no.5 0 50.0 +30.7 (1855) NPD = 59.3
this change? Not in NGC.
Exam. by D.L.S. Not in Index I or II
Maybe caused by diff. in exp.

no.6 0 49.5 +29.5 (1855) NPD = 60.5
✓ 311
313

no.7 0 49.8 +29.6 (1855) N.P.D. = 60.4
315
✓ 316
318

no.8 0 52.8 +30.0 (1855) NPD = 60.0
~~N.G.C. 338 0 53 0 60 5.2 (1860)~~
✓ Index I 66 0 52 56 59 58 (1860)

no.9 0 52.8 +29.9 (1855) NPD = 60.1
See no 8
Probably 338? 0 53 0 60 5.2 (1860)
✓ ~~Index I 66 0 52 56 59 58 (1860)~~

no.10 0 52.9 +29.5 (1855) N.P.D. = 60.5
Not in NGC.
Not in Index I or II

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1923phae.proj.1202W

No. 11 0 53.2 +29.3 (1855) NPD=60.7
Not in N.G.C.
Not in Index I or II

No. 12 0 53.6 +30.3 (1855) NPD=59.7
Not in N.G.C.
~~0 52 5~~
Not in Index I or II

No. 13 0 53.2 +30.8 (1855) N.P.D=59.2

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1923phae.proj.1202w

Thursday, November 22, 1923.

Region $2^h\ 20^m\ -15.8^\circ$

WC 19237 November 13, 1922, Exp. 58^m
20056 September 17, 1923, Exp. 30
20056 Superposed

Several faint nebulae — seen on both plates.

No. 1 2 12.5 −16.7 (1855) NPD = ~~33~~ 106.7
N.G.C. 887 2 12 54 106 42.1 (1860)

No. 2 2 19.8 −15.2 (1855) NPD 105.2
Not in N.G.C.
Ind. I 228 2 20.1 105 8.4

No. 3 2 19.5 −15.9 (1855) NPD 105.9
Br. for Not in N.G.C.
Neb Not in Ind. I or II

No. 4 2 27.7 −14.8 (1855) NPD 104.8
Little bright Not in N.G.C.
for neb Not in Ind. I or II

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1923phae.proj.1202N

No. 5 2 27.9 -14.3 (1855) NPD 104.3
Not in NGC
Not in Index I or II
Faint, large — on both pl.

No. 6 fols. 5 or 7
Very bright Not in NGC
for new neb. Not in Index I or II

No. 7 2 28.9 -14.4 (1855) NPD 104.4
Very br. for Not in NGC.
Nebr. neb. Not in Index I or II

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1923phae.proj.1202

Wednesday, November 28, 1923.

Region $22^h\,00^m\,+32.0^\circ$

MC 19907 July 17, 1923, Eff. 30m
20085 October 3, 1923 Eff. 30m
20085 superposed.

Comet-like objects on 19907
Many smudge like defects on this plate.

Nebula –
22 1.4 +30.7 (1855) NPD = 59.3
V NGC 7217 22 1 37 59 19.4

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1923phae.proj.1202N

Regin $3^h\,00^m$ $+25^\circ$

MC 20132 October 8, 1923, Exp. 31m
20264 November 27, 1923 Exp. 36
20264 superposed
20264 a dark plate
20132 ft stars hardly show thro the dark superposed plate.
portion of plate dense over, reversing pos. of plates.

Seen by Dr. S. large bright defect

✓ Nebula on both plates
2 51.2 +24.6 (1855) N PD = 65°.4
NGC 1156 2 51 31 65 19.4 (1860)

Regin 3 29 +17.5
~~MC 19094 Sept. 29, 1922, Exp. 30m~~
~~20271 November 28, 1923, Exp. 46~~

Regin 2 00 +9.5
MC 770 November 26, 1910, Exp. 93.
20269 Nov. 28, 1923, Exp. 25
20269 superposed
20269 an excellent plate, although only 25m exp.
1 defect (?) on 770

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1923phae.proj.12027

Regin 23 30 −17.5

MC 19250 November 16, 1922 Eff. 10^m

20262 November 27, 1923 57.

19250 superposed.

Neb. on both plates

V 23 18.8 −18.8 (1855) NPD = 108.8

2nd Index 5321 23 18 59 108 43.5 (1860)

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1923phae.proj.1202N

Tuesday, December 18, 1923.

Region 23 26, +7.5

mc 19949 August 9, 1923, Eff. 30m

20289 December 7, 1923, Eff. 41m

19949 superfaid

Defects on one plate only.

A On 19949

B On 19949 starlike, near Center. Note poor color.

C Wedge-shaped, faint, on 19949

D Comet-like on 20289

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1923phae.proj.12027

Faint nebulae on both plates.
Nos. on 19949

1

2

3

4

5

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1923phae.proj.1202W

6

7

8

Region 1 20 +20

MC 19030 September 22, 1922, Exp. 30m

20291 December 7, 1923, Exp. 33

19030 superposed

* Note bright defect on recent plate — Not sharp like meteor —

Seen by Dr S. also, faint streaks near center.

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1923phae.proj.12027

Faint nebs.
Seems more hazy than a faint star.

Regim 1 50 +11.0
MC #9019 ~~September~~ 18, 1922 Exp. 11m
reject.

Regim 4 40 +18.5
MC 19352 December 13, 1922 Exp 38m
20297 Dec 8, 1923 Exp. 59
19352 ~~20297~~ superposed
Regim evidently near Milky Way —
Stars thicker than most regions.
Asteroid on 19352
4 41.6 +19.8 (1855)
Aurelia
Measured Pos., Bk. 21, p. 92.

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1923phae.proj.1202W

Three Asteroids on 1 pl.

Faint Asteroid
Prec. and South of one on p. 149
On 19352
4 40.3 +18.8 (1855)

? New! Not identified.
Bernardina See Marseilles Eph. No. 698.

Position measured, Bk. 21, p. 90.

Another asteroid!
On 19352
Gordonia 4 31.6 +16.8 (1855)

Position measured, Bk. 21, p. 88.

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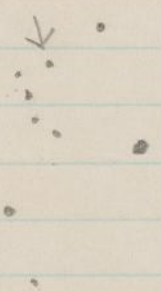
1923phae.proj.1202W

To confirm later by more plates
need plates to find it bright again

Var.

Br. 19352 Trace, only; 20297

4 29.0 +19.1 (1855)
2.6 +6'
4 31.6 +19.2 (1900)



Too faint for I plates.
Eclan. 16014 Eff. 10m
16116 12
24314 96
24339 73
24903 10
31181 136 but poor
24386, Eff. 69m, shows the 3 faint stars near Var. N.S.
A 4069 Eff. 10m
only one of faint stars shows
A 4031 October 11, 1899 Eff. 60m
all five faint stars show. Var. extremely ft.
MC 10m Eff. does not show ft. stars.
MC 14332, 13819

MC 20450 Feb. 9, 1924, Eclan for Var., Eff. 30m Var. ft.
20470, April 2, " " " " 34 Probably Var

✓ Card request for MC Plates

Concl.: Too faint for I plates except possibly at Max. on long exposure.
1 A Pl. shows it faint.

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1923phae.proj.1202W

Wednesday, December 19, 1923.

Regions 1 50 +16.0

MC 20046 September 14, 1923, Exp. 40m
20294 December 8, 1923, Exp. 35
20294 superposed

See bright reflection (?) in center of ~~bright~~ edge ~~on both~~ plates. A bright star, B.D. +18° 243 1h 45m 35.s6 +18° 35.'9 35
is not far from this. N.B. Markings on
See I 13829 for this obj.
prs. of br. star.
Markings of the two objects, 3 months apart, are strikingly alike, slightly displaced in position of whole object.

rather bright object, probably defect, on
20294
1 21.1 +15.6 (1855)

Ft. nebulae, on both plates. Nos. on 20294
No. 1 1 49.0 +14.3 (1855) NPD. = 75.7
Not in NGC
Not in Index I or II
New? Distinct on both plates.

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1923phae.proj.1202W

No. 2 1 51.7 +13.3 (1855) N P D 76.7
✓ NGC 774 1 52 2 76 41.3

35

No. 3 1 51.0 +18.3 (1855) N P D = 71.7
✓ NGC 770 1 51 33 71 43.7

No. 4 1 53.6 +14.9 (1855) N.P.D. 75.1
✓ NGC 786 1 53 47 75 2.8

No. 5 1 54.2 +~~14.9~~ 15.0 (1855) N.P.D = 75.1°
Not in NGC.
Not in Index I or II
? Is this 792 1 54 39 74 58.2

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1923phae.proj.1202W

No. 6 1 55.9 + 14.0 (1855) N.P.D. = 76.0°
Not in NGC.
✓ Index 195 1 56 8 75 58.5 (1860)

~~Off star~~ ?

No. 7 1 56.0 + 14.1 (1855) N.P.D. = 75.9
fol. No. 6 & N
Not in NGC.
✓ Index 196 1 56 23 75 57.1 (1860)

✓ No. 8 1 55.8 + 15.4 (1855) N P D = 74.6
NGC. 803 1h 56.8s 74° 39.0 (1860)

No. 9 1 59.7 + 16.5 (1855) N P D = 73.5
✓ NGC 817 2 0 18 73 27.7 (1860)

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1923phee.proj..1202W

Regia ~~0 30 −12.5~~
0 40 − 10.0
MC 18104, October 25, 1921 Eff. 40^{m}
20281 December 1, 1923 Eff 58^{m}
18104 superposed.

Ft. Asteroid on 18104 Oct 25, 1921
Krausa? 0 44.8 −12.3 (1855)
or Pariana?

Position measured, Bk. 21, p. 104

Br. Asteroid on 18104
Euphrosyne 0 36.0 −9.6 (1855)

Position measured, Bk. 21, p. 102

Ft Asteroid on 18104
1913 2U 0 47.0 − 8.8 (1855)

Position measured, Bk. 21, p. 106

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1923phae.proj.1202W

Many nebulae on these plates, seem on both plates. Several are very fr. so may probably be meur.

No. 1 0 24.0 −11.2 (1855)

No. 2 0 24.3 −11.3 (1855)

No. 3 0 27.2 −11.6 (1855)

No 4 0 25.5 −10.8 (1855)

No 5 0 26.9 − 10.5 (1855)

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1923phae.proj.1202V

No. 6 O 26.8 − 9.2 (1855)

No. 7 O 27.2 − 8.8 (1855)

No. 8 O 27.5 − 10.2 (1855)

No. 9 O 28.7 − 10.6 (1855)

No. 10 O 28.8 − 10.9 (1855)

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1923phae.proj.1202W

No. 11 O 29.2 -10.9 (1855)

No. 12 O 30.5 -10.1 (1855)

No. 13 O 31.5 - 10.8 1855

No. 14 slightly following, slightly south of 13

No. 15

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1923phae.proj.1202W

No. 16

No. 17

No. 18

No. 19

No. 20

No. 21

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1923phae.proj.1202W

No. 22

No. 23

No. 24

No. 25

No. 26

No. 27

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1923phae.proj.1202W

No. 28

No. 29

No. 30

No. 31

No. 32

No. 33

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1923phae.proj.1202W

Saturday, December 22, 1923. and
Monday, December 24, 1923.

Regim $3^h\ 50^m\ +16^\circ$

MC 19351, December 13, 1922, Exp. 41m
20296, December 8, 1923, Exp. 40
20296 superposed.

Hazy object, rather large. Comet? on 20296
3 40.2 +15.5 (1855)
regm just off edge of 20133

Assume Defect. Seen by Dr. S.

Defect, small, black, on 20296
center, following, part of plate

Irregular defects, probably not trails;
top edge of plate 20296

Apparent large, hazy object, near lower
edge, seen in both plates, on closer
exam. on 19351 is two faint stars,
not same magn. Shows separation
of position and diff. of magn. on 19351.
Test.

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1923phae.proj.1202w

(Dec. 24)

Asteroid as 20296 Dec. 8, 1923
small but black

Diotima 3 44.2 + 18.2 (1855)
(Magn. (Eth) 11.4) Appx. Position nearly coincides.
Bright.

Measured of Position, Bk. 21, p. 76.

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1923phae.proj.1202W

See also f. 190

Regim

Regalso Bk. 26, f. 49

Wednesday, December 26, 1923.

4h 50m +20° 21'

NC 20134 October 8, 1923, Eff. 34m

20237 November 12, 1923, Eff. 35m

20134 superposed

Athamantis Bright Asteroid on 20237

4 42.2 +21.3 (1855)

Measure of Position, Bk. 21, f. 78.

Bright difect on 20134, North edge (Center)

Change Suspected in fainter star close to bright star, marked near Center

Nebula on both plates

Identify

2. 3 faint stars or nebulous object?

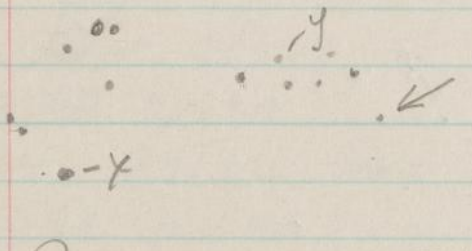
4 59.8 +21.3 (1855)

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1923phae.proj.1202W

Not confirmed Br. (only 1 MC pl. Bright) Miss Cannon
Large range — Get more plates — does this

New Var. 4 49.8 +21.5 (1855)
Not in Var Cat.



Br. = nearly = X
Ft. = y

Br. 20134 Ft. 20237

Marked on I 24142 72m Eff ~~Ft~~

MC 20451 Feb. 9, 1924 taken for Var. Ft.
MC 20546 Feb. 29, 1924 taken for Var. Ft.
MC 20379 Jan. 4, 1924 taken for Var. Ft.

Cram. of I Plates

I 720 Too poor.
Faint 5438 Too poor.
stars 7701 " "
show on 9613 9584 " "
only few 16989 " "
I plates 20156 " "
21620 " "
24142 Nov. 25, 1899 Ft.
24929 March 23, 1900 Ft.
31181 Nov. 21, 1903 Too poor
39828 Feb. 16, 1920 Very Ft
Ft. stars not seen but X distinctly seen.
41751 Too poor
41776 " "
I 43458 April 14, 1924 Taken specially for region

Later MC Plates:
20677 April 3, 1924 Ft.

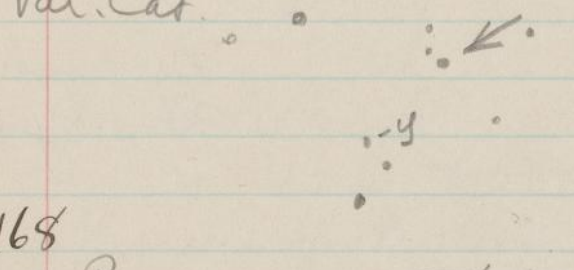
a 4149 ft.
a 7054 ft.
am 18 32 4 S +15° 24
does not show as Ft. star

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1923phae.proj.1202W

Range 12.8 to 14.6 Corr.

New Var. 4 56.8 +21.6 (1855)
Not in
Var. Cat.



Measure of Position, Bb. 19, p. 168

Br. 20237 Ft. 20134

Marked on I 24142 Eyf. 72m

MC 20546 taken for Var. Feb 29 (for λ 169) This Var. Br.
MC 20454 20379 taken for Var. Jan 4, 1924, Br.

Exam. of I plates

I 720	Too poor	
2651	" "	
5438	" "	
7701	x seen Var. N.S.	
9584	seen probably Max	Poor
9613	Too poor	
16989	Seen Poor but proof.	
20156	Poor	
21620	Nov. 2, 1898	Br.
* 24142	Nov. 25, 1899	Max.
24929	Mar. 23, 1900	Seen, not Max
39828	Feb. 16, 1920	Br.

see plates

a Plates.

a 4149	Nov. 21 1899	Min.
7054	Nov. 14, 1904	Max.

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1923phae.proj.1202W

See MC 6916 region of Carte 5 +25, off plate, but probably necessary for magn.

Confirmed by Miss Cannon January 17, 1924

For Prof:

Br.	Ft.
MC 20237	MC 20134
I 21620	I 16989
* 24142 Max	24929 Set Max & Min
a 4054	a 4149

Range: Max. MC 20237 Compared with 15606
V = 8-9 12.8 Corr.

Min. MC 20134 Compared with MC 15606
V 3 fr. Star 13 (13.9) = 14.6 Corr.

Range confirmed by Miss Walker, Feb. 1.
12.9 to 14.7
Bk. 15, f. 112
(1922 Scale)

Max. on I 24142
Compared with seq. of Carte (See MC 6916) on same plate = ~~11 12~~
Comparison is not safe as Carte is too far from center.

- Star 1
- V
- Star 2

see Bk. 19, f. 170.

Magn. of Star 1
" " 2

Star 13 in MC 15606, Magn. 14.9 Corr. is very much brighter than these stars. Do they = 16th Magn.

On MC 6916, 10m Eff.) seq. of Carte 5h 00m +25° Magn. Bk. 32 Star 17 = 14.95 This is ½ of from limit of 10m plate. 76
(Star 20 = 15.70) The two stars, (Star 17 and 20) are nearly at limit of an excellent 30m plate. Magn. are probably not brighter than 16.0.

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1923phae.proj.1202V

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1923phae.proj.1202w

Thursday, December 27, 1923.

Regin $1^h 40^m +5^\circ$

MC 16902 September 21, 1920, Eff. 66m
20268 November 28, 1923, Eff. 30
16902 superseded

(1912 2.B) Faint asteroid, rather long trail, on 16902
1920 Ephs. p. 80 1 46.8 +7.0 (1855)

Position measured, Bk. 21, p. 94.

Enitta Bright asteroid, short trail, on 20268
1 41.3 +3.3 (1855) Nov. 28, 1923

Measure of Position, Bk. 21, p. 80.

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1923phae.proj.1202W

Comet-like defect near center, on 16902
1 41.0 +4.6 (1855)

Comet-like, Defect? on 16902
1 28.5 +4.3 (1855)

Bright defect, South, center, 20268

Defect, hazy, black center, near prec. edge, 16902
Probably faint asteroid, broken, irregular.
1 25.5 +3.5 (1855)

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1923phae.proj.1202W

Nebulae on both plates

No. 1 | 29.8 +4.1 (1855)

No. 2 | 29.8 +5.2 (1855)

No. 3 | 36.2 +3.5 (1855)

No. 4 | ~~46.0~~ 43.0 +~~3.5~~ 5.4 (1855)

No. 5 | 44.2 +5.6 (1855)

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1923phae.proj.12027

No. 6 l 46.0 + 3.5 (1855)

No. 7 l 48.8 + 4.9. (1855)

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1923phae.proj.1202w

Thursday, January 3, 1924.

Regions $0^h\ 00^m + 25°$

MC 20043 September 14, 1923, Eff. 34m
20231 November 12, 1923, Eff. 30m
20231 superposed.

These plates are rather close together in dates, but the early plate of region 16206, was rejected, and 20231 taken for region.

Many defects on , like black spatters. Some of these are rather like star images.

3 Comet like defects on 20231

Nebulae — on both plates
No. 1 0 1.0 +26.2 (1855) NPD – 63.8
Not in NGC

√ No. 2 0 1.4 +26.9 (1855) NPD=63.1
NGC 16 0 1 52 63 3.0 (1860)

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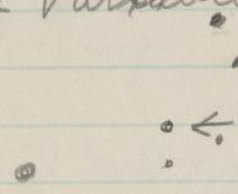
1923phae.proj.1202w

~~23 53.0 +25.8~~

No. 3 0 2.5 +25.1 (1855) N PD = 64.9
V NGC. 23 0 2 41 64 51.0 (1860)

No. 4 0 2.8 +25.0 (1855) N PD = 65.0
V NGC. 26 0 3 14 64 56.2 (1860)

2 variables Neu ?



B. 20231 Ft. 20043
m 20043 fainter than either of nearby ft. stars

23 53.0 +25.1 (1855) = D,M
Z Pegasi 23 55.0 +25 21 (1900)
Verified by print of Var.

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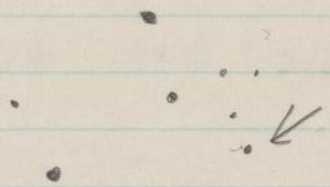
1923phae.proj.1202N

Range 12.6 - 14.2 Corr. Magn.

The 2nd Var. within a degree of Z Pegasi and same R.A.

first of North edge of print of Z Pegasi

See I 10359



Sketch from MC plates

Br. 20231 Ft. 20043

Position measured, Bk. 19, f. 166.

Appar. (1855) 23 53.0 +25.8

Marked as I 28066 Exp. 42m Max.

28066 Br. Dec. 11, 1901

18595 Max Oct. 11, 1894

12020 "

15884 Seen, probably not Max.

* Ft. stars near seen on 10359 but Var. probably not at Max.

For range

Magn. Est. by using MC 15606 (See front of Bk. 21.)

MC 20231 about 13.2

20043 14.3

MC 4067 Br. October 21, 1913

I 10359 Max.

9237 Brighter than other Max Aug. 14, 1893

9209 " " " " Aug. 13, 1893

29693 Br. Dec. 29, 1902

33729 Br. Dec. 5, 1905

* Ft. 18650 Sept. 3, 1897

Br. A. 8026 Aug. 21, 1906

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1923phae.proj.1202N

Variation confirmed by Miss Cannon, January 10, 1924

Plates too poor or Var. at Min. and about at limit of plate. No proof.

I 10389
11600
11749
11809
12031
12064
12067
15662
21527
23853

11600
13791
13149

Range confirmed by Miss Walker, Feb. 1
Bb. 15: 112 12.7 to 14.0 (1922 scale)

TT Pegasi
l = 12.30
m = 12.90
n = 13.30
o = 13.70
p = 14.00
q = 14.51

For Proof:
Br. MC 20231
I 9237
9209
28066
MC 4067

Ft. MC 20043
I 18650

Range; Comp. Seq. TT Pegasi, mkd on MC 4067. Magn. 86 9a
MC 4067, V a little fainter than l. = about 12.4 = 12.6
MC 20043, V a little brighter than p, = 13.9 = 14.2
On I 9209 l-m V = 12.6 = 12.8 Corr. Magn.
Range 12.6 to 14.2 Corr.

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1923phae.proj.1202w

Friday, January 4, 1923.

Regim $23^h\ 00^m\ -10.^\circ$

MC 18999 September 13, 1922, Eph. 30^m
20104 October 5, 1923, Eph. ?
18999 superposed

Asteroid, rather bright on 20104 (1923)
Aurora 23 3.5 -8.3 (1855)

Position measured Bb. 21, p. 82

Ft. neb. - both plates
Probably not faint star.
22 59.3 -10.1 (1855)

Faint Asteroid? or Defect on 18999 (1922)
23 4.6 -11.8 (1855) 1'
Not identified

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1923phae.proj.1202W

Var? below

Bright object on 18999
22 48.4 -8.5 (1855)

Uranus
Almanac Sept. 14 = 22h 52m 0s.15 -8° 6' 16".6

Ft. Object on 18999 not seen on 20104

22 59.2 -8.3 (1855)
Looks like star image.
No MC plates to cover.

Card ✓
~~Asks~~ for plates

Recorded later N.S. MC 20380 January 6, 1924
Plates taken for N.S 20381 Jan. 7, " Exp. 45m
Var.
Faint object slightly prec.
X Is this motion? No.
18999 = 1922

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1923phae.proj.1202W

Monday, January 7, 1924.

Regim 23h 10m -12.5

NC 17937 September 24, 1921 Eff. 38m
20081 October 2, 1923, Eff. 36m
20081 superposed

Asteroid on 20081

Thetis 23 15.0 -12.5 (1855) 1923

Position meas. Bk. 21, p. 84.

Asteroid on 17937

Iden? 23 5.2 -10.4 (1855) 1921

(Abrams Sept 23 = 22 35 -9 47) Almanac

Pos. Meas., Bk. 21, p. 96.

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1923phae.proj.1202w

Bright defect? on 20081
22 55.6 -13.7 (1855)

Hazy defect? on 20081
22 57.2 -14.5 (1855)

Nebulae on both plates
No. 1
23 1.2 -13.4 (1855)

No. 2.
23 15.2 -13.9 (1855)

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1923phae.proj.1202W

Saturday, January 12, 1924.

Regin 5 00 +20

MC 20134 October 8, 1923, Eff 34m
20379 January 4, 1924, Eff. 40m

Found special plate 20379 had been taken for new Vars., p. 169 & 170.
Compared with 20134 which had already been exam., p. 168, Plates do not exactly superpose. Common regin exam,
Faint nebulae

~~Begin after nebulae~~
No. 1 4 52.1 +22.8 (1855)

No. 2 Prec. and slightly S of No. 1

Faint globular defect on 20379.
4 53.0 +21.7 (1855)

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~~find 20379 and find~~

2 vars. already found f. 169 & f. 170

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Print

see f. 193
Ultra objects m 19062 mc - 20114

Bright defect m 20114

Nebulae
No. 1

No. 2

No. 3

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1923phae.proj.1202w

Saturday, January 19, 1924.

Region $23^h 20^m - 15.0$

MC 19062 September 26, 1922, Eff. 31^m
20114 October 6, 1923, Eff. 44^m
19062 superposed)

Objects, see p. 192 -

~~Nova 00~~ Var. of large range Br. 20114 Ft. 19062
23 5.6 – 16.2 (1855)
Not at Not Dnt 24 Star +0.2
Max or MC pl. 23 8.0 – 16.0 (1900)
showing Not on Var. Cat -
for Normal = faint — N.S. on few B plates exam.
see B plates Approx. position marked by at first.
for Not. pinks spot on B10508 which shows fairly ft. star
Seen on 12749 Not quite at Max.

No a plate for Spect.

45712 Sept. 13 1915 N.S.
45762 " 16 " N.S.
45640 Sept. 8, 1915 N.S.
45666 Sept 9 " N.S.
45955 Oct. 2 " Seen faint
46009 Oct. 5 " faint – Seen.
46028 Oct. 6 " " "
46058 Oct. 7 " " "
46139 Nov. 3 " very bright
46175 " 12 " rather "
47291 June 10 1916 N.S.
47689 June 28 " N.S.
47778 July 3, " N.S.

28681 Too poor
MC 8951 N.S.
15222 Br. but not Max. Eff. 10^m

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1923phae.proj.1202W

Confirmed by Miss Cannon, January 21, 1924.

For Proof: Br. Ft.

(later = 1, 2) MC. 20114 Not Max. MC 19062

B14747 Max? B28587 very ft. but seen

46175 Max? 26316 Eq. 60m Ft.

46139 Max Stars seen.

Var. N.S.

23982 N.S.

For Range

~~Max~~. Comp. Seq. = Carte 23h 0m −16°.5 as marked on MC 8951 Magn. Bb. 35; f. 77

Bb 35; f. 77
Seq. 23h-16°
3 9.68
4 9.94
5 10.13
6 10.65

Max. B46175
half 5-6 = 10.4

B46139
abnt = 4, allowing for distance from centre of plate = 10.0

B46139 Comparing with D12 seq., a little br. than 14. Other stars, 13, 15, too far off. 14 = 10.02 Uncorr.
Var. = 9.9 or 10.0
Use mean = 10.0 Uncorr

Take MC plate 23.0-15 for magns.

Range 10.0 Uncorr. to 15.2 Uncorr. pl. or fainter

Corr. 10.2 to 15.4 see 14.7 Cat. or this pl.

Miss Walker 10.4 to [14.8

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1923phae.proj..1202W

What is limit of MC 30m exp. plates } ?
80m " " }

Min in MC 15449 Exp. 80m
Seq. of Carte 23h-16°
Star 19 is faintest of Seq. = 13.6
Var. is at Min. and, again, comparing with nearby stars, about with Min. on 19062
Var. perhaps 2 magns. fainter than 13.6.
15449 Cont.
Est. by using MC 15606 See Bk. 21, front.
Star 19 (for check) = 13.5 Uncorr.
Var. much fainter than 13 which = 14.6 Uncorr

On MC 15449 80m and 19062 31 the Var. is almost at limit of plate.
The faint stars are better on 19062 regardless of length of exposure.
See this star near Var.

[sketch]

1 = 9 of sequence, p. 198
This is much clearer on 19062 — about the faintest star close to Var.

D12
HA 71, No. 4
37 = 14.9
38 = 15.3

On 15449, Comparing Seq. D12, Magns. 71-4,
Var. about = 37 - 38 = 15.0 - 15.3 Uncorr.
19062 does not cover D12

For Edm. D12 =

	print
13	9.55
14	10.02
15	10.09
16	10.18

Var. = 15.2 Uncorr.

On A 4012 Eff. 60m Var. slightly fainter, probably as star near shows and Var. is not seen.
Therefore Beyond limit of 60m A plate — This a good one — Var. Min. as often on p. 194.

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1923phae.proj.1202W

Find MC 19061 555 6723 19050
19266 520 20081
606
2043 19275

a

Measure A 6195 for position. Faint stars do not show but Van is seen.

Position measured, Bk. 19, p. 172.

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1923phae.proj.1202V

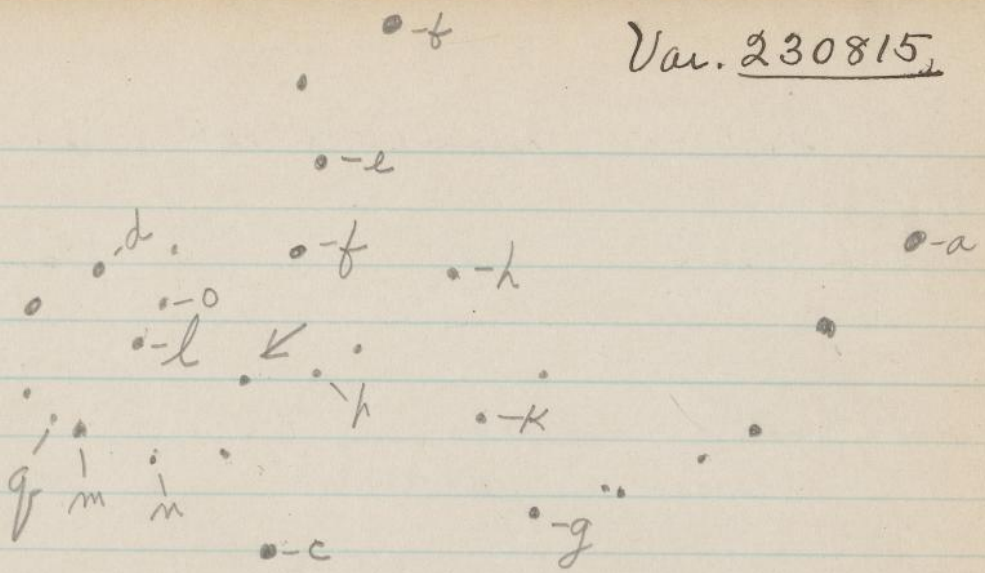
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1923phae.proj.1202W

198

Var. 230815

Preliminary Sequence marked in letters on MC 15449 and MC 19062



19062 is better plate but does not cover Comp. Seq. D12.
Brightest stars are examined on B46175
Seq. on fol. edge on 15449
" " prec. " " 19062
Fk. stars shwn on B26316 except g

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1923phae.proj.1202W

D12 - see print for Sequence
Magn. 71-4

MC 15449 Compared with D12 Direct comparison
Var. Seq. may be a
little out of focus

a	8.8
b	10.3
c	11.5 10.6
d	11.6
e	11.9
f	12.5
g	12.4
h	12.9
k	13.0
l	13.3
m	13.7
n	13.8 9
o	~~13.9~~ 14.1
p	~~15.0 14.9~~ 15.0
q	N.S. 38 of D12 = 15.3 Seen 3 q = 15.5 N.S. q = 15.4 at least. 15.4 or fainter

MC 19062 D12 not on plate. Est. by grades

d	~~4~~ 3
e	
f	6
g	5 g covered by square of lightest
h	
k	1
l	3
m	2
n	2
o	1
p	5
q	~~2~~ 4

32 sup. 600

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1923phae.proj.1202N

B 46175 Direct comparison with D 12.

D 12 in center

Var. Seq. distant from Center

a = 8.8

b = 10.3 10.8

c 11.34

d 11.5

e 12.0

f — Fr. for est. Use MC est.

g —

h —

On opposite sides of Cent

	λ 1.199	λ 1.199	λ 1.200	Mean	Corr. Magn. 1922 Scale	Re-estimated by apparent globs MC 19062	15449	
a	8.8		8.8	8.80	8.92			
added later b	10.3 10.6		10.3	10.30	10.52			10.
c	11.5		11.4 11.8	11.45	11.69	11.6	11.6	11.
d	11.6	(assume 11.6)	11.5	11.55	11.79	11.8	11.8	11.
e	11.9	11.9	12.0	11.93	12.17	12.1	12.1	12.
f	12.5	12.5	—	12.50	12.75	12.7	12.8	12
g	12.4	—		12.40	12.64	12.9	12.9	12.
h	12.9	13.0		12.95	13.21	13.1	13.2	13.
k	13.0	13.1		13.05	13.31	13.3	13.3	13
l	13.3	13.4		13.35	13.61	13.6	13.6	13
m	13.7	13.6		13.65	13.91	13.8	13.8	13
n	13.9	13.8		13.85	14.11	14.1	14.0	14
o	14.1	13.9		14.00	14.25	14.2	14.2	14
f	14.9	14.4		14.65	14.90	14.8	14.8	14
g	(15.4 a few faint)	14.8 30 29 + 3 = 32 see p. 199		14.7 15.1 as a little fainter	14.95 15.34	15.3	—	15

Plates observed, see p. 206.

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1923phae.proj.1202W

Nebs of Centers.

10.5 b
11.1 b' on MC 1906 2, compared with c
11.6 c
11.8 d
12.1 e
12.8 f
12.9 g
13.2 h
13.3 k
13.6 l
13.8 m
14.0 n
14.2 o
14.8 p
15.0 q

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1923phae.proj.1202W

Wednesday, January 23, 1924.

Regim $13^h\ 10^m\ +22.^\circ0$

MC 15890, May 6, 1919, Eff. 37m
20409 January 14, 1924, Eff. 34
20409 superposed

Very bright defect on 20409, near Pres. edge, S.f center.

Many defects on 15890.

Many ft. nebulae on both plates.

No. 1 13 1.6 +21.8 (1855) N.P.D. 68.2
not in N.G.C.
✓ Index 851 13 1 46 68 12.1

No. 2 13 4.8 +23.7 (1855) N.P.D. = 66.3
✓ N.G.C. 5012 13 4 53 66 20.4
note: a lovely neb. with 2 stars almost exactly same R.A.

✓ No. 3 13 5.0 +24.8 (1855) N.P.D. = 65.2
✓ N.G.C. 5016 13 5 23 65 9.8

No. 4 13 5.9 +23.6 (1855) N.P.D. = 66.4
not in N.G.C.
" " Index I or II
faint but large and distinct.

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1923phae.proj.1202W

No. 5 13 9.9 +22.8 (1855) N.P.D. = 67.2
Not in N4C
" " Index I or II
Seems too hazy for faint star.

6 to 12, 3 | No. 6 13 10.0 +21.5 (1855) N P D = 68.5
A neat of Index 864 13 10 20. 68 34.2 (1860)
faint nebulae.
One or two may be
very ft. stars, but
seem hazy

No. 7 13 10.2 +21.5 (1855) N P D = 68.5
Index Index 866 13 10 28 68 34.4 (1860)
Index
Contains
6 neb. in
this close
region.

No. 8 13 10.2 +21.4 (1855) N P D = 68.6
Index 867 13 10 31 68 37.3 (1860)

No. 9 fol. & N. 7 8
~~Index 868 13 10 39 68 39.0 (1860)~~
~~869~~

No. 10. fol. & S. 7 8
Index ~~869 13 10 42 68 34.9~~ 1860
868 13 10 39 68 39.0

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1923phae.proj.1202W

No. 11 fol. & S. of 10 (1855)
Index

12 fol. & S of 7
Index 869

13 fol. & N. of 10

No. 14 13 15.2 + 22.2 (1855) N P D = 67.8
Index 885 13 15 48 67 56.1 (1860)

Pet Neb probably equals one of these?

No. 15 Prec. & N. of 14

both distinct fairly bright, probably Neb faint stars.

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1923phae.proj.1202V

V No. 16 13 12.6 +23.7 (1855) nPD = 66.3
N.G.C. 5092 13 13 10 66 16.1 (1860)

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1923phae.proj.1202W

Cont. from p. 201 | Corr. magns. used, p. 201 | Mlsd plate = B 12747

Est.

	B 10508	Oct. 25, 1893	k = .2 Var. N.S.	< 13.5	2412762
	~~10540~~				
	~~14293~~				
< 13.6	12120	Sept. 11, 1894			2413083
11.7	12749	Dec. 15, 1894			13178
13.8	14557	Sept. 7, 1895			13444
11.8	14747	Sept 28, 1895	(using b' = 114	using D12 sep. directly)	13465
	(magn. b' a little uncertain)		11.4 or 11.5		
< 13.3	16751	July 9, 1896			13750
k is about .2 br. than on 16918	16918	July 18, "			13759
	Watch for change -				
< 13.3	~~16751~~				
12.9	17632	October 12, 1896			13845
< 13.0	18061	November 27, 1896			13891
< 13.4	18154	Dec. 1, "			13895
< 13.0	22134	Nov. 3, 1898			14597
Sem 13.0	23096	June 17, 1899			14823
13.0	23145	June 20, 1899			14826
Cracked	23559				
< 14.2	23982	Aug. 24, 1899			14891
Cracked	25673				
< 13.5	26019	Sept. 5, 1900			15268
< 13.4	26241	Sept. 19, "			15282
< 14.3	26316	Sept. 27, "			15290
< 14.3	26521	Nov. 9, "			15331
< 14.3	28053	July 26, 1901			15592
14.0	28587	Sept. 21, "			15649
< 13.6	38189	Sept. 25, 1907			17844
< 12.8	45666	Sept. 9, 1915			20756
< 13.6	45712	Sept. 13, "			20754

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1923phae.proj..1202W

MB. Dates

<13.9	B 45762	Sept. 16, 1915	m=.1	24	20757
13.0	45955	Sept. 28, "			20769
X 12.5	46009	October 5, 1915			20776
12.2	46028	Oct 6 "			20777
11.9	46058	Oct. 7 "			20778
X 10.~~5~~	46139	Nov. 3 "			20805
<13.3	45640	Sept. 8 "			20749
<13.3	47291	June 10 1916			21025
<13.3	47689	June 28, "			21043
	47690		Slide 4571		"
<13.3	47778	July 3 1916			21048

MC Plates

147 ~~15.3~~	15449	November 25, 1918			21923
or fainter 147	19062	September 26, 1922.			23324
<13.5	8951	August 10, 1915			20720
11.2	20114	Oct. 6, 1923.	(early exam. if not max.)		
~~10.8~~			See p. 194		23699

Mnf

X 10H B 46175 Nov. 12, 1915 20814

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Remeas. 3 h.206	<14.8	B 28053	July 26, 1901	2415592
	<13.8	30152	June 24, 1902	15925
	abont 11.2	30932	Oct 20, 1902	near edge — badly out of focus 16043
	<14.2	32264	July 16, 1903	16312
	13.1	32665	Oct. 8, 1903	16396
	abont 11.5	34000	June 4, 1904	near southern edge, 16636
	11.5	34018	June 7 "	16639
	11.2	34360	July 17 "	elongated images but in center of plate 16679
	12.9	36225	June 20, 1905	17017
	<13.0	37964	Aug 13, 1907	17801
	<13.3	39445	Aug. 6, 1908	18160
	14.0	39568	Sept. 12, 1908	trace only, 18197
	13.9	40684	July 28, 1909	18516
	11.2	41731	July 27, 1910	18880
	<13.2	45443	Aug. 3, 1915	20713
	<13.8	45761	Sept. 16, 1915	20757
	<13.6	45778	Sept. 16, "	20757
~~Remeas. of~~ Remeas 4 h.207	13.2	45953	Sept. 28, "	20769
	13.1	45955	" 28, "	20769
	—	47690	June 28, 1916	Slide 4571 Too poor
X	10.4	48273	Sept. 18, "	out of focus but apparently slightly thus 24210$\frac{125}{033}$
X	10.2	48294	Sept. 19, 1916	21034$\frac{126}{}$

Compared with seq. of D12 (partly marked on this plate) abont = 16
16 = 10.18 Corr. = 10.40

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1923phae.proj.1202W

Monday, February 4, 1924.

Regim 13 00 +30

MC 2304 December 7, 1912 Eff 60m
20408 January 14, 1924, Eff. 30

2304 broken, Slide 3133
Scale of 2 plates is very different

Neb. on both plates
12 47.7 +29.8

Regim 4 50 +24.0

MC 19365 December 19, 1922 Eff. 32
20111 October 5, 1923, Eff. 23
20111 superposed
20111 excellent plate, thorough Eff. is under 30m

Var?
Br. 20111 N.S. 19365
Fk. stars near are much brighter than on 20111

see f 213

4 58.0 +24.7 (1855)
Not in Var. Star Cat.

October Asteroids, 1923, are 0h and 23h

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1923phae.proj.1202W

Cont. Tuesday, February 5, 1924.

4 51 + 24.3 (1855)
Another object, apparently less like the star images than Obj. on f. 212
→ Probably not a Dunn asteroid

Asteroid no 19365 Dec. 19, 1922
4 45.0 + 25.7 (1855)
2.8 +0.1
4 47.8 +25.8 (1900)
Lydia see plotting of Eph.
Position Measured, Bk. 21, f. 86.

Var.? 4 58.0 +24.7, f. 212

Not seen on any I plate exam. though many of them show faint stars.
I 10541 1894
~~+6989~~
12749
16989
17321
21620
21875
22217
~~24929~~
24142
24929

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1923phae.proj.1202N

I 24975
26322
26057
26564
27576
27797
28273
28328
31216
31252
31284
31289
31297
32069
32194
33487
33527
40244 1921

The 2 plates showing faint stars are:
24142
31216

045124
Some plates examined. No trace.

These two objects certainly look starlike.
May be asteroids?

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A 7054 Eff. 10m

4149 November 21, 1899, Eff. 60m

neither star seen — a blank region, though the surrounding faint stars show.
See #149, Var. No. 1, is nebulosity following?

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Regions

Monday, February 11, 1923.

13h 00m +37°.5

MC 17085 January 9, 1921, Exp. 26m

20388 January 11, 1924, Exp. 49m

defects on 20388

Nebulae on both plates.

No. 1 12 52.2 +38.2 (1855) hPD = 51.8

No. 2 12 54.0 +38.2 (1855) hPD = 51.8

No. 3 12 58.1 +36.7 (1855) hPD = 53.3

No. 4 13 4.2 +37.8 (1855) hPD = 52.2

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1923phae.proj.1202W

No. 5 13 4.8 +37.1 (1855)

Regin 2 10 - 7.5
MC 18106 October 25, 1921, Exp. 41m
20299 December 11, 1923, Exp. 47m
20299 superposed.
Nebulae on both plates

No. 1 1 58 - 7.1 (1855)

No. 2 2 1.5 - 8.5 (1855)

No. 3 2 2.0 - 8.5 (1855)

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1923phae.proj.1202W

No. 4 2 2.8 – 8.5 (1855)

No. 5 2 4.5 – 10.0 (1855)

No. 6 2 7.2 – 8.1 (1855)

No. 7 2 11.5 – 7.4 (855)

No. 8 2 11.9 – 7.5 (1855)

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1923phae.proj..1202W

Tuesday, February 12, 1924.

Region 17 55 +30.0

MC 18920, August 15, 1922, Eff. 30m
18996, September 13, 1922, Eff. 30m
18920 superposed.

18996, broken in instrument, mended on glass.
An excellent plate — better be used for comparison rather than to take new plate.
Some stars missed, undoubtedly, in regions of cracks, and under binding.
Plate is badly spotted and scarred — probably from mending.

Var. +30° 3137 V
18 3.8 +30 59 (1855)
T Herculis 180531 18 5.3 +31 0 (1900)
Verified by print, also Dm. No.
Br. 18996 Ft. 18920

* Get Minimum for Miss Cannon as ephem range is probably not given in Var. Cat.

Is Period Known? Yes —

Eq. already meas. for Var. Mkd on MC 5495

Min. $m^2 - S$ on MC 18920 (ft, as S) = 13.4 or 5 meas.
Br. on 18996 is not Max. 0 – p (nearly = p)
on 5495 V is much brighter.

Magn. (no means) Bds. 9, p. 185.

m B V
m = P. C.
Miss Wallace
over this

1923phae.proj.1202w

MC Regimo continued in

Bk. 26.

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1923phae.proj..120W

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1923phae.proj.1202N

Defective Plates, etc. Attention has been called to

MC 20037 shows extreme number but typical bubbles in glass.

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1923phae.proj.1202w

these.

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1923phae.proj.1202w

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