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XXXIV

Book XXXIV

Miscellaneous.

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Contents of Book XXXIV, H.S.L.

δ Cephei – Observations near Min. and Max. 4, 5
Nova Geminorum No. 2 – estimates of comp. Stars 6, 7
+18°661, Schwartzschild's Var. – estimates 8–12, 28
Lick Plates – Corrections for Distance and Time 13–21
Planet MT – Observations on Greenwich Plate 22, 23
29 Vulpeculae – Examination of plates 24, 25
[Dr Grey] +46° 2978 – Examination of plates 26, 27
Position of Star 14, Sequence B4 29
δ Capricorni & Zinner's Var. $\overset{-}{+}$19°5893 30
C 14146 measured for Mr. King 31, 32, 47
Measures to determine Scale of MC plates 33
28 Geminorum (Var. Lacchini) Obs. of Brightness 34, 35
Region of 233956 of Cassiop. for Comp. Star 9.3 36
Meas. for Color Index. MC 4$\overset{2}{2}\overset{3}{2}$4 Red 37, 38
" " " " 4$\overset{2}{2}\overset{3}{2}$5 Yellow M 39, 40
" " " " 4233 Red 41, 42
" " " " 4229 Iso. 2 43, 44
" " " " 4230 Iso M 45, 46
" " " " 4242 yellow 48, 49, 50
" " " " 4198 51–53
" " " " 4283 54–56
" " " " 4284 57–59
" " " " 4204 60–62
4300 red 63–65
4301 66, 67
4302 68, 69
4232 70–72
4258 73–75
4244 76–80

Page
Measures for Color Index MC 4350 Blue Exp. $2^s, 10^s, 50^s$ 81-86
" " " " 4376 " " " " " 87-92
" " " " 4354 " " — " " 93-96
" " " " 4335 97-98
4352 Crystal Violet 99-101
4333 Crystal Violet 102-104
4278 Yellow 105, 106
4332 Violet 107-109
Variables - Revision of Sequences
V Andromedae, R Pegasi 110
Region 1 K Estimates in terms of Polar Seq. 112-116

Special Region for Color Indices at $3^{h\,m}_{\ 1}$, +74°.0
MC 4514 Crystal Violet 117-124
4515 Pinacyanol 125-132
4991 Kaplyn Violet 137-141
5056 Kaplyn Violet 142-146

H. S. Region C 4 Estimates of Positions 133
Gauze Screens A + B Estimates of thickness of wire 134, 135, 136
McCormick Plates. Measures to determine Scale 147
Size of field and effect of Change of Focus.
2-inch and 4-inch Cooke 148, 149
Suspected Variable (Metcalf) $12^h 40^m$ +5° 150, 151
Three new Variables (Metcalf) 152, 153
McCormick Plates 10, 11, 12, 13, 14, 15, 16, 17 154, 155
Miss Cannon's Variable +14° 1598 156
Comparison Star for X Camelop. Examination for Var. 157

Plates for Clusters - McCormick 158, 159
M 3, M 5 Exam. of MC plates blue + yellow 160
η Carinae Estimates on B plates 161
Comparison with Henie - Harvard Map 2 162, 163
Nova Persei No. 2 Est. of Brightness 164-167

Poor Region Scut. Sob.
MC5524 Preparation for Measurement 4° sq. 168
Meas. of Seq. (for reducing measures
recorded on paper print. (Yellow) 169, 170-177

Diameters -
Experiments in measuring 178, 179

SZ Tauri. Est. of Comparison Stars 180
M 3 Estimates of Comparison Stars 183-185, 191
Chart of additional stars 185
M 5 Estimates of Comp. Stars 186-189
Bruce Telescope - Forms of Images 190
M 3 + M 5. Comparison of the two sequences 191-196

Poor Region Scutum Sobieski
MC 5680 (blue) Catalogue 4° square 198 to 220

Friday, May 3, 1912

U Cephei. Observations near Minima.

Magnitudes of Comparison Stars determined from I plates MC MD and ME
Increase all magnitudes by 0.2 magn. See opposite page

		N	S			″	n.s.	S	
Reject	AC3867	6.3?(e)	6.4?	6.35 10	AC10182	1 10	6.8?	6.9?	6.85 01
Reject	3895	6.7?e	6.4?	6.55 12		2 9	6.9	7.0	6.95 10
Reject	4136	7.1?	7.0?	7.05 10		3 8	7.1	7.1	7.10 00
	6255	8.6	8.7	8.65 01		4 7	7.4	7.4	7.40 00
	6957	9.2	9.4	9.30 11		5 6	8.1	8.1	8.10 00
	7173	8.9	8.9	8.90 00		6 5	8.8	8.9	8.85 01
	8100	8.5	8.6	8.55 10		7 4	9.5	9.5	9.50 00
	8910	8.1	8.0	8.05 10		8 3	9.6	9.6	9.60 00
	9165	9.6	9.6	9.60 00		9 2	9.5	9.5	9.50 00
	~~11146~~	~~6.6~~				10 1	9.3	9.2	9.25 10
	~~10153~~					~~11~~	~~7.5~~		
	10754	<9.0				12	-		
	12206	9.4	9.5	9.45 01		13			
	~~9289~~								
	10155a	7.3							
		b c5, 1d, 6e							
		c e5, 1f							
		d <8.8							
		d brighter than e							
Reject	11476	6.6?	6.4?	6.50 11					

Monday, May 6, 1912

U Cephei. Observations near Maxima

Comp stars. a = 7.0 b = 6.7 c = 7.~~7~~5 e = ~~8.0~~ 7.8 d = 8.~~7~~5 f = 9.~~2~~0

The above magnitudes are ~~larger~~ fainter by 0.2 magn. than those employed on the opposite page, as the magn. from photo sequence ~~is~~ are 0.2 magn. brighter on the average than photo. magn. after allowing for type of spectrum. The above magnitudes of a and b are photo. magn. corrected for spectra

a I 5499	
	7.0
AC ~~11146~~ ~~10155~~ 11476	6.9
a I 7072	6.9
7071	6.8
5585	7.0
5389	6.8
5484	6.9
7070	6.9
AC 3874	6.9

Friday, May 17, 19~~11~~12

~~U Cephei~~ Nova Geminorum No. 2

MW 576, Duplicate exposures. Each exp. 30m

			Plate Rev.	Mean			
θ 14.4	ε	13.1	13.4	ε	13.23	0 1 2	
ε 13.2	ε 2	13.7	13.7	ε^2	13.70	0 0 0	47
η 14.2	ε^3	13.7	13.7	ε^3	13.80	2 1 1	10
ζ^2 14.5	ζ	13.8	13.7	ζ	13.77	0 0 1	03
ε^2 13.7	ζ^2	13.8	14.4	ζ^2	14.23	3 4 2	46
π 16.7	η	14.2	14.2	η	14.20	0 0 0	03
ε 3 14.0	θ	14.3	14.6	θ	14.$\overset{4}{\cancel{3}}$3	0 $\overset{1}{\cancel{2}}$ 2	23
ζ 13.8	κ	15.1	15.1	κ	15.03	1 1 1	60
κ 14.9	λ	15.2	15.2	λ	15.15	1 1 0 0	12
ξ 16.3	μ	15.6	15.4	μ	15.50	0 1 1	35
λ 15.1	ν	15.7	15.6	ν	15.63	0 1 0	13
ο 16.5	ξ	16.0	16.0	ξ	16.10	2 1 1	47
σ 17.2	ο	16.3	16.2	ο	16.33	2 0 1	23
λ 15.1	π	16.6	16.7	π	16.67	0 1 0	34
ν 15.~~4~~6	ρ	16.9	16.9	ρ	16.87	1 0 0	20
τ 17.9	σ	17.3	17.2	σ	17.23	1 1 0	36
μ 15.5	τ	17.8	17.8	τ	17.83	1 0 0	60
ρ 16.8							

21 − 19
52
± 0.077
Omitting ζ^2, ± 0.063

The above magnitudes are derived by direct comparison with stars of the Polar Sequence; the third time, the plate was reversed in position. Comparisons were difficult and seemed nearly impossible, as the images of the Polar Sequence are much more intense than the others. Comparisons were made at different times during the day, to insure entire independence.

Nova Geminorum No. 2 Cont.

Adopted Mean
From mean with Polar Seq. and mean sum of grades

ε	13.23	00,00
ε^2	13.72	02,03
ε^3	13.74	06,06
ζ	13.80	03,02
ζ^2	14.22	01,00
η	14.18	02,02
θ	14.45	02,02
κ	14.98	05,05
λ	15.16	01,00
μ	15.52	02,03
ν	15.70	07,08
ξ	16.07	03,03
ο	16.27	06,06
π	16.60	07,06
ρ	16.92	05,05
σ	17.26	$\overset{03}{\cancel{04}}$,04
τ	17.79	04,04

61 − 57
34
±0.035

MW 576
Estimates in grades

	Plate Reversed						Sum	Magn.
ε 3 ε 2	ε 4 ε^3	35	01	ε	35	1 0	0.00	13.23
ε^2 ~~2~~ 0 ε^3	ε^3 1 ε^2	05	01	ε^2	05	0 1	0.35	13.75
ζ 2 η	ε^2 0 ζ	10	11	ε^3	10	0 0	0.30	13.68
ε^3 1 ζ	ζ 3 η	20	11	ζ	25	0 1	0.40	13.82
η 0 ζ^2	η 1 ζ^2	05	01	η	05	0 1	0.65	14.16
ζ^2 1 θ	ζ^2 3 θ	20	11	ζ^2	20	1 1	0.70	14.22
θ 5 κ	θ 4 κ	45	10	θ	45	10	0.90	14.47
κ 4 λ	κ 1 λ	25	21	κ	25	2 1	1.35	14.93
λ 4 μ	λ 5 μ	45	01	λ	45	01	1.60	15.16
μ 3 ν	μ 2 ν	25	10	μ	25	10	2.05	15.55
ν 5 ο	ν 3 ξ	40	11	ν	50	00	2.30	15.78
ο 3 π	ξ 2 ο			$\overset{\cancel{\pi}}{\xi}$			$\overset{2.60}{2.60}$	ξ 16.04
π 5 ρ	ο 5 ρ			ο	40	1 1	$\overset{2.60}{2.80}$	16.21
ρ 3 σ	ρ 4 σ			π	45	1 0	3.20	16.54
σ 5 τ	σ 5 τ			ρ	35	1 0	3.65	16.97
				σ	50	00	$\overset{4.00}{\cancel{3.95}}$	17.30
				τ			4.$\overset{50}{\cancel{45}}$	17.75

The above estimates were made at different times, and are entirely independent.

The fainter stars are south of the Nova. The stars nearest the Nova are affected by the fogging of the film and could not be measured safely.

Identified on print ~~enlarged from~~ from D 15719, enlarged from MW 576 to scale 5" = 0.1 cm.

May 21, 1912

10.43 Schwarzschild's Var. +18° 661

See also Book XXV 184–187

Measurement of early a.m. a C and a I plates

	N	~~S~~	S		Ld Bk 35.	Mean	
a M 222	7.4		7.1		7.4	7.30	i 2 i
252	7.4		7.4		7.4	7.40	0 0 0
261	7.3		7.0		7.3	7.20	i 2 i
337	7.2		7.3		7.2	7.23	0 i 0
674	7.4		7.5		~~7.6~~	7.50	i 0 i
698	7.2		7.3		7.3	7.27	i 0 0
1131	7.2		7.0		7.2	7.13	i i i
1520	7.3		7.2		7.3	7.27	0 i 0
1610	7.3		7.1		7.3	7.23	i i i
1616	7.3		7.0		7.5	7.27	0 3 2
1636	7.1		7.0		7.3	7.13	0 i 2
1646	7.4		7.3	difficult	7.4	7.37	0 i 0
2241	7.5		7.4		7.5	7.43	i 0 i
2333	7.3		7.3		7.3	7.30	0 0 0
2348	7.2		7.0		7.3	7.17	0 2 i
3036	7.1		7.2		tp	7.15	i 0
3054	7.4		7.3		7.5	7.40	0 i i
3144	7.4		7.4		7.6	7.47	i i i
3148	7.5		7.4		7.4	7.43	i 0 0
3220	7.5		7.3		7.4	7.40	i i 0
3235	7.0		6.9		7.1	7.00	0 i i
3251	7.3		7.2		7.3	7.27	0 i 0
3262	7.3		7.0		7.1	7.13	2 i 0
3917					7.6		
3950							

May 21, 1912.

Schwarzschild's Var. +18° 661. cont.

	N		S		Ld		Mean	
a M 4035								
4057								
4109								
a C 2308	7.2		7.0		7.0		7.07	i i i
3337	7.4		7.1		7.4		7.30	i 2 i
3378					wrong region			
4598	7.4		7.1		7.3		7.27	i 2 0
4620	7.5		7.4		7.4		7.43	i 0 0
6594	7.2	near edge	7.1	edge	7.25	? where?	7.15	0 i
6687	7.6	" "	7.6	" see ℒ 25:184 { N 7.7 S 7.5	7.60	? "	7.60	0 0 !!
					a C 6594, 6687 Ld omitted			
6936								
7111							a M and a C plates.	
7146							+29 −30 80) 59 ± .074	
7165								
7214								
7220								
7287								
7356								
7371								
7374								
a I 548	7.6		7.6		7.7		7.63	0 0 i
571	7.1		7.2	edge	7.2		7.17	i 0 0
649	7.2		7.0		7.2		7.13	i i i
659	7.4		7.3		7.4		7.37	0 i 0
699	t.p.		tp.		tp		tp	
724	7.5		7.4		7.3		7.40	i 0 i

May 21, 1912.

Schwarzchild's Var.

	N		S	Ld	Mean	
AI 745	7.3		7.1	7.1	7.17	i i i
775	7.1		7.0	7.2	7.10	o i i
804	7.3		7.2	7.3	7.27	o i o
827				tp		
853	7.4		7.3	7.5	7.40	o i i
881	7.6	poor	7.7	7.7	7.67	i o o
898				7.6		
903				tp		
1442	7.0		7.3	7.1	7.13	i 2 o
1481	t.p.		t.p.	tp		
1575	7.4		7.4	7.4	7.40	o o o
1595	7.5		7.5	7.5	7.50	o o o
1618	7.5		7.6	tp	7.55	i o .
1652	7.2		7.2	7.2	7.20	o o o
1668	7.1		7.1	7.3	7.17	i i i
1684	7.6		7.5	7.7	7.60	o i i
1693	7.0		7.1	7.2	7.10	i o i
1705	poor.		poor	tp		
1712	7.4		7.3	7.2	7.30	i o i
1741	7.5		7.3	7.4	7.40	i i o
1779	7.2		6.9	7.3	7.13	i 2 2
1800	7.6		7.5	7.4	7.50	i o i
1821	7.5	poor	7.6	tp	7.55	i o .
1838				7.2		
1875	7.1		7.0	7.3	7.13	o i 2

May 21, 1912.

Schwarzchild's Var.

	N	S	Ld	Mean	
AI 1878	7.1	7.3	7.2	7.20	i i o
1890	7.6	7.6	7.7	7.63	o o i
1911	7.4	7.4	7.3	7.37	o o i
1919	7.0	7.0	7.1	7.03	o o i
1948	7.5	7.5	7.7	7.57	i i i
1980	7.5	7.6	7.5	7.53	o i o

For A I plates pages 9, 10, 11

~~±19~~ +25

−27

88) 52

±.059

Friday May 24, 1912

12:45 Schwarzschild's Var. +18° 661.

	N	S		Mean	
I 16116	7.0	7.0		7.00	0 0
16240	7.5	7.5?	poor	7.50	0 0
16014	7.2	7.2		7.20	0 0
14196	t.p.				
5037	7.4?	7.5?		7.45?	0 1
4643	6.9	6.9		6.90	0 0
5406	7.4	7.6		7.50	1 1
5334	7.1	7.2?		7.15	1 0

+2
−2
14) 4
±.029

Continued on page 28.

MGR.

Friday June 28, 1912

Scale R Measures to determine Corrections for Distance and for Time on Lick Plates.

2:50

Lick 2464 Praesepe

Scale		(1) 1	(2) 2	(4) ~~3~~ 4	(9) 4	(11) 5	(7) 6	(8) 7	(12) 8	(10) 9	(5) 10	(3) 11	(13) 12	(6) 13
1	a	3.8	4.0	~~3.2~~ 4.2	3.9	5.0	4.8	5.1	4.7	4.9	3.9	4.1	4.0 v.p.	t.p.
1	b	4.4	4.9	4.8	5.3	~~5.8~~ 4.8	~~5.5~~ 5.0	5.0	4.9	5.0	4.7	4.1	4.7 p.	3.8 v.p.
1	~~c~~	5.3	5.8	5.0	5.0	5.6	~~4.5~~ 5.5	5.4	5.2	5.6	5.7 p.	5.0	t.p.	5.8 p.
1 1	d	3.2 v.p.	3.1	3.3 v.p.	3.8 v.p.	3.9 v.p.	3.9	4.3 p.	3.9 v.p.	4.0	3.7 p.	3.0 p.	t.p.	t.p.
~~2~~	e	~~5.4~~ 4.9	5.4	5.2	4.9	~~5.4~~ 5.7	5.4	5.5	5.5	5.5	5.1	4.7	4.8	4.8 p.
1	f	~~4.7~~ 5.7	5.7	5.5	5.9	5.8	5.5	5.6	5.6	5.7	sup.	sup. p.	5.5 p.	4.9 p.
1	g	4.2	4.6	~~5.7~~ 4.7?	5.0 p.	sup.	~~sup.~~	5.7	5.3	5.1	4.8	4.6 p.	4.7 v.p.	t.p.
1	h′	4.0 v.p.	4.1 v.p.	4.0 p.	4.2 v.p.	5.0	5.0	4.9	4.9	4.8 p.	4.6 p.	4.1 p.	t.p.	~~4.9~~ 3.9 v.p.
1	h²	~~t.p.~~ 4.0	~~t.p.~~ 4.0	3.8 v.p.	t.p.	t.p.	t.p.	off pl.	t.p.	t.p.	t.p.	3.9 p.	4.7 p.	sup.
2	k′	~~7.2~~ 6.9	6.8	7.1	7.5	7.5	7.4	7.6	7.8	7.4	7.7	6.8	7.0 p.	6.7
	k²	t.p.	t.p.	t.p.	t.p.	t.p.	t.p.	off pl.	t.p.	t.p.	t.p.	t.p.	t.p.	t.p.
2	l	6.7	6.8	7.0	7.2	7.5	6.9	7.1	7.5	7.6	7.6	7.2 p.	t.p.	t.p.
2	m	7.6 poor	7.7	~~7.8~~ 7.5	7.8	7.9	7.5	7.7	7.8	7.8 p.	7.7	7.6	t.p.	t.p.
2	n′	7.4 "	7.5	~~7.5~~ 7.7	7.7	~~6.7~~ 7.7	7.6	7.3	7.7	7.8	7.8	6.9 p.	7.7 p.	7.6 p.
	~~n²~~	t.p.	t.p.	t.p.	t.p.	t.p.	t.p.	off pl.	t.p.	t.p.		7.0 v.	7.7 p.	t.p.
2	o	7.8	7.8	7.9	8.0	~~7.8~~ 8.0 v.p.	7.8 p.	8.3 v.p.	7.9	8.0	8.1	7.8	7.2	7.9
2	p	t.p.	t.p.	7.0 p.	6.9 v.p.	7.6	8.0	7.8	7.6 v.p.	7.6 v.p.	7.1 v.p.	6.8 v.p.	t.p.	t.p.
2	q	6.9 poor	7.0	7.3 p.	7.6 p.	7.9	7.8	7.8	7.7	7.8	6.9 p.	def.	t.p.	t.p.
2	r	7.7 "	7.0	7.7	7.8 p.	8.0	8.0	8.6	8.0	8.0 v.p.	7.6 p.	7.7 p.	t.p.	t.p.
	~~s~~													
~~2~~	~~t~~	~~7.7~~												
1	x	5.7	5.9	5.7	5.8	5.9 v.p.	5.6 v.p.	5.5 v.p.	5.7 p.	5.8	5.7	5.7	6.0	~~7.7~~ 5.7
1	y	4.7	4.7	3.9	3.9	4.8	4.0 v.p.	t.p.	4.1	4.6	4.6	4.0	~~5.7~~ 4.7 p.	4.1

Numbers at head of columns indicate order of Exposure.
Numbers in parenthesis above them " " " measurement.

MGR.

		1	2	3
2	α	9.7 v.p.	9.7	
2	π pi	12.2 p.	12.5	
2	rho	11.8 p.	11.7 p.	
2	β	t.p.	t.p.	
2	sigma	13.1	12.7 p.	
2	zeta	12.8	12.4 p.	
2	δ	10.6 p.	10.6	
2	tau	13.0	13.0	
2	eta	10.9 p.	11.4	
2	λ lambda	10.5	10.6	
2	mu	9.6	9.8	
2	nu	10.6	10.6	
2	γ	7.7	7.8	
2	epsilon	11.6	11.6 p.	
	kappa			
	omicron 0			

Friday June 28, 1912.

Scale R. Measures to determine Corrections for Distance and for

		Time on Lick plates.						Lick 2464 -					Praesepe	
		(1)	(2)	(4)	(9)	(11)	(7)	(8)	(12)	(10)	(5)	(3)	(5)	(6)
Scale		1	2	3	4	5	6	7	8	9	10	11	12	13
2	α	9.7 v.p.	9.7	9.8	t.p.	t.p.	t.p.	t.p.	t.p.	t.p.	t.p.	9.7	10.0	9.8
2	β	t.p.	t.p.	9.1 p.	t.p.	t.p.	t.p.	t.p.	t.p.	t.p.	t.p.	9.2 p.	9.7 2	9.0 p.
2	γ	7.7	7.8	7.9	7.9 v.p.	7.8 v.p.	* 7.7	t.p.	7.9 v.p.	7.8	7.9	7.7	8.6 p.	7.9
2	δ	10.6	10.6	10.7	10.6 v.p.	10.7	11.0 p.	t.p.	10.8 p.	10.8	10.7	10.8	11.1	10.9 p.
2	ε	11.6	11.6 p.	11.3	11.7 p.	11.8	11.8	12.1 v.p.	12.0 p.	11.6	11.5	11.5	11.5 p.	11.7
2 ta	ζ	12.8	12.4	12.1	12.7	6 12.8	12.7	13.6 v.p.	12.7 p.	12.7	12.3	12.3	11.9	12.5
2 eta	η	10.9 p.	11.4	11.0	10.8	11.2	10.7	11.0	11.1	11.4	11.3	11.1 p.	11.1	11.0 v.p.
2 theta	θ	11.5	11.6	11.8	11.6	11.2	11.6	11.8	11.6	11.5	11.3	11.3	11.4	11.6 p.
2	κ	12.7 v.p.	12.6 v.p.	12.4	11.9 p.	11.9	11.6	12.0	1 12.8	11.6 p.	11.9	11.7 p.	12.6 p.	t.p.
2	λ	10.5	10.6	10.6	10.6	11.1 v.p.	t.p.	t.p.	11.0 p.	10.7	10.4	10.6	10.6	10.7
2 mu	μ μ	9.6	9.8	9.7	9.9 v.p.	t.p.	t.p.	t.p.	t.p.	t.p.	9.7 p.	9.8	10.0	10.0
2 nu	ν	10.6	10.6	10.8	10.9 v.p.	t.p.	t.p.	t.p.	t.p.	t.p.	10.7 p.	10.6	10.7	10.7
2	π	12.2 p.	12.5	12.4	t.p.	t.p.	t.p.	t.p.	t.p.	12.4	12.4	12.0	12.4	12.1
	ξ													
2	ρ ρ	11.8 p.	11.7	11.9	t.p.	t.p.	t.p.	t.p.	t.p.	t.p.	12.1	11.7	11.7	11.6
2	σ	13.1	12.7	12.8	13.6	13.8	13.6	~~t.p.~~ 13.6	13.6	13.6	13.2	13.1	13.1	13.0
2	τ	13.0	13.0	13.0	13.1	13.2	13.1	t.p.	13.0	13.0	12.9	13.0	13.1	12.9
	υ													
	χ													
	ψ													
	ω													

m.o.R.

Saturday, June 28, 1912

~~Scale~~

10:55

Distances in Millimetres from Centre of Plate L 2464

			(1) 1	(8) 2	(4) 3	(9) 4	(11) 5	(7) 6	(8) 7	(2) 8	(10) 9	(5) 10	(3) 11	(13) 12	(6) 13
	ps	a	18sp	18sp	14sp	10sp	8p	~~7p~~ 8p	9p	9p	10sp	14sp	18sp	22sp	26sp
	s, n	b	13s	12s	8s	4sf	3nf	7nf	7nf	2nf	4sf	8s	12s	17s	22s
	s, n, s	c	2p	2p	6np	10np	15n	19n	20n	15n	10np	6np	3p	5sp	9sp
x.	s	d	35sp	35sp	31sp	26sp	22sp	18sp	19sp	23sp	26sp	31sp	36sp	40sp	45sp
x	s, n	e	11p	11p	10p	11np	14np	18np	18np	14np	12np	10p	11p	14sp	19sp
x	s, n	f	11p	11p	12p	13np	16np	19np	20np	16np	13np	12p	11p	~~10~~ 14sp	16sp
x		g	20sp	20sp	17sp	13sp	12p	11p	12p	12p	14sp	17sp	21sp	24sp	29sp
x		h¹	21sp	21sp	24sp	22p	21p	21p	22p	22p	23p	25sp	27sp	30sp	34sp
•		h²	42np	42np	~~3~~ 45np							45np	43np	39np	36np
		k¹	9p	9p	9p	11np	14np	18np	18np	15np	12np	9p	10p	11sp	15sp
		k²													
x		l	19p	19p	18p	19p	21np	23np	24np	21np	20p	19p	19p	21sp	23sp
x		m	15sp	15sp	14p	14p	15np	18np	18np	16np	14p	14p	16sp	19sp	22sp
x		m¹	16p	16p	17p.	19np	22np	26np	26np	23np	20np	18p	17p	17p	19p
		m²	38np	38np									38np	34np	31np
x		o	13np	13np	16np	20np	24np	28np	28np	24np	20np	17np	14np	12p	12p
		p	24sp	23sp	19sp	15sp	5sp	3p	4p	~~5~~ 6sp	15sp	19sp	24sp	28sp	33sp
		q	21sf	20sf	17sf	12sf	9sf	7f	7f	8sf	12sf	16sf	20sf	25s	29s
		r	22s	21s	~~17 11~~ 178s	11s ~~4sf~~	7 8s	2s ~~4f 1f 6s~~	2s ~~3f~~	3 ~~12s~~ 7s	11s ~~6s~~	~~14~~ 17s ~~13~~ 8s	21s	26s	31s
		~~w~~													
·x		x	15np	15np	18np	23np	27np	31np	32np	27np	23np	19np	15np	12np	11p
x		y	25p	25p	26np	29np	31np	35np	35np	32np	29np	27np	26p	25p	25p

mOR

Saturday, June 28, 1912.

Distances in Millimeters from Centre of plate.

L 2464

		1	2	3	4	5	6	7	8	9	10	11	12	13
	α	24np	24np	~~24~~ 28np	32np	~~34~~ 37np	42n	42n	37np	33np	~~26~~ 29np	24np	21np	17np
	β	29np	30np	33np	~~36~~ 37np	~~38~~ 41np	.	.	41np	38np	34np	30np	27np	25np
x	γ	19np	19np	22np	25np	29np	32np	33np	29np	26np	23np	20np	19p	19p
	δ	20np	20np	22np	25np	28np	32np	32np	29np	25np	22np	20np	19p	19p
	ε	22np	22np	25np	28np	31np	35np	35np	32np	28np	25np	23np	22p	21p
x	ζ	25np	25np	27np	29np	33np	37np	37np	33np	29np	28np	25np	24p	23p
	η	17sp	17sp	15p	14p	15np	18np	18np	16np	15p	16p	18sp	20sp	24sp
	θ	9sp	9sp	6p	6p	9np	12np	13np	9np	7p	7p	10sp	14sp	18sp
	κ	18sp	17sp	13sp	9sp	2n	11n	11n	2n	~~13sp~~ 9sp	13sp	17sp	22sp	29sp
	λ	14np	14np	14np	16np	20np	24np	24np	20np	17np	14np	14np	11np	8np
	μ	20np	20np	22n	~~28~~ 27n	31n	36n	36n	32n	27n	22n	20np	14n	10np
	ν	20np	20np	~~15~~ 25np	29np	32np	38n	38n	32np	29np	~~15~~ 25np	20np	16np	~~17~~ 12np
	π	22np	22np	26np	30np	35np	39np	39np	35np	30np	26np	22np	19np	16np
	ρ	25np	25np	28np	~~26~~ 33np	37np	.	.	37np	33np	28np	25np	23np	21np
	σ	~~26~~ 31np	~~26~~ 32np	~~15~~ 25np	32np	37np	40np	40np	37np	32np	~~15~~ 25np	27np	25np	23p
	τ	14np	14np	17np	20np	24np	30np	30np	24np	20np	17np	15np	14p	14p

MOR.

12:15

Monday, July 1, 1912

Scale R

2:30

interrupted 10m.

Scale Measures on Lisk Plate 2460, Praesepe
To Determine Equations for Distance and Time

~~m~~ unit 9.8

v 10.6

Scale		6	12	1	8	2	4	9	7	5	11	3	10
		6	12	1	8	2	4	9	7	5	11	3	10
1	a	3.0	4.0	3.1	3.5	3.7	3.5 p.	3.6	3.4	3.5 v.p.	3.7	3.5	v.p. 3.6
1	c	3.9	4.6	3.9	4.7	4.6	4.5	4.6	4.1	4.0	4.6	4.6	4.2
1	e	4.6	sup.	4.5	4.6	4.8	4.6	4.8	3.9	4.9	4.8	4.7	4.9
1	f	5.1	5.6	4.8	5.0	5.2	5.0	5.3	4.7	5.3	5.4	5.2	5.1
1	g	3.8	4.9	4.1	4.0	4.8	4.0	poor 3.9	v.p. 3.8	v.p. 4.5	5.0	v.p. 4.2	4.6
1	h′	3.8	4.9	4.6	3.9	v.p. 4.5	poor 4.0	v.p. 4.0	v.p. 3.8	v.p. 4.1	4.6	t.p.	3.9
1 ~~2~~	k′	6.8	7.0	6.8	6.7	6.9	6.8	6.8	6.7	6.9	7.0	6.8	6.9
2	l	7.8	8.4 diff	7.7	7.5	7.7	7.6	7.4	p 7.3	7.7	sup.	7.8	7.9
2	m	7.7	8.1	7.6	7.7	7.8	poor 7.2	p 7.8	p 7.6	v.p. 7.4	7 4.8	7.7	7.7
2	n	7.6	8.0	7.5	7.6	7.7	7.~~8~~7	7.7	7.~~6~~5	7.9	7.9	7.6	7.8
2	o	8.2	7.8	7.8	7.9	8.5 ?	7.8	7.9	7.7	8.4	8.8*	8.3	7.8
1 ~~2~~	χ	5.7	5.5	5.6	5.7	5.7	t.p.	5.5	5.7	5.8	5.5	5.8	5.2
1	y	4.7	4.6	4.6	4.7	4.8	4.0	4.0	4.0	4.9	4.1	4.7	4.5
2	α	10.4	10.7 v.p.	poor 10.4	poor 9.8	v.p. 10.7	poor 9.9	10.1 p.	10.3	p. 10.5	t.p.	poor 9.9	t.p.
2	γ	8.7 ~~12.1~~	8.9	sup.	8.6	8.7	poor 8.5	8.4	8.4	sup.	8.7	8.3	8.7
2	δ	11.1	11.6	11.3	sup.	11.1	11.0	sup.	11.1	11.6	11.0	0 18.9	10.9
2	ε	12.2	11.9	12.3	12.3	v.p. 11.9	12.2	11.9	11.8	11.8	11.8	12.1	11.8
2	ζ	12.7	13.0	12.8	12.8	12.5	12.7	12.8	12.7	12.3	12.7	12.7	12.6 v.p.
2	η	11.7	11.4	11.5	11.6	11.6	poor 11.8	11.5	11.6	p. 11.8	11.7	11.7	11.7
2	θ	12.4	12.1	12.1	12.0	12.2	12.6	1 12.9	poor 12.0	11.9	11.6	p. 12.5	12.1
2	κ	12.8	12.5	poor 12.7	12.8	12.8	12.9	12.6	13.0	p. 13.1	12.7	3 poor 12.1	12.9
2	λ	10.8	11.2	10.7	10.7	10.7	10.6	10.7	10.6	10.7	10.7	10.6	10.7
2	π	12.6	13.1	12.8	12.7	12.8	12.8	12.9	12.7	12.8	12.9	12.8	13.0
2	τ	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.5	13.7	13.7	13.7
2	φ	12.8	12.3	8 12.7	12.9	12.6	12.7	12.8	12.7	12.8	12.6	12.7	12.8
2	ψ	11.7	11.8	11.6	11.6	11.7	11.7	11.7	11.8	11.7	11.6	11.8	11.5
2	ω	~~11.3~~ 12.5 ~~11.1~~	12.4	12.5	12.7	12.6	12.6	12.5	12.6	12.6	12.6	12.7	12.5
1	b	3.2	4.0	3.4	3.0 ~~x~~	3.8	3.7	3.6	3.2	3.5	4.1	3.6 p.	3.7

* assumed to be 7.8

Monday, July 1, 1912.

Distances in Millimeters from Center
Lisk 2460

		6	12	1	8	2	4	9	7	~~5~~ 5	~~11~~ 11	~~3~~ 3	~~10~~ 10
x	a	23s	8sf	18sf	20sf	19sf	21sf	16 ~~1~~sf	3 2~~1~~s	~~22s~~ 22sf	10sf	20sf	13sf
x ✓	c	13sf	17nf	~~31s~~ 11f	~~29s~~ 12sf	~~28s~~ 11f	~~30s~~ 12sf	12f	14sf	12sp ~~34s~~	14nf	~~39s~~ 12sb	12nf
✓	e	11s ~~15s~~	8 ~~12nf~~	6sf	8sf	7sf	9sf	6 ~~4sf~~	12s ~~13s~~	10sf	6 ~~5nf~~	8sf	4f
✓	f	10s ~~9s~~	9nf	5sf	7sf	6sf	8sf	4sf ~~26s~~	11s ~~7s~~	9sf	6nf ~~17s~~	7sf	4nf ~~21s~~
✓	g	4 2~~1~~s	7sf ~~14s~~	18s ~~28s~~	30s ~~31s~~	19s ~~29s~~	21 ~~31s~~	17s ~~25s~~	4 2~~1~~s	2 ~~32s~~	10sf ~~17s~~	20 ~~30s~~	14s ~~21s~~
x	h′	4 2~~1~~sp	9sp	19sp	21sp	20sp	22sp	18sp	4 2~~1~~sp	23sp	11sp	20sp	14sp
	k′	11sf ~~14s~~	10nf	6sf ~~14s~~	8sf ~~16s~~	7sf ~~17s~~	9sf ~~17s~~	6sf	11sf ~~14s~~	10sf ~~18s~~	8nf	8sf ~~10s~~	6f
	l	12 ~~17~~sp	8np	7sp	9sp	8sp	10sp	6sp	12 ~~17~~sp	11sp	6np	9sp	4p ~~5np~~
	m	13s ~~18s~~	4n	8s ~~2sf~~	10s ~~3sp~~	9s ~~3s~~	11s ~~4sp~~	7s ~~4sf~~	13s ~~18s~~	12s ~~6sp~~	1n ~~1f~~	10s ~~3sf~~	3s ~~13sf~~
	n	6sp ~~18s~~	3p ~~13~~	3p	3sp	3f	4sp	3np	6sp ~~18s~~	5sp ~~12s~~	9n	3sp	6n
	o	2f ~~14s~~	18n	6n	4nf	5n	3nf	8nf	2f ~~4s~~	2nf	14n	4nf	11n
	χ	6nf ~~1~~	22n	11nf	9nf	10nf	8nf	12n	7nf ~~2~~	7nf	19n	9nf	16n
x	y	11p ~~15p~~	8 ~~12~~np	12np	10np	11np	11p	12np	11 ~~7~~p	11p	6 1~~4~~np	11np	14np
	α	14 ~~10~~n	31n	20n	18n	19n	17n	21n	14 ~~10~~n	16n	28n	18n	24n
	γ	4np	20n	9np	7np	8np	6np	9np	4np	5np	16n	7np	13n
	δ	4p	19n	8np	6np	8np	6np	9np	4p ~~8sf~~	6np	16n	7np	12np
	ε	7np	21np	11np	9nf	10np	8np	12np	6np	8np	18np	9np	15np
x	ζ	10np ~~12~~	23 ~~21~~np	13np	11np	12np	11np	14 ~~12~~np	9np	10np	19 ~~20~~np	12np	16 ~~17~~np
✓	η	15 ~~20~~s	2n	10s	12s	11s	13s	8s	15 ~~20~~s	14s	1s	12s	5s
	θ	16sf ~~19s~~	9nf	12sf	14sf	13sf	14sf	12sf	16sf ~~20s~~	15sf	9f	13sf	9sf
	κ	25 ~~27~~sf	11sf	19sf	22sf	20sf	23sf	18 ~~11~~sf	25 ~~24~~s	24sf	13sf	21sf	16sf
	λ	9nf	24nf	4 1~~5~~nf	12nf	3 1~~4~~nf	11nf	14nf	9nf	10nf	21nf	12nf	17nf
	π	13n ~~8n~~	29n	18n	16n	17n ~~14n~~	15n	19n	13n ~~8n~~	14n	26n	16n	22n
	τ	1s	17n ~~12~~	5n	3n	4n	2n	1n	1s	1n	13n	3n	10n
✓	φ	12s ~~17s~~	6n	6s	8s	7s	9s	5sp	12s ~~17s~~	10s	3np	8s	3sp
	ψ	2p	18n	6np	4np	5np	3np	7nf	2p	3p	14n	4np	11n
	ω	3p	18n	7np	5np	6np	4np	7nf	3p	4np	14n	5np	11n
max. x	b	26sf	17f	21sf	24sf	23sf	24sf	21sf	27sf	24sf ~~18f~~	18f	23sf ~~19s~~	19sf

5:35

L 2464, Praesepe. Remeasured

	10	7	4	13	5	11	8	12	2	6	3	1	9
b													
c													
e													
f													
k′													
o													
p													
q													
r													
χ													
θ													
κ													
λ													
μ													
2													
3													
4													
5													
6													
7													
8													

L 2464, Praesepe. Distances in Millimeters from Centre of Plate.

	10	7	4	13	5	11	8	12	2	6	3	1	9
b													
a													
e													
f													
k′													
o													
p													
q													
r													
χ													
θ													
κ													
λ													
μ													
2													
3													
4													
5													
6													
7													
8													

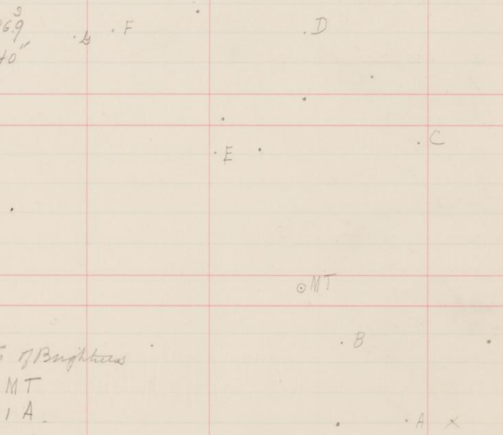
Wednesday, July 10, 1912

Planet MT. Summit Plate 1911, Oct. 1

30-inch Reflector. Exposure 10 m

R.A. = $0^h 55^m 36.9^s$

Dec. = $-3^\circ 38' 40''$



Estimates of Brightness

B 4 MT

MT 1 A

C 3 MT

D 2 MT

MT 1 E

F 2 MT

G 1 MT

Chart drawn with plate film side up, and upside down according to marking I.S. Planet near top edge of plate.

Tuesday, July 16, 1912

Planet MT

Observations on Greenwich Plate repeated

MT 1 A

B 2 MT

C 4 MT

D 0 MT

MT 1 E

F 2 MT

G 1 MT

Plate A 8197 covers this region. Star A is nearly a magnitude brighter than E on this plate, while both are near the limit of visibility on the Greenwich plate. Is ✱ E variable? The difference can hardly be accounted for by supposing that the star is red. No other star fainter than A can be seen on the Greenwich plate, in this region. We have not plates which can be examined for variability. The star A is fully two magnitudes brighter than the limit of visibility of Plate A 8197, which had an exposure of one hour. If we suppose that stars of the magnitude 16.5 can be seen near the centre of the plate, the sixteenth magnitude can probably be seen in this region, and the planet on the Greenwich plate is probably somewhat brighter than the fourteenth magnitude.

Saturday, July 20, 1912

Examination of Plates for 29 Vulpeculae Suspected of Variability by Mr. J.H. Astbury. See Letter of Professor Turner, dated July 8, 1912

This star was found very faint by Mr. Astbury on May ~~7~~ 21, 1912.

RA = 20h 34.1m Dec. = +20° 5' (1900) H.P. Magn. 4.82

a	+25°	4165	20	9	73	+25	9.0	5.2
b	+23	4084	20	32	13.2	+23	36.6	5.3
c	+15°	4255	20	39	56.1	+15	36.2	3.5
d	+25°	4302	20	30	537	+25	57.5	6.0
e	+23	~~4084~~ 3986	20	~~32~~ 15	~~13.2~~ 49.7	+23	~~36.6~~ 59.5	~~5.3~~ 6.1
V	+20	4658	20	32	2.5	+20	41.5	4.7

The suspected variable was compared with the above stars on the 52 AI plates of which a list is given below. It appeared to be about 0.2 magn. fainter than b on most plates, though occasionally it appeared equal to it. The change, however, is no greater than may be explained by differences in the plates themselves. It always appears three or four tenths of a magnitude brighter than d and half a magnitude or more of brighter than e. The comparison star c, used as a check on the observations, is too near the edge of the plates to give reliable results, but the suspected star is nearly equal to it, always, in magnitude.

The observations do not preclude a variation of as much as 0.3 magn. but do not confirm a large variation of the Algol type

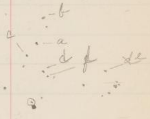
Plates Examined for 29 Vulpeculae.

AI 318	Sept. 10, 1902	AI 6807	June 5, 1908
AI 448	Nov. 1, 1902	AI 6823	June 8, 1908
AI 528	Dec. 9, 1902	AI 6857	June 21, 1908
AI 560	Dec. 24, 1902	AI 6895	July 6, 1908
AI 985	April 18, 1903	AI 6973	Aug. 24, 1908
AI 1567	Oct. 27, 1903	AI 7052	Sept. 29, 1908
AI 1573	Oct. 28, 1903	AI 7084	Oct. 6, 1908
AI 1718	Nov. 25, 1903	AI 7228	Nov. 21, 1908
AI 1814	Dec. 12, 1903	AI 7282	Dec. 5, 1908
AI 2448	June 9, 1904	AI 7318	Dec. 10, 1908
AI 2646	Aug. 18, 1904	AI 7393	Dec. 28, 1908
AI 2666	Aug. 24, 1904	AI 7828	May 30, 1909.
AI 2701	Aug. 30, 1904	AI 8083	Sept. 17, 1909
AI 2852	Oct. 14, 1904	AI 8205	Oct. 19, 1909
AI 3016	Nov. 15, 1904	AI 8232	Oct. 26, 1909
AI 3162	Dec. 7, 1904	AI 8260	Nov. 3, 1909
AI 3215	Dec. 16, 1904	AI 8263	Nov. 4, 1909
AI 4294	Oct. 12, 1905	AI 8272	Nov. 5, 1909
AI 4389	Nov. 1, 1905	AI 8292	Nov. 9, 1909
AI 5297	Sept. 27, 1906	AI 8347	Nov. 27, 1909
AI 5462	Nov. 16, 1906	AI 8352	Nov. 29, 1909
AI 5505	Nov. 29, 1906	AI 8447	Dec. 18, 1909
AI 5549	Dec. 18, 1906	AI 10196	Oct. 10, 1911
AI 6078	Aug. 26, 1907	AI 10960	June 24, 1912. - C.S. marked on this plate.
AI 6136	Sept. 25, 1907		
AI 6243	Oct. 26, 1907		
AI 6277	Nov. 4, 1907		
AI 6355	Dec. 2, 1907		

~~Looked up by Miss Cannon, Aug. ~~10~~ 11, 1920, on 10AC and 10AI plates. She finds no variation. Also looked for by S.D. Townley frequently but not found faint.~~

Monday August $\overset{5}{4}$, 1912

Examination of Plates for DM +46° 2978.
Suspected of Variability by Dr. Gray F



The star was examined on the 46 plates enumerated below, and compared with the stars marked in the accompanying chart. On plates AC 4888 and 11501, it appears possibly a grade fainter than d and a grade brighter than e. Both plates are poor. On all the other plates it appears between c and d, which are two or three grades apart in brightness. If the faintness is real on AC 4888 and 11501, the range would not exceed 0.2 magn. But the appearance of faintness is probably due to photographic causes. There is no evidence of any real variation.

Star Marked on AC 8849, by Miss Cannon,

						ac11134	Dec.8, 1909
ac 3838	Aug. 17, 1903	ac4888	May 4, 1904			ac11157	Dec. 16, 1909
ac 3909	Sept. 8, 1903	ac5014	June 24, 1904			ac11162	Dec. 16, 1909
ac 3942	Sept. 15, 1903	ac5025	June 27, 190$\overset{4}{\cancel{5}}$			ac11169	Dec. 21, 1909
ac 3980	Sept. 24, 1903	ac5059	July 14, 1904			ac11501	Mar. 18, 1910
ac 4060	Oct. 19, 1903	ac5077	July 19, 1904			ac11728	June 21, 1910
ac 4077	Oct. 21, 1903	ac5213	Aug. 31, 1904			ac11730	June 23, 1910
ac 4090	Oct. 24, 1903	ac5294	Sept. 28, 1904			ac11788	July 14, 1910
ac 4111	Oct. 27, 1903	ac8849	Oct. 9, 1907			ac11874	Aug. 21, 1910
ac 4126	Oct. 29, 1903	ac11045	Nov. 11, 1909			ac 11947	~~Aug~~ Sept 22, 1910
						ac 12225	Dec. 22, 1910
ac 4158	Nov. 3, 1903	ac11051	Nov. 15, 1909			ac 12494	Aug. 14, 1911
ac 4186	Nov. 9, 1903	ac11083	Nov. 27, 1909			ac 12564	Sept 14, 1911

Thursday, August 8, 1912

DM +46° 297$\overset{8}{2}$ Cont.

Dr. Gray finds a variation of from 9-11 between July 12 and 31, 1912.

Examination of recent plates.

AC 13189 c 1 v v 2 d	July 2, 1912	AC 13212 c 1 v v 1 d	July 6, '12
AC 13206 b 2 v v 0 c v 2 d	July 5 '12	AC 13190 too poor	July 2 '12
		AC 13207 too poor	July 5 '12
AC 13226 c 1 v v 1 d	July 19, '12		
AC 13223 c 1 v v 1 d	July 15, '12		

Identification checked by R.A.D.W.

From the above observations it appears that the Harvard photographs show no change between July 2 and July 19, 1912. No plates have been taken since July 19.

Thursday, August 15, 1912

Schwarzschild's Var. +18° 661 SZ Tauri

Cont. from page 12

Additional early I plates.

	N		S		
I 9583	~~4~~ 6.9		6.9	6.90	0 0
10147	7.1		7.0	7.05	1 0
$1\overset{41}{\cancel{94}}96$	7.4		7.5	7.45	0 1

The above estimates were made by means of prismatic comparisons, except in the case of I 9583. There are trails on the latter plate and the observation was made by comparisons of their densities.

The plates were poor, in every case.

I 11901	~~4.6~~ 7.3	7.4		7.35	$\underline{1}$ 0
12047	7.6	7.6		7.60	0 0

Saturday, October 5, 1912

Examination of Plates for Position of +4° 1720
No. 14 in Standard Sequence B 4

This star gives a residual of about a minute in declination from measured coordinates of Nos 8, 10, 11, 12, 13 and 14, all reduced by means of their positions in the Gesellschaft Catalogue. The plate was remeasured by the Director, with a result within a second of that formerly obtained.

Apparently, therefore, the position is given wrongly in the Gesellschaft Catalogue, for the star has a large proper motion.

The following plates were successively superposed:—

I 3318, taken March 25, 1891
I 28208 January 4, 1902
I 34460 January 5, 1907

There is no perceptible difference in the position of the star on the above plates.

The catalogue position is probably wrong by 1 minute.

Saturday, November 23, 1912

Examination of Plates for S Capricorni and Zinner's variable announced as discovered while observing the former.

S Capricorni ∓19° 5892
Zinner's Var. ∓19° 5893
Marked by Miss Cannon on B23078

Examination of the following plates shows no variation whatever in either of the above stars

AM 7526	July 6, 1911	AC 12509
7551		12555
7593		12572
7642		12591
7653		
7753		B23078
7793		
7887		
7913		
7711		
7857	Oct. 10, 1911	

Zinner announced that ∓19° 5893 had the magnitude 10.7 on July $\overset{5}{7}$, 1911 and 9.8 on Oct. 7, 1911. Plates AM 7526 and 7857, taken near these dates, show no change.

~~Friday~~ Thursday, September 4, 1913

Scale C 14147 Measures of Plate C 14146 for Mr. King

10 $\overset{5}{\cancel{4}}$5

	1	2	3	4
i	N	1.9 very poor	2.8	7.7
e	7.2	B	B	4.7
a	2.7 fogged	B	B	B
b	2.7 poor	B	B	B
j′	N	5.0	5.7	9.5 ?
a′	3.8	B	B	1.9
b′	4.9	B	B	2.9
h	8.9	1.8	2.8	6.2
l	N	7.4 elong.	8.2 scratch	N
g	7.8	B	2.3 elong	5.7
k	N	5.8 elong	6.4	N
j	N	3.7 elong.	4.4	7.6

11 10

Electric light. Marked end of plate toward left.

This plate to be measured by L, Ld, ADW, O'R, and Mk, each recording for herself, all using electric light, in the same frame. Two sets of measures on different dates.

10 48

~~Saturday~~ Monday, September ~~6~~ 8, 1913.

Scale C 14147 Second Measures of Plate C 14146 for Mr. King

	1	2	3	4
i	n.s.	1.7 focus	2.8 focus	7.7
e	7.2	B	B	4.8
a	2.8 fogged	B	B	B
b	2.8 out of focus	B	B	B
j′	n.s.	4.9	5.7	9.3?
a′	3.9 fogged	B	B	1.8
b′	4.8	B	B	3.4
h	8.9	2.0	2.9	6.2
l	n.s.	7.2	8.0	n.s.
g	7.9	B	2.1	5.8
k	n.s.	5.6	6.4	n.s.
j	n.s.	3.7	4.3	7.6

The images of i are extremely poor and out-of-focus, and measures very doubtful.

Images (1) of a, b, and a′ are fogged by the large image adjacent, so that the measures are made with difficulty.

11 00

Saturday, September 27

Measures with wooden millimetre scale to determine the Scale of MC Plates since the lenses were altered.

Plate MC 3761 R.A. = 12h 9m Dec. = 0°.0

Trail plate. Shutter opened at odd minutes and closed at even minutes

Centre 147 13 north			Centre 130 5 south			Centre 130 7 north		
114.7			94.6			99.5		
	9.5	3		9.4	2		9.2	0
124.2			104.0			108.7		
	9.0	2		9.2	0		9.2	0
133.2			113.2			117.9		
	9.2	0		9.2	0		9.3	1
142.4			122.4			127.2		
	9.1	1		9.2	0		9.3	1
151.5			131.6			136.5		
	9.3	1		9.2	0		9.1	1
160.8			140.8			145.6		
	9.0	2		9.1	1		9.2	0
169.8			149.9			154.8		
	9.3	1		9.2	0		9.2	0
179.1			159.1			16~~1~~4.0		
	9.1	1		9.2	0		9.2	0
188.2			168.3			173.2		
	9.3	1		9.3	1		9.2	0
197.5			177.6			182.4		

9)18 9.20 +6-6 ±0.13

9)20 9.22 +3-1 ±0.04

9)19 9.21 2-1 ±0.03

27)57 9.21

11-8 27 ±0.07

9.21mm) 900″ (97.72
8289
7110
6447
6630
5526
~~6447~~
1830
1842

Scale 97.7″ = 0.1 cm

3600)19540″ = 200 cm. width of plates

5°.4 covered by width of plates

0°.25 = 9.21 mm

1° = 36.84 mm

If it is desired to cover 5°, there will be about 7 mm to spare at each edge of plate (14.7 mm altogether).

~~Thursday October 10, 1913~~
Monday, October 13, 1913

28 Geminorum, Announced as Variable by Laschins

Marked by A.J.C. on AI 3594 and AC 9166
Examination of Plates selected by A.J.C.
Sequence selected by H.S.L. Marked on AI 3594

	DM	h	m	s	°	′	magn. [1855]
a =	+25° 1496	6	46	24.2	+25	32.6	6.2
b =	+27° 1236	6	40	7.3	+27	20.6	7.2
c =	+28° 1138	6	21	13.6	+28	18.3	6.8
d =	+28° 1133	6	20	28.6	+28	52.1	8.0
e =	+29° 1320	6	33	19.6	+29	30.5	7.8
f =	+30° 1318	6	35	50.3	+30	58.6	7.0
g =	+31° 1414	6	38	36.8	+31	10.6	7.8

This c.s. has a ft. component. +28° 1139 magn. 9.5.

AI 3594
b 2 v ~~3~~
v 3 c

AI 10716 poor
b 1 v
v 1 c
v 3 d

AI 7410
b 3 v
v 2 c

AI 7417
b 2 v
v 1 c

AI 7404
c 2 v
v 3 d

AI 7381
b 1 v
v 2 c

AI 7333
c 3 v
v 2 d

AI 7292
b 3 v
v 0 c
v 3 d
Im. of b and v hazy
" " c " d sharp

28 Gem. Cont.

AI 3438
b 4 v
v 0 c
v 4 d

AI 9641
c 1 v
v 4 d

AI 3719
b 3 v
v 4 e
Im. of c + d too poor.

AI 3357
c 3 v
v 0 d
v 1 e
poor

AI 3179
b 3 v
v 1 c

AI 3147
b 1 v
v 2 c

AI 3387
b 2 v
v 1 c

AI 10822
b 1 v
v 3 c

AI 3469
b 2 v
v 1 c

AI 3116
b 2 v
v 1 c

AI 3053
b 1 v
v 2 c

AI 3458
a 5 v
v 0 b
v 3 c

AI 3642
b 1 v
v 2 c

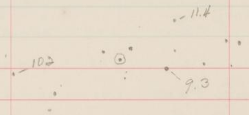
AI 10726
c 2 v
v 2 d

All estimates on pp 34, 35, marked end at top of plate.

Wednesday. October 29, 1913

Examination of Region of Z Cass, 233956, for Comparison star marked by Mr. Campbell on enlargment as 9.$\overset{3}{7}$, which is not the star for which he gives the Durchmusterung No.

Star enclosed in circle is the one whose DM. number is given by Mr. C.



Ex

Examination of Plate AC 14369, iso, with yellow screen, giving approximately visual magnitudes, shows that the star marked 9.3 is two or three tenths of a magnitude fainter than Cambell's star 8.4. On the other hand the star DM +55 300$\overset{6}{4}$ is about 9.3, the magnitude assigned by Mr. C.

It seems safe to assume that the star is wrongly marked on the enlargement, and that the star DM +55° 300$\overset{6}{4}$ is the one observed.

Friday November 7, 1913.

Scale M. Measures of Mc Plates for Color Index.

1.55 Mc 4234 Pinacyanol - Screen Red R I

	sc. 1	sc. 2	Mean.	Diff.	P.C.	Diff.	curve	Mag.	curve	Magn.	Mc - Ptm. White Stars
5	3.7 3.9		3.9	+2.58	9.1	−2.62	−2.63	6.47	2.72	6.62	14
6	4.4 4.6	B.	4.6	2.48	9.7	−2.62	−2.57	7.11	2.30	6.90	18
7	5.7 5.9	5.8	5.85 10	1.54	9.9	−2.51	−2.57	7.33	1.57	7.42	03
8	$\overset{6.0}{5.8}$ $\overset{6.1}{5.9}$	$\overset{6.0}{~~7.6~~}$ rej.	6.03 010	(~~2.04~~ ~~1.0~~ 1.94)					1.46	7.49	.
9	f	7.6		1.01					0.87	8.47	14
10	f	7.9		1.04					0.79	8.69	
11		8.6		0.70					0.72	$\overset{2}{9.30}$	
12		8.7		0.84					0.71	$\overset{.41}{~~9.44~~}$	
13		9.2		1.05					0.81	10.01	
14		9.7		0.74					0.97	10.67	
15		9.7		1.08					0.97	10.67	
16		9.9		1.17					1.05	10.95	
17		n.s.									
18											
19											
20											
+87 12	5.3 5.5	5.3	5.40 11		9.9	−2.57		7.33	1.82	7.22	
15	6.6 6.8	6.7	6.75 01	1.09	n.s.				1.15	7.90	06
+88 2	5.7 5.9	5.8	5.85 10	~~0.42~~	n.S,				1.57	7.42	
80	f.	8.5		0.42	n.s.				0.72	9.22	30
86	f	8.6		0.18					0.72	9.32	54
90	f.	7.8							0.81	8.61	
105	6.3 6.5	6.8	6.65 12						1.19	7.84	
115	f.	8.2		0.68					0.74	8.94	06

+113
−32
8)+81
+.10

M.O.R.

(over)

Friday November 7, 1913.

Scale M

Color Index.

Mc 4234 cont.

	sc.1	sc.2			curve	Mc-Ptm. Red Stars		P.C sc.2	curve	Magn.
1r	dif.				.		.	t.p.		
2r	1.92.1	B.	2.1	a	.		.	8.2	.	.
3r	3.94.1	4.7	4.40	33	2.41	6.81	~~83~~ .76	9.7	-2.59	~~8~~ 7.11
4r	~~6.5~~ 6.7	6.5	6.60	11	1.21	7.81	40 .5			
5r	58	6.4	6.10	33	1.42	7.52	115	n.s.		
6r		7.7			0.84	8.54	.			
7r		8.3			0.73	9.03	.			
8r		8.7			0.73	9.63				
9r		9.7			0.98	10.68				
10r		n.s.			.					
11r										
12r										
4r		8.8			0.71	9.51				
5r		8.4			0.72	9.12				
6r		9.7			0.98	10.68				
9r		f.								

From prec. pg. +87° 12	7.22	~~96~~ .82
+88 2	7.42	68
+88 105	7.84	36
+88 90	8.61	36

7) -402 47.4

-.57 68

M.O.R.

Friday November 7, 1913.

Scale M.

Color Index.

Mc 4235 Iso. Screen Q.

Mc-Ptm. Magn.		sc.1	sc.2	Mean		Diff.	Curve	P.C. sc.2	Diff.	curve	Magn.	White Star Mc-Ptm.	Red Mc-Ptm.
White Stars.	5	t.p.						sc.1 6.06.2	+0.28	+0.40	6.60	12	
.	6	t.p.						6.9 7.1	-0.02	+0.12	7.22	14	
.	7	t.p.						sc.2 7.1	+0.29	+0.12	7.22	17	
	8	t.p.						8.1	-	-0.15	7.95	.	
.	9	t.p.						9.1	-0.49	-0.37	8.73	12	
8.87	10	3.739	B.	3.9	a.	+5.04	4.97	9.0	-0.06	-0.35	8.65	~~29~~	
9.24	11	4.345	B.	4.5	a.	4.80	4.74	9.9	-0.60	-0.53	9.37	51	
9.54	12	4.951	4.8	4.95	12	4.59	4.59	n.S.					
10.07	13	5.759	5.8	5.85	10	4.~~32~~ 40	4.22						
10.55	14	6.365	6.9	6.70	22	3.74	3.85						
10.72	15	f.	7.0			3.78	3.72						
11.05	16		7.5			3.57	3.55						
11.28	17		7.8			3.38	3.48						
11.92	18	f.	8.6			3.33	3.32						
12.18	19		8.9			3.32	3.28						
12.70	20		9.5			3.15	3.20						
13.31	23		10.2			3.14	3.11						
	25												
. +88	86	t.p.						9.1	-0.32	-0.37	8.73	05	
+87°	12	t.p.						8.2		-0.17	8.03		
.	15	t.p.						8.0	-0.16	-0.12	7.58	04	
+88°	2	t.p.						8.2		-0.18	8.02	.	
62 9.00	115	3.94.1		4.1	a	4.78 ~~4.90~~	4.90	9.1	-0.22	-0.37	8.73	15	
	105	t.p.			.			8.5		-0.24	8.26		
8.88	90	3.73.9		3.9	a	.	4.98	9.3		-0.41	8.89		
+88	80	t.p.						9.3	-0.38	-0.41	8.89	03	

1) 62

.02

M.O.R.

+42

-40

8) +02

+00

Friday November 7, 1913.

Scale M.

Measures for Color Index

Mc 4235 cont.

	Sc.1	Sc.2					Mc-Ptm Red stars	P.C. Sc.7			
1r	t.p.						.	49 5.1	.		
2r	t.p.						.	59 6.1	0.44	6.54	01
3r	t.p.						.	Sc.2 7.7	-0.04	7.66	02
4r	t.p.						:	8.6	-0.27	8.33	12
5r	29 3.1	B.	3.1	a	.		.	9.0	-0.34	8.66	01
6r	38 4.0	B.	4.0	a	4.94	8.94	.	10.0	-0.55	9.45	
7r	48 5.0	4.7	4.85	21	4.62	9.47					
8r	60 6.2	5.9	6.05	21	4.14	10.19					
4s	49 5.1	4.9	5.00	11	4.57	9.57		n.s.			
9r	67 6.9	6.9	6.90	00	3.77	10.67					
10r	f.	8.8			3.29	12.09					
11r		8.7			3.30	12.00					
12r		n.s.			.						
6s	66 6.8	6.8	6.80	00	3.82	10.62		n.s.			
5s	57 5.9	5.7	5.80	11	4.24	10.04		n.s.			
9s	f	n.s.				.					
from prec. page +88 2						t.p.	.	8.02			08
+87 12						t.p.	.	8.03			15
+88 105						t.p.	.	8.26			06
+88 90						8.88	09	8.89			08
							1) 09				-33
							-09				+20
											8) -13
											-02

Stars recorded as "too poor" were out of focus.

M.O.R.

2.30

Friday November 7, 1913.

Scale M.

Measures for Color Index.

Mc 4233 Red Screen R1.

~~no~~ PC too faint.

	Sc.1	Sc.2	Sc.2			Diff.	curve	magn.	Mc-Ptm. white stars
5	55 5.7	5.5		5.60	11	+0.88	1.08	6.68	20
6	61 6.3	6.5		6.40	11	+0.68	0.54	6.94	14
7	f	7.7	7.7	7.70	00	-0.31	-0.15	7.55	16
8		8.3				—	-0.40	7.90	.
9		9.3				-0.69 ~~+0.31~~	-0.77	8.51	10
10		10.0				-1.06	-1.04	8.96	
11		10.1				-0.80	-1.07	9.03	
12									
13									
14									
15									
16									
17									
18									
19									
20									
+89 15	f	8.3				-0.46	-0.40	7.90	06
+87 12	f.	7.3	7.2 ~~8.7~~	7.25	10	.	+0.04	7.29 ~~7.34~~	
+88 2	f.	7.8	7.8 ~~8.7~~	7.80	00	.	-0.19	7.61	
80	f	9.9				-0.98	-1.00	8.90	02
86	f	9.8				-1.02	-0.97	8.83	05
90	f	9.4				-	-0.82	8.58	
105	f	8.1				-	-0.32	7.78	
115		9.7				-0.82	-0.93	8.77	11
									+47
									-37
								cont. (over)	8) +10
									+01

M.O.R.

Friday, November 7, 1913.

Scale M. Color Index

Mc 4233 cont. Red Screen

	sc.1	sc.2				curve	magn.	Mc-Ptm. Red stars.
1r	2.0 $^{2.2}$ poor.			2.2		·		·
2r	3.0 3.2	B.		3.2		·		·
3r	5.9 6.1	6.1		6.10		0.74	6.84	-0.80
4r	f.	7.9	8.0	7.95	1 0	-0.25	7.70	51
5r	f	7.9	8.2	8.05	1 2	-0.30	7.75	92
6r	f	9.3		9.3		-0.79	8.51	·
7r		n.s.						
8r								
9r								
10r								
11r								
12r								
4a	f	n.s.						
5a		n.s.						
6a		n.s.						
9a								

+88 2	7.61	49
+87 12	7.~~67~~ 34 29	84 9
+88 105	7.78	42
+88 90	8.58	39
	71	-43~~7~~ 42
		-.62 3

M.O.R.

2:45

Friday, November 7, 1913.

Scale M. Color Index.

3 — Mc 4229 Iso Screen 2.

P.C.

	sc.1	sc.2	sc.3			sc.2	Diff	curve	Magn.	Star Images Curve	Magn.	Mc-Ptm White stars.
5	t.p.					7.7	-1.22	-1.34	$\overset{6}{5}$.36			·
6	t.p.					8.4	-1.32	-1.30	7.10			·
7	t.p.					8.8	-1.41	-1.26	7.54			·
8	4.9 5.1	5.1		5.10 00	-					+2.86	7.96	·
9	6.2 6.4	~~6.4~~ 6.1 rej.		6.25 2 1	+2.36					2.28	8.53	08
10	6.7 6.9	6.9		6.90 00	2.04					2.00	8.9~~4~~0	
11	f.	7.6	7.6	7.60 00	1.70					1.80	~~8.80~~ 9.40	
12	f.	~~6.7~~ 7.8	7.8	7.80 00	1.74					1.77	9.57	
13		8.4 ~~8.8~~			1.85					1.71	10.11	
14		8.5			1.94					1.70	10.20	
15		8.9			1.88					1.68	10.58	
16		9.7			1.37					1.62	11.32	
17		9.7			1.~~79~~ 48					1.62	11.32	
18		10.2			1.7~~2~~0					1.60	11.80	

	sc.1	sc.2	sc!									
+87 12	~~5~~ 4.4 4.6	B.	~~se~~ 4.5 4.7	6. 4.55 0 1		n.s.?				·		
15	5.0 5.2	5.1		5.15 0 1	+2.69					2.81	7.96	12
+88° 80	6.9 7.1 poor	7.0		7.05 1 0	1.87					1.96	9.01	09
86	6.8 7.0	6.9		6.95 0 1	1.83					1.99	8.94	16
90	6.7 6.9	6.7		6.80 1 1						2.03	8.83	
105	5.3 5.5	5.4		5.45 1 0		n.s.				2.66	8.11	
115	6.7 6.9	6.7		6.80 1 1	2.08	9.9	-1.02	curve -1.12	mag. 8.78	2.03	8.83	05
2	4.8 5.0	5.0		5.00 00		n.s.				·	·	

+37
-13
57 +24
+.05

MOR

Friday November 7, 1913.

Scale M. For Color Index.

MC 4229 cont. Iso. Screen 2.

		sc.1	sc.2	sc.?		curve	Magn.	P.C. curve		Mc-Ptm. Red Stars.
	1r	t.fr.						6.7	.	.
	2r	t.fr B.						7.8	-1.34 6.46 -.09	.
poor	3r	3.8 4.0 B.			4.0		.	n.s.		.
	4r	4.9 5.1	5.0		5.05 10		.	n.s.–		.
	5r	5.7 5.9	5.7		5.80 11	2.49	8.29	n.s.		37 8
	6r	6.6 6.8	6.9		6.85 01	2.02	8.87	n.s.		
	7r	t.f	7.8	7.8	7.80 00	1.77	9.57			
	8r		8.7			1.69	10.39			
	9r		9.1			1.66	10.76			
	10r		n.s.							
	11r									
	12r									
	4r	t.f.	7.8	7.9	7.85 01	1.76	9.61			
	5r		7.9 -	7.9	7.90 00	1.76	9.66			
	6r		8.9		8.9 2	1.68	10.58			
	9r		f.							
From Prec. page	+88° 2						.			
	+87° 12						.			
	+88 105						8.11			.09
	+88 90						8.83			.14
										3) .60
										–.20

M.O.R.

Friday November 7, 1913.

Scale M. For Color Index.

MC 4230 Iso. Screen M.

		sc.1	sc.2	sc.?		Mean.	Diff.	P.C. sc.2		curve	Magn.	White Stars. Mc-Ptm.
very poor	5	1.9 2.1		1.9	2.1?	2.10 00	4.38	8.1	-1.62	4.44	6.54	.06
	6	2.6 2.8		2.8	3.0	2.90 11	4.18	8.9	-1.82	4.17	7.07	.01
	7	3.0 3.2 B.		3.3	3.5	3.35 21	4.04	9.5	-2.11	4.01	7.36	.03
	8	3.9 4.1 B.		4.0	4.2	4.15 10	–			3.78 2	7.87 ~~7.93~~	.
	9	5.7 5.9	5.7			5.80 11	2.81			2.99	8.79	18
	10	5.7 5.9	5.7			5.80 11	3.14			2.99	8.79	
	11	6.7 6.9	6.8			6.85 10	2.45			2.56	9.41	
	12	6.8 7.0	7.0			7.00 00	2.54			2.52	9.52	
	13	f.	7.8	sc.2 8.0		7.90 11	2.35			2.33	10.23	
	14		8.1				2.34			2.29	10.39	
	15		8.7				2.08			2.16	10.86	
	16		9.0				2.07			2.10	11.10	
	17		9.1				2.08			2.09	11.19	
	18		9.9				2.03			2.00	11.90	
	19		n.s.				.			.	.	
defect?	20		~~10.1~~ ?									
+87	12	3.5 3.7		sc.1 3.7 3.9		3.80 11		def.		3.86	7.66	
	15	3.8 4.0 B.		3.9 4.1		4.05 01	3.79	9.9	-2.06	3.78	7.83	.01
+88	2	3.9 4.1 B.		4.1 4.3		4.20 11		n.s.		3.70	7.90	
	80	6.0 6.2	6.1			6.15 01	2.77			2.80	8.95	.03
	86	5.6 5.8	5.9			5.85 01	2.93			2.95	8.80	.02
	105	4.2 4.4	4.8			4.60 22		n.s.		3.53	8.13	
	115	5.8 6.0	5.8			5.90 11	2.98	n.s.		2.92	8.82	.06
	90	5.8 6.0	5.7			5.85 21				2.95	8.80	
												+.29
												–.11
												8) +.18
												+.02

M.O.R.

Scale M

Friday November 7, 1913.

Mc 4230 Cont. Iso. Screen M.

Star Images. Red Stars.

		sc.1	sc.2	sc.2	sc.1	sc.2 curve			Mean		curve	Magn.	Mc-Ptm.
	1r	B.				6.5							
	2r	1.9	2.1	B.	1.9 2.1	7.9	-1.56	6.34	2.10	00	+4.44	6.54	01
	3r	3.1	3.3	B.	3.1 3.3	9.3	-1.95	7.35	3.30	00	4.03	7.33	31
	4r	3.9	4.1	4.4		n.s.			4.25	12	3.68	7.93	28
	5r	4.9	5.1	4.9					5.00	11	3.37	8.37	30
	6r	6.1	6.3	6.2					6.25	10	2.76	9.01	
Scratched	7r	6.9	7.1	7.3					7.20	11	2.49	9.69	
	8r	f.	7.9	8.0					7.95	10	2.32	10.27	
	9r		8.6						8.6		2.19	10.79	
scratched	10r		.										
	11r		9.9						9.9		2.00	11.90	
	12r												
	4a	6.9	7.1	7.1					7.10	00	2.50	9.60	
	5a	7.	7.0 -	7.3					7.15	21	2.50	9.65	
scratched	6a		8.6						8.6		2.19	10.79	
	9a		f n.s.			+88°2			7.90			0	.20
						+87 12			7.66				52
						+88 105			8.13				07
						+88 90			8.80				17
													8) -186
													-.~~28~~
													-.23

M.O.R.

3.45

Thursday November 13, 1913

Scale C 14147 Measures of Plate C 14146 for Mr. King

Electric light

3 - 21

	1	2	3	Nov.21	1	2	3	Nov.21	1	2	3	Nov.21	1	2	3	Nov.21
Stars		1				2				3				4		
i	M	N	n.s.	n.s.	1.9	1.7	1.8	1.7	2.8	2.8	2.8	2.8	7.7	7.7	7.8	7.8
e	7.2	7.2	6.9	6.9	B	B	B	B	B 2.8	B	B	B	4.7	4.8	4.7	4.8
a	2.7	2.8	2 3.8	2.7	B	B	B	B	B	B	B	B	B	B	B	B
b	2.7	2.8	2.9	2.8	B	B	B	B	B	B	B	B	B	B	B	B
j′	M	N	n.s.	n.s.	5.0	4.9	4.9	4.9	5.7	5.7	5.8	5.9	9.5?	9.3?	7	7
a′	3.8	3.9	4.0	3.9	B	B	B	B	B	B	B	B	1.9	1.8	1.9	2.0
f′	4.9	4.8	4.8	5.0	B	B	B	B	B	B	B	B	2.9	3.4	3.0	2 3.8
h	8.9	8.9	8.9	8.9	1.8	2.0	1.9	1.9	2.8	2.9	2.9	2.9	6.2	6.2	6.2	6.0
l	n	N	n.s.	n.s.	7.4	7.2	7.2	7.2	8.2	8.0	8 9.0	80 scratched	N	N	n.s.	n.s.
g	7.8	7.9	7.8	7.9	B	B	B	1.2	2.3	2.1	B	0 2.8	5.7	5.8	5.9	5.7
k	N	N	n.s.	n.s.	5.8	5.6	5.6	5.8	6.4	6.4	6.3	6.3	N	N	n.S.	n.S.
j	N	N	n.S.	n.s.	3.7	3.7	3.8	3.7	4.4	4.3	4.1	4.2	7.6	7.6	7.7	7.8

3 33

Friday, November 14, 1913.

Scale V

Color Index.

2:25 Mc 4242 "L"

Sc.1	Sc.1		Sc.2	Sc.3	Mean		Diff.	curve	Magn.	Mc-Ptm.	P.C. Sc.3	Diff.	curve		
$\overset{1.8}{2.0}$	$\overset{1.6}{1.8}$	5	·		1.70	11	+4.78	+4.94	6.64	16	7.8	-1.32	-1.29	6.51	03
	$\overset{1.9}{2.1}$	6	2.0 2.1		2.00	11	5.08	4.85	6.85	23	8.9	-1.82	-1.84	7.06	02
	$\overset{2.9}{3.1}$	7	2.8 2.9		2.90	00	4.49	4.57	7.47	08	9.8	-2.41	-2.39	7.41	02
	$\overset{3.7}{3.9}$	8	3.1 3.2		3.45	32	·	4.37	7.82						
		9	4.6 4.7	4.9	4.80	11	3.81	3.82	8.62	01					
		10	5.0 5.2	5.3	5.20	11	3.74	3.60	8.80						
		11	6.1 6.2	6.3	6.25	01	3.05	3.05	9.30						
		12	f	6.8			2.74	2.83	9.63						
		13		7.6			2.65	2.56	10.16						
		14		7.7			2.14	2.53	10.23						
		15		8.6			2.18	2.24	10.84						
		16		9.2 9.0	9.10	11	1.97	2.10	11.20						
defect clou to		17		8.9 9.1	9.00	11	2.18	2.12	11.12						
		18		9.9			2.03	1.92	11.82						
$\overset{3.8}{4.0}$	+87	15	3.0 3.1	3	3.45	43	4.39	4.37	7.82	02	n.s.				
	+88	80	5.7 5.8	5.8	5.80	00	3.12	$\overset{7}{3.20}$	$\overset{7}{9.00}$	$\overset{15}{08}$					
		86	4.9 5.0	5.2	5.10	11	3.68	3.68	8.78	00					
		115	4.9 5.0	5.6	5.30	33	3.58	3.55	8.85	03					
		19		n.s.											

$+33^{40}$
-28
$8)\,+05^{12}$
$+.01^{2}$

+05
−02
3) +03
+.01

M.O.R.

Friday, November 14, 1913.

Scale V

Color Index.

Mc 4242

P.C.

Sc.1		Sc.2	Sc.3	Sc.3 Mean		curve	Magn.	Mc-Ptm. Red Stars	P.C.			P.C. Mc-Ptm. Red
	1r	·							6.2 .			
1.8 $\overset{.6}{1.5}$	2r	~~1.8~~ $\overset{.6}{1.5}$		1.60 ~~1.50~~	00	·			7.5 .			
3.0 $\overset{8}{2.7}$	3r	2.7 2.8	B.	2.80 ~~2.75~~	00 ~~10~~	$\overset{6}{4.91}$	$\overset{4}{7.71}$	$\overset{23}{07}$	def.			
w.s. 3.8 $\overset{.6}{3.5}$	4r	~~6.7~~ 3.8 3.9	B.	$3.7\overset{5}{5}$	22	4.23	7.98	23				
4.9 $\overset{7}{4.6}$	5r	4.0 4.1		$\overset{4.40}{4.25}$	33	4.00	8.40	27				
	6r	5.7 5.8	5.7	5.75	01	3.29	9.04					
	7r	6.6 6.7	6.7	6.70	00	$\overset{88}{2.91}$	$\overset{58}{9.61}$					
	8r	f	7.7	7.7	a	2.53	10.23					
	9r		8.3	8.3	a	2.33	10.63					
	10r		n.s.			·						
	11r											
	12r											
	4e	6.7 6.8	6.7	6.75	01	2.85	9.60					
	5e	6.7 6.8	6.8	6.80	00	2.83	9.63					
	6e		7.9	7.9		2.46	10.36					
	9e		f.									
$\overset{3.7}{3.9}$ +88	2	3.2 3.3		3.50	22	4.34	7.84	26	9.9	-2.46	7.44	66
$\overset{3.7}{3.9}$ +87	12	3.2 3.3		3.50	22	4.34	7.84	34	9.7	-2.32	7.38	80
+88	90	5.6 5.7	5.7	5.70	00	3.31	9.01	04				-146
$\overset{3.8}{4.0}$	105	3.7 3.8		3.80	00	4.21	8.01	19	n.s.			

-129^{52}
$+11^{4}$
$7)\,-118^{4}$
$-.17^{21}$

2) −146
−.73.

M.O.R.

Friday, November 14, 1913.

Scale W

Color Index.

MC 4242

		sc.1	sc.2	Mean	Diff.	curve	Magn.	Mc-Ptm. White Stars	Mc-Ptm. ↓ Red Stars	P.C.	Diff.			Mc-Ptm. White Stars	
	5	2.8 2.7	2.8 2.7	2.80	00 3.68	3.68	6.48	00		8.3	-1.82	-1.65	6.65	17	
	6	3 2.9	4.0 3.7 3.6	3.85	21 3.23	3.32	7.17	09		8.8	-1.72	-1.89	6.91	17	
	7	4.0	4.1		3.29	3.22	7.32	07		9.7	-2.31	-2.30	7.40	01	
	9	5.9	6.0		2.61	2.60	8.60	01		~~9.1~~ n.s.	.	.		.	
+87°	12	4.5	4.6			3.06	7.66		52	9.8		-2.33	7.47	.	71
	15	4.8	4.9		2.94	2.96	7.86	02		7.	.	.			
+88°	2	4.7	4.8		.	2.99	7.79		31	9.9		-2.38	7.52		58
Unit changed Nov. 18, 13 Reexamined by HSL.	80	6 5.5	5.6 6.6		2.32 ~~3.32~~	2.39	8.99	07			.				
	86	6.1	6.2		2.58	2.53	8.73	05		n.s.	.				
	90	6.6	6.7			2.34	9.04		07	n.s.					
	105	4.9	5.0			2.92	7.92		28	n.s.					
	115	6.4	5 6.6		2.38	2.43	8.93	05		n.s.	.				
	1r	.				.				6.8	.				
	2r	2.7	2.8			3.68	6.48		07	8.0	.				
	3r	4.2	4.3			3.16	7.46		1 28	def.					
	4r	4.9	5.0			2.92	7.92		29	10.0	.				
	5r	5.6	5.7			2.70	8.40		27						

+ 23
- 13
8) +10
White +.01

192
- 202
+ 7
8) 195
-.24 3

2) - 129
-.64

M.O.R.

9:58

Saturday, Nov. 15, 1913

Scale M

Color Index

12:25

MC 4198

	sc.1	sc 2	Diff.	curve	Magn.	Mc-Ptm. White stars	P.C. sc.1	sc.2			Diff.	curve	Magn.	Mc-Ptm White
5	B			.			4.3 4.5				+1.98	2.02	6.52	08 4
6	B			.			5.1 5.3				1.78	1.75	7.05	03
7	B			.			5.6 5.8				1.59	1.58	7.38	01
8	2.0 2.2	.		5.90	8.10	.	6.7 6.9	6.8	6.85	1.0	.	1.28	8.13	
9	2.7 2.9		+5.71	5.86	8.76	15		7.6			1.01	1.18	8.78	~~03~~ 17
10	2.8 3.0		5.94	5.85	8.85	.		7.8			1.14	1.16	8.96	
11	3.1 3.3		6.00	5.83	9.13			8.0			1.30	1.15	9.15	
12	3.7 3.9		5.64	5.78	9.68			8.6			0.94	1.11	9.71	
13	4.1 4.3		5.95	5.72	10.02			8.8			1.45	1.10	9.90	
14	4.7 4.9		5.54	5.58	10.48			9.6			0.84	1.07	10.67	
15	5.0 5.2		5.58	5.48	10.68			9.7			1.08	1.07	10.77	
16	5.8 6.0		5.07	5.16	11.16			9.9			1.17	1.07	10.97	
17	6.0 6.2	6.3 6.25	01 4.93	5.10	11.35			10.0			1.18	1.06	11.06	
18	6.6 6.8	6.8 6.80	00 5.13	5.12	11.92			7			.	.	.	
+87° 15	2.0 2.2			5.64 5.90	8.10	26	6.6 6.8	6.7	6.75	01	1.09	1.30	8.05	21
+88° 80	2.8 3.0			5.92 5.85	8.85	07		7.7			1.22	1.16	8.86	06
+88° 86	2.5 2.7			6.08 5.87	8.57	21		7.3			1.48	1.20	8.50	28
+88° 115	2.9 3.0			5.78 5.84	8.94	06		7.7			1.18	1.16	8.86	02
~~+88° 19~~														
19	6.7 6.9	7.0 7.05	1.0	17 ~~5.23~~ 5.18	12.23									
20	tt	7.3		5.35 5.26	12.56									
21		6 7.~~9~~		5.36	12.96									
22		8 7.~~8~~		4. 5.92	13.22									
23		7.9		5.44 5.46	13.36									
24		8.0		5.50	13.50									
25		8.2		.										

+

+47
-28 5) +19
+.04

+46 2
- 40
8) +06 2
+.01 0

Saturday, Nov. 15, 1913

MC 4198 Cont.

	sc.1	sc.2		curve.	Magn		P.C, sc1	sc.2	curve	Magn	Red Stars. Mc.-Ptm.
1r	-			.			4.7	4.9	1.87	6.77	1.51
2r	1.6	?1.8		.			5.9	6.1	1.46	7.56	1.01
3r	2.2	2.4		5.88	8.28	64		7.3	1.20	8.50	86
4r	2.7	2.9		5.86	8.76	55		7.7	1.17	8.87	66
5r	3.5	3.7		5.80	9.50	83		8.6	1.11	9.71	1.04
6r	3.9	4.1		5.75	9.85			8.9	1.10	10.00	
7r	4.7	4.9		5.58	10.48			9.5	1.07	10.57	
8r	5.6	5.8		5.22	11.02			9.8	1.07	10.87	
9r	5.9	6.1		5.14	11.24			n.s.	.		
10r	6.7	6.9	6.9	6.9.00 5.15	12.05						
11r	~~7.7~~		7.7	5.37	13.09						
12r	~~8.0~~		8.0	5.50	13.50						
4s	3.9	4.1		5.75	9.85			8.7	1.10	9.80	
5s	5.2	5.4		5.39	10.79			9.6	1.07	10.67	
6s	5.0	5.2		5.47	10.67			9.7	1.07	10.77	
9s	8.7	8.9		~~6.46~~	~~14.36~~			n.s.	.		
+88° 2	2.4	2.6		~~5.88~~	8.48	38		7.3	1.20	8.50	40
+87 12	2.8	3.0		5.85	8.85	61		7.5	1.18	8.68	50
+88° 90	3.2	3.4		5.82	9.22	75		8.3	1.13	9.43	46
+88° 105	2.8	3.0		5.85	8.85	65		7.6	1.18	8.78	58
10s			9.2	.		8) +397					9) 702
11s			9.1	.	.	-.48					+.78
12s			9.6	.	.	+.57					
13s			9.5	.	.						
14s			9.9	.							
15s			n.s.								
16s			n.s.								

Saturday, Nov. 15, 1913,

MC 4198 Cont

	sc1	sc2	curve
26		8.7	.
27		9.0	.
28		9.4	.
29		9.7	.
30		9.9	.
31		10.1	.

1 05

Friday, November 21, 1913.

Scale M

Color Index.

11:47 Mc 4283

P.C.

		sc.1	sc.	Diff.	Curve	Magn.		sc.1 sc.2		Curve	magn.	
	5	1.6	1.8	4.68	4.80	6.60	12	~~6.6~~ 6.6	−0.12	−0.01	6.59	11
	6	2.3	2.5	4.58	4.53	7.03	05	7.0	+0.08	−0.10	6.90	18
	7	2.8	3.0	4.39	4.33	7.33	06	7.6	−0.21	−0.17	4. 7.~~5~~3	04
	8	3.9	4.1		3.90	8.00	.	8.0		−0.15	7.85	.
scratched.	9	4.8	5.0	3.61	3.66	8.66	05	8.6	+0.01	0.01	8.61	00
w.s.	10	5.8	5.2	3.74	3.61	8.81		8.8	+0.14	.11 + ~~0.00~~	91 8.~~80~~	
P.C. nearly sup.	11	5.8	6.0	3.30	3.46	9.46		.				
Film def (P.C.)	12	5.9	6.1	3.44	3.44	9.54		Reject 9.7?	(−0.16	0.55	10.25)	
	13	6.6	6.75 01 6.8 6.7	3.50	3.51	10.26		9.7	+0.55	0.55	10.25	
	14	6.7	6.90 00 6.9 6.9	3.54	3.54	10.44		7.				
	15	7	7.1	3.68	3.59	10.69						
	16		def.		.							
	17		7.8	3.38	3.79	11.59						
	18		8.0	3.93	3.87	11.87						
	19		8.3	3.92	3.98	12.28						
	20		8.6	4.05	4.10	12.70						
	21		8.9		4.22	13.12						
	22		9.0		4.26	13.26						
	23		9.0	4.34	4.26	13.26						
	24		9.25 21 9.4 9.1		.	.						
	25		9.20 00 9.2 9.2		.	.						
	26		9.9		.	.						
	27		n.s.					+88° 115				03
	28							+88° 86				00
	+87° 15	✓ 3.8	4.0	3.84	3.95	7.95	11	8.0	−0.16	−0.15	7.85	01
Reject. t.p. fr.	+88° 80	4.0	4.2	(4.72	3.87	8.07)		8.8	+0.12	0.11	8.91	01
M.O.R.	+88° 115						15	+28 −26 +2 x.00			+19 −19	

Friday, November 21, 1913.

Scale M.

Color Index.

Mc 4283 cont

P.C.

		sc.1	sc.2	Diff	Curve								
Reject. t.p.	+88° 86	4.0	4.2	(4.48	3.88	8.08)		8.7	+0.08	~~4.15~~	0.08	8.78	
	+88° 115	4.9	5.1	3.18	3.63	8.73		8.8	+0.08	~~4.19~~	0.11	8.91	
	2r	3.7	3.9		3.98	7.88	133	8.0		~~3.87~~	−0.15	7.85	130
	3r	4.7	4.9		3.68	8.58	94	8.8		~~4.19~~	0.11	8.91	127
	4r	5.6	5.8		3.50	9.30	109	8.9		~~4.22~~	0.16	9.06	85
	5r	6.2	6.55 21 6.4 6.7		3.49	10.04	137	9.9			.	.	
	6r	6.4	6.70 11 6.6 6.8		3.50	10.20		n.s.					
	7r	~~6.5~~ 6.9	7.05 10 7.1 7.0		3.57	10.62		scratched					
	8r		7.6		3.72	11.32		n.s.					
	9r		7.7		3.75	11.45							
	10r		8.4		4.01	12.41							
	11r		8.7		4.15	12.85							
	12r		9.0		4.27	13.27							
	+88° 2	5.0	5.2		3.61	8.81	71	8.7			0.08	8.78	68
	+87° 12	5.0 ~~4.9~~	5.2		3.61	8.81	63	8.8			0.11	8.91	73
	+88° 90	5.7	5.9		3.48	9.38	41	9.7			0.55	10.25	128
	+88° 105	4.8	5.0		3.65	8.65	45	8.9			0.16	9.06	86
	4l	6.4	6.65 01 6.6 6.7		3.50	10.15		9.8			0.60	10.40	
	5l	7.0	7.15 01 7.2 7.1		3.60	10.75							
	6l		7.7		3.75	11.45							
	9l		n.s.										
	10l												
	11l					8)693. +87.						7)697. +9100	
	12l												
	13l												
M.O.R.													

Friday, November 21, 1913.

Scale M - Color Index

Mc 4283 cont

		sc.1	sc.2	curve	magn.
	a¹	7	7.7	3.75	11.45
film def.	a²		8.3	3.99	12.29
	b		8.5	4.05	12.55
	d		8.3	3.99	12.29
	e		8.4	4.01	12.41
	f		8.8	4.19	12.99
	g		9.6	.	.
	h		9.8	.	.
	l		8.8	4.19	12.99
	m		9.5	.	.
	o		9.2	.	.
	q		9.8	.	.

M.O.R.

Friday, November 21, 1913.

Scale M Color Index

Mc 4284

P.C.

		sc.1 sc.2		Curve	Magn.		sc.1 sc.2		Curve	Magn.	
	5	1.0 1.2	5.28	5.32	6.52	04	5.7	+0.78	0.63 ~~4.05~~	6.33	15
	6	1.8 2.0	5.08	5.11	7.11	03	6.7	+0.38	0.49 ~~3.99~~	7.19	11
	7	2.0 2.2	5.19	5.05	7.25	14	6.8	+0.59	0.47 ~~4.00~~	7.28	11
	8	3.4 3.6		4.68	8.28	.	7.8	.	0.35 ~~4.26~~	8.15	.
	9	3.9 4.1	4.51	4.52	8.62	01	8.6	+0.01	0.29 ~~4.60~~	8.89	28
	10	4.2 4.4	4.54	4.42	8.82		def.		.	.	
	11	4.9 5.1	4.20	4.21	9.31		9.1 def?	+0.20	· +0.32	· 9.42	
	12	5.5 5.7	3.84	4.05	9.75		9.2	0.34	· 0.34	· 9.54	
	13	5.9 6.1	4.15	4.00	10.10		9.7	0.55	· 0.49	· 10.19	
	14	6.40 0 0 6.2 6.4 6.4	4.04	3.98	10.38		9.8	0.64	· 0.51	· 10.31	
	15	6.85 1 0 6.7 6.9 6.8	3.93	4.00	10.85		n.s.				
	16	7.00 0 0 6.8 7.0 7.0	4.07	4.04	11.04		n.s.				
	17	7 7.5	3.68	4.16	11.66						
	18	7.7	4.23	4.22	11.92						
	19	7.9	4.32	4.38	12.20						
	20	8.1	4.55	4.40	12.50						
	21	8.6		4.60	13.20						
	22	8.6		4.60	13.20						
	23	8.8	4.54	.	~~13.~~						
	24	8.9		.	.						
	25	9.0		.	.						
	26	9.7 6		.	.						
+87	15	2.9 3.1	4.74	4.81	7.91	07	7.7	+0.14	0.36 ~~4.22~~	8.06	22
	80	def.		.	.		8.5	+0.42	0.29	8.79	13
Reject t.p.	86	2.9 3.1	(5.68	4.81	7.91)		def.			.	.
	115	3.9 4.1	4.78	4.51	8.61	27	8.4	+0.48	0.30	8.70	18

+145
-41
6)-296
-04↓

+61
-57
7)+4
+.01

M.O.R.

Friday November 21, 1913.

Scale M

Color Index

Mc 4284 cont.	sc.1	sc.2	Curve	Magn.		P.C. sc.2	Curve	Magn.	
27		9.7	.	.					
28		10.0	.	.					
2n	3.1 3.3		4.76	8.06	1.51	7.7	0.36	8.06	151
3n	3.7 3.9		4.58	8.48	84	8.5	0.29	8.79	115
4n	4.0 4.2		4.50	8.70	49	8 ~~7~~.8	0.28	9.08	87
5n	5.7 5.9		4.02	9.92	125	9.8	0.51	10.31	164
6n	5.8 6.0		4.01	10.01		9.4	0.39	9.79	
7n	6.25 .01 6.0 6.2	6.3	3.99	10.24		f.		.	
8n	6.90 .1 6.8 7.0	6.8	4.01	10.91		f.		.	
9n		7.6	4.19	11.79					
10n		7.9	4.30	12.20					
+87 12	~~12~~ 3.8 4.0		4.55	8.55	37	8.6	0.28	8.88	70
+88 2	4.0 4.2		4.50	8.70	60	8.6	0.28	8.88	78
+88 90	4.5 4.7		4.34	9.04	07	8.9	0.29	9.19	22
+88 105	4.1 4.3		4.46	8.76	56	8.3	0.31	8.61	41
11n		8.5	4.55	13.05					
12n		8.9	.	.					
4s	5.7 5.9		4.02	9.92		9.5	0.42	9.92	
5s	6.90 .00 6.7 6.9	6.9	4.01	10.91		n.s.	.		
6s	6.95 .1 6.8 7.0	6.9	4.01	10.96					
9s		9.7	.	.					
10s		9.9	.	.					
11s		9.9	.	.					
12s		n.s.							

8)569.
+71.

8)728.
+91.

Film ~~are~~ is so badly fogged that measures of P.C. of faint plates are rather doubtful.

Friday November 21, 1913.

Scale M.

For Color Index.

Mc 4284 cont	sc.1	sc.2	Curve	Magn.
a¹	6.9 7.1	7.15 1.0 7.2	4.07	11.22
a²		8.6	4.60	13.20
b		8.0	4.34	12.34
d		8.1	4.39	12.49
e		8.3	4.49	12.79
f		8.2	4.43	12.63
g		8.8	.	.
h		9.9	.	.
k		87→ 8.7	4.65	13.35
w.s. l		~~9.1~~	4.65	13.35
m		8.9	.	.
o		9.8	.	.
q		9.7	.	.
r		n.s.		

M.O.R.

12:39

Friday November 21, 1913.

Scale V

Color Index.

3 20

MC 4204

P.C.

	sc.1	sc.2/3	sc 3	Diff.	curve	Magn.		sc2	sc 3	Diff.	curve	Magn.	Mc-Ptm
5	2.2 0.0			6.48	6.49	6.49	01		4.6	1.88	1.95	6.55	07
6	1 2.0 0.8			6.28	6.40	7.20	12		5.3	1.78	1.72	7.02	06
7	1.0 0.8			6.59	6.40	7.20	19		5.7	1.69	1.60	7.30	09
8	1.9 1.7			·	6.30	8 7.00			6.6	·	1.40	8.00	
9	2.8 2.6			6.01	6.20	8.80	19		7.3	1.31	1.30	8.60	01
10	2.9 2.7			6.24	6.19	8.89			7.7	1.24	1.28 9	8.99	
11	3.1 2.9			6.40	6.16	9.06			8.0	1.30	1.27	9.27	
12	3.8 3.6	3.5 3.4	01 3.55	5.99	6.04	9.59			8.4	1.14	1.27	9.67	
13	4.4 4.2	4.1 4.0	4.30 1.23 4.6	5.95	5.84	10.14			89	1.35	1.26	10.16	
14		4.6 4.7	4.80 11 4.9	5.64	5.63	10.43			9.1	1.34	1.27	10.37	
15		5.1 5.0	5.30 32 5.5	5.48	5.44	10.74			dif	·			
16			5.8	5.27	5.30	11.10			10.0	1.07	·		
17			6.3	4.88	5.22	11.52							
18			6.7	5.23	5.21	11.91							
19			7.0	5.22	5.75	12.25							
20			7.1	5.55	5.29	12.39							
21			7.7		5.50	13.20							
22			7.7		5.50	13.20							
23			7.8	5.54	5.54	13.34							
24			8.2		·								
25			81		·								
26			8.6		·								
+87° 15	0 2.8 1.8			6.04	6.29	8.09	25		6.6	1.24	1.40	0 8.40	16
+88 80	3.0 2.8			6.12	6.17	8.97	05		7.6	1.32	1.30	8.90	02
+88 86	2.6 2.4			6.38	6.23	8.63	15		7.3	1.48	1.30	8.60	18
+88 115	2.9 2.7			6.18	6.19	8.89	01		76	1.28	1.30	8.90	02

63
-34
2)+29
.14

+25
-36
8)-11
-01

H.S.L.

Friday November 21, 1913.

Scale

Color Index.

MC 4204 cont.

P.C.

	sc.1	sc.2		curve	Magn.		sc 3			
27			8.8	·						
28			9.3	·						
29			9.7	·						
30			10.0	·						
31			10.0	·						
1n	-									
2n	2.4 2.2			6.25	8.45	190	5.8	1.57	7.37	182
~~scratched~~ 3n	2.4 ~~3.7~~ 2.2			6.25	8.45	81	dif	·		
4n	2.7 ~~4.0~~ 2.5			6.21	8.71	50	7.7	1.29	8.99	78
scratched 5n	3.7 3.5			6.06	9.56	89	dif			
6n	4.0 3.8	3.8 3.9	3.85 01	5.99	9.84		8.8	1.26	10.06	
7n	4.9 4.7	4.6 4.7	4.73 001 48	5.68	10.41		9.2	1.27	10.47	
8n		5.6 5.7	5.70 00 5.7	5.31	11.01		9.7	1.28	10.98	
9n			6.2	5.22	11.42		n.s.			
10n			6.9	5.24	12.14					
11n			7.4	5.38	12.78					
12n										
+87° 12	2.8 2.6			6.20	8.80	62	7.3	1.30	8.60	42
+88 2	2.5 2.3			6.24	8.54	44	7.2	1.31	8.51	41
+88 90	3.0 2.8			6.18	8.98	01	8.1	1.26	9.36	39
+88 105	2.7 2.5			6.21	8.71	51	7.4	1.30	8.70	50
4s	4.0 3.8	3.6 3.7	3.75 01	6.00	9.75		87	1.26	9.96	·
5s	5.0 4.8	4.7 4.8	4.93 13 5.2	5.60	10.53		9.3	1.27	10.57	
6s		5.6 5.7	5.65 10 5.6	5.31	10.96		9.8	1.28	11.08	
9s			8.8	·			-			
10s			9.3	·			·			

8)5678 omitting 3n, 87°12, 88°90
+.71

5)424
+.85

6)43 2
+.72

omitting 3
4)351
~~+.58~~ +.88
~~+.617~~

H.S.L.

(over)

Friday November 21, 1913.

Scale

For Color Index

MC 4204 cont.

P.C

	sc.1	2	3	Curve	Magn.		sc3	Curve	Magn.
11			9.2	.					
12			9.2	.					
13			9.7	.					
14			9.7	.					
15			7						
16			n.S.						
a¹			5.8	5.29	11.09		9.8	1.28	11.08
a²			6.8	5.22	12.02		n.S.		
b			6.8	5.22	12.02				
d			6.9	5.24	12.14				
e			7.1	5.29	12.39				
f			7.4	5.38	12.78				
g			7.8	5.54	13.34				
h			8.6	.	.				
k			7.7	5.50	.				
l			7.8	5.54	.				
m			8.3	.	.				
o			8.7	.	.				
q			8.9.	.	.				
r			9.6	.					
t			9.2	.	.				
w			9.1	.	.				
y			9.8	.	.				

7

H.S.L.

4 20

Meas. interrupted for about 15 minutes [illegible]

Saturday November 22, 1913.

Scale ~~M~~V

Color Index.

10:57

MC 4300

Pinacyanol Screen 121

P.C.

	sc.1	sc.2	sc.3	Diff.	Curve	Magn.	
5	3.6 3.4	3.3 3.4	3.40^{00}	3.08	3.14	6.57 ~~6.22~~	06
6	4.8 4.6	4.7 4.8	$4.70^{.21}$	2.38	2.32	7.02 ~~4.70~~	06
7	7	5.9 6.0	5.95 0.2 5.9	1.44	1.59	7.54	15
8			6.7	.	$1.2\overset{0}{5}$	7.90	.
9			7.6	1.01	0.90	8.50	11
10			7.9	1.04	0.82	8.72	
11.			8.8	0.50	0.59	9.39	
12			8.9	0.64	0.57	9.47	
13			9.7	0.55	0.52	10.22	
14			9.9	0.54	0.52	10.42	
15			n.s.				
16			n.s.				
+87 15	7.		6.6	1.24	1.25	7.85	01
+88 80			8.3	0.62	0.70	9.00	08
+88 86			8.0	0.78	0.79	8.79	01
+80 115			8.5	0.38	0.65	9.15	27

a+

+58.
−17.
8) +41.
+.05.

M.C.R.

Images very poor on this plate. Pris Comp. too faint to measure

Saturday November 22, 1913.

Scale V

Color Index.

Mc 4300 cont.

		sc.1	sc.2	sc.3	Curve	Magn.	
	~~+n~~						
	2n	2.0 1.8	1.9 2.0	1.90 2.1	.	.	
	3n	4.7 4.5	4.6 4.7	4.60 2.1	2.39	6.99	65 8
	4n	7.	6.6 6.7	6.70 80 6.7	1.20	7.90	3~~1~~ 6
	5n			7.0	1.10	8.10	57
	6n			7.8	0.85	8.65	
	7n			8.8	0.59	9.39	
	8n			9.6	0.52	10.12	
	9n			9.9	0.52	10.42	
	10n			7.			
	11n						
	12N						
+87	12	.	r.p. 5.7 5.8	5.70 12 5.6 ~~6.5~~	1.73	7.43	~~75~~ .61
+88	2			- 6.5	1.30	7.80	30
	90			7.8	0.85	8.65	32
	105			6.8	1.16	7.96	24
	4r			8.7	0.60	9.30	
	5r			8.8	0.59	9.38	
	6r			10.1	.	.	
	9r						
	10r					7)314.	
	11r					-45.	

MOR.

Saturday November 22, 1913.

Scale V

Color Index.

Mc 4300 cont.

	sc.1	sc.2	sc.3	Curve	Magn.
a¹			9.2	0.54	9.74
a²			n.s.		
b			n.s.		
d					
e					
f					
g					
h					
k					
l					
m					
o					
q					

M.O.R.

Saturday November 22, 1913.

Scale V

Color Index

Mc 4301 ~~cont.~~

	sc 2	sc 3	Diff.	Curve	magn.
5	4.9 5.0 5.30	3.3 5.6	+1.18	·	·
6	6.7 6.8 6.75	0.1 6.7	+0.33	+0.51	7.26
7	f	6.7	+0.69	+0.54	7.24
8		7.9	·	−0.05	7.85
9		9.6	−0.99	−0.90	8.70
10		9.8	−0.86	−0.99	8.81
11		n.s.			
12					
13					
14					
15					
+87 15	f	7.7	+0.14	+0.05	7.75
+88 80		f.	·		
86		9.9	−1.12	−1.02	8.88
115		9.7	−0.82	−0.95	8.75
a¹		n.s.			
a²					
b					

M.O.R.

Saturday November 22, 1913

Scale V

Color Index

Mc 4301 cont

	sc 2	sc 3
~~1n~~		
2n	3.1 3.2	B.
3n	6.4 6.5 6.55	5.0 6.6
4n	f	6.9
5n		7.6
6n		9.5
7n		n.s.
8n		n.s.
9n		
10n		
11n		
12n		
+87 12	f.	7.3
+88 90		9.6
+88 2		8.0
+88 105		8.5
4s		9.9
5s		10.1
6s		
9s		

11:20

Saturday November 22, 1913.

Scale V

Color Index.

11:23

MC 4302.

	sc.1	sc.2	sc.3	Diff.	curve	Mag.		P.C. sc.3	Diff.	curve	Magn.	
5	1.7 1.5			4.98	5.01	6.51	03	7.7	−1.42	−1.43	6.47	01
6	2.7 2.5		B.	4.58	4.50	7.00	08	scr.	.	−		
7	3.6 3.4			3.99	4.09	7.49	10	9.2	−1.81	−1.74	7.46	07
8	4.2 4.0	3.6 3.7	3.85 22	.	3.87	7.72		9.6	.	−1.84	7.76	.
9	f	5.8 5.9	5.75 12 hon 5.6	2.86	2.99	8.74	13	n.s.				
10			5.9	3.04	2.92	8.82		n.s.				
11			6.9	2.40	2.51	9.41						
12			7.1	2.44	2.44	9.54						
13			~~7~~8.1	2.15	2.16	10.26						
14			8.4	2.04	2.11	10.51						
15	~~4.7~~ v.f.		8.8	1.98	2.10	10.90						
16			8.9	2.17	2.09	10.99						
17			9.0	2.18	2.08	11.08						
18			9.9	2.03	2.10	12.00						
19			10.0	2.22	2.10	12.10						
20			n.s.									
+87 15	~~X~~ 4.7 4.5 (4.5 v.p. 4.3)	3.8 3.8 (3.9 3.9)	4.15 3133 B.	3.69	3.72	7.87	03	9.6	−1.76	−1.84	7.76	08
+88 80	f		t.p.		~~28~~			n.s.				
86	f		t.p.					n.s.				
115	f		6.1		2.84	8.94	06	n.s.				

+35
−08
6) 27
+.04

+07
−09
3) −02
−.01

M.O.R.

Saturday November 22, 1913.

Scale V

Color Index.

MC 4302 cont.

	sc.1	sc.2	sc.3	curve	Magn.	MC-Ptm.	P.C. sc.3	curve	Magn.	MC-Ptm.
2r	0.9 0.7			.			7.5	.		
3r	1.9 1.7			4.90	6.60	104	8.3	−1.52	6.78	86
4r	3.9 3.7			3.93	7.63	58	9.8	−1.89	7.91	30
5r	3.9 3.7	3.7 3.8	3.75 10	3.91	7.66	101	9.7	−1.86	7.84	83
6r	f.	5.7 5.8	5.77 020 5.7 5.8	2.99	8.76					
7r			6.7	2.58	9.28					
8r			6.8	2.54	9.44					
9r			8.6	2.10	10.70					
10r			10.0	2.10	12.10					
11r			9.7	2.10	11.80					
12r										
+87 12r	2.8 2.6			~~4.96~~ 4.44	7.04	114	8.8	−1.64	7.16	102
+88 2	4.2 4.0	3.7 3.8	3.90 12	3.85	7.75	35	9.6	−1.84	7.76	34
+88 90	f	5.0 5.1	5.35 32 5.6 v.p.	3.19	8.54	43	n.s.			
+88 105	4.7 4.4 (4.5 4.2)	3.9 3.9 (4.0 4.0)	30 4.18	3.71	7.89	31	9.9	.		
4s	f.		7.1	2.44	9.54					
5s			7.0	2.47	9.47					
6s			8.4	2.11	10.51					
9s			n.s.	.	.	7) −486 −69 4) 225 −.56		5) 335 −67	2) 147 −74 49	
a¹			7.8	2.23	10.03					
a²			8.9	2.09	10.99					
b			8.7	2.10	10.80					
d			8.9	2.09	10.99					
e			9.2	2.08	11.28					
f			10.1	2.11	12.21					
g			~~n.s.~~ 9.9	2.10	12.00					
h			n.s.							

M.O.R.

11:42

Saturday, Nov. 22, 1913

Scale V

Color Indep

MC 4232 Screen M

2 15

	SC1	SC2	SC3	Diff.	curve	Magn.		SC3 (P.C.)	Diff.	curve	Magn.	
5	0.0? -0.2?			6.68	6.53	6.73	25	5.3	1.18	1.48	6.78	30
6	0.8 0.6			6.48	6.57	7.17	09	5.5	1.78	1.36	6.86	22
7	1.0 0.8			6.59	6.59	7.39	00	6.8	0.59	0.67	7.47	08
8	2.2 1.0			·	6.60	7.60		7.4	·	0.41	7.81	
9	2.1 1.9			6.71	6.60	8.50	11	8.2	0.41	0.19	8.39	22
10	2.5 2.3			6.64	6.59	8.89		8.5	0.44	0.13	8.63	
11	2.9 2.7			6.60	6.53	9.23						
12	~~2.9~~ 3.3 3.1			6.44	6.44	9.54						
13	4.1 3.9	3.8 3.9	3.90″	6.35	6.17	10.07						
14	4.8 4.6	4.4 4.5	4.7 4.60″	5.84	5.86	10.46						
15	5.0	5.0 5.1	5.6 5.35″	5.43	5.50	10.85						
16			5.8	5.27	5.31	11.11						
17			5.9	5.28	5.78	11.18						
18			7.0	4.93	4.95	11.95						
19			7.5	4.72	4.83	12.33						
20			7.8	4.85	4.77	12.57						
21			7.8		4.77	12.57						
22			8.6		4.62	13.22						
23			8.8	4.54	4.59	13.39						
24			9.1		4.54	13.64						
25			9.6		·							
26			9.7		·							
+87° 15	1.6 1.4			6.44	6.60	8.00	16	7.5	0.34	0.37	7.87	03
+88° 80	2.7 2.5			6.42	6.57	9.07	15	8.9	0.02	0.04	8.94	02
+88° 86	2.4 2.2			6.58	6.60	8.80	02	8.8	-0.02	0.07	8.87	09
+88° 115	2.4 2.21			6.68	6.60	8.80	08	8.9	-0.02	0.04	8.94	06

H.S.L. 27 def.

+42
-34
8)+8

+65
-21
8)+24

+58
-44
8)+14
+.02

Saturday, Nov. 22, 1913

MC 4232 Cont.

	SC1	2	3	curve	Magn.	Mc-Ptm. Red Stars.	PC SC3	curve	Magn.	
1r										
2r	0.0? -0.2?			6.53	6.73	+0.18	4.9	·		
3r	0.9 0.7			6.57	7.27	37	6.9	0.62	7.52	12
4r	1.8 1.6			6.60	8.20	01	7.7	0.32	8.02	19
5r	2.0 1.8			6.60	8.40	27	8.0	0.24	8.24	43
6r	2.7 2.5			6.56	9.06		9.0	0.02	9.02	
7r	3.7 3.5	3.2 3.3	3.40″	6.37	9.77		~~8.0~~ 9.6	·	·	
8r	4.6 4.4	4.1 4.2	4.30″	6.00	10.30		10.1	·	·	
9r		5.0 5.1	5.5 5.30″	5.53	10.83					
10r			7.3	4.88	12.18					
11r			7.2	4.90	12.10					
12r			7.8	4.77	12.57					
+87° 12	1.3 1.1			6.60	7.70	48	7.0	0.58	7.58	60
+88° 2	1.8 1.6			6.60	8.20	10	7.6	0.34	7.94	16
+88 90	2.5 2.3			6.59	8.89	08	8.7	0.08	8.78	19
+88 105	1.7 1.5			6.60	8.10	10	7.8	0.30	8.10	10
4s	3.5 3.3			6.39	9.69		9.6	·		
5s	4.0 3.8	3.7 3.8	3.80″	6.22	9.02		7			
6s	4.8 4.6			5.86	10.46					
8s	9.7 9.5									
9s	9.6 9.4			:						
10s	N									
11s	N									
12s										

+28
-131
8)-103
-.13

7)-179
-.26

(over)

Saturday, Nov. 22, 1913

MC 4232 cont.

	1	2	3	Curv	Magn.	P.C.
a¹	4.3 4.1	3.9 4.0	4.05 10	6.11	10.16	n.s.
a²			6.6	0 5.57	16 12.17	
b		5.6 5.7	5.70 00 5.7	5.34	11.04	
d			6.4	5.12	11.52	
e			6.7	5.03	11.73	
f			7.5	4.83	12.33	
g			7.3	4.88	12.18	
h			8.9	4.56	13.46	
k			7.9	4.74	12.64	
l			8.0	4.72	12.72	
m			8.4	4.66	13.06	
o			8.9	4.56	13.46	
q			9.1	4.53	13.63	
r			n.s.			
s			n.s.			
t			n.s.			
u			-			
w			-			
y			-			
c &			6.9	4.98	11.88	

W.S.L.

3 05

Saturday, Nov. 22, 1913

Scale V   Clear Leaky

3 20

MC 4258 (no scale

	1	2	3	Diff.	curv	Magn.		P.C.	Diff.			
5	0.7 0.5			5.98	.			2 3 4.45 1 2 4.2 4.3 4.6	2.03	2.22	6.67	19
6	2.0 1.8			5.28	.			5.0	2.08	1.91	6.91	17
7	2.3 2.1			5.29	.			5.9 6.9	1.49	1.49	7.39	00
8	2.2 2.0			.	.			6.8	.	1.19	7.99	
9	2.9 2.7			5.91	6.76	8.96	35	7.7	0.91	0.98	8.68	07
10	2.8 2.6			6.34	6.78	8.88		7.8	1.14	0.97	8.77	
11	3.2 3.0			6.30	6.19	9.19		8.6	0.70	0.89	9.49	
12	3.6 3.4			6.14	6.10	9.50		8.8	0.74	0.87	9.67	
13	4.6 4.4			5.85	5.86	10.26		9.3	0.95	0.84	10.14	
14	4.6 4.4	4.6 4.7	5.3 4.6 4.90 3 10	5.89	5.81	10.36		9.7	0.74	0.84	10.54	
15	4.8 4.6	4.9 5.0	5.1 5.70 00	5.88	5.69	10.59		10.0	0.78	0.83	10.83	
16	~~5.~~	5.6 5.7	5.7	5.37	5.46	11.16		10.1	0.97	0.83	10.93	
17			5.8	5.38	5.45	11.25		7				
18			6.6	5.33	5.39	11.99						
19			6.8	5.42	5.40	12.20						
20			7.2	5.45	5.44	12.64						
21			7.7		5.50	13.20						
22			7.7		5.50	13.20						
23			7.8	5.54	5.50	13.30						
24			7.9		5.51	13.41						
25			8.3		.							
26			8.8		.							
27			9.0		.							
28			9.7		.							
29			10.1		.							
30			7		.							

+47 +35
-06 -18
3)+41 4)+17
+.14 +.04

-53
+34
8)-19
-.02

Sat. Nov. 22, 1913

Scale V

	MC 4258 Cont.							P.C.					
	1	2	3	Diff.	curve	Magn.		2	3	Diff.	curve	Magn.	
+87° 15	2.2	2.0		5.84	.		.		6.7	1.14	1.22	7.92	08
+88° 80	2.7	2.5		6.42	6.30	8.80	12		7.8	1.12	0.97	8.77	15
+88 86	2.6	2.4		6.38	6.32	8.72	06		7.7	1.08	0.98	8.68	10
+88 15	2.8	2.6		6.28	6.78	8.88	00		7.8	1.18	0.97	8.77	11
1r											P.C. Red Stars		
2r	1.6	1.4			.		Red Stars.		5.9		1.49	7.39	~~213~~ 84
3r	2.9	2.7			6.56	8.96	+132		7.6		0.99	8.59	95
4r	2.8	2.6			6.78	8.88	67		7.8		0.97	8.77	56
5r	3.0	2.8			6.73	9.03	36		8.8		0.88	9.68	101
6r	3.7	3.5			6.07	9.57			8.9 ~~9.2~~		0.87	9.77	
7r	4.7 4.5	4.1 4.2	4.35^{12}		5.88	10.23			9.9		0.83	10.73	
8r	~~4.7~~	4.9 5.0	5.00^{00} 5.0		5.66	10.66			10.1		0.83	10.93	
9r		5.8 5.9	5.90^{00} 5.9		5.42	11.32							
10r			6.8		6.40	12.20							
11r	~~7.4~~		7.4		5.48	12.88							
12r			7.8		5.50	13.30							
+87° 12	2.4	2.2	~~7.2~~		.		.		7.3		1.05	8.35	17
+88° 2	2.7	2.5	~~7.6~~		6.30	8.80	70		7.6		0.99	8.59	49
88° 90	2.9	2.7			6.36	8.96	01		7.7		0.98	8.68	29
88° 105	2.6	2.4			6.32	8.72	52		7.7		0.98	8.68	48
4a	3.7	3.5			6.07	9.57			8.9		0.87	9.77	
5a		4.9 5.0	5.15^{31} 5.3		5.62	10.77			9.9		0.83	10.73	
6a		4.9 5.0	5.10^{21} 5.2		5.62	10.72			10.0		0.83	10.83	+450
8a			8.7		.								
9a	~~8.9~~		8.9		.								
10a			9.1		.								

+357
−01
6) 356
+.59

+450
−29
8) 421
+.53

H.S.L.

Sat. Nov. 22, 1913

Scale V

	MC 4258 Cont.						P.C.		
	1	2	3				sc 3		
11a			9.6	.					
12a			9.7	.					
13a			9.7	.					
14a			10.6	.					
15a			n.s.						
16a			n.s.						
a′			5.6	5.50	11.10		10.1	0.83	10.93.
a^2			6.8	5.41	12.21				
b			6.8	5.41	12.21				
c			7.2	5.44	12.64				
d			6.7	5.40	12.10				
e			6.9	5.41	12.31				
f			7.3	5.46	12.76				
g			7.7	5.50	13.20				
h			7.7	5.50	13.20				
k			7.6	5.49	13.09				
l			7.8	5.50	13.30				
m			8.0	5.51	13.51				
o			8.6	.					
q			8.8	.					
r			9.7	.					
s			9.9						
t			9.2	.					
π									
w			ns						
y			ns						

H.S.L.
4 05

Monday November 24, 1913

Scale V — Color Index.

3:08 — Mc 4244 — Pole

P.C.

	sc.1		sc.2	sc.3		Ptm - sc.	Curve	Magn.	sc.3	Ptm - sc.	Curve	Magn.	
5	0.2	0.0			0.0	6.48	6.39	6.39	5.6	0.88	0.78	6.38	10
6	0.9	0.7				6.38	6.47	7.17	6.8	0.28	0.40^{34}	$7.20^{.14}$	06
7	1.0	0.8				6.59	6.48	7.28	7.2	0.19	0.21	7.41	
8	1.8	1.6					6.53	8.13	7.7	~~0.14~~	0.08	7.78	
9	$2.4^{2.2}$	$2.1^{1.9}$			2.05 2 1	6.56	6.52	8.57	8.7	−0.09	−0.20	8.50	
10	$2.0^{1.8}$	$2.1^{1.9}$			1.85 0 1	7.09	6.53	8.38	8.9	~~0.12~~ 0.04	−0.25	8.65	
11	2.9	2.7				6.60	6.43	9.13	9.9	−0.60	−0.50	9.40	
12	3.6	3.4				6.14	6.26	9.66	f.				
13	4.3	4.1				6.15	6.04	10.14					
14	4.6	4.4	$4.5^{4.6}$		4.50 1 1	5.94	5.87	10.37					
15	~~4.7~~ 5.1	4.9	$5.5^{5.6}$	5.4	5.30 4 3 1	5.48	5.48	10.78					
16	f.		$5.9^{6.0}$	5.7	5.85 $\overset{2}{1}$ $\overset{1}{2}$	5.22	5.19	11.04	n.s.				
17				6.4		4.78	4.95	11.35					
18				7.3		4.68	4.63	11.93					
19				7.8		4.42	4.50	12.30					
20				8.2		4.45	4.41	12.61					
21				8.1			4.43	12.53					
22				8.7			4.30	13.00					
23				9.1		4.24	4.22	13.32					
24				8.9			4.25	13.15					
25				9.7			·						
26													
27				n.s.									
+87 15	$1.9^{1.7}$					6.$\overset{1}{7}$4	6.53	8.23	7.7	0.14	0.08	7.78	
+88 80	$2.8^{2.6}$					6.32	6.45	9.05	9.5	−0.58	−0.39	9.11	
86	$2.8^{2.6}$					6.18	6.45	9.05	9.4	−0.62	−0.37	9.03	
M.O.R. 115	$2.6^{2.4}$					6.48	6.48	8.88	9.1	−0.22	−0.30	8.80	

Monday November 24, 1913.

Scale V — Color Index.

Mc 4244 cont.

P.C.

	sc.1		sc.2	sc.3		Curve	Magn.		sc.3	Curve	Magn.	
~~1n~~	·								·			
2n	0.0	−0.2				·			5.1	·	·	
3n	1.2	1.0				6.50	7.50	−14	7.5	0.13	7.63	01
4n	1.7	1.5				6.53	8.03	18	7.9	~~0.19~~ 0.01	7.91	30
5n	2.0	1.8				6.53	8.33	34	7.8	0.04	7.84	83
6n	2.6	2.4				6.48	8.88		9.6	−0.41	9.19	
7n	3.5	3.3				6.29	9.59		f.			
8n	$4.1^{3.9}$		$4.0^{4.1}$		4.00 1 1	6.08	10.08					
9n	f		$4.8^{4.9}$	5.6	5.25 3 4	5.50	10.75					
10n				7.8		4.50	12.30					
11n				7.7		4.51	12.21					
12n				8.5		4.34	12.84					
4e	$3.3^{3.1}$					6.35	9.45		9.9	−0.50	9.40	
5e	$3.6^{3.4}$					6.26	9.66		10.1	?−0.55	9.55	
6e	$4.8^{4.6}$		4.70	4.8		5.78	10.48					
9e				10.1		·	·					
10e												
11e												
+87 12	$1.7^{1.5}$					6.53	8.03	15	7.7	0.08	7.78	40
+88 2	$1.8^{1.6}$					6.53	8.13	03	7.9	0.01	7.91	~~27~~ 19
+88 90	$2.7^{2.5}$					6.46	8.96	01	9.4	−0.37	9.03	06
+88° 105	$1.9^{1.7}$					6.53	8.23	03	8.1	−0.02	8.08	12

−82
+06
7) −76
−.11

omitting 3n etc. −52
+06
4) −46
−.12

−1~~93~~ 85
+06
7) −187 79
−.27 6

omitting 3n etc. 4) −1~~52~~ 44
−.38 6

M.O.R.

Monday November 24, 1913.

Scale V

Color Index.

Mc 4244 cont.

	sc.1	sc.2	sc.3		Curve	
a¹	4.5 $^{4.3}$	3.7 $^{3.8}$		4.05	6.06	n.s.
a²			6.7		4.84	
b		f.	5.8		5.21	
c ~~d~~			7.4		4.60	
d			6.6		4.88	
e			6.9		4.76	
f			7.6		4.54	
g			7.7		4.51	
h			9.7		.	
k			8.1		4.44	
l			8.7		4.30	
m			8.8		4.28	
o			- del.		.	
q			9.7		.	
r			n.s.			
s						
t			f.			

3:30.

Monday November 24, 1913

Scale W

Color Index.

3:34 Mc 4244

	sc.1	sc.2	Diff.	P.C. sc.2	
5	.			6.6	∓0.12
6	.			7.4	-0.32
7	.			7.7	-0.31
8	.			7.9	- .
9	2.9 3.0		+5.61	8.8	-0.19
10	3.6 3.7		5.24	8.9	+0.04
11	4.4 4.5		4.80	9.9	-0.60
12	4.9 5.0		4.54	f.	.
13	5.9 6.0		4.25		
14	5.9 6.1		4.34	n.s.	
15	6.6 6.7	~~6.8~~	4.08		
16	6.8 6.9	6.8 6.85 10	4.22		
17	6.8 6.9	7.0 6.95 10	4.23		
18		~~t.p.~~ 7.8	4.13		
19	f.	~~t.p.~~ 8.0	4.22		
20					
+87 15	2.6? 2.7?		5.14	8.2	-0.36
+88 80	4.4 4.5		4.42	9.3	-0.38
+88 86	4.1 4.2		4.58	9.1	-0.32
+88 115	3.9 4.0		4.88	9.4	-0.52

Comparisons were much more difficult than with Scale V.

M.O.R.

Monday November 24, 1913

Scale W

Color Index.

Mc 4744

	sc1	sc2				sc2			
1n									
2n	B.					6.5			
3n	B.					7.9	-0.28	7.62	02
4n	B.					8.3	-0.31	7.99	22
5n	3.1 3.2		5.43	8.63	04	8.8	-0.38	8.42	25
6n	3.9 4.0					9.6	-0.50	9.10	
7n	4.8 4.9					n.s.			
8n	5.8								
9n	6.5	6.5							
10n	F.	7.9							
11n		8.1							
12n									
4p	4.7					9.9	-0.58	9.32	
5p	5.2								
6p	6.3	6.0							
+87 12	B.					7.8	-0.27	7.53	65
+88 2	B.					8.0	-0.29	7.71	39
90	4.0 4.1		4.90	9.00	03	9.1	-0.42	8.68	29
105	2.8 2.9		$5.6\overset{3}{2}$	8.53	33	8.5	-0.34	8.16	04
a'	5.8 5.9	5.80 11 5.7							
a²		7.3							
b		6.8							
c		t.p.							
d									

+36
−04
3)+32
+.11

+33
omitting 88 90: −04
2)+29
+.14

7)−186
−.27

omitting 3n etc 4)−90
−.22

M.O.R.

3:46

Tuesday November 25, 1913

Scale

Color Index

2 —

Mc 4350 1st exposure 2^s

3 exp's

	sc.1	sc.2	Diff.	Curve	Magn.	
5		5.9 hor	+0.58	+0.50	6.40	08
6		7.2	-0.12	-0.04	7.16	08
7		7.4	-0.01	-0.08	7.32	07
8		8.5	.	-0.29	8.21	'
9		9.3	-0.69	-0.38	8.92	31
10		9.1	-0.16	-0.36	8.74	
11		9.8	-0.50	-0.42	9.38	
12		9.9	-0.36	-0.42	9.48	
13		10.1	+0.15	-0.44	$9.\overset{6}{4}6$	
+S						
+87 15		8.3	$-0.4\overset{6}{7}$	-0.26	8.04	20
+88 80		9.3	-0.38	-0.38	8.92	00
86		9.6	-0.82	-0.40	9.20	$\overset{4}{3}2$
115		9.1	-0.22	-0.36	8.74	14

+101.
−29.
8)+72
+.09.

M.O.R.

Tuesday November 25, 1913

Scale M.

Color Index.

Mc 4350 1st exp. cont.

	sc 2	curve	magn.	Mc.-Ptm.
~~1n~~				
2n	8.1	-0.23	7.87	+1 32
3n	8.7	-0.32	8.38	74
4n	9.0	-0.35	8.65	44
5n	9.6	-0.40	9.20	53
6n	n.s.			
7n	~~7~~ n.s.			
8n				
9n				
10n				
+87 12	8.7	-0.32	8.38	20
+88 2	8.8	-0.33	8.47	37
90	9.8	-0.41	9.39	42
105	9.0	-0.35	8.65	45
4p	f			
5p				
				8) 447
a!				+.56

Tuesday November 25, 1913.

Scale M.

Color Index.

Mc 4350 cont. 2nd exp. 10^s.

	sc 1	sc 2	Diff.	curve	Magn.		sc. 2	Diff.	curve	Magn.	
5	4.3	4.5	+$\overset{1}{2}$.98	1.89	6.39	09	9.2	-2.72	-2.73	6.$\overset{4}{8}$7	01
6	5.7	5.9 $\overset{5.80\ 12}{5.7}$	+1.28	1.50	7.30	22	9.8	-2.72	-2.69	7.11	03
7	5.7	5.9 $\overset{5.80\ 12}{5.7}$	+1.59	1.50	7.30	09	10.0	-2.61	-2.67	7.33	06
8		6.8	.	1.27	8.07		n.s.				
9		7.6	1.01	1.18	8.78	17					
10		7.8	1.14	1.18	8.98						
11		8.1	1.20	1.18	9.28						
12		8.6	0.94	1.18	9.78						
13		8.8	1.45	1.19	9.99						
14		9.0	1.44	1.20	10.20						
15		9.6	1.18	1.24	10.84						
16		9.7	1.37	1.25	10.95						
17		10.1	1.08	1.30	11.40						
18		n.s.									
+87 15	6.6	6.8 $\overset{6.75\ 02}{6.7}$	1.09	1.28	$\overset{8.03}{\text{~~7.98~~}}$	$\overset{.9}{\text{~~14~~}}$	f.				
+88 80		7.7	1.22	1.18	8.88	04					
86		7.3	1.48	1.20	8.50	28					
115		7.8	1.08	1.18	8.98	10					

+638
-50
8) +18
+.02

+.3
-.7
8) -.04
m.00

M.O.R.

Tuesday November 25, 1913.

Scale M.

Color Index

Mc 43 50 cont.

2nd exp.

P.C.

	sc1	sc2		curve		P.C. sc2
2n	scratched					n.s.
3n	f.	7.3	1.20	8.50	86	n.s.
4n		7.8	1.18	8.98	77	
5n		8.5	1.18	9.68	101	
6n		8.8	1.18	9.98		
7n		8.9	1.18	10.08		
8n		9.7	1.25	10.95		
9n		f.				
10n						
+87 12	f.	7.4	1.20	8.60	42	n.s.
+88 2	f.	7.6	1.18	8.78	68	
+88 90		8.6	1.18	9.78	81	
105		7.7	1.18	8.88	68	
a'		9.9	1.28	11.18		
~~b~~		~~9.4~~				
c		n.s.				
4p		8.7	1.28	9.88		
5p		9.0	1.20	10.20		
6p		9.7	1.25	10.95		
~~d~~		~~9.8~~			7) 5.23	
~~e~~		~~9.8~~			+.75	

Tuesday November 25, 1913.

Scale M.

Color Index.

Mc 43 50 cont.

3rd exposure - 50s.

P.C.

	sc1	sc2	Diff.	curve			P.C. sc2				
5	2.8	3.0	3.48	3.55	6.55	07	7.7	-1.22	-1.21	6.49	01
6	3.6	3.8	3.28	3.36	7.16	08	8.5 8.40 11 8.3	-1.32	-1.29	7.11	03
7	3.7	3.9	3.49	3.33	7.23	16	8 7.7	-1.41 3	-1.33	7.37	02
8	4.9	5.1	.	3.00	8.10		9.6				
9	5.7	5.9 5.85 10 5.8	2.76	3.82	8.67	06					
10	6.0	6.2 6.06 21 5.9	2.89	3.78	8.83						
11	f.	6.9	2.40	3.59	9.49						
12		7.3	2.24	3.54	9.84						
13		7.8	2.45	3.52	10.32						
14		7.9	2.54	3.53	10.43						
15		8.0	2.78	3.54	10.54						
16		8.6	2.47	3.61	11.21						
17		8.8	2.38	3.64	11.44						
18		9.0	2.93	3.68	11.68						
19		9.6	2.62	3.79	12.39						
20		9.8	2.85	3.82	12.62						
+87 15	4.7	4.9	2.94	3.06	7.96	12	9.2	-1.36	-1.38	7.82	~~28~~ 02
+88 80	5.6	5.8	3.12	3.83	8.63	29	n.s.				
86	5.1	5.3	3.48	3.96	8.26	52	n.s.				
115	6.0	6.2	2.68	3.74	8.94	06	~~9.2~~ n.s.				
						+39					04
						-97					-04
						8) -58					4) .00
						-.07					.00

Tuesday November 25, 1913

Scale M	Mc 4350 sc.1	sc.2		Color Index			3rd exp. cont.
2n	39 4.1		3	3.28	7.38	83	scr.
3n	5.6 58	5.60 2.2 54		2.89	8.49	85	10.0
4n	59 6.1	6.08 ~~80~~ 11 5.9		2.78 9	79 8.83	58 ~~62~~	f.
5n	f	7.3		2.54	9.84	117	n.s.
6n		7.7		2.52	10.22		
7n		7.9		2.53	10.43		
8n		8.1		2.54	10.64		
9n		8.8		2.64	11.44		
10n		9.0		2.68	11.68		
11n		9.8		2.81	12.61		
12n							
+87 12	5.2 54			2.93	8.33	15	9.9
+88 2	5.2 54			2.93	8.33	23	10.0
90	f.			?			n.s.
105	5.8 60	5.90 12 5.8		2.81	8.71	51	n.s
4s		7.6		2.52	10.12		
5s		8.0		2.54	10.54		
6s		8.0		2.54	10.54		
a¹		9.9		2.84	12.74		
a²		9.4		2.75	12.15		
b		9.4		2.75	12.15		
c		n.s.					
d		9.8		2.81	12.61		
e		9.8		2.81	12.61		
f		f.			7) 4.362 +.62		

2:34

Friday November 28, 1913

Scale #M	MC 4376 sc.1	sc.2	Diff.	Curve	Magn.
2:37					
5		6.7	+0.22	-0.21	6.49
6		7.3	-0.22	-0.23	7.07
7		7.6	-0.21	-0.24	7.36
8		8.4			
9		9.0	-0.39	-0.37	8.63
10		9.1	-0.16	-0.39	
11		9.9	-0.60	-0.55	
12		10.1	-0.56	-0.60	
13		n.s.			
+87 15		8.2	-0.36	-0.28	7.92
+88 80		9.4	-0.48	-0.44	8.96
86		9.2	-0.42	-0.41	8.79
115		9.2	-0.32	-0.41	8.79

Color Index.

3 Exposures

1st Exposure 2s

M.O.R

Friday November 28, 1913.

Scale M.

Color Index

Mc 4376 1st exp

	sc.1	sc.2	Curve	Magn.	
~~1r~~					
2r		7.9	−0.26	$\overset{7}{6}$.64	109
3r		8.8	−0.33	8.47	83
4r		9.3	−0.43	8.87	66
5r		9.0	−0.37	8.63	04
6r		n.s.			
7r					
+87 12		8.7	−0.33	8.37	19
+88 2		8.8	−0.34	8.46	36
90		9.8	−0.53	9.27	30
105		9.4	−0.45	8.95	75
4R		9.9			
5R		N.S.			
6p					
9p					
a'f	n.s.				
b	n.s.				

+4.18
−.04
8) 4.14
+.52

omitting 3 [illegible] 5) 2.8$\overset{2}{6}$
+.57^6

M.O.R.

Friday November 28, 1913.

Scale M

Color Index

Mc 4376

2nd exposure 10^s.
P.C.

	sc.1	sc.2		Diff.	Curve	Magn.
5	3.941	B.		2.38	+2.34	6.44
6	5.153	5.6 Lon	5.45 12	1.63	+1.73	7.18
7	5.456	5.6	5.60 00	1.79	+1.67	7.27
8	f.	6.8				
9		7.6		1.01	+1.13	8.73
10		7.8		1.14		
11		8.1		1.20		
12		8.5		1.04		
13		8.8		1.45		
14		9.4		1.0$\overset{4}{0}$		
15		9.6		1.18		
16		9.9		1.17		
17		10.1		1.08		
+87 15	6.16$\overset{3}{p}$	6.6	6.4p $\frac{5\ 1}{2\ 2}$	$\overset{39}{1.44}$	+1.46	7.91
+88 80	f	7.7		1.22	+1.11	8.81
+88 86	f.	7.2		1.$\overset{5}{6}$8	+1.23	8.43
+88 115	f	7.8		1.08	+1.10	8.90
18		n.s.				
a'		9.8				
a²		n.s.				
b		~~4.5~~ f.				
c						

M.O.R.

Friday November 28, 1913.

Scale M

Color Index

Mc 4376 2nd exposure cont.

	sc.1	sc.2		Curve	Magn.	
2n	5.8 6.0	5.9	5.95 0.1	+1.58	7.53	98
3n	f.	7.2		+1.23	8.43	79
4n	f.	7.7		+1.11	8.81	60
5n	f	8.3		+1.07	9.37	70
6n		8.8				
7n		9.0				
8n		9.8				
9n		n.s				
10n						
11n						
12n						
+87 12	f	7.6		+1.13	8.73	55
+88 2		7.3		+1.20	8.50	40
+88 90		8.0		+1.07	9.07	10
105		7.7		+1.11	8.81	61
						8) 473
						+.59
4p		86				
5p		9.1				omitting 3n
6p		9.6				5) 329
9p						+.6~~8~~6

M.O.R.

Friday November 28, 1913.

Scale M.

Color Index

Mc 4376

3rd exposure. 50s.

	sc.1	sc.2		Diff.	Curve	Magn.	P.C. sc.2	Diff.	Curve	Magn.
5	2.6	2.8		3.68	+3.78	6.58	7.2	-0.72	-0.68	6.52 ~~7.88~~
6	3.0	3.2		3.88	+3.7~~8~~7	6.97	7.9	-0.82	-0.87	7.03
7	3.5	3.7		3.69	+3.73	7.43	8.3	-0.91	-0.97	7.33
8	4.7	4.9		.			9.0	.		
9	5.0	5.2		3.41	+3.~~46~~ 40	8.60	9.9	-1.29	-1.17	8.73
10	5.7	5.9	5.6 v.P. 5.75 12	3.19			9.9	-0.96		
11	6.1	6.3	6.4 6.35 10	2.95						
12	f	6.9		2.64						
13		7.6		2.65						
14	f	7.8		2.64						
15		7.9		2.88						
16		~~7~~ 8.4		2.67						
17		8.6		2.58						
18		8.9		3.03						
19		9.1		3.12						
20		9.7		2.95						
21										
22		10.0								
23		f.								
24		~~f~~ 10.2		3.14						
25										
26										
+87 15	3.9	4.1		3.74	+3.~~78~~ 67	7.77	9.1	-1.26 ~~-0.16~~	-1.13	7.97
+88 80	5.6	5.8		3.12	+3.11	8.91	10.0	-1.08	-1.17	8.83
86	4.9	5.1		3.68	+3.46	8.56	9.9	-1.12	-1.17	8.73
115	5.7	5.9		2.98	+3.07	8.97	10.1	-1.22	-1.16	8.~~8~~9 4

Reexamined by W.S.L. Nov. 29, 1913. – no. unit.

M.O.R.

Friday November 28, 1913.

Scale M Color Index.

MC 4376

3rd Exp. cont.

	sc.1	sc.2		Curve	Magn.		P.C.	Curve	Magn.	
2n	3.6 3.8			+3.72	7.52	97	8.8	-1.07	7.73	118
3n	5.0 5.2			+3.41	8.61	97	9.9	-1.17	8.73	109
4n	5.6 5.8			+3.12	8.92	71	10.1	-1.16	8.94	73
5n	6.6 6.8	6.7	6.75 01	+2.74	9.49	82	n.s.			
6n		7.3								
7n		7.8								
8n		7.9								
9n		8.5								
10n		9.5								
11n		9.9								
12n		n.s.								
+87 12	4.9 5.1			+3.46	8.56	38	9.8	-1.17	8.63	45
+88 2	5.1 5.3			+3.37	8.67	57	10.0	-1.16	8.84	74
90	6.2 6.4			+2.84	9.24	27	f.			
105	5.5 5.7			+3.16	8.86	66	f.			
4s	f.	7.1				8)535				
5s		7.8				+.67				5) 419 +.84
6s		7.9			omitting 3n etc.	5)373 +.675				
9s		n.s.							omitting 3n etc.	3)265 +.88
a'		8.2					n.s.			
a²		9 8.0								
b		9.3								
c		9.7								
d		9.3								
e		9.7								
f		9.7								
g		10.2								
h		n.s.								

M.O.R.

Friday November 28, 1913.

Scale M. Color Index.

MC 4354

First Exp. elongated, not measured.

2nd Exposure 10ˢ

no P.C.

	sc.1	sc.2		Diff.	Curve	Magn.
5	4.7 4.9	4.8	4.85 10	+1.63	+1.70	6.55
6	5.7 5.9	5.7	5.80 11	1.28	+1.22	7.02
7	6.3 6.5	6.7	6.60 11	0.79	+0.86	7.46
8	f.	7.6				
9		8.2		0.41	+0.40	8.60
10		8.7		0.24		
11		9.0		0.30		
12		9.6		-0.06		
13		9.7		0.55		
14		n.s.				
+87 15	f.	7.4		0.44	+0.60	8.00
+88 80		8.1		0.82	+0.42	8.52
86		7.9		0.88	+0.47	8.37
115		8.5		0.38	+0.36	8.86
1n						
2n						
3n						
4n						
5n						
6n						

M.O.R.

Friday November 28, 1913.

Scale M

Color Index

MC 4354

2nd exp cont

	sc.1	sc.2		Curve	Magn.	
2~	6.6	6.8 6.6	6.70 11	+0.83	7.53	98
3~	F.	7.9		+0.46	8.36	72
4~		8.5		+0.36	8.86	65
5~		9.4		+0.26	9.66	99
6~		9.8				
7~		n.s.				
8~						
9~						
10~						
+87 12	F.	7.9		+0.46	8.36	18
+88 2		8.2		+0.40	8.60	50
90		8.8		+0.32	9.12	15
105		8.3 -		+0.37	8.67	47
4a		9.8				
5a		F				
6a						
9a						
a¹		n.s.				
a²						

8)464

+.58

omitting 3~ etc.

9

5)357

+.71 2

Friday November 28, 1913.

Scale M.

Color Index

MC 4354

3rd exposure 50^s.

	sc.1	sc.2	Diff.	Curve	Magn.	B.C. sc.2		Curve	Magn.
5	2.7	2.9	+3.58	+3.57		7.9	-1.42	-1.43 ~~-0.93~~	6.47
6	3.6	3.8 B.	3.28	+3.27		8.8	-1.72	-1.71	7.09
7	4.0	4.2	3.19	+3.14		9.1	-1.71	-1.80	7.30
8	4.8	5.0	.			F	-		
9	6.1	6.3 6.0 6.15 12	2.46	+2.43		n.s.			
10	6.0	6.2 6.1 6.15 01	2.79						
11	F.	7.4	1.90						
12		7.7	1.84						
13		8.3	1.95						
14		8.7	1.74						
15		8.9	1.88						
16		9.6	1.47						
17		9.7	1.48						
18		10.1	1.83						
19		n.s.	.						
20									
21									
22									
23									
+87 15	4.9	5.1	2.74	+2.82		9.9	-2.06	-2.00	7.90
+88 80	6.5	6.7	2.22	+2.24					
86	6.1	6.3	2.48	+2.37					
115	6.3	6.5	2.38	+2.31					

M.O.R

M.O.R

Friday November 28, 1913.

Scale M

Color Index.

MC 4354

3rd eff. cont.

	sc.1	sc.2		Curve	Magn.		P.C.	Curve	Magn.
2n	3.9 4.1			+3.1~~2~~9	7.2~~2~~9	74	9.8	-1.98	7.82
3n	5.7 5.9			+2.53	8.43	79	n.s.		
4n	5.9 6.1	6.5	6.30 22	+2.37	8.67	46			
5n	f.	7.7		+1.94	9.64	97	n.s.		
6n		8.1							
7n		8.7							
8n		9.1							
9n		9.8							
10n		n.s.							
11n									
12n									
+87 12	5.8 6.0			+2.49	8.49	31	n.s.		
+88 2	~~5.7~~ 5.8 6.0			+2.49	8.49	39	f.		
90	f.	7.5-		+1.98	9.48	51			
105	6.0 6.2			+2.42	8.62	42			
4a	f.	7.9							
5a		8.7				8)459			
6a		9.0				+.57			
9a		f.				omitting 3rd etc. 5)298			
a¹		9.3				+.60			
a²		10.2							
b.		n.s.							
c									
d		10.1							
e		n.s.							

M.O.R.

Monday December 1, 1913.

Scale M

Color Index.

2:18 MC 4335

		sc.1	sc.2		Diff.	Curve	Magn.
	5	2.7 2.9			+.358	+3.57	
poor	6	4.0 4.2	B.		2.88	+2.88	
	7	4.8 5.0			2.39	+2.39	
poor	8	5.8 6.0	5.9	5,95 0.1			
	9	f	7.6		1.01	+1.01	
	10	f	8.0		0.94		
	11		8.7		0.60		
	12		8.8		0.74		
	13		9.6		0.65		
	14		~~9.2~~ 9.6		0.84		
	15		9.9		0.88		
	16		10.0		1.07		
	17		n.s.				
	18						
	+87 15	6.1 5.6 6.0 5.9 5.8	6.6 6.2	±.40 6.22	1.62	+1.62	
	+88 80	f	7.9		1.02		
	86	f.	7.8		0.98		
	115	f.	7.9		0.98		
	a¹		9.0				
	a²		n.s.				
	b		9.9				
	c		n.s.				
	d		9.6				
	e		n.s.				
	f		n.s.				

M.O.R

Images poor on this plate

Monday December 1, 1913.

Scale M

Color Index.

Mc4335 cont.

	sc.1	sc.2	sc. read.	magn.	magn.-ftm.
2a	1.3 1.5				
3a	3.6 3.8	B.	3.09	6.89	- 0.75
4a	5.7 5.9	5.80 1 1 5.7	1.93	7.73	- 0.48
5a		6.6	1.49	8.09	- 0.58
6a		7.8			
7a		8.6			
8a		9.0			
9a		9.7			
10a		n.s.			
11a					
12a					
+87 12	4.2 o.p. 4.4		2.74	7.14	- 104
+88 2	5.9 o.p. 6.0	5.9 1 2 5.8	1.85	7.80	- 0.30
90	3	7.4	1.12	8.52	- 0.45
105	5.9 6.1	6.25 30 1 2 6.5	1.65	7.95	-0.25
4p		8.7			
5p		8.6			
6p		9.6 ?			
9p		n.s.			

4) -161
 -.40

7 8) 385
 -.48
 -55

M.O.R. 2:32

Monday December 1, 1913.

Scale V

Color Index.

Mc4352

Crystal Violet Screen

O.C.

2:34

	Sc.1	Sc.2	Sc.3	Diff.	Sc.3	
5	1.0 0.8			5.68	5.9	+0.58
6	1.8 1.6			5.48	6.9	+0.18
7	2.2 2.0			5.39	7.6	-0.21
8	3.1 2.9				8.3	
9	4.0 3.8	~~3.85~~ 3.90 1 1 3.9 4.0	B. 3.9	4.11	8.9	-0.29
10	scr.				9.5	-0.56
11		4.9 5.0	5.25 2 3 5.5	4.05	9.8	-0.50
12			5.6	3.94	10.1	-0.56
13			6.3	3.95	n.s.	
14			6.7	3.74	n.s.	
15	3		7.3	3.48		
16			7.5	3.57		
+87 15	3.7 3.5			4.34	7.9	-0.06
+88 80	4.9 4.7	4.8 4.9	~~4.75 1 0~~ 4.80 1 1	4.12	9.1	-0.18
86	4.7 4.5	4.6 4.7	~~4.55 1 0~~ 4.60 1 1	4.18	8.9	-0.12
115	4.8 4.6	4.7 8 4.9	~~4.70~~ 1 1 4.75 2 1	4.13	9.1	-0.22
17			7.9	3.28		
18			8.0	3.93		
19			8.6	3.62		
20			8.9	3.75		
21			9.3			
22			9.5 5			
23			9.6	3.74		
24			9.7			
25			9.9			
26			~~7.5~~			

M.O.R.

Monday December 1, 1913.

Scale V

Color Index.

Mc 4352 cont.

	Sc1	Sc2	Sc3				Sc3			
2n	3.5 3.3			4.77	8.07	1.52	7.9	-0.09	7.81	1.26
3n	4.8 4.6			4.$\overset{2}{3}$5	8.$\overset{8}{9}$5	1.21	9.3	-0.40	8.90	1.26
4n	4.9 4.7	4.8 4.9	4.87 ±.01 5.0	4.15	9.02	0.81	9.0	-0.34	8.66	0.45
5n	f.		6.60 ±.00 6.6 6.6	3.72	10.32	1.65	f.			
Im. poor 6n			6.10 ±.00 6.1 6.1							
7n			6.8							
8n			7.6							
9n			7.8							
10n			8.4							
11n			8.9							
12n			9.7							
+87 12	4.7 4.5	4.60 ±.1	4.7	4.24	8.84	0.66	9.0	-0.34	8.66	0.48
+88 2	4.1 3.9		B.	4.53	8.43	0.33	8.8	-0.28	8.52	0.42
+88 90	f.	5.9 6.0 5.95 ±.01	5.9	3.86	9.81	0.84	10.0	-0.54	9.46	0.49
105	4.8 4.6	4.70 ±.1. 4.7 4.8		4.20	8.90	0.70	9.2 ?	-0.37	8.83	0.63
4s			5.9				10.3	-0.60		
5s			6.9							
6p			7.5							
9p			n.s.							
a¹	f.		7.6							

8)7.72
+.96

5)5.01
+1.00

4)2.76
+ 0.69

7)4.99
.71

M.O.R.

Monday December 1, 1913.

Scale ~~VII~~ V

Color Index.

Mc 4352 ~~cont.~~

	Sc.1	Sc.2	Sc.3
a¹			7.6
a²			8.3
b			8.6
c			8.9
d			8.8
e			8.8
f			9.0
g			9.6
h			n.s.
k			9.9
l			9.7
m			n.s.
o			10.P.
q			10.1
r			n.s.
t			n.s.
y			n.s.

M.O.R.

2.56

Monday December 1, 1913

Scale R

Color Index.

3;05

Mc 4333

Crystal Violet Screen.

	Sc.1	Sc.2	Diff.	P.c. Sc 2	Diff.
5	B.			8.8	-2.32
6	2.1 2.4		4.68	9.8	-2.72
7	2.2 2.5		4.89	9.9	-2.51
8	4.9 5.2			11.0	
9	5.8 6.1		2.51	11.9	-3.29
10	6.1 6.4		2.54	12.0	-3.06
11	7.1 7.4		1.90	12.8	-3.50
12	7.9 8.2.		1.34	13.2	-3.66
13	.8.76 0 1 8.5 8.8.	8.7	1.50	13.7	-3.45
14	9.05 10 8.8 9.1	9.0	1.39	14.0	-3.56
15	f.	9.7	1.08	n.s.	
16		9.9	1.17		
17		10.7	0.48		
18		11.0	0.93		
19		~~9.7~~ 11.7	0.52		
20		11.9	0.75		
21		12.7			
22		12.8			
23		12.9	0.44		
24		13.1			
25		13.6			
26		14.1			
+87 15	4.8 5.1		2.74	10.9	-3.06
+88 80	6.8 7.1		1.82	12.0	-3.08
86	6.5 6.8		1.98	12.8	-3.02
115	7.0 7.3		1.58	12.2	-3.32

M.O.R.

Monday December 1, 1913.

Scale R

Color Index.

Mc 4333 cont.

P.c.

	Sc.1	Sc.2	Sc. Read.		Sc.-Ptm. diff.		Sc.2	sc. reading	Sc.-ptm.	diff.
2n	5.5 5.8		2.58	8.38	1.83	+ 0.77	10.9	-2.93	7.97	1.42
3n	6.8 7.1		1.92	9.02	1.38		12.0	-3.24	8.76	1.12
4n	7.1 7.4.		1.78	9.18	0.97	- 0.09	12.4	-3.34	9.06	0.85
5n	.8.50 1 1 8.1 8.4	8.6	1.45	9.95	1.28	+ 0.22	13.6	-3.55	10.05	1.38
6n	.8.85 2 1 8.7 9.0	8.7 .9.40 2 2	1.35				13.7			
7n	8.9 9.2	9.6	1.18				14.1			
8n	f.	10.0	1.02							
9n		10.8	0.82							
10n		11.8	0.63							
11n		12.7	0.52							
12n		13.0	0.48							
+87 412	7.3 7.6		1.71	9.31	1.13		12.4	-3.34	9.06	0.88
+88 2	5.9 6.2		2.36	8.56	0.46	- 0.60	11.9	3.21 -~~2.71~~	8.69 ~~9.19~~	5 ~~1.09~~
90	7.7 8.0		1.58	9.58	0.61	~~0.45~~	12.9	-3.45	9.45	~~0.48~~
105	6.7 7.0.		1.95	8.95	0.75	- 0.31	12.1	-3.26	8.84	0.64
4p	8.05 2 1 7.9 8.2	7.9					13.4	~~-3.52~~		
5p	f.	9.8								
6p		9.8								
9p		14.0								

8)8.41
+1.05

5)5.29
1.06 mean.

5)~~5.38~~ 4.88
~~1.08~~ .98

8)7.86
.982

M.O.R.

Monday December 1, 1913.

Scale R Color Index.

Mc 4333 cont.

	sc2	
a¹	~~11.6~~ 9.9	n.s.
a²	11.6	
b	11.8	
c	12.0	
d	11.9	
e	11.9	
f	12.5	
g	$1\overset{2}{\cancel{3}}.6$ 12.9	
h	13.7	
k	13.6	
l	12.9	
m	13.2	
o	13.9	
q	14.1	
r	n.s.	
~~s~~		
t	f.	
y	n.s.	
w	n.s.	

For other plates measured for color index see Book XXXI, page 161.

M.O.R.

3:23

Saturday, December 6, 1913.

Scale M. Color Index

12:35 MC 4278 Yellow Plate

no. Pc.

	sc1	sc2	Diff.	curve Magn.
5	2.3	2.5	3.98	
6	2.8	3.0	4.08	3.94
7	3.7	3.9	3.49	3.46
8	4.3	4.5		3.11
9	5.9 6.1	6.35 3.2 6.6	2.26	2.24
10	6.6 6.8	6.75 0.2 6.7	2.19	2.08
11		7.7	1.60	1.76
12		7.75 1.0 7.7 7.8	1.79	1.75
13		8.7	1.55	1.50
14		8.8	$1.\overset{6}{8}4$	1.49
15		9.5	1.28	1.32
16		9.8	1.27	1.28
17		10.0	1.18	1.24
18		n.s.		
+87 15	4.8 5.0		2.84	2.84
+88 80	f.	6.9	2.02	$2.0\overset{1}{2}$
86	6.6 6.8	6.75 0.2 6.7	2.03	2.08
115	f.	6.9	1.98	2.01
a¹		8.7		
a²		10.2		
b		9.8		
c		n.s.		
d		10.1		
e		10.2		
f		n.S.		

M.O.R.

Saturday December 6, 1913.

Scale M

Color Index.

Mc 4278	cont.				
	sc.1	sc.2	curve	magn.	
2r	~~3.8~~ 2.0 7.2				
3r	3.8 4.0		3.40	7.40	24
4r	4.8 5.0		2.84 3	7.84 3	38
5r	5.7 5.9 5.85 1.0	58	2.41	8.32	35
6r	f.	6.9			
7r		7.9			
8r		8.7			
9r		9.8			
10r					
4p	f.	7.9			
5p		8.0			
6p		9.21			
9p					
+87 12	3.9 4.1		3.33	7.43	75
88 2	4.3 4.5 6.85 1.0		3.11	7.61	49
88 90	6.7 6.9	6.8	2.04	8.89	08
105	5.4 5.6		2.56	8.16	04

7) -2.33
-.33

omitting 3r etc.

4) 1.26
-.321

M.O.R.

Saturday December 6, 1913.

Scale V

Color Index.

	Mc 4332		Violet Screen. 1.40 P.C.	
	sc.1 sc.2 sc.3	Diff.	sc.1 sc.2 sc.3	Diff.
5	B.		4.2 4.0 3.8 3.9 fr. 3.95 0.1	2.53
6	B.		5.0 4.8 4.9 5.0 4.8 4.92 1.2	2.15 21
7	0.3 0.1	7.29	5.6 5.7 5.7 5.70 0.0	1.69
8	1.7 1.5		6.1	
9	2.0 1.8	6.81	6.7	1.91
10	2.2 2.0	6.94	7.0	1.94
11	2.9 2.7	6.60	7.6	1.70
12	3.7 3.5	6.04	7.9	1.64
13	4.3 4.1	6.15	8.1	2.15
14	4.8 4.6 4.1 4.2 4.40 2.2	6.04	8.8	1.64
15	4.9 4.7 ~~5.4~~ 4.9 5.0 5.4 5.03 3.04	5.75	9.0	1.78
16	4.7 5 5.5 5.2 5.3 5.4 5.40 1.0	5.67	9.2	1.87
17	5.8	5.38	9.7	1.48
18	6.4	5.53	10.0	1.93
19	6.6	5.62	F	
20	6.8	5.85		
21	7.4			
22	7.6			
23	7.7	5.64		
24	7.8			
25	7.9			
26	8.1			
+87 15	1.8 1.6	6.24	5.8	2.04
60	2.8 2.6	6.32	7.2	1.72
+88 86	2.5 2.3	6.48	6.8	1.98
+88 115	2.5 2.3	6.58	6.9	1.98

M.O.R.

Saturday December 6, 1913.

Scale V

Color Index.

MC 4332	sc.1	sc.2	sc.3	cont		Red Stars	Pl. sc.3	P.C. Red Stars		
27			8.8							
28			$\overset{9}{8}$.3							
29			def.							
30			t.p.							
31			10.1?							
2n	1.9	1.7		6.78	8.48	1.93	5.8	2.05	7.85	1.30
3n	2.8	2.6		6.49	9.09	1.45	7.0	1.94	8.94	1.30
4n	2.8	2.6		6.49	9.09	.88	7.2	1.92	9.12	.91
5n	4.2	4.0		6.04	10.04	1.37	8.3	1.88	10.18	1.51
6n	4.1	3.9		6.07	9.97		7.8			
7n	4.9	4.7	4.8 4.9 4.80:1	5.81			8.9			
8n	5.7	5.5	5.60:1 5.7	5.60			9.5			
9n			6.0				9.9			
10n			6.8				n.S			
11n			7.6							
12n			7.8							
+87 12 ~~40~~	2.9	2.7		6.46	$\overset{9}{8}$.16	.98	7.3	1.91	9.21	1.03
+88 2	2.3	2.1		6.64	8.74	.64	6.9	1.95	8.85	.75
+88 90	3.6	3.4		6.24	9.64	.67	7.8	1.89	9.69	.72
105	2.4	2.2		6.61	8.81	.61	7.0	1.94	8.94	.74
4p	3.9	3.7					7.9			
5p	5.7?	5.5	5.60:1 5.7				9.1			
6p	5.7	5.5	5.35:2 5.2				9.2			
9p			8.7							
10p			9.5							
11p			9.2							
12p			9.1							

$8)\overline{8.53}$
+1.07
omitting 3n etc.
$5)\overline{5.43}$
+1.09

$8)\overline{8.26}$
+1.03
omitting 5n etc.
$5)\overline{5.21}$
+1.04

M.O.R.

Saturday December 6, 1913.

Scale V.

Color Index.

MC 4332	sc.1	sc.2	sc.3	Cont.		sc.3
13p			9.3			
14p			9.6			
15p			f			
16p			10.1			
a¹			5.5			9.8
a²			6.6			superposed
b			6.8			F
c			7.4			
d			7.1			
e			6.9			
f			7.3			
g			7.7			
h			8.5			
k			7.9			
l			7.7			
m			8.1			
o			8.4			
q			8.8			
r			9.7			
w ~~s~~			n.S.			
t			8.9			
y			9.8			

Mtn images, measures recorded by M.O.R.
P.C. images, measured after an interval of half an hour, recorded by J.C.M.

1.47
J.C.M.

1:10

M.O.R.

Thursday, January 1, 1913

Variable SV Andromedae
Revision of Visual Sequence for use
on Photographs
MC 3974

p.c. a - ~~A~~ c 2 b 3 d 5 d^2 - e 2 f 3 k

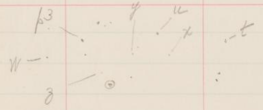
str f 2 k 1 h 2 l 3 g 5 m 2 n 1 o 3 p 2 q 1 r
r 3 r^2 4 r^3 2 r^4 2 r^5 4 s 1 t 2 t^2 1 t^3 3 u 0 W

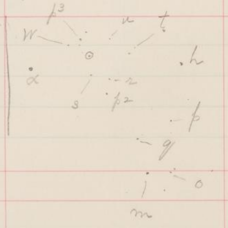
Marked on ptg. enlargement

Var. R Pegasi

α
e e^2 e^3 g f k h l n m
m p p^2 p^3 o q r s t u w x y z

Marked on MC 3970





Follow up
natural scale

Var. V Lacertae
X Lacertae

a c d f e g b k h

12 25 Kapteyn Region 1 K

Estimates of Magnitudes of Sequence on
Second Polar Plate MC 4245.
Magnitudes adopted Jan. 1, 1914 used

~~2 55~~
3 05

Mean 2 Plates			Marked end at top 1 Plate		P.C.	Mean MC4245	Marked end down	2		P.C.	(1) - (2)
~~10.05 13 13~~		1	No. 6 Polar				1			~~10.0~~	
10.05 13, 13		2	10.0	9.90 11	9.8	9.92	2	9.9	9.95 10	10.0	05
10.06 13, 12	01	3	10.0	9.90 11	9.8	9.93	3		10.0 a.	10.0	10
10.34 12, 11	28	4	10.3	10.25 10	10.2	10.22	4	10.2	10.20 00	10.2	05
10.82 13, 12	48	5	11.2	11.05 21	10.9	10.95	5	11.0	10.85 21	10.7	20
11.34 19 18	52	6	11.1	11.00 11	10.9	11.15	6	11.5	11.30 23	11.1?	30
11.94 04, 04	60	7	12.0	12.05 01	12.1	11.98	7	12.0	11.90 11	11.8	15
12.32 02 03	38	8	12.3			12.30	8	12.3			0
12.28 02, 03	04	9	12.3			12.30	9	12.3			0
13.08 08, 07	80	10	13.1			13.00	10	12.9			2
13.30 10, 10	22	11	13.2			13.20	11	13.2			0
14.20 00, 00	90	12	14.3			14.20	12	14.1			2
14.20 00, 00	00	13	14.2			14.20	13	14.2			0
14.55 00, 00	35	14	14.5			14.55	14	14.6			1
14.52 12, 13	03	15	14.3			14.40	15	14.5			2
14.60 00, 00	08	16	14.6			14.60	16	14.6			0
15.08 02, 03	48	17	15.2			15.10	17	15.0			2
15.50 00, 00	42	18	15.5			15.50	18	15.5			0
15.88 18, 17?	38	19	15.6			15.70	19	15.8			2
16.32 22, ~~45~~? 23?	44	20	16.1			16.10	20	16.1			0
16.62 07, 08?	30	21	16.6			16.55	21	16.5			1
17.00 a .	38	22	16.8?			17.00	22	17.2			(4)

155−158
40
±.078

7 & 18, 41−42
24
±0.034

Omit 6, 19, 20, 21
89−92
32
±0.056

1 05

P.C. difficult to est. star nr. close to No. 14 of Polar Seq.

3 35

+110
−95
20
+01
±0.102
a.D. ±0.051

+75
−80
19
±0.082
a.D. ±0.041

4 15

K Cont.

~~4~~ 3 55 MC 4319

4 20

(3) - (4)		Marked end right 3			Mean MC 4319		left 4				Mean of 2 Plates	Resid. for every estimate. (For resid. for each plate, see opposite page, margin)		
	1					1				1				
05	2	10.1	10.15 10	10.2	10.18	2	10.2	10.20 00	10.2	2	10.05	0 2 1 0 ~~05, 25,~~ 1 2 2 2	$^{7}_{-3}$	±.14
05	3	10.2	10.20 00	10.2	10.18	3	10.1	10.15 10	10.2	3	10.0~~4~~6	1 3 . 1 1 1 0 1 ~~0 2 . 0 2 2 1 2~~	$^{3}_{-5}$	±.~~10~~11
00	4	10.5	10.45 10	10.4	10.45	4	10.5	10.45 00	10.4	4	10.34	0 1 1 1 2 1 2 1	$^{6}_{-3}$	±.11
00	5	10.7	10.70 00	10.7?	10.70	5	10.7	10.70 00	10.7	5	10.82	4 1 2 1 1 1 1 1	$^{7}_{-5}$	±.15
05	6	11.5	11.50 00	11.5	11.52	6	11.5	11.55 10	11.6?	6	1~~0~~1.34	2 4 2 2 2 2 2 3	$^{11}_{-8}$	±.24
2	7	11.8			11.90	7	12.0			7	11.95	0 1 0 2 2 . 0 .	$^{1}_{-4}$	±.08
1	8	12.4			12.35	8	12.3			8	12.~~43~~32	0 . 0 . 1 . 0 .	$^{1}_{0}$	±.02
1	9	12.3			12.25	9	12.2			9	12.28	0 . 0 . 0 . 1 .	$^{0}_{-1}$	±.02
1	10	13.2			13.15	10	13.1			10	13.08	0 . 2 . 1 . 0 .	$^{1}_{-2}$	±.08
0	11	13.4			13.40	11	13.4			11	13.30	1 . 1 . 1 . 1 .	$^{2}_{-2}$	±.10
2	12	14.3			14.20	12	14.1			12	14.20	1 . 1 . 1 . 1 .	$^{2}_{-2}$	±.10
2	13	14.1			14.20	13	14.3			13	14.20	0 . 0 . 1 . 1 .	$^{1}_{-1}$	±.05
1	14	14.5			14.55	14	14.6			14	14.55	1 . 0 . 1 . 0 .	$^{0}_{-2}$	±.05
1	15	14.7			14.65	15	14.6			15	14.52	2 . 0 . 2 . 1 .	$^{3}_{-2}$	±.12
0	16	14.6			14.60	16	14.6			16	14.60	0 . 0 . 0 . 0 .	$^{0}_{0}$	±.00
1	17	15.0			15.05	17	15.1			17	15.08	1 . 1 . 1 . 0 .	$^{1}_{-2}$	±.08
0	18	15.5			15.50	18	15.5			18	15.50	0 . 0 . 0 . 0 .	$^{0}_{0}$	±.00
1	19	16.0?			16.05?	19	16.1?			19	15.88	3 . 1 . 1 . 2 .	$^{3}_{-4}$	±.18
1	20	16.6?			16.55?	20	16.5? F			20	16.32	2 . 2 . 3 . 2 .	$^{5}_{-4}$	±.22
(0)	21	16.7?			16.70?	21	16.7? F			21	16.62	0 . 1 . 1 . 1 .	$^{2}_{-1}$	±.08
	22					22				22	17.00?	2 . 2	$^{2}_{-2}$	±.20

4 35

7 & 18 inclusive

12−18
50
±0.060

Omit 6, 19, 20, 21
+35 −34
81
±0.085

+58 − 53
103
±0.108

Thursday, Jan. 22, 1914

Kapteyn Region 1K

Estimates (in grades) of Intervals of Sequence

510

	1 MC4245 marked end at top	p.c.	Mean MC4245		~~3~~5 MC 4319 marked end at top	5 25 p.c.	Mean	Diff. ~~Marked~~ Marked end up − Reversed
1								
2				2				
3	0	1	08 1 000	3	0	0	02 0 1 00	03
4	3	3	28 00 1 0	4	2	3	~~37~~ 28 0 0 1 0	00
5	5	7?	65 1 1 1 1	5	5	7?	60 1 1 1 1	02?
6	3	2	25 1 0 2 1	6	4?	2	28 0 1 1 1	00
7	8?	7?	68 1 0 1 3	7	7?	4	73? 1 0 0 .	05?
8	4		35 0. 1.	8	3		35 0. 1.	00
9	1		05 $\overset{1}{7}$. 0.	9	0		05 1. 0.	05
10	10?		80? 2. 2.	10	6		80? 2. 2.	10?
11	2		20 0. 0.	11	2		20 0. 0.	05
12	10?		75? 2. 3.	12	7		85? 2. 1.	15?
13	1		05 1. 0.	13	1		10 0. 0.	10
14	10?		60? 4. 4.	14	3		65? 4. 3.	25?
15	0		05 0. 1.	15	0		00 0. 0.	05
16	2		20 0. 0.	16	0		10 1. 1.	00
17	6		45 2. 1.	17	8?		70? 1. 1.	30?
18	3		30 0. 0.	18	3		30 0. 0.	00
19	4		40 0. 0.	19	6		50 1. 1.	10
20	4		45 0. 1.	20	2 F		30 1. 1.	10
21	3		25 1. 0.	21	? F		30 a . . .	20?
22	6		~~70 1. 1.~~ 05? 0. 1.	22	n.s.		00 a . . .	10?

5 20

5 30

128 − 37
20
+0.046

Omit? 23 − 25
12
±0.040

Friday, Jan 23, 1914

K Reg. 1K

Estimates Cont.

Mean MC 4319		2 MC 4245 (reversed)	p.c.	Mean (Rev.)		~~4~~ 6 MC 4319 reversed	p.c.	Mean 4245 4319	Sum of Means
	1								
	2				2				0.00
00 0 0 0 0	3	1	1	05 1 1 00	3	0	0	04 04, 04	−0.04
28 1 000	4	2	3	28 1 000	4	3	3	28 00, 00	0.24
58 1 1 0 1	5	7?	7	62? 1 1 0 1	5	6	5	62 03, 04	0.86
30 1 1 1 1	6	4	1	28 1 2 1 1	6	4	2	28 03, 02	1.14
73 0. 1 2	7	8	4	68? 1 3 1 2	7	6	9?	70 02, 03	1.84
35 1. 1.	8	3		35 1. 0.	8	4		35 00, 00	2.19
00 0. 0.	9	0		00 0. 0.	9	0		02 03, 02	2.21
70 1. 1.	10	6		70 1. 1.	10	8		75 05, 05	2.96
25 0. 1.	11	2		25 0. 1.	11	3		22 02, 03	3.18
70 0. 0.	12	5		60 1. 1.	12	7		72 03, 02	3.90
05 1. 0.	13	0		00 0. 0.	13	0		05 00, 00	3.85
45 $\overset{1}{7}$. 2	14	2		40 2. 2.	14	6		52 08, 07	4.37
00 0. 0.	15	1		05 1. 0.	15	0		02 03, 02	4.35
00 0. 0.	16	2		10 1. 1.	16	0		10 10, 10	4.45
65 2. 1	17	3		40 1. 1.	17	5		55 10, 10	5.00
30 0. 0.	18	3		30 0. 0.	18	3		30 00, 00 ~~35 05, 05~~	5.30
50 1. 1.	19	4		40 0. 0.	19	4		45 05, 05	5.75
25 0. 1.	20	5		40 1. 1.	20	3?		35 10, 10	6.10
0? . a.	21	2		10? 1. 1.	21	0?		25 a . .	6.35
. . . . .	22	1?		10? a . .	22	n.s.		05 a .	6.40
					~~23~~				

71 − 69
36
±0.039

Friday, Jan. 23, 1914

1 K Est. Cont

Mean 4245 and 4319 long exp.	Mean long + short			MC 26^{56}54 marked end up	2652 marked end down	2684 marked end up		2887 marked end down			
			1				Sum of Means				1
			2				0.00				2
04	00	04, 05	3	1	0	1	0.05	0	05	1010	3
28	33	05, 05	4	5	5	3	0.43	2	38	1112	4
62	51	11, 11	5	3	4	3	0.83	6	40	1012	5
28	36	08, 09	6	4	6	~~7~~4	1.28	4	45	0200	6
70	66	04, 04	7	5	9	6	1.90	5	62	1301	7
35	54	19, 18	8	7	5	8	2.62	9	72	0212	8
02	02	00, 00	9	1	0	1	2.64	1	02	1011	9
75	72	03, 02	10	7	7	5	3.34	9	70	0022	10
22	32	10, 10	11	4	5	3	3.76	6	42	0111	11
72	58	14, 15	12	3	F	5	4.19	5	43	1.11	12
05	05	a.	13	3?		1	4.26?	0?	07?	2.21	13
52	52	a.	14	1?		4	4.43?	0?	17?	1.22	14
02	02	a.	15	1?		0	4.48?		05?	1.0.	15

Images poor near edge

27-20
47
±0.100

Saturday January 24, 1914

Scale M. Measures to determine the brightness of stars in a square 2° on a side with R.A. 3h 1m +74.0°

11:54

See also MC 4515 p. 125
4991 137
5056 142

MC 4514* Crystal Violet screen. Exp. 3m.

		sc.1 sc.2	Diff.	Corr Diff.	P.C. sc.2	Corr Diff.
	1	B.	·		4.6	0.29
has ft. P.C.	2	3.9 4.1	3.76		8.1	-0.24
	3	3.4 3.6	3.99		7.8	-0.21
	4	3.1 3.9 poor			8.6	
poor	5	4.0 4.2			8.9	
	6	4.8 5.0			9.0	
poor	7	4.9 5.1			10.0	
	8	5.7 5.9			10.1	
	9	3.1 3.3			8.2	
poor	10	2.8 3.0			8.1	
	11	3.6 3.8			8.3	
nearly sup.	12	6.0 6.2 6.7 6.45?			f	
	13	3.2 3.4 poor			8.6	
off plate	~~14~~				.	
	15	4.2 4.4 poor			9.5	
	16	~~4.8~~ 6.9 7.1 7.0 7.05			f.	
	17	4.9 5.1		3.84 +0.57	10.0	~~-0.72~~ +0.91
	18	1.2 1.4?	5.72? .6		7.4	-0.38
	19	1.9 2.1	5.39		7.6	-0.11
	20	4.9 5.1	3.87		9.9	-0.93
	21	3.9 4.1	4.52		8.8	-0.18
	22	5.5 5.7			9.9	
	23	4.7 4.9			8.9	
	24	2.8 3.0	4.62		8.0	-0.38

M.O.R.

* Identified on I 9949.

Saturday January 24, 1914.

Scale M. Measures to determine the brightness of stars etc.

MC 4514 cont.

						P.C.		
		sc.1	sc.2	Diff	Corr Diff	sc.2	Diff	Corr Diff
	25	$2.4^{2.6}$			...	7 7.9		
	26	$4.0^{4.2}$				9.7		
very poor	27	$6.0^{6.2}$	$6.3^{6.25\,0\,1}$			f		
	28	$3.4^{3.6}$			4.42 +1.22	8.6		-0.31 +1.49
extremely poor	29	$5.8^{6.0}$				f		~~0.31~~
	30	$2.0^{2.2}$		$5.\overset{2}{\cancel{4}}7$		7.5	-0.03	
	31	$4.7^{4.9}$		$4.\overset{1}{3}7$		9.6	-0.53	
	32	$3.8^{4.0}$		$4.\overset{3}{\cancel{5}}2$		8.6	-0.28	
	33	$3.5^{3.7}$			4.38 +0.98	8.4		-0.28 +1.02
almost sup.	34	~~6~~.				f.		
	35	$5.8^{6.0}$				def.		
	36	$\cancel{6.8}^{5.6\ 5.8}$	$5.8^{5.8\,0\ 0.0}$			10.1		
	37	$6.3^{6.5}$	$6.8^{6.65\,1\,2}$			f.		
	38	$2.0^{2.2}$				7.6		
poor	39	$4.0^{4.2}$			4.17 +1.07	9.0		-0.41 +1.29
	40	$4.9^{5.1}$				f.		
	41	$2.8^{3.0}$		4.92 ~~5.42~~		7.9	0.02	
	42	$5.6^{5.8}$				f		
	43	$3.5^{3.7}$				8.4?		
	44	$1.7^{1.9}$				6.5		
	45	$1.0^{1.2}$				6.6		
	46	$2.8^{3.0}$				7.7		
	47	$\overset{4}{\cancel{3}}.0^{4.2}$				9.0		
	48	$3.9^{4.1}$				8.7		
	49	$2.3^{2.5}$				7.6		
	50	$4.9^{5.1}$				9.9		

M.O.R.

Saturday January 24, 1914.

Scale M. Measures to determine the brightness of stars etc.

MC 4514 cont.

					P.C.	
		sc.1	sc.2	Corr Diff	sc.2	Corr
	51	$4.6^{4.8}$		3.94 +1.14	8.7?	-0.34? +0.76?
	52	$5.6^{5.8}$			f	
poor	53	$4.0^{4.2}$			9.2	
	54	$4.9^{5.1}$			~~f~~ 9.8	
poor	55	$3.0^{3.2}$			8.1?	
"	56	$4.9^{5.1}$			10.0	
	57	$6.8^{7.0}$ poor	6.5?		f	
	58	$6.5^{6.7}$ poor	6.7?		f	
	59	$6.4^{6.6}$	6.7?		f	
	60	$4.9^{5.1}$ poor			f.	
	61	$4.8^{5.0}$			f.	
poor	62	$6.6^{6.8}$	6.8		f	
	63	$6.5^{6.7}$	6.9		f	
	64	$4.0^{4.2}$			9.0	
	65	$6.7^{6.9}$	6.8?		f	
	66	$4.2^{4.4}$			9.2	
	67	$4.2^{4.4}$			9.4	
	68	$4.9^{5.1}$			9.9	
	69	$5.0^{5.2}$			9.9	
	70	$3.8^{4.0}$			8.8	
	71	$6.4^{6.6}$	6.7		f	
	72	$6.8^{7.0}$	7.0		f	
	73	$6.8^{7.0}$	6.7		f.	
	74	$3.0^{3.2}$			8.2	
	75	$5.7^{5.9}$			f.	
	76	$5.0^{5.2}$			10.1	

M.O.R.

Saturday, January 24, 1914.

Scale M. Measures to determine the brightness of stars etc

Mc 4514 cont.

		sc.1	sc.2	P.C. sc 2
	77	$4.6^{4.8}$		9.0
	78	$5.8^{6.0}$		f
	79	$6.0^{6.2}$	6.3	f
	80	$6.0^{6.2}$	$6.\overset{6}{\cancel{8}}^{3}$	f
	81	$5.6^{5.8}$		f
	82	$5.0^{5.2}$		f
very poor.	83	$3.9^{4.1}$		8.2?
	84	$5.8^{6.0}$		f.
very poor	85	$3.5^{3.7}$		8.0?
	86	$6.0^{6.2}$	6.3?	f
	87	~~5.8~~ $6.0^{6.2}$ w.s.	6.4?	f
	88	$6.4^{6.6}$	6.6	f
very poor	89	~~3.9~~ $6.3^{6.5}$		f
	90	$6.9^{7.1}$	7.1	f
	91	$4.9^{5.1}$		f
	92	$6.8^{7.0}$	6.9	f
poor	93	$5.6^{5.8}$		f
extremely "	94	$6.7^{6.9}$	6.7?	f

	Diff.			Diff.	
17	+0.57	-43		+0.91	-18
28	+1.22	+22		+1.49	+40
33	+0.98	-02		+1.02	-07
39	+1.07	+07		+1.29	+20
51	+1.14	+14		+0.76?	-33
	5)+4.98			5)5.47	
	+1.00			+1.09	
			omitting "51"	4)4.71	
				+1.18	

M.O.R.

Saturday, January 24, 1914.

Scale M. Measures to determine the brightness of stars etc.

Mc 4514 cont. Exp. 1m P.C. 2nd exp.

	sc.1	sc.2	Diff.	Corr.	P.C. sc. 2	Diff.	Corr.
1	B.				5.6	-0.71	
2	$4.8^{5.0}$		2.86		9.5	-1.64	
3	$4.0^{4.2}$		3.39		8.8	-1.21	
4	$4.9^{5.1}$				10.0		
5	$5.8^{6.0}$				10.2		
6	$5.9^{6.1}$				f.		
7	$6.2^{6.4}$	$\overset{64501}{6.5}$			f		
8	$6.8^{7.0}$	$\overset{6.9011}{6.8}$			f		
9	$4.8^{5.0}$				9.7		
10	$4.7^{4.9}$				9.5		
11	$5.0^{5.2}$				9.8		
12	$7.0^{7.2}$	$\overset{72000}{7.2}$			f		
13	$4.8^{5.0}$				9.9		
14	.				.		
15	$5.8^{6.0}$				f		
16	7.	7.9			f		
17	$6.4^{6.6}$	$\overset{66501}{6.7}$			f		
18	$3.0^{3.2}$		3.82		7.9	-0.88	
19	$3.5^{3.7}$		3.79		8.7	-1.21	
20	$6.0^{6.2}$	$\overset{64022}{6.6}$	$\overset{2}{\cancel{3}}.57$		f		
21	$5.5^{5.7}$		2.92		10.1	-1.48	
22	$6.7^{6.9}$	$\overset{68510}{6.8}$			f		
23	$5.5^{5.7}$				f		
24	$4.6^{4.8}$		2.82		9.2	-1.58	
25	$3.9^{5.1}$				8.9		
26	$5.7^{5.9}$				f		

M.O.R.

Saturday, January 24, 1914.

Scale M. Measures to determine the brightness of stars etc.

MC 4514 cont.

	RC1	RC2	Diff.	Curv.	P.C. RC2	Diff.	Curv.
27	7.1 6.9	7.05 1 0 7.0			f		
28	5.0 4.8			2.93 +1.13	9.9		-1.62 1.48
29	7.0 6.8	7.15 2 1 7.3			f		
30	3.5 3.3		3.97		8.2	-0.73	
31	6.1 5.9		2.97		f		
32	5.8 5.6		2.52		10.0	-1.68	
33	5.0 4.8			2.93 +0.83	10.0		-1.66 +1.24
34	t.p.				f		
35	7.0 6.8	7.05 0 1 7.1			f		
36	7.0 6.8	7.00 0 0 7.0			f		
37		7.4			f		
38	3.8 3.6				8.3		
39	5.7 5.5			2.79 +1.19	f		
40	6.9 6.7	6.80 1 2 6.7			f		
41	5.0 4.8		2.92		8.9	-0.98	
42	7.0 6.8	6.95 0 1 6.9			f		
43	4.1 3.9				t.p.		
44	2.3 2.1				7.4		
45	2.8 2.6				7.7		
46	4.0 3.8				8.4?		
47	6.0 5.8				f		
48	5.2 5.0				10.0		
v.p. 49	4.1 3.9				8.3		
50	6.1 5.9				f		
51	5.6 5.4			2.81 +0.81	9.9		-1.62 +0.68
52		6.8			f		

M.O.R.

Saturday, January 24, 1914.

Scale M. Measures to determine the brightness of stars etc.

MC 4514 cont.

	RC1	RC2	P.C. sc.2
53	5.8 5.6		f
54	6.0 5.8		f
55	4.4 4.2		8.9
56	6.1 5.9		f
57	t.p.	t.p.	f
58		7.9?	f
59		7.7?	f
60	6.2 6.0	6.30 1 1 6.4?	f
61	6.6 6.4	6.65 0 1 6.7?	f
62		8.0	f
63		7.7	f
64	5.7? 5.5		10.1
65		7.8	f
66	5.9 5.7	S	f
67	t.p.		f
68	6.5 6.3	6.4	f
69	6.2 6.0	6.35 2 1 6.5	f
70	5.4 5.2		10.2
71		7.6	f
72		8.0	f
73		7.9	f
74	4.5 4.3		9.4
75	6.9 6.7	7.05 1 2 7.2	f
76	6.8 6.6	6.75 0 1 6.7	f
77	6.1 5.9		f
78		7.0	f

M.O.R.

Saturday, January 24, 1914.

Scale M – Measures to determine the brightness of stars etc.

MC 4514 concl.

	sc.1	sc.2	
79		7.3	f
80		7.4	f
81	6.7 6.9 6.85 1 0	6.8 ?	f
82	6.0 6.2 6.35 2 3	6.7	f
83	4.7 ? 4.9		9.7
84		7.5	f
85	4.1 ? 4.3		9.1
86		7.0	f
87		7.3	f
88		7.7	f
89		7.6	f
90		7.9	f
91	6.6 6.8 6.75 0 1	6.7	f
92		7.8	f
93	6.7 6.9 6.95 1 0	~~6.7~~ 7.0	f
94		7.9	f

	Diff.	Diff.
17	.	.
28	+1.13 +14 •	+1.48 +0.35
33	+0.83 −16 •	+1.24 +01.1
39	+1.19 +20	.
61	+0.81 −18	+0.68 −0.46
	4)3.96	3)3.40
	+0.99 •	1.13

1:04

Monday January 26, 1914.

Scale M Measures to determine the brightness of stars etc.

12:09 * MC 4515 Pinacyanol Plate Red Screen R I

Exp. 10m

		sc2	sc1	Diff. Curve	P.c. sc.2	Diff. Curve
	1		1.0 1.2	3.69	7.9	−3.01
	2	6.8 7.0		1.06		
	3	~~6.2~~		1.39		
	4		4.0 4.2		n.s.	.
	5	5.6 ~~5.8 5.65 2~~ 5.7	5.5 5.65 0 1			
	6	8.7				
	7	8.7				
	8	9.1				
	9	6.8 7.0				
	10		2.8 3.0		9.7	
	11	6.7				
	12	7.8				
	13	5.8	5.8 6.0 5.90 1 1			
off plate.	14	.				
	15	5.6	5.6 5.8 5.70 1 1			
	16	8.7				
	17	7.2		.076 ∓0.41		
	18	5.8	5.8 6.0 5.90 1 1	1.12		.
	19	6.2 ?		1.29		.
	20	9.3		−0.33 ~~1.67~~		.
	21	8.3		0.32		.
	22		3.5 3.7		9.8	
	23	8.6				
	24	6.9		0.72		.
	25	5.6 ?	5.2 5.4 5.50 1 1			
	26	~~2~~ ?	2.8 3.0		9.7	

M.O.R. * Identified on I 9949.

Monday January 26, 1914.

Scale M. Measures to determine the brightness of stars etc.

Mc 4515 cont.

1st exp. 10m. P.C.

	sc.2	sc.2	sc.1	Diff. Curve	sc.2 Curve
27	8.4				
28	.		$2.2^{2.4}$	3.12 − 1.28	9.5
29	7.9				
30	5.8	5.90 ⊥.1	$5.8^{6.0}$	1.57	
31	9.7			− 0.63	
32	8.1			0.22	
33	.		$3.0^{3.2}$	2.88 − 1.02	9.8
34	n.s.				
35	10.0				
36	8.9				
37	8.3				
38	.		$4.2^{4.4}$		9.9
39			$4.0^{4.2}$	2.30 − 0.80	n.s.
40	8.2				1.085
41	7.4			0.52	
42	9.0				
43	8.3				
44			B.		7.9
45			$3.9?^{4.1}$		10.0
46			$2.8^{3.0}$		9.0
47	S	8.5			
48		8.0			
49		6.9			
50		7.1			
51		5.8 $5.80^{.0}$	$5.6^{5.8}$	1.52 − 0.28	
52		5.7 $5.65^{1.0}$	$5.4^{5.6}$		

M.O.R.

Monday January 26, 1914.

Scale M Measures to determine the brightness of stars etc

Mc 4515 cont.

1st exp. 10m.

	sc.2	sc.1	Curve	P.C. Curve sc.2
53	8.2			
54	8.8			
55		$3.8?^{4.0}$		9.9
56	9.6?			
57	7.8			
58	9.9			
59	8.9			
60	7.4			
61	7.7			
62	8.2			
63	6.3			
64	5.6	[illegible] 5.85 0.1		
65	8.6			
66	5.7	$5.7^{5.9}$ 5.80 ⊥.1		
67	7.9			
68	8.1			
69	8.9			
70	7.4?			
71	9.6			
72	8.1			
73	7			
74	6.7			
75	7.5			
76	7.3			
77	8.6		8.	
78	9.9			

M.O.R.

Monday January 26, 1914

Scale M Measures to determine the brightness of stars etc

Mc 4515 cont.

1st exp. 10m.

	sc. 2.
79	7.3
80	8.7?
81	9.8?
82	8.0
83	7.7
84	6.8
85	9.9?
86	6.1
87	10.0?
88	9.9
89	def.
90	7.7
91	7.8
92	7.8
93	9.7
94	8.3?

17 -+0.41 ~~+1.01~~ +0.39 37
28 -1.28 ~~-0.68~~ -0.42 (8) =50
33 -1.02 ~~-0.42~~ -+0.32 34
39 -0.80 ~~+0.20~~ ±0.0 02
51 -0.28 ~~+0.22~~ +0.52 50
~~5)-2.97~~
~~-0.60~~
5)389
~~-0.98~~
-0.78

M.O.R.

Monday January 26, 1914.

Scale M Measures to determine the brightness of stars etc.

Mc 4515 cont

2nd exp. 3m.

	sc. 2	sc. 1	Diff	Curve	B.C. sc. 2	Diff.
1	.	1.9 (2.1)	2.79		8.8	-3.91
2	8.1		-0.24 ~~+.76~~			
3	7.7		-0.11 8			
4	6.2					
5	7.1					
6	9.4					
7	9.7					
8	n.s.					
9	7.9					
10		4.8? (5.0)				
11	8.0					
12	8.7					
13	7.4					
14	.					
15	7.0					
16	9.8					
17	8.2			-0.38 -0.55		
18	7.4		-0.38			
19	7.7		-0.21			
20	9.9		-0.93			
21	9.3		-0.68			
22	5.2 (520 00)	5.0 (5.2)				
23	7.7					
24	7.9		-0.28			
25	6.9					
26		3.9 (4.1)			n.s.	

M.O.R.

Monday January 26, 1914.

Scale M. Measures to determine the brightness of stars etc

Mc 4515 cont.

2nd exp. 3m

	sc 2	sc.1	Diff	Corr	Pc.
					sc 2
27	9.1				
28		3.6$^{3.8}$	1.80	-1.20	10.1
29	8.3				
30	7.6	-0.13			
31	n.s.				
32	8.9	-0.58			
33		4.8$^{5.0}$	1.13	-0.97	
34	n.s.				
35	n.s.				
36	9.9				
37	9.5				
38	6.6?				
39	5.7$^{5.75\ 1.0}$	5.6$^{5.8}$	0.67	-0.88	
40	9.4				
41	8.3	-0.38			
42	9.9				
43	9.5				
44	.	t.f.			
45	5.9$^{6.00\ 1.1}$	5.9$^{6.1}$			
46	f.	4.7$^{4.9}$			
47	9.6				
48	9.6				
49	7.2				
50	8.2				
51	7.2		-0.05	-0.45	
52	7.1				

M.O.R.

Monday January 26, 1914.

Scale M Measures to determine the brightness of stars etc

Mc 4515 cont.

~~sc.2~~

2nd exp. 3m.

	sc 2	sc.1
53	9.1	
54	9.6	
55	5.6$^{5.60\ 1.0}$	5.4$^{5.6}$
56	9.8	
57	8.6	
58	n.s	
59	9.9	
60	8.5	
61	8.6	
62	9.5	
63	~~8.0~~ 8.	
64	7.0	
65	9.5	
66	7.4	
67	9.3	
68	9.6	
69	9.9	
70	8.2	
71	n.s.	
72	9.6	
73	ns.	
74	7.9	
75	8.5	
76	8.0	
77	9.3	
78	n.s.	

M.O.R.

Monday January 26, 1914.

Scale M. Measures to determine the brightness of stars etc.

Mc 4515 cont.

	RC 2
79	8.0
80	9.7
81	n.s.
82	9.3
83	8.9
84	7.8
85	10.0
86	7.9
87	n.s.
88	n.s.
89	n.s.
90	8.8
91	8.7
92	8.5
93	10.0
94	9.3

17	−0.55	+0.26
28	−1.20	−0.39
33	−0.97	−0.16
39	−0.88	−0.07
51	−0.45	+0.36

$5\overline{)-4.05}$

−0.81

M. C. R.
1.47.

Monday, February 2, 1914

Estimates of Positions of Stars in Sequence

α^{4} Plate D 16558 from MA 367

Covered with transparent paper ruled with mm spaces. For Supplementary Stars, see Book 37: 35

Star	H=y	V=y	V=x		H	V	y"	x"
9	+760	+760	+150	+150	+76.00	+15.00	+380.0	+75.0
13	−550	−550	−1235	−1229	−55.00	−123.20	−275.0	−616.0
16	+597	+598	−938	−937	+59.75	−93.75	+298.8	−468.8
17	−516	−516	−810	−810	−51.60	−81.00	−258.0	−405.0
18	−389	−389	−298	−296	−38.90	−29.70	−194.5	−148.5
19	+04	+03	−957	−958	+0.35	−95.75	+1.8	−478.8
20	+350	+350	−1103	−1113	+35.00	−110.80	+175.0	−554.0
22	~~+65~~	~~+89~~	$-11\overset{7}{\cancel{2}}8$	$-\overset{9}{\cancel{1528}}$	+8.9	−117.8	+44.5	−589.0
23	+113	+113	+163	+163	+11.30	+163.0	+56.5	+815.0
24	+07	+07	−327	−326	+0.70	−32.65	+3.5	$-16\overset{3}{8}.2$
25	+194	+195	+38	+38	$+19.4\overset{5}{\cancel{0}}$	+3.80	+97.2	+19.0
26	+504	+503	−264	−264	+50.35	−26.40	+251.8	−132.0
27	+246	$+\overset{24}{\cancel{19}}5$	−342	−341	+24.55	−34.15	+122.8	−170.8
28	+232	+232	−34	−33	+23.20	−3.35	+116.0	−16.8
29	+97	+97	−341	−341	+9.70	−34.10	+48.5	−170.5
30	−226	−225	−228	−229	−22.55	−22.85	+112.8	−114.2
31	+78	+78	+57	+57	+7.80	+5.70	+39.0	+28.5
32	+55	+56	−117	−117	+5.55	−11.70	+27.8	−58.5
33	−02	−02	−182	−182	−0.20	−18.20	−1.0	−91.0
34	+49	+49	$-3\overset{5}{\cancel{4}}$	−34	+4.90	−3.45	+24.5	−17.2
35	$\overset{-62}{\cancel{-07}}$	−61	$\overset{-112}{\cancel{+173}}$	−112	−6.15	−11.20	−30.8	−56.0
36	$-\overset{2}{\cancel{8}}7$	−29?	$\overset{-}{\cancel{+}}1\overset{5}{\cancel{7}}3$	$-1\overset{5}{\cancel{6}}5$	−2.80	$-1\overset{5}{\cancel{6}}.40$	−14.0	$-\overset{77.0}{\cancel{82.0}}$
37	−87?	−83?	−148	−147?	−8.50	−14.75	−42.5	−73.8
l	+222	+222	−932	−932	+22.20	−93.20	+111.0	−466.0

Coordinates in V corrected Jan. 22, 1915

+73.4 / 96.6

A.D. of Diff from adopted coordinates in x, ± 2".9, in y, ± 1".9 (No. 25 omitted because faint comparison probably affected meas. on sub. from MC plate.)

±1.9 ±2.9

Monday, February 2, 1914

Measures of thickness of wire in Gauze Screens A & B

Screen B		Screen A		Screen B	
Wire 1		Wire 2		Wire 3	
				032	1
035	4	026	4	032	1
032	1	024	2	032	1
032	1	024	2	029	2
031	0	023	1	030	1
031	0	022	0	033	2
031	0	024	2	032	1
031	0	023	1	030	1
031	0	023	1	030	1
031	0	025	3	030	1
032	1	023	1	030	1
028	3	020	2	032	1
031	0	023	1	031	0
033	2	022	0	032	1
030	1	019	3	030	1
		022	0	030	1
~~429~~		022	0	~~25~~	
19		021	1	15	
		022	0	19	
				34	+17 −13
		024	2	30	
		024	2	0311	±001
		020	2		
		018	4		
		020	02		
		020	02		
		017	~~3~~5		
		51	+22 ~~±5~~ 21		
		25			
		0220	±002		

Monday, Feb. 2, 1914

The gauge was lent by Mr. Gerrish
The main divisions are 0.025 inch in length.
The secondary divisions are 0.04 of this, or 0.001 in

The measures on the preceding page give an average thickness for the wires in
Screen A, 0.0022 in. from 25 readings ±.002
Screen B, 0.0031 in. from 30 readings. ±001

The wires are short lengths unrolled from the screens, and showing the effect of weaving. It is assumed that the pressure of the gauge flattens them. Different parts of the wires, however, give different results.

Query are these measures to be relied on or might not other samples give different results?

Tuesday, February 3, 1914

Thickness of Wires cont.

Screen A Wire 2		E.S. King (Copied)		Screen B	
026	0	028	1	035	1
025	1	028	1	033	1
027	1	027	0	034	0
027	1	025	2	034	0
027	1	028	1	033	1
027	1	028	1	033	1
025	1	027	0	035	1
027	1			034	0
024	2	51	4-2	036	2
023	3	7		036	2
025	1	027	±001	036	2
023	3	Indep 001		034	0
027	1	mean 026		53	8-3
026	0			12	
027	1			034	±001
027	1				
027	1			Indep 000	
027	1				
107	1. 10-11				
18					
026	±001				
Indep 000					

Mr. King considers that I used too much pressure with the gauge yesterday as the wire is very compressible. I did use slight pressure, as I found the effect of crinkling of the wire. Measures by Mr. King agreed fairly well for different parts of wire. My measures to day agree with his.

Tuesday March 17, 1914

Scale M.

N
.1 3 2
2 1 2
3 3 2
4 1 2

Measures of stars near R.A. = 3h 1m Dec. = +74°.0

See page 117.

Ident. on I 9949

MC 4991 Kapteyn Violet Screen Four exposures

Curve 1+3 exp.		Exp. 1 sc.1 sc.2	Exp. 3 sc.1	Mean Exp. 1, 3.	Exp. 2 sc.1 sc.2	Exp. 1.3 Diff.	2+4 exp. Curve	Exp. 4 sc.1 sc.2	Mean Exp. 2, 4.	Exp. 2, 4 Diff
9.05	1	1.0 1.2	B.	1.2 0	2.8 3.0 ~~2.8~~	3.69		2.8 3.0	3.00 00	1.$\overset{8}{5}$9
	2	5.9 6.1 v.p.	6.10 00 v.p. 5.9 6.1	6.10 00.00	7.6 v.p.	1.76		7.5	7.55 01	0.31
	3	5.8 6.0	5.9	5.95 01	7.5	1.64		7.2	7.35 12	0.24
	4	7.0 poor	7.2 v.p.	7.10 11	8.1 poor			8.0	8.05 10	
	5	7.5	7.7	7.60 11	8.7			8.6	8.65 10	
	6	7.3	7.6	7.45 12	8.6			8.3	8.45 21	
	7	7.9	7.9	7.90 00	9.1			8.9	9.00 11	
	8	7.9	8.3	8.10 22	9.1			9.1	9.10 00	
	9	6.75 6.5 6.7 6.8	6.9 6.85 10 6.7 6.8	6.80 05 05	7.8			7.8	7.80 00	
	10	6.70 00 6.5 6.7 6.7 poor	7.1 poor	6.90 22	7.8			7.9	7.85 01	
	11	6.85 01 6.6 6.8 6.9	6.9 6.90 00 6.7 6.9	6.88 03 2	7.9			7.8	7.85 01	
	12	8.8	8.8	8.80 00	10.0			9.9	9.95 01	
	13	t.p. ~~t.p.~~ poor rej.	t.p.	.	7.9			7.9	7.90 00	
7f pl.	~~14~~		.	.	.			.		
	15	7.8	7.8	7.80 00	8.7			8.8	8.75 10	
	16	9.6	9.6	9.60 00	n.s.			n.s.	.	
1.36 +0.$\overset{8}{9}$4	17	7.9	7.8	7.85 10	8.4		0.45 +0.$\overset{8}{9}$3	8.8	8.75 10	
	18	poor 4.8 5.0	4.9 5.1	5.05 01	6.6	1.97	~~0.45~~	6.5 poor	6.55 01	0.47
	19	5.3 5.5	5.8? poor	5.65 12	6.9	1.84		6.9	6.90 00	0.59
	20	7.8	7.7	7.75 01	8.5	1.22		8.7	8.60 11	0.37
	21	7.1	7.1 7.05 10 6.95 6.9 6.8	7.0$\overset{2}{8}$ 02 03	8.0	1.6$\overset{0}{6}$		8.1	8.05 01	0.57
	22	8.2	8.2	8.20 00	9.1			9.2	9.15 $\overset{10}{01}$	
1.47 +1.50 *	~~2~~$\overset{3}{}$3	rej. ~~7.8~~ 7.2 7.0	7.2	7.1$\overset{3}{7}$ 020	8.1		0.42 +1.42	8.1	8.10 00	
	24	5.9	5.8	5.85 10	7.7	1.77		7.3	7.50 22	0.12

M.OR.

* Two No. 23 on I 9947 of which one should have been 33. I remember the order of measuring this plate and know that I measured No. 33 and did not measure 23.

Tuesday March 17, 1914.

Scale M Measures of Stars near R.A. 3h 1m Dec. +74°

~~Mc~~ Kapteyn Violet Screen 4 Exposures.

1+3 exp. Curv		Mc 4991 Exp. 1 sc.1 sc.2	cont. Exp. 3 sc.1 sc.2	Mean Exp. 1-3	Exp. 2 sc.1 sc.2	Exp. 1.3 Diff.	2+4 exp. Curv	Exp. 4 sc.2	Mean Exp. 2-4	Exp. 2.4 Diff
	25	6.55 22 6.5 6.7 ~~6~~ 6.2	6.4 6.30 11 6.2 6.2	6.38 07 .8	7.7			7.4	7.55 12	
	26	8.0	8.0	8.00 00	8.6 8.9			9.1 8.8	8.85 2 1 30	
	27	~~8.8~~ 8.7	8.8	8.75 10	~~9.7~~ 9.8			9.7	9.75 01	
1.42 +1.97	28	7.4	7.3	7.35 01	8.0		0.42 +1.72	8.2	8.15 11	
	29	~~8.8~~ 8.7	8.8	8.75 10	~~9.7~~ 9.8			9.8	9.80 00	
	30	4.9 5.1	5.0 5.2	5.15 10	6.7	2.32		6.8	6.75 10	0.72
	31	7.6 ~~7.7~~	7.7	7.65 01	~~8.4~~ 8.7	1.42		8.4	8.55 12	0.52
	32	6.90 00 6.7 6.9 6.9	6.90 11 ~~6.8~~ 7.0 6.8	6.9 0000	7.8	1.42		7.9	7.85 01	0.47
Marked 23 not marked	33	.			.			.		
	34	8.1 ~~8.3~~	8.3	8.20 11	~~9.2~~ 9.5			9.2	9.35 12	
	35	8.0 ~~8.0~~	8.2	8.10 11	~~9.1~~ 9.0			9.1	9.05 01	
	36	~~8.4~~ 8.4	8.4	8.40 00	~~8.2~~ 9.5			~~8.2~~ 9.5	9.50 00	
	37	n.s?	ns? .		.			.		
	38	5.4 5.6	5.4 5.6	5.60 00	7.0			6.8	6.90 11	
1.39 +1.64	39	7.6	7.5	7.55 01	~~8.2~~ 8.6		0.44 +1.69	8.5	8.55 01	
	40	7 7.7	7.9	7.80 11	8.8			8.9	8.85 01	
	41	6.65 12 6.3 6.5 6.8	6.35 10 6.1 6.3 6.4	6.50 15 15	7.7	1.42		7.7	7.70 00	0.22
	42	8.0	7.9	7.95 01	9 ~~8~~.0			~~8~~ 9.0	9.00 00	
	43	6.30 11 6.0 6.2 6.4	6.40 11 6.1 6.3 6.5	6.35 05 05	7.8			7.8	7.80 00	
?	44	3.8 4.0 how	3.1 3.3 op.	3.65 43	tp.			tp.	.	
	45	4.0 4.2 ~~4.0~~	3.9 4.1	4.15 01	5.7 v.p.			5.4	5.55 12	
	46	5.6 ~~6.9~~ rej w.s.	5.7	5.65 01	6.9			6.9	6.90 00	
	47	tp.	7.6?	7.6? a	8.8			8.8	8.80 00	
	48	6.80 11 6.7 6.9 6.7 how	6.8 6.80 00 6.6 6.8	6.80 00 00	5.7 8.1 7.9			7.9	7.97 111	
	49	5.0 5.2	5.6	5.40 22	6.8			6.8	6.80 00	
	50	7.9	8.1	8.00 11	8.6			8.9	8.75 21	

M.O.R.

Tuesday March 17, 1914

Scale M Measures of stars near R.A. 3h 1m Dec = +74° See P. 117

Mc 4991 Kapteyn Violet Screen 4 Exposures.

1+3 exp. Curv		Exp. 1 sc.1 sc.2	Exp. 3 sc.1 sc.2	Mean exp. 1+3	Exp. 2 sc.2	2+4 exp. Curv	Exp. 4 sc.2	Mean Exp. 2+4
1.42 +1.17	51	7.4	7.3	7.35 01	8.2	0.42 +1.02	8.2	8.20 00
	52	8.8	9.0	8.90 11	9.8		9.9	9.85 01
	53	7.7	7.6	7.65 10	8.3		8.7	8.50 22
	54	7.9	7.9	7.90 00	8.7		8.8	8.75 10
	55	5.6 5.8	5.9	5.85 01	7.7		7.4	7.55 12
	56	8.2	8.2	8.20 00	9.0		~~9.2~~ 9.2	9.10 11
Off-plate	57	.	.		.			
" "	58	.	.		.			
" "	59	..	:		.			
	60	8.5 ~~8.6~~	8.6	8.55 10	9.0 ~~9.7~~		9.7	9.35 43
	61	8.7	8.8	8.75 10	10.0		10.0 ?v.f	10.00 00
	62	9.6?	9.7	9.65 01	n.s.		n.s.	
	63	n.s?			.			
	64	7.5	7.6	7.55 10	8.3		8.4	8.35 10
	65	9.3	9.5	9.40 11	n.s.		n.s.	.
	66	7.6	7.9	7.75 21	8.6	.	8.6	8.60 00
	67	7.3	7.1	7.20 11	8.5		8.2	8.35 12
	68	7.8	7.8	7.80 00	8.9		8.8	8.85 10
	69	7.9	7.9	7.90 00	8.8		8.6	8.70 01
	70	7.0 r.p.	6.95 12 6.9 7.0 6.8	6.98 02 03	8.2		8.1	8.15 01
	71	n.s.	n.s.	.	n.s.		n.s.	.
	72	9.7?	9.6	9.65 10	n.s.		n.s.	..
	73	8.8	8.8	8.81 00	9.8		9.8	9.80 00 ~~9.70 1~~
	74	6.60 33 6.7 6.9 6.3	6.5	6.55 05 05	7.8		7.5	7.65 21
	75	8.3	8.2	8.25 10	9.1		9.2	9.15 10
	76	7.9	8.2	8.05 12	9.0		8.8	8.90 11

M.O.R.

Tuesday March 17, 1914

Scale M

Kapteyn Violet Screen. 4 Exposures.

Mc 4991 cont.

	Exp. 1 sc.1 sc.2	Exp. ~~2~~ 3 sc.1 sc.2	Mean Exp. 1+3	Exp. ~~3~~ 2 sc.1 sc.2	Exp. 4 sc.1 sc.2	Mean Exp. 2-4
77	7.8	7.7	7.75 0 1	8.7	8.5	8.60 1 1
78	8.2	8.3	8.25 0 1	9.2	9.1	9.15 0 1
79	8.7	8.8	8.75 1 0	9.9	9.7	9.80 1 1
80	8.7	8.8	8.75 1 0	9.8	9.8	9.80 0 0
81	8.1	8.2	8.15 1 0	9.0	9.1	9.05 0 1
82	8.2	8.3	8.25 0 1	8.5	9.1	8.80 3 3
83	t.p.	t.p.	·	8.0	t.p.	8.0 a ·
84	9.8	9.9	9.85 0 1	n.s.	n.s.	·
85	t.p.	t.p.	·	t.p.	t.p.	·
86	9.1	9.7	9.40 3 3	n.s.	n.s.	·
87	8.7	8.8	8.75 1 0	9.8	9.8	9.80 0 0
88	8.8	9.0	8.90 1 1	9.9	9.7	9.80 1 1
89	8.6	8.8	8.70 1 1	9.8	9.7	9.75 0 1
90	n.s.	n.s.	·	·	·	·
91	7.9	8.0	7.95 1 0	8.9	8.9	8.90 0 0
92	n.s.	n.s.	·	·	·	·
93	8.1	8.6	8.35 3 2	9.0	9.6	9.30 3 3

17 +0.94 ~~-0.50~~ ~~42~~.58
28 +1.97 +0.51 5
33 +1.50 +0.06 8
39 +1.64 +0.2a 2
51 +1.17 -0.27 5
5)+7.22 / +1.44 | 85-83 / 5 / ±0.336

+0.83 -0.51
+1.72 +0.38
+1.42 +0.08
+1.69 +0.35
+1.02 -0.32
5)+6.68 / +1.34 | 81-83

M.O.R.

Tuesday March 17, 1914.

Scale M.

Mc 4991 cont. Kapteyn Violet Screen.

Pre. Comp.

1+3 exp. Curv

2+4 exp. Curv

	1st Exp. sc.2	Exp. 3 sc.2	Mean Exp. 1+3	Diff.	Exp. 2 sc.2	Exp. 4 sc.2	Mean	Diff.
1	7.1	7.3	7.20 1 1	-2.39	8.1	8.0	8.05 1 0	-3.16
14 7	10.1	10.1	10.10 0 0	·	n.s.	n.s.		
25 3	9.9	9.9	9.90 0 0	·				
26	n.s.	n.s.	·	·				
19	9.4	9.6	9.50 1 1	-2.01				
3	9.8	9.7	9.75 0 1	-2.16				
49	9.2	9.4	9.30 1 1	·	n.s.	n.s.		
9	f	f	·	·				
24	9.8	10.1?	9.95 2 1	-2.33				
18	9.1	9.1	9.10 0 0	-2.08	9.9	10.1	10.00 1 1	-2.98
44	8.8	8.7?	8.75 0 1	·	9.6	9.4	9.50 1 1	·
2	10.0	n.s.	10.0 a ·	-2.14				·
45	8.4	8.7	8.55 2 1	·	9.6	9.5	9.55 0 1	·
55	t.p.	t.p.	·	·				
41	10.0	def.	10.0 a ·	-2.08				
46	def.	9.7	9.7 · a	·				
43	9.9	f	9.9 a ·	·				
30	9.6	9.3	9.45 2 1	-1.82 98				
38	9.6	9.5	9.55 0 1	·				

M.O.R.

3:45

Monday, March 23, 1914

Stars near R.A. = 3h 1m Dec. = +74°.0

Ident. on Z 9949

Scale M. MC 5056 1st exp Kapteyn Violet Screen ~~2nd exp~~

2.15

#	sc.1	sc.2	Diff.	Curve.	2nd exp. sc.2	Diff	Curve
1	3.2 3.4	tr. br. 3.4	1.49		5.0	-0.11	
2		8.1 very poor	-0.24		~~8~~9.1	-1.24	
3		7.8	-0.21		8.8	-1.21	
4		8.7			9.9		
5		9.6			m.s		
6		9.4			m.s		
7		9.9			m.s		
8		9.8?			m.s		
9		8.1			~~8~~9.2		
10		8.4			9.3		
11		8.3			9.1		
12		m.s.			m.s		
13		8.6 poor.			9.7		
14		off plate			off plate		
15		9.3			m.s		
16		m.s			m.s		
17		9.7			m.s		
18		6.9	0.12		8.0	-0.98	
19		7.5	-0.01		8.6	-1.11	
20		9.1	-0.13		Ft.		
21		8.7	-0.08		9.4	-0.78	
22		9.8			m.s		
33 ~~23~~		~~7~~8.8		-0.14 ~~3.94~~ +1.56	9.9		-0.91 +1.89
23		8.9			9.9		
24		7.9	-0.28		8.8	-1.18	
25		7.9			8.8		

Monday, March 23, 1914.

Stars near R.A. = 3h 1 Dec = 74.0

Scale M. MC 5056 1st exp.

	sc.1	sc.2	Diff.	Curve	2nd exp. sc.2	Diff	Curve
26		9.7			m.s		
27		tr. poor			m.s		
28		8.8		-0.14 +1.86	9.7		-0.93 +1.97
29		m.s.			m.s		
30		7.2	0.27		8.1	-0.63	
31		9.2	-0.13		10.0	-0.93	
32		8.1	0.22		9.2	-0.88	
33							
34		10.1			m.s		
35		9.9			m.s		
36		tr. ft.			m.s		
37		m.s			m.s		
38		7.6			8.3		
39		8.8		-0.14 +1.36	9.9		-0.91 +1.69
40		9.7			m.s		
41		8.0	-0.08		8.8	-0.88 9.8	
42		9.8			10.1?		
43		8.5			9.6		
44	5.2 5.0 very poor.	5.6? m. poor.	5.35?		tr. plate		
45	5.6 5.8	5.6 poor.	5.70?	~~6.8 very poor.~~	6.8 very poor.		
46		7.3		~~8.2~~	8.2		
47		defective			m.s		
48		8.7 poor			9.8		
49		7.5			8.6		
50		9.5		~~m.s~~	m.s		

Monday, March 23, 1914

MC 5056 cont.

	sc.1	sc.2	Curve.	2nd	Curve.
51		8.6	-0.15 +0.85	9.6	-0.95 +1.05
52		m.S		m.S	
53		9.2		10.0	
54		9.4		m.S	
55		7.7		8.8	
56	n.s				
57		off plate		off plate	
58		off plate		off plate	
59		off plate.		off plate	
60		m.S.		m.S	
61		m.S.		m.S	
62		m.S.		m.S	
63		m.S		m.S	
64		-9.1		9.9	
65		m.S		m.S	
66		9.6		m.S	
67		8.9		10.0	
68		9.4		$\overset{F}{\text{n.S}}$	
69		9.6		n.S	
70		8.7		9.7	
71		m.S.		m.S	
72		m.S		m.S	
73		m.S		m.S	
74		8.4		9.0	
75		toft.		n.S	

Monday, March 23, 1914.

MC 5056 cont.

	sc.1	sc.2		
76		9.8		m.S
77		9.2		10.0
78		toft.		m.S
79		m.S		m.S
80		m.S		m.S
81		9.9		n.S
82		9.8		m.S.
83		8.3		9.7
84		m.S		m.S
85		7.9 [illegible]		9.4 mag fm.
86		m.S		m.S
87		m.S		n.S
88		n.S		n.S
89		m.S		n.S
90		m.S		m.S
91		9.7		m.S
92		m.S		m.S
93		n.S.		m.S
94				

17	·			·
28	+1.86	+0.45	+1.97	+0.32
33	+1.56	+0.15	+1.89	+0.24
39	+1.36	-0.05	+1.69	+0.04
51	+0.85	-0.56	+1.05	-0.60
	4)5.63		4)+6.60	
	+1.41		+1.65	

Monday, March 23, 1914

MC. 5056 Pris. comp.

44	11.6
45	10.1
1	8.8

2,42.

J. C. M.

Thursday March 26, 1914

Measures to Determine Scale of Plates sent by Professor Mitchell, taken with the 26-inch Refractor at McCormick University

Plate on North Pole. Distances between stars of sequence measured with wooden millimeter scale

Stars	mm	Diff x	Diff y	Squares		Sum	√Sum	Scale
10, 16	~~86.3~~ 76.3	32	1685	1024	2512225	2513249	1585.3	~~18.4~~ 20.8 20.79
14, 16	$\overset{3}{\cancel{4}}$9.5	173	803	29929	644809	674738	821.4	~~16.6~~ 20.8 20.80
10, 14	39.0	205	782	42025	611524	653549	808.4	20.7 20.73
10, 17	104.5	722	2046	521284	4186116	4707400	2169.6	20.8 20.76
~~14, 12~~ 11	~~42.6~~	~~$\overset{3}{2}$93~~	~~536~~	~~85849~~ ~~154449~~	~~287296~~	~~373146~~ ~~441745~~	~~610.8~~ ~~664.6~~	~~14.3~~ ~~15.6~~
14, 17	$\overset{6}{\cancel{7}}$5.7	517	1264	267$\overset{2}{\cancel{7}}$89	1597696	1864985	1365.6	~~18.0~~ 20.8 20.79

~~1101~~

5 | ~~32~~

~~20.6~~

5 | ~~39~~

~~20.8~~

5 | 387

20.77

10, 11½ ~~1~~74

Professor Mitchell informs me that 20".8 = 1 mm is the adopted scale.

Nov. 27, 1915

Friday, March 27, 1914

Examination of Plates taken with the 1-inch and 4-inch Cook Anastigmats to estimate size of field covered by images which are sensibly circular, and to see the effect of change of focus in different parts of the plates.

On Plate AC 13051 at a distance where the focus is sensibly different from that at the centre, the images are nearly as good as those at the centre. For stars within ~~0.4 or~~ 3 magnitudes of limit a field about 15 cm in diameter or about 25° is covered by nearly circular images. only the bright stars giving images This is a poor plate, but was selected on account of having images at several different foci.

AC13062

Similar to AC13051 Limits not more than 25° in diameter, and outside of a circle 20° in diameter the images are noticeably poorer.

Best focus at centre = 8.0

" " 40 mm from centre (7°) = 9.0

Both of the above plates were taken with the lens formerly mounted with 16 inch, plates designated ME. The plates are distinctly inferior to those taken with the lens mounted in 1907.

For MD plates no very satisfactory focus plate was found, but examination shows that the form of images is excellent within a circle 26 cm in diameter, or about 10°.7; say 11°.

MD 913 a

Focus 3 sec. (second exposure) best in all parts of plate, but better near edge than at centre. Would not focus between 2 and 3 be better for centre?

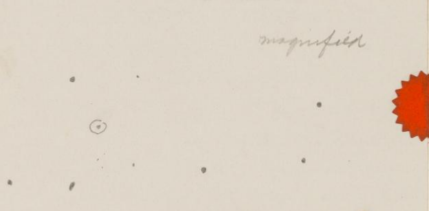
The gradations are so very large that no exact estimate is possible

Saturday, March 28, 1914.

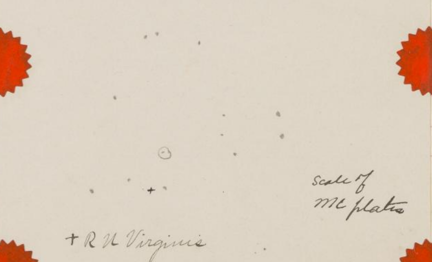
Examination of Plates for Suspected Variable of Mr. Metcalf. Position given $12^h 40^m$ $+5°$ (1855) approx.

Two successive exposures of 30^m each on Mr. Metcalf's plate taken with 12-inch at Winchester on March 1914 showed an apparent change of 0.3 or 0.4 magn. in brightness.

$12^h 40^m$ $+5°$ (1855)



~~Professor~~ Mr. Metcalf's suspected variable shows variation of 3 or four 4 tenths in 2 images taken ~~35 r~~ in succession, each exposed 30 minutes.



Susp. Variable cont.

The object was looked for on the following plates and showed no change. Good comparison stars near. It is about 10' north of and slightly follows the variable R U Virginis, which was independently discovered during the examination

The reality of the variation on Mr. Metcalf's plate appears strongly probable, and it may be of the Algol type.

I 15067	May 4, 1896
I 22184	Jan. 22, 1899
I 20869	June 17, 1898
B 23192	June 27, 1899
I 30269	April 1, 1903
I 30237	March 26, 1903
I 32776	March 1, 1905

Tuesday, March 31.

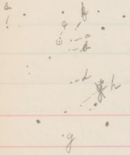
The following plates were examined and the suspected star showed no change

I 35307
32585
13987
8434
18094
24772
22376

I 22367
17986
15206
14834
14792
10491
10720

If the star is of the Algol type, eclipses would appear to be very infrequent.

Variables discovered by Rev. Joel Metcalf



film side up

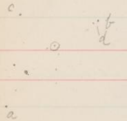
(a) $10^h 25^m + 59^s.1$ $+12^\circ$ $14'.9$ (1855) Btw. DM+ 12° 2223
28 22.6 1.7 (1900) and + 12° 2226

I 24243
f 1 v
v 5' g

I 25051
g 1 N

I 26880
h 1 N

I 24228
g 4 v 2 h



glass side up

(b) $10^h 16^m 12^s.4$ $+10^\circ$ 28.8 (1855)
18 35.5 15.3 (1900

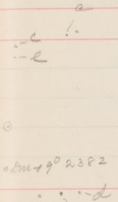
The star indicated by Mr. Metcalf does not show changes on the following plates, but is always about 2 grades fainter than b and 2 grades brighter than d.

I 28511
28451
26985
19939

I 25223
26410
32974
25051

I 26880
24228
17792

Variables cont.



(c) $10^h 32^m 2^s$ $+9^\circ 45'.1$ (1855) $-5^s.4$ $+9'.1$
34 24.4 31.2 (1900) fr BD $+9^\circ$ 2382

The star does not show changes on the following plates, being always fainter than a; nearly equal to b and c, and two or three grades brighter than e.

I 28602
28511
28451
19939

I 25051
26880
24228

All three stars are faint and material for observations are not abundant. The faintest is (a), which is the only one confirmed. It is faint on these plates but comes out bright on I 24243, showing a change of more than half a magnitude.

The other two stars may be of the Algol type

These variables were identified by Mr. Metcalf on the Photographic Star Chart of Palisa and Wolf, Sheet 49.

Friday, April 17, 1914

Examination of Plates sent by Professor Mitchell, taken with the 24-inch McCormick Refractor.

Cramer Iso
Medium blue screen

12 Praesepe 1914 Apr. 5 S.T. 9:25 - 9:55
Shows β and γ but not δ, [ε? or ζ]
lim. 13.2? γ = 0.3   ε = 0.1?   δ too near edge

10 min   Cramer Iso
K2 screen

10 Praesepe 1914 Apr 5 S.T. 8:20 - 8:30
Shows η and ζ but not α
11.9? ζ = 0.1

Cramer Iso
K2 screen

11 Praesepe 1914 Apr. 5 8:40 - 9:10
Shows β and γ but not δ or ε
13.1? γ = 0.2

Imp. non-filter
No Screen

14 Praesepe 1914 Apr. 5 10:25 - 10:55
13.3? γ = 0.6   ε = 0.2   δ n.s. (near edge)
Images poor

Imp. Non-filter
No Screen

13 Praesepe 1914 Apr. 5 S.T. 10 00 - 10 10
12.0? α not seen   ζ = 0.3
Images poor.

Cramer Iso
Medium blue Screen

Praesepe 1914 Mar. 12 S.T. 8:30 - 9:00
13.2? γ = 0.3   ε too near edge.

This plate rec'd a month ago, compares favorably with the above plates.

Magn. of ε 13.1? [δ is assumed to be "e" of Professor P's seq. magn. 12.76, and ε appears about 3 grades fainter than δ]

Plates of Prof. Mitchell, cont.

17 M 3 1914 Apr 6 S.T. 11.17 - 13.17
e = 0.3
f = 0.0
Limiting magn. ~~14.5~~ 15.0 photographic. (HA 78)

15 Messier 3 1914 Apr. 5 S.T. 11.30 - 13.30
g = 0.2
h = 0.0
Limiting magn. 15.3 (Scale of H.A. 78)

Star a of Professor Bailey's Sequence is apparently much whiter than other comparison stars, as it appears nearly as faint as d, on the above Isochromatic plates.

16 Messier 13 1914 Apr. 5 $1\overset{4}{3}$:20 - 16:20

Stars in H.A. 74 marked on A . No blue plate for region in series. Yellow plate does not show faint enough stars for comparison.

Examination of the faintest images of stars having phot. magn. indicates that the limiting magnitude of this plate is not far from 15.

Friday, April 17, 1914

Miss Cannon's Var. +14° 1598

Estimates

MC 698
10.8 ? near edge. Uncertain

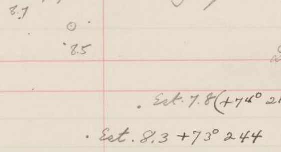
I 36913
11.8 ? Images double, poor

Wednesday, April 23, 1914

Examination of plates for Comparison Star for Variable X Camelops.
See Letter of

Companion star 8.7 estimated (visually) by several observers as brighter than 8.5 by 0.2 magn.

The following photographs show the star about 0.2 magn brighter than the star 8.5. No fluctuations of brightness were seen. The star always appears nearly equal to the star



Drawn from Plate
AC 3227

estimated as 8.3 (+73° 244)

AC 1056
1777
156
3372
3340
3329
3232
2310
3920

Thursday, May 14, 1914

Comparison of Plates of Clusters sent by Professor Mitchell. Taken with the 24-inch Refractor of McCormick Observatory

M 3

Quality | | Quality

4. Plate 15 Exp. 120^m Cramer Iso K2 screen
Lim. mag. 14.7 f = 0.2 g = 0.0? form 3 size 2 def 2 4

3- Plate 1~~6~~7 Exp. 120^m Cramer Iso K2 screen
14.5 e=0.2 f=0.0? form 3 size 3 def. 4 3-

4- Plate 25 Exp. 180^m Cramer Iso. K2 screen
14.5 $\overset{e}{k}$=0.2 f = 0.0? form 3 size 2 def. 3 4-

4 B28 Exp 240^m Cramer Iso minus blue screen 4
15.0 g = 0.4 (brighter than f) h n.s. form 3 size 1 def. 2

4- B29 Exp. 206^m Cramer Iso minus blue screen
14.9 g = 0.2 h n.s. form 3 size 2 def 3

4 Plate 27 Exp. 240^m Cramer Iso. K2 screen
15.0 g = 0.~~7~~3 h = 0.0? form 3 size 2 def. 2

M 3 Photo Magn
H.A. 72 p.3
d 13.6
e 14.2
f 14.6
g 14.7
h [15.1?]
k [15.5?]
l 15.8
m 16.1

M 3 is not near centre of the above plates.

M 5
h = e of M3 = 14.2
m = 15.0?

M13
g > d of M3 = 13.5?
{h, k} = g of M3 = 14.7
l = ~~15.2~~ 14.8?

Thursday May 14, 1914

Comparison Cont.

Quality M 5 Exp. ~~240~~ 120^m
4- Plate 22 Cramer Iso Sen. 8024 Minus blue screen
Lim. Magn. 15.0? h = 0.7 l n.s. form 2 size 2 def 3
Is there a star K? May 15. m = n = 0.2 o = 0.1 l 7?

4 B 32 Exp 234^m Cramer Iso minus blue screen
15.0? h = 0.7 form 3 size 1 def. 2
Limit nearly the same as on plate 22, but a ~~far~~ better plate. May 15. Further examination shows that star m = n = 0.2 o = 0.0 ~~l 7?~~ l n.s.

M 13

4 Plate 16 Exp. 120^m Cramer Iso. K2 screen
15.0 l = 0.2 m n.s. form 3 size 1 def. 2

3 B30 Exp. 60^m Imp. Flashlight No screen
14.8 l = 0.0 form 2 size 3 def. 4

4- B31 Exp. 240^m Cramer Iso. Minus Blue screen
14.8 k = 0.0 g = ~~0.1~~ 1.0? form 2 size 2 def. 2

It is estimated that e of M3 is of nearly the same magn. as h of M5, but fainter than g of M13. The latter star is probably a little brighter than d of M3. h and k of M13 are of nearly the same magn. on Prof Mitchell's plates, much fainter than g.

Friday, May 15, 1914.

Clusters M 3, M5, M13,
Examination of MC plates, blue and yellow, for faintest stars of Sequences.

M 3

MC5225 blue 10m p = 0.1
5336 blue 10m o = 0.2 p 7?

MC5252 yellow 10m ε 2 η = 0.0 Min magn 13.0 No star of Seq. seen
MC5267 yellow 10m a = c = 0.1 d 7?

Messier 5

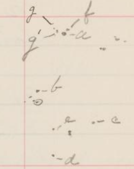
MC5380 blue 10m o = 0.1
MC5421 blue 10m o = 0.2

MC5511 yellow 10m c = 0.1

Messier 15

Friday, May 15, 1914

Estimates of Brightness of η Carinae



B ~~4748~~ 35834
a 4 b 1 c 0 d $\overset{2}{\cancel{\eta}}$ e 0 η 0 f 2 g'

B4748
a 3 η 2 b 2 c 2 d 1 e 1 f 2 g'

B9291
a 1 η 4 b 0 c 0 d 2 e 0 f 3 g'

B7107
a 3 η 2 b 1 c 2 d 3 e 1 f 2 g'

B7264
a 1 η 3 b 0 c 2 d 3 e 1 f 2 g'

B3315
a 1 η 4 b 1 c 0 d 2 e 0 f 3 g'

B 40,001 ~~7459 Too difficult~~
a 5 b 0 c 0 $\overset{d}{\cancel{\eta}}$ 2 e 0 η 0 f 2 g'

B36032
a 5 b 0 c 0 d 1 e 0 η 0 f 1 g'

B29557
a 5 b 0 c 0 d 2e 0 η 1 f 1 g'

η Carinae certainly is four or five tenths of a magnitude brighter on early plates than on late ones.

Wednesday, May 27, 1914

Examination of Harvard Map 2 Neg. AC 1943 For limiting magnitude and number of stars, to compare with Heinie

B1 No. 21 = 0.2

Superposed on millimeter paper 21 = 0.1

No. in square x, -9 ; y, -7 49

(Paper pressed against glass.

Count difficult and uncertain. Faint stars hardly to be distinguished from grain of paper. Many stars probably lost.

No. in sq. x, -9 ; y, -7 46

Count made with paper not pressed against glass. Easier but still uncertain. The smaller number would seem to indicate that defects were more likely to be counted when paper was in contact

Stars as bright as the 20 are probably counted fainter stars are probably sometimes counted and sometimes not.

B9 No. 25 = 0.1 superposed on paper

No. 24 very clear

No. in Square x = +8 y = -7 103

Paper pressed against glass

Too difficult when paper is not pressed against glass. Images sharper than in region B1 The grain of the paper gave little trouble. Probably this difficulty will be met only in corners of plates.

Wednesday, May 27, 1914.

Cont

B9

No. in Square x = +9 y = -6 116

~~Film~~ side up

No. in Square x = +9 y = -6 79

Glass side up Film pressed against paper

No. in Square x = +9 y = -6 105

glass up Film not pressed against Paper

B1 No. in Square x = -9, y = -7 45

Glass up. Film not pressed against paper

No. in Square x = -9 y = -7 31

Film pressed against paper

No special Region. ~~glass up~~

glass up No. in Square x = +1 y = +1 130

Film ~~not~~ pressed against paper

No. in Square x = +1 y = +1 ~~44~~

Film not pressed against paper

Heinie counted on Map 2:

Square $x = +9, y = -6$: 169

$x = \mp 9, y = -7$ 78

$x = +1, y = +1$ 145

Evidently Heinie lost far fewer stars than were lost in superposing on the rectangular paper (semi-transparent) used in the above experiment.

Friday May 29, 1914

Estimates of the brightness of Nova Persei No. 2

2.45 a b 1327

a b 3172
n.s. F 9.7 ✓

a b 3224
10.2 ✓

a b 3275
n.s. f 9.7 ✓

a b 3177
10.2 ✓

a b 3120
10.2 ✓

a b 3439 -
n.s. or F? 9.7 ✓
Badly Fogged & Streaked

a b 3419
n.s.? -10.0 ✓

a b 3095
10.1 ✓

a b 3112
10.1 ✓

G. E. S.

Friday May 29, 1914

Estimates of the brightness of Nova Persei No. 2

a b 3435
10.4 ? ✓
Trail

a b 3243
10.2 ? ✓

a b 3150
n.s. -10.0 ✓

a b 3405
n.s - 10.0 ✓

a b 3327
Off edge

a b 3255
10.2 ✓

a b 3199
10.0 ✓

a b 3276
Too poor ✓

a b 3163
10.2 ✓

G. E. S.

Friday May 29, 1914

Estimates of the brightness of Nova Persei No. 2

Ab	3376 10.2 ✓
Ab	3251 10.1 ✓
Ab	3345 10.3 ✓
Ab	3413 Too poor ✓
Ab	3385 10.3 ✓
Ab	3256 10.2 ✓
Ab	3108 10.4 ✓
Ab	3304 10.2 ✓
Ab	3151 Too poor ✓

3.00
J.E.S.

Friday May 29, 1914

Estimates of the brightness of Nova Persei No. 2.

4.10

Ab	14675 Isochromatic NS. Fr than 12.0 ✓	Ab	14790 ✓ 12.5? Poor	Ab	14698 Poor ✓
Ab	14815 NS.-12.0 ✓	Ab	14881 ✓ NS.-13.0	Ab	14488 12.5 ✓
Ab	14776 Isochrom NS-11.0 ✓	Ab	14571 ✓ 12.0? Fr.	Ab	14689 11.8 ✓
Ab	14714 Im. Dable 12.0? Fr ✓	Ab	14451 NS. ?-12.4 ✓	Ab	
Ab	14740 12.0 Fr ✓	Ab	14727 11.9? Fr ✓	Ab	
Ab	14604 11.9 ✓	Ab	14515 12.7 ✓	Ab.	
Ab	14523 12.9 ✓	A.b.	14614 12.0 ✓	Ab	
Ab	14427 NS.-11.3 ✓	Ab.	14894 NS.-12.0 ✓	Ab	
Ab	14809 ✓ 12.5? Poor ✓	Ab.	14895 12.8 ✓	Ab	

4.30
G.E.S.

Monday, June 1, 1914.

4 45 Poor Region in Scutum Sobieski R.A. 18h 50m
Dec. −2°.5

Near centre of hole in Milky Way.

Marked off square 4° on a side, and indicated parallels and meridians on DM chart by light dotted lines in red ink, on MC 5496 (blue). Sequence selected and marked on this plate.

Transferred marking to Plate MC 5524 (yellow)
Examined MC 5520 and 5525, the two Polar plates in the same series. Estimated No. 15 of Polar Sequence with Scale M as 7.8 on each plate and No. 16 as 8.0 on MC 5520 and 8.1 on MC 5525. The photometric magnitude of No. 15 is 10.78 and of No. 16 11.07. Therefore a scale reading of 8.0 with Scale M, on these plates, would be about equal to the magnitude 11.0

P

No. 15 of sequence has scale measure 8.0 and may be taken as limit.

Scale M Poor Region Scut. Sob. Cont.
503

For reduction of Stars 41 to 74

MC 5524 (yellow Measures of Sequence

	Sc1	Sc 2	P.C.
1	B		$\overset{2}{6.8}$
2	B		6.8
3	B		7.7
4	$2.8^{3.0}$		8.5
5	$3.6^{3.8}$		8.7
6	$3.9^{4.1}$		9.0
7	$4.7^{4.9}$		$\overset{2}{9.0}$
8	$3.8^{4.0}$		9.0
9	$5.6^{5.8}$ 5.75^{01}	5.7	9.9
10	$\overset{5}{4}.3^{5.5}$ $5.55^{\pm 10}$	5.6	9.9
11	$4.9^{5.1}$ $5.20^{\pm 11}$	5.3	9.8
12	$6.7^{6.9}$ 6.85^{10}	6.8	n.s.
13	$6.9^{7.1}$ $7.15^{\pm 10}$	7.2	
14	7	7.7	
15		8.0	
16		8.3	
17		8.7	
18		8.9	
19		8.8	
20		8.7	
21		9.7	
22		9.9	
23		10.0	
24		n.s.	

5 15

Scale M. Scutum Sob. Cont

MC 5524

Began measuring for Catalogue at 5.25. First number 41 (in order not to interfere with numbering of sequence even if fainter stars should be added later

Stopped at 6.20 Interrupted for 10 minutes Therefore measured 45m and observed only 34 stars between R.A. 18h 52m and 18h 56m, and Dec. -1° and -2°, one square degree. Of these 16 were DM stars and 18 were not. Faintest DM star reading 76 Brightest star measured, 5.9 (var?) Others of 7.1, 6.8, 7.4 etc 10 were 7.8 or fainter.

~~The above~~ stars (Nos 41 to 74) are to be reduced with measures of sequence on page 169.

Thirty-four stars ~~to a~~ this square degree will evidently give too many stars for the region, as the distribution in this part of the plate is thin. Try taking no. 14 of the Sequence for Poor Reg. Scut. Sb., instead of No. 15, as limit.

Monday June 8, 1914

Scale M MC 5524 Poor Reg. Scut. Sob. Cont.

12 26 Mean of these meas. and those on p. 176 for reduction of Stars 75 to 218

Special Sequence

	1	2		P.C 2
1				6.8
2	B			6.8
3	B			7.7
4				8.3
5	$3.7^{3.9}$ p.			8.6
6	$4.0^{4.2}$			9.0
7	$4.6^{4.8}$			9.2
8	$3.9^{4.1}$			9.0
9	$5.5^{5.7}$			9.9
10	$5.3^{5.5}$ 5.50^{00}	5.5		9.9
11	$5.1^{5.3}$ 5.30^{00}	5.3		9.8
12	$6.7^{6.9}$ 6.90^{00}	6.9		n.S
13		7.3		n.S
14		7.7	[illegible]	
15		8.0		
16		8.7		
17		8.7		
18		8.9		
19		8.8		
20	~~8.8~~	8.8		
21		9.7		
22		9.9		
23		10.0		
~~24~~		n.S		
*18a		~~9.1~~		

12 47 wrong star. See note on cover of MC 5524.

For 18a see MC 5496. Apr. 14, 1916.

Monday, June 8, 1914

Pros Reg. Scut. Sob. Cont.

MC5524

Began with No. 75.

~~8 1 20~~

1 40 Finished -1°½-2°; $19^{h}48^{m}$ & $19^{h}52^{m}$, 158

2 17 through 124

4.30 Began with No. 125

6 00 Stopped with No. 218 (several interruptions

For all measures, Scale M is attached to 2-inch eyepiece with long tube by means of rubber bands. Estimates slower and more difficult than when scale is held separately and the star is brought to centre of field

Monday, June 8, 1914

Pros Reg. Scut. Cont

MC5524 Cont. Copy on page 171 and take mean

6 05

	1	2		P.C. 1	P.C. 2
1	B				6.8
2	B				6.8
3	B				7.6
4	B				8.5
5	$3.8^{4.0}$				8.6
6	$3.9^{4.1}$				8.9
7	$4.7^{4.9}$				8.9
8	$41^{4.3}$				8.8
9	$5.2^{5.4}$				
10	$5.5^{5.7}$				
11	$5.3^{6.5}$	5.5	5.50 00		
12	$6.1^{6.3}$	68	6.55 3 2		
13	$68^{7.0}$	70	7.00 00		
14		7.7			
15		8.0			
16		8.3			
17		87			
18		8.8			
19		8.7			
20		8.8			
21		9.6			
22		9.9			
23					
24					
*182		91			

* see note on P. 171.

6.15

Thursday, June 11, 1914

Scale M

Poor Scut. Sob. Cont.

2 42

MC5524 Cont. For reduction of Stars 219 to 337

	1	2	P.C. 1 2	
1	B ~~3.9~~		68	
2	B		6.7	
3	B		7.7	
4	2.7^{29}		8.3	
5	3.7^{39}		8.1	
6	$3.8^{4.0}$		8.7	
7	$4.6^{4.8}$		^{9}8.0	— assume error of unit.
8	$3.9^{4.1}$		8.9	
9	$5.3^{5.5}$	5.55 ⊥0 5.6	9.9	
10	$5.2^{5.4}$	5.45 01 5.5	9.8	
11	5.3 5.5	5.55 ⊥0 5.6	9.8	
12		6.9		
13		7.0		
14		7.6		
15		7.9		
16		8.5		
17		8.7		
18		8.9		
18a		~~9.1~~		wrong star. See note on cover of MC5524. Apr. 11, 1916.
19		8.6		
20		8.6		
21		9.7		
22				

3 53

Thursday, June 11, 1914

Poor Scut. Sob. Cont.

Began with No. 219 at 3 00
Stopped with 337 at 4 30

Was interrupted for about 45 minutes, so that the time was approximately 45 minutes to measure 119 stars. Rate, 160 stars per hour.

No. 324 same as 201

Did not mark numbers on back of plate until measures were finished. Then it took 45 minutes to mark them, or as long as to make the measures. Evidently there is no gain in waiting until later for marking plate.

The principal difficulty in marking plate at the time is avoided if plate takes the ink easily. Therefore measures should not be made on an extremely hot day when the moisture of the hands will affect the glass.

If a plate does not take ink well, put it away to be measured on another day, first making sure that the glass is clean.

Probably 100 stars per hour is the best rate that can be expected for the first yellow plate measured. Others will be superposed, and measures should be much more rapid, — perhaps 200 per hour.

Nos. 219 to 337 reduced with meas. of Seq. Opp. page

Friday, June 12, 1914

Scale M
4 35

MC 5524 Cont For reduction of Stars 338 to 435

	1	2		P.C. 1	P.C. 2
1	B				~~6.9~~ 68
2	B				6.9
3	B				7.3
4	$2.9^{3.1}$				8.4
5	$38^{4.0}$				8.7
6	$3.9^{4.1}$				9.0
7	$47^{4.9}$				9.3
8	$3.9^{4.1}$				8.9
9	$5.5^{5.7}$	5.6	5.65 10		9.9
10	$5.4^{5.6}$	5.7	5.65 01		9.9
11	$5.2^{5.4}$	5.4	5.40 00		9.9
12	$6.5^{6.7}$	6.8	6.75 ⊥0		.
13	$6.9^{7.1}$	7.2	7.15 ⊥0		-
14		- 7.7			
15		8.0			
16		8.4			
17		8.6			
18		8.9			
19		8.8			
20		8.7			
21		9.5			
22		9.8			
23		10.0			
24					
18a	——	9.1 ——	wrong star. See note on cover of MC 5524. Apr. 14, 1914		

1 4 4 6

Saturday June 13, 1914

MC 5524 Cont.

Stars 338 to 435 were measured yesterday, but with many interruptions, and the time is uncertain. Probably about 50 minutes. The numbers were put in whenever a square degree was completed. This worked very well and will probably be the best method. The plate was turned glass side up and numbers written backward. The above stars are to be reduced with measures of sequence on opposite page

Difficulty in identification of Nos. 424, 425, 426 as configuration differs from that of DM Chart, Plotted stars from DM in zone −0° between RA. 18h 48m and 18h 52m. Agrees with DM Chart
There is no star on plate in pos. of DM −0° 3600

423 = −0° ~~3601~~ 3599
426 = −0° 3601
422 = −0° 3602
427 = −0° 3603
418 = −0° 3597
419 = −0° 3598

Nos. 420, 421, 424, 425
are not in DM

No. 425 is of about the same declination as DM −0° 3600, and follows DM −0° 3601 (No. 426) by ~~about as much as~~ much less than −0° 3600 precedes it
Note that DM −0° 3600 is not on plate.
Was the star observed for DM No. 425, and was a mistake made. or has there been large proper motion?

Evidently not a case of ~~large~~ proper motion

On A 4137, Sept. 3, 1891, The configuration is the same as on MC 5524

Friday, July 10, 1914

Experiment in measuring Densities.

A line was ruled across the centre of an eye scale marked in divisions of 0.2 mm and fitted into an eyepiece. The angle was very small, and the position at which edges of star images were tangent was read in tenths of a division

Magn. H.A. 71.3		MC 4321 1 (1)	log	(2) 2-inch eyepiece		Square Root (1)	(2)	p.c.	1-inch eyepiece
6.49	5	292	2.46	370?	2.57?	17.1	19.2	076	068
7.11	6	240	2.38	254?	2.41?	15.5	15.9	074	051
7.31	7	220	2.34	208?	2.32?	14.8	14.4	044	052
8.23	8	148	2.17	186	2.70	12.2	13.6	035	053
8.83	9	112	2.05	128	2.11	10.6	11.3	021	036
9.02	10	109	2.04	131	2.12	10.4	11.4	013?	029
9.55	11	107	2.03	108	2.03	10.3	10.4	0.18?	012?
9.86	12	~~079~~ 097	1.99	107	2.03	9.8	10.4	008?	010?
10.30	13	077	1.89	082	1.91	8.8	9.1		
10.65	14	079	1.90	076	1.88	8.9	8.7		
11.08	15	078	1.89	068	1.83	8.8	8.2		
11.40	16	030	1.48	045	1.65	5.5	67		
11.63	17	047	1.67	032	1.51	6.9	5.7		
12.06	18	041	1.62	038	1.58	6.4	6.2		
12.42	19	038	1.60	030	1.48	6.2	5.5		
12.73	20	022	1.34	013	1.11	4.7	3.6	7.8	
13.34	23	0.14?	1.15?	017?	1.23?	3.7	4.1	8.3	
13.84	25	008?	0.90?	012?	1.08?	2.8	3.5	8.9	
14.33	26	005?	0.70	008?	0.90?	2.2	2.8	9.4	
14.69	27			0.05?	0.70?		2.2	9.6	
	28							9.9	

Stars could be seen through No. 29

Reading Scale M

Wednesday, July 15, 1914

MC5795. Foci 16.6 and 16.8

Measured with Provisional Scale for Densities

	16.6	16.8	16.6 pc	16.8 pc
5	1$\overset{5}{\cancel{4}}$.7	14.7	5.2	5.6
6	1$\overset{3}{\cancel{2}}$.8	1$\overset{3}{\cancel{4}}$.5	5.2	4.7
7	13.2	10.9	5.2	3.3
8	10.4	10.4	3.6	3.5
9	9.3	9.7	3.2	3.6?
10	9.6	9.7	3.2	4.8
11	8.6	~~7.1~~ 8.3	2.6	7
12	7.8	8.2	2.4?	
13	7.2	7.7	~~7.2~~ 7	
14	6.5	~~6.6~~ 7.9	7	
15	5.5	7.0		
16	4.9	6.4		
17	4.6	6.3		
18	3.8	6.1		
19	3.8	5.6 my [illegible]		
20	3.2~~4~~	5.0?		
23	~~2.8~~ 3.3			
25	3.0?			
26	2.8?			
27	-			
1 d	44.5	36.0	fogged	11.3
2 d	13.8	12.9	5.1	4.8
3 d	4.2	12.0	5.1	4.9
1 r	12.4	11.0	4.6	4.4
2 r	11.5	11.6	~~3.8~~ 4.8	4.5
3 r	9.1	8.7	3.2	2.6?
4 r	9.6		3.0	

5
6
7
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28

Tuesday, Sept. 22, 1914

S Z Tauri (Schwarzschild's Var

Estimates of brightness of Comparison stars in terms of Polar Sequence. See also Book 25: 207

I' Plate AC 11892

			Plate	Revised
+19° 742	a	5.4	5.4	5.40
+19° 744	b	5.9	5.8	5.85
+18° 684	c	6.0	6.0	6.00

Polar Sequence abnormally faint on this plate, evidently, as these magnitudes are a magnitude and a half brighter than those depending on ptm. magn. and spectra, which nearly agree with magnitudes employed by Schwarzschild.

Wednesday, October 7, 1914

105

Messier 3. Estimates of Intervals in Grades

c′ · · c
· a

	H877	H878	H839	copied p.190 MC 5336	Mean H		Sum H	Sum MC	
a							0.00	0.0	a
b	1	1	0	1	07	001	0.07	0.1	b
c′	~~2~~ 3	2	3	2	23	001	0.30	0.3	c′
							* 0.42		c
d	3	2	1	3	20	101	0.50	0.6	d
e	4	4	4	2	40	000	0.90	0.8	e
f	3	4	1	4	27	012	1.17	1.2	f
g	3	3	3	0	30	000	1.47	1.2	g
h	0	0	0	1	00	000	1.47	1.3	h
k	1	1	3?	1	17	111	1.64	1.4	k
l	2	3	1?	4	20	011	1.84	1.8	l
m	3	0	7	1	15	127	1.99	1.9	m
n	1	2?		4?	15?	10 .	2.14?	2.3?	n
o	2	2?		7	20?	00 .	2.34?		o
p	7 -								p

per plate

115

Plate MC 5336 shows stars nearly as faint as H 877 and 878. All images fainter than g on each plate are difficult to measure on account of faintness. ~~G, H,~~ g, h, and k appear of nearly the same magnitude

				Mean		Sum
b						~~S~~ 0.07
c	4	5	5	47	100	0.54 0.40 0.47
d	2	2	1	10	112	0.50

$\times$

or $\frac{10}{54} \times 43 = 0.08$

c = 0.~~5~~42

Wednesday, Oct. 7, 1914

M3 Estimates of Intervals.
Iso plates from Prof. Mitchell

B2~~9~~8	25
b 3 c′	b 5 c′
c′ 10 a ?	c′ 8 a
a 1 d	a 1 d
d 10 e ?	d 10 e
e 6 f	f n.s.
f 1 g	
h n.s.	
k n.s.	
g 3 l	

	15	25	28	29	Mean		Sum	H(blue) − Sum
b							0.00	0.07
c′	6	5	3	4	45	2110	0.45	-0.15
a	8	8	10	10	90	1111	* 0.92	c
							1.35	-1.35
d	1	1	1	2	12	0001	1.47	-0.97
e	10	10	10	10	100	0000	2.47	-1.57
f	5	.	6	7	60	1.01	3.07	-1.90
g	1	.	1	0	07	0.01	3.14	-1.67
l	.	.	3	.	30	..a.	3.44	-1.60

Apparently stars a, d, e, f, g, ~~and~~ ~~l~~ are decidedly ~~red~~ white, coming out ~~bright~~ faint on yellow plates.

Stars b, c and c′, and probably ~~h and k~~ l, are red, coming out bright on the yellow plates.

Stars h and k which are not seen on yellow plates, are probably white

B29	15
b 4 c′	b 6 c′
c′ 10 a	c′ 8 a
a 2 d	a 1 d
d 10 e	d 10 e
e 7 f	e 5 f
f 0 g ?	f 1 g
l n.s.	
f and g	h, k, l, n.s.
extremely ft	g extremely ft

	~~15~~ ~~28~~	~~25~~ ~~29~~	~~28~~	~~29~~	Mean		* Sum	H − Sum
b							0.00	
c′	5	5	4	4	45	1100	0.45	
c	3	4	5	5	42	1011	87 97 0.92	− 0.50 ~~0.40~~
a	4	3	4	4	38	0100	$\frac{38}{80} \times 90 = 43$ 1.35	

Wednesday, Oct. 7, 1914

M3 Cont.

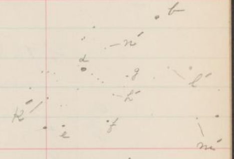
Estimates on X plates

	X6820	X6844	X6844 (p.185	Mean		Sum	
a						0.00	
b	1	2	.	15	1̲ 0 .	0.15	
c′	2	~~3~~2	.	20	0 0 .	0.35	c′
						* 0.56	c
d	3	~~7~~4	.	35	1̲ 0 .	0.70	d
e	4	5	.	45	0 1 .	1.~~20~~15	
f	4	3	.	35	0 1̲ .	1.50	
g	1	1	.	10	0 0 .	1.60	
h	2	3	4	30	1̲ 0 1	1.90	
k	3	0	1	13	2 1̲ 0	2.03	
l	0	2	2	13	1̲ 1 1	2.16	
m	2	1	2	17	0 1̲ 0	2.33	
n	3	2	3	27	0 1̲ 0	2.~~9~~60	
o	scratched	scratched					

						*	
b						0.15	
c	~~5~~	4		45	10	$\frac{15}{60}\times 55 = .14$ 0.56	
d	1	2		15	1̲ 0	0.70	

M 3 Estimates of Additional Stars

X ~~H~~6844	H 877
g 3 h′	h′ 0 k
h′ 1 h	K $\overset{2}{3}$ l‴
h 1 k	l 1 l′
k 2 k′	l′ 0 m
h′ 4 k′	m 2 n
k′ 0 l	n 1 m′
l 4 l′	m′ 2 n′
l 2 m	
m 2 l′	
l′ 1 n	
n 3 m′	
m′ 2 n′	



Additional Stars only

h 1 h′	h 2 h′
h′ 4 k′	h′ 1 k′
k′ 4 l′	k′ 3 l′
l′ 3 m′	l′ 1 m′
m′ 2 n′	m′ 3 n′

For other estimates, see pages 190, 191

Saturday, October 17, 1914

315 Messier 5. Estimates of Comparison Stars in grades

	H768	H 830	H 832	H 840	H 842			Sum
a								0.00
b	4	3	5	4	3	38	0 1 1 0 1	0.38
c	9	8	8	9	7	82	1 0 0 1 1	1.20
d	4	4	6	5	7	52	1 1 1 0 2	1.72
d²	~~5~~ 3	5	4	4	3	38	1 1 0 0 1	2.10
d¹	2	4	2	3	1	16	0 2 4 1 1	2.26
e	~~x~~ 1	0	0	1	0	04	1 0 0 1 0	2.22
e'	4	4	2	4	3	34	1 1 1 1 0	2.56
e²	0	2	2	1	1	04	0 2 2 1 1	2.52
f	1	0	2	1	2	08	2 1 1 0 1	2.60
f'	2	1	2	2	1	16	0 1 0 0 1	2.76
g	1	3	1	3	4	24	1 1 1 1 2	3.00
h	6	5	4	4	4	46	1 0 1 1 1	3.46
l	fm	1	2	0	0	08	. 0 1 1 1	3.54
m	.	3	4	3	3	32	. 0 1 0 0	3.86
n		1?	1	0	2	10	. 0 0 1 1	3.96
o		2?	1	2	0	12	. 1 0 1 1	4.08?
Not in Seq ~~f~~		2?	2	1	1	15	. 0 0 1 1	3.93?
p ~~q~~		3?	3	3	5?	35	. 1 1 1 1	4.28?
						66		
						84		
						±0.078		
h						Omit a,b,c		
h'	0	0	0	0	0			
						Omit a,b,c 55		
						69		
						±0.078		

Additional Stars d', d², e', e², f', h', marked on H838; chart on cover

Saturday, Oct. 17, 1914

Messier 5 Estimates of grades on Yellow Plates McCormick Telescope

	B22	B32			Sum
a					0.00
b	2	3	25	0 1	0.25
e	8	7	75	0 1	1.00
c	2	0	10	1 1	1.10
d²	0	3	15	2 1	0.95
e'	10	8	90	1 1	1.85
e²	1	1	10	0 0	1.95
d	0	0	00	0 0	1.95
f ~~d'~~	4	4	40	0 0	2.35
f'	0	1	05	0 1	2.40
d' ~~f~~	2	4	30	1 1	2.70
g	3	3	30	0 0	3.00
h ~~m~~	~~8~~ 3	6	45	1 2	3.45
n ~~o~~	~~4~~ ~~3~~ 5	n.s.	50		3.95
o ~~l~~	~~12?~~ 1	n.s.	10		3.85?
l	1?	n.s.	10?		3.95?
h'	0?	n.s.	00?		3.95?
			15		
			24		
			±0.063		
		Omit a,b,c	13		
			22		
			± 0.060		

M 5 Cont.

	X 6814	X 7043	X 6958	X 8578			Sum
a							0.00
b	3	3	3	2	28	$000\underline{1}$	0.28
c	8	8	9	7	80	$001\underline{1}$	1.08
d	5	5	7	9	65	$\underline{1}\underline{1}13$	1.73
d^2	3	4	2	4	32	$01\underline{1}1$	2.05
e	2	~~4~~ 0	0	1	08	$1\underline{1}\underline{1}0$	2.13
d′	2	4	3	3	30	$\underline{1}100$	2.43
e′	3	3	1	3	25	$11\underline{1}1$	2.68
e^2	1	1	2	0	10	$001\underline{1}$	2.78
f	1	0	0	1	05	1001	2.83
f′	2	3	2	2	22	0100	3.05
g	4	4	3	5	40	$00\underline{1}1$	3.45
h	4	5	6	6	52	$\underline{1}011$	3.97
h′	3	3	1	2	22	$11\underline{1}0$	4.19
l	1	0	3	2	15	$\underline{1}\underline{2}10$	4.34
m	1	3	1	2	18	$\underline{1}1\underline{1}0$	4.52
n	3	3	3	1	25	$111\underline{1}$	4.77
o	1	2	6	3	15	$\underline{1}0\underline{2}1$	4.92
not in seq. X	$\underline{1}$	$\underline{3}$	$\underline{1}$	$\underline{1}$	$\underline{15}$	$1\underline{1}11$	4.77
p X	4	4	2	4	35	$00\underline{2}0$	5.12

55
76
±0.074

Omit a, b, c
46
68
±0.068

Monday, October 19, 1914

M 5 Cont.

	mc 3138	mc 5380	mc 5421	mc 5421	Rev. mc 3138	mc 5380	mc 5421
a	~~7~~5	~~4~~	~~5~~				
b	~~8~~5	4		5	6	5	4
c	8	9	~~10~~	9	10	10	8
d	6	5	~~5~~	6	6	7	7
d^2	$\underline{1}$.	1	~~2~~	~~1~~0	0	1	−1
e	1	2	~~2~~	3	0	2	3
d′	4	3	~~3~~	3	4	3	3
e′	too poor	1		2	-	1	1
e^2		0		2	.	0	1
f		1		2	.	2	3
f′		2		1	.	1	1
g		4		3		4~~7~~	2
h		3		~~0~~5		4	5
h′		2		0		~~3~~2	1
l		1?		2?		1	2?
m		2		def.		0	def.
n		too poor				-	
o		....					
p							
q							

~~Wednesday, October 21, 1914~~

M 3 Estimates, with Additional Stars

	H	Rev H	H	Rev H	MC	MC	Rev. MC	Mean H	Mean MC	Sum H	Sum MC
	839	877	878	878	5336 p. ~~182~~	5336	5336				
a										0.00	0.00
b	0	2	3	3	1	0	1	20 2 011	07 ~~05~~ 110	0.20	07 ~~0.05~~
c′	5	3	3	2	2	5	3	32 2001	33 ~~40~~ 120	0.52	0.4~~5~~ 0
c	1	1	2	1	·	1	0	12 0010	05 10	0.64	45 ~~0.50~~
d	0	2	1	2	·	0	2	10 2 1101	10 11	0.74 6	55 ~~0.60~~
e	4	4	4	4	2	2	2	40 0000	20 000	1.14 6	75 ~~0.80~~
f	1	1	3	3	4	3	3	15 3111	33 ~~30~~ 100	1.29 31	08 ~~1.10~~
g	5	3	2	2	0	2	3	30 2011	17 ~~25~~ 201	1.59 61	25 ~~1.35~~
h′	1	3	2	2	·	5	5	20 1100	50 00	1.79 81	75 ~~1.85~~
h	0	~~0~~ 2	2	2	·	2	3	15 2 000	25 01	1.64 6	50 ~~1.60~~
k	tp	1	1	0	1	0	0	07 .001	03 ~~10~~ 100	1.71 3	53 ~~1.60~~
k′		2	3	3	·	5	5	27 . 100	50 00	2.00	03 ~~2.10~~
l		0	1	0	·	1	1	03 . 010	10 00	1.97	1.93 ~~2.00~~
m		1	0	1	1	1	2	00 . 101	13 ~~15~~ 001	1.97	1.8~~5~~ 0
l′		0	1	1	·	2	2	07 ~~03~~ . 100	20 00	2.04	2.0~~5~~ 0
n		0	1	1	·	1	2	07 . 100	15 10	2.11	15 ~~2.20~~
m′		1	2	2	·	-	-	17 . 100	. . .	2.28	·
n′		2	0	0	·	-	·	07 . 111	. . .	2.35	·
o		0	2	1	·	·	-	10 . 110	. .	2.45	·

clW

Wed. Oct. 21, 1914

M 3 Estimates with Add. Stars.

Yellow Plate MC Cormick

	B 15	B25	B28	Rev B29	Mean	Sum	
b	8	8	8	7	78 0001	0.00	b
c′	3	4	4	5	40 1001	0.78	c′
c	4	3	4	4	38 0106	1.18	c
a	1	1	1	2	12 ~~17~~ 0001	1.56	a
d	8	7	9	7	78 0111	1.68	d
e	3	-	5	6	47 2 .01	2.46	e
f	2?	-	1	1	10 R.00	2.93	f
g						3.03	g
h′	-	-	5	·	5	3.53?	h′
~~h~~ k′	-	-	0	-	0	3.53?	k′
l ~~m~~	-	-	1		1	3.63?	l
m ~~k′~~	-	-	0 2?		0?	3 ~~2~~63?	m
h n.s.	-	-	-		·		
k n.s.	-	-	-	·	·	clW	
l′	-	-	-	·			
m′	-	-	·				

Tuesday, November 10, 1914.

24 inch Bruce Telescope.

Forms of Images with 8^m and with 64^m Exposure.

The following plates were examined, and remarks are copied from covers:—

A 10726 Images 64^m elongated } appearance not very
" 8^m double } dissimilar.
A 10727 " 8^m round
" 64^m appear nearly round, actually double.
A 10744 " 8^m elongated } appearance
" 64^m " in different direction } not very dissimilar
A 10853 " 8^m nearly round
" 64^m " "
Images on this plate resemble each other in form, but those of Exp. 64^m are larger.
A 10856 Images 8^m round
" 64^m double

On the above plates, the images on the exposure of 8 minutes are usually rounder and smaller than those on the exposure of 64^m.

Copied from paper given to Prof. Bailey.

Friday, November 13, 1914

Messier 3 and Messier 5. Comparison of Stars of the 2 Sequences by Argelander's Method.

M5 above	M3 above	
X6786 (M5) superposed on X 9204 (M3)	X6786 and X 9204	reversed
$c^5\ 2\ a^3\ 4\ d^5$	$c^3\ 4\ d^5\ 1\ d^3$	
$c^5\ 1\ b^3\ 5\ d^5$	$d^3\ 2\ e^5\ 2\ f^3$	
$d^5\ 2\ c^3\ 4\ e^5$	$f^3\ 4\ f^5\ 1\ g^3$	
$e^5\ 1\ d^3\ 4\ f^5$	$h^3\ 2\ g^5\ 1\ k^3$	
$e^5\ 5\ e^3\ 4\ g^5$	$k^3\ 1\ h^5\ 1\ l^3$	
$g^5\ 2\ f^3\ 1\ h^5$	$l^3\ 1\ l^5\ 3\ m^3$	
$h^5\ 1\ g^3\ 3\ l^5$	$l^3\ 3\ m^5\ 1\ m^3$	
$g^5\ 2\ h^3\ 1\ l^5$	$m^3\ 2\ n^5\ 1\ n^3$	
$l^5\ 1\ k^3\ 1\ m^5$	$n^3\ 2\ o^5\ 1\ o^3$	
$m^5\ 1\ l^3\ 3\ n^5$	$o^3\ 3\ o^5$	
$n^5\ 1\ m^3\ 2\ o^5$	p^3 F	
$o^5\ 3\ n^3\ 1\ p^5$	g^5 n.s. ?	
$o^5\ 3\ p^3\ 0\ p^5$		
q^5 F		
p^3 F		
$p^3\ 1\ q^5$?		

Plates superposed with the two films together and pressed closely. The lower plate, however, is less easily focused and images appear hazy. The above observations show that magnitudes on the lower plate were always estimated fainter

Friday, Nov. 13, 1914

Messier 3 and 5 Cont.

X 6786 and X 9204 compared holding them side by side.

m5 X 6786 exp. 75^m
m3 X 9204 exp. 90^m

$d^3\ 4\ e^5\ 1\ e^3$
$e^3\ 1\ f^5\ 4\ f^3$
$f^3\ 3\ g^5\ 2\ g^3$
$g^3\ 1\ h^5\ 1\ h^3$
$k^3\ 1\ l^5\ 1$ l~~m~~^{3}
$l^3\ 1\ m^5\ 4\ m^3$
$m^3\ 1\ n^5\ 3\ n^3$
$m^3\ 3\ o^5\ 1\ n^3$
$o^3\ 3\ p^5\ 1\ p^3$
q^5 n.s.?

X 6785 M5 $\overset{85^m}{\wedge}$ and X 9205 $\overset{90^m}{\wedge}$ M3
$c^5\ 7\ a^3\ 1\ d^5$
$d^5\ 3\ b^3\ 1\ e^5$
$f^5\ 3\ c^3\ 2\ g^5$
$f^5\ 4\ d^3\ 1\ g^5$
$g^5\ 3\ e^3\ 1\ h^5$
$h^5\ 1\ f^3\ 2\ l^5$
$l^5\ 1\ g^3\ 4\ m^5$
$l^5\ 2\ h^3\ 3\ m^5$
$l^5\ 4\ k^3\ 1\ m^5$
$n^5\ 1\ l^3\ 2\ o^5$
$o^5\ 1\ m^3\ 4\ p^5$
$o^5\ 3$ ~~k~~ $n^3\ 1\ p^5$
o^3 f?
q^5 n.s.

Messier 3 & Messier 5 Cont.

X 6956 M 5 exp. 90^m
X 6854 M5 exp. 90^m

$c^5 > a^3$
$\overset{c}{\cancel{d}}{}^3\ 0\ d^5\ 2\ d^3$
$b^3\ 2\ d^5$
$d^3\ 1\ e^5\ 1\ e^3$
e^3 defective
$f^3\ 1\ g^5\ 2\ g^3$
$g^3\ 1\ h^5\ 2\ h^3$
$g^3\ 3\ l^5\ 0\ h^3\ 0\ k^3\ \cancel{f}\ l^3$
$k^3\ 2\ \cancel{l}\ m^5\ 1\ l^3$
$l^3\ 1\ n^5\ 1\ m^3$
$l^3\ 2\ o^5\ 0\ m^3\ 5$ $5n^3$
$\overset{n}{\cancel{m}}{}^3\ 4\ p^5\ 1\ o^3$
q^5 faint
$o^3\ 1\ q^5$?
p^3 not seen?
The above plates both have slightly elongated images, but are comparable

Saturday, November 14, 1914

M 3 and M 5 Cont.

M3 X6844 Exp. 100^m
M5 X6763 100^m

$d^5\ 4\ a^3\ 0\ e^5\ 4\ f^5$
$e^5\ 1\ b^3\ 3\ f^5$
$f^5\ 1\ c^3\ 3\ g^5$
$f^5\ 3\ d^3\ 1\ g^5$
$lk^5\ 1\ e^3\ 4\ m^5$
$m^5\ 1\ f^3\ 1\ \overset{n}{q}^5$
$n^5\ 1\ g^3\ 4\ o^5$
$o^5\ 1\ h^3\ 2\ p^5$
$o^5\ 1\ k^3\ 2\ p^5$
$o^5\ 3\ l^3\ 0\ p^5\ 5\ q^5$
$p^5\ 1\ m^3\ 4\ q^5$
$p^5\ 3\ n^3\ 2\ q^5$
$q^5\ 1\ o^3$
$q^5\ 3\ p^3$?

Images of Messier 3 much less well defined than those of Messier 5. This is true on all the plates examined pp 194, 195, 196. Why? Declination of M3, + 28°.9 and of M5 + 2°.4. It does not seem as if the altitude could be low enough, therefore, to affect the quality of images of Messier 3, in comparison with those of M5. The plates for the latter seem generally to give sharp, clear images, while those for M3 give images much less well defined.

Saturday, Nov. 28, 1914

Scale M 12.00

Polar Region Sequence Sob.

Plate MC 5680 (blue) superposed on MC 5524

Stars selected & marked on MC 5524 (yellow)

Seq. Copied on page 207

	Star	Sc1 Sc2	P.C. Sc1 Sc2						
	1		3.8 4.0	-1° 3602	18	48.9	-1	58.5	6.5
353 =	2	x	4.0 4.2	-3° 4391	18	43.6	-3	41	9.8
354 =	3		5.3 5.5	-3° 4390	18	43.5	-3	25	7.3
	4		5.9	-2 4784	18	48.0	-2	29	8.0
	5		6.8	-1° 3581	18	44.1	-1	13	8.2
	6		7.3	-3° 4382	18	41.0	-3	16	8.0
	7		7.6	-1° 3582	18	44.1	-1°	56	9.0
	8		7.6	-1° 3609	18	51.0	-1	46	8.6
	9		8.2	-2° 4768	18	45.1	-2	25	8.5
	10	3.2 3.4	8.5	-2° 4798^{8}	18	49.4	-2	$\overset{48}{44}$	$\overset{89}{10}$
	11	3.6 3.8	8.9	-2° 4765	18	44.9	-2	50	8.7
	12	3.9 4.1	9.3	-2° 4802	18	49.9	-2	36	9.3
	13	4.8 5.0 -	9.9	-2° 4792	18	49.2	-2	26	9.5
	14	5.1 5.2		-2° 47$\overset{7}{0}$8	18	46.6	-2	23	9.5
	15	5.6		-2° 4783	18	47.8	-2	37	9.8
	16	6.4							
	17	6.8							
	18	7.3							
	19	7.7							
	20	7.9							
	21	8.0							
	22	8.7							
	23	8.9							
	24								
	25								

All measures of Nov. 28 are to be reduced by means of the measures of sequence, for which means are given on page 207

Sat. Nov. 28, 1914

MC 5680 Cont.

For identifications of stars 41-161 see H.S.L. Bk 37:56.

Dist from No. 15	Star	Sc.1	Sc.2	P.C. Sc.1	P.C. Sc.2	curve	Magn.	P.C. Curve Magn.	Magn.	
	26		9.8							
	27									
84 nf	41				8.9			0.80	9.70	
84 nf	42		7.5			5.02	12.52			
80 nf	43	4.0 4.2			9.6	5.$\overset{8}{3}$4	10.04	0.70	$\overset{10}{9}$.30	
78 nf	44	4.0 4.2				5.$\overset{8}{3}$4	10.04			
72 nf	45	4.2 4.4				5.78	10.18			
70 nf	46		6.4			5.24	11.64			
69 nf	47	4.9 5.1				5.59	10.69			
70 nf	48		6.5			5.21	11.71			
68 nf	49	4.2 4.4				5.79	10.19			
75 nf	50	4.9 5.1				5.59	10.69			
73 nf	51		6.6			5.18	11.78			
73 nf Unit cor. Feb. 3, 15	52		$\overset{5}{6}$.8			$\overset{.58}{5.74}$	$\overset{58}{11.94}$			
73 nf	53	4.2 4.4			9.3	5.79	10.19	0.74	10.04	
66 nf	54	4.2 4.4				5.79	10.19			
	55		5.2			5.57	10.77			
66 nf	× 56 a		7.4			5.03	12.43			
62 nf	57		6.0			5.34	11.34			
55 nf	58	4.0 4.2				5.84	10.04			
50 nf	59	3.7 3.9			9.1	5.93	9.83	0.76	9.86	
68 nf	60		7.6			5.02	12.62			
70 nf	61	4.7 4.9				5.65	10.55			
71 nf	62	4.9 5.1				5.59	10.69			
69 nf	63	5.3 5.5				5.49	10.99			Ch. F.C.
66 nf	× 56 b		5.7			5.42	11.12			

~~For scale measures of these stars see following page.~~

Star
64
65
65a
66
67
68
69
70
71
72
73
74
74a
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90

Nov. 28, 1914

For identifications of nos 41-161 see H.S.L. Bk 31 p. 56-8

MC 5680 Cont. See H.S.L. 34, 58.

Star	Star Sc.1	Star Sc.2	P.C. Sc.1	P.C. Sc.2	Star Curve	Star Magn.	P.C. Curve	P.C. Magn.	
64		5.8			5.40	11.20			
65		7.2			5.04	12.24			
65a	5.9 6.1				5.31	11.41			
66		7.2			5.04	12.24			
67	5.7 5.9				5.36	11.26			
68		7.6			5.02	12.62			
69		5.7			5.42	11.12			
70		5.8			5.40	11.20			
71	5.2 5.4				5.51	10.91			
72	4.7 4.9				5.65	10.55			
73	4.9 5.1				5.59	10.69			
74	~~3.8~~	7.2			5.04	12.24			
74a	5.7 5.9				5.37	11.27			
75	3.8 4.0			9.0	5.90	9.90	0.78	9.78	
76				7.7	·		0.95	8.65	
77		7.3			5.04	12.34			
78	5.4 5.6				5.46	11.06			
79				8.7	·		0.82	9.62	
80	4.8 5.0				5.62	10.62			
81		7.7			5.01	12.71			
82	3.8 4.0			9.0	5.90	9.90	0.78	9.78	
double { 83		6.4?			·	11.64?			
84	~~6.~~	6.4?			5.24	11.64?			
~~double~~ not measured 85		~~6.4?~~			~~5.24~~	~~11.64?~~			
86				8.0	·		0.91	8.91	
87	4.8 ~~4~~5.0				5.61	10.61			
88		6.1			5.31	11.41			
89	5.2 5.4				5.50	10.90			
90	3.9 4.1				5.81	9.91			
43a 4~~7~~3a	5.7 5.9	~~6.6~~		~~7.4~~ no magn. Feb. 3, 1915	5.37	11.27	~~0.73~~	~~10.13~~	Ch. P.C.
63a	6	6.5			5.20	11.70			1 ro {15m int

Nov. 28, 1914

MC 5690 Cont.

For identifications of nos 41-161. see H.S.L. Bk 37: ~~5~~ 60-61

	SC 1	SC 2	PC SC1	PC SC2	Star curve magn.		P.C. curve magn.		See H.S.L. Bk 37, p. 60. Diff.
91	47 4.9				5.65	10.55			
92	5.7 5.9				5.36	11.26			
93	~~&~~	6.4			5.24	11.64			
double 94a		5.6 7.7			5.46 5.01	11.06 12.71			
95	~~67~~	6.7			5.15	11.85			
96		5.7			5.42	11.12			
97		5.8			5.40	11.20			
98	46 4.8				5.68	10.48			
99	5.1 5.3				5.53	10.83			
100	~~5~~	5.7			5.42	11.12			
101		7.9			5.01	12.91	0.8		
102	3.8 4.0			8.9	5.90	9.90	0.80	9.10	
103	4.8 50				5.62	10.62			
104		6.8			5.13	11.93			
105	3.7 3.9			8.9	5.92	10.82	0.80	9.10	
106		5.7			5.42	11.12			
107	4.8 5.0				5.61	10.61			
108		6.8			5.14	11.94			
109	3.5 3.7			8.7	5.98	9.68	0.83	9.53	
110	4.0 4.2			9.2	5.84	10.04	0.76	9.96	
111				7.9	·	·	0.93	8.83	
112				7.4	·	·	1.00	8.40	
113	4.9 5.1				5.59	10.69			
114	4.8 5.0				5.61	10.61			
115	5.2 5.4				5.50	10.90			
116				8.3	·		0.87	9.17	
117	5.8 6.0			~~5.8~~	5.34	11.34			
118	5.0 5.2				5.57	10.77			Ch. F. C.

Nov. 28, 1914

MC 5690 Cont.

		1	2	PC 1 curve magn.	PC 2
Car. Feb. 2, 1914	78a		~~6~~5.6	5.19	11.79
	96a		6.5	5.21	11.71
Car. Feb. 2, 1914	94 ~~94a~~		~~6~~5.5	5.21	11.71
	98a		6.2	5.28	11.48
	115a	5.7 5.9		5.37	11.27
	117a		6.7	5.15	11.85
	~~118a~~	~~5.9~~		·	
	119a	5.6 5.8		5.40	11.20
	104a	5.9 6.1		5.31	11.41
	105a	~~6.2~~	6.2	5.29	11.49

Ch. F. C.

1 15 (15 out)

Saturday Nov. 28, 1914

Scale M

3 15

MC 5680 Cont

Copied p. 207 (Sequence)

	SC1 SC2	PC 1 2	Curve Magn.	P.C. curve Magn.
1		3.8 4.0		
2		4.0 4.2		
3		5.2 5.4		
4		5.9		
5		6.8		
6		7.1		
7		7.3		
8		7.9		
9		8.5		
10		8.8		
11	3.6 3.8	8.9		
12	4.0 4.2	9.2		
13	4.6 4.8			
14	5.1 5.3			
15	5.8			
16	6.6			
17	7.0			
18	7.5			
19	7.6			
20	7.7			
21	8.3			
22	8.6			
23	9.0			
119	5.3 5.5		.49 5.~~53~~ .99 10.~~83~~	
120	5.0 5.2		.57 5.~~62~~ .77 10.~~62~~	
121	36 3.8	8.8	5.96 ~~6.01~~ .76 9.~~61~~	0.81 9.61

Reading looked up. Found correct Feb. 3, 1915 (120)

Sat Nov 28, 1914

For identifications of nos 41–161 see H.S.L. Bk 37: 62

MC 5690 Cont

		1 2	PC 1 2	Star curve	Magn.	P.C. curve	Magn.
	122	5.7		+5.42	11.12		
	123	7.6		5.02	12.62		
	124	6.8		5.14	11.94		
	125	6.8		5.14	11.94		
Looked up Feb 3, 1915 Large accidental error	126		8.7			0.72	9.42
Unit changed Feb. 3, 1915	127	5 ~~6~~8		40 5.14	.30 11.94		
	128	4.7 4.9		5.65	10.55		
	129	4.9 5.1		5.59	10.69		
	130	3.8 4.0	9.2	5.90	9.90	0.76	9.96
	131	5.7 5.9		5.37	11.27		
	132	3.7 3.9	9.0	5.92	9.82	0.78	9.78
	133	5.5 5.7		5.42	11.12		
	134	5.8 6.0		5.34	11.34		
	135	3.8 4.0	9.0	5.90	9.90	0.78	9.78
	136	6.7		5.15	11.85		
	137	4.2 4.4	9.5	5.79	10.19	0.71	10.21
	138		6.2			1.21	7.41
	139	5 ~~4~~.4 5.6		5.46	11.06	~~0.81~~	
	140	3.7 3.9	8.8	5.92	9.82	0.81	9.61
	141						
	142		8.5			0.86	9.36
	123a	6.8		5.14	11.94		
	128a	5.8		5.40	11.20		
	130a	5.7 5.9		5.37	11.27		
	139a	4.9 5.1		5.59	10.69		

Sat Nov. 28, 1914

MC 5~~7~~680 Cont

For identifications of nos 41-161 See H.S.L. Bk 31, p.66

		1 2	curve	magn	P.C. 1 2	curve	magn						
	143	36 3.8	5.96	9.76	8.9	0.80	9.70						
Elong. dble?	144	~											
	145	49 5.1	5.59	10.69									
	146												
	147				9.1	0.77	9.87						
	148	5.7	5.43	11.13									
	149	42 4.4	5.79	10.19				-2° 4837	18	55.8	-2	20	9.3
	150												
	151	46 4.8	5.68	10.48				-2° 4834	18	55.3	-2	29	9.4
	152	49 5.1	5.59	10.69				-2° 4832	18	55.0	-2	29	9.5
	153	67	5.15	11.85				-2° 4833	18	55.3	-2	17	9.7
	154												
	155	5.8	5.40	11.20				-2 4831	18	54.9	-2	7	9.8
	156	46 4.8	5.68	10.48				-2° 4828	18	54.6	-2	10	9.5
	157	34 3.6	6.01	9.61	8.6	0.84	9.44	-2° ~~4742~~ 4827	18	54.2	-2	8	9.0
	158	53 5.5	5.49	10.99				-2° 4826	18	54.1	-2	5	9.5
	159	49 5.1	5.59	10.69				-2° 4829	18	54.7	-2	28	9.8
	160	42 4.4	5.78	10.18				-2° 4835	18	55.7	-2	44	9.3
	161				7.8	0.94	8.74						
double	159a	may 5.8 fill 7.2	5.40 5.04	11.20 12.24									
	144a	5.6	5.46	11.06									
	145a	5.9	5.37	11.27									
	148a	5.7	5.42	11.12				-2° 4836	18	55.8	-2	12	9.8 ✓
	153a	6.0	5.34	11.34				..					
	155a	5.7	5.42	11.12				..		Ch. P.C.			
	157a	5.9	5.37	11.27									

Sat Nov. 28, 1914

MC 5680 Cont (Pos Reg. Sect.)

	1 2	P.178	P.204	P.C. 1 2	P.178	P.204	Mean Star	Diff.	Mean P.C.	Diff.
1					4.0	4.0	.		4.00 .00	+.203
2	~~41~~ 43			4.3	4.2	4.2	.		4.2~~7~~3 100	2.10
3	~~5.3 5.5~~			5.5	5.5	5.4	.		5.47 001	1.12
4	~~5.8~~ 6.0			6.0	5.9	5.9	.		5.9~~7~~3 100	1.51
5				6.7	6.8	6.8	.		6.77 100	1.05
6				7.0	7.3	7.1	.		7.13 120	1.11
7				7.2	7.6	7.3	.		7.37 221	1.18
8				7.7	7.6	7.9	.		7.73 012	1.31
9				8.5	8.2	8.5	.		8.40 121	0.99
10		3.4		8.7	8.5	8.8	3.4 . a .	+6.03	8.67 021	0.76
11		3.8	3.8		8.9	8.9	3.80 . 00	5.88	8.90 .00	0.78
12	44 4.6	4.1	4.2	9.6	9.3	9.2	4.30 321	5.93	8.~~3~~97 212	0.86
13	47 4.9	5.0	4.8		9.9		4.90 211	5.68	9.9 a .	0.68
14		5.2	5.3				5.25 . 01	5.65		
15	5.8 6.0	5.6	5.8				5.80 220	5.60		
16	6.6	6.4	6.6				6.53 111	5.12		
17	6.9	6.8	7.0	:/			6.90 011	5.08		
18	7.3	7.3	7.5				7.37 111	5.11		
19	7.7	7.7	7.6				7.67 001	4.88		
20	7.8	7.9	7.7				7.80 011	4.81		
21	8.2	8.0	8.3				8.17 021	5.24		
22		8.7	8.6				8.65 . 10	4.99	5 4 2 -4 -6 -4	
23		8.9	9.0				8.95 . 10 6 3 5-4 -1 -9 +.006 .005 .00	4.99	a.d. Star ±.080 p.e. ±.079	

Stars were added and given designations of adjacent stars with the suffix a, when the reading was 6.0 or brighter. At first the limit was 6.6 but this was found to give too many stars.

Ch. F.C. 4 10

Scale M

~~Sat. Nov.~~ Monday, Nov. 30, 1914

3 10 MC 5 ~~2~~ 6 80 Cont (Poor Reg. Scut. Sct.

For reduction of Stars on Pages 210 to 214 Inclusive

	SC1	SC2		PC SC1	PC SC2	
1				3.5	3.7	+2.33
2				3.9	4.1	2.23
3				5.0	5.2	1.39
4					6.0	1.44
5					6.8	1.02
6					7.3	0.94
7					7.3	1.25
8					8.0	1.04
9					8.6	0.79
10	3.0	3.2	+6.23		8.7	0.73
11	3.6	3.8	5.88		8.9	0.78
12	4.1	4.3	5.93		9.6	0.63
13	4.5	4.7 ~~4.5~~	5.88			
14	5.0	5.2	5.70			
15	5.7	5.9	5.50			
16		6.7	4.95			
17		6.9	5.08			
18		7.4	5.08			
19		7.7	4.85			
20		7.9	4.71			
21		8.5	4.91			
22		8.6	5.04			

Ch. F. C.

Monday, Nov. 30, 1914

Scale M

MC 5~~2~~680 Cont.

Cont. from Bk 37, p. 66.

~~Cont. from~~	Dist. from No. 15 Σ 10275		SC1	SC2	Curve	Magn.	PC 2	Curve	Magn.	MC 5593	
sf	68.	16~~00~~ 1					8.1	0.90	9.00	9.12 5 0505	~~5~~ 20p
sf	52	162	49 51		5.59	10.69				10.~~18~~	01
sf	59	163a	~~49~~	6.5	5.21	11.71				11.24	47
sf	49	163b	4.850		5.62	10.62				10.61	01
sf	48	164		6.2	5.28	11.48				11.24	24
sf	49	165		61	5.31	11.41				11.24	17
sf	47	166		5.6	5.46	11.01				10.96	05
nf	48	167		5.6	5.46	11.06				11.10	04
nf	42	168		6.9	5.11	12.01				11.94	07
nf	38	169	47 49		5.65	10.55				10.14	41
sf	43	170					8.5	0.86	9.36	8.99	(37)
~~s~~nf	40	171		67	5.15	11.85				11.70	15
sf	39	172					8.7	0.82	9.52	9.29	(23)
sf	39	173		7.0	5.09	12.09				12.02	07
sf	36	174					8.9	0.80	9.70	9.87	(17)
sf	66	175	5.5 57		5.42	11.12				10.61	51
sf	62	176	37 39		5.92	9.82				9.58	24
sf	61	177	49 51		5.59	10.69				10.61	08
sf	58	178	68 70		5.09	12.09				11.94	15
sf	75	179					8.7	0.82	9.52	⊢9.38	(14)b
sf	75	180					8.8	0.81	9.61	⊢9.46	(15)b
sf	70	181		7.1	5.06	12.16				12.10	06
sf	71	182	44 46		5.12	10.32				10.14	18
sf	69	183	47 49		5.65	10.55				10.14	41
~~sf~~		~~161a~~ b								~~11.03~~	
~~s~~nf	41	171a	5.65 58		5.40	11.20				11.17	03
nf	41	167a		5.8	5.40	11.20				11.24	04
nf	68	160a	5.55 57		5.42	11.12				10.81	31

Ch. P. C.

161	-3°	4466	18	55.7	-3	0.0	9.7	√
162	-2°	4825	18	54.0	-2	44a	9.5	√
163a	-2°	4830	18	54.7	-2	57	9.7	√
163b	-2°	4824	18	53.6	-2	40	9.5	√
164	-2°	4821	18	53.4	-2	40	9.5	√
165	-2°	4823	18	53.6	-2	52	9.8	√
166	-2	4820	18	53.3	-2	52	9.8	√
167	-2°	4822	18	53.4	-2	21	9.8	√
168	-2°	4818	18	52.7	-2	26	9.8	√
169	-2°	4817	18	52.4	-2	33	9.3	√
170	-2°	4819	18	52.9	-2	39	8.6	√
171	-2°	4816	18	52.2	-2	7	9.8	√
172	-2°	4813	18	51.9	-2	4	8.9	√
173	..							
174	-2°	4815	18	52.1	-2	48	9.1	√
175	-3°	4459	18	55.2	-3	15	9.1	√
176	-3°	4454	18	54.9	-3	3	8.8	√
177	-3°	4452	18	54.7	-3	6	9.5	√
178	-3°	4451	18	54.5	-3	4	9.8	√
179	-3°	4465	18	55.5	-3	40	9.0	√
180	-3°	4463	18	55.5	-3	43	9.2	√
181	-3°	446~~4~~2	18	55.4	-3	~~33~~ 30	~~9.4~~ 9.5	√
182	-3°	4461	18	55.4	-3	33	9.4	√
183	-3°	4457	18	55.1	-3	33	9.2	√
171a	..							
167a	..							
160a								

Monday, Nov. 30, 1914.

MC 5~~7~~280 Cont. (6 written above the 7)

Dist from no. 15			1	2	Curve	Magn. 1	2	curve	Magn.	MC 5593	Diff.
sf	69	184	47	49	5.65	10.55				10.31	24
sf	70	185		5.9	5.37	11.27				11.10	17
sf	77	186	4.0	42	5.84	10.04	9.2	0.75	9.95	9.58	46
sf	76	187					3.4 36	2.30	5.90 ?	p.	
sf	76	188	4.2	44	5.79	10.19				9.78	41
sf	65	189	5.6	58	5.40	11.20				10.96	24
sf	62	190					7.9	0.92	8.82	p 8.92	10 p
sf	60	191	3.8	40	5.90	9.90	8.9	0.80	9.70	9.59	~~31~~
sf	58	192	4.7	49	5.65	10.55				10.31	24
sx	63	193	4.3	45	5.75	10.25	9.5	0.71	10.21	10.05	20
sf	56	194	5.2	54	5.51	10.91				10.61	30
sf	49	195		6.3	5.26	11.56				11.55	01
sf	52	196	5.8	60	5.33	11.33				11.17	16
sf	49	197	4.2	44	5.19	10.19	9.2	0.76	9.96	9.87	32 ~~22~~
sf	46	198	5.7	59	5.37	11.27				11.04	23
sf	56	199		5.9	5.37	11.27				11.04	23
sf	60	200		5.9	5.37	11.27				11.10	17
sf	46	201		6.8	5.14	11.94				12.02	08
sf	~~48~~ 38	202					5.7	1.33	7.03	p 7.01	02 p
sf	37	203	48	50	5.62	10.62				10.75	13
sf	78	204	5.2	54	5.51	10.91				10.46	45
sf	78	205	3.9	4.1	5.86	9.96	8.9	0.80	9.70	9.58	38
sf	73	206	45	47	5.70	10.40				10.14	26
sf	73	207	~~4~~				7.9	0.93	8.83	p 8.83	00 p
sf	76	208	46	48	5.68	10.48				10.05	43
sf	74	209	4~~7~~8	50	5.61	10.61				10.23	38
sf	45	201a	5.3	55	5.49	10.99				10.82	17

Ch. F.C.

Dec.

184	−3° 4455	18	55.1		−3°	36	9.7	✓
185	−3° 4456	18	55.1		−3°	39	9.7	✓
186	−3° 4464	18	55.5		−3	52	9.4	✓
187	−3° 4460	18	55.3		−3°	54	5.7	✓
188	−3° 4458	18	55.1		−3	57	9.1	✓
189	−3° 4453	18	54.8		−3	26	9.7	✓
190	−3° 4450	18	54.2		−3	34	8.5	✓
191	−3° 4446	18	53.5		−3	43	9.0	✓
192	−3° 4447	18	53.7		−3	33	9.3	✓
193	−3° 4449	18	53.9		−3°	41	9.0	✓
194	−3° 4448	18	53.8		−3°	18	9.5	✓
195	−3° 4445	18	53.1		−3	19	9.7	✓
196	−3° 4444	18	52.9		−3	29	9.5	✓
197	−3° 4441	18	52.4		−3	30	9.0	✓
198	−3° 4440	18	52.3		−3	25	9.5	✓
199	−3° 4443	18	52.7		−3	46	9.7	✓
200	−3° 4442	18	52.6		−3	57	9.5	✓
201	−3° 4438	18	51.9		−3	30	9.5	✓
202	−3° 4439	18	52.0		−3	2	7.4	✓
203	−2° 4814	18	52.0		−2	58.9	9.5	✓
204	−4° 4674	18ʰ	55	7.0	−4°	4.3	9.3	✓
205	−4° 4672	~~18~~ 18	54.7		−4	11	9.3	✓
206	−4° 4671	18	54	20.4	−4°	3.5	9.5	✓
207	−4° 4669	18	54	17.8	−4°	5.0	8.7	✓
208	−4° 4670	18	54	20.1	−4°	~~9.3~~ 10.0	9.3	✓
209	−4° 4667	18	54	8.8	−4°	8.7	9.3	✓
201a								

Monday, Nov. 30, 1914

Scale M

MC 5~~2~~6 280 Cont Pr. Reg. Sout. Sf.

Dist fr No. 15)		1	2	curve	magn. 1	2	curve	magn.	MC5593	Diff.
sf 84	210					8.8	0.81	9.61	p 9.55	06 p
sf 84	211					8.3	0.87	9.17	p 9.20	03 p
sf 82	212		6.3	5.25	11.55				11.17	38
sf 96	213	4.8	5.0	5.62	10.62				10.14	48
sf 77	214					8.2	0.89	9.09	p 8.83	26 p
sf 71	215	3.8	4.0	5.90	9.90	8.6	0.84	9.44	9.49	41
sf 63	216	?								
sf see also P. 219 →	21~~7~~8					8.2	0.89	9.09	p 9.~~19~~ 20	
sf 65	21~~8~~7					8.9	0.80	9.70	p 9.37 18 18	15
sf 69	161a	5.5	6.1	5.42	11.12			~~10~~	10.96	16
sf 70	161b	5.8	6.0	5.34	11.34			~~11.03~~	11.03	31
sf 70	185a	5.0	5.2	5.57	10.77				10.47	30
sf 82	205a	5.4	5.6	5.46	11.06				10.82	24
sf 216 ? 64 →	200a	5.3	5.5	5.48	10.98				10.68	30

Added stars having reading 5.8 or brighter, making limit about the magn. 11.5

355

Ch. F. C.

210	-4°	4673	18	54	52.6	-4°	23.2	8.8	✓
211	-4°	4668	18	54	11.9	-4°	32.1	8.5	✓
212	-4°	4666	18	54	5.4	-4°	27.9	9.4	✓
213	-4°	4664	18	53	30.3	-4°	21.9	9.3	✓
214	-4°	4660	18	52	48.4	-4°	31.0	8.3	✓
215	-4°	4655	18	52	2.8	-4°	27.0	9.3	✓
216									
218	ident on P. 219.								
217	~~-4°~~	4657	18	52	7.3	-4°	12.5	8.9	✓
200a	-4°	4659	18	52	43.7	-4°	3.5	9.5	✓

Scale M

10 20

Tuesday, December 1, 1914

Use mean of means on this page for reduction of meas. page 218, and Book 37, pp 6–20
~~Copy these Means in Book 37 p. 20~~

MC 5$\overset{6}{\cancel{2}}$80 Cont. $1^h 10^m$ (Repeated after Book 37:20

				P.C.				P.C.			
	1	2		1	2	1	2	1	2	Mean P.C. (2nd + 4th colms.)	Diff.
1				3.8 4.0				36	3.8 ~~3.6~~	3.90 11	+2.13
2				4.0 4.2				4.0	4.2 ~~4.0~~	4.20 00	2.13
3				5.1 5.3				5.1	5.3 ~~5.1~~	5.30 00	1.29
4					6.3				6.0	6.15 12	1.29
5				Magn	6.9				6.8	6.85 10	0.97
6				Book 9a p. 95	7.3				7.1	7.20 11	1.04
7			Mean (See 3rd column)	Diff.	7.6				7.7	7.65 01	0.90
8					7.8				7.9	7.85 01	1.19
9	3.1	3.3	3.30 00	+6.09	8.6	3.1	~~3.1~~ 3.3		8.5	8.55 01	0.84
10	3.2	3.4	3.40 00	6.03	8.7	3.2	~~3.2~~ 3.4		8.7	8.70 00	0.73
11	3.6	3.8	3.70 11	5.98	9.2	3.4	~~3.4~~ 3.6		9.2	9.20 00	0.48
12	4.0	4.2	4.15 01	6.08	9.5	3.9	~~3.9~~ 4.1		9.7	9.60 11	0.63
13	4.7	4.9	4.95 10	5.63		4.8	~~4.8~~ 5.0				
14	5.3	5.5	5.50 00	5.40		5.3	~~5.3~~ 5.5				
15		5.8	5.85 01	5.55		5.7	~~5.7~~ 5.9				
16		6.7	6.60 11	5.05		6.5					
17		6.9	6.90 00	5.08		6.9					
18		7.5	7.50 00	4.98		7.5					
19		7.7	7.70 00	4.85		7.7					
20		7.9	7.85 10	4.76		7.8					
21		8.3	8.30 00	5.11		8.3					
22		8.7	8.70 00	4.94		8.7					
23		8.9	8.90 00	5.04		8.9					

Ch. F.C.

1 20

Continued Book 37:6 See also pp 216, 218

Tuesday, Dec. 1, 1914

MC 5280 Cont. (6 above the 2)

	Dist from No. 15 Σ 10275		1	2	curve magn.	Pa 1	Pa 2			(0.0:155 mc5593)	
sf	64	218					8.1	0.90	9.00	9.20	20
nf	35	219	5.4 5.6		5.46	11.06				10.96	10
nf	31	220		6.7	5.15	11.85				11.63	22
nf	28	221	5.8 6.0		6.33	11.33				11.39	06
nf Northern of 2 stars	26	222	5.6 5.8		5.40	11.20				11.17	03
sf	31	223	4.4 4.6		5.73	10.33	9.6	0.70	10.30	10.14	~~18~~ 19
nf	27	224	3.5 3.7		5.98	9.68	9.0	0.79	9.79	9.18	10
nf	22	225	5.7 5.9		5.37	11.27				11.10	17
nf	18	226	5.6 5.8		5.40	11.20				11.24	04
sf	33	227	5.8 6.0		5.33	11.33				11.17	16 1
sf	19	228		6.7	5.15	11.85				11.71	14
sf	16	229	5.5 5.7		5.42	11.12				10.90	22
sf	15	230	5.4 5.6		5.46	11.06				10.90	16
sf	14	231		6.8	5.13	11.93				11.63	30
sf	13	232	5.4 5.6		5.46	11.06				10.90	16
nf	13	233		6.2	5.29	11.49				11.39	10
nf	13	234		6.1	5.31	11.41				11.63	22
nf	19	235		6.4	5.23	11.63				11.39	24
nf Northern of 2 stars	21	236		6.6	5.18	11.78				11.55	23
nf	21	237	4.8 5.0		5.62	10.62				10.96	34
nf	16	238		6.3	5.26	11.56				11.39	17
nf	15	239		7.1	5.06	12.16				12.02	14
nf	12	240	4.8 5.0		5.62	10.62				10.82	20
sf	10	241	4.8 5.0		5.62	10.62				10.82	20
sf	9	242	5.3 5.5		5.49	10.99				10.90	09
st red!	9	243		8.8	5.01	13.81 Remeas. by O. Mar. 8. 17 8.8 orig. meas. o.K.				13.65	16
sf	10	244		6.7	5.15	11.85				11.86	01

10 40

Ch. F.C.

(see also P.214)	218	-4°	4653	18	51	58.0	-4	10.6	86		√
	219	-2°	4810	18	51.4		-2	6	9.8		√
	220	-2°	4807	18	51.1		-2	11	9.8		√
	221	-2°	4808	18	51.2		-2	29	9.8		√
	222	-2°	4806	18	50.8		-2	26	9.8		√
	223	-2°	4809	18	51.3		-2	54	9.2		√
	224	-2°	4804	18	50.3		-2	8	8.9		√
	225	-2°	4805	18	50.4		-2	35	9.7		√
	226	-2°	4801	18	49.9		-2	30	9.8		√
	227	-2°	4812	18	51.7		-2	20	9.8		√
	228	-2°	4803	18	50.0		-2	40	9.9		√
	229	-2°	4797	18	49.4		-2	53	9.7		√
	230	-3°	4416	18	48.3		-3	0	9.3		√
	231	-2°	4796	18	49.4		-2	44	10		√
	232	-2°	4795	18	49.4		-2	38	9.5		√
	233	-2°	4794	18	49.3		-2	36	9.5		√
	234	-2°	4793	18	49.3		-2	31	9.8		√
	235	-2°	4799	18	49.6		-2	16	9.4		√
	236	-2°	4800	18	49.6		-2	14	9.9		√
	237	-2°	4791	18	49.1		-2	6	9.7		√
	238	-2°	4787	18	48.6	~~24.0~~	-2°	~~11.6~~ 12	9.8		√
	239	-2°	4785	18	48.1	~~4.0~~	-2	~~11.7~~ 12	9.8		√
	240	-2°	4788	18	48.8		-2	24	9.2		√
	241	-2°	4790	18	48.8		-2	47	9.5		√
	242	-2°	4789	18	48.8		-2	40	9.3		√
	243	-2°	4786	18	48.5	~~28.0~~	-2°	48.8	9.8		√
	244	~~-2°~~	~~4784~~	~~18~~	~~47~~	~~59.6~~	~~-2°~~	~~29.1~~	~~8.0~~		

Monday, December 1, 1914

Poor Region, Scutum Sobieski

Sequence numbered 1 to 27
Current numbers begin with No. 41
All Dm Stars in square 4° on a side were measured and others if as bright as Star 15 (magn. 10.78) (See p. 168) But after No. ~~218~~ 74 No. 14 instead of No. 15 was taken as limit, as too many stars were being added

Numbers ran from 41 to 465, but there are no numbers 450 to 460 inclusive.

In measuring MC 5680 (Blue light) the two plates were superposed and all stars numbered were measured. Additional stars having readings of 5.8 or brighter were measured and given current numbers of adjacent stars, with letters attached. These were marked on identification chart with green ink, and are to be measured on Plate MC 55-24 in addition to those originally measured.

Measure MC 4769   100 + stars
Series with Seares

MW Plates for Distance.

Corrections   0.2 magn = 0.1 cm

10 g

33-87
[96,89] - [3,19]
[19,94] - [20,97]
21 - (1,g)
[1,g] - 93,95   1

d e c f