KG
11365
944

XI

Miscl. Observations.

H.S.L.

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KG 11365. 94/4

Correction to first scale.

I, B, ~~AM, AC~~, and MA plates + 0.2 — M — scale from I 32811

a, X, H, C −0.3 — P — " " C 15350

ac, am plates when taken with visual aperture — N — scale from AC 8858

Scale N

Scale 1, correction = −0.3 (2)

" 2 " = −0.5 (4)

" 3 " = 0.0

Use altered corrections after March 25, 1903. H.S.L.

{ac, am plates when taken with reduced aperture — O — scale from AC 8791
{ai plates

Scale 1, correction = 0.0

Scale 2, " = −0.3

Scale 3, " = 0.0

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When a star was measured with more than one of the subsidiary scales, throughout a large portion of this book, the reading on the second scale was usually employed if it agreed with the corrected reading on the first scale, within ±0.1. Sometimes, however, if the readings, after correction, agreed within 0.1, the even unit was employed.

E.g. Sc1 4.4 Sc2 4.7 The corrected reading on scale 1, with scale M, would be 4.6. In such a case the reading 4.7 was sometimes retained, while sometimes 4.6 was used. In checking reductions already completed, either method may be allowed.

If in any case reduction has not been made, take the mean of the 2 readings, as is now the practice.

H.S.L. Oct. 10, 1914.

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September 26, 1904

Examination of Plates for DM +64° 127 (32 Cassiopeiae) suspected of variability by $1^h 5^m.1 + 64° 29'$ (1900)
Mr. J. Miller Barr.

The star was compared by Mr. Barr with DM +63° 149, also with DM +63° 99
Its announced a range of 0.^mag4 in a period of 3 hours.
Watched through complete periods on Aug. 26-27, Sept. 10-11, 12-13, 13-4. Sept. 15 descend of range in $20^h\,m$ Kbmn $20^h\,33^m$ and $20^h\,50^m$ Edselein Standard time.

10	AI	2607,	July 29, 1904
5	AI	2558,	July 18, 1904
18		2660	Aug. 28, 1904
9		2591	July 21, 1904
		1565	Oct. 27, 1903
9		2596	July 25, 1904
7		2586,	July 20, 1904
6		2568	July 16, 1904
16		2650	Aug. 18, 1904
15		2647	" " "
14		2633	" 11 "
13		2628	" 9 "
12		2615	July 31 "
11		2610	July 30 "

AC		5127,	Aug. 8, 1904
2		4128,	Oct. 29, 1903
4		4711,	March 5, 1904
3		4668	Feb. 8, 1904
17		5158	Aug. 21, 1904

September 26, 1904

DM +64° 127 Cont.

On the above plates the star shows no variation, being always a grade brighter than +63° 149, about three grades fainter than +67° 169 and about 4/5 grade brighter than +65° 115

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October 6, 1904

Examination of Plates for Williams' Nova (?) Var.
$22^h\,19^m$ $+29°\,44'$ (appx.

✓ Plate I 15460 '96, 8, 10. 3782
v < 12.8
b/c

Plate I 7259 1892, 10, 2. 2374
✓ < 12.8
b/c

✓ Plate I 21603 '98, 11, 1. 4595
< 12.8
b/c

✓ Plate I 31056 1903, 10, 25 6413
+2.9 mvng - see frag. 31
b o c

✓ Plate I 23768 1899, 10, 12 4940
✱ < 12.8 b o c
(8) 1(2) 12.9

✓ Plate I 18933 Sept. 18, '99 4186
✱ < 12.8 ~~b/c~~
b/c
(2) 7 12.8

✓ Plate I 15882 Sept 4, 1896. 3807
✱ < 12.5
b/c
(8) > 12.5

October 6, 1904

Williams' Nova (?) Cont

Williams' Nova (?). Var.
22 19 +29 44 (appx.)

1892 2351
> 12.8
20/91 1753
6051
13.2
Nov 2, 1902 6056
13.5
9, 1892 2351
Sept 17, 1897 4185
'03, 8, 31. 6358
12.8 Q
a, 1 c
Plate < 12.5
(14) < 12.5

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Mens. cont.

✓ Plate AC 2593 '02, 5, 30. 5970
12.4
b 1 c
(?a) ∠12.5
(?b) ∠12.5

✓ Plate I 6934 Sept 8, 1892 2350
∠12.8
b 0c
(?a) 12.8
(?b) ∠12.8

✓ Plate AC 1106, Dec. 29, 1900 5383
12.8 ? F
b 3c
c 2d
? a and ? b < 12.8

✓ Plate AC 3077 '02, 12, 18. 6102
∠12.8
b 3c 2d
(?b) 12.8 F
(?a) ∠12.8

Plate Ab 4041 '03, 10, 14 6402
~~Var~~ Marg; see page 30 Variable nebulae
b 1c
(?a) ∠12.5
(?b) ∠12.5

Mens. Cont.

✓ Plate AC 668 00, i, 8 5028
∠12.5
~~a c b~~
b 2c

✓ Plate AC 2889 Oct 10, '02 6033
∠12.8
b 3 c 2d

✓ Plate AC 1014 Sept. 24, 1900 5287
∠12.8
b 1 c 3d

✓ AC. 3997 '03, 9, 26. 6384
Too poor

✓ Plate AC 4387 ~~Oct. 4, '03~~ Dec. 17 6392
∠12.5
b 3 c 2d

✓ Plate AC 3847 '03, 8, 20.
Too poor

✓ Plate AC 3816 '03, 8, 10.
Too poor

✓ Plate 3678 '03, 5, 24
Too poor

✓ Plate AC 2699 02, 7, 17.
Too poor

✓ AC 3105 '02, 12, 27 6111
∠12.8
b 4 c 1 d

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Oct. 6, 1904

Mrs. Cook,

✓	Ac 3041	Dec. 5. 1902	
	Too faint		
✓	Ab 3020	Nov. 28, 1902	6082
	∠12.0		
		b2c	
		c3d	
✓	Ab 2859	Oct. 6, 1902	6029
	∠11.4		
		b3c	
		c2d	
✓	Ab 2806	'02, 9. 2	5995
	∠11.3		
		b2c	
		c3d	
✓	Ab 2801	Aug. 31, '02 Orochre ?	5993
	∠11.3		
		b2c	
		c3d	
✓	Ab 914	July 4, 1900	5205
	∠11.2		
		b1c	
		c4d	
✓	Ab 509	Nov. 9, 1899	4968
	∠11.8		
		b1c	
		c4d	

✓	Ab 484	Sept. 14, 1899	
	∠11.3		
		b2c	
		c3d	
✓	Ab 335	May 26, 1899	
	∠10.7		
		b0c ? Quality of plate is poor	
✓	Ab 136	Dec. 23 '98	
	∠11.4		
		b1c	
		c3d	
✓	Ab 4950	June 6, 1904	
	∠11.8		
		b2c	
		c3d	
✓	Ab 4938	'04, 5, 29.	
	∠11.4		
		b2c	
		c4d	
✓	Ab 4503	'04. 1, 7	
	∠11.9		
		b1c	
		c4d	
✓	Ab 4438	Dec. 26, '03	
	∠11.8		
		b1c	
		c2d	

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Miss. cont.

✓	Ab 4423	Dec. 23. '93.	
	∠12.0		
		b 3 c	
		c 1 d	
✓	Ab 4494	Dec. 19 '03	
	∠12.5		
		b 3 d	
		d 2 c	
✓	Ab 4313	Dec. 6. '03	
	∠11.6		
		a 4 f c	
		f 1 4 b	
✓	Ab 4267	Nov. 26, '03.	
	∠12.5		
		b 1 c	
		c 4 d	
✓	Ab 4236	Nov. 20, 1903	
	∠11.5		
		b 1 c	
		c 3 d	
✓	Ab 4211	Nov. 14, '03	
	∠12.5		
		b 1 c	
		c 4 d	
✓	Ab 4202	Nov. 12, '03	
	∠11.9		
		b 2 c	
		c 3 d	

✓	Ab 4145	Oct. 2, 1903	
	∠11.4		
		b 1 c	
		c 2 d	
✓	Ab 4117	Oct. 28, 1903	
	∠12.9		
		b 2 c	
		c 2 d	
✓	Ab 4096	Oct. 25, 1903	
	∠11.8		
		b 2 c	
		c 3 d	
✓	Ab 4048	Oct. 15, 1903	
	∠11.4		
		b 2 c	
		c 3 d	
✓	Ab 2171	Jan 9, '02	
	∠11.4		
		b 2 c	
		c 3 d	
✓	Ab 2070		
	∠10.6	Dec. 12 '01	
		b 3 c	
		c 2 d	
✓	Ab 2062,	Dec. 6 '01	
	∠12.8		
		b 1 c	
		c 2 d	

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Miss. Cont.

✓	Ab 2015	Nov. 28, '01	
	∠13.0	b2c	
		c3d	
✓	Ab 1919	'01, 12, 28.	
	Too faint		
✓	Ab 1881	Oct 19, '01	
	∠13	~~b2c~~ b2c	
		~~b3c~~ c3d	
✓	Ab 1843	Oct. 7, '01	
	∠12.8	b2c	
		c3d	
✓	Ab 1803	Sept. 30 '01	
	∠12.8	b	
		b1c	
		c4d	
✓	Ab 1646		
	Too faint		
✓	Ab 1603	July 12 '01	5578
	10.9	b1c	
		c5d	
✓	Ab 1597	July 3, 1901	5569
	10.9	b1c	
		c4d	

✓	Ab 1172	'01, 1, 25.	
	Too faint		
✓	Ab 1125	'01, 1, 3.	
	Too faint		
✓	Ab 5279	'04, 9, 22.	6746
	11.1	b1c	
		c4d	
✓	Ab 2679	July 10 '02	5941
	11.9	b2c	
		c4d	
✓	Ab 2631	June 17 '02	5918
	11.9	b2c	
		c3d	
✓	Ab 852	May 7, 1900	5147
	11.9	b3c	
		c2d	
✓	Ab 2748	Aug 13 '02	5975
	12.0	b1c	
		c4d	
✓	Ab 2780	July 24 '01	5590
	12.0	b3c	
		a2d	

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Meas. cont.

✓	Ab 3801 11.6	Aug. 8, '03	6330	
		b1c c3d		Comp. star 9 appears as bright as F
✓	Ab 5078 9.6	July 19, '04	6681	
		b1c c5d		
✓	Ab 5090 9.6	July 21 '04	6683	
		b2c c3d		
✓	Ab 5095 9.6	July 25 '04	6687	
		b1c c4d		
✓	Ab 4987 11.6	June 18 '04	6650	
		b2c c3d		
✓	Ab 4999 11.4	June 20 '04	6652	
		b1c c3d		
✓	Ab 4002 12.9	Sept. 28, '03	6386	
		b1c c4d		

✓	Ab 5167 10.5	Aug. 23 '04	6716	m p. 47
		b1c c4d		
✓	Ab 5191 ~~9.7~~ 10.3	Aug. 27 '04	6720	
		b2c c3d		
✓	Ab 5194 10.3	~~July 4, '04~~ Aug. 28, '04	6721	
		b1c c4d		
✓	Ab 3076 ∠12.2	Dec. 17 '02	6101	
		b1c c4d		
✓	Ab 3049 ∠12.2	Dec. 6 '02		
		b1c c4d		
✓	Ab 3115 ∠11.8	Dec. 30 '02		
		b2c c1d		
✓	Ab 3782 ∠11.8	July 24 '03		
		b1c c4d		

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Oct. 6, 1904

Mrs. Cook.

✓	Ab 3799 11.6	Aug. 1 '03	6328
		b 1 c	comp. star F brighter than G
		c 5 d	
	Ab 3858	Aug 23 '03	
	Don't cover again		
✓	Ab 3875		
	Too poor		
✓	Ab 3989 ∠ 11.5	Sept. 25, '03	
		b 2 c	
		c 3 d	
✓	Ab 4046 ∠ 11.3	Oct. 20 '03	
		b 1 c	
		c 4 d	
✓	Ab 4097 ∠ 11.3	Oct. 25 '03	
		≠	
		b 2 c	d appears affaint; image
		c 6 d	probably defective
✓	Ab 4110 ∠ 11.8	Oct. 27 '03	
		b 1 c	
		c 4 d	
✓	Ab 4118 ∠ 11.8	Oct. 28 '03	
		l	
		b 2 c	
		c 3 d	

Oct. 6, 1904

✓	Ab 4157 ∠ 11.4	Nov. 13 '03	
		b 2 c 3 d	
✓	Ab 4168	'03, 11, 4.	
	Too poor		
✓	Ab 4177 ∠ 11.8	Nov. 8 '03	
		b 2 c 3 d	
✓	Ab 4218 ∠ 11.8	Nov. 15 '03	
		b 1 c	
		c 4 d	
✓	Ab 4295	'03, 12, 1.	
	Too poor		
✓	Ab 4314 ∠ 11.8	Dec 6, '03	
		b 1 c 4 d	
	Ab 4331	'03, 12, 8.	
	Don't cover eg.		
✓	Ab 4364 ∠ 11.8	Dec. 14 '03	
		b 1 c 4 d	
✓	Ab 4411 ∠ 11.6	Dec. 21 '03	
		b 2 c	
		c 4 d	
✓	Ab 4970	'04, 6, 14.	
	Too poor		

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Oct. 6, 1904

Mrs. cont.

✓	Ab 5006	'04, 6, 21.		
	Too faint			
✓	Ab 5063	'04, 7, 15.		
	Too faint			
✓	Ab 5074	July 18, '04	6680	
	9.7			
		b 1c		
		c 5d		
✓	Ab 5084	July 20, '04	6682	
	9.5			
		b 1c		
		c 4d		
✓	Ab 5109	July 29, '04	6691	
	9.5			
		b 1c		
		c 4d		
✓	Ab 5192	Aug. 27, '04	6720	
	10			
		b 1c		
		c 5d		
✓	Ab 5237	Sept 7, '04.	6731	
	10.3			
		b 0c		
✓	Ab 53	Oct. 6, 1898.		
	Too faint			
✓	Ab 90	Oct 31 '98		
	∠11.3			
		a 5c		
		c 1b	Images poor	

Oct. 6, 1904

✓	Ab 379	'99, 8, 6.		
	Too faint			
✓	Ab 380	'99, 8, 6		
	Too faint			
✓	Ab 476	○ 99, 10, 12		
	Too faint			
✓	Ab 908	July 1 '00		
	∠11.3			
		b 1c		
		c 5d		
✓	Ab 945	'00, 7, 31.		
	Too faint			
✓	Ab 972	Aug. 25 '00		
	∠9.9			
		b 1c		
		c 5d		
✓	Ab 1050	Dec 12 '00		
	∠11.8			
		b 1c 4d		
✓	Ab 11,60	1901, 1, 19.		
	∠12			
		b 0c		
✓	Ab 1187	Feb. 1 '01		
	∠9.8			
		b 0c	Images very poor	
✓	Ab 1568	'01, 6, 25.	5561	
	∠10.5?	Suspected		
		b 0c		

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Oct. 6, 1904

Mrs. Cont.

✓ Ab 1622 01, 7, 19
Too faint

✓ Ab 1725 Sept. 7 '01
∠10
b o c

✓ Ab 1832 Oct. 5 '01
∠11.3
b i c
c 5 d

✓ Ab 1865 Oct. 15 '01
∠11.6
b i c
c 5 d

✓ Ab 1930 Oct. 31 '01
∠11.6
b o c

✓ Ab 1985 Nov. 10 '01
∠12.0
b i c
c 4 d

✓ Ab 2001 Nov. 22 '01
∠11.
b o c

✓ Ab 2023 Nov. 30, '01
∠11.6
b i c
c 4 d

Oct. 6, 1904

✓ Ab 2054 Dec. 5, 1901
∠12
b i c
c 4 d

✓ Ab 2132 Jan. '02
∠12.5
b i c
c 4 d

✓ Ab 2717 July 31 '02
∠10.0
b i c 4 d

✓ Ab 2735 '02, 8, 9.
∠10.0
b i c
c 4 d

✓ Ab 2759 '02, 8, 16.
∠11.8
b i c
c 4 d

✓ Ab 2880 '02, 10, 9
∠11.8 Mean again by mistake page 50
b i c
c 4 d

✓ Ab 2927 O 02, 10, 28
∠12.0
b 2 c
c 3 d

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Oct. 6, 1904

Mins. east.

✓	Ab 3019	Nov. 28 '02	
	∠11.5		
		b o c	
✓	AM 1092	Oct. 7 '01	
	∠11.0		
		b i c	
		c 5 d	
✓	AM 1098	Oct. 9 '01	
	∠9.9		
		b o c ?	
✓	AM 1314	June 7 '02	
	∠11.0		
		b i c	
		c 4 d	
✓	AM 1348		'02, 6, 12.
	∠11.3		
		b i c	
		c 4 d	
✓	AM 1366		'02, 6, 14.
	∠11.3		
		b i c	
		c 5 d	
✓	AM 1368		02, 6, 16
	∠11.3		
		b 2 c	
		c 4 d	

Oct. 6, 1904

✓	AM 1505	Aug 14, 1902	
	∠11.6		
		b i c 5 d	
✓	AM 1604		'02, 10, 6
	∠11.0		
		b 2 c	
		c 4 d	
✓	AM 1642		'02, 10, 11.
	∠11.5		
		b i c	
		c 4 d	
✓	AM 1658		'02, 10, 24.
	∠9.8		
		b i c	
		c 4 d	
✓	AM 2026		'03, 6, 13.
	∠12.0		
		b o c	
✓	AM 2192		'03, 8, 12
	∠11.7		
		b i c	
		c 5 d	
✓	AM 2208	Aug 14 '02 '03	
	∠11.0		
		b i c	
		c 4 d	

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Oct. 6, 1904

Miss Cook.

✓ AM 2228 '03, 8, 27.
∠ 9.8
b o c? Image very faint

✓ AM 2310 '03, 10, 9.
∠ 11.8
b i c
c 5 d

✓ AM 40 '99, 8, 1
∠ 11.3
b i c
c 5 d

✓ AM 83 '99, 8, 8.
∠ 11.5
b 2 c
c 4 d

✓ AM 94 99, 8, 10
∠ 10.5
b i c
c 5 d

✓ AM 95 99, 8, 10
Too faint

✓ AM 123 '99, 8, 26
∠ 12.0
b o c

✓ AM 188 Oct. 2 '99
∠ 9.9
b i c
c 5 d

Oct 6, 1904

✓ AM 213 Oct. 12 '99
∠ 11.8
b i c
c 5 d

✓ AM 254 Oct 27 '99
∠ 9.8
b i c
c 5 d

✓ AM 552 '00, 7, 24
∠ 10.0
b 2 c
c 4 d

✓ AM 582 Aug 2 '00
∠ 11.5
b i c
c 4 d

✓ AM 602 '00, 8, 30.
∠ 11.3
b i c
c 4 d

✓ AM 668 Isochr. Sept. 19 '00
∠ 11.7
b i c d is very bright
c 2 d

✓ AM 699 Oct 17 '00
∠ 9.8
b i c
c 5 d

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Oct. 6, 1904

Mrs. Cook

✓	AM 864		01,6,20	5556
	10.5			
		b 1c		
		c 5d		
✓	AM 883	June 24 '01		5560
	10.5			
		b 1c		
		c 5d		
✓	AM 968	Aug 7, '01		
	∠ 10.8			
		b 1c		
		c 5d		
	AM 926	July 22 '01		
	Don't cover ng.			
✓	AM 984		01,8,10	
	∠ 10.8			
		b 1c		
		c 5d		
✓	AM 1004	Aug 22 '01		5619
	11.8? F			
✓	AM 1018	Aug 26 '01		
	∠ 11.3			
		b 2c		
		c 3d		
✓	AM 1079	Oct. 2 '01		
	∠ 10.8			
		b 0c		

Oct. 6, 1904

Mrs. Cook

✓	A 1688	'95, 9, 13.	
	∠ 9.8	Images vary from one corner of plate	
✓	A 1010	'94, 10, 10.	
	∠ 12.8	" " " " " " "	
✓	A 3869	99, 8, 17.	4884
	13.2?		
✓	Ab 5225	'04, 9, 5.	6729
	10.5		
✓	I 4389	Sept 30, 1891	2006
	12.0? F		
✓	I 11545	Oct 6, 1894	
	∠ 11.8		
	AM 1057	Don't cover ng.	
	Ab 969, 595, 464,	don't cover ng.	

Recorded by Miss Markie

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Williams Bay Obs. Cont.

✓ Plate AC 4041, Oct. 14, 1903
< 11.8

✓ AC 5259, Sept. 17, 1904 6741
10.7²
Images faint and poor.

AC 4494, Jan. 5, 1904 6744 6485
< 12
Meas. twice by mistake. This meas. will need

✓ AC 4965, June 13, 1904
Do poor

✓ AC 4982, June 17, 1904
< 10.0

✓
Near edge AC 5056, July 13, 1904 6675
9.9
Images poor

✓ AC 5092, July 21, 1904 6683
9.7
Near edge images poor

✓ AC 5108, July 29, 1904 6691
9.7²
Images very poor, & very faint

Mer. Cont.

✓ AC 5137, Aug. 11, 1904 6704
9.5
Edge of plate. Images very poor

✓ AC 5154, Aug. 26, 1904 6719
9.9²
Very uncertain. Images poor. Edge of Plate

✓ AC 5174, Aug. 24, 1904 6717
9.9²
Edge of plate. Uncertain

AI 2526
< 10

AI 2771 Sept 22, 1904
< 9.7

AI 2666, Aug. 24, 1904
< 9.7

✓ Plate I 31[05]06 remeasured
< 12.9
The variable is clearly seen and probably of about the magnitude 13.1

✓ Plate I 27192, Oct. 30, 1901
~~Too poor~~ but see page 42

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Mers. Cont.

✓ AC 2909, Oct. 19, 1902
< 11.6

✓ AC 2979, Nov. 7, 1902
< 12.0

✓ AC 3043, Dec. 5, 1902
< 11.5

✓ AC 3050, Dec. 6, 1902
< 11.8

✓ AC 3068, Dec. 9, 1902
< 11.4

✓ AC 3092, Dec. 23,
< 11.8

✓ AC 3101, Dec. 24, 1902
< 11.9

✓ AC 3146, Jan. 8, 1903
< 10.0

✓ AC 3190, Jan. 19, 1903
< 11.8

Mers. cont.

✓ AC 3765, July 11, 1903
< 9.6

✓ AC 3785, July 26, 1903
< 11.2

✓ AC 3811, Aug. 15, 1903
< 9.6

✓ AC 3823, Aug. 13, 1903
< 11.3

✓ AC 3854, Aug. 21, 1903
< 11.3

✓ AC 4010, Sept. 29, 1903
< 11.8

✓ AC 4016, Sept. 30, 1903
< 11.3

✓ AC 4069, Oct. 20, 1903
< 11.0
a faint

✓ AC 4085, Oct. 22, 1903
< 9.7
a faint

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Meas. cont.

✓ Plate AC 4098, Oct. 25, 1903
< 10.6

✓ AC 4104, Oct. 26, 1903
< 11.8

✓ AC 4137, Oct. 30, 1903
< 11.3

✓ AC 4178, Nov. 8, 1903
< 11.5

✓ AC 4204, Nov. 12, 1903
Trails

✓ AC 4245, Nov. 21, 1903
< 11.5

✓ AC 4276, Nov. 25, 1903
< 11.5

✓ AC 4300, Dec. 4, 1903
< 9.9

✓ AC 4323, Dec. 7, 1903
< 11.3

✓ AC 4343, Dec. 11, 1903
< 11.5

✓ AC 4389, Dec. 17, 1903
< 11.4

Meas. cont.

✓ Plate AC 4453, Dec. 28, 1903
< 11.3

✓ Plate AC 66
Focus plate

✓ Plate AC 67, Oct. 20, 1898
< 10.5

✓ Plate AC 103, Dec 7, 1898
< 10.7

✓ AC 373, July 20, 1899
< 10.7

✓ AC 396, Aug. 15, 1899
< 10.5

✓ AC 399, Aug. 16, 1899
< 11.5

✓ AC 467, Oct. 4, 1899
Class C. Not available

✓ AC 487, Oct 21, 1899
< 11.5

✓ AC 570, Dec 6, 1899
Too poor

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Meas. cont.

✓ AC 902, June 27, 1900
<9.8

✓ AC 954, Aug. 4, 1900
Trails

AC 978, Aug. 30, 1900
Dro nit conn reg.
AC 979, Dro nit conn reg.
980 " " " "

✓ AC 1052, Dec. 11, 1900
<11.8

✓ AC 1240, Feb. 11, 1901
<9.6

✓ AC 1579, June 29, 1901 5564
10.8?
Edge of plate. Images very poor

✓ AC 1662, Aug. 16, 1901
<10.8

✓ AC 1737, Sept. 11, 1901
Too faint

✓ AC 1833, Oct. 5, 1901
<10.5

✓ AC 1892, Oct. 24, 1901
<11.3

Meas. cont.

✓ AC 1900, Oct. 24, 1901
<11.3

✓ AC 1942, Nov. 2, 1901
<12.0

✓ AC 1985, Nov. 20, 1901
<11.8

✓ AC 2037, Dec. 2, 1901
<11.8

✓ AC 2076, Dec. 15, 1901
<12.0

~~AC 2142, Jan. 3, 1902~~
Image measured later meas. p. 48

✓ AC 2241, Jan. 25, 1902
<10.6

✓ AC 2583, May 28, 1902 5898
12.0?
Confusion star 4 (11.5) erased by scratch. 4 (12.5) not seen)

✓ AC 2656, June 29, 1902
<9.7

✓ AC 2692, July 13, 1902 5944
10.9?
Edge of plate. Images very poor
Meas. on page 46

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Illus. cont.

✓ AC 2747, Aug. 13, 1902
<11.8

✓ AC 2758, Aug. 16, 1902
<11.6

✓ AC 2761, Aug. 16, 1902
<10.5

✓ AC 2867, Oct. 7, 1902
<12.0

Williams' Nova Variable 22h.3 +29°.7 Cont.

✓ Plate I 7357, Oct. 14, 1892
n.s. <12.7

✓ I 7126, Sept. 22, 1892
n.s. <13.0

✓ I 6884, Sept. 6, 1892
n.s. <13.0
Cannot Variable imputed

✓ Plate I 1611, Aug. 6, 1890 1586
n.s. <12.9

✓ Plate I 6902, Sept. 7, 1892 2349
<12.7

✓ I 8944, July 24, 1893 2669
n.s. <12.0

✓ I 4596, Oct. 21, 1891 2027
11.0
Near edge of plate

✓ I 21074, Aug. 16, 1898 4518
n.s. <12.0

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Williams Var. Cat.

✓ I 16856, Sept. 15, 1897 4 4183
n.s. < 13.2
(2a) 13.3
(2b) n.s.

✓ I 25794, May 13, 1902 5383
12.2? F
Extremely uncertain. Plate Class S. var. scarcely seen

✓ I 29598, Dec. 2, 1902
Does not cover reg.

✓ I 27831, Oct. 21, 1901 5679
13.5
(3)a 13.3
(3)b 13.5

✓ I 18891, Sept. 17, 1897 4185
n.s. < 13.6
(2) a 13.4
(2) b 13.6?
a as bright as ne

✓ I 19582, Nov. 14, 1897
Too near edge

✓ I 21913, Dec. 7, 1898 4631
n.s. < 13.5
(3) a 13.2 (3) b 13.5?

Williams Var. Cat.

✓ I 21602, Nov. 1, 1898
Does not cover reg.

✓ I 21502, Oct. 25, 1898 4588
n.s. < 12.7
Cover of plate. Images poor

✓ I 21199, Sept. 14, 1898 4547
n.s. < 13.0

✓ I 23847, Oct. 19, 1899 4947
13.3? F
Pureness var. not absolutely certain.

✓ I 23769, Oct. 12, 1899 4947
n.s. < 13.4
2a 13.3?
2b 13.6?

✓ I 23605 Sept. 21, 1899
Does not cover reg.

✓ I 27372, Aug. 28, 1901 5625
n.s. < 12.0

✓ I 27718, Oct. 5, 1901 5663
n.s. < 13.0

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Williams var. cont.

✓	I 27892, Oct. 30, 1901 n.s. < 9.9	5688
✓	I 23549, Oct. 19, 1899 n.s. < 13.0	4947
✓	I 25559, July 14, 1900 n.s. < 10.7	5215
✓	I 25607, July 30, 1900 n.s. < 9.5	5231
✓	I 26142, Nov. 23, 1900 n.s. < 12.5	5347
✓	I 26154, Nov. 28, 1900 n.s. < 13.0	5352
✓	I 26157, Dec. 8, 1900 n.s. < 10.7	5362
✓	I 6928, Sept. 8, 1892 n.s. < 11.8	2350
✓	I 159, Nov. 18, 1889 n.s. < 11.3 Extreme edge of plate	1325

Williams' Var. cont.

✓	I 4433, Oct. 3, 1891 n.s. < 11.0	2009
✓	I 4486, Oct. 9, 1891 11.2	2015
✓	I 7345, Oct. 13, 1892 Too poor	
✓	I 4287, Sept. 20, 1891 12.5? Very doubtful. Image very poor	1996
✓	I 9094, Aug. 7, 1893 Reg. Mt on plate	
✓	I 9869, Aug. 3, 1893 n.s. < 12.0	2679
✓	I 9660, Oct. 12, 1893 Too near edge	
✓	I 9630, Oct. 9, 1893 Does not cover reg.	2746
✓	I 9525, Sept. 20, 1893 n.s. < 13.2	2727

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Williams Var. Cont.

✓ I 11968, Nov. 22, 1894 3155
11.7
Edge of plate. Images poor

✓ I 8968, July 27, 1893 2672
n.s. < 13.0

✓ I 9768, Oct. 25, 1893 2762
n.s. < 13.0

✓ I 13053, July 10, 1895 3385
n.s. < 13.0

✓ I 15429, July 2, 1896 3743
n.s. < 13.3
? a 13.5
? f 13.5

✓ I 13455, Sept. 9, 1895 3446
n.s. < 12.0

✓ I 11564, Oct. 10, 1894 3112
13.5? F
Identt. doubtful Near edg. Images very poor

✓ I 15737, Aug. 19, 1896 3791
n.s. < 13.2

Williams' Var. Cont.

✓ I 15535, July 25, 1896
Too poor

✓ I 13174, Aug. 2, 1895 3403
n.s. < 11.5

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October 10, 1904

Williams Var. Certain Plates remeasured

Plate I 11963, Nov. 22, 1894
11.7
Near edge. Images poor

✓ AC 2692, July 13, 1902
m.s. 2 < 10.6
A normal image of each star. An image of t is in the position of the variable

AC 5137, Aug. 11, 1904
9.6? Measured twice by mistake see p. 31. First measure used.
Near edge. Images poor

✓ AC 852, May 7, 1900
11.8?
Images faint and poor

✓ AM 1004, Aug. 22, 1901
12.0?
Very doubtful. Near edge. Images faint & poor

✓ AC 5192, Aug. 27, 1904
10.4?
Very doubtful. Comp. star a very faint near edge

AC 2679, July 12, 1902
11.9?
Images faint. Uncertain

Williams' Var. cont.

✓ AC 5167, Aug. 23, 1904
10.6

✓ AC I 11564, Oct. 10, 1894
13.6?
Presence of var doubtful. May be a defect.

A 1010, Oct. 10, 1894
m.s. < 12.8

AC 5109, July 29, 1904
9.5

✓ AC 5237, Sept. 7, 1904
10.4

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October 10, 1904

Williams Var (α 22h 3 +29°.7) additional plates

✓ AC 1573, June 26, 1901
10.5

✓ AC 54
Too faint

✓ AC 2142, Jan. 3, 1902
< 12.0

✓ AM 2321, Oct. 12, 1903
< 10.7

Williams Variable continued

✓ Plate A & M 2236, Aug. 31, 1903
12.0?
Images extremely faint

✓ AC 1746
Too poor

✓ AM 2004, June 3, 1903
n.s. < 11.4

✓ AM 2067, June 23, 1903
n.s < 11.4

✓ AC 1642, Aug. 7, 1901
Poor plate

✓ AC 2510, April 28, 1902
n.s. < 10.6

✓ AC 2511, April 28, 1902
n.s. < 11.4

✓ AC 5306, Sept 30, 1904
11.3?
Images faint and poor. Near edge. Obs. extremely uncertain.

✓ AC 2853 Sept. 24, 1902
n.s. < 11.2

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Williams' Var. Cont.

✓ Plate A C 5100, July 27, 1902
Too poor

✓ A C 969, Aug. 22, 1900
m.s ≤ 10.0

A C 2884, Oct. 9, 1902
12.0 F
Near edge Measured twice by mistake. see Irreg. 23

✓ I 32136, Oct. 6, 1904
11.6

✓ A C 3757, July 6, 1903
Too near edge

✓ A C 2516, May 1, 1902
Class C. Too faint

✓ A C 4151, Nov. 1, 1903
Trails - Too poor

✓ I 32138, Oct. 6, 1904
11.6
Spectrum plate

Williams' Var cont.

✓ Plate B 3276,
Too near edge

✓ B 3288
Too near edge

✓ B 1908, 1894
Does not cover region

✓ B 1805
Too faint.

✓ I 32137, Oct. 6, 1904
11.3

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October 17, 1904

Williams's Variables cont.

Plate I 9371, Sept. 2, 1893
n.s. < 13.5

AC 5039, July 4. 1904
10.5

AC 2074, Dec. 12, 1901
n.s. < 9.9

AC 595, Dec. 15, 1899
n.s. < < 10.7

AC 406, Aug. 18, 1899
Too poor

AC 4404 Dec. 19, 1903
n.s. < 12.5

AC 3780, July 24, 1901. remeasured
12.1

Williams Variables, continued

Plate Am 2705. June 3, 1904
n.s. ? < 11.9

AM 2775, June 22, 1904
11.2 ? F

AM 2878, July 23, 1904
9.6

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December 16, 1904

Examination of Plates for 21 Bessel, Rhiadum suspected of variability by H. E. Law of Ajenbaga Observatory.

Bessel's Catalogue is in AN. No. 43 (Vol XVIII p 353)
No. 21 pro. 54° 28' 41".9 +24° 9' 22".1 (1840) Mag. 8.9
= 3h +24° 56'.7 - 3h 38m 47s.3 +24° 12'.5 (1855) 8.6

Plate AC 2832, Sept. 14, 1902
AC 3910 Oct. 14, 1902
AC 2966 Nov. 1, 1902
AC 3120, Dec. 30, 1902
AC 5387 Oct 17, 1904
AC 5457 Oct 30, 1904
AC 5491 Nov. 7, 1904
AC 5521 Nov. 12, 1904
AC 5625, Nov. 28, 1904
AC 5653 Dec. 2, 1904

On the above plates Bessel 21 always appears two or three grades fainter than +24° 563 and four or five grades brighter than +25° 607. Several other stars have been used to check the observations. On plates AC 2966 and AC 5457 there is a suspicion that the suspected star may be slightly fainter than the normal brightness.

21 Rhiadum cont.

AC	3177,	Jan. 16, 1903	AC	81,	Oct. 27, 1898
	3224	" 30, "		121	Dec 15 1898
	3275	Feb. 10 "		142	Jan 3 1899
	3304	" 17 "		148	" 10, 1899
	3327	" 20 "		442	Sept 15 "
	3405	Mar. 11 "		444	" " "
	3419	" 13 "		498	Nov. 5 "
	3439	" 19 "		546	Nov. 20 "
	3871	Aug. 31 "		561	Dec 2 "
	3963	Sept. 21 "		602	" 16 "
	3992	" 25 "		603	" " "
	4119	Oct. 28 "		604	" " "
	4205	Nov. 12 "		643	Jan. 2, 1900
	4239	" 20 "		769	Mar. 17, 1900
	4405	Dec. 19 "		1011	Sept 22 "
	4424	" 23 "		1076	Dec. 19 "
	4439	" 26 "		1128	Jan. 5, 1901
	4455	" 28 "		1296	Feb 22, 1901
	4497	Jan. 5, 1904		1997	Nov. 21, 1901
	4541	" 18 "		2227	Jan. 23, 1902
	4637	Feb 1 "		2234	Jan 24, 1902
	4698	Mar. 4 "		2291	Feb 7, 1902
	4728	Mar. 28 "			
	5133	Aug. 9 "		2367	" 27 "
	5140	" 11 "		2379	Mar 3 "
	5205	" 29 "		2344	Feb. 19 "
	5224	Sept. 4 "		2302	Aug. 21, 1902
	5273	" 21 "			
	5348	Oct 7 "			

On the above plates the suspected star appears normal

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December 20, 1904

21 Bessel Elevations continued.

The star suspected was examined this morning on the following plates:—

AC 70, Oct. 23, 1898
109 Dec. 8 "
154 Jan 17 1899
172 Jan. 25 "
178 " " "
227 Feb 25 "
483 Oct. 16 "
547 Nov. 20 "
637 Dec. 30 "
1073 Dec. 18 1900
1189 Feb. 1 1901
1247 " 14 "
1673 Aug. 21 "
1733 Sept 8 "
1961 Nov. 6 "
2025 " 30 "
2090 Dec. 20 "
2126 " 31 "
2154 Jan. 3 1902
2220 " 20 "
2243 " 25 "
2281 Feb. 6 1902
2307 " 10 "
2397 Mar. 10 "
2811 Sept 4 "
2868 Oct 7 "
3032 Dec. 1 "

AC 3044 Dec. 5, 1902
3110 " 28 "
3119 " 30 "
3162 Jan 12 1903
3179 " 17 "
3182 " 18 "
3209 " 28 "
3264 Feb. 9 "
3319 " 19 "
3399 Mar. 6 "
4018 Sept. 30 "
4195 Nov. 10 "
4229 " 19 "
4347 Dec. 11 "
4357 " 13 "
4374 " 15 "
4407 " 19 "
4476 Jan. 3 1904
4486 " 5 "
4679 Feb. 25.
5143 Aug. 14 "
5193 " 27 "
5249 Sept. 15 "
5272 " 21 "
5339 Oct. 6 "
5368 Oct. 15 "
5498 Nov. 8 "
5539 " 16 "

21 Bessel Elevations Cont.

Plates examined cont.

AC 5587, Nov. 24, 1904
5642 Dec 1, "
5656 " 8 "

AM 59 Aug 3, 1899
92 " 9 "
194 Oct. 8 "
215 " 12 "
223 " 13 "
597 Aug. 29 1900
672 Sept 19 "
678 " 20 "
697 Oct. 16 "
1016 Aug. 24 1901
1130 Dec. 5 1901
1601 Oct 4 1902
1618 Oct. 8 "
"

AM 1635 Oct. 10, 1902
1665 " 25 "
2217 Aug. 17, 1903
2233 " 28 "
2239 " 31 "
2326 Oct. 12 "
2339 " 19 "
2346 " 23 "
2902 Aug. 4 1904
2964 " 18 "

AI 2830 Oct. 4, 1904
2831 " " "

On all of the above plates the star appears of normal brightness.

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January 14, 1904

Examination of Stars in list of Miss Pereira cont'd from Bk VIII p. 104. also pp 99, 100, 103

No. 52 and 61 in list I (Table I in Introduction & Obs.) No. 9 in List III

These three positions were marked on Plate AM 2451 from which plate 38 of the Map of the Sky was made. Inspection of the following plates showed no marked variation in either of the three regions.

AM. 1840 March 18, 1903
AM 2499 March 17, 1904
2560 April 20, 1904
2573 May 3, 1904
3097 Sept 30, 1904
735 March 25, 1901
1957 May 19, 1903
2387 Nov. 19, 1903
2371 Nov. 16, 1903
2 1896 May 4, 1903
2451 Jan. 14, 1904

No. 52 was examined on the following B plates. No variation found in region.

B 10917
17704 Oct 14, 1896
27187 April 16 1901
24521 Nov. 13 1899
22423 April 4 1899
21202 April 13, 1899
B 20462 Sept 18, 1897
18045 Nov. 25, 1896

January 14, 1904

List of Miss Pereira continued

No. 61 was examined carefully on each of the AM plates mentioned above and no variable star was found.

Nos. 1, 1 bis, 2, 3, 3 bis identified on plate B 32935 Companion of that plate, plate B 4337, AM 1755 (from which plate 37 of the Map of the Sky was taken), AM 3065, 1110, 718, 1792, fails to show variation in either group of stars. The failure of Miss Pereira to see either No. 2 bis 3 or 3 bis is due to their closeness to the bright AM star $\frac{-30^{\circ}}{-30^{\circ}}\ \frac{16^{h}24^{m}}{15^{h}52^{m}}\ \frac{16.8}{2}$ mag. 5.8 On the Basko plates, they are well seen.

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January 16, 1904

List of Seen Previously

No. 5 in Table III was identified with the Dm catalogue and chart. Examination of the following plates shows no variation.

AM 2477, March 11, 1904
AM 2451, Jan. 14, 1904
AM 2337, Nov. 19, 1903
AM 2341, Nov. 16, 1903
AM 1957, May 19, 1903
AM 1932, May 14, 1903
AM 1896 May 4, 1903
AM 1832 March 5, 1903
AM 1113 Nov. 12, 1901
AM 785 May 14, 1901
AM 785 March 25, 1901

No. 11 in Table I was identified on same plates as before (see Bache ~~III~~ p.

DM 346

Plate AM 557 normal (as on AM 1451)
1790 normal " " " "
320 normal
Bache. 571 normal
309 normal
914 normal
666 normal
2446 slightly faint.
B 14911 normal
14246 normal
12607 normal

January 16, 1904

List of Seen Previously Continued

DM -20° 346 cont
B 14061 normal
23947 normal
31797 normal
24260 normal
11944 slightly faint 2
Images poor. Difference scarcely 0.mag2

DM -20° 345

B 11944	faint	AM 1451	my bright
24260	faint	666	medium
31799	medium	914	my bright
23947	bright	309	medium
14061	bright	Bache 571	medium
12607	bright	320	bright
14246	bright	1790	medium
14911	bright	1557	medium
		2446	bright

This star certainly varies with a range of about 0.mag4 or somewhat less.

No. DM -21° 346 does not show certain variation. The images are poor on the only Bache plate on which it appears slightly faint.

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March 7, 1905

Examination of Plates for Wagner 68 m sequence for
J Orionis Follows Var. 19^{h} math 0^{h}9.
Suspected of Variability by ~~Chapman~~ Mr Leon Campbell.

This star was examined on the plates named below, and gives no evidence of variability. It is always of about the magnitude 9.8 according to the scale used in Circulars No. 78. It falls always in its proper place in Wagner's sequence. Revs. 67-74 show the same order of succession photographically that they do in the Catalogue.

Plates examined were

B174	I 58
930	66
1043	71
2081	73
2312	135
2335	198
8895	566
10250	2354
10748	7938
14677	7963
20305	17446
26570	19334
32478	17335
32690	24349
32808	24377
32916	24385
	27815
	28271
	31439
	31571

Comparison of Bruce Plates with the Paris Map of the Sky

Plate A 2167, Nov. 13, 1896, Exp. 10^{m} R.A. 3^{h}27^{m} Dec. +22°.4
Compared with Paris Chart Zone +24 No. 28

The region covered by the chart is in the north following part of the plate, the upper limit being about half a degree from the edge, and the following limit a degree from the edge.

The region within 15' of the edges, on all four sides of the square was examined, every star on the chart being looked for on the photograph. Every star on the chart was easily seen on the photograph, even within half a degree of the edge. Five extra bright stars (like maps) at $x = 190$, $y = 54.9$ 55.3, 55.7 were missing however. By close examination, a much larger number of stars could be counted on the plate than on the chart, but the faintest stars on the chart are the faintest which are noticeable on the plate.

The missing stars looked for on

Plate A 6546
A 4033 Oct. 11, 1899
A 2123

The two maps are evidently defects on the Paris charts - being of irregular shape.

Apparently a Bruce plate of average quality may be expected to show all the stars on the Paris charts within a region 5 degrees square

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Tuesday, February 13, 1906

Sixth Satellite of Jupiter - Examination of plates

Satellite marked by Prof. W. H. Pickering on Plate A 191, Jan. 25 1894.

Looked for on the following Plates

Plate A 185, Jan. 23, 1894

The quality of this plate is too poor to show an image as faint as that marked on A 191. Many of similar brightness are not seen

Plate A 215 Feb. 2, 1894.

This plate is poor, with spots on film. An object as bright as that in question should be seen without difficulty if one knew exactly where to look for it, but the search would be difficult.

The region of the image marked on A 191 was looked for on A 4151, and the object was not found, although the images of fainter stars could be seen.

See also Book 13 pp 31-33

Tuesday, September 18, 1906.

Examination of Plates for comet found by Barnard on plates taken July 22, 1905 (See letter 1906 Sept 12)

July 22, 1905 $17^h 37^m$ G.M.T. $\alpha = 18^h 24^m$ $\delta = -20° 30'$

Pos = 291° Length 6'.25 Duration of Exp. $2^h 35^m$

Daily motion $3^m 58^s$, $0° 20'.6$ Moving South-west as it was not found on plate taken July 24 where it should have been seen if it had moved north-west.

Pos. 1855 - about $18^h 21^m$ $-20° \frac{31}{27}$

No Bruce plates cover region within 2 weeks before & after

No Barnard plates " " " " " " " "

In each case allowance was made for daily motion in looking for Plates

Two I plates were taken July 22

I 33215 July 22, 1905 Exp. 33^m

No good I plate could be found for superposition but the region was compared carefully with B 2309 and no strange object seen. There is certainly no comet trail nor any object looking like a comet within a degree. A region about 20' in diameter was examined with great care. An object like a short trail is in position of a faint star, and probably a deformed image.

I 33 213, July 22, 1905 Exp. 36 m

Barnard could not be found. The region is near the edge of this plate and examination would not probably be profitable.

I 33216, July 25, 1905 Exp. 35 m

The region near [$18^h 10^m$, $-21°.5$] was examined, superposed with I 33215, and separately. The region is near the edge of the plate.

No comet found.

* But in Easterly motion, comet would increase R.A. and depart near $18^h 32^m$. This reg. not complete.

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Tuesday, October 30, 1906

Examination of Plates for Professor Barnard's Comet (See page 65)

Letter 1906 Oct. 27 accompanied by enlargement from Prof. Barnard's negative, comet itself being marked. Exposed from G.M.T. $16^h 20^m$ to $18^h 55^m$ Mid. $17^h 37^m$

Examination of Plate I 33215, July 22, 1905, G.M.T. $15^h 37^m$, shows that the comet region was examined. The object suspected at that time but supposed to be a defective star image is very near the tail but very slightly south of it. It follows the position of the tail on the Yerkes plate, however while having been later earlier it should precede it, as the comet is increasing its right ascension. On the Yerkes plate 2 it is seen that the star image which was suspected owes its peculiar appearance to a faint companion south of and following it.

The comet can be seen in the position indicated by the tone of the exposure but the trail is fainter than the faintest stars seen on the plate.

Plate I 33215 3/4 is very poor in the region of the comet and shows six stars fainter enough to compare with the comet

Tuesday, March 12, 1907

Measurements of Standard Stars in the Pleiades

I' Plate

To other meas. of Pleiades see XVII, 36-49

Scale M

Plate I 33774

Polar Sequence

a	2.5		3.7		
b	5.1	5.3	5.3	00	
c	6.0	6.2	6.2	00	
d			7.7		
e			7.8	=00	
f			8.4		
g			9.1	Im. may be perhaps defective	
h			[illegible]		
k					
l					

Pleiades Preceding Groups

a			
a'			
b			
b'	1.8		2.0
c	2.4		2.6
d	2.8		3.0
e	3.7		3.9
f	4.4	4.7	
g	4.7	4.9	
h	5.2	5.3	
i	5.9	5.8	6.0
j	6.2	6.6	6.5
j'		7.4	

Pleiades Preceding Grp. Cont.

k	7.2		
l	9.2		
m			
n			

Pleiades - Following Grp.

a			
a'			
b			
b'	1.8		2.0
c	2.2		2.4
d	2.8		3.0
e	3.8		4.0
f	4.2	4.3	
g	4.5	4.7	
h	5.1	5.0	5.2
i	5.8	5.8	5.9
j	6.0	5.9	6.0
j'		6	7.6
k		8.0	
l		9.1	
m			
n			

Changed March 13 7.5 Reading evidently wrong

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Tuesday, March 12, 1907

Measurements of Standard Stars in the Pleiades.

Scale M

Plate I 3378 21

Polar sequence

a	1.7	1.9
b	3.1	3.3
c	3.8	4.0
d	5.6	5.8
e	5.8	6.0
f	6.2	6.4
g		7.8
h		8.1
k		8.8
l		9.8

Pleiades Preceding Images.

a		
a'		
b		
b'		
c		
d		
e	1.8	2.0
f	2.1	2.3
g	2.1	2.3
h	2.4	2.6
i	2.9	3.1
j	3.2	3.4
j'	4.8	5.3 3.2

Pleiades Preceding Images cont.

k	5.6 6	5.9
l		7.5
m	~~6.3~~	~~6.5~~
n		9.7

idunt. prob. mvng. Cf with Chart 1 sysm. Mar. 13

idunt. correct "

Pleiades Following Images.

a	
a'	
b	
b'	
c	
d	
e	1.7 1.9
f	2.1 2.3
g	2.4 2.6
h	2.7 2.9
i	3.1 3.3
j	3.8 4.0
j'	5.2 5.1 5.2
k	5.6 5.8
l	6.7 7.0
m	~~6.8~~
n	9.5

idunt prob. mvng. Mar. 12

Measurements of Standard Stars in the Pleiades.

Scale M

Plate I 3431 4 3

Polar sequence

a	2.2	2.4
b	3.7	3.9
c	4.3	4.6
d	5.6	5.7
e	5.9	6.0
f	6.0	6.4 6.3
g		7.7
h		8.1
b		8.4 6
l		9.6

Pleiades Preceding Images

a	
a'	
b	
b'	
c	
d	1.2 1.4
e	2.5 2.7
f	2.8 3.0
g	2.9 3.1
h	3.2 3.4
i	3.8 4.0
j	4.0 4.2
j'	5.2 5.3

Pleiades Preceding Images cont.

b	5.9	6.0
l		7.5
m	~~7.1~~	identification prob. wrong Chart 1 sysm. Mar. 13
n		9.5 idunt. correct "

Pleiades Following Images.

a
a'
b
b'
c
d
e
f
g
h
i
j
j'
k
l
m
n

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Wednesday, March 13, 1907

Measurements of Standard Stars in the Pleiades.

21.54

Scale M

On this and following plates, the free rings of the Pleiades are mea. first, then polar sequence, then fol. rings.

Plate I 33774

Pleiades	Preceding Images		Following Images		Mean.	Resid.
a						
a'						
b						
b'	1.8	2.0	1.9	2.1	2.05	0 1
c	2.4	2.6	2.6	2.8	2.70	1 1
d	2.7	2.9	2.9	3.1	3.00	1 1
e	3.8	4.0	3.7	3.9	3.95	0 1
f	4.7	4.8	4.2	4.5	4.65	2 1
g	4.8	4.9	4.4	4.7	4.80	1 1
h	5.2	5.4	5.0	5.0 5.1	5.25	2 1
i	5.7	5.9	5.8	5.9	5.90	0 0
j	6.0	6.7 6.4	6.0	6.1	6.25	2 1
j'		7.6		7.7	7.80	1 1
k		8.2		8.0	8.10	1 1
l		9.0		9.0	9.00	0 0
m						
n						

Polar sequence

a	3.6	3.8		f	5.4	
b	5.6	5.8 5.8	00	g	6.2	
c	6.3	6.5 6.5	00	h		
d		7.7	00	k		
e		8.0		l		

22.13 A. D. W.

Wednesday, March 13, 1907

Measurements of Standard Stars in the Pleiades.

Scale M

Plate I 33821

Pleiades	Preceding Images		Following Images		Mean	Resid.
a						
a'						
b						
b'						
c						
d						
e	1.6	1.8	1.7	1.9	1.85	0 1
f	2.0	2.2	2.3	2.5	2.35	2 1
g	2.2	2.4	2.5	2.7	2.55	2 1
h	2.5	2.7	2.7	2.9	2.80	1 1
i	2.8	3.0	3.6	3.8	3.40	4 4
j	3.6	3.8	3.9	4.1	3.95	2 1
j'	5.2	5.1 5.2	5.1	5.1	5.20	0 0
k	5.7	5.8	5.7	5.8	5.80	0 0
l		7.5		7.2	7.35	1 2
m		8.3		8.1	8.20	1 1
n		9.6		9.2	9.40	2 2

Polar sequence

a	1.5	1.7		f	6.1 6.4	
b	3.1	3.3		g	7.7	
c	3.9	4.1		h	8.1	
d	5.5	5.6		k	8.7	
e	5.7	6.0		l	9.7	

22.39 A. D. W.

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Measurements of Standard Stars in the Pleiades.

Scale M

Plate I 34313

Pleiades:	Preceding Images.		Following Images.	
a				
a'				
b				
b'				
c				
d	1.8		2.0	
e	2.7		2.9	
f	2.9		3.1	
g	3.0		3.2	
h	3.4		3.6	
i	3.7		3.9	
j	4.0	4.2		
j'	5.2	5.3		
k	5.8	5.9		
l		7.2		
m		8 6	Changed March 13. 2 PM. First reading irridulty a magnitude out.	
n		9.2		
o		9.9		

Polar sequence

a	2.3		2.5	f	6.2	6.4
b	3.7		3.9	g		7.7
c	4.3	4.7	4.6	h		8.1
d	5.3	5.7	6 5.5	k		8.6
e	5.8	6.0		l		9.4

22.55 A.D.H.

Measurements of Standard Stars in the Pleiades.

Scale M

Plate I 33774

Pleiades:	Preceding Images.			Following Images.			Means	Resid
a								
a' X								
b								
b'	2.18	2.2		1.9	2.1		2.15	0 1
c	2.5	2.7		2.5	2.7		2.70	0 0
d	2.8	3.0		2.8	3.0		3.00	0 0
e	3.9	4.1		3.9	4.1		4.10	0 0
f	4.7	4.7	4.8	4.3	4.4		4.60	2 2
g	4.8	4.9		4.6	4.7		4.80	1 1
h	5.3	5.5		5.0	5.1		5.30	2 2
i	5.8	5.7	5.8	5.8	5.9		5.85	0 1
j	6.2	6.0	6.2	6.1	6.2		6.20	0 0
j'		7.2			7.6		7.40	2 2
k		8.1			8.1		8.10	0 0
l		8.9			9.0		8.95	1 0
m								
n								
o								

Polar sequence

a	3.7		3.9		f	8.4	
b	5.3	5.5	5 4.5	00	g	9.2	
c	5.9	6.1	6.0	10	h		
d		8 4.8		10			
e		8.1					

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Wednesday, March 13, 1907.

Measurements of Standard Stars in the Pleiades.

Scale M

Plate I 33521

Pleiades	Preceding Images.		Following Images.		Mean	Resid.
a						
a'						
b						
b'						
c						
d						
e	1.6	1.8	1.7	2.0	1.90	-1 1
f	2.1	2.3	2.3	2.5	2.40	-1 1
g	2.3	2.5	2.6	2.8	2.65	-1 2
h	2.9	3.1	2.9	3.1	3.10	0 0
i	3.0	3.2	3.2	3.4	3.30	-1 1
j'	3.7	3.9	4.0	4.2	4.05	-1 2
j''	5.1	5.2	5.2	5.3	5.25	0 1
k	5.7	5.8	5.7	6.0	5.90	-1 1
l	7.1		7.2		7.15	-1 0
m	8.4		8.2		8.30	1 1
n	9.5		9.3		9.40	1 -1
o						

Polar sequence

a	1.8	2.0	f	6.2	6.3	
b	3.3	3.5	g		7.8	
c	3.9	4.1	h		8.0	
d	5.7	5.8	k		8.7	
e	5.9	6.1	l		9.7	

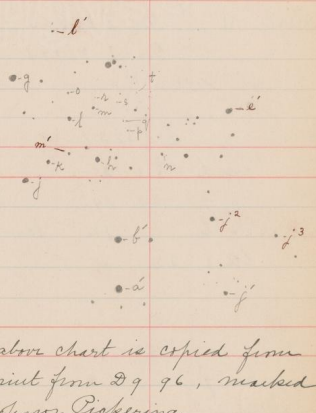
23.3.36 a.7.M

Measurements of Standard Stars in the Pleiades.

Scale M

Plate I 34313

Pleiades



The above chart is copied from the print from Dg 96, marked by Professor Pickering.

Stars in red added by H.S.L. Apr. 17, 1908

Stars in green measured on Parkhurst, Spec. Plate

Green letters above are from scale as measured on Parkhurst, Spec. Plate

a						
a'						
b						
b'						
c						
d	1.5	1.7				
e	2.6	2.8				
f	2.8	3.0				
g	3.0	3.2				
h	3.3	3.5				
i	3.7	3.9				
j'	4.0	4.2				
j''	5.2	5.7	5.6			
k	5.8	6.2	6.1	d=a		
l		7.4		β=b		
m		8.7		γ=f		
n		9.4		δ=g		
o		9.9		ε=h		
				ζ=e		

Polar sequence

a	2.6	2.8		f	6.3	6.5
b	3.8	4.0		g		7.9
c	4.5	4.8		h		8.0
d	5.6	5.9		k		8.5
e	6.0	6.2		l		9.0

Changed H.S.L. Reading 1 mag by a magnitude.

* Star b plotted July 7, 1908, and star originally marked b in chart changed to b². The b now marked is that of Dg. Pickering's sequence

23.47 a.7.M

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Thursday, March 14, 1907

The Pleiades - Remeasurement of images giving large residuals:

Scale M — On I 33821 preceding im. g h, j, l Foll. im f i
On I 33774 " " " f, j'

I 33821

pre h	2.3	2.5	
" j	3.7	3.9	appears slightly brighter than foll. im
" l		7.2	fainter than foll im
foll i	3.2		

I 33774

pre j	6.3	
" j'	7.7	

Measurements of Standard Stars in the Pleiades.
Miss Leland's Scale.

2.30.

Scale

Plate I 33821

Pleiades	Preceding image		Following image	
a				
a'				
b				
b'				
c				
d	2.5	3.2	2.7	3.4
e	3.6	4.3	3.6	4.3
f	3.9	4.6	4.0	4.7
g	4.3	5.0	4.4	5.1
h	4.5	5.3	4.8	5.6
i	5.0	5.8	5.2	6.1 6.0
j	5.7	6.2 6.3	6.0	6.4 6.6
j'	6.7	7.6 7.5		7.8
k		8.0		8.2
l		9.2		9.1
m		10.0		9.7
n				
o				

Polar sequence.

a	3.7	4.4	f	8.8	
b	5.1	5.7	g	9.6	
c	5.9	6.3 6.4	h	9.8	
d		7.9	k	9.9	
e		8.5	l		

2.48 P.M.

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Tuesday, March 19, 1907.

Measurements of Standard Stars in the Pleiades.
Miss Leland's Scale. C 2

Plate I 33774

Pleiades	Preceding images		Following images		
a					
a'					
b	3.9	3.6	3.0	3.7	
b'	3.6	4.3	3.7	4.4	
c	4.0	4.7	4.0	4.7	
d	4.6	5.3	4.7	5.4	
e	5.2	6.2 6.0	5.6	6.0	6.2
f	6.1	6.7	6.2	6.7	6.8
g	6.4	7.0	6.3	6.9	
h		7.3	6.8	7.1	7.3
i		8.0		7.9	
j		8.7		8.7	
j'		9.2		9.1	
k		9.4		9.6	
l		10.1		10.0	
m					
n					
o					

Polar sequence

a	5.3	5.8 5.9	f	9.8	
b		7.2	g		
c		8.6	h		
d		9.3	k		
e		9.5	l		

3.10 a, D, D...

Tuesday, March 19, 1907.

Measurements of Standard Stars in the Pleiades.
Miss Leland's Scale

Scale C 2

Plate I 34313

Pleiades			
a			
a'			
b			
b'	2.1	2.8	
c	2.9	3.6	
d	3.2	3.9	
e	4.6	5.3	
f	5.0	5.5 5.6	
g	5.2	5.7 5.8	
h	5.6	6.0 6.2	
i	5.9	6.4 6.5	
j	6.1	6.8	
j'		7.9	
k		8.7	
l		9.1	
m		9.7	
n			

Polar sequence

a	4.5	5.2	f	8.8 →	
b	5.9 ~~5.8~~	6.6	g	9.5 →	
c	7.0	Good scale	h	9.8 →	
d	8.1 →		k	9.9 →	
e	8.4 →		l		

3.10 a, D, D... →

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Measurements of Standard Stars in the Pleiades.
Miss Leland's Scale.

I 33774

	Pleiades	Preceding		Following		
a						
a'						
b	3.1		3.8	2.9		3.6
b'	3.9		4.6	3.8		4.5
c	4.2		4.9	4.2		4.9
d	4.6		5.3	4.5		5.2
e	5.6	6.1	6.2	5.6	6.0	6.2
f	6.2	6.8		6.1	6.7	
g	6.5	7.0	7.1	6.4	7.0	
h		7.5		6.8	7.3	7.4
i		7.9			7.8	
j		8.7			8.3	
j'		9.2			9.1	
k		9.7			9.6	
l					9.9	
m						
n						
o						

Polar sequence

a	5.3	5.9	f	9.8
b		7.6	g	
c		8.3	h	
d		9.2	k	
e		9.6	l	

3.21 a, D. H.

Measurements of Standard Stars in the Pleiades.
Miss Leland's Scale

I 34313

Pleiades

a
a'
b

copied from p. 79

					Mean.
b'	2.2	2.9	3.8	3.85	1 0
c	2.9	3.6	3.6	3.60	0 0
d	3.4	4.1	3.9	4.00	1 1
e	4.7	5.4	5.3	5.35	0 1
f	4.9	5.7	5.6	5.65	1 0
g	5.2	5.9	5.8	5.85	1 0
h	5.6	6.1	6.2	6.20	0 0
i	5.8	6.6	6.5	6.55	0 1
j	6.1	6.9	6.8	6.85	1 0
j'		7.7	7.9	7.80	1 1
k		8.1	8.7	8.40	3 3
l		9.0	9.1	9.05	0 1
m		9.7	9.7	9.70	0 0
n					
o					

Polar sequence.

a	4.0	4.7	f	8.8	
b	5.8	6.2	6.4	g	9.6
c	6.5	7.0	7.1	h	9.7
d		7.9		k	9.9
e		8.5		l	

3.30 a, D. H.

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Tuesday, March 19, 1907.

Measurements of Standard Stars in the Pleiades.
Miss Leland's Scale.

Plate I 33821

	Pleiades; Preceding		Following		
a					
a'					
b					
b'					
c	2.3	3.0	2.2	2.2	2.9
d	2.7	3.4	2.9	2.9	3.6
e	3.9	4.6	3.8	4.0	4.7
f	3.2	4.9	4.7	4.6	5.3
g	4.4	5.2	4.9	4.8	5.2 5.4
h	4.7	5.6 5.5	5.1	5.1	5.7
i	5.1	6.0 5.9	5.4	5.5	6.0 6.1
j	5.7	6.4	6.0	6.0	6.6
j'	6.8	7.4	4.4		7.7
k		7.8			7.2
l		9.0			9.0
m		9.7			9.4
n					
o					

Polar sequence

a	3.8	4.5
b	5.1	5.8
c	5.9	6.5
d		7.7
e		8.1
f		8.4
g		9.8
h		9.6
k		9.9
l		

3.45 a. D. M.

Measurements of I' plates for I and S Ursae Majoris.
Scale Measures.

Scale M I 37411

Current reading ↓	Mag. ↓	Polar sequence		Sequence for I Majoris			from p84		Polar sequence. 2nd meas.		
				Mean							
+ 3.21	10.07	a 2.9 · 3.1	2.25	3.05 12	a	3.7 · 2.9	3.21	k			
		f^3 · 8.3		6.80 00	h	6.4 6.9	6.8	4.8	d	6.8 7.0	6.8 6.9 11
		c^3 6.0 6.2 6.5 6.4	21	4.20 00	e	3.9 4.3	4.2	4.21	a	3.2 ·	3.4
3.32	10.52	h' 4.8 5.0 4.8 4.9	11	7.30 00	f_2	7.0 7.1	7.2	7.21	f^2	5.1 5.3	5.5 5.4 11
3.11	8.71	d 6.2 6.4 6.9 6.6	23	5.60 00	g	5.1 5.4	5.6	5.6	c^3	6.3 6.5	6.7 6.6 11
		c' 5.7 5.6 5.8 5.7	11	4.30 11	c	4.0 ·	4.2	4.4	e	6.6 6.8	6.9 6.8 11
3.11	8.91	e 6.8 7.0 7.0	00	5.60 11	f	5.5	5.7	5.7	5.5	h'	4.9 5.1 5.3 5.2 11
		h^2 5.1 5.3 5.7 5.5	22	4.95 10	d	4.8	4.8	4.9	5.0	c'	5.8 6.0 5.7 5.8 22
		f' 7.0 7.2 7.5 7.4	21	3.75 10	h	3.7 ·	3.9	4.0	f'	7.0 7.2	7.5 7.4 21
3.24	9.89	c^2 5.7 5.8 6.0 6.2 6.1	11	6.65 01	bar	6.1	6.8	6.6	6.7	0	6.1 6.3 6.3 00
3.40	11.15	g 8.6	+10 −11 10 21 4+3	11.85 21	k		7.6		11	h'	9.1 +7 −7
		h' 9.2		10.90 00	m		10.2		10.21		6.7 14 17 ±10
3.68	12.98	h^2 9.8		9.30 11	q		9.2		9.4	h^2	9.9
		f^2 8.6								h^2	9.1
3.74	13.39	h' 8.7		9.65 01	n		9.6		9.7	f^2	7.9
3.56	12.26	h^2 9.3		8.70 00	o		8.7		8.9	f'	9.5
3.66	12.86	h^3 9.8		9.30 22	n		9.0		9.4	f^3	10.0
3.79	13.69			9.90 22	t		9.7		10.1	f^3	8.x
3.46	11.56			8.10 11	m		8.0		8.21	g	8.8
3.40	11.15			7.75 18	m		7.7		7.8		
3.59	12.44			8.85 01	p		8.8		8.9		

a. D. M.

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Saturday, June 8, 1907

Measurement of T' plate for T and S Ursae Majoris.

Scale measures.

Scale M I 34711

Sequence for S Ursae Majoris			Polar Sequence 3rd meas.				Sequence for T Ursae Maj 2nd meas.		
a	3.4	· 3.6	a	2.9	· 3.1		c	4.0	4.3 4.2
b	6.8	7.3 7.2	f^2	5.3 5.5 5.5		00	g	5.4	6.6 5.6
d	4.6	4.7 4.6	c^3	6.2 6.4 6.5		01	a	3.0	· 3.2
g'	5.6	5.7 5.8	e	6.9 7.1 6.8	7.0	12	h	6.5	7.1 6.8
e	4.1	4.4 4.2	b^2	4.7 4.9 5.0		10	c	3.9	4.6 4.4
f	3.9	· 4.1	c'	5.8 6.0 5.9	5.8	01	f	5.3	5.5 5.5
h	7.0	7.6 7.4	d	6.7 6.9 7.0		10	b	3.8	· 4.0
c	4.0	· 4.2	c^2	6.3 6.5 6.6		10	h	6.9	7.4 7.2
f	5.0	5.0 5.1	f'	7.2 7.2 7.0	7.5	23	d	4.8	4.9 5.0
k	6.5	6.7 6.8	h^2	9.5		+5 −9	m		9.2
r		10.0	f^3	8.7		16 14 ±09	t		10.1
p		8.9	h^2	9.9			s		9.7
v		10.1	g	8.6			p		8.9
t		m s	h^3	10.0			m		7.8
o		8.8	h^2	9.1			q		5.4
m		7.9	f^2	7.9			r		9.4
Var		7.8	h'	9.0			l		7.9
q		9.6					o		8.7
n		8.5					q		9.4
							u		10.2
							Var		6.7

Means in red ink taken Oct 10, 1912 AR

A. D. W.

Measurement of T' plate for T and S Ursae Majoris

Scale M I 34711

H.C. 170

Copied from 8.83 1st	2nd meas	3rd meas	Polar Sequence 4th meas.		Means	Sequence for S Ursae Maj. 2nd meas.			8.84	Mean	curve reading	Magn	Diff
4.9	5.2	5.0	h'	5.0 5.2 5.2	00 5.05 ±1 1	c	3.9	4.1 4.2	±0	4.2	4.30 00			+ 3.02
3.1	3.4	3.1	a	3.0 · 3.2	3.20 ±2 1 0	g'	5.6	5.8 5.8	00	5.8	5.80 ±1		+ 3.14	+ 3.19
4.4	4.5	4.5	f'	· 7.6	7.50 ±0 0 1	d	4.2	4.4 4.3	4.6 ±2 2	4.8	4.80 ±0			
6.6	6.9	7.0	g	6.2 6.4 6.8 6.6	±2 2 6.7 8 ±1 2 2	a	3.1	· 3.3	3.6					3.39
5.1	5.1	5.9	c'	5.7 5.9 5.8	5.8 10 5.7 8 ±1 1 0	e	4.3	4.5 4.1	4.3 ±2 2	4.2	4.25 ±0			3.11
5.5	5.4	5.5	b^2	5.2 5.4 5.5	5.4 01 5.45 1 0 1 0	f	5.2	5.4 5.3	01	5.1	5.25 ±1			3.35
7.0	6.8	6.8	e	6.8 7.0 7.2	7.1 ±1 6.9 2 1 1 2	h	6.8	· 7.0	7.2		Measure evidently wrong-rejected			
6.1	6.3	6.6	c^2	5.9 6.1 6.3	6.2 ±1 6.8 3 0 2 1	h	6.6	6.8 6.9	01	6.8	6.80 ±2		3.26	11.01 3.12
6.4	6.6	6.5	c^3	6.2 6.4 6.8	6.6 2 2 6.5 2 ±1 0 1	l	7.0	7.2 7.0	7.1 ±2	7.2	7.15 ±0		3.32	10.47 3.21
9.8	9.9	9.9	h^2	9.9	+8 9.8 8 ±1 0 0 0	k	·	7.4		7.4	7.40 00		3.35	10.75
8.3	8.5	8.1	f^3	8.7	14 −6 14 ±10 8.5 5 ±1 1	g		9.7		9.6	9.65 10		3.75	13.40 3.39
9.3	9.1	9.1	h^2	9.1	9.15 1 1 1 1	m		8.0		7.9	7.95 01		3.43	11.38
8.7	9.1	9.0	h'	9.3	9.0 2 ±1 0 3	n		10.0		10.1	10.05 01		3.82	13.87 3.51
9.2	9.5	9.5	h^2	9.6	9.5 ±2 1 1 2	m		7.4		8.5	8.45 01		3.52	11.97 3.15
9.8	10.0	10.0	h^3	10.0	9.95 +2 000	p		8.9		8.9	8.90 00		3.60	12.50
8.0	7.9	7.9	f^2	7.8	7.95 0 1 1 0	o		8.8		8.8	8.80 00		3.68	12.38 3.54
8.6	8.8	8.6	g	8.7	8.6 1 1 1 0	r		10.1		10.0	10.05 10		3.82	13.87 3.60
Oct 9, 1912					Oct 9, 1912	Var		8.2		7.8	8.00 2 2		3.44	11.44

Evidently a mistake of a unit. 3.78

Oct. 12, 1912 OR

3.30

A. D. W.

In copying measures from 8.83 I have used means as they were originally recorded but in the tenths. Mill. October 3, 1912.

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Thursday, June 20, 1907.

Measurement of T' plate for T and δ Ursæ Majoris.

22 10.10

Scale M Plate I 34718

Polar Sequence				δ Ursæ Majoris			Polar Sequence				
							2nd measure				
a	2.8	·	3.0	a	3.3	·	3.5	a	3.1	·	3.3
f^2	5.4	5.6	5.7	5.6	0 1	g	5.7	5.6	5.8		
f^3	·	8.6				d	4.6	5.0	4.9	f^2	5.4	5.6	5.9	5.8	2 1
d	6.7	6.9	7.0	7.0	1 0	h	6.4	6.7							
c^2	6.3	6.5	6.7	6.6	1 1	b	3.7	·	3.9	d	6.6	6.8	7.0	6.9	1 1
b^1	4.8	5.0	5.0	5.0	0 0	f	5.2	5.6	5.5	c^2	6.2	6.4	6.4		0 0
c^1	5.7	5.9	6.1	5.8	1 2	c	4.3	·	4.5	f^1	·	7.9			
e	7.0	7.2	7.4	7.3	2 1	k	·	7.7		e	7.0	7.2	7.3		0 1
c^3	6.5	6.7	6.8	6.8	1 0	2	4.1	4.1	4.2	c^1	5.8	6.0	5.7	5.8	2 1
f^2		8.2				bar	·	*8.22	Rejct	c^3	6.6	6.8	6.9		0 1
k^3		10.1				σ		9.0		b^1	5.4	5.2	5.3		0 1
k^2		9.7				l		7.4		k^1		9.8			2 1
	film defective near image					n		8.6		k^2		9.9	image defect		
k^1		9.3				r		9.8		f^3		8.6			
f^1		7.8				p		9.1		g		7.8			
k^2		9.6				m		8.2		k^3		10.1			
k^1		9.8				q		9.6		k^1		9.3			
g		9.0								f^2		7.7			
										k^2		9.5			

*Measure 8.2 for δ Ursæ Majoris obviously wrong. Perhaps there was a misstep in recording.

A. D. N.

Thursday, June 20, 1907.

Measurement of T' plate for T and δ Ursæ Majoris.

20f +0.00

Plate I 34718

Scale M

time 2.40

T Ursæ Majoris							Polar Sequence					δ Ursæ Majoris
Mean ←				8.87	Curve reading Mag.		3rd measure					2nd measure
4.00	0 0	e	3.8	·	4.0	4.0						
6.90	1 1	h	6.7	6.8	6.8	7.0	3.06	9.96	c'	5.7	5.9	5.9	0 0	e	3.8	·	4.0
5.45	1 0	f	5.3	5.5	5.5	5.5	2.92	8.37	e	6.9	7.1	7.4	7.2	1 2	h	6.7	7.0	
7.80	· a	l	·	8.4	8.4	8.8	3.16	10.96	a	2.9	·	3.1			d	4.5	4.9	4.8
7.25	1 0	k	7.0	7.4	7.3	7.8	3.10	10.35	b^2	5.5	5.7	5.7	0 0		a	3.0	·	3.2
4.70	1 1	d	4.7	4.7	4.8	4.8	·		c^3	6.4	6.6	6.9	6.8	2 1	g	6.5	5.7	
4.05	0 1	b	3.8	·	4.0	4.1	·		b^1	5.0	5.2	5.1	0 1		k	7.0	7.3	
5.70	0 0	g	5.5	5.7	5.7	5.9	2.95	8.65	c^2	5.9	6.1	6.6	6.4	2 2	b	3.9	·	4.1
4.30	1 1	c	4.0	·	4.2	4.4	·		a	6.7	6.9	7.0		1 0	f	5.2	5.5	
3.25	1 0	a	3.1	·	3.3	3.2	·		f^2		8.7				c	4.1	4.4	
9.60	1 1	g		9.5		9.7	3.43	13.03	k^2		9.8				p		9.1	
		Mean		6.9			3.07	9.97										
		p		5.7														
9.00	0 0	o		9.0		9.0	3.32	12.32	g		9.0				o		9.0	
9.75	1 0	e		9.7		9.8	3.46	13.21	e		9.7				t		9.8	
8.55	3 4	n		8.9		8.2	3.27	11.82	k^2		9.5				n		9.5	
9.50	0 0	r		9.5		9.5	3.41	12.91	f^2		8.3				m		7.9	
10.2	a	t		10.2		9.2	3.54	13.74	k^3		10.2				l		7.8	
7.90	· a	m		8.6		7.9	3.18	11.08	k^1		9.3				q		9.7	
9.15	0 1	p		9.2		9.1	3.36	12.51	k^1		9.7							
									f^1		7.8							

time 22.50

E. D. N.

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Thursday, June 20, 1907.

Measurement of T plate for Ford & Visser Majoris

Scale M Plate D I 34718 Att. Com. 000

Polar Segmna A Visser Majoris

4th measure								2nd measure.					Mean		Rev. Mags. current reading	Rev. Mags.
7.0	6.9	7.0	d	6.8	7.0	7.0	0.0	1.12 0.1 0.0	+3.19	a	3.3	3.5	3.50	0.0		
6.6	6.4	6.7	c^2	6.6	6.5	6.7	6.6	1.0 5.0 1.1 1.1	2.92	d	4.0	4.9	4.9	4.9	0.0	
3.0	3.3	3.1	a	2.9			3.1	3.12 1.2 0.0	3.21	g	5.6	5.8	5.8	5.80	0.0 +2.96	8.76
5.6	5.8	5.7	b^2	5.7	5.9	5.8	5.8	5.15 2 0.1 0	2.95	h	3.7	2.9	3.9	3.90	0.0	
7.3	7.2	7.2	e	7.5				7.3 0.1 1.2	2.93	h	6.7	6.5	6.6	6.70	1.1 3.05	9.75
6.8	6.8	6.8	c^3	6.5	7.0	6.9	6.8	6.8 0.0 0.0	2.93	f	5.8	5.6	5.4	5.5	5.45 0.1 2.92	8.37
5.8	5.8	5.9	c'	5.7	5.9	5.5	5.8	5.8 2.0 0.1	3.01	e	3.9	4.1	4.2	4.15	1.0	
5.0	5.2	5.2	b'	4.9	5.0	5.1	5.0	5.12 1.1 1.0	3.98	h	7.7		7.7	7.70	0.0 3.15	10.85
9.7	9.9	9.8	h^2				9.9	9.82 1.1 0.1		c	4.1	4.3	4.5	4.40	1.1	
9.3	9.3	9.3	h.				9.3	9.30 0.0 0.0	3.29 3.24	h		7.3	7.4	7.35	3.11	10.46
7.8	7.9	7.8	f'				7.8	7.8 2.0 1.0		n		8.4	8.6	8.50	1.1 3.25	11.75
8.2	7.8	8.3	f^2				8.2	8.12 1.3 2.1	3.34	g		9.8	9.6	9.70	1.1 3.40	13.15
8.6	8.6	8.7	f^3				8.8	8.6 1.1 2.1	3.34	f		9.2	9.1	9.15	0.1 3.36	12.51
9.6	9.5	9.5	i.				9.5	9.5 2.0 1.0		m		8.1	8.2	8.15	1.0 3.20	11.35
9.0	8.8	9.0	g				9.0	8.9 5.0 2.0	3.33	g		8.9	9.0	8.95	1.0 3.31	12.26
9.8	9.8	9.7	k'				9.7	9.5 1.0 1.1	3.45	n		10.0	9.8	9.90	1.1 3.49	13.39
10.1	10.1	10.2	k^2				10.2	10.15 1.1 3.0	3.58						October 11, 1912	

This examination has been ruled to be wrong.

8.2 8.20 .0 3.21 11.41

Friday, June 21, 1907

Examination of T Plate I 34718 for discordant measures

Polar segmna

f^2 8.1

The second measure of this is recorded as 7.8 | Probably the first measured was f'. Repeat meas. 7.8.

T Visser Majoris

n	8.6	(First meas. 8.9, Second mean 8.2)	Take mean of first & third measures
l	7.9	" " 8.4 reject	" " 7.8 retain
m	8.2	" " 8.6 reject	" " 7.9 retain

I cannot now make n either 8.9 or 8.2 on repeated examination; the above estimate, 8.6, seems to me correct.

The first estimate for l, 8.4, is obviously wrong and probably the recorder misunderstood the designation. Repeat.

The first estimate for m, 8.6, is certainly wrong. Designation probably misunderstood.
The second estimate for m, 7.9, seems to me much too bright, but is probably correctly recorded. Retain.

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Thursday June 27, 1907.

Magnitudes of Comparison Stars for T Ursae Majoris as compared with those for S Ursae Majoris.

1.00

The magnitudes of S Ursae Majoris are those adopted from T' plates.

	R I 17812 +7711.	I 5925	I 5723	I 17811
f		h 10.2	h 10.3	h 10.2
h	10.2	k 10.8	k 10.8	k 10.4
k	10.8	l 11.0	l 11.2	l 10.9
l	11.0	m 11.1	m 11.6	m 11.6
m	11.5	n 12.0	n 12.2	n 12.1
n	12.0	o 12.8	o 12.8	o 12.7
o	13.1	p 12.9	p 12.8	p 12.9
p	13.1	q 13.1	q 13.1	q 13.0
q	13.4	r 13.1	r 13.1	r 13.1
r	13.2	s 13.3	s 13.4	s 13.6
s	13.6	t 13.8	t 13.8	t 14.0
t	13.9	u 13.8	u 13.7	u 14.0
u	13.9	w 13.9	w 13.8	w 13.9
w	14.0	x w s	x w s g'ders fainter than t	x 3 g'ders fainter than t.
x	3 g'ders fainter than t			

~~t is much farther from the center than s~~

On all of the plates the sequence for T is farther from the center than that for S.

1.40
A. D. N.

Tuesday, July 16, 1907

The Nebula of Orion.

Comparison of Plates A 8191 and 8199, each exposed 20 minutes, and taken within a week of each other.

To learn whether the variable stars change in short periods. The two plates were superposed and carefully examined with the result that the following variables show no certain change:-

Nos 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 16, 17, 23, 25, 27, 28, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 43, 45, 46, 48, 50, 51, 52, 54, 55, 56, 57, 58, 60, 61, 62, 63, 64, 65, 66, 67, 69, 72, 76, 91, 78, 79, 83, 84, 86, 87

The following variables show slight changes:-

Nos 24, 29, 88.

The following variables show marked changes:-

Nos 18, 19, 20, 22, 41, 42, 47, 59, 68, 77, 89.

Out of 75 variables examined, 14, or about one fifth show variation of one plates taken a week apart.

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Tuesday, September 17, 1907.

Measures to determine the Brightness of stars in the North Polar Sequence.

2.10

Scale P

C 10102

c'	2.724	2.7		
f'	4.138	3.8		
c²	3.027	2.7		
i	6.057	5.8	5.95	10
l	6.966	7.0	6.85	12
c³	3.930	3.0	a.	
e	3.936	3.6	a.	
f³	5.555	25.0	5.10	11
k²	6.259	6.4	6.35	32
h	5.956	5.9	5.85	21
k⁵	6.865	7.0	6.95	32
d	3.835	3.5	a.	
f²	4.946	4.9	4.95	21
m	7.3	7.3	.a	
k'	6.366	6.3	6.35	21
k³	6.865	6.7	6.60	11
g	5.853	5.8	5.65	12
k⁴	6.966	6.9	6.95	21
n	7.8			
r	9.0	-20 +14 22)340 ±.155		
s	9.3			
p	8.4			
q	8.8			
o	7.9			
t	image defective			
u	9.4			

A.D.H. v and w not seen

C 10047

Scale cut from C 15350

c²	2.522	2.2	a	
e	3.633	3.3	a	
g	5.950	4.9	4.95	01
c'	2.017	1.7	a.	
d	3.128	2.8	a	
f³	4.845	4.7	4.60	11
i	6.158	5.7	5.75	01
k²	6.461	6.0	6.05	10
h	5.754	5.7	5.75	21
c³	2.825	2.5	a.	
f'	3.936	3.6	a.	
k'	6.259	6.1	6.00	11
k⁴	6.966	6.9	6.95	21
k⁵	7.067	7.2	6.95	32
l	7.3	7.3	.a	
f²	4.340	4.0	a.	
k³	6.764	6.7	6.75	21
n	7.8		-13 +8 18)218 ±0.117	
r	9.2			
o	7.7			
q	8.9			
s	9.3	measured also on p. 108, 109		
u	9.6			
m	7.5			
v	m s			
w	m s			
p	8.7			
t	9.6			

Tuesday, September 17, 1907. 93

Measures to determine the Brightness of Stars in the North Polar Sequence.

Scale P

C 10052

c'	3.118	2.8	a.	
i	5.855	5.3	5.40	11
d	3.027	2.7	a.	
f²	3.936	3.6	a.	
k³	6.461	6.4	6.25	12
c²	2.724	2.4	a.	
h	5.350	5.4	5.20	32
f'	3.532	3.2	a.	
k⁵	6.764	6.8	6.60	32
k²	6.259	5.9	5.90	00
e	3.229	2.9	a.	
k'	5.956	5.8	5.70	11
l	7.067	6.9	6.80	11
c³	2.926	2.6	a.	
f³	4.946	4.8	4.70	11
k⁴	6.866	6.7	6.60	11
g	5.249	4.7	4.80	11
n	7.1		+12 -11 20)223 ±0.115	
r	8.7			
p	7.9			
m	6.8			
q	8.1			
s	9.0			
u	9.1			
t	9.0			
w	9.5			
3.07 o	7.4			
A.D.H. v	9.2			

C 10092

i	6.158	5.8	5.80	00
k⁴	6.865	6.9	6.70	22
c²	1.9	1.6		c² 2.9 4.6 (Sht. 21)
e	3.134	3.4	a.	There was a mistake
f³	5.350	5.2	5.10	of a unit made in
k³	6.663	6.4	6.35	recording -
h	5.956	5.3	5.45	21
d	3.532	3.2	a.	
c'	2.017	1.7	a.	
c³	2.926	2.6	a.	
f'	4.034	4.2	3.95 4.0	22
g	5.653	5.5	5.40	11
k'	6.259	5.9	5.90	00
m	7.067	6.9	6.80	11
f²	4.735	4.7	4.60	11
k²	6.366	6.1	6.05	01
k⁵	6.764	6.7	6.85	21
l	6.856	7.0	6.75	32
n	7.6		+14 -10 26)300 ±0.115	
r	8.3			
o	7.6			
q	8.3	measured also on p 108		
s	7.9			
u	9.0			
t	9.2			
w	9.4			
v	9.4	Plate C 10092 is exceptionally good.		
p	7.8			

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Wednesday, September 18, 1907.

Measures to determine the Brightness of Stars in the North Polar Sequence.

0.45

Scale P ~~H 58~~ ~~H 64~~ X 2563

c'	2.7	·	2.4			f^2	4.8	4.5/4.0	4.8	4.6	12
c^2	not on plate					g	5.9	5.6/6.1	5.9	5.8	21
c^3	not on plate					i	6.4	6.1/6.6	6.2		10
e	4.0	·	3.7			f^1	4.5	·	4.2		
g	5.9	5.6	5.7		01	f^3	5.7	5.4	5.8	5.6	22
f^3	·	7.2				h^3	7.0	4.7	6.9	6.8	11
h^2	6.7	6.4	6.8	6.6	22	h	6.2	5.9	6.0		10
h	6.1	5.8	6.0	5.9	11	l	·	*	6.1/7.6		
d ~~k~~	3.6	·	3.3			h^1	6.6	6.3	6.3		00
f^3	5.6	5.3	4.8	5.0	32	f^5	·		7.6		
i	6.3	6.0	6.5	6.2	23	f^4	·		7.6		
f^1	3.9	·	3.6			f^2	6.7	6.4	6.8	6.6	22
f^2	6.7	6.4	6.6	6.5	11	n			8.0		
f^2	4.7	4.4	4.4		00	o			8.3		
m		8.2		14/19 ±1.4		p			9.1		
n		9.3				q			m.s.		
f^5		7.6				m			7.7	additional measures on p. 105, 106	
m		8.0									
o		8.5	imperfect								
q		9.5				Scale used for H and K plates the same used for A plates					
l		7.7									
u		9.4									
w		9.9									
f^4		7.6				* A defect was measured instead of l.					
s		9.2									
p		8.8									
v		m.s									
t		9.6									

A.D.H.

Wednesday, September 18, 1907. 95

Measures to determine the Brightness of Stars in the North Polar Sequence.

Scale M mA 275 → Scale used for B plate. A 184

Scale P

c'	1.1	·	1.3/0.7			c^2	3.2	·	2.9	
d	2.2	·	2.4/1.7			f^1	4.8	4.5	4.6	10
f^2	3.5	·	3.8/3.7			g	6.5	6.2	6.3	01
g	4.5	4.7	4.8	4.75	10	i	6.8	6.5	6.7/6.9	6.6 11
h^2	6.1	6.3	6.5	6.40	11	f^2	5.7	5.4	5.3	01
h	5.6	5.8	5.3	5.6/5.5	23	e	4.2	3.9	4.3	4.4 22
l	6.9	7.1	7.2	7.15	10	h	6.8	6.5	6.6	10
e	2.8	·	3.0			c^3	3.7	·	3.4	
f^3	4.2	4.4	4.2	4.30	11	f^3	6.2	5.9	6.0	10
f^1	3.3	·	3.5			l	·		8.5	
c^3	2.0	·	2.2			c'	2.8	·	2.5	14''/±0.8
h^1	5.8	6.0	5.8/5.9	5.90	11	d	4.2	·	3.9	
f^5	6.8	7.0	6.8	6.90	11	h^1	·		7.3	
i	5.6	5.8	5.6	5.70	11	f^3			7.7	
f^4	6.7	6.9	6.9	6.90	00	m			8.0	
c^2	1.9	·	2.1			f^5			9.6	
f^2	6.2	6.4	6.1	6.25	21	f^2			7.2	
n		7.8		20/20 ±1.0		h^5			8.1	
r		8.9				o			9.1	
u		9.3				m			8.9	
s		9.1				f^4			8.0	
o		7.8								
q		8.6				measured also on p. 109				
m		7.3								
p		8.5								
w		9.9								
t		9.0								
v		9.7								

A.D.H.

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Wednesday, September 18, 1907

Measures to determine the Brightness of Stars in the North Polar Sequence.

Scale M A 39 I 573

c' 2.9
images too poor

c^2	3.7	3.9	·	3.9	a.	
f'	5.3	5.5	5.9	5.70	2	2
c'	3.5	37	·	3.7	a.	
d	4.7	4.9	4.8	4.85	1	0
f^2	5.9	6.1	6.3	6.20	1	1
g	6.4	6.6	6.7	6.65	0	1
i	·		7.4		a	
h_{X}	6.9	7.1	7.0	7.05	1	0
e	5.0	5.2	5.5	5.45	2	1
c^3	4.6	4.8	·	4.8	a	a
f^3	6.0	6.2	6.8	6.60	3	3
k^3			8.2		+10 −8	
m			9.2		14)18 1 11	
f^4			7.7			
k^5			8.9			
f^4			8.7			
l			9.2	image defective		
n			n.s.			
k'			7.9	measured also on 4 Ho		

A. D. F.
1.55

Saturday, September 21, 1907

97

Estimates of the brightness of bright stars near the North Pole

		Plate A C 5544	A C 2519	A C 5441	Mean	Res
α	+88°.8	1				
B	+86°.269	~~(2) 5 (3a)~~	~~(2) 6 (3a)~~	(2) 8 (3a)	63	1 0 2
·	+86°.290	3 too far from centre		(3a) 4 (4)		
C	+85°.383	3a (3a) 5 (4)	(3a) 3 (4)	(4) 3 (5)	40	1 1 0
D	+86°.344	4 (4) 1 (5)	(4) 5 (5)	(5) 3 (6)	28	3 2 1 1 3 0
E	+86°.272	5 (5) 2 (6)	(5) 3 (6)	6	27	1 0 0
7	+88°.71	6 (6) 2 (7)	(6) 2 (7)	(6) 1 (7)	17	0 0 1
2	+87°.107	7 (7) 3 (8)	(7) 0 (8)	(7) 1 8	13	2 1 0
a'	+88°.4	8 (8) 1 (9)	(8) 1 (9)	(8) 0 (9)	07	0 0 1
a^2	+87°.51	9 (9) 2 (10)	(9) 2 (10)	(9) 4 (10)	27	1 1 1
a^3	+89°.13	10 (10) 3 (11)	(10) 3 (11)	(10) 0 (11)	20	1 1 2
a^4	+88°.64	11 (11) 4 (12)	(11) (4) (12)	(11) 5 (12)	43	0 0 1
λ a^5	+88°.112	12 (12) 3 (13)	(12) 3 (13)	(12) 5 (13)	37	1 1 2
b	b' +88°.9	13 (13) 3 (14)	(13) 6 (14)	(13) 4 (14)	43	1 2 0
	b^3 +88°.76	14 (14) 2 (14a)	(14a) 2 (14)	(14) 1 (14a)	17	0 2 2 1 0 0 1
	b^2 +88°.13	14a (14a) 2 (15)	(14a) 5 (15)	(14a) 2 (15)	30	1 2 1
c'	c^1 +89°.3	15 (15) 2 (16)	(15) 1 (16)	(15) 3 (16)	20	0 1 1
	c^4 +88°.114	16 (16) 1 (16a)	(16) 4 (16a)	(16) 2 (16a)	23	1 2 0
·	+89°.21.	16a (16a) 2 (c^2)	(16a) 3 (c^2)	(16a) 2 (c^2)	23	0 1 0
	c^2 +89°.18	c^2 (c^2) 4 (17)	(c^2) 4 (17)	(c^2) 3 (17)	37	0 0 1
	c^5 +89°.22	17 (17) 0 (c^3)	(17) 0 (c^3)	(17) 0 (c^3)	00	0 0 0
	c^3 +89°.25	c^3 (c^3) 2 (18)	(c^3) 2 (18)	(c^3) 2 (18)	20	0 0 0
	c^6 +89°.12	18 (18) 1 (d)	(18) 1 (d)	(18) 1 (d)	10	0 0 0
d	+89°.29	d d 0 19	(d) 1 (19)	(d) 1 (19)	07	1 0 0
	c^7 +89°.9	19 (19) 3 e	(19) 3 (e)	(19) 3 (e)	30	0 0 0
e		e				

The pictorial +2 is too large to estimate.
Repeat estimates 2-3a. Pictorial too large

Continued, p. 121, 141, 144, 146

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Monday, September 23, 1907.

Estimates of brightness of Brightest Stars near North Pole

		A.J. 5585	A.J. 5589	A.J. 5589	Mean	(R)(B)(11)
α	+88° 8	1				
	+86° 269	2	(2) 8(3)	(2) 8(3)	(2) 8(3)	93 1 3 1
	+84° 290	3	(3) 3(3a)	(3) 4(3a)	(3) 4(3a)	37 1 00
	+85° 383	3a	(3a) 7(4)	(3a) 7(4)	(3a) 6(4)	67 00 1
	+86° 344	4	(4) 3(5)	(4) 3(5)	(4) 3(5)	30 000
	+86° 272	5	(5) 5(6)	(5) 5(6)	(5) 4(6)	47 00 1
	+88° 71	6	(6) 1(7)	(6) 0(7)	(6) 0(7)	03 100
	+87° 107	7	(7) 2(8)	(7) 2(8)	(7) 1(8)	10 100
a	+88° 4	8	(8) 0(9)	(8) 4(9)	(8) 3(9)	23 2 21
	+87° 51	9	(9) 5(10)	(9) 3(10)	(9) 4(10)	40 1 1 0
	+89° 13	10	(10) 3(11)	(10) 2(11)	(10) 2(11)	23 100
	+88° 64	11	(11) 2(12)	(11) 5(12)	(11) 6(12)	43 2 12
2	+88° 112	12	(12) 4(13)	(12) 3(13)	(12) 4(13)	33 1 1 1
b	+88° 9	13				

Continued, Page 129, 129, 130

Measures of brightness of stars in North Polar Sequence

Object

Scale M I 24192

	a	2.1 · 2.3			
	b	2.6 · 3.8			
D	+86°344	1.7 m e · 1.9			
a^5	+88°112	3.2 · 3.4			
E	+86°272	t m e ·			
f^2	+88° 13	3.8 · 4.0			
	c'	4.3 4.7 4.60 1 1			
	f'	6.5 6.7 6.70 00			
~~double~~	~~+89° 21~~	4.0 · *4.2			
7	+88° 71	2.3 · 2.5			
a^4	+88°64	2.8 · 3.0			
b^3	+88° 76	3.6 · 3.8			
a^3	+89° 13	2.6 · 2.8			
	c^2	4.8 4.9 4.95 0 1			
	d	5.6 5.8 5.80 00			
	f^2	· 7.3 7.3			
	e	6.2 6.1 6.25 2 1			
	c^3	5.1 4.9 5.10 2 2			
	i	8.6	+5 −5		
	f^3	7.7	12)1000 ±0.083		
	l	9.9			
	k^1	8.7			
~~double~~	~~+89° 21~~	4.5	4.4	35 2 1	
	k^3	9.0			
	g	7.8			
	h	8.1			
	k^2	8.9			
	k^5	9.7			

I 24192 prismatic companions

					2nd meas.
A	pc +88°8	3.5 · 3.7		b^2 +88°13	9.1
	pc a	6.7 7.3 7.10 2 2		~~+87°15~~	~~7.0~~
	b	· 8.4		c'	9.0
D	+86°344	6.0 edge 6.8 6.50 3 3		d	10.1
E	+86°272	6.3 edge 6.7 6.60 1 1		c^2	9.7
B	+86°269	5.1 edge 5.3 5.30 00		c^3	defect too near to measure
b^3	+88°76	· 8.9			
7	+88°71	6.9 7.1 7.10 00			
	+88°64	· 7.9			
	+89°21	· 9.6			
a^3	+89°13	· 7.7			
a^2	+89°51	6.8 7.0 7.00 00			
a^5	+88°112	8.1	+6 12)72 6		

I 24192 Cont.

	m	10.1
	k^4	9.6

Measures continued on Page 164

Assumed b to be +89°21 Mean of the readings and that recorded for +89°21 b to be taken.

A.D.S.

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Tuesday, September 24, 1907.

Measures to determine the brightness of stars in and near the North Polar Sequence

Scale M I 24193

	a	1.5	·	1.7
f^2	+88°.13	3.8	·	4.0
D	+86°.344	2.0	·	2.2
$\chi^2 a^5$	+88°.112	3.1	·	3.3
	b	3.5	·	3.7
a^3	*+87°.13	2.4	·	2.6
~~double~~	~~I +84°.21~~	~~3.8~~	~~·~~	~~4.0~~
7	+88°.71	1.9	·	2.1
a^4	+88°.64	2.7	·	2.9
	c'	3.8	·	4.0
	$d_{f'}$	5.2	5.4 5.2	5.30 11
	f'	6.0	6.2 5.8	6.00 $\frac{22}{00}$
	c^2	4.1	4.3 4.3	4.30 00
	e	5.6	5.8 5.5	5.65 $\frac{2}{11}$
	f^3	6.8	7.0 6.9	6.95 01
	c^3	4.7	4.9 4.8	4.85 10
	f^2	6.5	6.7 6.7	6.70 00
	g	·	7.6	$\frac{-5}{+6}$
	i		8.0	$\frac{14\,11}{\pm.079}$
	h		7.6	
	l		9.3	
	k^4		9.2	
	m		10.0	
	k^2		8.2	
	m		9.5	
	k^2		7.5	
A.D.W.	k^3		8.8	? Doubtless intended for +89°.21 W.

I 24193 con.

k^5	9.3			

I 24193

Prismatic Companions

A	+88° 8pc	2.9	·	3.1
	a pc	6.1	6.7	6.50 22
	b	·	8.0	
D	+86°.344	5.7	5.8	5.85 10
E	+86°.272	5.8	5.9	5.95 01
B	+86°.269	4.1	4.3	4.30 00
a^3	*+87°.13	6.8	7.2	7.10 11
a^2	+87°.51	6.1	6.4	6.35 10
a^4	+88°.64	6.9	7.0	7.05 10
7	+88°.71	6.0	6.4	6.30 1 $\frac{1}{4}$
a^5	+88°.112		7.7	$\frac{+6}{+6}$
b^3	+88°.76		8.6	$\frac{16\,12}{\pm.08}$
	+89°.21		9.3	
b^2	+88°.13		8.7	
	c^2		9.6	
	d		9.9	
	c'		8.9	
	c^3		9.7	image very poor
	e		10.0	

*Doubtless intended for +89°.13 W

Additional measures on page 111/164

Measures to determine the Brightness of stars in and near the North Polar Sequence.

3.05

Scale M I 26275

	a	too poor		
	b	"	"	
f^2	+88°.13	"	"	
		+86°.344	too c	
a^5	+88°.112	2.1		
	+86°.272	too c		
	+86°.269	too c		
	+86°.344	too c		
a^3	+89°.13	1.5		
	+87°.51	too c		
a^4	+88°.64	2.0		
7	+88°.71	1.2a		
b^3	+88°.76	3.6		
	~~+89°.21~~	~~3.9~~		
	k	5.6		

Plate I 26275 proves contrast to be too poor to measure.

A.D.W.

Cyclical

I 31267

	a	1.4	·	1.6
	b	3.0	·	3.2
		+86°.344 too c		
a^5	+88°.112	2.5	·	2.7
	+86°.269 and 272	too c		
a^2	+87°.51	1.3 no c	·	1.5
f^2	+88°.13	3.4	·	3.6
a^3	+89°.13	1.8	·	2.0
	~~+89°.21~~	~~3.8~~	·	~~4.0~~
a^4	+88°.64	3.0 no c	·	2.2
7	+88°.71	1.7	·	1.9
b^3	+88°.76	3.2	·	3.4
	c'	3.7	·	3.9
	f^3	6.9	7.3	7.20 11
	g	·	7.7	
	d	5.1	5.4	5.35 10
	f'	5.9	6.5	6.30 22
	c^2	4.3	4.5	4.50 00
	e	5.7	5.7	5.80 11
	c^3	4.8	4.8	4.90 11
	f^2	6.6	6.9	6.85 01
	f^3		8.8	$\frac{-6}{+6}$
	l		9.3	$\frac{14\,11}{\pm.086}$
	i'		8.1	
	k^4		9.2	
	m		9.7	
	k^2		8.6	
	k'		8.5	

I 31267 con.

h	7.9			
k^5	9.3			

I 31267

Prismatic companions

A	+88° 8pc	2.4		2.6
	a pc	6.6	6.8	6.80 00
	+86°.344	image elongated		
B	+86°.269	4.0	4.6	4.45 22
E	+86°.272	5.7	6.1	6.00 11
	a^5 +88°.112	·	8.0	
	a^2 +87°.51	6.7	6.9	6.90 00
	a^3 +89°.13	6.9	7.3	7.20 11
	a^4 +88°.64	7.0	7.4	7.30 11
	F +88°.71	6.6	6.7	6.75 01
	b	·	8.2	$\frac{+5}{+6}$
	f^2 +88°.13		8.7	$\frac{14\,11}{\pm.05}$
	+89°.21		9.7	
*	+87°.51		6.8	
	b^3 +88°.76		8.8	
	c'		9.0	
	c^3		9.8	
	c^2		9.6	
f^2	+88°.13		8.7	

Additional measures on page 164

* Undoubtedly intended for +87°.51, which was already measured on both scales. W

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Wednesday, September 25, 1907.

Measures to determine the Brightness of stars in and near the North Polar Sequence.

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Scale M I 32284 | I 32284 cont. | I 32284

	b	2.9	8.1	m	10.2	Prismatic companions			
a^2	+77° 51	t m e		~~k^4~~	9.1	A	+78° 8	2.5	2.7
	+86° 272	t m e		k^5	9.3		b	7.8	
	+86° 269	t m e		k^2	8.6		a	6.2	6.7	6.6 .55 2.1
D	+86° 344	1.2	1.4	l	9.3		+86° 272	t m e	
	a	1.8	2.0	^{3}+89° 13	2.0	2.2	+86° 269	t m e	
f^2	+88° 13	3.5	3.7			I	+88° 71	6.2	6.8	6.65 .12
a^5	+88° 112	2.4	2.6			a^2	+87° 51	6.7	7.0	6.95 .10
	* +88° 21	3.4	~~3.6~~			D	+86° 344	5.8	5.8	5.90 .11
f^3	+88° 76	2.6 diff	2.8			a^5	+88° 112		7.8	
~~I~~ 7	+88° 71	1.3	1.5			*	+88° 21		9.1	
a^4	+88° 64	1.9	2.1			b^3	+88° 76		8.6	
	c'	3.7	3.9			a^4	+88° 64		7.7	
	d	4.9	5.1	5.10 .00			c'		8.7	
	f^3	6.8	7.0	7.00 .00			c^3		9.7	
	c^2	4.0	4.2				d		9.9	
	e	5.5	5.5	5.60 .11			c^2		9.5	
	f^2	6.5	6.8	6.75 .10		b^2	+88° 13		8.8	
	c^3	4.3	4.7	4.60 .11		a^3	+89° 13	6.9	6.9	7.00 .11
	f^1	5.9	5.9	6.00 .11						+5 11 10 11 .11
	i		8.1	-4 +3 12 .100 ±0.858						
	m		9.7							
	k		7.8							
	k^1		8.4							
	k^4		9.3							
	g		7.5							
A.D.H.	k^3		9.0							

* 2 omitted intended for +89° 21 W.

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Additional measures on page 165

Measures to determine the Brightness of stars in and near the North Polar Sequence.

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I 34324

+88° 71	too faint		
+88° 76	" "		
+86° 272	" "		
+86° 269	" "		
+86° 344	" "		
+87° 51	" "		
a^3	+89° 13	2.6	2.8
	+89° 21	4.7	~~4.9~~
a^5	+88° 112	3.1	3.3
f^2	+88° 13	4.3	4.5
	a'	1.8	2.0
	b'	3.8	4.0
	c'	4.5	
	f^1	6.5	
	c^3	5.2	
	f^3		
	f^2	7.0	
	d	5.9	
	c^2	5.5	
	e	6.2	

Continued on next page.

4.00

A.D.H.

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Thursday, September 26, 1907.

(cloud) Measures to determine the Brightness of stars in and near the North Polar Sequence.

Scale M I 34324 continued from preceding page.

	second scale					
c'	4.4	4.6 (55) i2				
i	5.3					
g	8.0					
g_3	9.4					
d	5.9*	6.00 i1				
f'	6.9	6.80 i1				
f^3	7.7					
c^3	5.6	5.50 i1				
f^2	7.3	7.25 01				
e	6.6	6.60 i1				
c^2	5.4	5.6 (55) i2				
b	9.9	+7 −8				
h	8.0	14 | 1500 ±0.107				
k^2	8.8					
m	10.1					
k^4	9.6					
k'	7.8					
k^5	9.8					

I 34324 Prismatic Companions.

a		6.7	6.9	7.0	6.95	1 0
b	·			8 7.6		
A	+88° 8	3.4	·		3.6	
D	+86° 344	image defective				
E	+86° 272	6.3	6.5	6.7	6.60	i i
B	+86° 269	4.8	5.0	5.1	5.05	2 1
a^2	+87° 51	6.9	7.1	7.2	7.15	1 0
a^3	+89° 13	·		7.8		
a^1	+88° 64	·		7.8		
F	+88° 71	6.9	7.1	7.3	7.20	1 F
b^2	+88° 13			9.2		+3 −4 10 | 7 ±07
c'				9.3		
	+89° 21			9.7		
*f^3	+88° 76			9.6		
c^2				10.0		
c^3	not certainly seen					

additional measures on page 164 (112)

* Image near edge of plate, which accounts for the apparent discrepancy in the sequence. Wrede

A.D.F.

Estimates of brightness by Argelander's method of stars in the North Polar Sequence.

	X 2563	X 2550	X 2057
f^2	4 f^3	d^X 3 e	d 3 e
f^3	3 g	e^B 3 f'	e 3 f'
g	2 h	f' 4 f^2	f' 4 f^2
h	1 i	f^2 3 f^3	f^2 3 f^3
~~i~~	~~3 k'~~	f^3 3 g	f^3 3 g
~~k'~~	~~3 k^2~~	g 2 h	g 2 h
k^2	3 k^3	h 2 i	h 1 i
k^3	2 k^4	i 3 k'	i 3 k'
k^4	1 k^5	k' 3 k^2	k' 4 k^2
k^5	1 l	k^2 2 k^3	k^2 3 k^3
l	1 m	k^3 4 k^4	k^3 1 k^4
m	3 n	k^4 1 k^5	k^4 1 k^5
n	2 o	k^5 2 l	k^5 1 l
o	3 p	l^X 1 m	l 2 m
p	n.s.	m 1 n	m 2 n
		0 not seen	n 1 o
i	4 k'		p not seen
k'	1 k^2		images much elongated

a defect was measured at first instead of k'.

Estimates on X plates are not very reliable.

A.D.F.

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Friday, September 27, 1907.

Estimates by Argelander's method of the brightness of stars in the North Polar Sequence.

1943 χ ~~2184~~	H 58	H 63
d 4 e	d 3 e	~~f' 5 f^2~~
e 4 f'	e 3 f	~~f^2 5 f^3~~
f' 3 f^2	f' 3 f^2	f^3
f^2 3 f^3	f^2 2 f^3	g 1 h
f^3 2 g	f^3 2 g	h 3 i
g 2 h	g 3 h	i 1 k'
h 1 i	h 1 i	k' 4 k^2
i 3 k'	i 3 k'	k^2 3 k^3
k' 3 k^2	k' 2 k^2	k^3 0 k^4
k^2 4 k^3	k^2 3 k^3	k^4 2 k^5
k^3 1 k^4	k^3 3 k^4	k^5 -2 l
k^4 2 k^5	k^4 1 k^5	l 3 m
k^5 0 l	k^5 1 l	m 3 n
l 3 m	l 0 m	n -1 o
m 1 n	m 3 n	o 5 p
o identification doubtful	n 1 o	p 1 q
	o 5 p	q 2 r
	p 2 q	r 3 s
images poor.	q 2 r	s 1 t
	r 1 s	t 1 u
	s 1 t	u 1 v
	t -1 u	v 0 w
	u 4 w	images very irregular
	v not certainly seen	estimates unreliable.
		Reject ?

A.D.W.

Friday, September 27, 1907.

Estimates by Argelander's method of the bri

H 66	H 67
g 2 h	g 4 h
h 1 i	h 2 i
i 1 k'	i 2 k'
k' 4 k^2	k' 4 k^2
k^3 image defective	k^2 3 k^3
k^2 4 k^4	k^3 2 k^4
k^4 2 k^5	k^4 1 k^5
k^5 -1 l	k^5 -2 l
l 2 m	l 2 m
m 4 n	m 4 n
n -1 o	n 1 o
o 3 p	o 4 p
p 3 q	p 2 q
q 1 r	q 2 r
r 3 s	r 2 s
s 0 t	s 1 t
t 1 u	t 1 u
u 3 v	u 0 v
v 0 w	v not seen
images very irregular; estimates unreliable. Reject ?	Trails; estimates uncertain. Reject?

The differing length of the trails on Plates H 63 and H 64, varying with the distance from the pole, makes estimates unreliable. Estimates of stars farther from me better than the others.

A.D.W.

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Friday, September 27, 1907.

Estimates by Argelander's method of brightness of stars in the North Polar Sequence.

	C 10047	C 10052	C 10092
f^3	4 g	3 g	3 g
g	3 h	3 h	3 h
h	2 i	0 i	1 i
i	3 k'	2 k'	2 k'
k'	1 k^2	3 k^2	3 k^2
k^2	3 k^3	3 k^3	2 k^3
k^3	4 k^4	3 k^4	3 k^4
k^4	1 k^5	1 k^5	1 k^5
k^5	1 l	1 l	0 l
l	2 m	2 m	1 m
m	3 n	4 n	3 n
n	0 o	1 o	0 o
o	5 p	4 p	5 p
p	2 q	2 q	1 q
q	2 r	3 r	2 r
r	1 s	2 s	2 s
s	1 t	0 t	0 t
t	0 u	1 u	1 u
u	1 v	1 v	1 v
v	0 w	1 w	0 w
Images	excellent.	Images slightly elongated	Images good

a. D. H.

Estimates by Argelander's method of the brightness of stars in the North Polar Sequence.

	C 10102	MA 275	*I 2304 Ep. 80
f^3	3 g	d 2 e	d 4 e
g	3 h	e 4 f	e 2 f
h	0 i	f 3 f^2	f 4 f^2
i	2 k'	f^2 4 f^3	f^2 3 f^3
k'	3 k^2	f^3 3 g	f^3 2 g
k^2	3 k^3	g 2 h	g 3 h
k^3	4 k^4	h 1 i	h 1 i
k^4	0 k^5	i 2 k'	i 3 k'
k^5	0 l	k' 1 k^2	k' 3 k^2
l	1 m	k^2 3 k^3	k^2 2 k^3
m	5 n	k^3 3 k^4	k^3 3 k^4
n	1 o	k^4 0 k^5	k^4 3 k^5
o	6 p	k^5 2 l	k^5 0 l
p	2 q	l 1 m	l 1 m
q	2 r	m 4 n	m 4 n
r	1 s	n 2 o	n 1 o
t	image defective	o 5 p	o 4 p
u	1 v	p 2 q	p 2 q
v and w	images too poor.	q 1 r	q 1 r
		r 2 s	S not seen
There is a defect near k^4 which may affect the estimate		s 0 t	Image slightly elongated.
		t 2 u	
		u 1 w	
Images good.		v 1 w	
		Images excellent	

*Assumed to be B 2304

a. D. H.

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Friday, September 27, 1907.

Estimates by Argelander's method of the brightness of stars in the North Polar Sequence.

I 29492 Exp 75m	I 583 Exp 55m	I 272 Exp 83m
d 3 e	d 3 e	d 4 e
e 4 f'	e 4 f'	e 3 f'
f' 4 f²	f' 3 f²	f² image defective
f² 3 f³	f² 2 f³	f' 5 f³
f³ 3 g	f³ 2 g	f³ 3 g
g 2 h	g 2 h	g 3 h
h 0 i	h 2 i	h 1 i
i 3 k'	i 3 k'	i 3 k'
k' 1 k²	k' 2 k²	k' 2 k²
k² 3 k³	k² 3 k³	k² 3 k³
k³ 4 k⁴	k³ 4 k⁴	k³ 3 k⁴
k⁴ 1 k⁵	k⁴ 1 k⁵	k⁴ 0 k⁵
k⁵ 0 l	k⁵ 0 l	k⁵ 0 l
l 2 m	l 1 m	l 1 m
m 1 n	images of	Images poor.
n 2 o	k⁴, l and	Reject?
o 4 p	m very poor.	
q not seen		
Images elongated.		

A. D. N.

Estimates by Argelander's method of the brightness of stars in the North Polar Sequence

I 24192	I 24193	I 31267
b 5 (+88°13)	b 4 (+88°13)	b 4 (+88°13)
(+88°13) 3 c'	(+88°13) 3 c'	(+88°13) 3 c'
c' 2 (+89°21)	c' 1 (+89°21)	c' 6 c²
image of 89°21 much elongated	image of (+89°21) much elongated	c² 3 c³
(+89° 21) 3 c²	double	c³ 4 d
c² 3 c³	c' 4 c²	d 4 e
c³ 4 d	c² 3 c³	e 3 f'
d 3 e	c³ 3 d	f' 4 f²
e 3 f'	d 2 e	f² 2 f³
f' 4 f²	e 3 f'	f³ 3 g
f² 3 f³	f' 5 f²	g 2 h
f³ 3 g	f² 3 f³	h 0 i
g 3 h	f³ 3 g	i 4 k'
h 2 i	g 4 h	k' 2 k²
i 3 k'	h 1 i	k² 3 k³
k' 2 k²	i 3 k'	k³ 3 k⁴
k² 3 k³	k' 2 k²	k⁴ 1 k⁵
k³ 4 k⁴	k² 4 k³	k⁵ 1 l
k⁴ 1 k⁵	k³ 3 k⁴	l 2 m
k⁵ 1 l	k⁴ 2 k⁵	Images good.
l 2 m	k⁵ 0 l	
	l 1 m	
	m 3 n	

A. D. N.

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Friday, September 27, 1907.

Estimates by Argelander's method Polar Sequence

I 32284		I 37324	
b	4 (+88°13)	b	5 (+88°13)
(+88°13)	2 c'	(+88°13)	0 c'
c'	4 c^2	c'	7 c^2
c^2	3 c^3	c^2	3 c^3
c^3	5 d	c^3	5 d
d	4 e	d	3 e
e	2 f'	e	3 f'
f'	4 f^2	f'	4 f^2
f^2	2 f^3	f^2	3 f^3
f^3	3 g	f^3	3 g
g	3 h	g	3 h
h	0 i	h	0 i
i	3 k'	i	4 k'
k'	3 k^2	k'	2 k^2
k^2	4 k^3	k^2	3 k^3
k^3	3 k^4	k^3	3 k^4
k^4	1 k^5	k^4	0 k^5
k^5	1 l	k^5	2 l
l	1 m	l	1 m

a.D.H.

1.10

Estimates by Argelander's method of the Brightness of comparison stars for T Ursae Majoris

I 5723	I 5925	I 17511
e 0 b	e 2 b	a 7 e
b 4 c	b 4 c	e 2 b
c 1 d	c 2 d	b 3 c
d 5 f	d 4 f	c 2 d
f 3 g'	f 2 g'	d 2 f
g' 2 g^2	g' 3 g^2	f 5 g'
g^2 7 g^3	g^2 5 g^3	g' 3 g^2
g^3 1 h	g^3 3 h	g^2 3 g^3
h 5 k	h 3 k	g^3 3 h
k 3 l	k 4 l	h 3 k
l 4 m	l 3 m	k 4 l
m 3 n	m 4 n	l 3 m
n 4 o	n 4 o	m 3 n
o 1 p	o 3 p	n 4 o
p 2 q	p 1 q	o 1 p
q 2 r	q 2 r	p 2 q
r 4 s	r 3 s	q 0 r
s 5 t	s 5 t	r 4 s
~~t 3 u~~	t 0 u	s 5 t
t 1 u	u not seen	t 1 u
u 2 w	x not seen	u 0 w
x not seen		w 4 x

Sequence near edge of plate Images of t and = u extremely poor

q is too near edge of plate to be measured.

a.D.H.

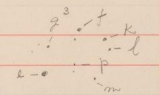
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Tuesday, October 1, 1907.

Estimates by Argelander's method of the Brightness of stars in the sequence for T Ursae Majoris.

I 18316

e	2 b
b	4 c
c	4 d
d	4 f
f	3 g'
g'	3 g²
g²	5 g³
g³	3 h
h	3 k
k	4 l
l	2 m
m	5 n
n	4 o
o	1 p
p	3 q
q	0 r
r	3 s
s	6 u
t	defective
u	2 w
x	not seen.



Sequence marked on I 17812

The star g³ is the same as the one called g in earlier works on this region in connection with Cepheid Variables. The star g of the sequence is rejected, as there is a faint star too near for it to be safely employed. Stars g' and g² if seq. for T Ursae Majoris are used, therefore.

The usual use of the number 1 to indicate the original letter is varied, in order that the designations of g' and g² may be the same for both variables.

g is too near edge of plate to be measured

Additional stars are marked on plate I 17811

A. D. W.

S Ursae Majoris. Estimates by Argelander's method of the Brightness of comparison stars.

I 5723	I 5925	I 17811	I 18316	Mean	Diff.	Map. June 19, 1914
a 5 b	a 3 b	4	6	45 1.102	000	7.50
b 4 c	b 4 c	3	4	38 0.010	045	7.91
c 1 d	c 0 d	3	3	18 1.311	83	8.36
d 4 f	d 3 f	4	3	35 0.101	108	8.57
f 3 g'	f 3 g'	2	3	28 0.010	136	8.96
g' 3 g²	g' 2 g²	3	2	25 1.010	164	9.28
g² 4 g³	g² 4 g³	3	4	38 0.010	189	9.58
g³ 4 l	g³ 4 l	4	5	48 0.001	227	10.05
l 3 k	l 3 k	4	5	38 1.101	275	10.59
k 4 m	k 3 m	3	3	32 1.000	313	11.06
m 0 n	m 1 n	1	2	10 1.001	345	11.48
n 6 o	n 5 o	6	5	58 1.000	356	11.62
o 1 p'	o 0 p'	0	0	08 1.000	407	12.34
p' 4 p²	p' 4 p²	3	4	38 0.010	409	12.36
p² 2 q	p² 3 q	3	2	25 0.110	447	12.88 92
q 2 r	q 0 r	0	2	10 1.11'	472	13.22 9
r 4 s	S not seen	4	5	43 0.01	482	13.36 44
s 1 t		3	3	23 2.11	from 525	
					from 548	

Images g, u and t extremely poor.

In measuring sequence for S Ursae Majoris it was inadvertently omitted.

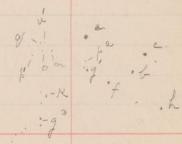
A. D. W.

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Tuesday, October 1, 1907.

S Ursae Majoris. Estimates by Argelander's method of Brightness of comparison stars.

	I 17811	I 18316
a	4 k	a 6 k
b	3 c	b 4 c
c	3 d	c 3 d
d	4 f	d 3 f
f	2 g'	f 3 g'
g'	3 g^2	g' 2 g^2
image of g^2 very faint		g^2 4 g^3
g^2	3 g^3	g^3 5 l
g^3	4 l	l 5 k
l	4 k	k 3 m
k	3 m	m 2 n
m	1 n	n 5 o
n	5 o	o 0 f'
o	0 f'	f' 4 f^2
f'	3 f^2	f^2 2 q
f^2	3 q	q 2 r
q	0 r	r 5 s
r	4 s	s 3 t
s	3 t	n' not seen
t	4 n'	



Sequence marked in I 17812

g' and g^2 are the same for T Ursae Maj. and S Ursae Maj.
Additional stars are marked on plate I 17811

A. S. H.

T Ursae Majoris. Estimates by Argelander's method of Brightness of Comparison stars.

	AC 1196	AC 3351
a	7 k	a 6 k
k	2 l	k 2 l
l	2 c	l 2 c
c	3 d	c 2 d
d	4 f	d 4 f
f	3 g'	f 4 g'
g'	2 g^2	g' 3 g^2
g^2	4 g^3	g^2 3 g^3
g^3	3 h	g^3 3 h
h	4 k	h 4 k
k	2 l	k 2 l
l	3 m	l 4 m
m	2 n	m 3 n
n	4 o	n 4 o

A. S. H.

These four AC plates were not reduced, and were omitted from the means of ten comparison stars for T Ursae Maj. S. I. Bn. June 15, 1915

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D Ursae Majoris.

AC 2534	AC 6175
a 7b	a 8b
b 1e	b 1e
e 3c	e 3c
c 3d	c 2d
d 4f	d 4f
f 4g'	f 4g'
g' 2g²	g' 3g²
g² 3g³	g² 3g³
g³ 2h	g³ 3h
h 4k	h 3k
k 3l	k 4l
l 4m	l 3m
m 4n	m 5n
n 4o	n 4o

a.D.W.

S Ursae Majoris.

June 25 1914 Magn.

AC 1196		AC 3351	AC 2634	AC 6178		Mean	Sum		
a 2e	a 3b	a 5b	5	6	a	48 ±.001	00		748
e 1b	b 1e	b 0e	0	0	b	02 ±.000	48		796
b 4c	e 5c	~~e 5b~~ 4c	4	5	e	45 .001	46		794
c 3d		c 3d	3	2	c	28 .002	91		839
d 3f		d 3f	4	3	d	32 .010	119		867
f 3g'		f 3g'	3	2	f	28 .002	151		899
g' 2g²		g' 4g²	3	3	g'	30 .100	179		928
g² 4g³		g² 4g³	3	4	g²	38 .010	209		959
g³ 5l		g³ 5~~k~~l	5	~~x~~	g³	57 .000	247		998
l 4k		l ~~5~~k 5~~k~~k	5	·	l	47 .100	277		1049
k 2m		k 4m	4	7	K	42 ±.003	324	44	1100
m 0n		m 0n	1	2	m	08 ±.001	349	69	1145
o too poor		n 5o	5	4	n	47 ±.002	394		1193
p too poor		o ~~2~~p	0	1	o	03 ±.001	~~371~~ 341		
					p		~~438~~		

Reject o and p, on acc't of faintness June 25, 1914.

a.D.W.

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Tuesday, October 1, 1907.

δ Ursae Majoris. Estimates by Argelander's method of the Brightness of Companion Stars.

	AC 2534	AC 6178.
a	5b	a 6b.
b	02	b 0c
c	4c	c 5c
d	3d	d 2d
f	4f	d 3f
g	3g	f 2g
g^1	$3g^2$	g^1 $3g^2$
g^2	$3g^3$	g^2 $4g^3$
g^3	5l	g^3 4k
l	5k	l defective
k	4m	k 7m
m	1n	m 2n
n	50	n 40
o	0p	o 1p

In measuring sequence for δ Ursae Majoris k was used — naturally omitted.

2.15
A.D.H.

Friday, September 4, 1907 (Ogburn)

Estimates of Brightness of Bright Stars near the North Pole. Continued from Page 98 and 97

		AI 2089	AC 5465
	+88° 8 1		
	+86° 269 2	(2) 8 (3)	
	+84° 290 3	(3) 5 (3a)	
	+86° 383 3a	(3a) 4 (4)	(3a) 4 (4)
	+86° 344 4	(4) 3 (5)	(4) 2 (5)
	+86° 272 5	(5) 5 (6)	(5) 4 (6)
	+88° 71 6	(6) 2 (7)	(6) 0 (7)
	+87° 107 7	(7) 1 (8)	(7) 1 (8)
a	+88° 4 8	(8) 2 (9)	(8) 3 (9)
	+87° 51 9	(9) 1 (10)	(9) 2 (10)
	+89° 13 10	(10) 2 (11)	(10) 3 (11)
	+88° 64 11	(11) 5 (12)	(11) 4 (12)
h	+88° 112 12	(12) 3 (13)	(12) 4 (13)
b	+88° 9 13		(13) 3 (14)
	+88° 76 14		(14) 0 (14a)
	+88° 13 14a		(14a) 1 (15)
c	+89° 3 15		(15) 2 (16)
	+88° 114 16		(16) 3 (16a)
	+89° 21 16a		(16a) 2 (c^2)
	+89° 18 c^2		(c^2) 4 (17)
	+89° 22 17		(17) 1 (c^3)
	+89° 25 c^3		(c^3) 3 (18)
	+89° 12 18		(18) 1 (d)
	+89° 29 d		(d) 0 (19)
	+89° 9 19		(19) 3 (e)
	e		

p. 145

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Friday, October 4, 1907

Messier 13. Estimates of Brightness of Comparison Stars in Cross of Polar Sequence

MA 349 (J') Plate
No star a in sequence

b	$g^p 1K$, $2K^p$
c	$K^p 3$, $0i$, $3K'$
d	$i\,2$, $1K'$
e	$K'2$, $1K^2$
f	$K'2$, $0K^2$, $4K^3$
g	$K^2 3$, $1K^3$
h	$K^3 3$, $0K^4$, $3K^5$
k	$K^4 1$, $3K^5$
l	Too close to f
m	$l\,1$, $1m$
n	$n\,1$, $0o$, $3p$

Comparisons are extremely difficult, as the Polar sequence is about 60 mm from the centre of the plate, while the cluster is nearer the centre by about 35 mm. The actual distance to be scanned by the eye renders observation difficult, on account of the close crowding of stars in the cluster. The difference in the character of the images in the two regions is, however, very serious, and causes a great uncertainty. At another time estimates would probably differ greatly from those given above.

Saturday, October 5, 1907

Polar Sequence - Loss of Bright Stars

Plates $\frac{R}{I}$ 28693, taken April 27, 1908, Exp. 45 m and I 28695, taken April 28, 1902, Exp. 68 m, both isochromatic plates taken with yellow screen are compared on D 5121, from I 19208. The colors marked on the two plates are as follows.

	I 28693	I 28695	
1	red	red	The numbers on this
2	white	white	page correspond to those
3a	white	white	employed on Page 97, where
4	white	white	the identifications will
5	white	white	be found. When the color
6	white	yellow	is placed in parentheses,
7	white	white	it is uncertain. The
8	white	white	discrepancies are as follows.
9	red	red	No. 6 (white, yellow). No 10,
10	white	yellow?	(white, yellow?) No 13 (white) [red]
11	white	white	No. 16 (yellow, red) No. 16a
12	red	red	(white, yellow) f (red white, yellow)
13	(white)	(red)	None of these differences seem
14	red	red	to be serious when the use
14a	white	white	of parentheses and question
15	white	white	marks is considered. All are
16	yellow	red	probably intermediate between
16a	white	yellow	the two classes to which they are assigned. There is a tendency to slightly redder color on I 28695 than on I 28693.
c^2	white	white	
17	red	red	d white
c^3	white	white	19 red
18	white	18 white	e red
d	white		f yellow
19	red	f 2 white	1? white?

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Saturday, October 5, 1907

S Ursae Majoris - Comparison Stars

Comparison with Polar Sequence on Plate I 34711

a a° - , a 1 (89° 13)

Image a of polar sequence too faint for comparison -

b (+89° 13) 3 b, b 4 (+88° 112)

Difficult

c (+89° 13) 6 c c 0 (+88° 112) c - b

Image b of polar sequence too faint for comparison

d (+88° 112) 4 d, d - b

Image of b° too faint

e (+89° 13) 6 e, e 1 (+88° 112)

f (+88° 112) 9 f, f 3 (c')

g' (c') 0 g', g' 3 (c²)

g² (c²) 1 g², g² 3 (c³)

Comparison extremely difficult - g² too far from centre of plate for safe comparison

g³ (c²) 2 g³ g³ 2 (c³)

Image not comparable

h (c³) 1 h, h 3 (d)

k (e) 4 k, k 0 (f'), k 5 (f²)

l (d) 3 l, l d (e), l 3 f'

m (f³) 1 m, m 3 (g)

n (f³) 2 n, n 3 (g)

o (k) 1 o, o 1 (i)

f' (d) 2 f', f' 1 (i)

f² (i) 2 f², f² 0 (k'), f² 3 (k²)

g (k') 3 g, g 1 (k²)

r Image too faint

s (k⁴) 1 s, k⁴ n.s.

Very uncertain indeed

Saturday, October 5, 1907

S Ursae Majoris - Comparison Stars

Comparison with Polar Sequence Plate I 34711

a not comparable

same star as there in sequence for S Ura. Maj.

b +(89° 13) 3 b, b 4 (+88° 112)

Very uncertain

c (+89° 13) 6 c, c 2 (+88° 112)

d (+88° 13) 4 d,

Image of b° too faint

e (+89° 13) 7 e, e 0 (+88° 112)

f f 2 (c')

Image of b° too faint

same as for S

g' (c') 1 g', g' 4 (c²)

g² (c') 4 g², g² 0 (c²) g² 5 (c³)

Image incomparable

g³ (c²) 2 g³, g³ 2 (c³)

h (d) 3 h, h 0 (e) h 5 (f')

Image not comparable

l * (f*) 2 l, l 2 (f³)

k * (d) 1 k, k 3 (e)

m (f') 5 m, m d (f²), m 3 (f³)

n (f³) 2 n, n 1 (g)

o (g) 1 0, o 2 (k)

p (g) 3 p, p 1 (k)

q (k) 3 q, q 0 (k') q 4 (k²)

r (i') 2 r, r 1 (k')

s (k') 2 6, s 0 (k²)

t n.s.

u (k³) 2 u, k⁴ not seen

Star a b c or f should be determined on I plate taken with the Cooke lens. Very unsafe on I plates.

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Monday, October 14, 1907

23.50

Scale Measures of Stars in Polar Sequence, on
7" Plate taken with reduced aperture.

Scale O — Scale cut from Plate AC 5796.

These Measures Repeated See note below. Repeated p. 128

	AC 7894				AC 7897	
9	6.8	7.3	7.7	3	6.4	5.0	t.l
1	3.5	3or bright	3or bright	9	3or faint	7.7	7.9
8	6.7	7.0	7.3	7	" "	7.4	7.9
2	5.2	3or bright	3or bright	6	" "	7.4	7.8
5	6.9	6.8	6.7	4	6.5	6.6	7.1
7	7.2	7.0	7.9	2	5.4	3or bright	3.b
3a	5.6	5.8	3or bright	1	3.8	"	t.l
6	6.9	6.8	7.4	3a	6.0	6.1	t.b
4	6.4	6.6	6.4	5	6.7	6.9	7.3
3	5.3	3or bright	3or bright	14		10.0	10.0
11		7.9	8.5	11		8.2	8.7
14		10.1	10.3	8		7.5	7.9
13		9.2	9.3	13		9.1	9.5
14a		10.1	3or faint	14a		9.9	10.0
13		9.0		10		8.9	8.7
10		8.3	8.2	12		8.7	9.2
12		8.7	8.9				

Comparisons difficult

The above measures were made with the 2-mil eye-piece and will have to be repeated, as it does not magnify sufficiently for safe comparisons to be made

0.30

M.E.H.

Wednesday, October 15, 1907

Polar Sequence continued

Scale O

	AC 7961 Scale 1	Scale 3	Scale 2				AC 7982 Scale 1	Scale 3	Scale 2			
4	5.9	6.3	6.6	6.3	6.17	3 11	9	6.7	6.8	7.3	7.0	6.83 .02
2	5.0	3b	t.b		5.0	a..	4	6.0	5.9			5.95 .01
7	6.8	7.0	7.6	7.3	7.03	2.03	2	4.7				4.7 a..
1	3.3	t.b	t.b		3.3	a..	8	6.7	6.6	7.2	6.9	6.73 .02
3a	5.7	5.7	t.b		5.70	00	* 3a	5.0 / 4.5	5.2			5.10 .11
9	6.9	6.9	7.2	6.9	6.90	000	5	6.1	5.9	6.6	6.3	6.10 .22
3	5.8	t.b	t.b		5.8	a..	7	6.8	6.9	7.1	6.8	6.83 .10
8	6.7	6.7	7.0	6.7	6.70	000	3	4.9				4.9 a..
5	6.4	6.2	6.7	6.4	6.33	1.11	6	6.7	6.8	7.0	6.7	6.73 .10
6	6.7	6.8	7.3	7.0	6.83	1.02	1	2.5				2.5 a..
14a		9.1	9.7	9.4	9.25	1.2	14a		8.7	9.0	8.7	8.70 .00
13		8.6	8.7	8.4	8.50	1.11	13		8.2	8.6	8.3	8.25 .01
10		7.6	7.6	7.3	7.45	2.1	15		8.7	9.1	8.8	8.75 .10
15		9.5	9.5	9.2	9.35	1.2	12		7.9	8.0	7.7	7.80 .11
11		7.6	8.0	7.7	7.65	.01	16		9.1	9.6	9.3	9.20 .11
14		9.2	9.3	9.0	9.10	.11	10		7.2	7.4	7.1	7.15 .01
12		8.3	8.6	8.3	8.30	.00	14		9.1	9.1	8.8	8.95 .12
16		9.5	9.9	9.6	9.55	.10	11		7.5	7.8	7.5	7.50 .00
16a		9.7	9.9	9.6	9.65	.10	16a					

These measures were made with an 1½ inch eye-piece

1½ in. eye-piece used

+18 / −14 / 38 | 32 | 84 / 304 / 160

±0.084

+13 / −12 / 35 | 25 | 0 / 250 / 50

±0.071

* 3a first reading, 4.5, certainly wrong. M.E.H.

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Thursday, October 17, 1907

1.45

Polar Sequence of T' plates. Scale measures.
measures repeated with 1½ inch eye-piece

Scale 0.

	AC 7894 Scale 1	Scale 3	Scale			AC 7897 Scale	Scale 3	Scale 2			
4	6.2	6.1	6.8	6.65	6.27 1.22	3	5.0				5.0 a..
2	4.8				4.8 a..	9		7.7	7.8	7.5	7.60 .11
8	6.9	6.9	7.6	7.3	7.03 1.13	4	6.5	6.5	7.0	6.7	6.57 1.11
9	5.0				5.0 a..	6	7.0	7.4	7.6	7.3	7.23 2.28
6	6.7	7.4	7.5	7.2	7.10 4.31	2	5.3				5.3 a..
3a	5.8	5.5	6.2	5.9	5.73 1.22	5	6.7	6.7	7.1	6.8	6.73 .01
5	6.4	6.5	6.9	6.6	6.50 1.01	3a	5.8	5.8	6.2	5.9	5.83 .01
7	6.9	7.7	8.0	7.7	7.43 5.33	7		7.5	7.7	7.4	7.45 .10
1	3.6				3.6 a..	1	3.6				3.6 a..
9		7.3	7.5	7.2	7.25 .10	8		7.2	7.6	7.3	7.25 .01
14a		9.9	10.2	9.9	9.90 .00	13		9.0	9.3	9.0	9.00 .00
10		7.8	7.9	7.6	7.70 .11	15		10.1	10.3	10.0	10.05 .10
13		9.0	9.5	9.2	9.10 .11	12		8.6	8.9	8.6	8.60 .00
15		10.2	10.4	10.1	10.15 .01	10		7.9	8.6	8.9	8.13 .32
12		8.8	8.8	8.5	8.65 .21	11		8.2	8.8	8.5	8.35 .21
11		8.2	8.7	8.4	8.30 .11	14		10.0	10.1	9.8	9.90 .11
14		10.0	10.3	9.9	9.95 .01	14a		9.8	10.0	9.7	9.75 .01

a star image is close to number 7 which makes it difficult to measure

+25
−23
34) 48 (14'
34
140
136
40
34

± 0.141

+13
−11
32) 24 (75
224
160
160

± 0.075

Thursday, Oct 17, 1907

Polar sequence. Scale measures of AI plates.
Scale cut from plate AC 8796 1½ inch eye piece

Scale 0

AI 2089 H

Images too much elongated

	AI 5585 Scale 1	Scale 3	Scale			
1						
3	3.3				3.3	a..
8	5.4				5.4	a..
13		7.3	7.7	7.4	7.35	.10
4	4.4				4.4	a..
2	2.3				2.3	a..
11	5.9	6.0	6.5	6.2	6.03	.102
6	5.3				5.3	a..
3a	3.6				3.6	a..
5	4.7				4.7	a..
11	6.4	6.3	6.6	6.3	6.33	100
7	5.6				5.6	a..
9	5.7	5.3			5.5	22
12	6.9	6.8	7.3	7.0	6.90	011
14a		7.9	8.5	8.2	8.05	.12
19		9.9	10.0	9.7	9.80	.11
16		8.6	8.8	8.5	8.55	.01
15		7.9	8.5	8.2	8.05	.12
18		9.3	9.8	9.5	9.40	.11
16a		8.5	8.9	8.6	8.55	.10
14		8.0	8.4	8.1	8.05	.01
17		9.4	9.6	9.3	9.35	.01
c²		8.6	8.8	8.5	8.55	.01
d		9.8	9.9	9.6	9.70	.11
c³			9.3	9.0	9.0	.. a

2.30

+14
−14
33) 28 (84
264
160
132

± 0.084

No. 1 not bright

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Monday, October 21, 1907

1.45

Polar Sequence. Scale measures of A9 plates
Scale cut from plate AC 8796 .1½ inch eye piece

Scale O

A9 5389

	Scale1	Scale2	Scale3			
1	·					
2	4.4	·	·	4.4	a · ·	
5	5.9	·	·	5.9	a · ·	
3a	5.2	·	·	5.2	a · ·	
8	6.7	6.8	7.0 6.7	6.73	010	
6	6.7	6.7	7.0 6.7	6.70	000	
4	5.8	5.3	·	5.55	22 ·	
7	6.8	6.6	7.4 7.1	6.83	023	
14a		9.7	9.8 9.5	9.60	· 11	
15		9.8	10.1 9.8	9.80	· 00	
12		8.9	9.2 8.9	8.90	· 00	
16		10.1	10.4 10.1	10.10	· 00	
14		9.7	10.1 9.8	9.75	· 10	
11		7.7	8.2 7.9	7.80	· 11	
9		6.9	7.5 7.2	7.05	· 12	
13		9.3	9.7 9.3	9.50	· 00	
10		7.5	~~7.5~~ 8.1 7.8	7.65	· 12	

Images are slightly elongated difficult to measure

+12
-10
29) 22 (.75
2 13
220

± 0.075

A9 5489

	Scale1	Scale2	Scale3			
1	~~No Night~~					
2	4.7	·	·	4.7	a · ·	
5	5.9	·	·	5.9	a · ·	
3a	5.3	·	·	5.3	a · ·	
8	6.8	6.8	7.0 6.7	6.77	001	
4	5.8	5.7	·	5.75	01 ·	
7	·	7.0	7.1 6.8	6.90	· 11	
6	6.7	6.5	6.8 6.5	6.57	111	
13		8.6	8.9 8.6	8.60	· 00	
12		8.5	8.7 8.4	8.45	· 10	
16		9.7	9.6 9.3	9.50	· 22	
11		7.6	7.9 7.6	7.60	· 00	
16a		9.6	9.8 9.5	9.55	· 01	
c³		9.8	10.2 9.9	9.85	· 01	
14a		9.0	9.1 8.8	8.30	· 11	
10		7.5	7.4 7.1	7.30	· 22	
15		9.2	9.8 9.5	9.35	· 21	
c²		9.8	9.8 9.5	9.65	· 21	
9		6.8	7.2 6.9	6.85	· 01	
14		9.0	9.7 9.4	8.20	· 22	

+15
-11
34) 31 (.91
306
40
34

± 0.091

10 Third scale reading
8.1 W.S.L. Oct. 22.
Mistake not explainable

Mean 7.51.
M.E. ± March 3, 08 1 ~~1.7~~ 1.0

Mean 1.97
March 3 08 1.85

Monday. October 21, 1907

Polar Sequence. Scale measures of A9 plates
Scale cut from plate A 8796 1½ inch eye piece

Scale O

A9 5484

	Scale1	Scale2	Scale3			
1	·					
8	5.8	5.7	6.2 5.9	5.80	011	
4	4.7	·	·	4.7	a · ·	
2	2.9	·	·	2.9	a · ·	
9	6.1	6.0	6.6 6.3	6.13	012	
3a	4.2	·	·	4.2	a · ·	
6	6.0	5.9	·	5.95	01 ·	
10	6.8	6.8	7.0 6.7	6.78	110	
5	5.2	·	·	5.2	a · ·	
7	6.3	5.9	6.6 6.3	6.17	131	
14a		8.8	9.3 9.0	8.90	· 11	
13		8.3	8.6 8.3	8.30	· 00	
14		8.9	9.4 9.1	9.00	· 11	
16a		9.2	9.6 9.3	9.25	· 01	
12		7.7	8.2 7.9	7.80	· 11	
c³		10.0	10.1 9.8	9.90	· 11	
16		9.3	9.5 9.2	9.25	· 10	
11		6.9	7.0 6.7	6.80	· 11	
15		9.1	9.3 9.0	9.05	· 10	
c²		9.7	9.9 9.6	9.65	· 10	
ol		10.2	10.3 10.0	10.10	· 11	
17		10.2	10.3 10.0	10.10	· 11	

+17
-14
38) 31 (.81
304
60
38

± 0.081

Recorded 1 0.827
Mar. 3 1908 0.773

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Monday, October 21, 1907

Polar Sequence. Scale measures on A C plates having several exposures. 1½ in. eye-piece

Scale O

AC 8063 expsr +90°

		Scale1	Scale2	Scale3		
a	1	3.8			3.8	a··
a'	8	6.8	7.0	7.2	7.00	⊥01
g	4	6.2	6.3	6.6	6.27	⊥00
a⁴	11		7.9	8.1	7.8	7.85	·10
β	2	5.5				5.5	a··
ε	5	6.6	6.5	6.8	6.5	6.53	100 / 011
a²	9		7.2	7.5	7.2	7.20	·00
c	3a	6.0	5.8			5.90	1⊥·
ζ	7	7.0	7.2	7.6	7.3	7.17	201
η	6	6.8	6.7	7.5	7.2	6.97	212
a⁵	12		8.1	8.3	8.0	8.05	·10
c⁴	16		9.0	9.6	9.3	9.15	·21
b' *	13		8.8	9.0	8.7 / 8.4	8.75 / 9.10	01 / 223
c'	15		9.1	9.6	9.3	9.20	·1⊥
a³	10		7.6	7.7	7.4	7.50	·1⊥
b³	14		9.1	9.1	8.8	8.95	·12
b²	14a		9.4	9.7	9.4	9.40	·00
·	16a		9.7	10.0	9.7	9.70	·00
c²	c²		9.9	10.0 / 9.8	9.7	9.80	·00

AC 8063 expsr +85°

		Scale1	Scale2	Scale3		
3a		5.9	6.0			5.95	⊥0·
9		·	7.1	7.7	7.4	7.25	··12
2		5.0	·			5.0	a··
5		6.2	6.0	6.8	6.5	6.23	023
8		6.9	6.8	7.1	6.8	6.83	100
4		6.3	6.3	6.8	6.5	6.37	⊥11
7		7.0	6.9	7.1	6.8	6.90	10⊥
6		6.9	7.0	7.0	6.7	6.87	012
		3.7				3.7	a··
10			7.6	7.7	7.4	7.50	·1⊥
13			8.6	8.8	8.5	8.55	·0⊥
11			7.7	8.1	7.8	7.85	·⊥0
14			9.2	9.7	9.4	9.30	·⊥1
16a			9.8	10.0	9.7	9.75	·01
12			8.3	8.6	8.3	8.30	·00
16			9.4	9.7	9.4	9.40	·00
15			9.1	9.2	8.9	9.00	·1⊥
14a			8.9	9.4	9.1	9.00	·⊥1
c²			9.8	9.8	9.5	9.65	·21
c³			10.0	10.1	9.8	9.90	·1⊥

* 13th The wrong image was at first measured on the second scale.

+15 / -17 / 39) 32 (82 / 312 / 80 / 78

± 0.082

+12 / -15 / 39) 27 (69 / 234 / 330 / 297

± 0.069

+16 / -18 / 41) 34 (82 / 328 / 120 / 82

± 0.082

3.08

M.E.H.

21.45

Tuesday, October 22, 1907

Polar Sequence Scale measures on A C plates having several exposure 1½ in eye-piece

Scale O

AC 8063 expsr +80°

	Scale1	Scale2	Scale3		
1	3.2			3.2	a··
8	6.6	6.8	7.1	6.73	⊥11
5	5.7	5.8	6.5	6.2	5.90	213
2	4.6				4.6	a··
6	6.7	6.6	6.7	6.4	6.57	102
4	6.2	6.2	6.7	6.4	6.27	⊥11
7	6.8	6.7	6.8	6.5	6.67	102
3a	5.8	5.7			5.75	01·
9		6.7	7.1	6.8	6.75	·10
13		8.6	8.9	8.6	8.60	·00
14a		9.2	9.7	9.4	9.30	·⊥1
14		9.7	10.0	9.7	9.70	·00
11		7.5	7.6	7.3	7.40	·1⊥
16a		10.0	10.1 / 9.7	9.8	9.90	·1⊥
12		8.2	8.7	8.4	8.30	·⊥1
16		9.8	10.1	9.8	9.80	·00
c²		10.2	10.3	10.0	10.10	·1⊥
15		9.7	10.0	9.7	9.70	·00
10		7.4	7.8	7.5	7.45	·01
c³		·			·	

AC 8064 expsr +90°

	Scale1	Scale2	Scale3		
1	3.9			3.9	a··
8	7.0	7.0	7.5	7.2	7.07	⊥11
4	6.4	6.4	6.7	6.4	6.40	000
7	·	7.1	7.7	7.4	7.25	·12
2	5.5				5.5	a··
6	6.8	7.0	7.6	7.3	7.03	203
3a	5.9	5.9	6.5	6.2	6.00	⊥12
5	6.7	6.7	6.9	6.6	6.67	001
9		7.1	7.7	7.8	7.25	·12
15		9.1	9.5	9.2	9.15	·10
13		8.7	9.0	8.7	8.70	·00
12		8.3	8.8	8.5	8.40	·⊥1
16		9.2	9.7	9.4	9.30	·⊥1
14		9.1	9.6	9.3	9.20	·⊥1
11		7.7	8.3	8.0	7.85	·18
10		7.6	8.4	8.1	7.85	·23
16a		9.4	9.8	9.5	9.45	·01
c³		10.1	10.3	10.0	10.05	·10
14a		9.0	9.6	9.3	9.15	·21
c²		9.9	10.1	9.8	9.85	·10

Images difficult to compare with this scale

+14 / -17 / 39) 31 (79 / 273 / 370 / 351

± 0.079

+22 / -18 / 41) 40 (97 / 369 / 310 / 287 / 23

± 0.097

M.E.H.

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Tuesday, October 22, 1907

Polar Sequence continued

Scale 0

	AC 8064 Ex +85			AC 8064 esp +85 Scale1	Scale3	Scale2			
1	3.9			5 6.2	6.1	6.9	6.6	6.30	1 2 3
8	6.9	7.1	7.6	2 5.3	5.1			5.20	1 1 ·
4	6.2	6.5		4 6.0	6.0	6.5	6.2	6.07	1 1 1
2	5.6			7 7.0	7.2	7.8	7.5	7.23	2 0 3
7	7.0	7.5		3a 5.7	5.4			5.55	1 2 ·
3a	5.9	5.9	6.2	8 7.0	7.0	7.3	7.0	7.00	0 0 0
6	6.9	7.0	7.4	6 6.9	7.0	7.3	7.0	6.97	1 0 0
5	6.6	6.6		1 3.8				3.8	a · ·
9		7.4	7.8	9	7.2	7.6	7.3	7.25	· 0 1
13		8.8	8.9	10	7.7	8.0	7.7	7.70	· 0 0
12		8.7		13	8.8	8.9	8.6	8.70	· 1 1
16		9.5		14a	9.1	9.5	9.2	9.15	· 1 0
15		9.2	9.6	12	8.3	8.7	8.4	8.35	· 1 0
16a		9.7		16	9.5	9.8	9.5	9.50	· 0 0
14		9.2	9.7	11	7.6	7.9	7.6	7.60	· 0 0
11		7.9		C2	9.9	10.1	9.8	9.85	· 1 0
C2		9.8		16a	9.8	10.0	9.7	9.75	· 0 1
10		7.7		14	9.0	9.6	9.3	9.15	· 2 1
C3		10.1		15	9.3	9.6	9.3	9.30	· 0 0
14a		9.4		C3	10.3			10.3	· a · ·

1.30

10.3 ? doubt not certain

A transfer was made to the sequence of +90°

+13
-18
41) 31 (75
287
230
205

± 0.075

22.35
M.E.H.

Tuesday, October 22, 1907

Polar Sequence continued

Scale 0

	AC 8064 esp +80°			AC 8064 ex +80° Scale1	Scale3	Scale2			
1	3.2			3 4.8				4.8	a · ·
8	6.8			5 6.2	5.8	6.7	6.4	6.13	1 2 3
3a	5.0			8 6.8	6.7	7.0	6.7	6.73	1 0 0
6	6.9			1 3.0				3.0	a · ·
4	5.6			6 6.8	6.8	7.5	7.2	6.93	1 1 3
2	4.9			3a 4.9				4.9	a · ·
5	6.1	6.5		7 7.0	6.9	7.7	7.4	7.10	1 2 3
7	7.0			4 5.5	5.3			5.40	1 1 ·
16		9.7		13	9.1	9.3	9.0	9.05	· 1 0
12		8.1		9	7.0	7.3	7.0	7.00	· 0 0
10		7.6		14	9.2	9.4	9.1	9.15	· 0 1
13		8.7		11	7.7	7.9	7.6	7.65	· 1 0
A transfer was made				16a	9.9	10.2	9.9	9.90	· 0 0
				14a	9.7	9.8	9.5	9.60	· 1 1
				C2	9.9	10.2	9.9	9.90	· 0 0
				C3	10.2			10.2	· a ·
				15	9.5	9.8	9.5	9.50	· 0 0
				12	8.6	8.8	8.5	8.55	· 0 1
				16	9.7	10.0	9.7	9.70	· 0 0
				10	7.5 7.5	7.8	7.5	7.50	· 0 0

+ 15
-12
36) 27 (75
252
180
180

± 0.075

M. E. H.

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Tuesday, October 22, 1907.

Polar sequence continued

Scale 0

AC 7894 exp +75°

	Scale1	Scale3	Scale2				
3a	4.4				4.4	a	· ·
8	6.5	6.1	6.6	6.3	6.30	2 2 0	
1	2.3	·	·	·	2.3	a	· ·
9	6.8	7.0	7.0	6.7	6.83	0 2 1	
4	4.9	·	·	·	4.9	a	· ·
2	4.0	·	·	·	4.0	a	· ·
5	5.7	5.2	·	·	5.45	3 2	·
7	6.8	6.6	7.0	6.7	6.70	1 1 0	
6	6.6	6.0	6.8	6.5	6.37	2 4 1	
12		8.9	9.5	9.2	9.05	· 1 2	
16		m.s	·	·			
13		9.5	9.8	9.5	9.50	· 0 0	
10		7.8	7.5	7.2	7.50	· 3 3	
14x		10.0	10.0	9.7	9.85	· 2 1	
11		7.4	7.1	6.8	7.10	· 3 3	
14a		10.0	·	·	10.0	· a	·
15		m.s	·	·			

no fainter stars seen
comparisons almost impossible

+21
−18
24) 34 (162
24
150
144
60

± 0.162

AC 7895 exp +90°

	Scale1	Scale3	Scale2				
1	3.8				3.8	a	· ·
8	·	7.3	7.7	7.4	7.35	· 1 0	
4	6.2	6.5	6.9	6.6	6.43	2 1 2	
2	5.6	·	·	·	5.6	a	· ·
5	6.7	6.7	7.0	6.7	6.70	0 0 0	
7	·	7.3	7.5	7.2	7.35	· 5 4	
6	7.0	7.1	8.0	7.7	7.37	4	
3a	6.1	5.9	·	·	6.00	1 1 ·	
9	image defective						
10		8.1	8.5	8.2	8.15	· 1 0	
13		9.2	9.4	9.1	9.15	· 0 1	
14a	image defective						
12		8.9	9.2	8.9	8.90	· 0 0	
16	m.s						
15	10.3	barely seen			10.3	· a	·
14		10.1	10.4	10.1	10.10	· 0 0	
11		8.0	8.6	8.3	8.15	· 2 1	

Comparisons difficult

+13
−18
25) 31 (124
25
60
50
100

~~± 0.124~~

+9
−16
25) 23 (0.92
225
50

± 0.092

M.E.H.

Tuesday, October 22, 1907

Polar sequence continued

Scale 0

AC 7895 exp +75

	Scale1	Scale3	Scale2			
1	1.9	·	·	1.9	a	· ·
8	·	7.2	7.7	7.4	7.30	· 1 1
3a	5.1	·	·	5.1	a	· ·
5	6.7	6.2	6.6	6.3	6.50	2 2 1
2	4.8	·	·	4.8	a	· ·
4	5.9	5.9	·	5.90	0 0	·
10		8.9	9.1	8.8	8.85	· 1 0
6		7.2	7.7	7.4	7.30	· 1 1
14		m.s				
11		9.0	9.6	9.3	9.15	· 2 1
7		7.6	8.5	8.2	7.90	· 3 3
13		m.s				
12		10.1	10.3	10.0	10.05	· 1 0
9		8.1	8.9	8.6	8.35	· 2 2

Measurement very difficult

+13
−13
19) 26 (136
19
70
57
130

± 0.136

M.E.H. 2.55

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23.40

Thursday, October 24, 1907

North Polar Sequence. Scale measures

Scale M

Objective I 34937 exp 120 min

b'	2.3	2.5		
19	4.2	4.4		
10	1.0	1.2		
14a	2.8	3.0		
19	2.2	2.4		
16	3.0	3.2		
18	3.8	4.0		
d	4.1 4.3 4.6	4.45		2
f^2	5.7 5.9 ~~5.7~~ 5	5.80		1
i	6.9 7.1 7.3	7.20		1
c^3	3.9	4.1		
f^1	5.3 5.5 5.3	5.40		1
g	6.5 6.7 6.7	6.70		0
c'	3.0	3.2		
f^3	6.0 6.2 6.2	6.20		0
e	4.5 4.7 4.7	4.70		0
h	6.8 7.0 6.7	6.85		2
c^2	3.6	3.8	+7 −5	16)120 ±38
k^1	7.6			
l	8.6			
k^3	8.1			
m	9.2			
r	9.9			
k^2	8.7			
k^5	8.6			
k^4	8.5			
m	8.8			
o	9.0			

second scale

gf	9.8 →
fp	9.6 →
o	10.0 →

t. m. v. w. not seen

Prismatic comparison

a	5.6	5.8	5.7	5.85	0	1
1	2.5			2.7		
b			7.4			
10	5.9	6.1	6.6	6.35	3	2
12	6.8	7.0	7.3	7.25	3	1
19			9.6			
14a			8.0			
18			8.9			
c^3			9.0			
c^1			8.4			
16			8.6			
c^2			8.7			
r			10.0			
d			9.6			

+3 −6 6)18 ±15

Thursday, October 24, 1907

North Polar Sequence. Scale measures

Scale M Objective I 34920 Exp 120 min

b	2.4	2.6		
14a	2.8	3.0		
19	4.3	4.5		
10	1.7	1.9		
c^3	3.9	4.1		
12	5.8			
16	Image 45 mm			
c^3	3.9	4.1		
f^1	5.0 5.2 5.3	5.25		0
g	6.3 6.5 6.4	6.45		1
i	7.0 7.2 7.2	7.20		0
f^2	5.7 5.9 5.7	5.80		1
d	4.2 4.4 4.5	4.45		0
f^3	5.9 6.1 6.2	6.25		2
e	4.8 5.0 4.9	~~5.0~~ 4.9 5.85		0
c'	3.2	3.4		
18	4.1	4.3		
h	6.8 7.0 7.0	7.00		0
k^3	8.4 8.4		+4 −5	16)7 ±8
k^1	7.6			
n	9.2			
l	8.7			
o	9.3			
y	9.9			
m	8.8			
k^2	7.7			
k^5	8.6			

12.30

Prismatic comparison

r	10.0					
k^4	8.4					
o	10.0					
fp	9.7					
b	7.0	7.2	7.3	7.25	0	1
10	6.3	6.5	6.4	6.45	1	0
1	2.1			2.3		
a	5.5			5.7		
12	6.8	7.0	7.1	7.05	0	1
19			9.7			
c^3			8.8			
16			8.3			
18			9.2			
c^2			8.7			
d			9.5			
c^1			8.2			
e			9.9			
14a			7.9			
f			10.0			

+3 −3 6)3 ±45

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Multi Polar Sequence - Distances in Millimetres from Centre of Plate, or Plate having equal exposures. For distances on Plate AC 8063 and AC 7895, see Page 163

Plate AC 8063

	Exp. +90°	+85°	+80°	+75°
1	1	38	66	89
2	22	30	55	
3a	22	52	72	
4	14/21	48	69	
5	18/20	30/24	56	
6	9/16	21/14	50	
7	23	9	35	
8	4	42	44	
9	16	34	57	
10	9	30	52	
11	16	23	44	
12	7	31	52	
13	3	38	54	
14	17	26/34	41	
14a	4	39	60	
15	5	32	54	
16	9	33	53	
16a	10	26	47	

Plate AC 8064

		Exp. +90°	+85°	+80°	+75°
a	1	+ 8 80°1'.33	38 6.33	66 11.2	97 16.2
B	2	21 3.5°	31 5.2	56 9.3	84 14.0
C	3a	+ 27 4.5	52 8.7	89/82 13.3	118 18.3
D	4	+ 21 4.2	48 8.0	77 12.8	108 18.0
E	5	18 3.0	30 5.0	56 9.3	85 14.2
F	6	- 8 1.3	39 6.5	50 8.3	79 13.2
b	7	- 15 2.5	15 2.5	43 7.2	72 12.0/9.0
a'	8	+ 11 1.8	39 6.5	68 11.3	99 16.5
a²	9	15 2.5	36 6.0	64 10.7	94 15.7
a³	10	4 0.7	30 5.0	59 9.8	89 14.8
a⁴	11	-9 1.5	23 3.8	51 8.5	81 13.5
a⁵	12	8 1.3	31 5.2	59 9.8	89 14.8
b'	13	+9 1.5	38 6.3	67 11.2	97 16.2
b³	14	-9 1.5	20 3.3	48 8.0	78 13.0
b²	14a	-9 1.5	38 6.3	67 11.2	98 16.3
c'	15	+3 0.5	32 5.3	61 10.2	91 15.2
c⁴	16	9 1.5	32 5.3	60 10.0	90 15.0
	16a	3 0.5	26 4.3	55 9.2	84 14.0
	b⁵	-1 0.2	28 4.7	57 9.5/7.8	
	c³	-2 0.3	28 4.7	57 9.5/7.8	

	Exp. +90°	+85°	+80°	+75°
Or. Q, B, C, D, E	19.0	39.8	67.2	96.8
White plate	7.0	30.3	57.8	87.8

20|210 = 10.5 ; 20|654 = 32.7 ; 21|1204 = 60.1 ; 21|1284 = 61.2 ; a, c, b, a', b², 609/1015

a, c, b, a', b², a², b', b³ | 328/141.0 ; c, b, a, b², b³ | 426/71.0 ; 18) 1625 (90.3 ; 162 ; 50 ; 12/14 (87) ; 38/20

Plate 12 | 326/272 ; 14) 776/554

Plan + minus signs entered May 31, 1911

Tuesday, November 12, 1907

21.20

Multi Polar Sequence on AC plates

Scale cut from AC 8858 N, 1½ inch aperture. First measures with this scale

	Scale 1	Scale 2	Scale 3				
9	1.6 33	3.3	3.30	0.0.	AC 4737		
8	3.5 32	3.3	3.25	0.1.	-0.9 -2.8 -1.2		For changes in units, see remarks next page
10	3.9 36	4.0	3.80	2.2.	0 0.8 0.5		
3a	2.2		2.2	0..	1.8 1.5		
1	-0.2 7.5 -0.5		-1.5	0..	2 4.5 2.2		
6	3.4 31	3.2	3.15	1.0.	2.6 2.3		
11	4.2 39	4.0	4.00	1.1.0	3.0 2.7		
14a	6.7	6.8	6.75	.1.0	3.4 3.1		
12	5.9 54	5.4	5.40	0.0.0	3.2 2.9		
2	1.5 1.2		1.2	0..	3.7 3.4 3.7 3.2	3.20	1.1.8
5	2.8		2.8	0..	3.7 3.4 4.0 3.5	3.45	0.1.
7	3.4 3.3		3.35	0.1.	3.9 3.6 4.2 3.7	3.65	0.1.
4	2.5		2.5	0..	4.6 4.3 4.8 4.6	4.40	1.1.2
19	8.3 8.7		8.50	2.5.2	5.6 5.1 5.9	5.00	.1.1
17	8.2 8.5		8.35	.2.1	5.5 6.0 5.7	5.85	.2.1
14	7.7 6.5		6.60	.1.1	5.3 5.8 * 5.9	5.85	.0.1
18	8.7 8.2 8.4		8.30	.1.1	6.7 6.2 5.8	6.00	.2.2
15	7.5 7.0 6.9		6.95	.0.1	6.9 6.4 6.8	6.25	.2.1
16	7.4 6.9 7		7.00	.1.1	7.7 7.2 6.9	7.05	.2.1
13	8.7 6.2 5.8		6.00	.2.2	7.8 7.3 7.3	7.30	.0.0
14a	7.7 7.2 7.5		7.25	.0.1	8.0.1 7.6 7.7	7.65	.0.1
1'	9.7 9.8		9.8	.0.	6.6 8.9 6.4 6.3	6.35	.0.1
d	8.9 8.5 8.7		8.60	.1.1	8.8 8.2 8.3	8.25	.0.1
c²	7.7 7.4 7.9		7.65	.2.3	7.5 7.0 6.7	6.85	.2.1
c³	8.4 7.9 8.2		8.05	.1.2	7.6 7.1 6.9	7.00	.1.1
5	9.7 9.1				9.7 9.3	9.3	.0.3
1	9.7 9.8				9.0 8.5 8.8	8.65	.1.2
3	10.0				8.4 7.9 8.0	7.95	.1.0

Original reading multiply by 1 unit

+18 −2.0 37/38 = 2.10

* Big mean on scale 2 as much by one unit

12/21 = 35/35 = 5/10

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Tuesday, November 12, 1907

North Polar Sequence continued

AC 4737

	o . . 3rd
g	9 / 18
f^3	9 / 17
h	10 / 12 0
h'	10 / 12 3

i is too near another star

After the measures on pages 141 and 142 had been made, the designations of the scale images were changed, so that the images of the brightest star (α Aquilae) are designated 1 to 5 those on the second scale 6 to 8 are designated 3 to 9 and those on the third scale, 4 to 10

Tuesday, November 12, 1907

0.15 North Polar Sequence continued

1½ inch eye piece Scale from N AC 8858

f^3 . . 10.1
g . . 10.3
h . . 10.5

	AC 4911						
1	0.2	4.9	-0.1 / -4.9		-0.1 / -4.9	A. .	
2	2.4	2.1			2.1	A. .	
3a	2.9	2.6			2.6	A. .	
4	3.4	3.1	3.7	3.2	3.15	1	0.
5	3.8	2.5	3.9	3.4	3.45	1	0.
6	4.5	4.2	4.8	4.3	4.25	0	1.
7	4.6	4.3	4.9	4.4	4.35	1	0.
8	4.7	4.4	4.9	4.4	4.40	0	0.
9	4.3	4.0	4.7	4.2	4.2	3 / 12	1 1
10		5.8	5.2	5.5	5.35	2 / 1	1.
11		6.0	5.5	5.4	5.45	.	1 0
12		6.5	6.0	5.8	5.90	.	1 1
13		6.9	6.4	6.6	6.50	.	1 4
14		7.6	7.1	6.8	6.95	.	1 2
14a		7.5	7.0	7.2	7.10	.	1 1
15		7.8	7.3	7.3	7.30	.	0 0
16		7.8	7.3	7.3	7.30	.	0 0
16a		8.1	7.6	7.7	7.65	.	0 1
17		8.7	8.2	8.2	8.20	.	0 0
18		8.8	8.3	8.5	8.40	.	1 1
c^3		8.5	8.0	8.0	8.00	.	0 0
d		9.0	8.5	8.7	8.60	.	1 1
c^3		8.7	8.2	8.3	8.25	.	0 1
19				8.7	8.7	.	0 a
f^1				9.6			
2				9.2			
f^2				9.8			

+14
-12
41)246(±.063
246
140
123
17

22.00
M.E.H.

M.E.H.

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Tuesday, November 12, 1907

North Polar Sequence Scale from N AC 5858
1½ inch eyepiece

	AC 5441			
1	~~4.9 4.6~~ -0.4	-0.4 ~~-1.6~~	a	
2	1.5 1.2	1.2	a	
3a	2.1 1.8	1.8	a	
4	2.9 2.6	2.6	a	
5	3.0 2.7	2.7	a	
6	3.6 3.3 3.9 3.4	3.45	1 0	
7	3.6 3.3 3.8 3.3	3.30	0 0	
8	3.8 3.5 4.1 3.6	3.55	1 0	
9	3.7 3.4 4.0 3.5	3.45	0 1	
10	4.7 4.4 4.7 4.2	4.30	1 1	
11	4.9 4.6 5.0 4.5	4.55	0 1	
12	5.6 5.1 4.9	5.00	· 1 1	
13	6.6 6.1 5.8	5.95	· 1 2	
14	7.1 6.6 6.2	6.40	· 2 2	
14a	7.5 7.0 6.6	6.80	· 2 2	
15	7.7 7.2 6.8	7.00	· 2 2	
16	7.1 6.6 7.0	6.80	· 2 2	
~~16a~~	~~7.7 7.2 7.0~~	7.10	· 1 1	
17	8.2 7.7 7.9	7.80	· 1 1	
18	8.6 8.1 8.0	8.05	· 1 0	0
19	8.7 8.2 8.5	8.35	· 2 1	
c³	7.8 7.3 7.7	7.50	· 2 2	
c²	8.0 7.5 7.3	7.40	· 1 1	
d	8.8 8.3 8.4	8.35	· 1 0	
e	9.0 8.5 8.8	8.65	· 1 2	-24 +21 40|45 (±.112
f'	9.3	9.3	· · a	
f³	9.8	9.8	· · a	

f² 9.7
g 10.8
h 10.3

M.E.H.

Tuesday, November 12, 1907

North Polar Sequence continued Scale from N AC 5858
1½-inch eyepiece

	AC 5465			
1	-0.6 ~~-1.1~~ -0.9			
2	1.1 0.8			
3a	2.1 1.8			
4	2.8 2.5			
5	2.7 2.4			
6	3.5 3.2 3.3 2.8	3.00	2 2	
7	3.5 3.2 3.5 3.0	3.10	1 1	
8	3.6 3.3 3.8 3.3	3.30	0 0	
9	3.7 3.4 4.1 3.6	3.50	1 1	
10	3.9 3.6 ~~4.4~~ 3.9 4.0	3.83	3 1 2	
11	4.7 4.4 4.9 4.4 4.3	4.37	0 0 1	
12	~~5.4 4.7~~ 5.6 5.1 5.2	5.00	~~3 2 2~~ 1 0	
13	6.4 5.9 5.4	5.65	· 3 2	
14	6.9 6.4 6.0	6.20	· 2 2	
14a	7.1 6.6 6.4	6.50	· 1 1	
15	7.2 6.7 6.9	6.80	· 1 1	
16	7.2 6.7 6.9	6.80	· 1 1	
16a	7.5 7.0 6.9	6.95	· 0 1	
17	8.5 8.0 8.0	8.00	· 0 0	
18	8.6 8.1 8.1	8.10	· 0 0	
19	8.9 8.4 8.5	8.45	· 0 1	
c³	8.3 7.8 7.8	7.80	· 0 0	
e	8.9 8.4 8.7	8.55	· 2 1	
c²	7.9 7.4 7.8	7.60	· 2 2	
d	8.8 8.3 8.4	8.35	· 1 0	+19 -21 42|40 (±.095 -378 220 218
f'	9.4	9.4	· · a	
f³	9.9	9.9	· · a	

f² 9.7
g 10.1
h 10.4

1.00
M.E.H.

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0.10

Wednesday, November 13, 1907

North Polar Sequence

Scale N AC 8858 — 2 in. eye-piece

AC 5544 — e . . 8.8

1	0.2	~~1.9~~	-0.1				
2	1.7	1.4					
3a	2.1	1.8					
4	2.9	2.6					
5	3.2	2.9					
6	3.6	3.3	3.7	3.2	3.25	10	·
7	3.6	3.3	3.8	3.3	3.30	00	·
8	3.8	3.5	4.0	3.5	3.50	00	·
9	3.9	3.6	4.2	3.7	3.65	01	·
10	4.6	4.3	4.7	4.2	4.3	4.27	010
11	4.8	4.5	5.2	4.7	4.8	4.67	201
12		5.8	5.3	5.5		5.40	· 11
13		6.1	5.6	5.6		5.60	· 00
14		7.1	6.6	6/5		6.55	· 01
14a		7.6	7.1	6.8		6.95	· 12
15		7.4	6.9	6.8		6.85	· 10
16		7.7	7.2	7.1		7.15	· 01
16a		7.5	7.0	7.0		7.00	· 00
17		8.5	8.0	8.1		8.05	· 01
18		8.3	7.8	8.1		7.95	· 21
c^2		7.8	7.3	7.3		7.30	· 00
d		8.2	8.1	8.2		8.15	· 10
f'			·	9.3		9.3	· · a
19		8.8	8.3	8.7		8.50	· 22
c^3		8.1	7.6	7.7		7.65	· 01
f^3				9.9		9.9	· · a
f^2				9.7		9.7	· · a

+11 −13 40 24 ± .06

0.35

M.E.H.

2.30

Wednesday, November 13, 1907

Polar Sequence

Scale N AC 8858 — 2 in. eye-piece

AC 5638

f^2						9.6	
h						10.3	
f^3						9.8	
1	-1.0	~~-0.7~~	-1.3 ~~-2.4~~				
2	0.7	0.4					
3a	1.5	1.2					
4	1.8	1.5					
5	2.0	1.7					
6	2.8	2.5					
7	2.9	~~1.6~~	3.1	2.6		2.60	00 ·
8	2.8	2.5				2.5	a · ·
9	3.4	3.1				3.1	a · ·
10	3.6	3.3	3.8	3.3		3.30	00 ·
11	3.6	3.3	4.0	3.5	·	3.40	11 ·
12	4.7	4.4	4/4	4.4	4.5	4.43	001
13	5.0	4.7	5.4	4.9	4.9	4.83	111
14		5.9	5.4	5.7		5.55	· 21
14a		6.2	5.7	5.7		5.70	· 00
15		6.7	6.2	5.9		6.05	· 21
16		6.8	6.3	6.0		6.15	· 12
16a		6.8	6.3	6.3		6.30	· 00
17		7.8	7.3	7.4		7.35	· 10
18		7.9	7.4	7.8		7.60	· 32
19		8.3	7.8	7.8		7.80	· 00
c^3		7.5	7.0	6.7		6.85	· 21
e		8.6	8.1	8.5		8.30	· 32
c^3		7.7	7.2	7.6		7.40	· 22
d		8.0	7.5	7.8		7.65	· 12
f'		9.1	8.6	8.8		8.70	· 11
g				10.1		10.1	· · a

+19 −17 38 36 ± 0.95

M.E.H.

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Wednesday, November 13, 1907

Polar Sequence.
Scale AC 8858

AC 6309 Exp 10 m.

1	~~1.5~~ -0.5	1.2	-0.8			
2	2.1	1.8				
3a	3.3	3.0	3.7	3.2	3.10	11
4	3.8	3.5	4.3	3.8	3.65	12
5	4.4	4.1	4.5	4.0	4.05	10
6	5.0	4.7	5.5	5.0	4.9 4.87	210
7			5.5	5.0	5.1 5.05	01
8			5.6	5.1	4.9 5.00	11
9			5.6	5.1	4.8 4.95	12
10			6.6	6.1	5.8 5.95	12
11			6.6	6.1	5.8 5.95	12
12			7.4	6.9	6.7 6.80	11
13			7.9	7.4	7.3 7.35	01
14			8.5	8.0	8.0 8.00	00
14a			8.4	7.9	8.1 8.00	11
15			8.5	8.0	7.9 7.95	01
16			8.6	8.1	7.9 8.00	11
16a			8.7	8.2	8.7 8.45	23
17				8.9		
18				9.1		
19				9.3		
c^2				8.6		
d				9.4		
f'				9.9		
c^3				9.0		
e				9.4		
f^2				10.2		

3.00
M.E.16

images from in case of stars brighter than no 11

~~Room~~ Full aperture? ~~with~~

+16
-18
33 34 ∴ .103
32
100

Wednesday, November 13, 1907

Polar Sequence

AC 6286 Exp 10

1	1.2
2	
3a	4.1
4	5.0
5	

Images are too poor

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2.40

Monday, November 18, 1907

Polar Sequence Plates having several exposures

Scale M cut from I 32811

A I 34974 Exp +90°

1	·									
2	·									
3a	·									
edge 4	1.9	2.1								
edge 5	1.8	2.0								
6	2.5	2.7								
edge 7	2.5	2.7								
8	1.8	2.0								
edge 9	2.7	2.9								
10	2.8	3.0								
11	3.2	3.4								
12	3.3	3.5								
13	4.0	4.2								
14	4.7	4.9								
15	4.9	4.7	4.80	1						
16	4.6	4.8	4.7	4.75	01					
h			8.3	8.3						
17	5.7	5.9	5.7	5.80	1					
18	5.9	6.1	5.9	6.00 5.95	1					
19	5.8	6.0	5.9	5.95	01					
c²	5.6	5.8	5.6	5.70	1					
2	6.5	6.7	6.8	6.75	1					
14	4.4	4.6	·							
c³	5.7	5.9	5.8	5.85	10					
f	6.8	7.0	7.0	7.00	00					
d	6.2	6.4	6.5	6.45	01					
l			9.7							

+7 −7 / 20 / 196 ±0.07?

g	8.4
h³	9.2
f²	7.7
i	8.6
k⁴	9.7
k'	9.0
f³	7.8
l	

Prismatic companions

1	3.6	·	3.8		
8	7.0	7.2	7.1	7.18 (5)	01
edge 4	6.4	6.6	6.6	6.60	00
edge 3a	5.8	6.0	5.9	5.95	01
edge 2	5.1	5.3	5.3	5.30	00
edge 5	6.7	6.9	6.7	6.80	11
edge 6	7.0	7.2	7.5	7.35	21
edge 7	·		7.3		
11			7.9		
13			8.1		
14a			9.2		
12			8.6		
edge 14			9.1		
10			7.8		
9			7.1		
15			9.5		

+3 / 12/17 ±0.06 ±0.058

M E 26

Monday, November 18, 1907

Polar Sequence

Scale M cut from I 32811

B I 34974 Exp +89°

1	·									
edge 2	1.1	1.3								
3a	0.9	1.1								
4	1.7	1.9								
edge 5	2.2	2.4								
edge 6	2.7	2.9								
edge 7	2.0	2.2								
edge 8	1.9	2.1								
9	2.8	3.0								
edge 11	3.0	3.2								
12	3.7	3.9								
13	3.9	4.1								
14	3.9	4.1								
18	5.8	6.0	5.9	5.95	01					
c²	5.5	5.7	5.5	5.60	11					
15	4.9	5.1	4.9	5.00	11					
16	5.0	5.2	5.2	5.20	00					
17	5.7	5.9	5.7	5.80	11					
d	6.0	6.2	6.2	6.20	00					
f	6.9	7.1	7.0	7.05	10					
c³	6.0	6.2	5.9	6.05	21					
19	5.9	6.1	6.1	6.10	00					
14	6.6	6.8	6.7	6.75	01					
h			8.6							
l			9.7							
k			9.8							

±006

+6 −6 / 20/12 .060

9:30

M.E.H.

f⁵	7.8
g	8.1
f³	9.2
i	8.6
k'	9.0
k⁵	9.6
f²	7.5
k⁴	9.5

Prismatic companions

1	3.9	·	3.9		
8	7.0	7.2	7.2	7.20	00
3a	6.1	6.2	6.1	6.15	01
6	7.3	7.5	7.3	7.35	12
4	9.5		9.5		
7	7.2	7.4	7.1	7.25	21
4	6.8	7.0	6.8	6.90	11
2	5.4	5.3	5.5	5.40	11
5	6.7	6.9	6.9	6.90	00
13			8.9		
14a			9.2		
12			9.5		
16			9.6		
9			7.4		
10			7.8		
11			7.9		
15			9.6		

+5 −6 / 14/10/78 ±008

the 14a superposed on another star image

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Monday, November 18, 1907

Distances in millimetres from Centre on Plate I 34974 Cat. p. 186

	A Exp. +90°		B Exp. 189°	
a	1 -23	f^3 8	1) 10	f^3 26
B	2 74	g 5	2) 70	g 26
C	3a -92	h 4	3a) -73	h 25
D	4 -67	i 6	4) -46	L 26
E	5 65	k' 3	5) 77	k' 25
Z	6 43	k^2 4	6) 64	k^2 25
H	7 +70	k^3 6	7) 91	k^3 26
a'	8 -29	k^4 8	8) -11	k^4 27
a^2	9 64	k^5 5	9) 73	k^5 25
a^3	10 27	l 6	10) 42	l 25
a^4	11 44		11) 65	
a^5	12 20		12) 27	
b'	13 -25		13) 16	
b^3	14 +45		14) 65	
b^2	14a +39		14a) 21	
c'	15 6		15) 22	
c^4	16 -26		16) 28	
c^5	17 29		17) 49	
c^6	18 15		18) 32	
c^7	19 14		19) 30	
c^2	16		~~20~~ c^2) 37	
c^3	16		c^3) 36	
d	12		d) 31	
e	8		e) 28	
f'	10		f') 30	
f^2	9		f^2) 27	

21.40 Tuesday, November 19, 1907

Polar Sequence Plates having several exposures

Plate I 34974 Scale $\frac{M}{3}$ 32811

	C Exp. +88°					
	1			g	8.5	
				f^3	7.9	
edge	2	1.0	1.2	h	8.8	
edge	3a	1.1	1.3	i	8.9	
	4	1.6	1.8	k'	9.4	
edge	5	2.0	2.2	k^4	10.0	
	6	1.9	2.1	k^2	9.5	
tesmar	edge	7		k^5	9.9	
	8	2.1	2.3	l	10.1	
edge	9	2.1	2.3			
	10	2.8	3.0			
edge	11	2.2	2.4	Prismatic companions		
	12	3.8	4.0	1) 3.7	3.9	15) 9.6
	13	4.2	4.3 4.35 01	8) 7.0	7.2 7.20 00	17) 9.9
poor edge	14	3.4	3.6 a.	4) 6.7	6.8 6.85 10	c^2) 10.1
	14a	4.7	4.8 4.85 10	2) 5.3	5.5 5.50 00	
	15	4.9	5.0 5.01 10	3a) 6.0	*~~6.3~~ 6.7 6.25 01	
	16	4.8	5.5 5.25 23	5) 6.8	6.8 6.90 11	
near edge	17	5.3	5.2 5.35 12	6) 7.0	7.1 7.15 01	
	18	5.7	5.7 5.80 11	7) 7.1	7.2 7.25 10	
	19	5.7	5.9 5.90 00	9) 7.0	7.3 7.25 01	
	c^2	4.8	5.1 5.05 01	10)	7.7	
	c^3	5.7	5.7 5.80 11	11)	7.9	
	d	5.9	5.8 5.95 12	12)	8.6	
	e	6.6	6.5 6.65 21	13)	8.9	
	f'	6.7	6.9 6.90 00	14)	9.4	
22.16	f^2	ms f^2	7.6	14a)	9.3	
M.E. 14	h		2.8	16)	9.5	

* 3a 6.3 · First measure on second scale, wrong

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22.30

Tuesday, November 19, 1907

Polar Sequence Plates having several exposures
Scale cut from ♀ 32811 Plate ♀ 34974

Scale M

D esh +87°

1	·	·			
edge 2	1.0	1.2			
3a	1.0	1.2			
4	1.5	1.7			
8	2.8	3.0			
13	4.2	4.4			
14a	4.7	4.8	4.85	10	
edge 5	1.9	2.1			
6	too m s	·			
7	off edge	·			
9	too m s	·			
edge 10	2.1	·			
11	too m s	·			
nearer 12	3.5	3.7			
14	too m s	·			
near edge 15	4.2	4.3	4.35	01	
" " 16	4.3	4.7	4.60	11	
17	too m s	·			
edge 18	5.2	6.2	5.80	44	
edge 19	6.0	6.0	6.10	11	
" c^2	5.2	5.7	5.55	21	
" d	6.0	6.5	6.35	21	
c^3	5.3	5.2	5.35	12	
e	6.2	6.6	6.50	11	
f' 2	6.9	7.9	7.50	44	
f 3		7.8			+15 −5 20 | 30 ±14
		8.4			

M.E.H.

g)	8.7
h)	9.2
i)	8.9
h')	9.7
k²)	9.7
k³)	10.0
k⁴)	10.3

Prismatic companions

1)	3.7	·	3.9	
2)	b 5.4	5.6	5.60	00
3a)	6.0	6.3	6.25	01
4)	6.7	6.8	6.85	10
5)	6.8	6.9	6.95	01
6)	7.0	7.2	7.20	00
7)	off f.	·		
8)	7.0	7.5	7.35	21
9)	7.3			+3 −3 12 | 6 ±05
10)	7.9			
12)	8.6			
13)	8.8			
14)	9.1			
14a)	9.5			
15)	9.7			
16)	9.7			
11)	8.0			

Tuesday, November 19, 1907

Polar sequence Plates having several exposures.
Scale cut from ♀ 32811 Plate ♀ 34974

Scale M

E esh +86°

8	2.9	3.1			
13	3.2	3.4			
14a	2.9	4.1			
2	too m s	·			
5	"	·			
9	"	·			
4	1.7	1.9			
3a	1.0	1.2			
6	off f.	·			
7	" edge	·			
11	"	·			
14	" "	·			
10	too m s	·			
12	2.9	3.1			
16	3.7	4.2	4.05	12	
15	3.7	·	3.9		
c^2	5.2	4.8	5.10	33	
f'	7.6	7.3	7.25	01	
c^3	5.6	6.0	5.90	11	
e	6.3	6.9	6.70	22	
d	6.0	6.3	6.25	01	
18	5.9	6.4	6.25	12	
f 2		8.6			+12 −8 14 | 20 ±13
f 3		8.6			
g		9.3			
23.30 h		9.7			
M.E.H. i		9.6			

k'	10.0
k°	
19	6.6

measures almost impossible
Images not comparable with scale.

Prismatic companions

1)	3.6	·	3.8	
2)	5.1	5.8	5.55	32
3a)	6.2	6.5	6.45	01
4)	6.6	6.9	6.85	01
5)	6.7	6.9	6.90	00
6)	n s	·		
7)	n s	·		
8)	7.0	7.3	7.25	01
9)		7.4		+5 −3 10 | 6 ±08
10)		7.8		
11)		·		
12)	8.7	8.8		
13)		8.8		
14)		·		
14a)		9.2		
15)		9.8		
16)	7.8	9.7		

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Tuesday, November 19, 1907

I 34974 Distances in millimetres from centre of Plate. Cont. from p. 152

	C Exp. +88°			D Exp. +87°			E Exp. +86		
A	1	24	f^3 47	1	47	f^3 70	1	69	f^3 93
B	2	87	g 48	2	103	g 71	2	113	g 94
C	3a	57	h 46	3a	43	h 70	3a	-	h
D	4	23	i 49	4	10	i 73	4	25	i
E	5	86	k' 46	5	95	k' 71	5	119	k'
F	6	86	k^2 46	6	116	k^2 70	6	-	k^2
G	7	114	k^3 48	7	-	k^3 73	7	-	k^3
a'	8	18	k^4 49	8	40	k^4 71	8	62	k^4
a^2	9	87	k^5 47	9	104	k^5 70	9	120	k^5
a^3	10	63	l 47	10	85	l 71	10	108	l
a^4	11	89		11	111		11	-	
a^5	12	45		12	66		12	88	
b'	13	29		13	51		13	72	
b^3	14	8.6							
b^2	14a	32		14	110		14	-	
c'	15	43		14a	52		14a	72	
c^4	16	44		15	67		15	87	
	16a			16	64		16	85	
c^5	17	70		17	94		17	-	
c^6	18	54		18	78		18	100	
c^7	19	51		19	74		19	96	
	c^2	58		c^2 20	83		c^2 105		
	c^3	58		c^3 21	81		c^3 102		
	d	53		d 22	76		d	100	
	e	50		e 23	73		e	96	
	f'	50		f	74		f'	96	
	f^2	48		f^2	71		f^2	94	

Wednesday, November 20, 1907

23.42

Polar Sequence Plates having several exposures
Scale cut from I 32811

Scale M

A 9 32968 Exp. +90°

1				f^2	9.0
2	Some			g	9.8
3a	Some			i	-13 ±11 / 24) 0.218 ±0.22 ≡12
4					
5	"				
from	6	4.1	4.3		
	7	Some		Prismatic comparisons	
	8	4.1	4.3	1	5.5 5.7 5.8 5.75 10
	9	6 m.e		2	6.7 6.9 7.0 6.95 10
	10	4.9 5.5	5.1 4.7 4.90 22	8a	Indiff 9.2
	11	4.5	4.7 4.8 4.75 10	4	Indiff 7.7
	12	5.1	5.9 5.3 5.60 33	5	Eff 7.9
	13	5.6	5.8 5.8 5.80 00	6	8.8
	14	5.9	6.1 5.8 5.95 12	7	8.8
	15	6.4	6.6 6.7 6.65 01	8	image def
	16	6.4	6.6 6.4 6.50 11	9	8.9
	14a	6.5	6.7 6.8 6.75 10	10	9.4
	c^3	6.9	7.1 7.5 7.30 22	11	9.7
	17	b.f.	7.3 7.3 .0	12	10.3
	c^2	6.9	6.9 7.1 7.0 11		
	19		7.8		
	2		8.0		
	f^3		9.6		
	18		7.4		
	d		7.9		
0.0	f'		8.7		

4 -3 / 2) 2 0.1 ±0.1 ≡8.5

This plate is of only fair quality, but as it is as good as many that have to be used for scale measures of comparison stars, it seems worth while to measure it for the sake of comparing results with Wirtz from better plates.

MLH6.

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Wednesday, November 20, 1907

0.0

Polar Sequence Plates having several exposures
Scale 3 32811

B J 34968 Esh +89°

1	.				
2	t.m.l				
3a	"				
4	3.3	3.5			
5	t.m.l				
6	"				
7	"				
8	4.0	4.2	4.1	4.15	01
9	t.m.l				
10	4.8	5.0	5.0	5.00	00
11	t.m.l				
12	5.2	5.4	5.6	5.50	11
13	6.2	6.4	6.7	6.55	21
14	t.m.l				
14a	6.4	6.6	6.5	6.55	01
15	6.4	6.6	6.7	6.65	01
16	6.2	6.4	6.5	6.45	01
from 17	t.f	7.6			
18		7.6			
~~18a~~					
19		7.8			
c^2	6.7	6.9	7.2	7.05	12
c^3		7.4			
f'		8.9			
d		7.8			

f^2	9.2
e	8.3
f^3	9.7
g	10.0

-.5 -.6
1/8 ±.6 / 1.2
~~±.15~~ ±.08

Prismatic companions

1	5.7	5.9	5.7	5.80	11
2	6.8	7.0	7.0	7.00	00
3a		7.7			
4		8.0			
5		7.9			
6		9.0			
7		9.2			
8		8.7			
9		8.9			
10		9.6			
11		9.7			

+.1
4 / 1.2
3 / 1.2
±.07
.05

M.E.H.

Wednesday, November 20, 1907

Polar sequence Plates having several exposures
Scale 3 32811

C J 34968 Esh +88°

1					
2	t.m.l				
3a	3.8	3.2			
4	3.7	3.9			
5	t.m.l				
6	t.m.l				
7	.				
8	4.0	4.2	4.2	4.20	00
9	t.m.l				
10	t.m.l				
11	"				
12	4.9	5.1	5.1	5.10	00
13	5.5	5.7	5.7	5.70	00
14	t.m.l				
14a	6.0	6.2	6.2	6.20	00
15	5.8	6.0	6.0	6.00	00
16	6.0	6.2	6.3	6.25	01
c^2	t.m.l	7.2			
c^3	t.m.l	7.6			
image disputed 18		7.7			
" 19		8.0			
e		8.7			
17	t.m.l				
f^2		9.6			
f'		9.2			

0.30

M.E.H.

d	8.3				
f^3	too near another star				
g	10.1				

Prismatic companions

1	5.5	5.7	5.7	5.70	00
2	7+	7.1			
3a		7.7			±00
4		8.1			
6		~~10.0~~			
7									
5	7.7	7.9			
8		8.8			
9		9.2			
10		10.0			
11		~~9.7~~			

Image of star measured W.S.A. March 4, 1908

all images were difficult

±.6 / 1.2 / 1.2 ±.016 ±.02

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Wednesday, November 29, 1907

The Sequence Plates having dual Spectra

Scale M D I 34968 Exp. at +87°

4	3.9	4.1	3.9	4.00	11	
8	4.0	4.2	4.0	4.10	11	
13	5.8	6.0	5.9	5.95	01	
3a	3.0	3.2	.	3.2	a .	
14a	5.9	6.1	6.2	6.15	10	

Prismatic Companions

1	5.3	5.3			
2	6.7	6.9	6.9	6.90	00
4		7.9			±0
8		8.8			
5		8.6			
9		9.3			
3a		7.7			
10		9.6			
11		9.9			

All the above measures difficult

E I 34968 Exp. at +96°

4	3.7	3.9	.		
Im. myf from 8	3.7	3.9	.		
Im. myf from 13	5.3	5.5	5.6	5.55	10
3a	3.1	3.3	.		
Im. myf from 14a	6.2	6.4	6.1	6.25	21

Prismatic Companions

1	5.4	5.6	5.6	5.60	00
2	6.9	7.1	7.0	7.05	10
4		8.0			
5		8.4			
8		8.8			
10		n.s			
9		to measure			
3a		7.9			
11		not on Plate			

All measures made with very great difficulty

I 34968 Distances in Millimetres from Centre of Plate

		A Exp. +90°	B Exp. +89°	C Exp. +88°	D Exp. +87°	E Exp. +86°
A	1	-24	15	30	50	73
B	2	72	66	82	~~83~~ 95	112
C	3a	-92	-72	-50	-35	28
D	4	-67	-45	-21	0	21
E	5	64	74	75	~~70~~ 89	108
F	6	43	65	89	-	-
G	7	70	92	116	-	-
a'	8	-30	14	33	42	66
a²	9	65	76	94	110	-
a³	10	28	46	68	88	-
a⁴	11	45	67	91	-	-
a⁵	12	-19	25	45	64	-
f'	13	-28	21	36	53	76
f³	14	44	65	88		-
f²	14a	-30	25	38	55	78
c'	15	~~26~~ 08	~~49~~ 24	46	66	
c⁴	16	-25	25	42	61	
c⁵	17	29	49	69	-	
c⁶	18	15	35	55		
c⁷	19	15	35	55		
	c²	16	39	62		
	c³	15	38	60		
	d	11	32	56		
	e	8	30	53		
	f'	9	29	53		
	f²	8	27	50		
	f³	8	27	50		

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Wednesday, November 20, 1907

Plate I 3494

Remeasurements

	A Exp. +90°			C Exp. +88°			
15	4.8	5.0	5.00 .00	15	4.9	5.3	5.20 .11
16	4.7	4.8	4.85 .10	16	4.8	5.3	5.15 .21
C²	5.5	5.7	5.70 .00	c²	5.12	5.1	5.25 .21
142	4.6	4.9	4.85 .01	142	4.8	4.9	4.95 .01
17	5.7	5.9	5.90 .00	17	-		

+1 −1 / 10)21 / +.021

+4 −5 / 8)9 / +.11

Saturday, February 29, 1907

AC Plate having several exposures. Distances in millimeters from Center of Plate.

	AC 8063			AC 7895	
	Exp. +90°	Exp. +85°	Exp. +80°	Exp. +90°	Exp. +75°
a	1 −13	16	45	10	91
B	2 +20	31	57	26	76
C	3a −31	11	32	28	92
D	4 −25	6	34	22	94
E	5 +18	29	56	19	68
Z	6 +4	33	63	8	79
b	7 +11	46	70	15	76
a'	8 −15	15	47	12	92
a²	9 +15	31	58	17	
a³	10 −6	26	56	4	88
a⁴	11 +5	38	62	8	82
a⁵	12 −10	22	51	8	81
b'	12 −14	17	45	16	92
b³	14 +5	34	63	8	
b²	140 −14	18	45	11	94
c'	15 −7	21	51	~~18.7~~	13|109.9
c⁴	16 −12	21	52.50	15|200	8.45
	~~16a 3~~	28	57	13.3	
	C² −3	26	58		
	C³ −4	26	55		
	20|235	20|484	20|105 5/4		
	~~11.7~~	24.2	~~52.8~~		
	11.8		52.8		

The − and + signs were entered May 31, 1911. All signs are + except on Exp. +90°

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February 29, 1908

Measures of Additional Stars, 16, 17, 18, 19 of the North Polar Sequence on I plates of short exposure

Scale M — These measures not used on account of danger of systematic differences

I 31267

c^4	16	3.6	·	3.8		
c^5 c^6	17	4.7	4.9	4.90	00	
c^6 c^7	18	5.0	5.6	5.40	12	

Prismatic comparisons (2nd scale)

16 9.1

17 no prism

I 24193

c^4	16	4.0	4.3	4.25	01	
c^6	18	4.9	5.1	5.10	00	
c^5	17	4.5	4.9	4.80	11	
c^7	19	5.0	5.3	5.25	01	

Prismatic comph (2nd scale)

16 9.0

I 24192

c^7	19	5.9	5.8	5.95	12	
c^5	17	5.1	5.2	5.25	10	
c^6	18	5.7	5.8	5.85	10	
c^4	16	4.6	4.8	4.80	00	

Prismatic comph

16 9.5

I 34324

c^5	17	5.6	5.9	5.85	01	
c^7	19	6.0	6.2	6.20	00	
c^4	16	4.8	4.9	4.95	01	
c^6	18	5.9	6.1	6.10	00	

Prismatic (2nd scale)

16 9.5

Measures begun on pages 99 & 108 ~~Emulsion~~ 164

M. E. H.

Saturday, February 29, 1908

Measures of additional Stars 16, 17, 18, 19 of the North Polar Sequence on I plates of short exposure

Scale M — Do not use Danger of systematic differences

I 32284

c^4	16	3.7	·	3.9	
c^6	18	4.9	5.0	5.05	10
c^5	17	4.1	4.6	4.45	12
c^7	19	4.9	5.2	5.15	10

Prismat comph (2nd scale)

c^4	16	8.8
c^5	17	9.8
c^6	18	10.0
c^7	19	10.0

M. E. H.

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Tuesday, March 3, 1908

North Polar Sequence. Distances from Centre on plate measured pp. 141-149.

	Order	AC2519 millimetres	AC4491	AC5441	AC5465	AC5544	AC6309	AC4[illegible]
			6					
A	1	4	4/6	7	7	11	4	5
B	2	19	19	23	18	22	22	21
C	3a	15	24	27	26	30	24	24
D	4	15	17	20	19	23	16	17
E	5	17	17	21	20	26	19	19
F	6	13	12	11	10	6	13	12
b	7	20	19	18	17	14	20	19
a′	8	6	7	9	9	13	6	7
a^2	9	18	17	12	15	13	15	15
a^3	10	9	7	3	6	3	7	6
a^4	11	14	12	10	10	6	13	12
a^5	12	5	5	9	6	10	8	7
f′	13	6	6	6	8	11	4	5
f^3	14	14	12	12	11	8	14	513
f^2	14a	7	7	7	8	12	5	6
c′	15	3	2	3	2	5	2	1
c^4	16	6	7	11	8	12	9	8
c^5	17	10	8		6	4	9	8
	c^2	6	4	4	3	2	4	
	c^3	6	3	5	3	4	6	
	d		3					
	e							
	f′							

Corrections for distance from centre may be disregarded, except in the case of A, B, C, D, E, F, and a^2

Tuesday, March 3, 1908

North Polar Sequence. Distances from Centre. Plate measured pp. 127, 128

	Order	AC 7394	AC 7897	AC 7961	AC 7982
A	1	12	9	7	10
B	2	20	17	17	18
C	3a	29	25	22	23
D	4	23	20	16	21
E	5	18	15	15	16
F	6	6	8	12	7
b	7	7	16	19	14
a′	8	14	11	8	12
a^2	9	16	18	19	17
a^3	10	6	9	9	6
a^4	11	6	10	13	8
a^5	12	9	4	3	6
f′	13	12	11	8	11
f^3	14	6	4	12	6
f^2	14a	13	12	9	13
c′	15	6	5	4	5
c^4	16	11	6	5	8
c^5	17			10	
	c^2			6	2
	c^3				

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Friday, March 27, 1908

T Cassiopeiae — Examination of plates for anomalous brightness Feb 25, 1908

See letter of Mr. C. Leeds, communicated by Professor Turner

AC 9202	Jan. 27, 1908	AC 8814	Oct. 1, 1907
10.8	Cmp. 12.2	8.8	9.0
AC 9031	Nov. 29, 1907	AC 8893	Oct. 18, 1907
9.6	Cmp. 9.9	9.3	Cmp 9.6
		poor images	
AC 9060	Dec. 11, 1907		
10.1	Cmp 10.9		
Ja 16508	Jan 28, 1908		
> 10.0	< 10.7		
a 16510	Jan. 29, 1908		
> 9.8	< 10.5		
AC 9242	Feb. 7, 1908		
11.0	Cmp. 12.5		

Plates AI 6615 (Feb. 29, 1908) AI 6590 (Feb. 24, 1908), AI 6571 (Feb. 17) were examined but were all too faint for observation.

The comparison stars and magnitudes are those adopted in 1898. The scale ranges to much greater faintness from about 9.5 to 10.5.

Corrected values (see opposite page) give range from 9.0 to 13.5

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Friday, March 27, 1908

T Cassiopeiae cont.

Mr. Leeds observed the variable as T the 8th magnitude on Feb. 25, 1908, which was the same as that found Nov. 1. His observations indicate maxm. 7.2 Sept. 5; 7.3, Oct. 2; 7.7, Oct. 9; 8.1 Nov. 1. On Feb. 25 he found it T the 8th magn. while on March 3 and 10, it was of magn. 10 and 10.1 respectively

The observations on the preceding page show a rapid but decline from Nov 29 to Feb 7, of at least 2½ magns. We have no photographs taken later than February 7.

T plate I 34526

	Estimated magnitudes	Former adopted magn.
g	8.1 8.9	8.9
g'	9.9	9.6
m	10.5	9.8
m'	11.0	10.2
o	11.6	10.5
p	11.9	10.6
q	12.4	10.9

Friday, March 27, 1908

T Cassiopeiae Cont.

AC 9129 Jan. 2, 1908
11.5 extr. poor

AC 9101 Dec 26, 1907
11.1 my chart fail

AC 9167 Jan. 13, 1908
too poor

AC 9195
too poor

AC 9010 Nov. 19, 1907
too poor

AC 9036 Nov. 30, 1907
<10.2 very poor

AC 9079
too poor

AC 9122 Jan. 1, 1908
<10.0 very poor

AC 8977 Nov. 14, 1907
10.1 very uncertain
Images extremely poor

AC 9168 Jan. 14, 1908
<12.0 very poor

AC 9123 Jan. 1, 1908
<11.8
extremely poor

Monday, April 13, 1908

23.50

Pleiades - measures of Brightness of Prismatic Companions

Object

Plate I 34313

Scale M

b	4.7	4.8	4.85	1.0		
a	3.6		3.6			
e	7.8	7.6	7.40	2.2		
a'	3.9		4.1			
b'	5.6	5.7	5.75	0.2		
c	5.9	5.9	6.00	1.2		
d	6.5	6.6	6.65	1.0		
f		7.8				
g		9.5 m a.		10.19 / 9.09		
h		8.5				
i		9.0				
g		8.0				
j		m a.				

Plate I 33821

Preceding images

c	5.6	5.6	5.70
a'	2.9		3.1
b'	4.7	4.5	4.70
d	5.7	5.9	5.90
b	3.7		3.9
a	2.8		3.0
e	6.9	7.5	7.30
f		7.8	
j		9.7	
h		8.7	
g		8.1	
i		9.4	
g'		m a	
k		m a	

Following images

c	5.2	5.4	5.40
e	7.4		
d	5.7	5.8	5.85
b	3.8		4.0
a'	3.1		3.3
b'	4.7	4.9	4.90
a	2.9		3.10
g'		m a	
f		7.7	
j		9.7	
i		9.2	
g		7.8	
h		8.6	

Prismatic Companions in this plate are difficult to measure

m. c. 14.

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Monday, April 13, 1908

Remeasurements of Pleiades - Prismatic Companions

Object 1 — First Mea. on preceding page — I 33821

Scale M — I 34313

				Preceding images			Following images		
b	4.7	4.9	4.90	b 3.7		3.9	d 5.7	5.7	5.80
d	6.1	6.5	6.40	d 5.7	5.8	5.85	b 3.8		4.0
a'	3.9		4.1	a' 2.9		3.1	f	7.7	7.7
e	7.0	7.4	7.30	b' 4.4	4.7	4.65	e 6.9	7.2	7.15
a	3.6		3.8	a 2.6		2.8	a' 3.2		3.4
f	5.7	5.7	5.80	e 6.9	7.3	7.20	b' 4.6	4.8	4.80
c	5.9	6.1	6.10	c 5.0	5.5	5.35	c 5.4	5.6	5.60
f		7.9		f	7.9		a 2.8		3.0
h		8.6		j in def	9.7		i	9.2	
j		9.2		h	8.8		g	7.9	
g		7.8		d	8.2		f	9.6	
i		9.0		i	9.4		h	8.7	
j'		m a		f ~~10.0~~			f ~~10.1~~		

It is very doubtful whether the object measured is the p.c. of j'. Reject measures.

0.40

M.E.H.

1.05

Monday, April 13, 1908

North Polar Sequence

Colored — I 34313

Scale M

				Prismatic Companions				Polar Sequence remeasured			
a³	2.8		3.0	A	3.6		3.8				
a⁴	t.p			a'	6.9	7.1	6.9	7.00	1.1	a³ 2.8	3.0
a⁵	3.7		3.9	f	6.8	7.0	7.5	7.25	2.3	c⁵ v.p 3.4	5.6 5.6 5.60 00
b²	3.9	4.1	4.6	4.35	3.2	a⁴		7.8		c³ 5.4	5.6 5.5 5.55 01
b³	t.p			* ~~b'~~				~~7.8~~	+4 −3 4|7 /±18	c⁴ 4.7	4.9 4.9 4.90 00
f				c⁴				9.6		a⁵ 3.2	3.4
v.p c⁵	~~4.8~~		5.7	a⁵				8.2		b² 4.0	4.2 4.7 4.45 2.3
c³	5.0	5.2	5.6	5.40	2.2	c²		9.8		c² 5.0	5.2 5.4 5.30 1.1
c⁴	5.3	5.5	5.7	5.60	1.1	b³		9.0		c⁴ 5.7	5.9 5.8 5.85 10
c²	4.9	5.1	5.5	5.30	2.2	c'		9.5		c⁷ 5.8	6.0 5.8 5.90 11
c⁷	5.7	5.9	5.9	5.90	0.0	b²		8.9		f²	7.5 +5 19|11 /±08
c⁴	4.5	4.7	4.8	4.75	1.0	a³		7.7		k³	9.5
k⁴		9.8		+7 −9 13|16 /±13		Prismatic Companions Remeasured				f³	7.9
f²		7.4				A	3.6		3.8	k⁴	9.8
k³		9.4				a'	6.9	7.1 7.1	7.10	0.0 k²	9.2
f³		7.7				a³		7.7		f i	8.6
i		8.6				f	7.0	7.2 7.3	7.25	0.1	
k²		9.1				b³		8.9	+1 0 4|1 /±02		
k⁵		in def.				a⁴		7.8			
						~~a³~~		~~7.5~~			
						c'		9.4			
						a⁵		8.1			
						c⁴		9.5			
						c²		9.8			
						* ~~b'~~		~~7.4~~			
						b²		9.0			

* b' wrong star measured. The object meant is the p.c. of a star in the Pleiades.

1.20

M.E.H.

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Monday April 13, 1908

Cabell

Polar Sequence

I 33821

Scale M

~~Preceding inv~~

b^2	3.9	4.1	4.4	4.25	12
c^4	3.9	·	4.1		
a^5	2.8	·	3.0		
c^5	5.0	5.2	5.6	5.40	22
b^3	t f				
3	"				
a^4	2.7		2.9		
c^2	4.8	5.0	5.0	5.00	00
c^3	susp				
c^6	5.6	5.8	5.7	5.75	01
f^2	7.0	7.2	7.3	7.25	01
a^3	2.3		2.5		
c^7	5.7	5.9	5.8	5.85	10
k^3		9.3		+6 −7 / 12 / 10 / ±08	
inv f k^4		9.7			
f^3		7.7			
k^2		9.2			
k^5		10.1			

Prismatic Companions

f	2.8		3.0
a'^h	6.7	6.9	6.90 00
b'		8.8	
3	6.7	6.9	6.90 00
a^4		7.8	
a^3		7.7	
k^2		susp	
b^3		9.6	
* c^5		~~9.8~~	
a^5		8.6	
c^2			
c'		9.6	
c^4		9.4	±00

Remeasurements

a'	6.7	6.9 ~~6.7~~ 7.0	6.95 10
A	2.7		2.9
b'		8.8	8.8
3	6.8	7.0 7.0	7.00 00
a^4		7.8	±02
k^2		susp	
c'		9.5	
a^5		8.6	
c^4		9.5	
a^3		7.7	
~~c^5~~		~~9.9~~ susp	
b^3		9.6	
c^2			

Remeasurements

Polar Sequence

b^2	3.8	4.0	4.5	4.25 ±3
a^3	2.1			2.3
b^2	3.9			4.1
3	1.8			2.0
c^4	4.0			4.2
a^5	2.9			3.1
c^5	5.0	5.2	5.4	5.30 ±1
c^2	5.2	5.4	5.0	5.20 ±2
a^4	2.8			3.0
c^6	5.5	5.7	5.8	5.75 ±1
c^7	5.8	6.0	5.9	5.95 ±2
f^2	7.0	7.2	7.4	7.30 ±1
k^3			9.6	+7 −8 / 10 / ±12
f^3			7.8	
k^2			9.1	
k^5		t f		
k^4			9.8	

Object measured as p.c. of a^5 in another elas. f.l. Mpsm

3.80

M. E. H.

3.10

Friday, April 17, 1908

Cabell

Measures of Additional Stars in Pleiades

I 24393

For other measures, see Bk XIII, 39, 40

Scale M

	i'	3.6	3.8	3.8	
	k'	5.8	6.0 5.7	5.85	21
	l'	6.8	7.0 6.8	6.90	11
	j^5	4.9	5.1 5.0	5.05	10
v f.	e'	2.0	2.2	2.2	a
	j^2	3.6	3.8	3.8	a
v f.	j^4	3.8	4.0	4.0	a
	h'	2.9	3.1 ·	3.1	a
	d'	t f			
	j^3	3.8	4.0	4.0	
	m'	·	8.2	8.2	

Near edge - very difficult

Prismatic Companions

	i'	8.6	
from	d'	5.2 5.4 5.8	5.60 22
	e'	6.0 6.2 6.6	6.40 22
	h'	7.7	
	l'	n.a	
	k'	·	
	j^3	8.5	
	j^4	8.9	
	j^2	8.5	
	j^5	n.a	

I 17460

	i'	2.7 2.9	2.9	
	k'	5.7 5.9	5.8	5.85
	j^5	4.8 5.0	4.9	4.95 01
	l'	6.7 6.9	6.9	6.90 00
	j^3*	3.3 3.5		3.5
	h'	2.0 2.2		2.2
	e'	·		
	d'	·		
	j^3	3.4 3.6		3.6
	m'	· 7.7		7.7
	j^2	3.1 3.3		3.3
	j^4	3.5 3.7	·	3.7

* j^3 measured again below

Prismatic Companions

	h'	7.7	
from h	d'	5.7 5.9 5.7	5.80 11
from h	j^3 ~~8.9~~		8.9
	e'	5.9 6.1 6.4	6.25 12
	j^2 fogged	8.5	
	k'	n a	
	l'	8.0	
	j^4	9.2	
	j^5	10.1	

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Friday, April 17, 1908

Object additional Stars in Pleiades

Scale M I 33821

	Preceding images	Following images	I 34318
		i' 3.8 4.0	i' 4.3 4.5 4.6 4.55 10
	h' 3.0 3.2	k' 6.8 7.0 6.9 6.95 01	k' 6.7 6.9 7.2 7.05 12
	c' 2.0 2.2	h' 3.3 3.5	h' 3.9 4.1
	i' 3.8 4.0	d' 1.5 1.7	d' 2.3 2.5
	k' 6.8 7.0 6.9 6.95 01	e' 2.1 2.3	e' 3.0 3.2
	j^2 4.3 4.5	j^5 5.9 6.1 6.0 6.05 10	j^5 6.3 6.5 6.0 6.25 22
	j^4 4.8 5.0 4.8 4.90 11	j^2 4.1 4.3	j^2 4.8 5.0 4.9 4.95 01
	l' 7.9	j^4 4.7 4.9 4.9 4.90 00	j^4 5.0 5.2 5.4 5.30 11
	j^3 4.1 4.3	j^3 4.6 4.8 4.8 4.80 00	j^3 5.0 5.2 5.0 5.10 11
	m' 9.1	l' in def	l' 8.2
	j^5 5.8 6.0 5.8 5.90 11	m' 8.9	m' 8.7

	Prismatic Companions	should be 6.8 and 6.8+6.90	Prismatic Companions
Should be 6.7 and 6.8 mean 6.85	d' 5.7 5.9 5.8 5.85 10	d' 5.8 6.0 5.8 5.90 11	d' 6.7 6.9 6.8 6.85 10
	e' 7.0 7.2 7.4 7.30 11	e' 7.4	e' 7.3
	h' 8.9	h' just = def 9.4	h' 8.9
	i' 9.0	i' 9.0	i' 8.9
	j^5 n a	k' n a	k' n a
	j^2 9.6	j^5	j^5 n a
	j^3 9.9	j^2 9.6	j^2 9.5
	j^4 10.2	j^4 10.2	j^4 10.0
		j^3 9.8	j^3 9.7

M ? H

Friday, April 17, ~~27~~ 1908

Object Pleiades

I 32787

Scale M

	A First Exposure			B Second Exposure		
	d			b' 1.5 1.7		1.7
	d' 1.7 1.9	1.9		c 2.0 2.2		2.2
	e 2.3 2.5	2.5		d' 3.0 3.2		3.2
	h' 3.9 4.1	4.1		h' 4.9 5.1 4.9	5.00 11	
	j^5 6.3 6.5 6.8	6.65	12	d 2.4 2.6		2.6
	f 2.9 3.1	3.1		e 3.7 3.9		3.9
	h 3.5 3.7	3.7		j 5.8 6.0 5.9	5.95 01	
	j^3 4.7 4.9 4.8	4.85	10	f 4.0 4.2		4.2
	k' 7.5	7.5		j^2 6.0 6.2 5.8	6.00 22	
	i 3.9 4.1	4.1		e' 3.6 3.8		3.8
	e' 2.7 2.9	2.9		j^3 6.7 6.9 6.5	6.70 22	
	j^1 5.8 6.0 6.1	6.05	01	j 7.0 7.2 7.1	7.15 01	
	j^2 4.7 4.9 5.0	4.95	10	i 5.6 5.8 5.9	5.65 21	
	j^3 4.9 5.1 5.3	5.20	11	g 4.2 4.4		4.4
	g 3.0 3.2	3.2		h 4.8 5.0 4.8	4.90 11	
	i' 4.0 4.2 4.7	4.45	23	i' 5.8 6.0 5.7	5.85 21	
	j^4 5.6 5.8 5.6	5.70	11	j^4 6.4 6.6 6.6	6.60 00	
	l' 8.3	8.3		j^5 7.0 7.2 7.6	7.40 22	
	k 6.5 6.7 6.8	6.75	10	m 9.9	-12	
	l 7.9			h' 8.1	+12	
	m 8.7			l' 8.9	20)24 (±.12	
	m' 9.8			m' n a		
		-7 +9		l 8.7		
		16)16(±.1		k 7.8		

M H

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Friday, April 17, 1908

Pleiades

I 32787

Scale M C Third exposure

b	1.6	1.8	1.8		
b'	2.6	2.8	2.8		
e'	4.7	4.9	4.8	4.85	10
h'	5.9	6.1	6.4	6.25	12
d	3.5	3.7	3.7		
e	4.8	5.0	4.8	4.90	11
d'	4.0	4.2		4.2	
i	6.4	6.6	6.7	6.65	01
f	4.9	5.1	5.5	5.30	32
h	5.9	6.1	5.9	6.00	11
k			8.4	8.4	
j	6.8	7.0	6.9	6.95	01
j^2	7.0	7.2	7.2	7.20	00
g	5.3	5.5		5.5	
i'	6.7	6.9	6.9	6.90	00
l'		10.1			
k'		9.0			
j^5		8.5			
j'		7.8			
j^4		7.7			
j^3		7.6			
l		9.5			
C	3.0				

Fourth Exposure

a	1.7	1.9			
b'	4.1	4.3			
c	4.6	4.8			
b	2.7	2.9			
a'	2.5	2.7			
d	4.9	5.1			
e	5.8	6.0			
g	6.5	6.7			
j					
f	6.2	6.4	6.5	6.45	01
d'	5.2	5.4	5.0	5.20	22
h	6.8	7.0	7.1	7.05	01
e'	5.7	5.9	5.9	5.90	00
h'	7.0	7.2	7.3	7.25	01
j^5		9.2			
i'		7.7			
k'		9.8			
j^2		7.9			
j'		8.8			
j^3		8.2			
l'		10.4			
i		7.8			
j^4		8.4			
l		10.4			
k		9.5			

+8, −6, 7 / 18)14(±.088, 126, 140

+5, −2 / 10)7(±.07

4.30

May 11, 1908

j 7.8

M. E. H.

22.00 Saturday, April 18, 1908

Pleiades

I 32787

Scale M Fifth exposure

a	3.8	4.0	4.0		
b'	5.2	5.4	5.6	5.50	11
e	6.7	6.9	6.9	6.90	00
b	4.3	4.5		4.5	
c	5.4	5.6	5.7	5.65	01
d'	6.4	6.6	6.3	6.45	21
a'	3.8	4.0		4.0	
d	5.8	6.0	5.8	5.90	11
e'	7.0	7.2	7.2	7.20	00
j^5	~~10.0~~	10.0			
j'		9.8			
g		7.5			
h		8.0			
i		8.6			
j^2		9.0			
g		superposed			
h'		8.1			
i'		8.7			
k		10.0			
j		8.7			
j^3		9.0			
j^4		9.3			
k'					

Sixth Exp

a	4.7	4.9	4.9	4.90	00
b'	5.9	6.1	5.9	6.00	11
e'	~~7.0~~	7.8	7.8		
d	6.6	6.8	6.8	6.80	00
b	4.9	5.1	4.8	4.95	12
e		7.6	7.6		
d'	7.0	7.2	7.2	7.20	00
a'	4.6	4.8	4.8	4.80	00
c	6.0	6.2	6.5	6.35	21
i		9.1			
h'		8.9			
g		super.			
f		8.0			
h		8.7			
j		9.7			
i'		9.5			
j^2		super			
j^3		10.0			
j'		super			
j^4		10.1			

Seventh Exp

a	5.7	5.9	5.7	5.80	11
b	6.8	7.0	7.2	7.10	11
a'	5.9	6.1	5.8	5.95	12
c	7.1	7.3	7.6	7.45	12
b	5.8	6.0	5.8	5.90	11
d	7.7				
i	9.9				
e	8.3				
h'	9.9				
d'	8.2				
f	8.9				
h	9.4				
e'	8.5				
f					
g	super.				
i'	10.2				

+3, −2 / 12)8(±.067

+3, −5 / 14)8(±.057, 100, −98

+6, −6 / 10)12(±12

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Saturday, April 18, 1908

Pleiades - Prismatic Companions

cotised I 32787

Scale M	First Exp			Second Exp			Third Exp		
a	3.7 3.9	3.9		b 5.05 2 5.4	5.30	1 1	a 5.75 9 6.0	5.95	10
d'	~~6.8~~ 7.0	7.0		d 7.7	7.7		b' 7.6	7.6	
e	7.6	7.6		a 4.24 4 4.7	4.55	2 1	a' 6.76 9 6.7	6.80	11
d	~~6.7~~ 6.6 6.8	6.70	1 1	b' ~~6.6~~ 6.8	6.80	00	b 6.87 0 6.9	6.95	01
from b	4.04 2 ~~5.1~~	4.2		c ~~7.9~~ 7.2 ~~7.8~~	7.20	00	c 8.0		
d'	6.7 6 9 6.7	6.80	11	a' 5.35 5 5.6	5.55	10	d 8.5		
b'	5.7 5 9 5.9	5.90	00	e 8.4			e' 9.4		
a'	3.9 4.1	4.1		i 9.8			d' 8.8		
c	6.0 6.2 6.3	6.25	01	e' 8.6			e 9.3		
e'	7.7			d' 8.1			f 9.8		
b'	super			h' super			i n.a		
i	9.1			f 9.0			g super		
f	8.2			h 9.7			h n.a		
h	8.7			j super					
i'	9.6			g "					
g	super			i' 10.0					
j	9.8			j' 10.4					
j^2	9.8			j' super					
j^3	10.0			j^2 n.a					
j^4	10.2								
j'	super								

+3 −2 / 8)5(±.062

+2 −4 / 10)6(±.06

M. E. H.

Saturday, April 18, 1908

Pleiades - Prismatic Companions

cotised I 32787

Scale M	Fourth Exp			Fifth Exp	
a	6.87 0 7.0	7.00	00	a 7.7	
a'	7.5			b' 9.2	
e'	10.1			c 9.7	
c	8.8			d' 10.2	
b	7.7			b 8.2	
e	9.9			e n.a.	
d	9.2			d 9.8	
b'	8.5			a' 8.3	
d'	9.4				

Sixth Exp (scale 2)

a	8.6
b'	10.0
a'	8.8
b	9.0
c	10.2

Seventh Exposure

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23.55

Saturday, April 18, 1908

Additional Stars in Pleiades

I 33774

Scale M

	Polar Sequence			Pleiades Preceding			Following		
a^3	4.5 4.7	4.7	4.70 00	d'	3.6 3.8	3.8	d'	3.7 3.9	3.9
d	7.7	7.7	· a	h'	5.8 6.0	6.0	6.00 00	h'	5.8 6.0 5.9	5.95 01
c^2	6.8 7.0	7.2	7.10 11	e'	4.1 4.3	4.4	4.35 10	e'	4.3 4.5 4.5	4.50 00
a^5	5.3 5.5	5.6	5.55 10	i'	6.6 6.8	6.8	6.80 00	i'	6.4 6.6 6.8	6.70 11
c^4	6.7 6.9	6.8	6.85 10	f^2	6.9 7.1	6.8	6.95 12	f^2	6.6 6.8 6.8	6.80 00
b^2	6.4 6.6	6.5	6.55 01	f^3	7.1			f^3	7.1	
c^3	7.7		+2	h'	9.0			h'	9.0	
c^7	7.8		−3 n 5 +05	f^5	8.5			f^5	8.4	
f^2	9.0			f^4	7.2			f^4	7.3	
i	super			l'	9.9			l'	9.9	
f^2	9.6			m'	m a.					

Prismatic Companions

Polar Sequence		Pleiades Preceding			Following, images		
a^3	9.2	a	5.5 5.7	5.6 5.65 10	a	5.8 6.0 5.9	5.95 01
b^2		b'	7.5	7.5	f'	6.8 7.0 7.4	7.20 22
a	5.3 5.5	5.5 00	a'	6.3 6.5	6.1 6.30 22	b	6.5 6.7	6.7 6.70 00
a^5	10.0	+0	b	6.7 6.9	6.7 6.85 10	h'		
			e	9.0		d	8.2	
			d	8.1		e	8.9	
			d'	8.6		f	9.7	
			e'	9.2		c	7.7	
			c	7.8		e'	e f	
			f	v.f. 9.7		g	10.0	
			g	10.0		d'	8.6	
			h'	10.1				
			h	10.0				

0.28

Wednesday, April 22, 1908

Additional Stars in Pleiades

The stars below are those measured on Leland Iowa Plates

$a = \alpha$ = 2m +23° 516 $f = \gamma$ = +23° 512 $h = \varepsilon$ = +23° 550

$b = \beta$ +24 547 $g = \delta$ = +23° 508 $e = \zeta$ = +23° 523

The Roman letters preceding the Greek letters are those by which the stars are marked in measuring Leland Iowa Plates

See Chart page 75.

Scale M

I 17460 — α, β, γ Greek

δ	2.5	2.7
ζ	0.9	1.1
ε	2.5	2.7

I 24393 — Greek in Roman region

I 32787 — Prism. comp.

α	3.5	·	3.7
γ	6.8	7.0 6.9	6.95 01
β	3.6	·	3.8
ε	·	8.2	8.2
ζ	6.3 6.5	6.7	6.60 11
δ	·	7.9	7.9

I 32787 Exp. 1 — α and β Greek

γ	3.7	2.9	
δ	3.9	4:1 3.9	
ε	super.	·	
ζ	2.8	3.0	

I 32787 Exp. 2 — α and β Greek

γ	3.9	4.1
δ	5.0	5.2
ε	super.	
ζ	3.8	4.0

I 32787 Exp. 3

α	1.7	·	1.9
β	2.0	·	2.2
γ	4.9 5.1	5.3	5.20 11
δ	6.5 6.7	6.8	6.75 11 6
ε	super.	·	
ζ	5.0 5.2	5.3	5.25 01

I 32787 Exp. 4

α	3.0	·	3.2
β	3.8	·	4.0
γ	6.9 6.1	6.5	6.30 22
δ	·	7.7	7.7
ε	super.		
ζ	6.2	6.4	6.40 00

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Additional Stars in the Pleiades

Scale M Plate I 32787 Cent

Exp. 5

α	4.2	4.4	4.5	4.45	.01
β	superposed				
γ	7.0	7.2	7.3	7.25	.01
δ	.	8.3	8.3		
ε	.	8.4	8.4		
ζ	7.0	7.2	7.4	7.30	.11

Exp. 6

α	4.9	5.1	5.0	5.05	.10
β	superposed				
γ	.	7.9			
δ		9.4			
ε		9.2			
ζ		8.1			

Exp. 7

α	5.9	6.1	5.9	6.00	.11
β	superposed				
γ		8.8			
δ		10.0			
ε		9.9			
ζ		8.9			

Proximate Companions

Exp. 1

α	3.9	4.1	4.5	4.30	.22
β	4.6	4.8	5.0	4.90	.11
γ	.	9.1			
δ	.	9.X			
ε	.	9.8			
ζ		8.2			

Exp. 2

α	5.6	5.8	5.7	5.75	.01
β	5.9	6.1	5.9	6.00	.11
γ	.	8.8			
δ		10.0			
ε		10.0			
ζ		8.9			

Exp. 3

α	6.7	6.9	7.0	6.95	.10
β	6.9	7.1	7.10	.00	
γ		9.8			
ζ		9.9			

Exp. 4

α	.	4.8
β	.	diff.

Exp. 6

α	.	9.4
β		9.4

Exp. 5

α	.	8.7
β		8.8

Exp. 7

α	.	10.3
β	.	10.3

Copied

Additional Stars in the Pleiades

Scale M Plate I 33774

	Preceding nm	Fld. m		P.C. Prec. m
α	b b₂ .	α		
β	" " .	β		α 6.2 6.4 6.5 6.45 .01
γ	4.8 5.0 4.9	4.95 .01	γ 4.7 4.9 4.8	4.85 .10 β 6.5 6.7 6.8 6.75 .10
δ	6.3 6.5 6.6	6.55 .10	δ 6.6 6.2 6.3	6.25 .01 γ superposed
ε	6.1 6.3 6.3	6.30 .00	ε 6.3 6.5 6.3	6.40 .11 δ n.s.
ζ	4.7 4.9 5.0	4.95 .10	ζ 4.8 5.0 4.9	4.95 .01 ε n.s.
				ζ . 9.9

	P.a.	Fld. m.
α	6.3 6.5	6.4 6.45 .10
β	6.5 6.7	6.7 6.70 .00
ζ	. 9.8	

Plate I 33821

	Prec. m	Fld. m	Prism. Comp. Prec.	Fld.
α	.	.	α 3.7 . 3.9	3.9 . 4.1
β	.	.	β 3.8 . 4.0	4.0 . 4.2
γ	2.3 . 2.5	superposed	γ . 7.8	. 7.8
δ	3.6 . 3.8	3.8 4.0	δ . 8.9	. 9.0
ε	3.6 . 3.8	3.8 4.0	ε 9.1	. 9.0
ζ	2.2 . 2.4	2.2 2.4	ζ . 7.7	. 7.8

Plate I 34313

Prism. Comp.

α	b₁ b₂	4.6	4.8	4.8	4.80 .00
β	" "	4.9	5.1	5.0	5.05 .10
γ	3.2 . 3.4	superposed			
δ	4.1 4.3	4.4	4.35 .10	. 8.9	8.9
ε	4.0 4.2	4.3	4.25 .01	. 9.0	9.0
ζ	3.0 . 3.2		. 7.9		7.9

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China

Wednesday May 7, 1908

2.15

Remeasurements

I 34313

Scale M

	Polar Sequence			Prismatic Companions
v.b a^4	3.2 3.4	3.4	a.	A 3.8 4.0
v.b b^3	3.9 4.1 4.4	4.25	1 2	a' 6.8 ~~7.0 6.8~~ 7.0 7.00 0 0
a'	2.7 2.9	2.9	a.	* ~~b^2 8.8~~ ±0 0
b'	3.9 4.1	4.1		a^3 7.7
a^3	2.9 3.1	3.1		b^3 9.1
c^6	5.8 6.0 5.8	5.90	1 1	* ~~b' 7.7~~
c^2	5.5 5.7 5.5	5.60	1 1	c' 9.7
f'	6.7 6.9 6.8	6.85	1 0	a^5 8.3
d	5.9 6.1 5.9	6.00	1 1	c^4 9.3
c^7	5.9 6.1 6.0	6.05	1 0	c^2 9.7
c'	4.9 5.1 4.9	5.00	1 1	c^3 n a
a^5	3.8 4.0	4.0	a.	c^5
a^2				a^4 7.9
c^4	4.5 4.7 5.0	4.85	1 2	
b^2	4.7 4.9 4.7	4.80	1 1	grew rapidly & dark from clouds.
c^3	5.6 5.8 5.6	5.70	1 1	
v.b c^5	5.0 5.2 5.6	5.40	2 2	
e	6.3 6.5 6.5	6.50	0 0	The mag images were measured for p.c. of b' and b^2. Examination of plate to-day shows this. The images measured belong to stars in the Pleiades with no very near.
f^3	7.7			
g	7.8			
k^3	9.5			
f^2	7.5			
k^4	9.8			
h	8.5			
k^2	9.2			
l	9.9			
i	8.6			
k^5	outer k' 8.6			

May 18, 1908

2.50 m.c.k. 2.15

24 h +14 +10 +24 (±.10

Tuesday, May 12, 1908

22.35

China

Remeasured Polar Sequence

J' I 33 ~~82~~ 81

Scale M

	Polar Sequence					Prismatic Companions
						k' 9.0
						k^4 t.p
b'	3.5 3.7					
a'	1.8 2.0					Prismatic Companions
c^4	3.9 4.1					v.b a' 6.7 6.9 7.0 6.95 1 0
a^5	2.8 3.0					A 2.9 3.1 3.1 a.
f	2.0 2.2					f 6.7 6.9 6.8 6.85 1 0
c^5	5.0 5.2 5.5	5.35	2 1			a^4 7.7 7.7 a
imp from a^4	2.7 2.9					a^3 7.0 7.2 7.5 7.35 2 1
b^3	3.8 4.0					a^5 8.5
a^3	2.5 2.7					c^4 9.4
c^7	5.7 5.9 5.8	5.85	1 0			b' 8.8
e	6.2 6.4 6.0	6.20	2 2			b^2 nearly sup
c^3	sup					c' 9.5
c^2	4.9 5.1 5.2	5.15				b^3 9.3
d	5.8 6.0 5.8	5.90	1 1			c^7 n a
b^2	3.9 4.1					c^6 n a
f'	6.6 6.8 6.8	6.80	0 0			c^2 n a
a^2	t m 2					$\sqrt{5}$ $\frac{+3}{+2}$ $\frac{+3}{+5}$ (±.083
c'	4.2 4.4 4.3	4.35	0 1			
c^6	5.7 5.9 5.7	5.80	1 1			Shifting clouds made the light poor.
f^2	7.0 7.2 7.2	7.20	0 0			
f^5	7.7					
k^3	9.6					
g	8.3					
k^2	9.2					
h	8.6					
l	10.0					
k^5	sup 9.9					

22.35 m 2 h 5 $\frac{-7}{+13}$ (±.081

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Tuesday, May 12, 1908

Object: Pleiades remeasured
I 33821

Scale M — Preceding

e	1.9	2.1				
f	2.6	2.8				
j^5	5.8	6.0	5.8	5.90	1	1
h'	3.3	3.5				
d'	1.3	1.5				
3	2.0	2.2				
e'	2.0	2.2				
h	2.9	3.1				
r	2.3	2.5				
βA						
α						
i'	3.8	4.0	4.0	4.00	0	0
k'	6.8	7.0	6.9	6.95	0	1
j^4	4.7	4.9	4.9	4.90	0	0
j'	5.7	5.9	5.6	5.75	1	2
ε	3.6	3.8				
8	3.6	3.8				
g	2.7	2.9				
j^2	4.1	4.3	4.7	4.50	3	2
i	3.4	3.6				
j^3	4.3	4.5	4.7	4.60	1	1
k	5.9	6.1	5.9	6.00	1	1
ζ	3.8	4.0				
l		7.6				
m		8.7				
l'		7.9				
n		9.8				
m'		9.1				

o	10.3					

Prismatic Companions

a'	3.3	3.5		3.5		
b'	4.8	5.0	4.9	4.95	0	1
d	5.7	5.9	5.7	5.80	1	1
β	3.8	4.0		4.0	a	
c	5.1	5.3	5.0	5.15	1	2
a	2.7	2.9		2.9		
b	3.2	3.4		3.4		
ε	6.9	7.1	7.2	7.15	1	0
γ		7.8		7.8		
α	3.3	3.5		3.5		
d'	6.6	6.8	6.7	6.75	0	1
ε		9.4				
3		7.8				
i		9.3				
l'		7.5				
f		7.7				
h		8.7				
i'		9.2				
g		7.9				
k'		8.8				
j		9.5	in v. f.			
j^1		in a				
j^2		9.6				
j^3		9.9				
j^4		10.1				
8		9.3				

Tuesday, May 12, 1908

Object: Pleiades remeasured
I 33821

Scale M — Following

d'	1.3	1.5				
γ	sup.					
ε	3.7	3.9				
e	1.9	2.1				
f	2.7	2.9				
j^5	5.8	6.0	5.9	5.95	0	1
h	3.0	3.2				
3	2.4	2.6				
g	2.7	2.9				
i'	3.9	4.1				
k'	6.7	6.9	6.9	6.90	0	0
e'	2.3	2.5				
h'	3.4	3.6				
i	3.5	3.7				
8	3.8	4.0				
j^2	4.1	4.3	4.7	4.50	3	2
j^4	4.6	4.8	4.7	4.75	0	1
k	5.8	6.0	5.9	5.95	0	1
j^3	4.8	5.0	4.9	4.95	0	1
l	7.0	7.2	7.3	7.25	0	1
j	4.2	4.4		4.4		
j'	5.4	5.7	5.5	5.55	2	1
l'		Im def				
m		8.6				
m'		8.8				
n		9.6				
o		9.9				

Prismatic Companions

d	5.8	6.0	5.9	5.95	0	1
β	3.9	4.1				
c	5.3	5.5	5.4	5.45	1	0
b	3.7	3.9				
f		7.8				
d'	6.5	6.7	6.7	6.70	0	0
a'	3.6	3.8				
b'	4.8	5.0	4.9	4.95	0	1
a	2.9	3.1				
α	3.7	3.9				
3		7.4				
γ		7.6				
ε	6.9	7.1	7.2	7.15	1	0
~~d~~		5.9				
8		9.1				
ε		9.0				
e'		7.5				
g		8.1				
f		8.6				
i'		9.0				
j		9.7				
j^2		9.6				
j^3		10.2				
i		9.0				
j^1		~~10.0~~				
h'		8.8				

Identif. of f & g, j' very uncertain. May be star mvmt. Reject reading. H.S.L. May 25 '08

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Monday, May 18, 1908

0.40

Remeasurements

I 33774

Scale M Polar Sequence

a'	3.8	4.0		4.0	a
b'	5.7	5.9	5.8	5.85	1 0
c²	6.7	6.9	7.0	6.95	1 0
a³	4.6	4.8	4.7	4.75	0 1
c³	sup.				
c⁴	6.6	6.8	6.8	6.80	0 0
c³	7.5			7.5	a
b²	5.9	6.1	6.4	6.25	1 2
a⁵	5.5	5.5	5.7	5.70	0 0
c⁴	7.6				
f'	8.7				
f³	9.5				
d	sup.				
e	8.4				
f²	9.1				
c⁷	8.0				
g	sup.				
h	"				
k'	probably "				
e'	6.6	6.8	6.7	6.75	0 1

Prismatic Companions

A	5.2	5.4	5.5	5.45	0 1
a'	8.7				
b²	n.s.				
b'	10.1				
a⁵	10.0				
a³	9.5				

M.S. H

~~This is record of measurement of Polar Sequence~~
~~The first measurement is on p.~~

Pleiades

Preceding

b	1.4	1.6		1.6	a
d	2.9	3.1		3.1	a
ε	6.4	6.6	6.6	6.60	0 0
c	2.8	2.8		2.8	a
b'	2.4	2.6		2.6	a
h	5.6	5.8	5.8	5.80	0 0
j	6.7	6.9	6.8	6.85	1 0
l	4.1	4.3		4.3	a
β	1.5	3.1	7	1.7	a
γ	4.8	5.0	5.0	5.00	0 0
d'	3.8	4.0		4.0	a
e'	4.3	4.5	4.5	4.50	0 0
m	4.9	5.1	5.5	5.30	3 2
i'	6.7	6.9	6.7	6.80	1 1
k'	5.9	6.1	6.4	6.25	1 2
d	1.0	1.2		1.2	a
8	6.4	6.6	6.5	6.55	0 1
f	5.0	5.2	5.3	5.25	0 1
i	6.3	6.5	6.6	6.55	1 0
y²	6.7	6.9	6.9	6.90	0 0
j'	7.9			7.9	a
y³	7.0	7.2	7.3	7.25	0 1
3	5.0	5.2	4.9	5.05	2 1
k	8.6				
l'	9.9				
k'	8.9				
y⁵	8.6				

88)17
±.06

l	9.3				
m	9.8				
m'	10.1				
y⁴	7.2				

Superposed in plate in polar seq. Nov 18, 1908

Reseau on plate very doubtful

Prismatic Companions

d	6.3	6.5	6.6	6.55	1 0
a	5.3	5.5	5.6	5.55	1 0
b	6.6	6.8	6.9	6.85	0 1
a'	6.0	6.2	6.3	6.25	0 1
b'	7.7				
d	8.1				
l	9.3				
f	9.8				
γ	sup.				
e'	9.4				
δ	n.s.				
3	9.9				
g	9.9				
d'	8.8				

10)14
±.14

Monday, May 18, 1908

Remeasurements

I 33774

Scale M Pleiades - Following

β	1.4	1.6		1.6	a
γ	4.8	5.0	4.9	4.95	0 1
c	2.9	3.1		3.1	a
ε	6.1	6.3	6.9	6.45	1 2
h	5.8	6.0	5.9	5.95	0 1
l	3.9	4.1		4.1	a
d'	3.6	3.8		3.8	a
d	1.1	1.3		1.3	a
δ	6.1	6.3	6.3	6.30	0 0
3	4.9	5.1	4.9	5.00	1 1
e'	4.2	4.4	4.5	4.45	0 1
h	5.6	5.8	5.7	5.75	0 1
f	4.8	5.0	4.8	4.90	1 1
i'	6.7	6.9	6.8	6.85	1 0
b'	2.0	2.2		2.2	a
g	4.8	5.0	5.1	5.05	0 1
i	5.9	6.1	5.9	6.00	1 1
d	3.0	3.2		3.2	a
y²	6.5	6.7	6.7	6.70	0 0
y⁴	7.0	7.2	7.3	7.25	0 1
y	6.5	6.7	6.8	6.75	1 0
y³	6.9	7.1	7.1	7.10	0 0
k	8.3				
l	9.4				
y⁵	8.6				
k'	8.7				
y'	7.9				

30)17
±.06

1.30

M.S. H

m	[illegible]				

l' 9.7

Prismatic Companions

β	6.7	6.9	6.8	6.85	1 0
c		7.7		7.7	a
d	6.1	6.3	6.2	6.25	1 0
a	5.5	5.7	5.7	5.70	0 0
b	6.7	6.9	6.7	6.80	1 1
a'	5.9 6.2	6.1	5.9 6.2	6.15	1 0
b'	7.0	7.2	7.4	7.30	1 1
γ	9.2				
d	7.9				
e	9.1				
e'	9.4				
f	9.8				
δ	n.s.				
d'	8.7				
3	9.7				
g	10.0				

12)17
±.06

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Monday, May 18, 1908.

Remeasurements.

This is second remeasurement of Plate. First measurement on p. 186

2.58

Plate I 34313

Scale M (Epoch)

Polar Sequence

a_8'	2.5	2.7			
b^2	4.3	4.5			
a^3	3.9	3.1			
C^5	5.2	5.4	5.7	5.55	±1
C^3	5.3	5.4 (5.5)	5.6	5.55	±0
f'	6.7	6.9	6.8	6.85	10
b'	3.9	4.1			
c'	4.9	5.1	5.0	5.05	10
a^5	3.7	3.9			
C^4	4.7	4.9	5.0	4.95	±0
C^2	5.4	5.6	5.7	5.65	01
C'	5.7	5.9	5.8	5.85	10
C^1	5.8	6.0	5.9	5.95	0±
d	5.9	6.1	6.2	6.15	±0
f^2	7.0	7.2	7.3	7.25	01
e	6.2	6.4	6.6	6.50	±1
h^4			9.8		
f^3			7.9		
i			8.7		
g			8.4		
f_3			9.5		
h			8.6		
l			9.9		
k^2			9.0		
f^5			image too faint		
k'			8.7		

+7
−7
22)14
±06

Prismatic Companions.

A	3.7	3.9
a'		7.0
C'		9.6
a^3		7.7
f'		8.8
b^2		9.2
a^5		8.3
C^4		9.5
C^5		n.s.
C^2		9.8
C^3		n.s

3.14 A.D.H.

Remeasurements

Plate I 34313

Scale M (Epoch)

Pleiades

d	1.7	1.9	f^5 6.0	6.2	6.4 6.30 ±1
e'	3.0	3.2			
g	3.3	3.5			
j	4.5	4.7	4.9	4.80	±1
e	2.8	3.0			
d'	2.0	2.2			
ε	4.2	4.4			
δ	4.2	4.4			
i	3.9	4.1			
f	3.1	3.3			
h	3.8	4.0			
γ	3.2	3.4			
η	3.0	3.2			
h'	4.0	4.2			
i''	4.4	4.6			
f^2	5.0	5.2	5.1	5.15	01
f^4	5.4	5.6	5.4	5.50	±1
f'	5.9	6.1	5.8	5.95	±2
f^3	5.1	5.3	5.5	5.40	±1
k	6.4	6.6	6.4	6.50	±1
k'	6.8	7.0	7.1	7.05	01
l			7.9		
m			8.7		
o			10.1		
n			9.7		
l'			8.4		
m'			9.1		

14)13
.93

Prismatic Companions.

α	4.6	4.8
d'	6.9 7.1 7.1	7.10 00
c	5.9 6.1 6.1	6.10 00
b	4.0 4.2 4.1	4.15 01
a	3.7 3.9	3.9
e	7.5	
a'	4.0	4.2
b'	5.6 5.8 5.8	5.80 00
d	6.0 6.2 6.7	6.45 ±3
β	4.9 5.1 5.1	5.10 00
ε	9.0	
η	7.8	12/6 = 2.05
h	8.7	
f	7.9	
i''	9.1	
g	8.0	
h'	9.1	
i	9.0	
j^2	9.3	
j	9.6	
e'	7.6	
j^3	9.8	
j^4	9.9	
j^5	n.s.	
j'	n.s.	
γ	7.8	
δ	9.1	

L.D.H.

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Tuesday, May 26, 1908

2307

Chart Pleiades I' plate

I 33805

Scale M Preceding

b'	1.4 1.6	1.6		
e'	3.6 3.8	3.8		
d'	2.8 3.0	3.0		
β				
a				
ε	6.1 6.3 6.6	6.45	1 2	
c	1.9 2.1	2.1		
** γ	~~2.8~~ 3.0	3.0		
unsym ε	6.3 6.5 6.7	6.60	1 1	
d	2.1 2.3	2.3		
i	6.0 6.2 6.6	6.40	2 2	
e	3.4 3.6	3.6		*
i'	6.6 6.8 ~~7.6~~	6.90	1 1	
f	4.3 4.5 4.7	4.60	1 1	
h	5.5 5.7 5.6	5.65	1 0	
j	6.7 6.9 6.9	6.90	0 0	*
h'	5.9 6.1 6.0	6.05	1 0	
j²	6.9 7.1 7.1	7.10	0 0	
3	4.0 4.2 4.3	4.25	0 1	
g	4.1 4.3 4.7	4.30	2 2	
j⁵	8.6			
k'	9.4	∞2/20 ±.09		
k	8.6			
m				
l	9.7			
* j'	~~7.7~~			
j³	7.5			
M. E. H. j⁴	7.7			

l' 10.0

Prismatic Companions

b	5.9 6.1 6.1	6.10	0 0	
d	7.9	7.9	a	
β	6.7 6.9 6.8	6.85	1 0	
c	7.8	7.8		
d	6.3 6.5 6.7	6.60	1 1	
a	~~4.8~~ 5.3 5.5 5.6	5.55	1 0	max diff 4 minutes
b'	7.0 7.2 7.2	7.20	0 0	
a'	5.9 6.1 6.0	6.05	1 0	
f	9.7			
h	9.3			10)5 ±.07
γ	9.7			
d'	8.8			
e'	9.4			
g	9.8			
γ	9.6			
h	10.2			
3	9.7			

γ measured twice. mean 9.65

j' re measured Nov. 9, 1908 8.3
The wrong image was evidently measured originally.

γ remeasured Nov. 11, 1908 3.8 (= 4.0)
mistake of a unit in first measure

Tuesday, May 26, 1908

Chart Pleiades I' plate

I 33805

Scale M Following

d'	2.8 3.0	3.0		
h'	5.5 5.7 5.6	5.65	1 0	
β				
c	1.6 1.8	1.8		
e	2.9 3.1	3.1		
i	5.7 5.9 5.7	5.80	1 1	
f	3.8 4.0	4.0		
h	4.7 4.9 4.8	4.85	1 0	
j	6.0 6.2 6.3	6.25	0 1	
e'	3.3 3.5	3.5		
γ	3.7 3.9	3.9		
ε	5.8 6.0 5.8	5.90	1 1	
j²	6.4 6.6 6.7	6.65	0 1	
g	2.9 4.1 ~~4.8~~	4.1		
j³	6.8 7.0 6.8	6.90	1 1	
δ	5.7 5.9 5.8	5.85	1 0	
d	1.9 2.1	2.1		
3	3.7 3.9	3.9		
i'	5.9 6.1 6.3	6.20	1 1	
j⁴	6.9 7.1 7.0	7.05	1 0	
b'	1.0 1.2	1.2		
j⁵	7.9	28/14 ±.07		
k'	8.8			
j'	7.7			
kj²	8.1			
m	9.9			
l'	7.7			
l	8.9			

Prismatic Companions

b	5.7 5.9 5.8	5.85	1 0	
a	4.9 5.1 4.9	5.00	1 1	
b'	6.7 6.9 7.2	7.08	1 2	
a'	5.7 5.9 5.6	5.75	1 2	
c	7.0 7.2 7.4	7.30	1 1	
β	6.1 6.3 6.~~6~~ 7	~~6.75~~ 6.8	2 2	
d	5.8 6.0 5.8	5.90	1 1	
f	~~8.5~~ 9.5			
e	~~8.8~~ 8.8			14)17 ±.12
d'	8.5			
e'	9.2			
d	7.8			
h	9.8			
g	9.5			
γ	9.4			
3	9.5			
h'	10.0			

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Tuesday, May 26, 1908

Orion — Polar Sequence — I plate

I 33805

Scale M

a'	2.7 2.9	2.9		Prismatic Companions			
c'	5.7 5.9 5.7	5.80	1 1	A 4.4 4.6 4.5 4.7		4.65	0 1
d	7.0 7.2 7.2	7.20	0 0	b'	9.8		
b'	5.0 5.2 5.1	5.15	0 1	a'	8.3		±.05
c^2	6.6 6.8 6.7	6.75	0 1	a^5	9.5		
a^3	3.3 3.5	3.5		b^2	10.2		
c^3	6.8 7.0 6.9	6.95	0 1	a^2	8.8		
b^2	5.8 6.0 5.8	5.90	1 1	c'	10.1		
a^4	4.0 4.2	4.2					
f'	7.9		+2/5 / 12/17 / ±.06				
g	8.9						
k^2	10.2						
f^6	8.3						
i	9.5						
f^3	8.8						
h	9.3						
h'	9.7						
e	7.6						
k^2	am[illegible]						

0.0

M E 1t

Tuesday May 26, 1908

2.00

Orion — Pleiades

I 33883

Scale M

	Preceding			Follo	Prismatic Companions		
d'	1.0 1.2	1.2		a'	3.5 3.7	3.7	
r	2.1 2.3	2.3		b'	4.8 5.0 4.9	4.95	0 1
h'	3.3 3.5	3.5		e'	6.7 6.9 7.2	7.08/5	1 2
j^5	5.8 6.0 5.9	5.95	0 1	3	3.9 4.1 4.2	4.15	1 0
f	2.1 2.3	2.3		d	5.8 6.0 5.8	5.90	1 1
h	3.2 3.4	3.4		e	6.6 6.8 6.9	6.85	0 1
i'	4.3 4.5 4.4	4.45	1 0	3	7.6	7.6	
e	1.7 1.9	1.9		d'	6.3 6.5 6.7	6.60	1 1
3	2.0 2.2	2.2		b	3.8 4.0	4.0	
ε	3.7 3.9	3.9		s	9.1	9.1	
j^1	5.7 5.9 5.8	5.85	1 0	d	3.8 4.0	4.0	
q	2.3 2.5	2.5		f	7.7	7.7	
k'	6.8 7.0 7.2	7.10	1 1	a	3.0 3.2	3.2	
j	4.2 4.4	4.4		c	5.2 5.4 5.5	5.45	0 1
e'	1.8 2.0	2.0		r	7.0 7.2 7.2	7.20	0 0
j^2	4.7 4.9 4.8	4.85	1 0	ε	8.8		16/11 / ±.07
j^4	4.9 5.1 4.9	5.00	1 1	i	8.7		
k	6.0 6.2 5.9	6.08/5	2 1	j^5	10.3 !		
i	3.5 3.7	3.7		i'	8.6		Wednesday May 27, 1908 omitted
j^3	4.9 5.1 4.9	5.00	1 1	k' *	14+ slat imp. Yerk. Am. 15.08	j	9.2
f'	7.7	7.7		h'	8.6		
l	6.9 7.1 7.3	7.20	1 1	j^1	10.1^2		
δ	3.7 3.9	3.9		g	7.7		
g'	5.8	18/15 / ±.08		h	8.2		
m	8.2			j^2	9.7		* Image fogged by star near.
m'	8.7			j^4	10.0		
n	9.6			j^3	9.8 plate fogged		Stars are somewhat elongated
o	9.9			f	9.9 slat imp. Yerk. Nov. 15, 1908		

M.B

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Tuesday, May 26, 1908

Pleiades

I 33883

Scale M

	Following			Prismatic Comparison		Polar Sequence (dist + magnit. correction)
d	1.1 1.3	1.3		a 3.2 3.4	3.4	a^1 1.3 1.5 1.5
i	3.7 3.9	3.9		b' 5.0 5.2 5.2	5.20 00	a^3 1.9 2.1 2.1
f^5	6.2 6.4 6.4	6.40 00		a' 3.8 4.0	4.0	b' 3.8 4.0 4.0
h'	3.7 3.9	3.9		d 5.9 6.1 6.0	6.05 10	c^2 5.5 5.7 5.6 5.65 10
δ	3.8 4.0	4.0		β 4.7 4.9 4.7	4.80 11	d 6.1 6.3 6.3
fogged γ	2.8 3.0	3.0		c 4.2 4.4	4.4	f^1 6.8 7.0 7.0 7.00 00
k'	6.8 7.0 6.9	6.95	01	b 3.9 4.1	4.1	k^2 4.1 4.3 4.3 4.30 00
i'	4.3 4.5 4.2	4.35	12	c 5.8 6.0 5.7	5.85 21	a^5 3.0 3.2 3.2
f	2.2 2.4	2.4		e 6.9 7.1 7.0	7.05 10	c^1 4.4 4.6 4.7 4.65 01
f^1	5.8 6.0 5.7	5.85	21	d' 6.6 6.8 6.8	6.80 00	c^3 5.7 5.9 5.8 5.85 10
f^4	5.1 5.3 5.1	5.20	11	i 8.8	+5 −2	e 6.3 6.5 6.7 6.60 11
3	2.6 2.8	2.8		f 7.7	12 7 ±.06	f^2 6.9 7.1 7.2 7.15 10
e'	2.0 2.2	2.2		A' 9.0 10	This is a false image. Pl. Nov. 11, 13	f^3 7.7 +4 −2
f^3	4.9			h' 8.9		k^4 9.4 14 6 ±.04
j	4.3 4.5 4.7	4.60	11	f^2 9.8		i 8.2
k	5.9 6.1 6.0	6.05	10	g 9.1		g 7.7
l	6.9 7.1 7.3	7.20	11	k 8.9		f^6 imp
g	3.6 3.0 2.8	2.8		3 7.6		k' 8.7
f^3	4.8 5.0 5.0	5.00	00	ε 8.9		l 9.8
e^2	1.8 2.0	2.0		ε' 7.5		m 10.0 fogged
d'	1.3 1.5	1.5		i' 8.7		h, k; k^5 imp
h	3.0 3.2	3.2		g 7.8		Prismatic Comp.
f^2	4.7 4.9 4.7	4.80	11	j' 10.0		A' 3.3 3.5 a^5 8.0
m	8.2	+8 −8		k 10.3 Plate im! H&K. Rec. 15, 1908 not quite in focus here		b' 8.5
m'	8.8	20 16 ±.08		f^5 10.3		a^3 7.3
o	9.9			γ 7.6		c^2 9.7
n	def	Images are circular				b^2 imp 9.1
l'	7.8					a' 9.2

3.05

m k

Wednesday, June 22, 1910.

Provisional South Polar Sequence.

23.24 Measures of AK Plates, class T'

Scale M AK 341

Copied BR Sept. 16

Polar Sequence (first scale, second scale)	Standard Sequence C10, 19h +15° (first scale, second scale)
b 4.7 4.9 5.0 4.95 05 05	α 6.4 6.6 6.7 6.65 01
c 5.4 5.6 5.7 5.65 05 05	β 6.3 6.5 6.7 660 11
d 6.2 6.4 6.0 6.20 20 20	γ 5.8 6.0 5.7 5.85 21
e 6.4 6.6 6.7 6.65 01	δ too faint 7.9
f 6.7 6.9 6.7 6.80 11	ε almost superposed
g 6.8 7.0 7.3 7.15 21	ζ 5.8 6.0 6.4 6.20 22
a 3.9 4.1 4.1 a.	η 4.9 5.1 5.4 5.15 12
h diffuse	1 8.1
X	2 9.9
k 8.1	3 m s
l 8.2	4 m s
m 8.6	5 7.6
n 8.8	6 7.7
o 9.0	7 7.9
p 9.3	8 8.9
q 9.7	9 8.8
r } to close together	10 9.2
s }	
t superposed	
u 10.1	

α	+15°	3690
β	+14°	3755
γ	+15°	3683
δ	+15°	3651
ε		HR 7285
ζ		HR 7267
η		HR 7260

Images poor.

22 46

a D. M

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Wednesday June 22, 1910.

Provisional South Polar Sequence.

Measures of AK Plates, Class "I"

Scale M

Copied Bk XXX, 147

AK 463

Standard Sequence C 10, 19h +15°

	First Spectrum Scale	Scale				First Spectrum Scale	Scale		
a	4.7	5.0	4.9	4.95	0.1	α 6.8	7.0	6.9	6.85 0.1
b	5.8	6.0	5.9	5.95	0.1	β 6.7	6.9	6.9	6.80 0.0
c	5.8	6.0	6.5	6.25	±3	γ 5.9	6.1	6.0	6.05 ±0
d	6.8	6.9	6.8	6.85	1.0	δ 8.12			
e	6.5	6.7	6.7	6.70	0.0	ε 5.7	5.9	6.7	5.80 1.1
f	6.9	7.1	7.3	7.20	±1	ζ 5.9	6.1	5.9	6.00 1.1
g	7.0	7.2	7.3	7.25	0.1	η 5.8	6.0	5.8	5.90 1.1
j	7.8					ι 8.3			
k	8.2					2 9.6			
l	8.5					3 9.9			
m	8.7					4 9.8			
n	8.9					5 7.7			
o	9.0					6 7.7			
p	9.6					7 7.9			
q	9.7					8 8.7			
r	Two close together					9 8.8			
s						10 8.9			
t	not found								
u	9.9								

0 10
a. D. H.

Wednesday June 29 1910

201

Scale Measures of Stars near the South Pole
Provisional Polar Sequence.

Began about 3 00

Thursday June 30

Began at 12.15

Scale M	AM 4387				AM 5378 (1)	Scale (2)		Scale (3)	Began at 11.06
✓ -89°47 57 a	Scale 1 3.0	Scale 2 2.8	Scale 3	28 a..	4.1	3.9	4.7	4.3	4.10 ±2.
✓ -87°196 65 b	3.7	3.5		35 a.	4.8	4.6	4.9	4.5	4.8 4.63 0.12
✓ -89°53 71 c	4 8.8	4 8.7	4.9	4.5 · 460 1.1 ·			5.7	5.3	5.4 5.35 . 10
✓ -89° 1 72 d	4.9	4.7	5.6	5.2	4.7	4.87 ±3.2	6.5	6.1	5.8 6.00 . 11 ±
✓ -88°68 67 e	..		5.0	4.6	4.7	4.65 . 0.1	6.2	5.8	5.7 5.75 . 0.1
✓ -89° 34 76 f	.		6.3	5.9	5.6	5.75 . 1.2	6.7	6.3	6.5 6.40 . 1.1
✓ -88°127 81 g			6.4	6.0	5.8	5.90 . 1.1	7.3	6.9	6.6 6.75 . 1.2
✓ -89°37 83 h			6.8	6.4	6.5	6.45 . 0.1	7.6	7.2	6.9 7.05 . 2.1
✓ 22 83 k			7.6	7.2	7.0	7.10 . 1.1	8.0	7.6	7.7 7.65 . 0.1
✓ 6 89 l			7.7	7.3	7.9	7.60 . ±3	8.2	7.8	7.8 7.80 . 0.0
✓ 3 90 m			8.4	8.0	8.5	8.25 . ±3	8.5	8.2	8.3 8.25 . 0.1
✓ 5 90 n			8.7	8.3	8.5	8.40 . 1.1	8.7	8.3	8.5 8.40 . 1.1
✓ 11 92 o	..		8.6	8.2	8.7	8.37 . ±0.1	8.7	8.3	8.5 8.40 . 1.1
✓ 38 95 p					8.9				8.7
✓ 17 99 q	..				9.8				9.2
✓ 39 99 r					9.8				9.2
✓ 40 99 s					9.4				9.4
✓ 9 99 t	..				9.6				9.7
✓ 7 100 u					9.7				9.7
✓ 41 103 v					9.8				9.9
-89° 2 x					10.2	Adopted Red			10.4
-8 y					10.2				10.4?
✓ 9.8 -89° 102	.	.			9.6	9.7			9.7 Stopped 12.35
✓ 10.0 4	.	.			9.7	9.8			9.7
✓ 10.2 8	.	.			9.9	10.0			10.0

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Scale Measures of Stars near the South Pole.

Scale N		Provisional Polar Sequence.									
		(1) am 4387	(2)	(3)	4387 alpha	(1)	(2)	(3)	am 5578		
9.9	−89° 10			9.5	9.6			8.9			
9.5	12	8.8	8.4	8.7	8.55 .21	8.65		8.8			
10.3	13	.	.	9.9	10.0			9.2			
10.6	14	.	.	9.5	9.6			9.6			
10.2	15	.	.	9.8	9.9			9.7			
9.5	16	8.9	8.4 (5)	8.9	8.70 .22	8.80		9.0			
9.9	17	.	.	9.6	9.7			9.6			
10.2	18	.	.	9.8	9.9			9.8			
10.4	20	.	.	9.5	9.6			9.6			
9.9	21	.	.	9.3	9.4			9.4			
8.3 K	22	7.5	7.1	6.8	6.95 .12	6.9 (7.05)		7.5			
10.1	23	.	.	9.4	9.5			9.2			
9.7	24	.	.	9.1	9.2			9.0			
10.1	25	.	.	9.9	10.0			9.7			
9.9	26	.	.	9.3	9.4			9.3			
10.5	27	.	.	9.6	9.7			9.9			
10.3	28	.	.	9.6	9.7			9.5			
10.1	29	.	.	9.5	9.6			9.4			
10.1	30	.	.	9.6	9.7			9.5			
10.1	31	.	.	9.7	9.8			9.9			
9.9	32	.	.	9.1	9.2	9.2	8.9	9.0	8.95 .10		
9.0	33	8.5	8.1	8.2	8.15 .10	8.25		8.2	8.25 .10		
9.7	35	.	.	9.2	9.3	9.3	8.8	9.0	8.90 .11		
10.2	38 (6)	.	.	10.0	10.1			9.9			
9.9 8.3	42	.	.	8.6	8.7	8.9	8.5	8.7	8.60 .11		
9.5 (7) 10.3	43	.	.	9.0	9.1			9.0			
9.9	44	.	.	9.9	10.0			9.7			

Scale Measures of Stars near the South Pole.

Scale N		Provisional Polar Sequence.									
		am 4387			4387 alpha	(1)	(2)	(3)	am 5578		
10.3	−89° 45	.	.	9.8	9.9			9.7			
10.3	46	.	.	9.7	9.8			9.9			
10.0	48	.	.	9.5	9.6			9.5			
10.1	49	.	.	9.6	9.7			9.9			
9.2	50	8.6	8.2	8.4	8.30 .11	8.40		8.6			
9.7	51	.	.	8.9	9.0	9.0	8.6	8.9	8.75 .21		
9.7	52	.	.	8.9	9.0			8.8			
10.1	54	.	.	9.8	9.9			9.9			
10.3	55	.	.	9.8	9.9			10.0			
9.7	56	.	.	8.9	9.0			9.1			
10.1	57	.	.	9.6	9.7			9.8			
10.3	58	.	.	9.8	9.9			10.1			
10.2	59	.	.	9.9	10.0			10.3?			
10.3	60	.	.	9.8	9.9			10.0			
10.1	61	.	.	9.9	10.0			9.5			
8.9	62	8.5	8.1	7.9	8.00 .11	8.10		8.3	8.15 .21		
8.4 (7) −88	1	7.8	7.4	7.6	7.50 .11		8.3 7.9	7.8	7.85 .10		
10.2 7.9	5	.	.	10.2	.						
9.9	10	.	.	9.6	.			9.7			
10.2	14	.	.	9.8	.			10.3			
8.7	18	8.4	8.0	8.3	8.15 .21		8.5 8.1	8.6	8.35 .32		
7.8	22	6.4	6.0	5.7	5.85 .21		7.2 6.8	6.4	6.60 .22		
9.0	26	8.5	8.1	8.3	8.20 .11		8.7 8.3	8.3	8.30 .00		
9.0	30	9.3	8.3	8.4	8.35 .10		8.7 8.3	8.4	8.35 .10		
10.0	34	.	.	.	.			9.7			
10.1	38	8.5	8.1	7.9	8.00 .11			9.7			
9.4	42	.	.	8.9	.		9.0 8.6	8.7	8.65 .01		
9.0	46	9.5	8.1	8.0	8.05 .10		8.5 8.1	8.4	8.25 .17		

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Scale Measures of Stars near the South Pole.

Provisional Polar Sequence

Scale		N	am 4387		(1)	(2) ~~am 4387~~	(3) am 5578
8.5	−88°	50	. 7.6 7.2	6.8 7.00 .22	.	7.7 7.3	7.6 7.45 .12
7.1		53	. 6.5 6.1	5.7 5.90 .22	.	6.9 6.5	6.4 6.45 .10
8.3		58	. 7.6 7.2	6.9 7.05 .21	.	7.7 7.3	7.3 7.30 .00
9.8		62	. .	9.8	.	.	9.9
6.7	e =	68	. 5.7 5.3	4.8 5.05 .32	.	6.3 5.9	5.6 5.75 .12
10.3		72	. .	9.9	.	.	9.7
7.7		76	. 6.8 6.4	6.4 6.40 .00	.	7.5 7.1	6.8 6.95 .12
10.0		80	. .	9.5	.	.	9.4
10.3		84	. .	9.8	.	.	9.9
7.6		86	. 6.8 6.4	6.5 6.45 .01	.	7.5 7.1	6.8 6.95 .12
9.4		90	. .	9.0	.	.	9.0
8.1		94	. 7.3 ~~7~~ 6.9	6.7 6.80 .11	.	7.7 7.3	7.0 7.15 .12
10.5		98	. .	9.9	.	.	9.8
8.4		101	. 7.5 7.1	6.9 7.00 .11	~~[illegible]~~ .	~~7.7~~ 6.7 6.3	7.5 ~~7.60 .11~~
		106	. .	9.6	. −88° 109	6.7 6.3	~~9.6~~ 6.0 6.~~7~~5 1 2
7.4		109	. 6.2 5.8	5.6 5.70 .11	. −88° 106	.	9.6
9.9		113	. .	9.6	.	.	9.7
10.1		117	. .	9.8	.	.	9.7
10.5		121	. .	9.9	.	.	9.9
8.9		125	. 7.9 7.5	7.8 7.65 .12	.	8.4 8.1	8.1 8.10 .00
10.1		129	. .	9.7	.	.	9.6
9.5		133	. .	8.7	.	.	8.8
9.3		137	. 8.7 8.3	8.3 8.30 .00	.	8.8 8.4	8.7 8.55 .21
9.2		141	. 8.4 8.0	7.9 7.95 .01	.	~~7~~ 8 .6 ~~7~~ 8 .2	8.5
8.8		142	. 7.7 7.3	7.4 7.35 .10	 0	7.8 7.4	7.7 7.65 .21
8.6		147	. 7.6 7.2	6.8 7.00 .22	.	7.7 7.3	7.5 7.40 .11
9.9		151	. .	9.0	.	.	9.3
9.2		158	. 8.1 7.7	7.7 7.70 .00	.	8.5 8.1	8.0 8.05 .10

Scale Measures of Stars near the South Pole.

Provisional Polar Sequence.

Scale		N	am 4387		(1)	(2)	(3) am 5578
10.1	−88°	166	. .	9.3 .	.	.	9.5
8.7		170	. 7.7 7.3	7.0 7.15 .12	.	7.8 7.4	7.6 7.50 .11
9.4		175	. 8.8 8.4	8.5 8.45 .01	.	8.7 8.3	8.6 8.45 .12
10.1		179	. .	9.6	.	.	9.6
9.7		180	. .	9.1	.	.	9.1
10.0		186	. .	9.5	.	.	9.2
9.0		188	. 8.7 8.3	8.3 8.30 .00	.	8.7 8.3	8.5 8.40 .11
8.4		192	. 7.7 7.3	7.0 7.15 .12	.	7.8 7.4	7.7 7.55 .21
8.8		197	. 8.3 7.9	7.9 7.90 .00	.	8.4 8.0	8.3 8.15 .21
7.1		204	. 4.9 4.5	4.6 4.55 .10	.	5.7 5.3	5.1 5.20 .11
8.5		211	. 7.7 7.3	7.5 7.40 .11	.	8.0 7.6	7.9 7.75 .21
Time 3.50		a	3.1 2.9 .	. 2.9 a..	3.8 3.6	.	. 3.6 a..
		b	3.9 3.7 .	. 3.7 a..	4.7 4.5	.	. 4.5 a.
		c	4.7 4.5 .	4.5 4.50 0.0	.	5.7 5.3	5.4 5.35 .10
		d	5.0 4.8 .	4.9 4.~~9~~ 8 5 0.1	.	6.5 6.1	5.7 5.90 .22
		e	. 5.5 5.1	4.9 5.00 .11	.	6.3 5.9	5.7 5.80 .11
		f	. 6.3 5.9	5.7 5.80 .11	.	6.8 6.4	6.~~8~~ 4 6.40 .00
		g	. 6.6 6.2	5.9 6.05 .21	.	7.1 6.7	6.8 6.75 .10
		h	. 6.9 6.5	6.7 6.60 .11	.	7.6 7.2	6.9 7.05 .21
		k	. 7.6 7.2	7.1 7.15 .01	.	7.9 7.5	7.7 7.60 .11
—		l	. 8.0 7.6	7.9 7.75 .21	.	8.1 7.7	8.2 7.95 .32
		m	. 8.6 8.2	8.1 8.15 .01	.	8.7 8.3	8.5 8.40 .11
		n	. 8.7 8.3	8.5 8.40 .11	.	8.8 8.4	8.6 8.50 .11
		o	. 8.8 8.4	8.7 8.55 .21	.	.	8.7
		p	. .	9.0 9.1 9.05 .. 01	.	.	9.1
		q	. ..	8.9	.	.	9.0
		r	. .	9.5	.	.	9.3
		s	. .	9.6 .	.	.	9.5

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Scale Measures of Stars near the South Pole.

Scale N — Provisional Polar Sequence.

Scale N			a M 4387		(1)	(2)	(3) a m 5578
		t		9.6			9.6
		u		9.8			9.7
		w		9.8			9.9
		x		10.2 10.4			10.4 ?
		y		10.3			10.4
8.4	−87° 1		8.2 7.8	7.7 7.75 .01		8.3 7.9	8.2 8.05 .12
9.9	5			9.8			9.6
10.2	9			9.6			9.8
10.1	13			9.8			9.9
10.1	17			9.7			9.7
9.4	21		8.9 8.5	8.6 8.55 .10		8.9 8.5	8.7 8.60 .11
9.8	25			9.6			9.6
9.0	29			8.9		8.6 8.2	8.3 8.25 .01
10.2	33		9.6	9.8			9.9
9.6	36			9.3			9.1
10.1	40			9.5			9.5
9.5	44			8.9			9.0
8.9	47		7.9 7.5	7.7 7.60 .11		8.3 7.9	7.8 7.85 .10
8.4	51		7.6 7.1	6.8 6.95 .12		7 6 7 X 2	7.1
9.2	55		8.7 8.3	8.3 8.30 .00		8.4 8.0	8.3 8.15 .21
10.5	59			10.1			10.3
10.4	63			9.9			9.9
10.0	67			9.7			9.6
9.9	71			9.7			9.8
10.0	75			9.8			9.2
10.4	79			10.0			10.0
10.1	82			9.6			10.2

Scale Measures of Stars near the South Pole.

Scale N — Provisional Polar Sequence.

Scale N			a M 4387		(1)	(2)	(3) a m 5578
9.4	−87° 87			8.9			8.7
9.4	91			9.1			9.0
9.9	95			9.6			9.6
10.3	99			10.0			9.9
9.0	103		8.6 8.2	8.6 8.40 .22		8.7 8.3	8.7 8.50 .22
8.8	106		8.8 8.4	8.6 8.50 .11		8.6 8.2	8.4 8.30 .11
8.4	113		7.7 7.3	7 8.3 7.30 .00		7.7 7.3	7.5 7.40 .11
10.4	117			10.0			9.9
8.9	121			9.0		8.9 8.5	8.8 8.65 .12
8.9	125		8.6 8.2	8.4 8.30		8.4 8.0	8.4 8.20 .22
9.2	129			8.9		9.0 8.6	8.8 8.70 .11
10.5	135			9.9			9.9
7.3	138		6.7 6.3	6.3 6.30 .00		6.7 6.3	6.2 6.25 .10
8.9	141			8.7		8.9 8.5	8.6 8.55 .10
9.0	146			9.6			9.6
9.2	150			9.5			9.3
7.6	151		7.6 7.2	6.8 7.00 .22		7.7 7.3	7.6 7.45 .12
9.4	158			9.3			9.2
10.5	163			10.3			10.0
10.1	168			9.4			9.6
9.2	172			8.8		9.0 8.6	8.8 8.70 .11
8.6	176		8.2 7.8	7.8 7.80 .00		8.3 7.9	8.1 8.00 .11
9.0	180		8.8 8.4	8.6 8.50 .11		8.9 8.5	8.7 8.60 .11
10.0	184			9.7 9.8			9.8
9.2	190			9.0 8.9			8.9
6.5	b = 196		3.8 3.6 3.2 3.8	3.70 4.0 11 .360		4.7 4.3	4.7 4.50 .32
10.0	200			9.7 9.6			9.7
9.5	206			9.0 8.9			8.9

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Scale Measures of Stars near the South Pole.

Scale	N	am 4387				Provisional		Polar (adpt. Mag.) (1)		(2)		(3)	am 5578		
9.0	−87° 212	.	8.6	8.2	8.3	8.25	.01	8.25	.	8.6	8.2	8.2	8.20	00	
8.6	222	.	7.6	7.2	7.1	7.15	.01	7.05	.	7.8	7.4	7.7	7.55	21	
9.5	226	.		.	9.1			9.0	.	.		9.0			
9.9	230	.		.	9.6			9.5	.	.		9.4	.		
7.2	235	4.6.4.4 HSL.	4.5	4.1	.	4.25	21.	4.15	.	5.5	5.1	5.2	5.15	10	
8.5	241	.	7.6	7.2	6.9	7.05	.21	6.95	.	7.8	7.4	7.7	7.55	21	
10.3	244	.		.	9.2			9.1	.	.		9.9			
8.8	250	.	7.7	7.3	7.6	7.45	.12	7.35	.	8.1	7.7	7.9	7.80	11	
9.7	251	.		.	8.9			8.8	.	.		8.9			
7.8	259	.	5.8	5.4	4.9	5.15	.23	5.05	.	6.3	5.9	5.7	5.80	11	
8.8	267	.	7.6	7.2	7.0	7.10	.11	7.00	.	7.7	7.3	7.6	7.45	12	
9.4	270	.	8.8	8.4	8.7	8.55	.21	8.45	.	.		8.7			
7.2	274	.	4.4	4.0	4.3	4.15	.21	4.05	.	5.3	4.9	4.9	4.90	00	
10.1	278	.		.	9.6			9.5	.	.		9.6			
10.4	284	.		.	9.7			9.6		.		9.5			
10.1	290	.		.	9.8			9.7	.	.		9.8			
9.5	294	.		.	8.9			8.8	.	.		9.0			
7.4	298	.	5.9	5.5	5.6	5.55	.10	5.45	.	6.6	6.2	6.2	6.20	00	
9.4	302	Double							.						
8.9	306	.	8.6	8.2	7.9	8.05	.21	7.95	.	8.4	8.0	Reject wrong star! ~~8.5~~	8.00	00	3d scale 8.0
9.2	308	.	8.9	8.5	8.6	8.55	.10	8.45	.	.		8.7			
9.5	312	.		.	8.8			8.7	.	.		8.9			
8.0	317	.	6.7	6.3	6.1	6.20	.11	6.10	.	7.4	7.0	6.9	6.95	01	
9.0	320	.	8.6	8.2	8.4	8.30	.11	8.20	.	8.6	8.2	8.5	8.35	21	
8.3	323	.	7.2	6.8	6.8	6.80	.00	6.70	.	7.6	7.2	7.3	7.25	01	
8.8	324	.	8.3	7.9	7.8	7.85	.10	7.75	.	8.4	8.0	7.9	7.95	01	
10.2	330	.		.	9.5			9.4	.	.		9.6			
9.9	333	.		.	9.7			9.6	.	.		9.6			

Scale Measures of Stars near the South Pole.

Scale	N	am 4387				Provisional		Polar (4387 adpt)	(1)	(2)		(3)	am 5578	
7.8	−87° 339	.	6.8	6.4	6.3	6.35	.01	6.25	.	7.1	6.7	6.7	6.70	.00
9.7	344	.		.	9.3			9.2	.	.		9.3		
	a	2.9	2.7			2.7	a..		4.2 4.0	4.6	4.2	.	4.10	.11.
	b	4.0	3.8			3.8	a..		.	4.9	4.5	4.6	4.55	.10
	c	4.8	4.6			4.6	a..		.	5.7	5.3	5.2	5.25	.10
	d	5.0 4.8	5.6	5.2	4.8	4.93	.131		4.8 4.6	6.5	6.1	5.7	5.90	.22
	e		5.7	5.3	5.1	5.20	.11		.	6.4	6.0	5.7	5.85	.21
	f		6.5	6.1	5.7	5.90	.22		.	6.9	6.5	6.5	6.50	.00
	g		6.6	6.2	6.0	6.10	.11		.	7.1	6.7	6.7	6.70	.00
	h		6.9	6.5	6.7	6.60	.11		.	7.6	7.2	7.2	7.20	.00
	k		7.7	7.3	7.4	7.35	.10		.	7.8	7.4	7.6	7.50	.11
—	l		8.2	7.8	8.0	7.90	.11		.	8.5	8.1	8.0	8.05	.10
	m		8.7	8.3	8.5	8.40	.11		.	8.7	8.3	8.5	8.40	.11
	n		8.7	8.3	8.6	8.45	.12		.	8.9	8.5	8.7	8.60	.11
	o		9.0	8.6	8.7	8.65	.01		.	9.0	8.6	8.6	8.60	.00
	p				9.1				.	.		9.0		
	q				9.2				.	.		9.0		
	r				9.5				.	.		9.5		
	s				9.5				.	.		9.5		
	t				9.7				.	.		9.7		
	u				9.9				.	.		9.8		
	w				9.9				.	.		9.9		
	x				10.3				.	.		10.4?		
	y				10.3				.	.		10.4?		
4	40													

Stopped at 12.05
A.M.C.

344 measures on the plate
36
1h 40m

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Scale Measures of Additional Stars

near Smith Pte. Perseverid Plate Sequence

Scale N

July 1, 1910 AM 4387

July 2, 1910 AM 5578

	Began 4.20	Scale 1	Scale 2	3	Scale (1)	Scale (2)	Began at 2.50 Scale (3)
a		4.2 3.0		3.0 a.	3.7 3.5	4.5 4.1	3.88 3.3.
b		3.9 3.7		3.7 a.	4.9 4.7	4.9 4.5	4.50 1.1.
c		4.7 4.2	4.7 4.3	4.25 0.1		5.5 5.1	4.7 4.90
d		5.2 4.8	4.8	4.80 .00		6.0 5.6	5.6 5.60 .00
e		4.9 4.5	5.0	4.75 .3 2		5.7 5.3	5.6 5.45 .1 2
f		6.4 6.0	5.6	5.80 .2 2		6.7 6.3	6.4 6.35 .1 0
g		6.8 6.4	5.8	6.10 .3 3		6.8 6.4	6.5 6.45 .0 1
h		7.1 6.7	6.6	6.65 .1 0		7.4 7.0	7.0 7.00 .00
k		7.4 7.2	7.5	7.35 .2 1		7.6 7.2	7.6 7.40 .2 2
l		7.9 7.5	7.8	7.65 .1 2		7.8 7.4	7.9 7.65 .2 3
m		8.5 8.1	8.3	8.20 .1 1		8.3 7.9	8.3 8.25 .2 2
n		8.7 8.3	8.7	8.50 .2 2		8.5 8.1	8.5 8.30 .3 2
o		8.8 8.4	8.5	8.45 .0 1		8.7 8.3	8.6 8.45 .1 2
f			8.8				9.0
g			9.0				8.9
n			9.3				9.3
o			9.6				9.4
t			9.5				9.5
u			9.7				9.7
w			9.9				10.0
x			10.3				10.3
y			10.2				10.4 ?
8.5 - 88° z		7.8 7.4	7.7	7.55 .2 1		8.0 7.6	7.7 7.65 0.1
9.9 s			9.5				9.3

Scale Measures Smith Pte Cont.

Scale N

July 1, 1910 AM 4387 (1) (2) (3)

July 2, 1910 AM 5578 (1) (2) (3)

Scale η											
9.7	-88° 23			8.9					8.9		
8.8	27		7.7 7.3	7.5	7.40 .1 1		7.9 7.5		7.6	7.55 .1 0	
9.9	28			9.2					9.1		
9.0	32		8.3 7.9	7.8	7.85 .1 0		8.1 7.7		8.0	7.85 .1 2	
8.2	65		7.2 6.8	6.9	6.85 .0 1		7.8 7.4		7.4	7.40 .0 0	
8.5	71		7.7 7.3	7.7	7.50 .2 2		7.9 7.5		7.7	7.60 .1 1	
8.5	95		7.5 7.1	6.9	7.00 .1 1		7.6 7.2		7.0	7.10 .1 1	
8.5	99		7.8 7.4	7.7	7.55 .3 1		8.1 7.7		7.9	7.80 .1 1	
8.4	104		8.3 7.9	8.0	7.95 .1 0		8.3 7.9		8.3	8.10 .2 2	
8.5	107		7.7 7.3	7.2	7.25 .1 0		7.8 7.4		7.7	7.55 .2 1	
8.1	127		6.5 6.1	5.7	5.90 .2 2		6.9 6.5		6.7	6.60 .1 1	
8.8	130		7.9 7.3	7.2	7.25 .1 0		7.8 7.4		7.6	7.50 .1 1	
9.3	137		8.6 8.2	8.2	8.20 .0 0		8.9 8.5		8.7	8.60 .1 1	
	142										
9.3	150		8.4 8.0	8.0	8.00 .0 0		7.6 7.2		7.6	7.40 .2 2	
9.2	153		8.3 7.9	7.8	7.95 .1 0		8.4 8.0		8.3	8.15 .2 1	
8.5	169		7.4 7.0	6.7	6.85 .2 1		7.8 7.4		7.6	7.50 .1 1	
9.9	171			9.3					9.1		
9.2	201		8.6 8.2	8.2	8.20 .0 0		8.7 8.3		8.6	8.45 .1 2	
8.4	202		7.6 7.1	7.0	7.05 .1 0		7.8 7.4		7.7	7.55 .2 1	
8.9	-88 49		8.3 7.9	7.9	7.90 .0 0		8.4 8.0		7.9	7.95 .0 1	
8.8	-87 54		7.8 7.4	7.8	7.60 .2 2		8.3 7.9		7.7	7.80 .1 1	
8.9	58		8.3 7.9	8.0	7.95 .1 0		8.4 8.0		7.8	7.90 .1 1	
	~~166~~	wrong im. dia.	8.4 8.0	8.2							
	~~207~~	wrong im. dia.	7.9 7.5	7.7							
8.7	166		8.7 8.3	8.3	8.30 .0 0		8.7 8.3		8.2	8.25 .1 0	
9.0	207		8.2 7.8	7.9	7.85 .0 1		8.2 7.8		7.9	7.85 .0 1	

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Scale Measures South Pole Cont.

Scale N

July 1, 1910 Am 4387

July 2, 1910 Am 5578

		(1)	(2)	(3)		(1)	(2)	(3)		
9.0	-8X°227		8.4 8.0	8.0	8.00 .00		8.5 8.1	8.2	8.15 .10	
9.2	229		8.6 8.2	8.4	8.30 .11		8.6 8.2	8.5	8.35 .21	
8.8	234		8.2 7.8	7.9	7.85 .01		8.1 8.1	7.8	7.95 .12	
8.4	236		6.8 6.4	6.3	6.35 .01		7.0 6.6	6.7	6.65 .01	
8.4	237		7.3 6.9	6.8	6.85 .10		7.4 7.0	6.9	6.95 .01	
8.8	238		8.2 7.8	7.8	7.80 .00		8.2 7.8	7.9	7.85 .01	
9.9	246		8.9 8.5	8.7	8.60 .11		8.9 8.5	8.6	8.55 .10	
8.7	247		7.5 7.1	7.3	7.20 .11		7.9 7.5	7.8	7.65 .12	
9.2	266		8.2 7.8	7.8	7.80 .00		8.0 7.6	7.8	7.70 .11	
8.7	293		7.8 7.4	7.6	7.50 .11		8.3 7.9	8.0	7.95 .10	
8.4	295		7.1 6.7	6.8	6.75 .10		7.6 7.2	7.4	7.30 .11	
8.0	317		6.7 6.3	6.4	6.35 .10		7.5 7.1	6.8	6.95 .12	
9.0	327		8.5 8.1	8.3	8.20 .11		9.0 8.6	8.3	8.45 .21	
	a	3.2 3.0			3.0 a..	3.8 3.6	4.1 3.7		3.65 0.1	
	b	3.9 3.7			3.7 a..	4.9 4.7	5.0 4.6		4.67 0.10	
	c		4.8 4.4		4.4 a..		5.9 5.5	5.5	5.50 .00	
	d		5.4 5.0	4.9	4.95 .01		6.0 5.6	5.7	5.65 .01	
	e		5.5 5.1	4.9	5.00 .11		5.9 5.5	5.7	5.60 .11	
	f		6.0 5.6	5.8	5.65 .01		6.8 6.4	6.4	6.40 .00	
	g		6.6 6.2	5.9	6.05 .21		7.3 6.9	6.7	6.80 .11	
	h		7.0 6.6	6.6	6.60 .00		7.6 7.2	6.9	7.05 .21	
	k		7.7 7.3	7.4	7.35 .10		7.8 7.4	7.7	7.55 .21	
	l		7.9 7.5	7.9	7.70 .22		8.3 7.9	7.9	7.90 .00	
	m		8.7 8.3	8.2	8.25 .10		8.8 8.4	8.6	8.50 .11	

HSB begins a second line

Scale Measures South Pole Cont.

Scale N

July 1, 1910 Am 4387

July 2, 1910 Am 5578

	(1)	(2)	(3)		(1)	(2)	(3)	
n		8.8 8.4	8.4	8.40 .00		8.9 8.5	8.6	8.55 .10
o		8.9 8.5	8.6	8.55 .10				8.8
p		9.0						9.0
q		9.0						9.1
r		9.5						9.4
s		9.6						9.5
t		9.7						9.6
u		9.8						9.8
w		9.8						10.0
x		10.3						10.4
y		10.3						10.4

5.20 Stopped at 3.20

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Monday, August 15, 1910

C.P.D. Stars near South Pole
Discordant Measures

Scale N	AM 4387	Hour read		AM 5578	
-87°10	9.5	9.6		9.7	8.9 X unit mag. should be 9.9
13	9.8	10.0		10.0	9.2 X wrong star ? reject
23	9.6	9.5		9.7	9.2 wrong star ? reject
25	10.0	10.0		9.9	9.7
31	~~9.9~~	9.8		9.8	8.9 X unit mag. should be 9.9
35	9.2	9.3		9.2	8.90
-88° 38	9.7	8.00 X	reject mag. too b	10.0	9.7
141	8.3	7.95		8.3	8.5
150	8.1	8.00		8.2	7.46 X wrong star marked in plate. Reject
-87° 29	~~8.0~~ 8.25	8.9 X	unit mag. should be 9.9	8.2	8.25
75	9.8	9.8		9.9	9.2 X wrong star - reject
82	9.9	9.6		10.3	10.2
138	6.7 6.2	6.30		6.8 6.4	6.25
244	9.9	9.1 X	wrong star reject	9.9	9.9

Probably wrong star was meas. for No. 244 on AM 4387 originally, as the mark on plate is not clear.

Monday, August 15, 1910

C.P.D. Stars near South Pole

Measures discordant with C.P.D. Mags.

	AM 4387	AM 5578
-89°42	8.8	
59	10.1	
-88°27	7.8 7.4	
186	9.4	
-87°21	9.1	
150	9.6	9.4

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