12-inch
Polar

Aug '19
Jan '20

1919-20

KG 11365.643

KG 11365.64 3

HARVARD
UNIVERSITY
LIBRARY
JUL 2 1956

22193

Friday August 22, 1919

12 inch Polar.

GMT			
13·35	SS Cygni	213843	est 11.4
	X Coronae	154536	est

Tuesday August 26, 1919 72(9)

LCCb 12 inch Polar NCH Rec.

G.M.T.

~~9~~ 13 07 SS Cygni 213843 est 11.4

Both of Metcalfs comets seen tonight in 12". Comet 1 appears brighter than on Saturday last. Approximate position by circles = 22h. 32m. +38.7

Comet 2 appears to be fainter and was suspected to have been seen with field glass. Approx. position by circles = 14h. 8m. +25.5

Nova Aquilae 18 X 300

Phot T.

Index N W

13 22:30 66.2 < comp x dis Comparison star = 6.27 ~~Phot~~ T

127.6 61.4

239.1 678

306.9 129.2 +1.00

61.6 +1.04

128.9 673

245.3 57.5

302.8 124.8 +1.09

Index S.E.

151.9 695 Mean = +0.98

221.4 661 6.27

330.3 135.6 +086 7.25

36.4 091

✓

1919phae.prdj..644C

Aug. 26-1919.

	149.4	728		
	222.2	580		
	334.9	1308	+ 0.96	
13-27-05	32.9			
13 49 35	.559	Same again.		II
13 24 48	Index SE			
13 31 00	146:4			
	220.1	737		
	326.9	790		
	45.9	1527	+ 0.52	
			+ 0.56	
	150.4			
	226.1	757		
	327.8	726		
	40.4	148.3	+ 0.61	
	Index NW		Mean	+ 0.94
	247.3			627
	299.8	525		721
	66.8	504		
	117.2	102.9	+ 1.59	
			+ 1.32	
	237.4	63.9		
	301.3	621		SPR = 3.9
	61.3	1260	+ 1.06	
13 34 40	123.4		cloudy at	13:40
13 32 35	564			

22198 Used Aug 27-1919

LC Ob. 12" Polar LC Jr Rec

Metcalfs Second Comet
13 00 readily picked up.
ob. pos. in 12" by circles
R.A. 14h 08m +24.5°

13-5-0 S. S. Cygni. 213843 Est. 11.3

R. Bootis 143227. Est. 9.1

13-9-0

13-12-0 U. Bootis. 144918 Est. 11.5

13-14-0 S. Cor. 151731 Est. 12.8

13-16-0 R. Cor. 154428 Est. 6.0

13-24-0 X. Cor. 154536 Est. 10.4

13-27-0 V. Cor. 154639 Est. 9.2.

aug 27-1919

13-32-0	R. Serpents	154615	Est. 12.8
13-35-0	R. Herc.	160118	Est. 9.0
13-37-0	U. Serpent.	160210	Est. 12.3
13-40-0	R.U. HERC.	160625	Est. 12.8
13-47-0	W. Cor.	161138	Est 12.4
13-51-0	U. Herc.	162119	Est. 11.4
13-49-0	S.S. Herc.	162807	Est. 11.1
13-56-0	W. Herc.	163137	Est. 13.7
13.59.	S. Herc.	164715	Est. 7.9
14	S.S. Oph.	165202	Est.

Aug 27 — 1919

$16^{h}42^{m}$ - 2.4? = ?

~~Aug~~

Thurs. Sept 4, 1919 22206

12" Polar

12 20 SS Cygni 213843 est 8.2 L.C.
— — — 8.6 H.O. Eaton.

12 30 SY Drac 173154 est ~~k~~ l 2 Var L.C.
est l 2 var H.O. Eaton

Est of Prov. Sequence Chart #1

g 3 ~~f~~ e? g 1 e K 1 h h 3 L
k 2 f g 3 K m 1 l h 3 m
d ~~f~~ 1 g ~~b~~ 3 d l 1 m l 2 n
m 2 n H E

m 2 l 2 n n 1 Var L.C.

n = Var Var 5 ~~f~~ q f not seen e not seen H E
b 1 e a 5 e e 4 f a 4 e

181031 TV Herculis
α 4 h 5 k 1 l 5 m 7 n (h 3 Var 3 k)
y 6 z z 4 g α α 2 g
e 6 a b 2 e 6 a 3 ~~u~~ c a 4 ~~u~~ u
c 4 x 5 d d 5 f
} L.C.

b 2 u 2 x / c 1 x / x 5 d /
a ~~2~~ e 2 u ~~e~~ u 1 a 1 x
} H.O.E.

Sept. 4. 1919

T

RV Herc

Same again by Eaton

b 5 u 4 c 1 x

e 1 a u 2 e 2 x 4 d 3 f

a 6 y 4 z 3 α 3 g

α 1 f 1 g d 2 z m 4 n

15 10 g 2 h 2 k l 1 k l 0 m h 3 l

Oil Motor h 1 var 1 k HE

~~15 16 00~~

192201 TU aquilae

b 2 c 4 f d 1 f 3 g 1 k

k 1 h 5 l Eaton Obs.

~~β 3 a~~ β 3 a

15h 45m β 6 α 5 a β 1 Var 4 α

a 3 ~~k~~ c 4 b 2 f 3 d 1 g 5 h g k LC

k 5 l 5 m 3 o 4 n 3 p p barely seen

Var 1 α 5 β 3 a JHG

16 00 o Ceti 021403 est 3.2 LC NE.

1919phae.prdj..644C

Sept. 4, 1919.

22206.

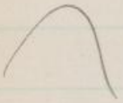
191517 a W Sagittar

191517 b — "

b 5 d e 5 d 3 f 4 g

(g k l h) in order. g 2 k x l 3 h

g 1 var 2 k m 0 k m 2 l



m 2 n n 0 0 5 p 4 q 2 r

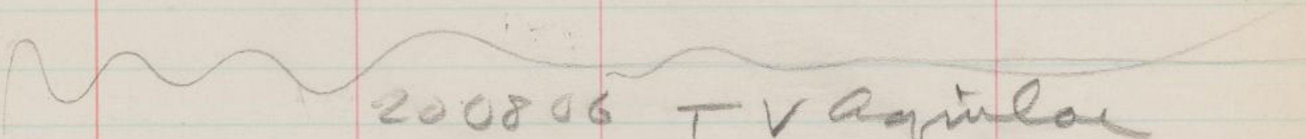
r barely visible

1/3

~~19~~ 11

n 5 unnamed var. ½ p. n 2 S 3 p

S 3 unnamed var.



200806 T V Aquilae

p 2 r 2 var 1 x var 1 β β 0 x

m 1 n 3 o, m 4 o

~~18^h 20^m~~ 16^h 20^m

a 3 e, a 6 d, e 2 f 2 k, d 4 k

a 5 c 3 b, e 1 b, c 0 e. k 1 g 5 h 5 l

h 3 m 2 l

2 α's. Call α in this sequence β.

~~18.4~~ 16^h 45^m 031401 X Ceti Est. 91. P J.D. 2422206

comp stars 93 + 90.

~~19^h~~ 17^h 15^m 030514 U Arietis Est. 128

Comp st. 126, 131, 131, 130. Decl. 14° 40'

032043 Y Persei Est 84

comp stars 82, 86, Setting 03^h 21^m 44^s 10

Sept. 7.

043208 RX Tauri 92

comp st. 93, 87

20:35 GMT

(4:35 am) 060547 SS Aurigae <124

JD. ~~22~~ 2422207

Friday Sept. 5, 1919.

12 in. Polar, H. O. Eaton

(cs = comp. stars)

213843 SS Cygn. ~~14^h.0~~ 12^h.0 GMT Est. 8.4 (cs 85, 80)

144339 RR Bootis began 1425

f 2 g ~~2 h 3 l~~ g 3 h 3 k 7 l

g 1 e 2 h, d 3 g, d 3 f

h 2 var 1 l f 2 c 4 b, g = c.

m 2 l 10 ± n k 4 m,

g 1 n 2 p. (p difficult sp. of var.)

l 5 α 3 n (α on line fr. k to g and brightest of little group of 3 stars.) α 2 ~~p~~ g

h 2 var 1 k var 2 b. Quit at ~~15^h~~ 13^h gmt.

165922 SY Herculis.

a 5 b 3 e 2 d 4 f 3 g

f 1 e 2 g 2 h 4 l

h 1 k 4 l 3 m. m barely visible.

Quit at ~~15~~ 13:25 gmt.

175103 SV Ophiuchi

a 3 b 4 c 5 d 4 e 1 f

e 4 g 4 h 2 k 3 l 2 m

m 4 n 3 var 2 r r = s

r + s barely visible. Quit ~~16:20~~ 14:20

194632 χ Cyg. Est. 104 ~~12~~ 14:40 HE

" " Est 109 LC

213843 SS Cyg. Est. 84 14:55 HE

" " Est 85 14:55 LC

Sept 5. Eaton

184243 RW Lyrae 139 15:25
cs 134, 128, 123.

173154 FG Draconis.
Just disappearing behind building
at sidereal time $21^h\ 40^m$.

181031 TV Herculis. 15:30 GMT
b 5 a 3 c a 0 u 3 x 1 c, e 1 a
x 5 d, y 2 d 2 g 3 f 1 α' 1 g, x 4 y.
h 2 k.) Nothing certain below
k, a/c of moon. 1 m 1 h
var. just glimpsed. k?

192201 TV Aquilae
b 1 a, b 2 c 3 d 2 f 4 g 2 h 1 k 2 l
nothing certain below l.
~~var. 4 β 4 α, 8 6 4~~

191517a W Sagittae and -- Sagittae.
c 1 e 2 f 4 k 3 l,
a much brighter than b.
e 1 d 1 f, b 3 d, m 3 σ 1 n
f 3 (W Sag) var 2 g, m 2 l, σ 0 b 1 n h 1 o
-- Sag. barely visible — moonlight too bright for
est.

Sept. 5. Easton

001726 T Androm. est. 87.
Time = 17:00 GMT. cs. 89, 84. 8

004958 W Cass. Est. 93
Time = 17h 15m GMT cs 94, 95

001909 S Ceti Est. <115,
variable seen easily but no comp. stars faint
enough. Var. about 125.

001838 R Androm 17h 50 est. 97
cs 97, 95, 92

004132 RW Androm. est <125.
127 glimpsed. Uncertain as to whether I
saw variable or not. Time = 18h 0m

004047 U Cassiop. est. 98.
cs. 99, 91. Time=18h 15m.

Sat. Sept 13, 1919. 22 215

R.C.Obs. 12" Polar Telescope

13 50 SS Cygni 213843 est 8.9

Metcalf's 1st Comet well seen

with F.G. near ε Ur. Maj.

14 00 approx Pos. 12h 45m +58°

Comet faintly seen with N.E.

in Moonlit sky.

Sept 13-1919

Nova Aquil. No 3

Pilot R.

18 4300

Comp with 8.6

14-15-30	Ind N.W			
	215.0	< Nova dis.		
	280.2	65.2		
	45.3	44.5		
	89.8	109.7	-1.42	
	219.6		-1.42	
	272.4	52.8		
	39.6	57.0		
	96.6	109.8	-1.42	
	Ind. S.E		Mean =	-1.30
	129.8			865
	187.2	57.4		735
	312.8	53.8		
	366.6	111.2	-1.39	
	127.7		-1.19	
	189.6	61.9		
	308.2	67.4		
14-20-30	15.6	129.3	-0.99	
14 18	596			

Sept. 13, 1919

W. Aquil 191007

Est. 13.0
Other Var. near by 10.9

V. Lyrae 191637
Est. 11.8

T.Z. Cygni 191350

Est. 10.8

R.T. Aquil 193311
Est. 13.7

R.V. Aquil 193509
15 00 Est. 13.5

Wed. Sept. 17, 1919

2219

2219

~~[illegible]~~ 12" Polar.

12 44 SS Cygni 213843 est 107 LC.

Published Oct. 1, '19. { — — ± 10.2 Eaton
— — − 10.2 Burbeck

H O Eaton

165722 SY Herculis. 9:05 PM
[a8b5c]3 d 6 e 3 f 4 g.
h1g3k4l3m
f var 3 a. Must observe this with 6"
a, b, + c difficult comparisons. Quit 9:30

173154 SY Draconis. 9:45
a5b4c
b5d2e5f f = k.
e3g4f1h. — k1h4l1m2n
n5q. ~~[illegible]~~ r barely visible
o and p doubtful; fainter than r + s
n 2 var 3 r 5± r. Quit. 10:30

181031 TV Herculis. ~~10:35~~
b1a5c 7d. a3e5c2x; u1e5x5d
~~y1d2f~~ y1d2g3f ~~4~~ f1x3g
g4h1l1m1$\overset{k}{h}$; m½ var 1 k 3 n
o barely visible, p not seen. Quit 11:05

Sept 17-1919.

191517 W + -- Sagittar.
e 3 c 2 d 4 f 4 g 6 h
g 3 k 2 l 1 h ; m = k. m 1 (W var) 2 l
h 1 o 2 n 4 p 3 q 1 r
n 3 ($\overline{\text{var}}$) 1 p. Quit 11:35

192201 TU Aquilae.
b 1 a ; b 2 c 4 f 1 d
f 3 g 2 k 1 h 3 l 1 m 2 o 2 q.
p barely visible.
ζ 4 var 2 β 5 α 4 b ; δ 10 var
Quit at 12 midnt.

200806 T.V. Aquilae
a 5 c 1 b ; c 3 e 1 d ~~[illegible]~~ g
d 3 k 3 g ; k 1 f 2 g.
g poor star, b/c of companion. g 1 α
f 3 α 3 h 5 l 3 m 1 n
o 1 p 1 r 1 X 2 var.

222924 SS Pegasi. 12:40
a 3 var 3 d 1 b ; d 1 e ; b = e
d 4 f ; e 7 g 1 h ; [f 3 g]
h 5 l 4 m 2 n ; n 3 o 3 p 2 q 3 r
$q' = q$; q 2 r' 1 r ; r 1 r^2 ;
r scarcely visible. 13:10

Wed. Sept. 17. J.D. 22219.

6 inch equatorial

17	45	043208	RX Tauri.	$13^h 45^m$	est. 94.
17	52	042209	R Tauri	13 : 52	< 106
		23	S Tauri		< 106
17	57	060547	SS Aurigae	13 : 57	< 114
18	2	054319	SU Tauri	14 : 02	94
18	8	042215	W Tauri	14 08	99
18	16	032335	R Persei	14 : 16	96
18	22	035915	V Eridani	14 22	85
18	30	022813	U Ceti	14 30	86

---

12 inch Polar.

19 : 15	030514	U Arietis	15 : 15	13.0 ±

Thursday Sept. 18, 1919
12" Polaris J.D. 22220.
H. Eaton.

213843 SS Cyg. est. 10.4 8:10 PM.

GMT
HOE 12:25 191117 T Sagittarii est. 128 8:25
LC 12:30 191117 T Sag. est. 130 8:30

173154 SY Draconis
(Check estimates of prev. sequence.) 8:35 PM
LC ob.) a 2 b 4 c 3 d 4 e 2 g 6 k 1 f 3 h 6 m 3 l
HOE. record l 2 n, q glimpsed.

181031 TV Herculis.

LC ob.) b 1 e 5 a 2 u 6 c 4 x 2 y [3 d 3 g 3 f]
HOE record [f 1 α]
y 3 d 3 g 2 α 1 g 2 f 3 h
h 4 l 1 k 1 m 4 n. m 3 var 3 n

Sept. 18, 1919.

181031 T V Herculis.

H Eaton. Ob.

b 3 e 4 a 4 u 6 c 7 x 4 y 5 d 3 z

z 3 f i = z 2 a 1 f 0 g

g 6 h 7 l 3 k 0 m

v barely visible. m 2 var 4 n.

173154 S Y Draconis.

a 10 b 2 c 5 d

e 1 d 2 g 5 [k 1 f 1 h] = c 4 e

g 5 k 1 h 1 f   f = h

h 4 m 1 l 2 n 2 var 2 r

r barely visible.   9:40 PM.

191517 W and -- Sagittae

a 20 b 10 e 3 c 7 d 5 f

~~f 5 m 5 k 3 l~~

HE ob. f 5 g 4 m 3 k 3 l 2 h

h 10 o 1 m 4 o' 1 p 3 p' 3 q ; m 2 var 1 k (W)

p 2 var (--) 3 p'

Same star

L C ob. e 3 c 2 d 6 f 5 g 4 m 2 k 6 l 3 h

HOE record. h 1 n 2 [o 3 p] o 4 o' 1 p 4 p' 5 q

m 5 W (var) 1 n.

p 4 var (--) 5 q

Sept. 18, 1919 H. Eaton

~~191517~~ 192201 TU Aquilae

δ 8 ζ 5 β 6 α 4 a 1 b

14:45 GMT b 1 c 4 f 2 d 5 g 3 k 2 h 4 l

l 2 m 3 o 1 n

ζ 4 var 2 β. 10:45 PM.

Thursday, September 25, 1919.

LCObs. 12" Polar. WCH Rec.

G.M.T.				
11 54	SS Cygni. 213843			est 11.4
	Photometer R.			
	Nova Aquilae #3 / 184300		~~est.~~	
	Index E.			Phot R
11 58 10	126.8	← nova dis.		
	188.2	61.4		
	312.4	56.0		
	368.4	117.4	− 1.25	
	129.8		− 1.24	
	183.3	53.5		
	305.5	64.9		
	370.4	118.4	− 1.23	
	Index W.		Mean = − 1.29	
	37.4			8.65
	102.8	65.4	Magn.	7.36
	223.6	46.6		
	270.2	112.0	− 1.37	
	38.4		− 1.34	
	90.4	52.0		
	213.2	63.2		
12 03 55	276.4	115.2	1.30	
12 01 02				
.501				

✓

12" Polar

Thurs. Sept 25, 1919. HOE Ob.

J.D. 2227

G.M.T.				
11^h 15	SS Cygni	213843	Est	11.1
11^h 33	RU And	013238	Est	10.5±
11^h 40	Y And.	013338	Est	13.4

P 2228

Friday Sept. 26, 1919.
12 in Polar. H O Eaton

EST

8:10 151731 S Cor Bor. < 12.4. 13.2 ±
no comp star fainter than 12.4.

8:19. 160210 U Serpentis. < 123. < p.
comp. star. 120 < 123, variable?
this co. almost invisible.

8:27 161138 W Cor Bor. est 102.

8:32 165631 RV Herculis. est. < 137
variable visible; prob. = 14.2 ±
no comp. star fainter than 137.

8:54 171401 Z Ophiuchi est. 116
delay due to use of large scale chart.

9:02 171723 RS Herculis est. 112.
comp stars. 112, 113, 120.

9:22 175458 T Draconis. Est. 11.9
~~1754~~ 58. UY Draconis, Est 11.0

9:29 SS Cygni. 213843 Est 112

Sept. 26. HOE.

200806. TV Aquilae. began 9:47

10:10 a 4 c 2 b 2 d 1 e 3 f.
e 2 g 0 k 1 f 4 h 2 m 1 n 1 l
l 2 o 1 p 0 r 1 x 4 var.

222924 SS Pegasi

10:30 a 2 var 5 b 2 d 2 e 5 f 2 g
g 3 h 3 l 4 m 5 n
n 2 o 3 p 3 q 1 q' 3 r 2 (r^2)
(r' not obs.)

000454 TT Cass. (SX)

11:15 a 4 b 3 c 3 d.
~~f 2 g~~
d 3 SX 2 e' 2 f 1 g 4 h 3 k 2 l
l 2 m 2 n 1 o 3 p 3 var (TT). 2 q 1 r
var barely visible
sequence from h to

1312
1536

Saturday Sept. 27. HOE
12 in Polar.
JD. 2229

4
10:42 011041 UZ Androm. est. 9.2.

10:52 010940 U And. est. 10.8.
comp star 108 < 110.
108 not used.

10:57 011712 U Piscium. est. 12.2
foggy.

11:03 012350 RZ Persei est 12.5

11:12 001046 X Androm. var. barely glimpsed
est. < 13.0. prob. 14.0±

11:17 004047 U Cass est. 10.7

11:24 004132 RW And. var. < 13.7. just glimpsed

11:28 004435 V And. var < 13.1 N

11:34 004533 RR And. var. < 12.6. p 5 var.

(Suspicious hazy object. 0h 46m 47° 20')
Ident. in N.G.C.

12:00 SS Cygni. est. 11.3 HOE
11.4 LC.

12:11 064547 SS ~~Cyg~~ Aurigae. est. 11.1 } 6 inch
12:15 054319 SU Tauri est. 9.4 }

Monday Sept 29, 1919

G. M. T. LC Obs. McH Rec.

Nova Aq. 3. 184300
1943
100 W

Index W

12 01 30
57.0
~~43.0~~
107.7 < nor dir. Photometer R.
~~102.~~
~~59.3~~
222.0
~~57.7~~
274.0
52.0 37.0
~~109.7~~
92.3 55.3
55.3 52.0
40.8 107.3 -1.48
98.2 57.4
-216.2 61.2 -1.35
277.4 118.6 -1.22

Index E.
301.1 8.65
13.8 72.7 Mean: -1.17
129.2 54.3 7.48
183.5 127.0 -1.04

306.4
9.5 63.1 -0.99
122.1 68.6
12 08 07 190.7 131.7 -0.94

12 9 37

12 4 49

503

Sept 29, 1919

H.O.E. Obs. n.c.H. Rec.

Experimental only

Nova Aq. 3.

Index East

12 14 18	187.8	< ~~nova dis.~~ comp star dis.			
	306.6	118.8			
	358.4	129.9			
	428.3	248.7	111.3	+1.39	
	179.2			+1.48	
	308.6	129.4			
	3.3	126.5			
	129.8	255.9	104.1	+1.56	

Index West

	94.8			Mean	+1.58
	223.4	128.6			865
	271.8	139.7			7.07
	451.5	268.3	91.7	+1.87	
	91.1				
	225.8	134.7		+1.67	
	284.8	117.4			
12 26 02	~~4~~ 42.2	252.1	107.9	+1.47	

Sky covered with southern send.

X

Wed. Oct. 1, 1919

12" Polar

G.M.T. R Cor Bor 154428

11 35 Var a magn. > 7.2

Plot T L.C. obsr.

h m	var. dis	Index N.W.		HOE record.
11:45.5	50.2		Comp ✱ = the 7.2	
	110.8	60.6		
	227.7	53.5		
	281.2	114.1	−1.32	
	54.4		−1.40	
	104.2	49.8		
	229.8	57.2		
	287.0	107.0	−1.49	
		Index SE		mean = −1.45
	144.4			7.18
	196.0	51.6		magn = 5.73
	321.7	55.7		
	17.4	107.3	−1.48	
	144.2			
11 49.2	197.8	53.6	−1.50	
	320.7	51.5		
11 47.4	12.2	105.1	−1.53	

✓ 491

Oct 1, 1919

LC Ob. LCH Rec.

gmT	R Scuti: 184205			
	Index NW			
12 11 55	316.4	variable dir.		Phot T
	21.8	65.4		
	136.3	65.5		
	201.8	130.9	−0.96	
	314.9			
	19.3	64.4	−0.97	
	136.4	65.4		
	201.8	129.8	−0.98	
				7.07
	Index S.E.		mean	−1.14
	52.8			~~6.0~~
	111.9	59.1		5.93
	228.9	54.9		
	283.8	−114.0	−1.33	
	~~45.5~~			
	110.4	64.9	Retaken below.	
	223.6	64.0		
~~12 14 30~~	~~287.6~~	128.9		
			−1.32	
	49.9			
	107.9	58.0		
	231.8	56.5		
12 15 45	288.3	114.5	−1.31	✓
12 13 50	SEO			

Oct 1, 1919

H.O.E. Obs. W.C.H. Rec.

R. Scuti

~~12 20 30~~	~~347.5~~		Experimental.	
	105.2			
~~12 22 40~~	~~351.8~~			
	Ind. SE			
12 24 08	284.6	Var. dis.		
	350.0	65.4		
	105.4	59.8		
	165.2	125.2	−1.08	
	287.3		−1.04	
	345.2	57.9		
	101.2	70.5		
	171.7	128.4	−1.01	7.07
	Index NW		Mean:	−1.28
				~~5.8~~
	23.3			5.79
	74.0	50.7		
	201.8	50.0		
	257.8	100.7	−1.64	
	21.7		−1.52	
	71.8	50.1		
	196.2	60.1		
12.32 46	256.3	110.2	−1.41	

Oct 1, 1919

LC Obs. WCH Rec.

Nova Aq. 3 with Comp. Star 8.6

	Ind. N.W.			
12 42 40	35.0	∠ Nov. dis.		Phot. R.
	103.7	68.7		
	221.9	56.6		
	278.5	125.3	−1.08	
	44.8			
	98.6	53.8	−1.17	
	219.0	63.0		
	282.0	116.8	−1.26	
				8.65
	Ind. S E		Mean	−1.15
	309.0			7.50
	11.1	62.1		
	128.8	55.5		
	184.3	117.6	−1.25	
	308.2		−1.13	
	6.0	57.8		
8	124.6	70.5		
12 43 55	195.1	128.3	−1.01	
12 56 48				

.535

105

Oct 1, 1919

HOE Obs	Nova Aq 3			McH Rec II
	Index S.E.			
12 53 05	313.9	<now dis.	Experimental Phot R.	
	362.8	48.9		
	122.2	66.4		
	188.6	115.3	-1.30	
	314.4		-1.35	
	10.4	66.0		
	130.7	54.9		
	185.6	110.9	-1.40	
				8.65
	Index n w		Mean =	-1.38
	220.4			- 7.27
	277.2	56.8		
	41.3	56.9		
	98.2	113.7	-1.33	
	223.2		-1.41	
	276.4	53.2		
	43.6	53.7		
13 01 28	97.3	106.9	-1.49	
12 [illegible]4 33				
12 57 16				
.540				
✓				

Oct 1, 1919

	LC Obs.			McH Rec.
		Nova Aq. 3		III
	Ind. N.W.			
13 05 24	220.4			
	277.3	56.9	Phot R.	
	40.3	51.9		
	92.2	108.8	-1.45	
	220.3			
	277.6	57.3	-1.40	
	40.3	56.1		
	96.4	113.4	-1.34	
				8.65
	Ind, SE		Mean	-1.28
	125.8			7.37
	191.6	65.8		
	308.9	55.8		
	364.7	121.6	-1.16	
	126.0			
	188.2	62.2	-1.16	
	~~310.7~~	58.8		
~~13~~	310.7	121.0	-117	
13 10 15	369.5			
13 15 39				

13 7 50 Fine display of Aurora visible
13 00 ± reaching from North beyond zenith.
Center of radiation near β Cygni. Colors –
.547 red to green. ✓

Oct 1, 1919

H.O.E. Obs. McH Rec.

Nova Aq. 3 IV

	Index S E			
13 21 00	124.1			
	190.2	66.1	Experimental.	
	313.8	53.9	Phot. R	
	367.7	120.0	-1.19	
	128.7		-1.24	
	186.4	57.7		
	303.8	58.0		
	361.8	115.7	-1.29	8.65
	Ind N W		Mean	-1.44
	38.0			7.21
	96.3	58.3		
	228.4	43.4		
	271.8	101.7	-1.61	
	43.8		-1.64	
	87.2	43.4		
	220.7	55.5		
13 28 52	276.2	98.9	-1.68	

McH's Watch - 1:05 fast at 13 00 hrs GMT.

Oct 1, 1919

LC Obs | MCH Rec.

R Scuti 184205

58	Index NW			Phot T
~~41 58~~	~~81.2~~			
13 42 22	190.6	L Var dis.		
	262.2	71.6		
	13.9	60.5		
	74.4	132.1	-0.94	
	199.6			
	255.6	56.0	-1.04	
	11.8	66.9		
	78.7	122.9	-1.13	7.07
	Index SE		mean	-1.06
				6.01
	285.2			
	351.8	66.6		
	109.2	59.4		
	168.6	126.0	-1.06	
	286.2		-1.08	
	351.2	65.0		
	110.6	59.2		
13 45 50	169.8	124.2	-1.10	
13 88 12				
13 44 6				
.572				

Oct 1, 1919

G.M.T.	HOE Obs Ind. S.E.	R Scuti		McH Rec.
13 49 42	288.5	< Var dis		
	347.9	59.4	Experimental	
	109.3	53.7	Phot T	
	163.0	113.1	−1.35	
	286.8		−1.28	
	348.7	61.9		
	104.0	57.9		
	161.9	119.8	−1.20	
				7.07
	Ind NW		Mean	−1.24
	16.2			5.83
	74.9	58.7		
	196.1	62.9		
	259.0	121.6	−1.16	
	22.0			
	76.1	54.1	−1.21	
	197.3	62.7		
14 04 40	260.0	116.8	−1.26	
13 11 4 82				
13 5 7 11				

.581

✓

Oct 1, 1919

^{2233}

12" Polar. NCH Rec.

g.m.T.				
14 11	SS Cygni	2(38 43) Est		11.2 L.C.
			est	11.2 HOE
	o Ceti	021403	~~est.~~	
	Index SW	L.C. Obs.		
14/18.55	330.2	∠ Var. dis.		Phot R.
	343.6	13.4		
	149.8	13.2		
	163.0	26.6	−4.70	
	329.5		−4.58	
	343.9	14.4		
	150.5	14.8		
	165.3	29.2	−4.46	
				9.19
	Index N.E.		Mean	−4.56
	240.1			−4.63
	253.1	13.0		
	60.6	13.9		
	74.5	26.9	−4.64	
	239.7		−4.54	
	255.5	15.8		
	58.6	13.6		
14 26 07	72.2	29.4	−4.45	
14 4 5 3	14 2 3 31	598		

Oct 1, 1919

HOE Obs.

o Ceti

NCH Rec.

~~Os~~	Index NE	<		
14-37.05	61.2	< Var Dis.		
	72.2	11.0		Phot R.
	238.8	~~2~~13.4		
	252.2	24.4	−4.86	
	59.2			
	72.2	13.0	−4.80	
	238.9	12.9		
	251.8	25.9	−4.73	9.19
	Index SW		Mean	−4.70
	329.7			4.49
	343.3	13.6		
	150.2	14.0		
	164.2	27.6	−4.59	
	329.8		−4.60	
	342.4	12.6		
	148.8	14.8		
14 46 53	163.6	27.4	−4.60	
14 83 58				
14 41 59				
.612				

Oct. 1, 1919. [illegible].

12 in Polar

JD 2233

15:35	190108	R Aquilae.	103.
15:41	190933a	RS Lyrae	131
15:48	~~193313~~ 193311	RT Aquilae	123
15:56	194348	TU Cygni.	128.
16:01	194048	RT Cygni.	116.
16:22	194632	X Cygni	115
16:32	202817	Z Delphini	90.

6 inch Eq.

17:10	060547	SS Aurigae	< 11.4

Monday Oct 6, 1919

12" Polar.

G.M.T.	Z.C. Obs.				N.C.H. Rec.
11 35	SS Cygni	213843		est	11.7
	R. Cor. Bor	154428			
	Pa N W			Phot.	T
11 43 42	272.2	∠ Var dis.			
	343.3	71.1			
	91.8	73.5			
	165.3	144.6	−0.68		
	270.8				
	344.6	73.8		−0.73	
	94.2	65.8			
	160.0	139.6	−0.78		
	~~Pa~~ S.E.			Mean	= −1.04
	21.8	Repeated			7.18
	61.6	39.8			6.14
	191.2	48.4			
	239.6	88.2	−1.34		
				−1.36	
	16.6		9.8		
	67.8	51.2	64.8	55.0	
	182.8	62.0	187.2	55.6	
~~11 49 47~~	244.8	113.2	11.52.05 242.8	111.6	−1.38

X Trouble with interchanging of star images. Observer not confident of above group.

Oct 6, 1919

F C Obs. W C H Rec

g.m.T.	R Scuti	184205		
	P.a. ~~N~~ S W			
11 59 30	185.9	∠ Var dis.		
	244.2	58.3		Phot T.
	6.4	55.8		
	62.2	114.1	− 1.32	
	184.4			
	249.8	65.4	−1.14	
	6.6	65.2		
	71.8	130.6	− 0.97	
				~~7.0~~
	P.a. S.E.		Mean	−0.88
	270.9			7.07
	342.4	71.5		6.19
	86.8	78.6		
	165.4	150.1	− 0.57	
	266.8		−0.62	
	344.6	77.8		
	88.2	77.2		
12 03 20	165.4	145.0	0.67	
11 12 2 50				
12 1 25				
.501				

Oct 6, 1919.

HOE Obs. NCH Rec.

g.m.T.	R Scuti P.a.				Phot T.
12 17 35	269.2				
	342.9	73.7			
	91.3	70.6			
	161.9	144.3	−0.69		
	273.2				
	340.6	67.4		−0.78	
	93.7	68.2			
	161.9	135.6	−0.86		
					7.07
	P.a.			Mean	−1.07
					~~+~~ 6.00
	7.7				
	70.0	62.3			
	190.0	56.9			
	246.9	119.2	−1.21		
	9.0			−1.36	
	63.9	54.9			
	190.3	50.8			
12 27 01	241.1	105.7	−1.52		

Experimental

X

Oct. 6. 1919.

H.C. Eaton. Ob. and record.

GMT	1943.00 nova Aq. ~~P.A.~~	nova dis.	Phot. R.	~~Index SE~~ Index NW
12 55.5				
	296.0			
	354.0	58.0		
	116.8	52.2		
	169.0	~~55.1~~	~~305~~	
		110.2	−1.41	
	295.0			
	344.0	49.0	−1.32	
	101.7	68.7		
	170.4	~~58.8~~	~~2.91~~	
		117.7	−1.24	
			Index SE	
	199.4	1	mean = 1.38	
	260.0	60.6		5.65
	19.7	48.6		7.27
	68.3	~~54.6~~	~~3.07~~	
			−1.44	
		109.2		
	204.6		−1.48	
	247.2	42.6		
	11.2	66.6		
13: 16.0	77.8	~~54.6~~	~~3.07~~	
		109.2	−1.48	
			~~Index NW~~	

X

Oct. 6, 1919.

N.O.E. obs. + record

HA 1 20±	194300	Nova	Aq. 3	Ph & R
13:18	189.4			~~Index NW~~
	254.0	646		Index South
	23.8	453		
	69.1	550	306	
		1099	−1.42	
	195.3	3	300	
	248.9	53.3	−1.36	
	15.6	62.2		
	77.8	577	295	
		115.5	−1.29	Index North
				mean = −1.31
	104.4			8.65
	169.7	653		7.27
	289.2	455		
	334.7	554	304	
		110.8	−1.40	
	109.8		1.62	
?	154.3	44.5		
	288.8	47.9	−185	
13 34.0	336.7	462	345	
		92.4		

reject last set images probably not reversed.

X

Oct. 6, 1919
HCE Ob & rec.

HA				
2h ±	001755	T Cass	Phot	R. ~~Ind. W~~
13:42:35	175.6		Var. dis	
	267.3	91.7	Index ~~SE~~. NE	
	343.5	108.5	99.7	
	452.0	~~100.1~~	~~+1.65~~	
			+ 0.38	
		200.2		
		159.8		
	166.0			~~166~~
	268.0	102.0	+ 0.38	
	346.~~2~~	98.3		
	444.5	~~101.5~~	+ 0.39	
	→ SW	~~99.8~~	~~+1.66~~	
	Index ~~NW~~	200.3		~~+1.65~~
	80.2	159.7	Mean =	+ 0.39
	169.8	89.6		) 87
	249.4	102.9	+ 0.24	~~8.3~~
	352.3	~~96.2~~	~~+1.75~~	8.26
		192.5		
		167.5		
	71.0	112.1	+ 0.40	~~164~~
	183.1			
	260.0	97.6		
14:00.5	357.6	~~104.8~~	~~+1.57~~	
13 10 2 40		209.7	+ 0.57	
13 51 20		150.3		
.577				

Oct. 6, 1919.

H B Eaton Obs + record

HA 20 15 ±	021403 o Ceti (Mira)		Phot. R.	
	Index NE.		cor. dis.	
14h 45.5	336.3			
	348.0	11.7		
	155.4	13.9		
	169.3	25.6	− 4.75	
	336.0		− 4.78	
	348.3	12.3		
	156.1	12.7		
	168.8	25.0	− 4.80	
Sc record	Index	SW	Mean =	R C Rec −4.63
	246.9			9.19
	260.7	13.8		4.56
	64.9	14.6		
	79.5	28.4	− 4.52	
	244.8		4.48	
	259.3	14.5		
	64.5	14.8		
14 59.0	79.3	29.3	− 4.45	
14 10 4 5				
14 52 2				

✓ 419

Oct. 6 – 1919

L.C. Ob. HBΣ Record.

021403 o Ceti. (Mira) Phot. R.

	Index SW.		var. dis.	
15 00 10	246.2			
	259.8	136		
	64.4	17.9		
	82.3	31.5	−4.30	
	244.3			420
	263.6	19.3		
	65.7	15.1		
	80.8	34.4	−4.10	
		Index NE		
	154.7	13.7	Mean = −4.22	
	168.4			9.19
	334.4	17.4		4.97
	351.8	31.1	−4.32	
				424
	153.2			
15 05 35	171.2	18.0		
15 5 45	334.6	15.6		
	350.2	33.6	−4.15	
15 2 52				

627

Oct. 6, 1919

GMT 021403 o Ceti. S.C.Ob.

HAB Record.

15 07 55 Focus readjusted.

155.2
171.4 16.3
335.1 15.5
350.6 31.7 −4.28

−4.38

153.6
170.4 16.8
335.2 15.0 −4.27
350.2 31.8

Mean = 4.26
9.19
4.93

62.8
80.4 17.6
246.8 14.8
261.6 32.4 −4.23

62.7 4.24
82.2 19.5
246.2 12.6
15 12.0 259.8 32.1 4.25

12" Polar

Tuesday Oct. 7 1919

Ha
22 20 ± 001755 T Cass. 'Phot. R'.

7709 Obs. & record.

var. dis. · Ins. N W

h
14 50.0 ~~232.5~~ Index East
227.5
321.8 1043
− 50.1 889
139.0 193.2
+166.8 +0.25

229.5
317.1 87.6 +0.14
− 42.9 94.5
137.14 182.1
177.9 +0.04

Index West mean + 0.08
132.2 var. dis. 2.87
− 227.0 94.8 2.95
323.6 80.1
44.7 174.9 − 0.09

139.7
− 230.2 90.5 +0.01
313.0 95.2
15 08.0 48.2 185.7
+174.3 +0.11

14 11 8 0
14 59 0
.624

Oct. 7, 1919 2239

HOE. Obs. + record, Phot. R.

021403 o Ceti

Index SE. Var. dis.

15 16 0	354.6		Index W.	
	9.8	15.2		
–	174.8	15.2		
	189.0	30.4	−4.37	
	356.1		453	
	8.9	12.8		
–	175.3	13.5		
6	188.8	263	−4.69	
		Index E.	Mean −4.50	
				9.19
	263.9			4.69
–	280.0	16.1		
	85.7	13.3		
	99.0	29.4	−4.45	
	264.9		−4.48	
–	378.4	13.5		
	84.8	15.1		
15h 29.6	99.9	286	−4.51	
15 4 5 6				
15 2 2 33	.641			

15 36 SS Cygni 213843 Est 11.8 HOE.

✓ Var. obs. to this date included in Oct. 1. report. HOE.

Wednesday ~~Oct~~ Oct. 8, 1919. 22h40

12 in Polar. HCE. Ob.

~~AA~~

and rec.

14h28 213847 55 Cygni. est 117.

001755 T Cass ~~Index~~ SF

14 34,5 137,6 van dis

227,5 899 Index W.

AA = 1h15 315.8 897

45.5 1796 −0,01

137.5 −0.01

224.7 872

314.7 925

47.2 1797 −0.01

12.5

~~Index~~ ~~NW~~ van dis ±0.00

44.8 Index E 789

136.7 919

224.9 972

312.1 1891

+170.9 +0.17

45.7 +0.01

134.9 892

223.4 830

14 47.0 316.4 1722 −0.15

14 8 1 6

14 40 32

.512

Friday Oct. 17, 1919.

GMT 12in Polar.

11:25 SS Cygni 213843 est 11.6 HOE.

R Cor Bor bright. N.E.

165722
~~175722~~ SY Herculis.

11:30 a5b3c2d3e'4f2e
e3g1h2k2l3m! f2var1e

Attempted to use phot. R but failed. Do not believe it necessary to use 6" on this sequence.

175103 SV Ophiuchi,
g4h2k3l3m5n.
a to g inclusive too far apart for 12"
g h var 2 h

see 6" W Eq. book
p34

12 22

Oct. 17, 1919 JD 2422249

18 14 31 TV 18 mc : Phot R :
dE NR ob + sec.

Compare b and c

13 12 b dis.

~~Index S~~

Index N :

151.0 < b dis.
211.6 60.6
328.1 64.5
32.6 125.1 – 1.08

147.5
213.3 65.8 –1.10 B
331.2 57.8
13 22 29.0 123.6 – 1.11

= .57

Index S. – Mean –1.04

59.0
118.6 69.6
235.0 63.0
298.0 132.6 – 0.92

55.4 64.7 – 0.98 A
120.1 63.1
234.7 < b dis.) 127.8 1.03
13 33 297.8

Oct. 17, 1919,

12" Polar - ~~Phot~~ R. ~~PHE~~, obs & rec.

001755 T Cass

Index NW: var. dis

~~Index SE~~

Index East

13 40 36.7

131.1 94.4

223.9 90.0

313.9 184.4

175.6 + 0.08

44.3

129.6 85.3 + 0.04

223.4 94.8

318.2 180.1

179.9 + 0.00

Index ~~N.W.~~ West 7.9 87

Mean = + ~~0.0~~ 0.12

~~8.0~~

7.99

(var dis) 315.7

49.8 94.1

129.2 97.7

226.9 191.8

168.2 + 0.22

301.6

39.7 88.1 + 0.20

127.5 101.2

228.7 189.3

170.7 + 0.17

222924 SS Pegasi

a4b, d2e2f (g5h) a o var 5b

h3 l4 m3 o1n2p3q, ; q'1q2 n'1n

14h 35'.

TIMES GIVEN WRONG H.J.R.

(must reel 6")

12in Polar. Oct. 17, 1919

o Ceti. 021403 22489

JC Ob. HBE. record.

Index W.

h m s
14 47.08

348.2 Van dis.
~~375.7~~ 366.8 18.6
~~39.5~~ 166.2 24.2
190.4 42.8 —3.62

—3.61

~~188.0~~
349.6
12.8 23.2
168.4 20.0 —3.60
188.4 43.2

Index E.

255.8 Mean = —3.68
277.2 21.4 9.19
77.6 19.1 5.51
96.7 40.5 —3.74

259.6 —3.76
279.1 19.5
77.9 20.3
1452.52 98.2 39.8 —3.78

14 50.0

.618

Oct. 17 - 1919

	o Ceti			H.O.E.Ob. L.C. Rec
	Index	~~East~~		
14 54.2	255.0			
	279.8	24.8		
	77.5	18.9		
	96.4	43.7	- 3.57	
	257.8			
	276.1	18.3	- 3.70	
	77.0	20.6		
	97.6	38.9		
			- 384	
	Index	West	mean = -	3.74
	166.0			9.19
	188.7	22.7		5.45
	347.4	20.6		
	368.0	43.3	- 3.59	
	167.5		- 3.77	
	186.9	19.4		
	346.2	17.5		
15 04.0	363.7	36.9	- 3.95	
14 59.1				

.624

✓

22250

Saturday Oct 18, 1919

LC Obs. WH Rec.

GMT ~~R Scuti 184205~~
11 28 SS Cygni 213843 est 11.6 (12")

R Scuti. 184205 est 6.0

~~Phot. R.~~

Nova Aquil #3

Index NW Phot R.

11 35 14 54.4 < nova dis
117.2 62.8
~~3~~29.2 70.7
299.9 133.5 0.91
136.7

48.0
124.8 76.8 0.84
237.2 63.1
300.3 139.9 0.78
865
Index SE. 121.4 = −1.18
334.4 7.47
22.2 47.8
146.6 63.8
210.4 111.6 −1.30

106.0

330.8 1.51
27.4 56.6
159.3 43.9
11 39 25 203.2 100.5 1.64
11 37 20

Oct. 18, 1919 / 12ᵐ Polar
Nova Aquilae 3, 184300. Phot. R.
H A Eaton Obs. + R

	Nova dis.	Index	S W	Rec.
12 45	259.8		Index E	
	314.2	544		
	80.1	501		
	130.2	1045	— 1.55	
	264.9		—1.72	
	312.0	471		
	83.6	438		
	127.3	909	1.89	
		Index W mean	= —1.50	
	169.7			865
	224.8	551		715
	347.8	603		
	48.1	1154	— 129.	
			—1.28	
	165.6			
	229.1	641		
	350.3	518		
13 0 10	42.1	1159	—128	
		~~Index NE.~~		

105
1~~2~~ ~~45~~ 10

12 52 35

.537

✓

L

192201 TV Aquilae
Oct. 18, 1919 Phot. R.

HA $1^{40\pm}$

c + f of prov. sequence
c dis
HBE Ob + Rec

c .34 f

~~Index NE.~~ Index W

13 10

245,2
326.7 81.5
64.5 77.3
141.8 158.8 +0.40

A

64.5 +0.36
143.5 79.0
243.8 84.2
328,0 163.2 +0.32

Mean = +0.34

13.28

Index E

344.5
66.0 82.5
152.8 80.3
233.1 162.8 +0.33

B

333.7 81.9 +0.32
55.6 81.8
149.5 ← c dis 163.7 +0.31
231.3

13 45

13 55

1 3 27 30

561

~~Index SW.~~

Difficult because stars faint. (@ 9m)

L

L 192201 TV Aquilae. Oct-18-1919 Phot. R

b and c. AOE Obsrec.

b 0.21 c

b dis -

13 52				
	61.5			
	145.2	83.7		
	242.8	83.2		
	325.0	166.9	+ 0.25	R
	65.9		+ 0.27	
	144.1	78.2		
	240.8	86.5		
	327.3	164.7	+ 0.29	
				Mean = + 0.21
b dis →	327.9			
	56.1	88.2		
	152.8	78.9		
	231.9	167.1	+ 0.24	D
	325.0		+ 0.15	
	56.0	91.0		
	149.9	85.7		
14 10	235.6	176.7	+ 0.06	

13 1

✓ .584

Oct. 18, 1919

L 222924 55 Pegasi Phot. R.

Comparison star ~~a~~ b and var.

HOE

var. dis.

Obs tree

14 20				
	90.2			var 0.61 b
var. dis. →	137.4	67.2		
	253.8	68.1		
	311.9	135.3	+0.87	
				+0.84
	74.0			
	134.0	60.0		
	249.5	68.1		
14:30	317.6	138.1	+0.81	
				mean +0.61
	330.0			
	52.9	82.9		
	153.8	77.7		
	231.5	160.6	+0.37	
				+0.38
	331.6			
	53.0	81.4		
	152.0	77.5		
14 40	229.5	158.9	+0.40	

14.30

.604

Oct, 18, 1919 Phot. R.
o Ceti 021403 1C Obs.
HOE record.

14h		Mar. dis.	Index W.	W
45 0	273.0		✓	
	290.8	17.8 ✓		
	93.6	17.2 ✓	✓	
	110.8	35.0	−4.06	
			−3.96 ✓	
	270.4		✓	
	290.6	20.2 ✓	✓	
	91.3	18.1 ✓	−3.86	
	109.4	383		✓
			Mean =	3.85
			Index E. Ɛ	919
	180.4		✓	5.34
	200.8	20.4 ✓		
	1.8	200	✓	
	21.8	40.4	−3.75	
			−3.74 ✓	
	179.7		✓	
	201.3	21.6 ✓	✓	
	1.5	19.3	−3.72	
14 49.18	20.8	40.9 ✓		
14 47 9				
.616				

Oct. 18—1919.

o Ceti again H.O.E. Ob.
L.C. Rec.

Index E E

1451.2 180.1 < reads
198.0 17.9
358.9 18.6
17.5 36.5 −3.97

179.8 −4.00
198.9 19.1
0.0 16.6
16.6 35.7 −4.02

Index W W Mean = −4.01
89.8 9.19
107.6 17.8 5.18
~~271.5~~ 269.4 18.2
287.6 . 36.0 −4.00

91.1 −4.02
107.3 16.2
268.9 19.1
15 1.4 288.0 35.3 −4.04

14 56.3
622

6 inch W. Eq.

15 55 SS Aurigae 060547 est <12.4

✓ 12 in. Polar.

Wednesday Oct. 22, 1919.

H C Eaton, obs.

11 38 213843 55 Cyg. est 11.5 +rec.

165722 SY Herculis

a 10 b 4 c 2 d 3 e' 4 f 3 e 4 g 1 h 3 k 2 l 3 m

g 1 var 1 h.

g and k too faint to be measured with Phot. R on 12"

2 20±

XH ~~2 21~~ 175103 too low.

12 35 181031 TV Herculis. compare b and c.

Index SE. Phot. R.

b dis > 249.9

Index N.

312.7 62.8

71.8 61.3

b 1.08 c 133.1 124.1 −1.10

249.8

317.1 67.3 −1.08

70.8 58.9

⑱ 129.7 126.2 −1.06

=

Index S. Mean = 1.08

160.1

223.3 63.2

337.8 64.5

42.3 127.7 −1.03

157.5 −1.08

222.1 64.6

340.8 58.9

12 53 39.7 123.5 −1.12

58

12 44 .531

Index NW Index S

Oct. 22, 19.

✓

same star
compare x and u
u brighter than x

x dis

Phot. R.

2ʰ 45
±
h

Ad ~~45~~

~~Index~~ SW

HOE observe

Index E.

13 0

225.2
332.0 | 106.8
47.0 | 104.3
151.3 | 211.1
148.9 + 0.60 B

u .67 X

223.8
330.6 | 106.8 + 0.60
47.6 | 104.8
152.4 | 211.6
148.4 + 0.61

Index W. mean +.67

134.0
~~244.5~~ | 111.4 ~~.67~~
285.4 | 109.1
314.6 | 220.5
63.7 | 139.5 + 0.79

136.2
240.4 | 104.2 + 0.74 A
312.0 | 111.2
13 18 63.2 | 215.4
144.6 + 0.68

13 9

~~Index NE~~

.548

suggests measuring (x d) or (w d), (a y) (a z) (d f)

L ~~115~~ Oct. 22.

Aa 1h 17± 222924 SS Pegasi Phot. R. 1

~~Aa 9 45~~ HBE ob

band var.

var .64 b HBE rec.

~~Indep~~ ~~NW.~~

13:30

Indep S.

var dis 67.0

131.8 64.8

239.8 75.9

315.7 140.7 +0.76 B

+0.73

57.9

135.0 77.1

246.2 66.6

312.8 143.7 +0.70

Index Nath +0.64

334.9

45.4 70.5

146.1 82.4

228.5 152.9 + 0.52

+0.54 A

324.5

47.7 83.2

149.5 67.3

1349 216.8 150 5 +0.57

13 39 30

~~Index SE~~ Index N.

.569

✓

L Oct. 22 222924 55 Pegasi Phot. R.

HA = 1h 40 var and d. HCE ob + rec.

var dis.

var .37 d

			Index	
13h 53	62.3			
	131.2	68.9		
	233.8	82.2		A
	316.0	151.1	+ 0.55	
				+ 0.56
	56.0			
	139.3	83.3		
	241.7	67.5		
18	309.2	150.8	+ 0.56	
				Mean + 0.37
	322.1			
	43.3	76.2		
	139.2	92.2		
	231.4	168.4	+ 0.22	
				+ 0.18 B
	318.4			
	47.9	89.5		
	143.4	82.4		
14 07	225.8	171.9	+ 0.15	
14 0				

.583

Oct. 22 - 1919

HA 22h ± 001755 T Cas

HA ~~10h23 - 1h37~~ # HCE Obs. + rec. Phot R

var. dir.

~~Index W~~ ~~Index SF~~.

14 12 138.5

223.7 85.2 Index North East

315.7 90.0

45.7 175.2 — 0.09

136.8

232.0 95.2 +0.02

313.0 92.4

45.4 187.6

172.4 + 0.14

~~Index E~~ ~~Index W~~

Index South West +0.13.

39.7

140.8 101.1 7.87

219.8 101.5 8.00

321.3 202.6

157.4 + 0.43

44.1

140.8 96.7 +0.25

223.8 87.6

311.4 184.3

14 25 175.7 + 0.08

~~Index E~~

14 15 30

.597

Oct 22 – 1919

021.403 o Ceti. HA. 0^h 48

H.O.E. Obs. L.C. Rec

HA 2^h ±			V Index W.	
	Index	~~SE~~	- var. dis.	
14 32	78.5			
	96.0	17.5		
	257.5	19.2		
	276.7	36.7	−3.96	
	76.2		−3.88	
	97.8	21.6		
	257.5	17.7		
	275.2	39.3	−3.81	
			Comp ★	9.19
	Index	~~NW~~ E	Mean =	−3.86
	346.3		Magn =	5.33
	364.4	18.1		
	165.5	20.8		
	186.3	38.9	−3.84	
	346.2		−3.84	
	365.6	19.4		
	165.2	19.5		
14 44	184.7	38.9	−3.84	
14 38				

.610

Oct. 22, 1919

021403 o Ceti

IC obs. HCE. rec.

		var. dif.	Index E	
14 45	344.4			
	4.8	20.4		
	164.6	21.6		
	186.2	42.0	-3.66	
	345.0		-3.64	
	5.4	20.4		
	160.2	22.6		
	182.8	43.0	-3.61	
				919
		Index W.	Mean =	-3.58
	252.4			5.61
	274.0	21.6		
	72.6	22.8		
	94.8	44.4	-3.54	
	250.0		3.52	
	274.0	24.0		
	72.2	21.0		
14 51	93.2	45.0	-3.51	

14 48

U7 ✓

Fri Oct. 24, 1919

LC Ob 12" Polar

SS Cygni 213843
15 05 est 11.8

Ob. diff. but care exercised.

— This Record book only: —

N.B. All indexes up to this point (where HOE is obs.) are measured according to hour-angle, the drift of the stars indicating the west point. They have been reduced and corrected (in ink) by noting the Hour angle at which the observation was made. Thus if the HA = 0, Index N = Index S, and Index E = Index W. and If the HA = 3h, Index E = Index NW. etc.

HO Eaton

Tues. Oct. 28, 1919

12" Polar

SS Cygni 213843 — L.C.Obs

11 20 — est 11.2

K.C.Obs. — ne H Rec.

7 — Omicron Ceti

Index W

15 02 58 — 67.8 — ∠ Vardis. — Phot R.

95.4 — 27.6

249.8 — 23.4

273.2 — 51.0 — −3.23

−3.28

69.3

92.3 — 23.0

247.2 — 25.4

272.6 — 48.4 — −334

Index E — Mean = −3.40

339.4 — 9.19

360.8 — 21.4 — magn = 5.79

158.8 — 21.6 — −361

180.4 — 43.0

337.4 — −3.52

360.8 — 23.4

156.8 — 23.0

15 08 00 — 179.8 — 46.4 — −344

15 05 0 — .628

288

472

Oct. 28-1919.

H.O.E. Obs o Ceti f. C. Rec.

Index E

15 8.6 335.2 < Var dis.
359.3 241
154.9 231
178.0 472 — 3.40

334.9 — 3.30
359.5 24.6
152.8 26.8
179.6 51.4 — 321

Index W mean = — 331
2428 9.19
268.8 26.0 magn = 5.88
62.8 25.6
88.4 51.6 — 3.20

3.32
242.2
266.1 23.9
64.3 225
15 16.7 86.8 46.4 — 344

15 12.6

SS Cygni 213843 < C Obs.
est. 11.4 2 c H Rec. ✓
15 21.7

2226

Oct 28. HBE Obs.

12 in

?

15 37	004047	U Cass	est 126	
16 15 44	010940	U And	11.7	
15 54	011208	S Pisc	< A	
16 01	011712	U Pisc	109	
16 10	012350	RZ Pers.	<126	132 ±
16:17	012502	R Pisc.	116	
16:27	022150	RR Persei	126	
16:34	001046	X Androm,	<130	p6 var.
16:50	060547	SS aurigae	<124 < X < w < z?	
17:07	074922	U Geminorum	<133	140 ±

Wed. Oct. 29-1919

12" Polar

SS Cygni 213843 L.C. Obs.

11 20 est 11.5

Wednesday Oct. 29, 1919

9m57

17h 0m	060547 SS Aurigae	est <133.	<w
17 5	054319 SU Tauri	94	
17 12	074922 U Gem.	<137	<141 ?

S'un. Nov. 2–1919

12" Polar

LC Obs. SS Cygni 213843

11 32 SS est 8.5 LC obs.
12 8 SS Cygni 8.4 HOE obs.

SS Cyg. Phot. R. HOE obs. & rec.
Ind. SE. (12:45 GMT)

1225 ~~115.1~~ Reject
var dis → ~~210.0~~ ~~94.9~~ Repeated →
~~262.0~~ ~~129.7~~
~~31.7~~ ~~214.6~~

145.4 +0.67

Ind S.E.
287.3
29.8 102.5
110.0 97.1
207.1 199.6
+0.37 = 160.4

111.6
210.1 98.5 +0.34
288.0 97.9
25.9 196.4
Indep. N.W. 163.6 +0.31 mean +0.08

8.50
8.58

27.9
111.3 83.4
206.5 83.3
289.8 166.7 −0.25

26.7 −0.17
118.5 91.8
208.4 83.3
12 38 291.7 175.1 −0.09
12 31 30

5 22

Nov. 2, 1919.

SS Cygni. 213843.

12" Polar Phot. R. ~~—~~ H obs.
Ind S. comp. dis. HBE Rec.

211.8
13 04 10 309.8 98.0 98.0
~~322.2~~ ~~63.6~~ 93.6
125.8 assumed. 36 191.6
168.4 − 0.22

214.8
295.2 80.4 − 0.07
30.4 95.4
125.8 175.8 + 0.08

Index. N.

120.4 mean = − 0.25
214.8 94.4 8.50
298.4 102.0 8.25
40.4 196.4
163.6 − 0.31

117.8
222.2 104.4 − 0.42
294.7 103.7
13 10 00 38.4 208.1
151.9 − 0.54

13 07.2

~~16 10 054339 S6 Fair 26 95 HBE~~

.5417

Look at Motor. & Photom

~~OO~~ Nov. 2 – 1909

H.O.E. C.C.B.   SS Cygni   L.C. Rec

Index North

13 18.0 217.4 < var dis
299.2 81.8
27.8 95.1
122.9 176.9 – 0.06

212.8 – 0.08
301.8 89.0
33.1 85.9
119.0 174.9 – 0.09

Index South   Mean = + 0.16 (08)

121.0   850
210.9 89.9   858
297.0 99.7
367 189.6 + 0.18
170.4

+ 0.25

114.1
216.0 101.9
297.7 95.0
13 27.7   32.7 196.9 + 0.32
13 45 7   163.1
13 27 34

7.56

16 15 054319 SU Tauri Est 95 H.O.E. ds.
16 12 060547 SS Aurigae Est < 133 . < 145 H.O.E.
16 27 074922 ~~SS~~ U Geminorum Est < 137 = 141 ?

1919phae.prdj..644C

Saturday November 8.

GMT 7

12in Polar.

h	m .5	star		Est	Obs	
10	50	213843	SS Cyg.	10.2	H. O. Eaton	E.
10	55	"	" Od	10.4	Dr. Shook	Sh
11	10	"	"	9.9	Dr. Godfrey	Gd
11	12	"	"	10.2	Jordan ~~H~~	J
11	20	"	"	10.25	Miss Swartz.	S
11	25	"	"	10.3	Miss Jenkins	Jk
11	40	"	"	~~9.8~~ 9.9	Miss Yalden	Ya
11	34	"	"	10.2	Pickering	Pi
11	35	"	"	10.1	Burbeck	Bu
11	45	"	"	10.61	McAteer	M
11	50	"	"	10.2	Whitehorn	Wh
	?					
17.	0	060547	SS Aurigae	<12.4	Pi.	
17	20	054319	SU Tauri	9.4	E	
17	18	"	"	9.5	Pi	
17	21	"	"	9.45	M	
✓17	22	"	"	9.5	C not published	
17	22	"	"	9.5	Yo	

Annual Meeting, A.A.V.S.O.

"A good time was had by all."

Observations to this date included in Report for Nov. See p 52 HOE

Sunday, November 9, 1919.
12 in Polar!

11 36 213849 SS Cygni. Est. 10.2 HOE.
Plot. R. SS Cygni. 9
11 43

Indep N.W. van dis.
10.0
147.4 137.4
190.9 136.9
327.8 274.3 + 2.03
85.7

10.5
146.8 136.3 2.02
190.0 137.4
327.4 273.7
86.3 + 2.01

van dis. 274.2
57.8 143.6 mean = 2.24
96.7 146.2 2.50
242.9 289.8 + 2.50 10.74
70.2

Ind. SE.
277.8 2.46
62.7 144.9
97.8 142.4
12 01 240.2 287.3 + 2.42
72.7

11 104.
11 52
494

Mon Nov. 10–1919

12" Polar

11 42 SS Cygni 213843 ~~est~~ 11.1 L.C.

13 30 SS Cygni 213843 est 11.8 HBE.

13 28 193449 R Cyg. est < 124.

13 40 230110 R Peg. est 11.8

14 09 Nebulous object 0h 38m 41° N

Great Nebula.

L

12in Polar.

Friday November 14, 1919.

H B Eaton

13:35 SS Cygni 213843 est 11.2 HBE

13:40 222924 SS Pegasi.
a 4 d 2 b ~~(f 1 d)~~ (e 1 d)

Same. var and d var dis. Phot. R.
HBE obs + rec.

13 49 SE 2nd
300.5
33.4 829
116.8 1014
218.2 1843
1757 ∓0.08

297.0
35.8 988 ∓0.18 B
119.9 961
216.0 1949
1651 ∓0.29

Mean = −0.23 ~~∓0.23~~

213.8
304.7 909
25.8 1036
129.4 1945
1655 ∓0.27

206.9
14 01 2nd NW
309.1 102.2 ∓0.28 A
32.6 92.8
125.4 195.0
13 08
165.0 ∓0.29

13 54 .579

Nov. 14

L

222924 SS Pegasi: <

14057.

Ind. NE

var and b

var dis

Phot R, NQE obs + m.

298.3
31.2
121.2
218.1

92.9
97.9
190.8
169.2 ±0.20

A

297.9
36.1
125.7
212.1

982
864
1846
1754 ±0.09

±-14

Mean = ±0.08

297.1
35.8
123.8
214.2

98.7
90.4
189.1
170.9 ±-0.17

B

Ind. SW

315.1
31.6
116.2
213.5

b dis. >

765
968
173.3 + 0.13

-±0.02

4 20

14 1230
.592

V

Nov. 18. HB

000454 TT Cas.
a 5 b 3 c 5 d 4 e' 5 f 4 g
g 1 h 4 l 1 k 2 m 3 n 0 o 3 p 4 q
N inv. TT < q. N.

021403 o Ceti HOE Obs
LCPe

Index SE

15 35.2 330.0
362.1 < Var dis
150.1 32.1
184.0 33.9
66.0 — 2.64

329.1 — 2.70
360.8 31.7
151.4 30.7
182.1 62.4 — 2.77

Index NW Mean = — 2.75
243.0 9.19
271.9 28.9 6.44
62.2 29.6
91.8 58.5 — 2.92

239.5 — 2.80
275.0 35.5
62.6 28.7
15 43.0 91.3 64.2 — 2.71

2nd NW

15 | 78 2
15 | 391
.652

Nov. 14 1919.

021403 o Ceti L.C. Obs.

HOE Rec

Ind NW

15 44.0 243.3 < var dis.

272.9 296

56.2 394

95.6 690 — 2.54

240.2 — -2.59

274.3 34.1

59.8 320

91.8 661 — 2.64

Ind. SE

Mean = -2.68

9.19

6.51

153.3

183.3 30.0

329.8 332

363.0 632 — 2.74

148.4 = 2.77

185.4 370

334.2 246

359.8 616 — 2.80

1549

15 46 30

15 58 060547 SS Aurigae est × 1 N L.C.

16 23 054319 SU Tauri est 96 HOE

.658

Look at clock.

✓

Nov. 17. 1919

17^h	020448	RV Androm.		
	Must select prelim. seq. with 6".			
17 10	074922	U gem	< 133	

J.D. 2422278
.7

Saturday Nov. 15, 1919
YD T8
12 in Polar. H.O. Eaton

16 36	001046	X and	129.	HOE.
16 37	004047	U and	<128 N	HOE
16 45	004132	RW and.	<13.2 N	
16 49	004435	V and	<130 N	
16 53	004533	RR and	<126	< ρ N
17:06	004746	RV Cass	<140 142?.	N?,
17 10	010940	U and.	12.0	
17 17	011041	UZ and	11.1	
17 26	011208	S Piscium	<136 (Hagen) < gr (Haw)	
17 30	011712	U Pisc.	110	
17 35	012502	R Pisc.	124	
17 40	012350	RZ Persei	<126 visible. 135± ?	
17 44	013338	Y and	126	
17 47	013238	RU and	<130 132?.	
17 57	042209	R Tauri	122	
18 03	042309	S Tauri	<138	
18 08	060547	SS aurigae	< X <133.	
18 16	074922	U gem.	<137	

Nov. 15, 1919.

Thm 78.8

			Est	Ob HOE
18 17	054319	SU Tauri	95	HOE.
18 25	054920	U Orionis	96	
18:29	055353	Z Aurigae	97	
18 33	060450	X Aurig.	104.	
19 05	065355	R Lyncis	<128	135±
19:40	070109	V Can Min	86	
19:47	071201	RR Monoc.	<130	N
19:54	071713	V Gem	11.2	
19:59	072708	S Can. Min.	98.	
20:07	072811	T Can. Min.	<137? = 137?.	
		Cannot decide whether variable seen or α.		
20:16	070310	R Can Min. <101. No fainter comp. stars. Var. about 115 to 12.0		
20 : 20	073508	U Can Min	11.0	
Th 78.9				
20 26	072206	Nova Monoc,	<122	
20:35	072820	Z Puppis	92±	
		comp stars difficult.		

Sun. Nov. 16-1919

12" Polar

SS Cygni 213843

6 11 30 est 11.3 L.C.Ch

Mon. Nov. 17 = 1919

80

060547 SS Aurigae 12" Polar.

16 20 est 12.3 LC.
16 21 — 12.3 HOE.

U Gem 074922

16 25 est N, < 12.4 HOE.

16 25 SU Tauri 9.5 HOE

16 00 V Mon. 061702 est 9.0 LC

222(-).

Tues. Nov. 18, 1919

LC Obs. 12" Polar. NCH Rec.

g m T.

V Monos #61702

15 18 Star suspected as nova by McAtee = 11.2 mag.

15 20 SS Aurigae 060547 est 11.7

15 22 SS Cygni 213843 est 11.5

81.7

15:40 060547 SS Aurigae 11.8 HOE.

2 2 2 8 3.

Thur. Nov 20-1919.

12" Polar

GMT L.C. Olc

11 00 SS Cygni 213843 est 11.5

11 05 Nova Oph IV 180911 est 9.8

14 55 SS Aurigae 060547 est 10.9

V Monoc 061702 est 9.0

15 00 McAteer's star ~~[illegible]~~ = 11.1

22286.

Sunday Nov. 23

12" Polar

11^h 0	213843	SS Cygni	est	11.6	H.O.E.

2 2 2 8 7.

Mon Nov. 24 1919

12" Polar

11 02 SS Cygni 213843 ~~est~~ 11.5 L.C.

11 12 Nova Oph 180911 est 9.1 L.C.
set Decl at +12.0

L.C. Clk
night Rec.

Omicron Ceti

	Index N.		Phot R	
13 58 06	240.8	∠Var dis.		
	278.0	37.2		
	58.6	42.0		
	100.6	79.2	−2.22	
	239.8		−2.30	
	274.8	35.0		
	56.4	39.2		
	95.6	74.2	−2.37	
	Index S		mean =	−2.22
	145.6			9.19
	187.4	41.8		6.97
	327.1	36.1		
	363.2	77.9	−2.26	
	143.1		2.13	
	190.0	46.9		
	326.4	39.4		
14 02 56	365.8	86.3	−2.01	
14 00 31				
.584 ✓				

Nov 24, 1919

14 32.	060547 SS Aurigae		est	10.8 LC Ok

comp. star. → •108
⊙
SS

•110 SS aurig
(as seen in 12")

•108

Monday Nov. 24, 1919
12" Polar Phot R.

066547 SS Aurigae and 10.8 HOE obs + red.

16 : 44 32.7 van dis.
van. dis → 122.9 100.2
Ind. NE. 212.7 84.4
297.1 184.6
175.4 + 0.09

30.2
121.8 91.6 + 0.10
208.3 94.9
303.2 186.5
173.5 + 0.12

mean = + 0.03
9
10.8
10.8½

van dis
Ind. SW ↘ 296.2
31.4 95.2
120.6 89.1
209.7 184.3 + 0.08
175.7

303.0 − 0.04
27.9 84.9
122.0 86.3
208.3 171.2 − 0.17

17h 06m
16 11 0
16 55

Ink used because pencil broke.

SS Aurigae Est. 10.7 HOE.

17h 20 ✓ 074922 U geminorum est 97.
comp stars, 9.3, 9.5, 10.1

Sunday, ~~Oct. 3~~ Nov. 30, 1919

12 in Polar H C Eaton obs.

GMT

10 30	213843	SS Cyg.	11.7	E Ob
10 40	230110	R Pegasi	11.6	E. Ob.
15 30	060547	S S Aurigae	est 12.0	L C Ob
15 32	074922	U Gemini	est 9.9	L C Ob

Monday December 1, 1919
12 in Polar 94

				Obs.
15:13	060547	SS Aurigae		12.9 HOE
15:24	074922	U Gemin		106 ~~HO~~
15:26	"	"		105 LC
1527	060547	SS Aurigae		12.9 LC.
1531	054319	SU Tauri	95.	HOE
				"

060443 RR Aurigae. HOE
15:35 a 5 b 2 c 1 d 2 e 3 f 2 g 1 h
h 2 k 1 l 2 m 2 n 3 o 1 p 8 p 3 var ±.
15:55 var at limits of vision

Variable star observations to this date included in report for December 1. HOE.
(see p. 81.

JD Wed. Dec. 4, 1919

22297 12" Polar L.C. Obs.

G.M.T.

11 06 SS Cygni 213843 est 11.5

U Lyrae 191637 est 10.8

11 11 (*d 10.1) Miss Mackie Sup Var = 10.0

RS Pegasi 220714 est <12.8

11 24 Y Pegasi 220613 est <12.8

11 28 R Pegasi 230110 est 10.7

R Aquil 190108 est 6.0 diff light.

S Lyrae 190925 est 12.1

RU Lyrae 190941 est 12.2

R Cygni 193449 est 9.0

~~NCH Rec.~~

~~IZ Cyg 191350 est~~ too far west

TY Cygni 192928 est 11.1

NCH Rec.

RT Aquilae 193311 est. 8.0

RV Aquil 193509 est 8.3

11 53 RT Cygni 194048 est 8.1

Dec 4, 1919

Gmt.			
11 59	T. U. Cygni	194348 est.	12.6
	Z Cygni	195849 est.	12.9
	S Aquil	200715a est.	9.2
	RU Aquil	200812 if seen-est	13.1
	WX Cygni	201437b. est	12.2
	Z Delph.	202817 est.	~~10.~~ 10.0
	Y Delph	203611 est.	12.8
	V Cygni	203847 est.	13.0
	Y Aquar	203905 est.	12.5
	T Delph.	204016 est	12.8
	R Vulp.	205923 est.	11.5
	RZ Cygni	204846 est	12.9
	UX Cygni	205030 est	12.4
	X Delph	205017 est.	12.7
13 00	TW Cygni	210129 est.	12.5
14 35	SS Aurig	060547 est	<12.8

LC

Wed. Dec. 10 - 1919

LC Obs 12" Polar

11 07 SS Cygni 213843 est 11.5 LC.

11 13 U Lyrae 191637 est 11.0

467 - Lyrae near U = est 11.0 this ✱ is considerably fainter than on last occasion
WCH Rec

11 58 499 - Lyrae 191737 est 10.9

RR Aquar 210903 est 13.4

T Capri. 211615 est. Too low.

T Aquar 204405 est. 12.5

V Pegasi 215605 est. 13.7

V Delph 204318 est 13.5 suspected?

TW Cygni 210129 est. 13.1

RS Aquar. 210504 est. 13.1

12 45 531 - Lyrae 191737 est. 10.6✱

R. Equulei 210812 est 11.7 LC

Dec 10, 1919

12 55	X Pegasi	211614	est. 11.4 LC
	RR Pegasi	214024	est. 9.2
	~~V Pegasi~~	~~215605~~	~~est.~~ ? = 326 W + 5½
	RT Pegasi	215934	est. = abandoned.
	RV Pegasi	222129	est 13.3
	S Lacer.	222439	est. 12.1
	R Lacer	223841	est 9.3
	RW Pegasi	225914	est 11.0
	W Pegasi.	231425	est. 10.8
	S Pegasi	231508	est. 8.9
	Z Adrom.	23~~4~~2848	est. 9.2
	S.T. Adrom	233335	est. 10.2
	V Cassiop	230759	est 11.9
13 42	Z Cassiop.	233956	est 13.8 if seen. LC Prob Not seen.

Dec 10, 1919.

13 47	RR Cass.	235053	est.	12.8	LC.
	R Cass	235350	est.	11.9	
	Z Pegasi	235525	est.	11.4	
	Y Cass	235855	est.	10.9	R5
13 57	SV Adrom	235939	est.	7.8	

Dec 10, 1919

	L C Obs.			n.H Rec.
		O Ceti	21403	
	Index A			
14 19.2	172.4	Var dis		Phot R.
	225.8	53.4		
	355.5	48.7		
	44.2	102.1	−1.6[illegible]	
	176.5			
			−1.60	
	225.5	49.0		
	350.6	53.6		
	44.2	102.6	−1.60	
	Index B		mean =	−1.66
	84.2			9.19
	135.8	51.6		7.53
	268.4	45.2		
	313.6	96.8	−1.74	
			−1.72	
	87.6			
	135.5	47.9		
	265.2	50.9		
14 23.8	316.1	98.8	−1.69	

14 42 10

14 21 5

,598

Dec 10, 1919

LC

14. 30 SS Aurigae 60547 est 13.0

15 10 U Gemi 74922 est 12.5

Dec. 10. 7HOE. ob tree.

000451 SS Cassiop. (sequence)

e 7 a 5 d 4 f 3 g 5 β 3 h 1 k
k 4 l 3 p 1 m 1 n 2 o 2 q ; σ 1 var 1 q

Phot seq. N9

002725 TU Andr.
a 1 b 3 c 1 d 2 e 1 f 2 g 1 h 3 k 3 l
l 4 m 3 n. d 1 var 1 e.

16 15 060547 SS Aurigae < 13.9 < x

060443 RR Aurigae
a 4 b 3 c 1 d 3 e 1 f 3 g 2 h 2 k 1 l 3 m 2 n
m 2 n 3 σ 1 p. var < p. N.

L

Dec. 10. Phot. R.

060443 RR Aurig. (ABE Obs + Ren

A and b

16 28 93.0
A dir 128.0 35.0
272.3 37.0
309.3 72.0 +2.44

Index SW 89.4 + 2.44 B
129.2 39.8
275.4 31.8
307.2 71.6 + 2.45

Mean = + 2.34

16.35 ~~02.0~~
= 19' ~~38.1~~ ~~36.1~~
~~177.8~~ ~~58.2~~ Reject
[illegible] ~~236.0~~ ~~94.3~~ ~~1.80~~

Index 357.1
41.8 44.7
183.2 31.8
16 42 214.0 76.5 +2.30 A

16 70 + 2.24
16 35 2.8
35.9 33.1
176.2 47.3
69' 223.5 80.4 +2.18

L Dec. 14. Plate. R.

060443 RR Aurigae

a and e a>e HδE ds
+ ve

16 53	78.7			
a dis	140.6	61.9		
	262.1	57.1		
	319.2	119.6	+ 1.21	
NW	78.8		+ 1.08	A
	139.0	60.2		
	253.0	71.3		
	324.3	131.5	+ 0.95	
	+		Mean = + 0.97	
	342.9			
	55.1	72.2		
	172.0	63.0		
	235.0	135.2	+ 0.87	
SE	345.5		+ 0.86	B
	50.8	65.3		
	164.2	71.6		
17h 10	235.8	136.9	+ 0.84	

17 1 30

.710

Phot. B. R.

L Dec. 10.

060443 RR Aurig. HCB ob Free.

c and e. c > e

17h 12			
	248.8		
c dir	331.4	82.6	
	65.5	88.6	
	154.1	171.2	+ 0.17 B
S E			
	251.6		+0.24
	329.4	77.8	
	67.9	86.5	
	154.4	1643	+ 0.30
	155.5		Mean = +0.03.
	249.8	94.3	
	336.0	94.0	
	430.0	1883	
		171.7	− 0.16
	149.8		
	249.8	100.0	−0.18 A
N W	333.4	90.3	
	433.7	1903	
17h 29		169.7	− 0.20

17 41

172030

.723

✓

Dec. 10, 1919. Plat. R.

L 060443 RR Aurig. HBE obs+rec.

d and f. d > f.

17^h35.	75.0			
d dir.	142.7	677		
d	253.9	695		
	323.4	137.2	+ 0.83	A
NW				
	75.9			+ 0.77
	146.8	70.9		
	250.6	72.2		
	322.8	143.1	+ 0.71	
			Mean	+ 0.65
	340.8			
	55.2	74.4		
	161.1	76.1		
	237.2	150.5	+ 0.57	
SE				
	337.2			+ 0.53 B
	59.8	82.6		
	163.0	71.9		
17 52	234.9	154.5	+ 0.49	
17 87				
17 43 30				
739				

✓

Dec. 10, 1919, Phot. R,
060443 RR Aur.) HOE. 6th tree,
Comp. f and g. f > g.

17 58 342.8
58.9 76.1
f dir. 161.9 77.1
239.0 153.2 + 0.51

B

+ 0.45
339.1
SE 59.5 80.4
160.0 79.2
239.2 159.6 + 0.39

Mean = + 0.54

251.1
323.2 72.1
71.8 75.3
147.1 147.4 + 0.63

NW

A

250.2 + 0.64
326.0 75.8
72.3 69.8
$18^h 20$ 142.1 145.6 + 0.66

18 78
18 39
$18^h 40$ U Gem. 074922 < 13.3,
.777

Thur Dec. 11-1919

12" Polar

L.C.Cb

11 30 SS Cygni 213843 est 11.4

11 35 - Lyrae 191737 est 10.0

13 15 Clouded over.

Tried out the Schulmaier 4" and found it working OK.

12 30 Obs'd S.S Cygni. 213843 est 11.3
Could see the 11.8, LV put 12.0

The McCormick 4" needs cleaning & the eyepiece will not go to focus

Monday December 15, 1919

LC Obs. Nett Rec.

13 43 SS Cygni 213843 est 11.4

X Urs Maj. 083350 est. of variable 10.2

l 5 m'
l 2 m
l 3 m^2
$m' 5 m^3$
n 2 l
~~Very faint star~~
No star seen in place indicated by n'
But there is a star slightly north $= 13.X^4$

Driving Clock needs attention.

Dec 15, 1919

	LC Obs.			HCH Rec.
		O Ceti	21403	
	Index A			
14 17 18	173.2	Var dis.		Phot R.
	230.6	57.4		
	352.7	52.6		
	44.8	110.0	− 1.42	
	177.2			
	228.2	51.0	− 1.50	
	353.1	51.7		
	44.8	102.7	− 1.59	9.19
	Index B		Mean =	− 1.50
	83.7			7.69
	140.4	56.7		
	265.5	52.3		
	317.8	109.0	−1.44	
	~~83.0~~	Reject Spotted below.		
	~~142.8~~	~~59.8~~		
	~~260.7~~	~~57.9~~		
~~14 21 41~~	~~318.6~~	~~117.7~~	− 1.50	
	86.6			
	140.2	53.6		
	267.2	50.5		
14 23 12	317.7	104.1	− 1.56	✓
14 4 0 30	14 20 15	597		

Dec 15, 1919

LC Obs.

14 30	X Androm	01046	est. 11.6
	S Ceti	01909 Intreetops.	est —
	RX Androm	005840	est. 12.0
	Z Ceti	010102	est 12.8
	U Androm	010940	est 12.8
	UZ Androm	011041	est 12.1
	U Pisc.	011712	est. 12.9
	~~RZ~~ RZ Pers.	012350	est 13.4
	R Pisc	012502	est 12.0
	Y Androm	013338	est 9.1
	RU Androm	013238	est if seen 13.4
	R Aries	021024	est. 10.5
	W Androm	021143a	est 12.7
15 18	S Pers	021558	est 9.5

2 2 30 8 16

Dec 15, 1919.

LC Obs.

15 24	R Ceti	022000	est 13.0 barely visible.
	RR Pers	022150	est 8.9
	R Triang	023133	est. 7.6
	U Aries	030514	est 13.2
6	X Ceti	031401	est 11.5
	Y Pers	032043	est 8.8
	Nova Pers. #2	032443	est 7,3g
	SS Aurigae	060547	est. 13.3
15 47	U Geminorum	074922	est. 13.4
15 50	SU Taur	054319	est 9.6

L.C.

JHE ob. tree.

16 50	SS Aurigae	060547	<13.3	<X
16 53	U Gemin	074922	<13.7	=14.1?
16:55	SU Tauri	054319	9.5.	

L

Dec. 15, 1919   12" Polar

HBE obs + rec.

060443 RR Aurigae

A and b   A > b

Plate R.

Index S

17 04

A des

90.1
128.8   37.9
272.2   33.7
305.9   71.6   + 2.45

S

+ 2.42

91.4
126.9   35.5
270.7   37.8
308.5   73.3   + 2.40

Ind N

Mean = + 2.34

356.8
401.3   44.5
180.1   36.4
216.5   80.9   + 2.17

N

1.7   + 2.26
35.6   33.9
177.2   41.3
218.5   75.2   + 2.34

17 18

17 11

.716

Dec. 15. HBE.

L Same ✓

a and e

17 24	253.2			
a dis	319.4	66.2		
	81.4	54.4		
	135.8	120.6	+ 1.18	
				+ 1.17
Ind N	262.1			
	317.7	556		
	76.2	66.0		
	142.2	121.6	+ 1.16	
			Mean = +	1.08
	167.9			
	230.9	63.0		
Ind S	348.6	61.6		
	50.2	124.6	+ 1.09	
				+.98
	162.1			
	227.6	655		
	345.0	695		
17 38	444.5	135.0	+ 0.88	
17 31				
.730				

✓

L

Same Dec. 15.
e and c c > e HB.

1740				
c dis Ind. S	63.0 152.8 248.5 331.4	898 82.9 172.7	+ 0.14	
	67.1 153.7 248.2 330.8	86.6 82.6 1692	+ 0.20	+.17
Ind N	332.6 62.0 152.4 249.0	89.4 96.6 1860 1740	Mean = − 0.02 − 0.11	
17:58	325.5 64.8 149.2 245.2	99.3 960 1953 1647	−.20 − 0.29	
17 4/9 742				

Dec. 15 HBE.

L same
d and f. f > d.

18 00				
	71.7			
f dis.	145.7	74.0		
Ind - N	253.5	71.2		
	324.7	145.2	+ 0.67	
	70.0			+ 0.82
	139.5	69.5		
	255.2	70.7		
	325.9	130.2	+ 0.97	
			mean =	+ 0.68
	340.9			
	54.8	73.9		
	159.2	77.3		
Ind S	236.5	151.2	+ 0.55	
	339.3			+ 0.54
	57.8	78.5		
	161.0	73.6		
18 18	234.6	152.1	+ 0.53	
18 9				
.756				

L

Dec. 15. HO3

Same. f and g. f > g

18 22				
f dis.	339.9			
	52.1	72.2		
	168.3	77.8		
	238.1	150.0	+ 0.58	
S	342.9			0.59
	58.1	752		
	162.1	737		
	235.8	148.9	+ 0.60	
			Mean = + 0.64	
	252.7			
	321.9	692		
	72.5	736		
N	146.1	1428	+ 0.72	
	252.0			0.70
	324.7	727		
	71.7	722		
1839	143.9	1449	+ 0.68	
1861				
18 30 30				
V .772				

Dec. 15. 24 OE.

L Same f and h f>h

18 42	250.5		
f dis.	323.0	725	
	71.1	758	
	146.9	1483	0.61
S			+ 0.58
	250.5		
	324.7	742	
	67.1	776	
	144.7	1518	0.54
			Mean = + 0.62
	161.5		
	238.0	765	
	340.2	735	
	53.7	150.0	0.58
N			+ 0.67
	165.1		
	233.7	686	
	341.4	721	
18.59	53.5	1407	0.76

18 10 1

18 50 30

.285

060443 RR aurigae

L ~~Same~~ Dec. 15. HBE

g and l g > l

1907 g dis.

75.0
138.6 63.6
252.8 69.6
322.4 133.2 + 0.91

N

73.1 + 87
144.7 71.6
255.3 658
321.1 137.4 + 0,83

Mean + 0.98

345.6
48.1 62.5
169.7 588
228.5 121.3 + 1.16

S

1,08

344.9
52.1 672
168.2 617 + 1.00
229.9 128.9

1937
1923 / very difficult & star faint.

Same a2 b3 c1 d 2 e3 f2 g1 h2 k1 l

1943 l2 m1 n2 o; p1 o2 var. var limits of r.

808

Dec. 15. HOE.

20^h 10	S Hydrae	084803	10.4		
20 17	T Hyd.	085008	8.2		
20 22 8	T Cancri	085120	8.8	Redness = 8	
20:27 9	S Pyxidis	090024	9.2	(1 compariso	
.. 33	W Cancri	090425	10.5		
39	X Hydrae	093014	11.9		
43	R Leo Min.	093934	9.7	Red-	3.
47	R Leonis	094211	10.2		1
52	RR Hydrae	094023	10.4		
57	Y Hyd.	094622	7.3		4
21^h 06	V Leonis	095421	13.4 ±		
12	V Hydr.	104620	7.2		9
21^h 20	W Leonis	104814	10.1		
27	R Com Ber.	115919	≤ 13.2		

22309

Tuesday, Dec. 16, 1919.

HOE. Obs + rec.

h

10 40 55 Cygni 213843 est 11.5 HOE.

o Ceti 021403 Phot R.
HOE Obs + rec.

10h 45 262.3

var. dis.

314.8 52.5
83.7 48.1
B 131.8 100.6 — 1.64

— 1.60

261.5
312.2 50.7
81.1 53.0
134.1 103.7 — 1.57

9.19
Mean = — 1.54
~~73~~
magn = 7.65

168.4
225.1 56.7
352.5 50.9
A 43.4 107.6 — ~~1.48~~
1.47

171.9 — 1.48
222.2 50.3
11 00 349.0 57.1
11 05 46.1 107.4 — 1.48

11 57 30 Bothered a little by clouds.
.499 Look at driving clock

Dec. 16-1919

12" Polar

R Lyrae 19173?

11 22 est 10.3 LC
est 10.1 H.O.E.

T Cass. 001755 Plot R. H.O.E.Ob.

P.a. A

11 3? 147.5 < Var dis.
248.0 100.5
325.1 102.7
67.8 203.2
156.8 + 0.44

144.6
249.8 105.2 + 0.51
325.0 105.1
70.1 110.3
149.7 + 0.58 7.87
Mean = + 0.54
8.41

P.a. B
~~64.1~~
55.9
163.6 107.7
235.0 105.2
340.2 217.9 + 0.63
147.1

56.2 + 0.56
161.4 105.2
239.2 100.6
11 44 339.8 205.8 + 0.49
11 40 30 48.7 154.2

To
(16 day
continued

Wednesday, Dec. ~~16~~ 17 1919

22 31°

12" Polar.

LC obs HOS rec.

11h 23	SS Cygni	213843	11.5	HOS	
			11.4	LC	
11 26	-- Lyrae	191737.	10.2	LC	
11 34	RX Tauri	043208	12.4	LC	
1	R Orionis	045307	12.2	LC	
	V Orionis	050003	13.3	LC	
11 42	RR Tauri	053326	12.7	LC	
	Z Tauri	054615 a	<13.2	LC	
	RS Tauri	054615 (b?)	8.9	LC	
	RU Tauri	054615 c	12.8	LC	
	S Delphini	203816	10.2	LC	Ref 6
	U Persei	015354	9.6	LC	7
11 55	X Cassiop.	014958	11.0	LC	8
	W Persei	024356	9.8	LC	5
	R Persei	032335	9.9	LC	
	T Tauri	041619	10.0	LC	
	R Tauri	042209	9.2	LC	2

Dec. 17-1919

	S Tauri	042309	< 13.2	LC
	W Tauri	042215	10.6	R4
	S Orionis	052404	12.7	LC.
	T Orionis	053005	10.4	LC
	U Aurigae	053531	11.6	LC
	Star just north of var		= 11.0	LC
	SU Tauri	054319 ~~est~~	9.~~7~~5	LC
12 30			9.4	HOE.
12 37	SS Aurigae	060547 est	<13.3	HOE.
13				
15 52	U gemin.	074922	< 133	HOE

Driving clock needs attention. Stars drawn out by vibration into long narrow ellipses. Telescope does not follow stars.

Dec. 17, 1919.

L

060443 RR Aurigae HBE obs + rec.
Phot T. 12" Polar

	A and d			
16 18	227.4			
	257.7	30.3		
A dir	43.8	363		
	80.1	666	+ 2.62	
	225.0			2.66
	258.9	339		
	46.4	307		
	77.1	646	+ 2.69	
	PA 352	Spr.	2.7 Mean = +2.85	
	319.3			
	346.2	26.9		
	138.2	28.8		
	167.0	55.7	+ 3.03	
	~~138.2~~			
	~~167~~			
				3.04
	318.9			
	347.1	28.2		
	139.9	26.9		
16 35	166.8	55.1	+ 3.05	

14 53

16 26 30

.685

✓

L

Dec. 17. Phot. T. [illegible] cls + ree
same
A and a

16 40			
	128.2		
A dist	173.7	455	
	310.4	425	
	352.9	88.0	− 1.97
	133.7		
	174.4	407	− 2.00
	310.5	448	
	355.3	85.5	− 2.04
	PA 195°	Sm.(4.2) 3.4	− 1.66
	209.2		
	273.9	647	
	38.8	479	
	86.7	112.6	− 1.36
	217.2		− 1.32
	264.8	576	
	34.2	581	
16 54	92.3	115.7	− 1.29
16 47			

✓

L Same Dec. 17 T

A and d (2nd time)

PA 168° Sep. 3.6

17 00	224.9			
	260.0	451		
	45.2	337		
	78.9	78.8	-2.23	
	224.1			
	257.0	32.9	-2.45	
	46.0	322		
	78.2	65.1	-2.67	
	PA 348	Sep. 2.5	-2.72	
	319.5			
	347.7	28.2		
	137.3	294		
	166.7	576	2.95	
	317.0		-2.98	
	349.1	32.19		
17 23	139.6	244		
	164.0	565	3.00	

17 11 30

.717

L Same Dec. 17 T

A and a (2nd)

17h 27	129.5		
	175.3	458	
	313.4	386	
	352.0	84.4	2.07
			− 2.06
A dis.	132.2		
	172.9	407	
	309.8	447	
	354.5	85.4	2.04
	PA 200	Sfm = 4.3	Mean = − 1.90
	215.2		
	270.9	557	
	40.8	455	
	86.3	101.2	1.63
	218.9		1.74
	266.0	471	
	39.7	454	
17h 40	85.1	92.5	1.85
17 33 30			

.B. Dec. 17.

L. 060443 Phot. T.

B and a. B to North, just beyond chart.

18h04			
	217.8		
B dir	271.0	532	
	36.4	508	
	87.2	104.0	+1.56
	216.6		+1.50
	267.2	566	
	35.0	590	
	94.0	109.6	+1.43
	P.A. 54	Sp. 5.4	Mean = +1.63
	307.9		
	357.4	495	
	129.9	549	
	174.8	104.4	+1.55
	311.1		+ 1.76
	351.5	406	
	128.8	472	
18h16	176.0	876	+1.98
18.18			
.257 ✓			

L Same Dec. 17, T

B and d

18 18	Pa	53° Spr. 7.2		
	317.1			
β dis	346.8	397		
	138.8	267		
	165.5	674	+ 2.59	
	317.6			
	346.5	289		+ 2.80
	138.6	276		
	166.2	565	+ 3.00	
	Pa 235	Spr	7.2	Mean = + 2.56
	44.2			
	77.6	334		
	222.1	377		
	259.8	71.1	+ 2.47	
	43.7			+ 2.32
	81.0	473		
	225.0	332		
18 28	258.2	80.5	+ 2.18	

1823

.766

L Same Dec. 17.

B and A Phot T.

1832			
	11.0		
B dis.	116.6	1056	
	196.0	960	
	290.0	2016	
		1584	~~+0.04~~
			~~+~~0.41
	16.7		87
	108.7	920	— +0.20
	187.0	880	
	295.0	180.0	± 0.00
	PA 36°	Spr. 8.4	~~Mean +0.03~~
	108.8		Reject
B dis —	198.7	899	
	292.0	758	
	7.8	1657	+0.27
	113.9		+0.26
	191.3	774	
B dis —	286.2	896	
	15.8	1670	+0.25
1848			

No change in tilt of prisms.

Cones probably not overlapping.

X

Same Dec. 17. Phot. R.

L

f and h

1910				
	163.4			
f dis	237.0	736		
	341.7	697		
	51.0	1429	072	
A				
	164.7			0.76
	230.5	658		
	340.8	700		
	50.8	1358	080	
			Mean =	–59
	74.5			
	152.1	776		
	245.3	816		
	326.9	1592	0.40	
B				
	68.0			42
	146.5	785		
	249.3	780		
1928	327.3	1565	045	
1919				

L Same Dec. 17 Phot R.

g and l

19 32

g dir.	345.8			
	45.5	597		
	166.5	645		
	231.0	124.2	1.10	
B	345.5			-1.05
	46.0	615		
	164.0	672		
	231.2	1287	1.00	
				-1.02
	257.8			
	321.0	632		
	77.8	643		
	142.1	1275	1.03	
A	256.7			.99
	315.1	584		
	71.7	731		
	144.8	131.5	0.95	

1957

19 8 9 Cannot measure m with Phot. R.

19 44 39

823 Normal: cle. var < p p ≥ var

Dec. 17.

22310.

HOE.

4 2020	120012	SU Virginis	12.1	
27	122001	SS Virgini	70 ±	Color 6
35	120905:	T Virgin.	108	color 1
38	122532	T Can Ven.	11.7	
946	122803	Y Virginis	13.2	dif.
	(~~122608 neb.~~	~~also 2 other neb.~~)		
21 05	123307	R Virginis	8.2 ±	
	125705	RT Virg.	8.3	
Not published	125705	— Virg.	12.7	
	124204	RU Virg.	<12.8	α 4 var.
21 27	124606	U Virg.	12.7	dif.

H.O.E.

140

Thurs Dec. 18 - 1919

LC obs 12" Polar Phot T.

– Lyrae 191737

P.A. B

10 53.0 118.4 < Var dis

187.1 68.7

298.6 67.8

366.4 136.5 –

125.6

184.4 58.8

298.4 73.4

371.8 132.2 –

P.A. A

mean

199.2

287.6 88.4

27.6 81.8

109.4 170.2 –

202.6

286.7 84.1

12.2 92.4

11 00.6 104.6 176.5 –

no mean!! ~~Sp~~

Spr = 1.4

10 43 6 Comp with the 10.4

10 56 33

10 45 SS Cygni est 11.7 (213843) LC

~~LC~~

10 48 – Lyrae 191737 est 10.2 LC

Dec 18, 1919

LC Obs. Nitt Rec.

(44) Nysa
asteroid very near predicted position & about 9th magnitude.

	Index B	Reject see following observations	
~~11 300~~	~~264~~		
	~~314.6~~		
11 38.7	210.6	Comp* dis.	
	271.4	60.8	Phot T
	33.6	59.7	
	93.3	120.5	+1.18
	213.2		
	268.6	55.4	+1.05
	23.8	77.2	
	101.0	132.6	+0.92
	Index A		
	306.2		Mean: +1.18
	363.3	57.1	
	129.9	48.7	
	178.6	105.8	+1.52
	306.9		
	361.9	55.0	+1.32
	113.8	68.0	
11 43.8	181.8	123.0	+1.13

Comp* = +10.392 (95) X

Dec 18, 1919

LC Obs.

(44) Nysa   II

	Index a			
11 58 38	344.3	Comp * dis.		
	49.3	65.0		
	162.8	65.6		
	228.4	130.6	+0.97	
			Phot R	
	348.4			
	52.6	64.2	+0.87	
	158.4	76.2		
	234.6	140.4	+0.77	
				9.49
	Index B		Mean	+0.89
				10.38
	256.2			
	324.4	68.2		
	75.8	64.0		
	139.8	132.2	+0.93	
	254.4		+0.91	
	321.4	67.0		
	74.8	67.4		
12 03 52	142.2	134.4	+0.89	

2 30

12 01 15

22311.501

Comp * = +9°380 (9.1) with R = 9.49

✓

Dec 18, 1919

	LC Obs.			
		44 Ursa		III
	Index B			
12 13 03	253.3			
	317.6	64.3		
	76.6	70.8		
	147.4	135.1	+ 0.87	
	255.1			
	322.2	67.1	+ 0.82	
	73.4	73.8		
	147.2	140.9	+ 0.76	
				9.49
	Index A		Mean	+0.86
	163.3			10.35
	232.6	69.3		
	347.2	60.0		
	47.2	129.3	+0.99	
	162.4			
	230.4	68.0	+0.91	
	343.2	69.2		
12 22 42	52.4	137.2	+0.83	
35 ×5				
12 17 52				
22311.52				

✓

Dec 18, 1919

L C Obs.

(44) Nysa

				IV
	Index A			
12 34 26	162.4			
	234.4	72.0		
	348.6	64.7		
	53.3	136.7	+0.84	
	160.4			
	233.4	73.0	+0.86	
	343.3	62.1		
	45.4	135.1	+0.87	
				9.49
	Index B		Mean	+0.82
	81.6			10.31
	142.8	61.2		
	254.7	70.5		
	325.2	131.7	+0.94	
			+0.78	
	67.2			
	141.3	74.1		
	247.8	73.4		
12 38 49	321.2	147.5	+0.62	

12 36 38

22311.526

Dec 18, 1919

	LC			
		44 Nysa		V
	Index B			
12 41 40	~~66.8~~	Reject Rpt below.		
	~~148.8~~	~~82.0~~		
	~~252.0~~	~~75.8~~		
	~~327.8~~	~~157.8~~	~~+0.42~~	
12 43.±	78.9			
	143.8	64.9		
	254.7	70.1		
	324.8	135.0	+0.88	
	72.2			
	140.4	68.2	+0.75	
	249.2	79.5		
	328.7	147.7	+0.62	9.49
	Index a		Mean	+0.70
	341.4			10.19
	50.6	69.2		
	163.2	73.0		
	236.2	142.2	+0.73	
	340.2			
	54.6	74.4	+0.65	
	158.8	76.0		✓
12 47 00	234.8	150.4	+0.57	
12 45.0	22311.531			

Dec 18, 1919

LC

	(44) Nysa			VI
	Index A			
12 56 55	344.8			
	44.4	59.6		
	159.6	70.8		
	230.4	130.4	+0.97	
	340.2			
	49.4	69.2	+0.90	
	161.8	68.6		
	230.4	137.8	+0.82	
				9.49
	Index B		Mean	+0.85
	251.8			10.34
	318.4	66.6		
	74.7	69.1		
	143.8	135.7	+0.86	
	~~143.9~~			
	249.3			
	318.2	68.9	+0.80	
	70.4	73.4		
13. 01 45	143.8	142.3	+0.73	
12 59 05				
223 11.541				

✓

Dec 18, 1919

LC

(44) Nysa VII

Index B

13 14 42 250.2
324.6 74.4
67.2 78.2
145.4 152.6 + 0.52

249.8
326.8 77.0 + 0.63
81.1 64.9
146.0 141.9 +0.74

9.49
Index A Mean = + 0.78
10.27

168.9
230.6 61.7
340.6 68.0
48.6 129.7 +0.99

161.5
234.4 72.9 + 0.92
346.2 62.9
13 19 10 49.1 135.8 + 0.86
13 52

13 16 56

22311.553

Dec 18, 1919.

	LC			
	(44) Nysa			VIII
	Index a			
13 27 38	165.9			
	227.2	61.3		
	345.5	66.1		
	51.6	127.4	+1.03	
	160.2			
	233.3	73.1	0.96	
	346.7	61.2		
	47.9	134.3	+ 0.89	9.49
	Index B			+ 0.89
	77.7			10.38
	138.7	61.0		
	248.8	72.2		
	321.0	133.2	+0.91	
	77.7			
	145.9	68.2	+0.82	
	252.2	74.4		
13 31 53	326 6	142.6	+0.72	
13 29 46				
22311.562				

✓

Dec 18, 1919

LC (44) Nysa IX

	Index B			
13 41 50	65.5			
	139.9	74.4		
	249.4	75.4		
	324.8	149.8	+ 0.58	
	70.7			
	144.4	73.7	+ 0.63	
	251.8	71.2		
	323.0	144.9	+ 0.68	
				9.49
	Index A		mean	+ 0.70
	343.2			10.19
	48.6	65.4		
	158.6	71.6		
	230.2	137.0	+ 0.83	
	336.6			
	48.4	71.8	+ 0.78	
	160.6	70.9		
13 45 38	231.5	142.7	+ 0.72	

13 43 44

22311.572

Comp ~~X=~~ + 9.° ~~2694~~ ~~(8.7)~~ with Phot R

380 (9.1) = 9.49

✓

Dec 18 1919.

	LC	(44) Nysa		X
	Index A			
13 58 08	337.0			
	52.4	75.4		
	159.2	79.6		
	238.8	155.0	+ 0.48	
	339.8			
	56.2	76.4	+ 0.57	
	163.0	69.2		
	232.2	145.6	+ 0.66	
				9.49
	Index B		Mean	+0.60
	253.2			10.09
	324.9	71.7		
	68.4	73.8		
	142.2	145.5	+0.66	
	247.6			
	323.8	76.2	+0.64	
	70.6	71.2		
14 02 14	141.8	147.4	+0.63	
14 00 11				
8 22 311.58 3				

Dec 18, 1919

	LC			
	(44) Nysa			XI
	Index B			
14 08 41	247.8			
	323.8	76.0		
	68.8	76.2		
	145.0	152.2	+ 0.53	
	244.2			
	328.4	84.2	+ 0.46	
	~~340.2~~	75.6		
	~~52.8~~	159.8	+ 0.38	
	72.2			9.49
	147.8		Mean	+ 0.64
				10.13
	Index a			
	160.2			
	233.3	73.1		
	341.4	67.8		
	49.2	140.9	+ 0.76	
	164.0			
	223.6	59.6	+ 0.81	
	337.2	76.1		
14 14 18	53.3	135.7	+ 0.86	
14 11 30				
22311.592				

✓

Dec 18, 1919

LC

(44) Nysa

XII

	Index A			
~~14 27 50~~	~~165.2~~			
	~~230.0~~	~~64.8~~		
	~~344.4~~	~~67.2~~		
	~~51.6~~	~~132.0~~	~~+0.94~~	
14 29±	162.2			
	232.0	69.8		
	338.8	75.4		
	54.2	145.2	+0.67	
	157.1			
	235.2	78.1	+0.72	
	342.2	61.6		
	43.8	139.7	+0.78	
				9.49
	Index B		Mean +	0.63
	70.4			10.12
	144.8	74.4		
	245.2	77.8		
	323.0	152.2	+0.53	
✓	71.1			Ha 45W
	149.9	78.8	+0.54	at 3:36 S.T.
	253.3	71.8		Dec +10.2
14 34 08	325.1	150.6	+0.56	
03 08	14 31 34	22311.612		

Dec. 18, 1919, HCE. obs & rec

15 15	SS Aurigae	060547	<13.3	Red
/	X Aurig.	060450.	8.4	2
	V Aurig.	061647	10.3	2
	V Monocer.	061702	11.3	
	U Lyncis,	063159	14.5±	dif
	R Monoc.	063308	11.4	?
Not published — "	~~X~~ Monoc (x)	06~~33~~08	12.2	?
Time ? 16h 00	S Lync.	063558	<13.2	= fp

Sat. Dec. 20 – 1919

L.C. Obs 12" Polar

11	42	SS Cygni 213843	est 11.7	LC
11	45	– Lyrae ~~Cygni~~ 191737	est 10.2	LC
11	47	SS Cyg. 213843	est. 11.6	HOE
11	50	SS Aurigae 060547.	< 13.3	HOE

16	45	U Gemini 074922	<132	HOE
16	46	SU Tauri 054319	95	HOE
16	55	T Orionis 053005	10.2	HOE

Sunday, Dec. 21, 1919

12" Polar -

11 20 SS Cygni est 11.6 HBE.

11 40 SS Cygni est 11.5 L.C. Obs.

11 42 ~~Cygni~~ Lyrae 191717 est 10.1 L.C. Obs.

Some clouds but care exercised

LC Obs. Suspected variable at 248+10 nett Rec.

Index B.

12 18 10 257.8 ∠ Comp * dis. Phot R.

320.4 62.6

64.7 75.1

139.8 137.7 +0.82

252.7 Reject - Clouds.

323.0 70.3 Too difficult - poor sky.

68.7 84.5 48.1

~~155.2~~ 116.8 ~~154.8~~ 118.4

2,21,48

2,23,25, 21 ← Object measured tonight

2,23,46

Request photograph of Nysa.

Dec 21, 1919.

	∠C Obs.			2C At Rec
	Object at		248 +10	I
	Index A			
13 16 48	159.2	∠Comp ★ dis		
	228.2	69.0		
	330.4	87.4		
	^{4}57.8	156.4	+0.45	
	152.2			
	230.4	78.2	+0.47	
	342.2	76.0		
	58.2	154.2	+0.49	
	Index B		Mean	+0.48
	73.6			
	141.6	68.0		
	240.4	84.9		
	325.3	152.9	+0.52	
	66.7		+0.50	
	149.2	82.5		
	249.6	72.6		
13 21 14	322.2	155.1	+0.48	
13 38 2				
13 19 1				
55				

Dec 21, 1919

LC Obs.

				II
	Index B			
13 25 14	68.2			
	141.4	73.2		
	252.8	67.6~~4~~		
	320.4	140.8	+ 0.76	
	67.2			
	145.2	78.0		+0.70
	252.4	68.0		
	320.4	146.0	+ 0.65	
	Index A		Mean	+0.73
	340.2			
	52.2	72.0		
	163.3	70.3		
	233.6	142.3	+0.73	
	335.2			+0.76
	53.3	78.1		
	167.2	61.0		
13 29 30	228.2	139.1	+ 0.79	

13 54 44

13 27 22

.560

158

Dec 21, 1919

	LC. Obs.			
				III
	Index A			
13 33 00	335.9			
	45.5	69.6		
	158.0	78.8		
	236.8	148.4	+0.61	
	337.7			
	47.7	70.0	+0.68	
	158.8	71.2		
	230.0	141.2	+0.75	
	Index B		Mean:	+0.72
	253.2			
	320.4	67.2		
	71.4	70.8		
	142.2	138.0	+0.81	
	248.2			
	321.8	73.6	+0.76	
	69.6	69.2		
13 37 43	~~146.8~~	142.8	+0.72	
	138.8			

13 7 0 43

13 35 22

566

✓

Dec 21, 1919

L C Obs.

IV

	Index B			
13 50 05	254.4			
	314.4	60.0		
	69.2	73.6		
	142.8	133.6	+ 0.90	
	~~248.2~~	Reject		
	~~324.8~~	~~76.6~~		
	~~68.4~~	~~80.0~~		
	~~148.4~~	~~156.6~~	~~+ 0.45~~	
	~~Index a~~		+0.84	
	254.2			
	316.2	62.0		
	62.6	77.6		
	140.2	139.6	+ 0.78	
	Index a.		Mean	+ 0.80
	167.0			
	237.2	70.2		
	338.8	71.6		
	4 50.4	141.8	+0.74	
	161.6			
	228.2	66.6	+0.77	
	338.0	72.0		
13 56	50.0	138.6	+0.80	✓
13 53 2	528			

Dec 21, 1919

	LC Ilbo			V
	Index A			
14 09 00±	164.4			
	234.4	70.0		
	337.2	73.0		
	50.2	143.0	+ 0.71	
	164.2			
	232.4	68.2	+0.69	
	336.4	76.9		
	53.3	145.1	+0.67	
	Index B		Mean = + 0.56	
	62.2			
	148.8	86.6		
	249.2	72.2		
	321.4	158.8	+0.40	
	69.2		+0.42	
	147.4	78.2		
	245.8	78.0		
14 12 50	323.8	156.2	+0.45	
14 10 40				

59 ✓

Dec 21, 1919

LC Obs.

VI

	Index B			
14 14 00	62.8			
	144.0	81.2		
	247.2	73.4		
	320.6	154.6	+0.49	
	73.2			
	143.6	70.4	+0.59	
	246.2	73.6		
	319.8	144.0	+0.69	
	Index A		Mean	+0.50
	~~330~~			
	330.2			
	56.3	86.1		
	155.2	73.9		
	229.1	160.0	+0.38	
	334.8			
	49.8	75.0	+0.42	
	153.8	81.4		
14 18 20	235.2	156.4	+0.45	
14 16 10				
594				

Dec 21, 1919

LC Obs.

VII

	Index A			
14 22 50	333.3			
	51.4	78.1		
	159.2	70.2		
	229.4	148.3	+ 0.61	
	337.7			
	50.2	72.5	+0.58	
	155.2	79.0		
	234.2	151.5	+0.55	
	Index B		Mean	0.66
	246.1			
	320.4	74.3		
	70.8	62.2		
	133.0	136.5	+0.84	
	251.2		+ 0.74	
	319.8	68.6		
	62.8	78.6		
14 27 42	141.4	147.2	+0.63	
50 32				
14 25 16				
601 ✓				

Dec 21, 1919

LC Obs.

VIII

	Index B			
14 29 18	249.2			
	324.3	75.1		
	72.6	69.0		
	141.6	144.1	+0.69	
	249.2			
	320.7	71.5	+0.60	
	65.8	81.4		
	147.2	152.9	+0.52	
			Mean	+0.64
	154.2			
	231.6	77.4		
	342.8	63.8		
	46.6	141.2	+0.75	
	158.0		+0.68	
	227.2	69.2		
	337.1	79.5		
14 34 36	56.6	148.7	+0.60	
14 63 54				
14 31 57				

Dec 21, 1919

LC Obs

				IX
	Index a			
14 42 15	155.2			
	236.6	81.4		
	337.7	66.9		
	44.6	148.3	+0.61	
	162.0			
	224.4	62.4	+0.68	
	337.2	79.2		
	56.4	141.6	+0.74	
	Index B		Mean	+0.58
	64.2			
	146.8	82.6		
	248.8	74.5		
	323.3	157.1	+0.44	
	68.6		+0.48	
	140.2	71.6		
	240.4	81.8		
14 46 31	322.2	153.4	+0.57	
14 48 46	614			

14 44 23 / H's watch 90 seconds slow.

1450 SS Aurigae 060547 est 13.2

14 51 U Gem. 074922 est 13.2

Monday, Dec. 22, 1919.

12" Polar.
HOE

10 15 55 Cygni. 213843 Est. <11.3 =11.5?

Observation in twilight thru ci clds.

11 30 55 Cygni. 213543 (again) est. 11.5. HOE

Sky very hazy.

Thursday Dec-25, 1919

12" Polar HOE

[illegible]	35	SS Cygni.	213843	est < 11.3	HOE
			hazy.		
17	55	SS Aurigae	060547	<133	<X
19	38	U gemin.	074922	<13.7	= 14.1?
22	25	T Urs. Maj.	123160	9.6	HOE
		RS Urs Maj.	123459	<132 (<13.6)	N
		Z Virginis	140512	113	
		R Cor Bor	154428	>72	about 6

HOE Variable observations to this date included in report for December 1. H.O.E. see p. 100.

9h 23 21 Sunday, Dec. 28, 1919.

12in Polar.

13 15 SS Cygni 213843 est 11.5
hazy.

SS Aurigae 060547 <13.0

SU Tauri 051319 9.5.

SS Cassiop. 000451. f and k. Phot R
~~e 5 α~~ e 7 α 5 f 2 d 4 g 3 β 4 h 1 k 2 l 4 m 2 n
n o p 2 σ 2 q 2 r. σ 1 non 1 q

13 40
29.0
f dir 85.9 569
213.3 470
260.3 103.9 +1.56

32.3
80.1 47.8 + 1.54
Ind. A 206.1 57.6
263.7 105.4 +1.53

294.8 Mean = + 1.38
357.2 62.4
119.9 59.0
168.9 121.4 + 1.16

Ind. B 301.1 + 1.22
353.1 520
115.1 647
13 45 179.8 116.7 +1.27

13 42 30 .572

V

Dec. 28, 1919

RR Aurigae. 060443
o 1 p 1 var 2 q

RU Aurigae 053337
a 7 b 4 c 3 d 0 e 2 f 2 g 3 h 1 k 3 l
~~l 2 m 3 n 1 p 1 q~~
l 4 m 2 n 1 p 1 q 1 r 2 R 2 t   t 2 var N
Same. Plots R. c and f

15 30
21.8
c dis 97.6   75.8
197.3   82.5
279.8   158.3   + 0.41

Jud A

16.2   + 0.45
98.4   82.2
281.0   72.4
273.4   154.6   + 0.49

Mean = + 0.52

288.2
0.0   71.8
111.6   75.1
186.1   146.9   + 0.64

Jud B

288.2
7.5   79.3   + 0.60
114.0   71.9
185.9   151.2   + 0.55

15 42

15 36.650

2422321
Dec. 28, 1919.

12"
RU Aurigae 053337.
g and l. g dis.

16 35
g dis
208.8
262.2 53.4
22.0 68.7
90.7 122.1 +1.14

2nd B
+1.02
202.8
270.9 68.1
21.8 65.6
86.8 133.1 + 0.91

Mean = +1.07

113.9
175.1 61.2
295.1 61.7
356.8 122.9 + 1.13

2nd A
+1.12
112.5
178.7 66.2
296.8 57.3
16 48
354.1 123.5 + 1.12

14 83
16 41 30
.696

L

Dec. 28, 1919

Same

g and e Phot R

16 50	16.0		
	90.0	74.1	
e dir	199.0	75.5	
	274.5	149.6	+0.58
	15.4		+0.52
	96.0	80.6	
	198.4	75.3	
2nd A	273.7	155.9	+0.46
			Mean=+0.49
	288.8		
	1.4	72.6	
	106.6	78.6	
	185.2	151.2	+ 0.55
2nd B			
	284.5		0.46
	6.8	82.3	
	107.5	77.5	
17:00	185.0	159.8	+ 0.38

16 55

705

Dec 28, 1919

L James Phot R

g and d

17 01	11.9		
d dis	99.0	87.1	
	196.4	75.8	
	272.2	162.9	+ 0.32
Ind			
	17.0		
	96.7	89.7	+ 0.22
	195.0	84.4	
Ind A	279.4	174.1	+ 0.11
	281.5		Mean = + 0.32
	7.4	85.9	
	108.1	72.2	
	180.3	158.1	+ 0.42
Ind B			
	290.9		+ 0.42
	3.2	72.3	
	103.0	85.5	
17 15	188.5	157.8	+ 0.42
17 8			
.714			

✓

Dec 28, 1919

L . Same Plate R.

a and d a dis. a > d

17 35	115.1		
a dis	172.8	57.7	
	294.0	65.0	
Ind B	359.0	122.7	+1.13
			+ 1.24
	116.9		
	176.1	59.2	
	299.8	54.1	
	353.9	113.3	+1.34
			Mean = + 1.45
	30.0		
	79.9	49.9	
	210.9	51.9	
Ind A	262.8	101.8	+ 1.61
	30.5		+ 1.66
	82.1	51.6	
	213.5	46.5	
17 47	260.0	98.1	+ 1.70

17 82

17 41

.737

✓

Dec 28, 1919

L

Same Plot R.

c and qr c dis. c > qr

18^{00}

222.1
247.6 25.5
c dis. 40.2 28.1
68.3 536 + 3.11

2nd B

221.2
249.1 28.9 + 3.05
40.4 27.8
68.2 567 + 2.99

Mean = + 3.18

130.7
159.1 28.4
312.6 22.9
335.5 513 + 3.22

2nd A

132.7 + 3.30
157.0 243
312.8 23.4
336.2 477 + 3.38

182^{a}

18 10

.757

L

RV aurigae
Came

Dec 28, 1919
Phot.

A and a

1825 247

330.7
30.4 597
A dis. 152.2 574
209.6 1171 +1.26

332.5 +1.25 B
28.1 556
150.8 621
212.9 1177 +1.24

Sfm. 4.6 Mean = +0.70
pa. 67
45.3
138.7 93.4
229.8 82.5
312.3 1759 + 0.08

52.1 + 0.16 A
132.4 80.3
228.2 87.3
315.5 1676 + 0.24

1838

18 31 30
.573

RV aurigae 053337 Dec 28, 1919

L Same Plot T

A and c A dis

1840 PA 140

243.5

Adis 296.0 525

61.1 598

120.9 1123 +1.36

+1.44 B

241.6

300.4 58.8

66.9 47.0

113.9 1058 +1.52

PA 321 Ap. 4.8 Mean = +1.98

345.5 320

377.5 38.4

162.4 70.4 +2.49

200.8

+2.51 A

340.9

21.7 40.8

167.2 28.5

~~1855~~ 195.7 69.3 +2.53

1900

18 50

785

✓

Mon Dec 29 - 1919

[illegible] 12" Polar

11 07 SS Cygni 213843 est 11.5

~~148.9~~

~~211.9~~

11 14 Lyrae ~~Cygni~~ 191737 est 10.2

11 34 S Aquilae 200715a est 10.2

RU Aquil 200812 Est 12.8

SX Cyg 201130 est 8.1

WX Cyg 201437b est 11.8

V Sagitt 201520 est 11.0

Z Delph 202817 est 11.0

S Delph 203816 est 9.8

V Delph 204318 est 12.7 if seen

11 59 TW Cyg 210129 est 12.7

Dec. 29 - 1919

	LC Obs.			M.G.H. Rec.
12 04	R. Equu	210812	est.	11.6
	RR Pegasi	214024	est.	9.3
	O Ceti			
	Index A			
12 34 38	112.4	Var dis		Phot R.
	172.2	59.8		
	292.4	62.0		
	354.4	121.8	−1.15	
	116.3			
	175.6	59.3	−1.08	
	286.8	69.4		
	356.2	128.7	−1.00	9.19
	Index B		mean	−1.16
	27.6			8.03
	86.8	59.2		
	207.7	55.4		
	263.1	114.6	−1.31	
	24.2		−1.25	
	84.2	60.0		
12 38 35	206.8	60.0		
12 36 36	266.8	120.0	−1.19	✓

5.2.6.

Dec 29, 1919.

	LC Obs.			ICH Rec
	Objectat		248 +10	I
	Index B			
13 18 26	285.5	Comp * dis		
	358.2	72.7		Phot. R.
	109.8	71.9		
	181.7	144.6	+0.68	
	291.7			
	356.2	64.5	+0.70	
	105.5	77.8		
	183.3	142.3	+0.73	
				9.49
	Index A		Mean	+0.80
	195.6			10.29
	266.4	70.8		
	21.4	62.8		
	84.2	133.6	+0.90	
	201.6		+0.90	
	263.8	62.2		
	17.4	71.4		
13 24 11	88.8	133.6	+0.90	
13 42 37				
13 21 17				

.556

✓

Dec 29, 1919

L Obs.

		Same			II
	Index a				
13 35 22	200.4				
	263.3	62.9			
	16.2	73.6			
	89.8	136.5	+0.84		
	205.0				
	265.2	60.2		+0.94	
	20.8	67.4			
	88.2	127.6	+1.03		9.49
	Index B			Mean	+0.84
	104.2				10.33
	177.2	73.0			
	286.2	70.4			
	356.6	143.4	+0.71		
	104.2			+0.74	
	176.8	72.6			
	283.6	68.2			
13 41 18	351.8	140.8	+0.76		
13 38 20					

.569

Dec 29, 1919

	LC	Same		III
	Index B			
13 50 31	104.0			
	174.4	70.4		
	281.2	70.8		
	352.0	141.2	+0.75	
	106.1			
	174.8	68.7	+0.80	
	282.8	67.6		
	350.4	136.3	+0.85	
				949
	Index a		Mean =	0.82
	13.4			10.31
	86.6	73.2		
	193.8	64.0		
	257.8	137.2	+0.83	
	15.0			
	84.8	69.8	+084	
	193.2	67.0		
13 55 45	260.2	136.8	+0.84	
13 106 16				
13 53 8				

$\sqrt{.578}$

Dec 29, 1919

	L.C.	Same		IK
	Index A			
14 15 18	12.2			
	80.0	67.8		
	194.8	65.0		
	259.8	132.8	+0.92	
	12.4			
	79.8	67.4	+0.90	
	192.6	67.8		
	260.4	135.2	+0.87	
				9.49
	Index B		Mean	+0.82
	281.4			10.31
	346.2	64.8		
	100.0	71.4		
	171.4	136.2	+0.85	
	280.4			
	350.7	70.3	+0.75	
	96.8	75.8		
14 20 38	172.6	146.1	+0.65	
14 35 56				
14 17 58				

Same comp * as on previous night Dec 21, 1919

.596

H's watch 20 sec fast.

✓

Dec 29, 1919

LC Obs.

14 54	SS Aurigae 060547	est.	12.8
	U Geminorum 074922	est.	13.0
	Nova Persei 032443	est.	12.6

Li Tues. Dec 30, 1919

LCObs. 12" nett Rec.

12 12 SS Cygni 213843 est 11.5

7608 obs + rec.

1705 05~~3~~337 RU Aurigae. var N

a7b4c2d1e; f1e2g3h1k

k2l3m1n2g1p0r1R3t

Same. Compare card f. c dis

1719 186.9

c dis 261.1 74.2 Phot R

7.3 76.7

84.6 150.9 +0.56

Ind A

189.2 +0.50

263.0 73.8

15.2 83.4

88.6 157.2 +0.43

Mean = +0.37

87.1

177.9 90.8

Ind B

273.2 78.8

352.0 169.6 +0.20

97.2 +0.24

177.3 80.1

271.2 84.8

1730 356.0 164.9 +0.29

17 49

17 24 30 726

K

Tues. Dec. 30.

L

Cause 9 and l. 9 dis Hb^2

Phot R

1732			
9 dis	10.8		
	72.6	61.8	
	191.6	60.1	
	251.7	121.9	+ 1.15
			+1.08
2nd B	8.7		
	72.9	64.2	
	189.4	64.9	
	254.3	129.1	+ 1.00
↓			Mean +1.15
Reject?	280.6		
	~~339.8~~	~~59.8~~	
	~~99.8~~	~~61.0~~	
	~~160.8~~	~~120.8~~	
2nd A	279.7		
	339.9	60.2	
	102.8	56.3	
	159.1	116.5	+ 1.27
			+ 1.22
1752	279.3		
	336.3	57.0	
	97.0	63.5	
	160.5	120.5	+ 1.18

Dec. 30, 1919

Came g+e e dis Phot R

g+OE ob

17 55			
e dis	179 0		
	259 1	80.1	
	2.2	68.0	
	70.2	148 1	+0.74
2nd A	182.2		+0.65
	255.0	72.8	
	0.6	77.8	
	78.4	150.6	+0.56
			Mean = +0.62
	87.3		
	171.9	64.6	
	275.1	71.2	
	346.3	135.8	+0.86
2nd B	86.8		+0.60
	165.7	78.9	
	264.1	83.8	
18.06	347.9	162.7	+0.33

18 0 30

.751

L

Same Dec. 30, 1919

Plate R g and d ~~d dis~~?

1810

g dis

7H82 obs
/ sec

~~d dis~~? g dis. 2nd A

77.8			
173.6	95.8		
255.6	99.9		
355.5	195.7		
	164.3	— 0.30	
76.5			
176.0	100.5		— 0.30
256.5	95.4		
351.9	195.9		
	164.1	— 0.30	
			mean = −0.29
347.0			
81.0	94.0		
162.9	99.9		
262.8	193.9		
	166.1	— 0.26	
340.9			
83.2	102.3		−0.28
167.1	93.2		
260.3	195.5		
	164.3	— 0.29	

2nd B
g dis.

18 2

18 16

.761

L Same Phot R, Dec. 30, 1919,

a and d a dis. a>d

				HOE obtain
1825	a dis 4.9			
	48.0	431		
	185.5	43.9		
	229.4	87.0	+ 2.00	
And A				
	1.7		+1.94	
	49.9	482		
	184.3	43.4		
	227.7	91.6	+ 1.87	
			Mean = +1.76	
	271.7			
	318.2	46.5		
	85.4	55.4		
	140.8	101.9	+ 1.61	
And B				
	257.6		+1.48	
	316.1	58.5		
	a dis 81.9	54.2		
1843	136.1	112.7	+ 1.36	

1868
1834
.774

✓ same Dec. 30, 1919

Phot R. ~~cont~~ A and B

2403 distrec

1825

A dir

164.3
225.9 61.6
330.9 89.3
60.2 150.9 +0.56

149.7 +0.52
236.3 86.6
344.0 68.2
52.2 154.8 +0.48

2nd R.

Mean = +0.35

64.9
139.9 75.0
238.1 95.6
333.7 170.6 +0.18

59.1 +0.18
152.9 93.8
243.5 77.0
320.5 170.8 +0.17

1910

18 52 30

√ .787

✓

L Crane Pbot T

A and a A > a
HOE obstree

Pa 245°

1905	322.8			
A dis	36.2	73.4		
	151.3	61.4		
	212.7	134.8	+ 0.88	
	326.7		+ 1.04	B
	31.2	64.5		
	152.5	55.7		
	208.2	120.2	+ 1.19	
Pa 68°	Apr. 4.6 mean + 0.65			
	33.2			
	125.6	72.4		
	224.8	93.9		
	318.7	166.3	+ 0.26	
	44.5		+ 0.26	A
	137.8	93.3		
	236.7	72.5		
	309.2	165.8	+ 0.27	

1918
19 11 30

500

✓

L

Orme. Dec. 30, 1919.

Phot. T. A and b. A > b

HOE obs tran

1920 ~~10~~/88

A dis

63.3
120.4 67.1
233.5 73.9 +0.75
307.4 141.0 ~~+0.98~~

55.7 +0.87 A
126.1 70.4
241.5 59.5
301.0 129.9 +0.98

PQ 267° Spr. 3.7 Mean = +1.29
157.2
202.5 45.3
334.6 52.4
26.0 97.7 +1.71

154.8 +1.71 B
207.8 53.0
339.4 44.7
24.1 97.7 +1.71

1932
1926

.810

✓

L Same Plate T. Dec 30, 1919.

A and c

	320°		HOE obs + rec	
1935	344.6			
A dis	17.8	33.2		
	162.4	38.4		
	200.8	71.6	+ 2.45	
			+ 2.40	A
	339.3			
	21.0	41.7		
	164.0	33.3		
	197.3	75.0	+ 2.35	
PA	143°	Sp. 4.3	Mean + 1.97	
	68.9			
	113.9	45.0		
	242.3	57.9		
	300.2	102.9	+ 1.59	
			+ 1.54	B
	63.4			
	122.6	59.2		
	246.6	47.8		
	294.4	107.0	+ 1.49	

19 46

19 40 30

.820

Same Dec. 30, 1919 Phot T.

A and b (again)

H.B. obs + rec

87

A dis.

63.5
116.9 534
232.1 754
307.5 1288

A.

52.9
129.8 76.9
239.0 62.1
301.1 139.0

– 267
157.8 45.0
202.8

Interrupted by clouds!

New Years Night.
Thurs Jan. 1, 1920

Gmt. L.C. Obs 12" Polar

12 00 SS Cygni 213843 est 11.6

12 05 SS Aurigae 060547 est <12.8

Sun. Jan 4, 1920

12" Polar

G.M.T. L.C.Obs. 213843 SS Cygni

11 38 est 11.3 rising?

11 40 SS Aurigae 060547 est <12.0

Nearly full Moon in East

makes SS Aurigae field

too bright to see faint stars.

1920 - Jan'y 4.

Ballow M.T. Clock: Chronometer #236:

18 12 0.0 = 6 2 38.5

15 30 0.0 12 4 21.5 slow

2 42 47.5

Occultation of star by Venus +26.0 gained

Mr. Eaton Obs. Mr. Bailey Rec.

Disappearance 6h 15m ± = 23.15 G.M.T.

star lost in glare of Venus & no precise obs. possible

seen again at 6h 26m 29s = 23 26 29 G.M.T.

Chronometer rate = +16.0s. Error = + 4m 18.5s

Disappearance = 18h 19m ± Reappearance = (G.M.T.) 23h 30m 47.5s −

(G.M.T.) 23 19 ±

From Clock Comparison Book, page 127.

Ballow M.T. Clock: Chronometer #236:

15 30 0.0 = 3 25 12.5

12 4 47.5 slow

Mon. Jan. ~~4~~ 5 — 1920

12" Polar

11 22 L.C.Obs. 213843 SS Cygni est 11.4

11 24 - Lyrae (191) 3) est 10.2

Moon at full.

20

Monday, January 12, 19~~9~~

12 in. Polar.

Jd = Jordan (obs). HOE = H O Eaton obs.

13:00	054319 SU Tauri.	9.8 9.5	Jd HOE
13 45	070122 R Gem.	9.0 8.8	Jd HOE
14 00	060547 SS aurigae	<12.4	Jd
14 30	070310 R Canis Min.	9 9.3	Jd HOE
15 06	094211 R Leonis	9.2 9.3	Jd HOE
15 15	085008 T Hydrae	9.0 $\boxed{8.8}$ 5 var 3 $\boxed{9.4}$	HOE Jd

8 sq. = .6 mg

.075

~~8.8 + .37 = 9.17~~

9.40 − .22 = 9.18

Final est = 9.18 (9.2)

Wed. Jan. 14, 1920

LC Clf 12" Polar

11 10 SS Cygni 213843 est 8.8

11 20 SS Aurigae 060547 est 13.0 if surely seen.

Var. only very near limit of visibility. Look for it later.

18 Melpomene (9.2)

5h 12m E at 2:34 ST. Dec +10.4

Object thought to be the asteroid, but will wait to see if it moves

13 05 Object has moved in correct direction Phot R

021403 o Ceti

Repairing sphere end of Phot. R.

see next page for o Ceti measures

Jan. 14, 1920

G.M.T.	Phot R.	o Ceti	H. King	L.C.Ob Rec.
12 X-10-30	Index B			
	203.1 Vardin			
	~~25~~ 18.8 assumed error in reading	75.7		
	128.8	69.8		
	198.6	145.5	− 0.66	
	312.6		− 0.71	
	18.8	66.2		
	129.8	74.6		
	204.4	140.8	− 0.76	
	Index A		Mean =	−0.68
	217.6			9.19
	294.1	76.5		
	39.4	70.9	Mag.	8.51
	110.3	147.4	−0.63	
	218.8		− 0.66	
	289.6	70.8		
	37.4	73.2		
12 X.14.25	110.6	144.0	- 0.69	
12 12 27				

508

✓

Jan. 14 – 1920

G.M.T.

12 25 X Androm 001046 est 9.2

R Androm 001838 est 9.8

S Ceti 001909 est 10.0

W Cass 004958 est 9.2

Z Ceti 010102 est 11.1

Y And 013338 est 8.6

X Cass 014958 est 11.7

U Per 015354 est 10.3

R Arieti 021024 est 11.7

12 50 ~~R~~ W And 021143a est 13.2 if seen

Jan 14 – 1920

G.M.T. Pol. T Cam 001755 Plot R

A

12 55 306.4 < comp ★ dis
31.4 85.4
115.8 91.4
207.2 176.8 + 0.06

299.2 + 0.12
30.8 91.6
122.2 79.2
201.4 170.8 + 0.17

B Mean = 7.87
+0.16
212.2 mag 8.03
296.4 84.2
34.4 87.2
121.6 171.4 + 0.16

212.2 + 0.20
296.2 84.0
33.3 83.5
13 00 116.8 167.5 + 0.24

12 57 30

.540

✓

Jan. 14, 1920

18 Melpomene

G.M.T.	L.C. Obs		Phot T.	14 Knip Poe
13.7.27	54.0	Compar. Star Diffs.		
	128.6	74.6		
	231.0	85.8		
	316.8	160.4	+0.37	
	Index B			
	46.6			
	136.1	89.5		
	228.8	79.6		
	308.4	169.1	+0.20	
			.28	
	Index A		Mean =	+0.91
	~~154.6~~			
	~~159.8~~			
	202.7	48.1		
	331.6	58.8		
	30.4	106.9	+149	
	159.2			
	205.3	46.1		
	337.2	48.2		
13.13±	25.4	94.3	+180	
13 10 13			164	

.549

Comp ✱ = +11.1708 (8.0)

✓

Wednesday Jan 14, 1920

18 Melpomene II

G.M.T.	L.C. Obs		Phot. T	H.S. King. Rec.
13.16.30	Index A			
	155.5			
	204.3	48.8		
	334.0	48.6		
	22.6	97.4	172	
	~~Index B~~			
	153.2			
	210.4	57.2		
	343.4	42.5		
	25.9	99.7	166	
			169	
	Index ~~A~~B			
	229.8		= + 0.93	
	306.2	76.4		
	48.4	87.8		
	136.2	164.2	0.30	
	Index B			
	225.2			
	316.8	91.6		
	54.8	75.6		
13.21.44	130.4	167.2	0.24	
13 38 14			0.27	
13 19 7				
.555				
✓				

Jan 14, 1920

18 Melpomene III

G.M.T	L.C. Obs.		Phot T	H.S.K. Rec.
13.32.10	Index. B. Pencil Readjusted.			
	306.2			
	18.6	72.4		
	138.1	56.7		
	194.8	129.1	1.00	
	318.6			
	18.2	59.6		
	134.6	67.0		
	201.6	126.6	1.05	
			1.02	
	Index A			+1.17
	43.7			
	110.4	66.7		
	231.4	51.4		
	282.8	118.1	1.23	
	51.6			
	103.1	51.5		
	227.6	58.3		
	285.9	109.8	1.42	
13.41±			1.32	
13 36 35				
1567				

Jan 14, 1920

	A		IV	
13.46.0	46.8			
	109.2	62.4		
	232.8	48.8		
	281.6	111.2	1.39	
	52.1			
	106.8	54.7		
	227.7	59.5		
	287.2	114.2	1.32	
			1.35	
	B			= +1.08
	131.0			
	204.0	73.0		
	314.8	67.0		
	21.8	140.0	0.77	
	136.8			
	196.3	59.5		
	307.0	75.8		
13.50.0	22.8	135.3	0.87	
13 48 0			.82	
.575				
✓				

Jan 14, 1920

V

	Index B			
13.58.10	133.1			
	208.0	64.9		
	315.8	64.6		
	20.4	129.5	0.99	
	138.1			
	199.2	61.1		
	310.8	69.4		
	20.2	130.5	0.97	
			.98	
	Index A			+ 1.06
	222.6			
	291.6	69.0		
	49.1	57.9		
	107.0	126.9	1.04	
	233.3			
	287.6	54.3		
	44.6	63.6		
14.2.05	108.2	117.9	1.24	
14 0 15			1.14	
14 07				
.583				

Jan 14, 1920

VI

14.15.12	A			
	227.0			
	288.7	61.7		
	51.4	58.0		
	101.4	111.7	1.38	
	232.6			
	283.3	50.7		
	47.4	58.2		
	105.6	108.9	1.44	
			1.41	
	B			+1.20
	318.2			
	15.5	57.3		
	131.8	68.8		
	200.6	126.1	1.06	
	310.6			
	21.2	70.6		
	137.6	63.0		
	200.6	133.6	.90	
14.19.55			.98	
14 17 33				
.596				
✓				

Jan. 14, 1920

VII

14.27.45	B			
	317.6			
	18.7	61.1		
	131.4	69.9		
	201.3	131.0	0.96	
	313.2			
	19.2	66.0		
	141.2	54.6		
	195.8	120.6	1.18	
			1.07	
	A.			+1.26
	48.4			
	101.4	53.0		
	228.1	54.5		
	282.6	107.5	1.48	
	48.2			
	106.4	58.2		
	230.8	52.5		
	283.3	110.7	1.40	
14.31.35			1.44	
14 29 40				
.604				

Jan. 14, 1920

VIII

14.41.40	A			
	48.8			
	105.2	56.4		
	228.4	56.8		
	285.2	113.2	1.34	
	48.4			
	105.1	56.7		
	230.8	52.0		
	282.8	108.7	1.45	
			1.40	
	B			1.18
	135.7			
	199.4	63.7		
	310.2	69.6		
	19.8	133.3	0.91	
	137.7			
	200.4	62.7		
	313.4	66.4		
	19.8	129.1	1.00	
14.45.50			.96	
14 43 45				
.614				
✓				

Jan. 14 1920

15.4.00 ~~14.2~~	A B			
	50.8			
	108.4	57.6		
	230.2	51.6		
	281.8	109.2	1.44	
	50.2			
	108.6	58.4		
	231.6	55.8		
	287.4	114.2	1.32	
			1.38	
	B A			+ 1.2~~5~~0
	139.2			
	196.8	57.6		
	316.8	62.8		
	19.6	120.4	1.18	
	130.7	6		
	199.6	58.9		
	317.9	67.3		
15.8.10	15.2	1~~2~~6.2	~~1.06~~ 0.85	
15 6 5		3	~~1.12~~ 1.02	

.629 SS Aurigae 0605 4)

15 25 ~~not~~ w 1 Var, if var is really near

LC

w 2 Var if really near

~~HOC~~

L Jan. 14, 1920. HOE obs.

053337 RU aurigae : Phot T,

RU	138°	4.5 = sp.	A with a
15:47	299.2		
	31.7	92.5	
A dis B	129.8	80.1	
	209.9	172.6	+ 0.14
	302.0		+ 0.05
	29.8	87.8	
	120.0	95.0	
	215.0	182.8	
		177.2	− 0.05
			mean = + 0.56
	45.7		
A	111.0	65.3	
}	227.0	59.3	
	28.63	124.6	+ 1.09
x }	47.5		+ 1.06
	108.1	60.6	
	221.1	67.5	
	288.6	128.1	+ 1.02
16:00			

15 53 30 Observations indicated in 3rd + 4th grps. questionable because complete reversal of images not possible. Head twisted to compensate.

.762

var N

HOE

✓ L a8 b4 c3 d1 e3 f2 g4 h2 k1 l4 m3 n1 q1 p2 r2

L Jan. 14, 1920. Phot. R.

653337 RU Aurigae

a and d

(8:27)	134.8		
a dis	190.6	55.8	
	319.1	49.8	
	8.9	105.6	+1.52
2nd A	140.0		+1.59
	186.2	46.2	
	318.1	53.8	
	11.9	100.0	+1.66
			Mean = +1.70
	51.2		
	98.0	46.8	
	230.8	45.1	
2nd B	275.9	91.9	+1.86
	50.0		+1.82
	94.4	44.4	
	228.3	51.2	
(8 37)	279.4	95.6	+1.77

18 32

.772

2A

Jan. 14, 1920   HOS

081633 T Lyncis

~~a 4 b 5~~ a 4 c ~~5~~ 6 b 10 d   e > d
e 4 f 1 g 3 n 2 r 2 l 5 u 3 p 1 σ
u 2 var 1 p

Ec. of I Jupiter.

I dis. at 11h 4m 45s ST (Watch E
ST Clock   Watch E
11 4 0.0 = 11 12 37.5

22 20 L   165631 RV Herc.   est 12.0

T Lyncis	II 345	1 338	III 355	mean			IV 2362	
c	3	-4	2	1.5	0		-4	2
a	8	10	5	7.8	1.5		11	6
b	8		7	7.5	9.3		10	10
e	5	5	11	7.0	16.8		7	5
g	3	-1	-7	-1.7	23.8		-5	-3
f	3; 4	(6)	3	4.0	~~25.5~~	22.1	3	1
d	5		8	6.5	~~29.5~~	26.1	6	4
n	2	2	5	3.0	~~36.0~~	32.7	5	4
r	2	2	-2	0.6	~~39.0~~	35.7	-2	-1
l	4	5	6	5.0	~~39.~~	36.3	6	5
u	6	3	3	4.0		41.3	3	4
σ	1	1	1	1.0		45.3	1	-1
p						46.3		

Thurs. Jan 15 – 1920

12in Polar

G. M.T.

11 14 SS Cyg 213843 ~~est~~ 8.9 LC clb.
— — — 8.6 HOE.

SS Aurigae 060547 <13.3 at ~~Last~~, LC.
11 22 Var sup? LC
— — — <13.3 HOE
Var sup? ~~HOE~~.

⑱ Melpomene I
11 42 42 322.8 LC obs HOE rec.
48.4 85.6
comp star dis. 146.0 80.6
Ind. A 226.6 166.2 0.26

324.0 0.41
45.2 81.2
144.8 79.6
224.4 150.8 0.56

mean gmt
11 44 51

65.2 Mean = 1.06.
Ind. B 121.0 55.8
252.8 45.4
298.2 101.2 1.63

70.6
120.6 50.0 1.72
254.2 44.2
11 47 0 298.4 94.2 1.80

11 44 51 Pencils readjusted

Jan. 15, 1920 Phot. T.
HC obs
HOE rec

(18) Melpomene II

11 52.0	118.2			
Comp. star dis.	177.4	59.2		
	300.2	46.9		
	347.1	106.1	+ 1.51	
Ind. B			+ 1.42	
	116.4			
mean GMT 11 54 15	174.8	58.4		
	301.4	55.8		
	357.2	114.2	+ 1.32	
				Mean = +1.16
	201.2			
	268.8	67.6		
	19.8	71.6		
	91.4	139.2	+ 0.79	
Ind A,				
	204.4		+ 0.90	
	266.0	624		
	23.8	666		
11 56 30	90.4	129.0	+ 1.00	
11 54/15				

HOE's watch 0 52^s fast

.496

✓

January 15, 1920

(18) Melpomene III

12 06 17	200.4		
Camp star dis.	272.6	72.2	
	18.8	706	
	89.4	1428	+ 0.72
Ind A			
	198.2		+ 0.62
	278.6	80.4	
	22.8	716	
	94.4	152.0	+ 0.53
	299.2		Mean = + 0.95
	356.3	57.1	
	118.2	550	
	173.2	~~89~~	
		112.1	1.37
Ind B			
	299.8		
	356.4	56.6	1.28
	114.8	638	
	178.6	120.4	1.18
12 11			
12 17 18			
12 8 38			
.506			

Jan. 15, 1920.

HCH Rec.
IV

18 Melpomene

	Index B			
12 22 40	297.2			
	356.0	58.8		
	121.8	44.2		
	166.0	103.0	+1.58	
	304.2			
	349.3	45.1	+1.59	
	115.8	57.4		
	173.2	102.5	+1.60	
	Index A		Mean	+1.20
	17.8			
	91.6	73.8		
	204.1	67.1		
	271.2	140.9	+0.76	
	21.1			
	92.8	71.7	+0.82	
	205.4	63.4		
12 27 27	268.8	135.1	+0.87	
12 50 7				
12 25 3				

.517 ✓

Jan 15, 1920

		18 Melpomene		I
	Index A			
12 38 23	18.8			
	89.1	70.3		
	200.4	71.6		
	272.0	141.9	+0.74	
	22.2			
	89.8	67.6	+0.78	
	202.2	70.2		
	272.4	137.8	+0.82	
	Index B		Mean	+112
	117.0			
	170.4	53.4		
	301.8	52.0		
	353.8	105.4	+1.53	
	118.9			
	181.4	62.5	+1.46	
	304.0	49.2		
12 42 12	353.2	111.7	+1.38	
12 80 35				
12 40 18				
.528				

✓

Jan 15, 1920

		18 Melpomene		VI
	Index B			
12 50 00	115.2			
	171.4	56.2		
	302.1	49.7		
	351.8	105.9	+ 1.51	
	121.2		+ 1.45	
	175.8	54.6	~~+ 1.45~~	
	300.4	56.4	+ 1.39	
	356.8	111.0	+ ~~1.63~~	
				+ 1.08
	Index A.		Mean	+ ~~1.12~~
	204.6			
	269.8	65.2		
	17.7	75.1		
	92.8	140.3	+ 0.77	
	198.4			
	274.9	76.5	+ 0.70	
	20.8	71.0		
12 53 59	91.8	147.5	+ 0.62	
12 54 –				
13 00.537	H's watch 2 min 30 sec fast.			

✓

Jan 15, 1920

		18 Melpomene		V
	Index A			
13 11 18	201.2			
	270.4	69.2		
	24.8	62.0		
	86.8	131.2	+ 0.95	
	202.6			
	271.1	68.5	+0.88	
	18.6	70.0		
	88.6	138.5	+0.80	
	Index B		Mean	+ 1.21
	300.6			
	352.6	52.0		
	119.7	52.0		
	171.7	104.0	+1.56	
	301.8		+1.54	
	351.3	49.5		
	116.3	56.3		
13 15 18	~~176.3~~	105.8	+1.52	
	172.6			
13 13 18				
.551				

Jan. 15, 1920

LC Obs. NCH/Rec

		18 Melpomene		VI
	Index B			
13 24 40	301.2			
	350.2	49.0		
	120.2	57.9		
	178.1	106.9	+1.49	
	300.9			
	353.8	52.9	+1.52	
	117.2	51.4		
	168.6	104.3	+1.55	
	Index A		Mean	+1.16
	20.8			
	89.6	68.8		
	199.8	71.4		
	271.2	140.2	+0.77	
	23.3			
	91.2	67.9	+0.81	
	201.8	68.4		
13 28 31	270.2	136.3	+0.85	
13 26 35				

Continued in Next Book.

.560

PHOT. OBSERVATIONS LEDGERED UP TO HERE (Aug. 7, 1923)