

KG
11365
450

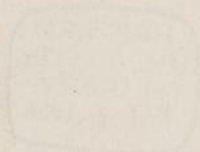
KG 11365, 450

1892phae.proj...451R

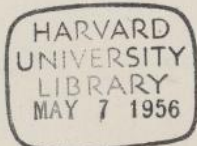
Wm Maxwell Reed

Record Vol V

West Equatorial



RG 11365.450



Thursday Dec 22 1892

7045 - R Cygni

a 46

b 5 e

c 6 d

d 3 e

e 4 f

f 3 g

g 3 h

h 5 k

i 3 m

m 5 n

n 2 o

o 6 p

Very cold.

2 3

Too cold to think clearly

Meteor (double)
motion \times W 45° S
RA. 19 34 + 50
H.A. 72 6^m S.T. 2 46^m

\uparrow \star B
mag A = 6
mag B = 8

R Cygni (continued)

p 3 q

q 5 r

r 5 R

R 5 S

m 2 d e

d e 3 m

I think I got glimpse of variable

Thursday Dec. 22 189~

7045- R Cygni

$L = e$
 $d \times 3\alpha$

$R = L_c$

$L_c 4 S$

$e_c = R$

$g 3 e_c$

$e_c 5 S$

L

✓ 7219 R S Cygni

$J 5 S$

$S 4 R$

$R 4 J$

$J 4 0$

$0 \times J n$

$n = m$

$m \times 3 m'$

$m' 3 l$

$l 3 k$

$k 4 h$

$h 5 g$

$g 4 f$

$f 5 e$
 d invisible

L

9.6

$v = m$

$f = T_c$

Thursday Dec. 2 ~ 1892

7299 ✓ U Cygni ^L
 region very rich in colored stars.

b 3 c

c 5 d

d 4 e

e 5 f

f 3 g

g 4 h

h 6 n

h 5 k

k 3 l

e = v

v 3 f

v = 8 R

n 30

o 4 p

p 5 q

q 2 r

r 2 d e

2946 ✓ R. Cancri ^L

c = v

v ² d

c 3 d

~~Thursday Dec. 22 1892~~

see page 3.

R Cancer

d 4 e

e 5 f

3 f 6 g

2 f 3 f

1 e 3 f

4 g 3 h

5 h 5 k

6 k 3 l

l 5 m

m 2 n

n 5 o

o 2 p

n 3 q (see)

q (see) 20

R Tauri

omit e' and k

use k².

h 5 k

k 4 l

✓ Nova Aurigae

p 4 ✓

v = q

q v 3 R

14.0

H

Thursday Dec. 22 1892

5

Aurora

There was a display that looked like a series of cumulus clouds along the northern horizon about 12:30

2976

✓ *V Cameri*

23β

β6α

α5b

β6c

γ4d

δ1e

ε4f

f4g

g'43g

g5h

h3k

2

✓ *Mutator*

mutator W 15° S Magn 8. Red = 7^R

R.A. 8^h 16^m + 17°

H.A. 1^h 47^m W Sid time 10^h 6^m

2976

✓ *V Cameri* (continued)

k5f

l4m

m5n

64v

v2c

v2R

Thursday Dec 22 1892

4976 V Ceneri (continued)

$h\ 3dc$

$dc = k$

$dc\ 5l$

$lc = am$

$m\ 2c_c$

l_c
 $\left\{ \right.$
 l_c

3170 S Hydrac

$a'3a$

$g\ 3h'$

$h'3h,$

$h\ 5k$

$k'5k$

$k'5l^2$

l^25l'

$k\ l^2 = ac$

$ac\ 5l^2$

$k\ 5ac$

l^23c_c

$c_c\ 2l'$

Thursday Dec 22 1892

7

T Hydras
erf'
f's f

L

Friday Dec. 23 1892

112 R Andromedae.

X

a 4 b

b 5 c

c 5 d

d 3 f

f 4 g 2

g 3 g'

g' 1 e (scc)

(scc) e 4 α

α 4 β

β 4 [f]

[f] 5 l

l 3 n'

✓

9:25.5-
3157 S.T.

Ineter. motion w. 10° S Inagg. = d.
ie. $\approx 7^{\text{mag}}$ Red = 7^R R.A. $0^{\text{h}} 19^{\text{m}} 45^{\text{s}}$
H.A. 3 36 w

Damn!

n' 4 f

f 3 0

0 3 8

8 3 n

n 5 - f

s 4 R

n 4 d_c
d_c 2 s

Friday Dec. 23 1892.

R Androm.

$n_1 f_c$
 $f_c \frac{4}{3} R$

L

$a_c \approx n'$
 $e = a_c$

114 S Ceti

X 2100 V Orionis
 $d \approx e'$

(Look up ephemeris for R Gemini) ⁴
 $e' \approx e$

2946 R Cancri

L

$f \frac{4}{3} R$ definition poor

$e \frac{3}{4} f'$

$f \frac{5}{8} R$

$2 \frac{1}{2} \beta$

$\beta \frac{3}{4} f$

$87 a$

clouds

~~B~~
I

1577 R Tauri

L

$a \frac{3}{4} b$

$b \frac{3}{4} e$

$e \frac{3}{4} d'$

$d' \frac{3}{4} d$

Friday Dec. 23 1892

R Tauri

~~d d e~~ d 4 e

e 4 e

~~e 2 e~~

e 5 f

f 4 g

g 5 g

g 5 h

h 6 h

h 4 l

l 3 l

l 2 4 m

2976

V Cancri

d 2 p

p 7 a

f 5 g

g 1 3 g

g 5 h

h 3 k

k 5 l

l 4 m

m 5 n

3170

S Hydræ

a 3 a

Friday Dec 23 1892

~~3477~~ R Linn's Minoris

3493

corrected $\frac{1}{2}$ hr after observing -
by Mr. M. R. J.

h 5 m

m 4 n

n 3 0

o 6 p

p 3 q

q 3 R

R 6 S

S 3 T

T 6 u

u 1 w

w 4 x

x 3 y

y 5 z

z 3

h 3 k

k 4 l

✓ Aurora

About 13 hours. There was a faint glow in the north not exceeding 10° in alt.

Friday Jan 6 1893

806

O Ceti

24 b b d 3 ann.
d Penni a 5 b
d Semin. b b b d Arietis

E m

β Penni d 3 l
 β Aurigae d 5 f
d Ceti f 4 g
 β Arietis g 6 h & Ceti

E

4315 ✓ R Comae

a' 5 a

a 2 b

b 4 c

c 7 d

d = e

c 5 d²

d² 1 d

d 2 f

f 4 h

h 4 k

k 4 l

l 4 m

m 5 n

n 5 o

o 3 p

p 3 q

✓ Invisible

L m

but meeting too early
for good work

L m

Saturday Jan 7 1892³

2946 ✓ R Cenci

X

a 6 b

b 5 c

c 3 d

d 3 e

e 3 f'

f' 4 f

f 6 g

g 5 h

h 4 k

k 3 l

l 4 m

m 3 n

n 5 o

e 2 v

v 2 f'

v = g R

α 5 β

β 3 γ

γ 4 α

L m

L

B

Sunday Jan 8 1892³

O Ceti

10.7

(69) 4 L

α 4 β

β 4 γ

γ 3 (m)

(south of variable)

M 2^h 12^m 24^s -5° 1' (1855)

B

B

L

✓ T Cephei

10.9

m 3 v

v 1 m

L

✓ S Cephei

11.0

m 1 v

v 1 m

L

✓ R Cassiope

11.1

v 2 v

v 3 R

L

✓ T Cassiope

11.2

v 2 v

v 1 g

L

Sunday Jan. 8 1892³

11.3

✓ S Cassio
m 2v
v 2m

L m

11.4

✓ S Persei
g 5v
v 2f

11.5

✓ T Persei
v 1d.

Wednesday Jan. 11 1893

8.3	✓ ϵ Cygni Seeing very poor $v = h$	ϵ
8.3	✓ R Aurigae $v = e$	ϵ
8.4	✓ R Lyncis Seeing poor. v invisible	ϵ
8.5	✓ R Mus. Ing. $v = g$	ϵ
8.5	✓ ϵ Mus. Ing. v invisible. Seeing very poor	ϵ
8.6	✓ S Mus. Ing. $m 3 v$ $v 1 m$	ϵ
	ϵ Bootis Seeing too poor.	ϵ
8.7	✓ R Canis Majoris Probably glimmers, perhaps = $m 4$	ϵ

1892phae.proj...451R

17

Friday Jan 13 1893

~~2.~~ R Tenuicriss
provisionally selected as a star
to go between "e" + "f".
It is $\Delta m + 25.1496$. (?)
for confirmation see Mr. Wrench's
Record of this date.

Clouds

Monday Jan 16 1893

114 ✓ S Ceti

✕
a 3 b
b 4 c
c 5 d
k 5 l
l 3 m
v = l

z h

✓ 13 R Piscium

a 2 4 a'

a' 2 a

a is a little

red = two 4R by 33 c scales.

✕
d 6 e'
e' 2 e
e 3 f'
f' 4 f
f 3 g
g 4 h
h 4 k
k 2 l
l 3 m
m 3 n

c

h

Sunday Jan 16 1893
~~Thursday Jan 16 1893~~

782 ✓ A. aurata

L

β 2 f
 α 7 b
 γ 4 h
 δ 6 g
 ϵ 4 k
 ζ 4 l
 η 3 m
 θ 3 n

ι m
 κ 25

Looked for Comet Holmes, but
 could not find it. Wendell
 looked also.

L

ν 30
 ω 3 1/2
 π 5 9/10
 ρ 3 R
 σ 4 S
 τ 4 T

9.6

$\nu = \pi$

L

$\mu = \alpha'$
 α' 3 0
 β' 2 β'
 β' 1 m

Monday Jan. 16 1893

R Arietis

s 4 g e
g e 1 T

O Aeti

1577 R Tauri

L

a 4 b
b 2 e
e 2 d
d 4 d
d 3 e
e 3 e
e 4 f
f 3 g
g 5 g
g 5 h

2946 R Cancri

a 5 B

B 4 f

f 3 a

a 4 b

b 4 c

c 3 f

f 3 f

f 5 g

h 3 m

X
B
B
h

Monday Jan. 16 1892

2946 ✓ R Cancri

W

↑
m3m
m50

10.6

$v = e$
 $v = 8R$

✓ S Persei

W

10.7

46v
v2g

Tuesday Jan 17 1893

513 R Piscium
Sewing very poor

$a^2 \neq 4 a'$
 $a'3 a$

4

Thursday Jan. 19 1893

2528 R Geminorum

L

X

a 3 b'
f' 4 b
f' 4 c'
c' 2 c
c 3 d'
d' 5 d

3477 R Leonis Minoris

L

L' 5 L

Seeing very poor, hazy.

L 3 B - B little red = 3R

B 5 a

a = b seeing poor

b 3 c'

c' 4 d

d 5 e

e 4 f'

f' 3 f''

f'' 4 f'''

f''' 5 g'

g' 3 g''

g'' 3 h

h 5 h'

h' 3 l

l 5 m

(over)

Thursday Jan. 19 1893

3477 ✓ R Leonis Minoris \hookrightarrow to

$v \frac{3}{4}^{\text{mag}}$ fainter than m.

$v = h$ (see) about

318X J Hydrae

9.8

Wednesday Jan 25 1893

✓ T Cephei

9:10

n 2 ✓

L Am

v 3 0

Friday Jan 27 1893

W R Cassiope.

8.8

$P = V$ Definition poor. m L

✓ T Cassiope

8.9

$V \propto e$

$v = 7R$

e very blue.

m L

9.0

✓ S Persei

fsv

v3g

m L

9.1

✓ R Aurigae

v1d

L m

seeing poor.

9.2

✓ R Aurigae

h3v

9.3

✓ S Borealis

$v = f$

L m

definition very poor.

9.4

✓ R Aurigae

d2v

v2v

L m

Wednesday Feb. 8, 1893

✓ New Var. no 12

816

$$c\beta = v$$

L

$$c\delta\alpha$$

$$c3\gamma$$

$$\gamma = \alpha$$

$$\gamma 2\alpha$$

$$\alpha 4\beta$$

being poor near horizon.

$$L1d$$

$$d6\beta$$

$$\beta 5\epsilon$$

$$\epsilon 3\eta$$

$$\eta 5\theta$$

$$\theta 3\phi$$

$$\phi 3\theta$$

✓ New Var. no. 1. Bessels.

$$v = \beta$$

$$\alpha 3 v$$

Wednesday Feb. 8 '93

V 3477 R Leonis Min.
hiv

H

W

9.2

Seeing poor.

V 3493 R Leonis

L

9.3

V=V

V W

V 4300 X Virginis

L

East done in the way.

Wednesday Feb. 15. 1893

✓ Aurora

7:20

faint arch $a = 5$
 $b = 3$



8:30

two arches

1st $a = 23^\circ$
 $b = 2^\circ$



2^d $a = 8^\circ$
 $b = 3^\circ$

8:51

arches disappeared low patches
of light in N.

x

R Tauri
 $\mu 25$

h

v 2100

V Orionis
 $v = e$

h

v 2266

V Monocerotis
 $a 4v$
 $v 1e$

v 23528 D Geminorum

9:3

✓ invisible

h

Wednesday Feb. 15 1893

- 9.4 ✓ 2684 S Canis Minor. L
 $d \times \frac{3}{v}$
 $v 2 \frac{e}{v=2R}$
- 9.5 ✓ 2946 R Caneri L
 $v 2 g$
- 9.5 ✓ 2976 V Caneri L
 $f 3v$
 $v 3 g$
- 9.6 ✓ 3170 S Hydrae L
 $v = \frac{h}{v}$
 $v 3 h$
- 9.7 3186 J Caneri
- 9.7 ✓ 3184 S Hydrae
 v invisible
- 9.8 ✓ 3407 S Antliae
 $a \approx v$
 $v \approx f$

Wednesday Feb. 14, 1890

Aurora ✓

9:50 A faint arch

14° in altitude, tendency to be darker.

Friday Feb. 24 1893

v 3493 R Leonis

T 3 v

v 4 u

L m

v 4300

X Virginis

h 2 v

v 3 k

L m

v 4315

R Comae Ber.

v Invisible

R Visible.

u u

Monday Feb. 27 1893

33

"Bright Stars" with
for determination of meridian
photometer of Paris and comparison
constant.

Bright star no. 30.

$\alpha_3 \alpha_c$
 $\alpha_c 4 b$
 $1 \quad 3$
 Sid. time $7^h 3^m 1/2$
 H. A. $E 135$
 Dec. $+2^\circ 40'$

b $\Delta m +3.2170$ R.A. $9^h 6^m 1.0^s$ $+3^\circ 30.6'$ mag. 8.6
 a $+2.2168$ $9^h 7^m 38.8^s$ $+2^\circ 40.4'$ 7.5
 α $+2.2167$ $9^h 6^m 50.6^s$ $+2^\circ 55.7'$ 4.3

Bright star no. 31.

$\alpha_2 \alpha_c$
 $\alpha_c 5 b$
 Sid. Time $8^h 0^m$
 H. A. $E 138$
 Dec. $+2^\circ 7'$

Sunday Feb. 27 '93

$$\alpha = 2.2217 \quad \begin{matrix} \sim \\ 9 \end{matrix} \begin{matrix} \sim \\ 25 \end{matrix} \begin{matrix} s \\ 13.0 \end{matrix} + 2 \begin{matrix} 1 \\ 31.0 \end{matrix} \text{ mag. } 6.2$$

$$a + 2.2213 \quad \begin{matrix} \sim \\ 9 \end{matrix} \begin{matrix} \sim \\ 22 \end{matrix} \begin{matrix} s \\ 24.8 \end{matrix} + 2 \begin{matrix} 4.4 \end{matrix} \text{ 9.2}$$

$$b + 2.2218 \quad \begin{matrix} \sim \\ 9 \end{matrix} \begin{matrix} \sim \\ 25 \end{matrix} \begin{matrix} 14.1 \end{matrix} + 2 \begin{matrix} 25.4 \end{matrix} \text{ 9.4}$$

Seeing very poor.

Bright star no. 32

$\alpha 2\alpha_c$

$\alpha 2t$

Sid. Time $\begin{matrix} \sim \\ 8 \end{matrix} \begin{matrix} \sim \\ 16 \frac{1}{2} \end{matrix}$

H. R. $\begin{matrix} \sim \\ E 1 \end{matrix} \begin{matrix} \sim \\ 17 \frac{1}{2} \end{matrix}$

Dec $+ 2^\circ 00$

$$\alpha + 2.2229 \quad \begin{matrix} \sim \\ 9 \end{matrix} \begin{matrix} \sim \\ 30 \end{matrix} \begin{matrix} s \\ 14.5 \end{matrix} + 2^\circ 20.7 \text{ mag. } 7.2$$

$$\alpha\alpha t + 2.2226 \quad \begin{matrix} \sim \\ 9 \end{matrix} \begin{matrix} \sim \\ 29 \end{matrix} \begin{matrix} 32.0 \end{matrix} + 2 \begin{matrix} 3.1 \end{matrix} \text{ 9.5}$$

$$a + 1.2330 \quad \begin{matrix} \sim \\ 9 \end{matrix} \begin{matrix} \sim \\ 29 \end{matrix} \begin{matrix} 23.3 \end{matrix} + 1 \begin{matrix} 48.5 \end{matrix} \text{ 9.5}$$

Bright star no. 33

Wednesday March 1
~~Feb 27~~ 1893

- ✓ 782 R Arietis
 g 2v
 with L m
- ✓ 806 O Ceti
 n 3v
 v 30 c L
- ✓ 1222 R Persei
 v invisible
 o + p (see) visible. H
- ✓ 1577 R Tauri
 invisible L m
- ✓ 1582 S Tauri
 given to me by Wendell
 invisible L
- ✓ 2100 U Orionis
 e 3v
 v = f L
- ✓ 2266 V Monacensis
 c 2v
 v 4d L m

Wednesday March 1 1893

- ✓ 2528 R Semineum
v invisible L m
- ✓ 2684 S Camerini
C 2 v
v = d L m
- ✓ 2946 R Camerini
v 1 g L m
- ✓ 2976 V Camerini
g 1 v
v 1 h L m
- ✓ 3170 S Hydrae
h 3 v
v 3 k

Nova Aurigae

10.0

S 1 v
v 1-2 T

H m

Thursday March 2 1893

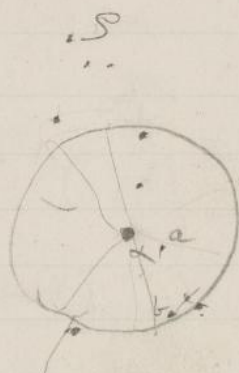
37

Bright star No. 33

a 2 d c
de 1 b

L m

mag. 6.0 d S.D. 7:25 ^{u m} HA 2^d E, Dec +11° 30'
3 y Redurn.



N

Nova Aurigae

R 3 V

V = 2

V 3 J

H m

8.9

March 7 1893 Tuesday

No 34

Bright star



N

a 1 d_c

d_c 2 b

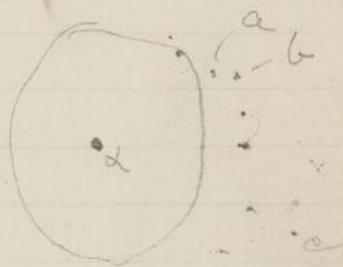
L S.T. 8:9^h H.A. 2^h 3^m 1/2^s E Dec +23° 45' Magn 4th

No 35 - Bright star 4^R

a = d_c

d_c 3 b

c 3 d_c



N

Q S.T. 9^h 3^m H.A. 0^h 30^m E Dec +5° 0' Magn 5

9.9

Nova Aurigae

R 3 V

V = S

V 2 T

H

Monday March 13 1893

8.20 v

U Orionis

f 2 v
r 4 g

L

8.5 ± v 2266

V Mmocratis
(see) d = v

L

8.7 ± v 2684

S Canis Minoris

c 3 v
v = d

L

8.9 ± v 2946

R Cancri

~~g 1 v~~
~~r 5~~

g 5 v
r 1 h

L

9.1 ±

v

2976

V Cancri

R 2 v
r 4 l

L

9.3 ±

v

3170

S Pychoe

R 1 v
r 4 l²

L

9.5 ±

v

~~3477~~

R Lennis Minoris
(see) 4 v

L

Monday March 13 1893

9.7 ± v 3493 R Leonis
S 3V
v 2T

L

9.9 ± v 4300 T Virginis
K2 v
v 2L

L

10.1 ± v 4377 T Virginis
g 3V
v 3R

L

10.3 ± v 4407 R Corvi
(sec) d 5-v
(sec) m 2-v
2V 2d

L

10:28 Nova Aurigae
R 2V
v = S
v 4 T.

H

Wednesday March 15 1893

41

No. 34 Bright Stars

$\alpha 2 \delta_c$

ST $8^h 54^m$ — HA 11^m $\delta_c 46$ $+69^\circ 30'$ 5.5^m mag. N

~~No. 35~~



Nova Aurigae

V 1 S

9:30

difficult to observe. owing to position of S relative to V.

Thursday March 16 1893

8:30	✓	S Cygni	
		✓ Invisible	
		m visible	H.
8 45	✓	T Cassio	
		d 3 ✓	
		v 6 e	□
8.9	✓	S Cassio	
		f 2 ✓	
		v 5 g	H
9.0	✓	S Persei	
		f 6 ✓	
		v 2 g	
9.1	✓	T Persei	
		c 6 ✓	
		v 1 d	
9.2	✓	R Aurigae	
		d 1 ✓	
		v 2 e	
9.3	✓	R Lynce	
		R 2 ✓	
		v 3 f	
		v 4 h	

Thursday March 16 1892⁴³

Comet or Nebula (?)

SD $9^h 33^m + 71^\circ 30'$ HA $2^h 1.5^m$ W.

✓ nucleus?

L

~~9:50~~ ~~9:50~~ S.T. $9^h 50^m$ HA $0^h 52^m$ RA $9^h 37^m + 69^\circ 9.5'$
~~9:56~~ motion S 45° E

✓ R Ursae Major
 $9^h = V$
 $V = 6R$

L

✓ T Ursae Major
 $V = 2$

✓ S Ursae Majoris
 $8^h = V$
 $V = 12$

L

✓ S Boötis
 $1^h = V$

L

✓ Nova Canis Major
 $V = 5$

H

10:20

Saturday March 18 1893

R Camelopardalis

91 30

v

6-5-6

L

v 1 c

v

R Draconis

m 3 v

L

v 2 m

v

T Cygni

v = K

L

9.8

v

S Cygni

d 5 v

L

v = e

~~v~~ 3 f

v = 9 R

Monday March 20 1892

Q Staudt
min
8430

✓

S Cephei
e 3v
v 1-2 f
v = 8R

L

8.6

✓

S Persei
f 6v
v 2g

L

8.7

Nova Aurigae
R 2v
v 2s

H

8.8

✓

2100

O Orionis
f 3v
v 3g

L

8.9

✓

2266

✓ Monoceros
d 3v
v 3d

L

9.0

✓

2684

S Canis Min
d = v
v 3e

L

9.1

✓

2946

R Cancri
~~g = v~~
v
g 3v
v = h

L

Monday March 20 1893

Tuesday March 21 1893

S Aphel

^{lim}
9.8 v

d 4 v

v = e

swing from

h

Tuesday March 27 1893 ⁴⁷

charts
Stars Received

7560

7120

1577

1582

4315

4815

4616

4377

2528

112

3189

1222

8:00 ~~2100~~ ~~Uranus~~ U Orionis

~~V = 9~~

V = 9

~~h3~~

v3h

m

A.1 v 1222 R Persei

V(sec) = V

v2 m(sec)

A.3 v 1577 R Tami

v invisible

l visible

m

R. V 2266

V Monocrotis

(sec) = 30 x 2 v

v 4 e (sec)

m

~~Wednesday~~ ~~Tuesday~~ March 29 1893

8:38 ✓ 7528 R Scintillum
m 4v
v 2m

m L

8
8.7 ✓ 2684 S Canis Minoris
a 2v
v 1d

m

8
8.9 ✓ 2946 R Cancri
g 5v
v = k
v 5k

m

9.3 ✓ 7779 S Cephæi
d 3h
v 3e
v = q/c 10R

m L

Thursday March 30 1893⁴⁹
 Friday

8.0

v.

T Cassiope

$\gamma = \frac{e}{3f}$

h m

8.1

v

S Persei

$\gamma = 4+$
 $f6v$
 $v2g$

8.2

v

T Persei

$v = \alpha$

8.3

v

S Cassiope

$f2v$
 $v5g$
 $v1g$

8.4

v

R Aurigae

$e4v$

8.5

v

R Lyncis

$gk3v$
 $v2h$

C m

Friday March 31 1893

8.6

v

S Cephei
d 3v
v 4e

Ly mu

Tuesday April 11 1893

v 4315 R Comae
v invisible
R visible

L

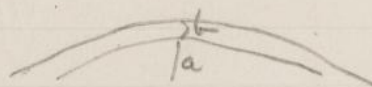
Aurora

8:45-

Faint arch

$$a = 80^\circ$$

$$b = 2^\circ$$



L

4315- R Comae
C.G. d. 3
d² = d

L

+

45h

250

04h

h 49

q 3R

L

S. Cygni

d 4v

v 2e

v = 10R

L

Considerable moisture
in the air.

April 18 1893 Tuesday

✓

R Lyncis

✓
f 3 ✓

v 2 g

ac 2 m
l 1-0 ac

✓

S Ursae Maj
ac 3 m

v 3 f

n 1 be
be 5-0

m 5 de
de 1 0

Monday April 24 1893

U Orionis

X

$l 5 m^2$
 $m^2 4 m^1$

l
 m

Tuesday April 25 1893

v 2528

R Geminae

a 4 b'

b' 3 b

b 5 c'

c' 2 c

c 4 d'

d' 5 d

d 4 e

e 3 f

f 4 g

g 4 h

h 3 k

k 5 m

L m

X

10.0

d 1 v

v 3 e

Monday May 8 1893

55

9:10

✓ S Cephei

60

d 3 ✓

✓ 2 e

✓ 10 R

✓ J Cephei

e 6 ✓

✓ 1 f

✓ 4 R

✓ S Cygni

Invisible

60

Wednesday May 10 1893

✓ ✓ R Aurigae

FD f4v
v2g

~~the~~ 2

✓ R Lynx

d5v
v2e

L

✓ S Boötis
faint

✓ R Ursa Majoris
faint

✓ ✓ R Camelopardalis

b5v
v2e

L

✓ R Draconis

v=e

L

01v

Thursday May 11 1893

3184 γ Hydrae

See Mr. Wendell
about Comp. stars. ~~Region~~
Sequence near β all wrong.
Have a new chart made
of region.

2926 $\sqrt{\gamma}$ Cancri

α 2 β

β 4 a

a 4 b

b 7 c

c 2 d

d 2 e

e 4 f

f 4 g'

g' 3 g

g 3 h

h 4 k

+

6

$\sqrt{\beta}$ Lyrae

α 2 β

$\gamma = \beta$

9.6

5

Monday May 22 1893

9.7

r

R Lyncis
d3v

Lm c

Saturday June 10 1893

59

3493 R Leonis

✓ 4377 T Virginis

L 17

X

c 4 d
d 5 e
e 4 g'
g' 3 g
g 5 h'
h' 2 h
h 3 k
k 3 l
l 4 m
m 3 n
n 3 o

✓ fainter than o
✓ not seen.

Tuesday June 20, 93

v 3477 R Leonis Minoris

LM

X

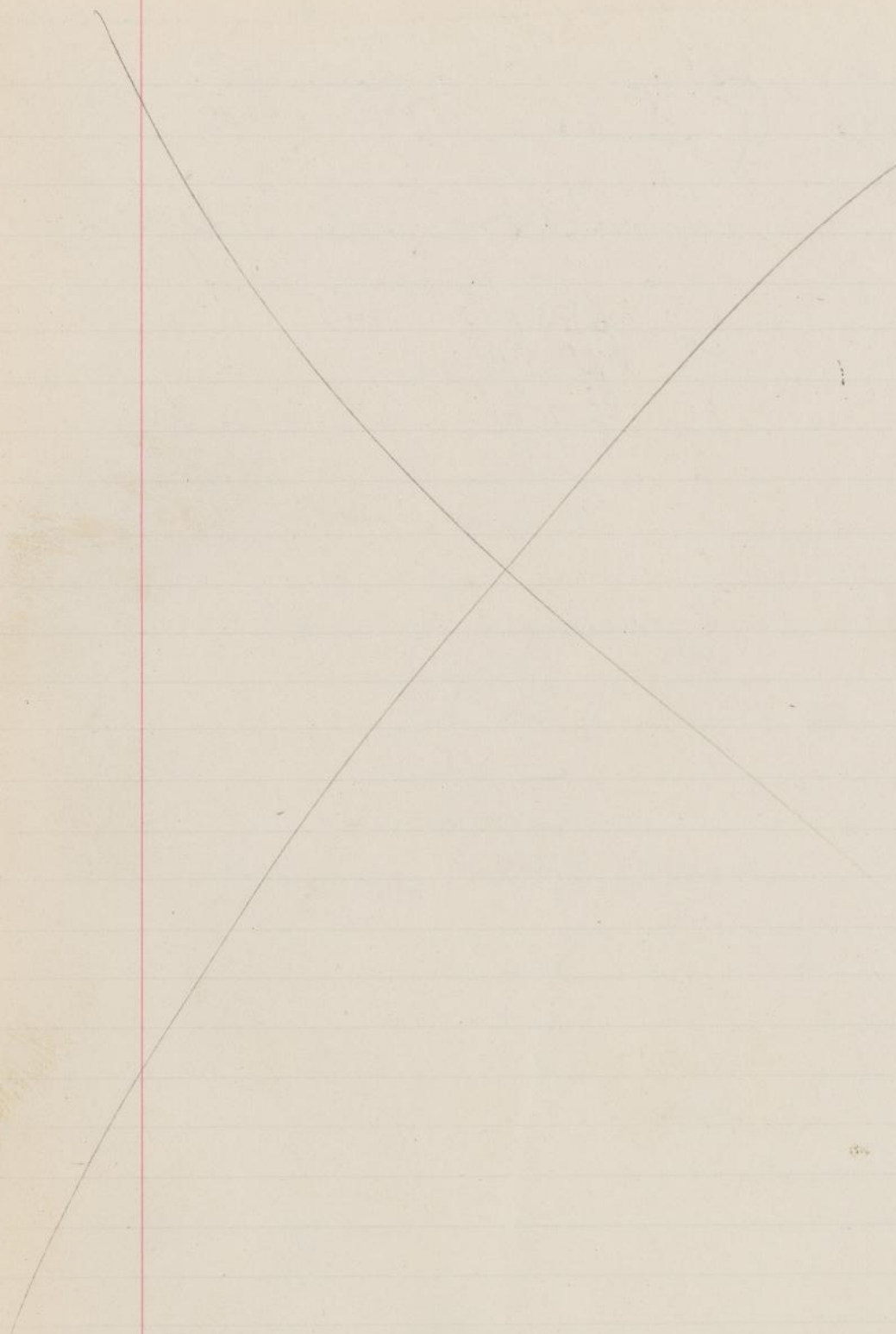
L'	4	L
f'	3	f ^o
f ^o	=	f
f	6	f'

d 3 v

v 1 e seeing poor

g	4	h
h	3	k
l	1	m

9.5-



Wednesday June 28 1893

v 3477 R Leonis Minoris

L'42

L m

+ $f_{13}^{f^0}$
 $f^0 = f_1$
 $f_7 g'$

Thursday June 29 1893

v 3477 R Leonis Minoris
+ $\alpha' \delta \alpha$

L In

9.1 v vid

4407 R Corvi
Too low

L In

4492 γ Virginis

L In

+ $\begin{matrix} a' b' \\ b' 1b \\ b' 2c \\ b' 5c \end{matrix}$

Seeing very poor

$\begin{matrix} c' 6d \\ d 2e \\ e 2-3f \end{matrix}$

cloudy?

Thursday July 6 1893

Y Virginis

X $a^{\frac{5}{2}} b'$
 $b' 2 b$
 $b 4 c'$

L Z

Too low to Continue.

4596

U Virginis

X $b 3 c$
 $c 3 d$
 $d 3 e$
 $e 4 f$
 $f 3 g$
 $g 4 h$
 $h 3 k$
 $k 4 l$

L

V (see) $a 5 v$
 $v 2 g$ (see)

X $d = m$
 $m 5 n'$
 $n' 3 o$

Friday July 7 1893

65

R. Urue May.

X ac 4 h
n 3 ac

Lip

0 1-2 m

X S 2 gc

Wednesday July 19 1893

5695 & V. Coronae

9.0

motion East to West motion
S.T. 17 6 H.A. 0^m 0^m RA 17 6 Dec -15°
mag 7.5

6132

R. Ophiuchi

a 2 & c

c & 3 d omit b

~~c d~~

~~d e~~ d 2 e

~~f g~~ e 5 f

~~g h~~ f 5 g

b = a

g 4 h'

h' 3 k

omit h

k 4 m

m 4 n

n 3 o

Wednesday Aug 2 1893

67

Right hand light on Cory hill.

Star light $-46^{\circ} 30'$ on circ.

Star $-37^{\circ} 37'$ " "

Star is a Scorpion The light is
southern of the two.

In B.A.C. Dec for 1893 = $-37^{\circ} 50'$

Refraction = $6'$

See P 69

Wednesday July 27 1893

S? R Silrac

c4d

F

m

d3f

f5g

g2h

h7k

k2l

6182 R Ophiuchii

$\alpha = 19 \ 9 \ 59.6 - 16 \ 9.0 \quad 6.5 \quad 4470$

$\beta = 17.5 \ 19.2 - 15 \ 22.9 \quad 7.0 \quad 4488$

L2 β

$\beta 6 \alpha$

$\alpha 3c$

c2d

d4e

e7f

f3g

g3h

h4k

k2m

m2n

n3o

Wed Aug. 2 1893

69

See P. 67

5501

✓

S Serpentis

2 66d

L

26f

m 50

0 4 1/2

R = v

v 6 m

X

}

✓

S Persei

f 3 v

r 3 g.

L

✓

Meteor

white 6 m. trail

u
10 - 1 m

ST. 19^h 3^m R.A. 21 36 d + 78

H.A. 2^h 39^m E

X

✓

S cephei

v = 10 R.

2 e 6 v

v = f

X v 5 g

L

Thursday Aug 3 1893

$$\begin{array}{l} S \text{ Librae} \\ + \beta, 7-8 \alpha' \\ \underline{\alpha' = \alpha} \\ \alpha^2 3 \alpha \\ \underline{\beta 5 \alpha^2} \end{array}$$

now too slow to other w. accuracy.

5770 ✓ R Huculis

a 2 b

b 3 c

c 2 d

d 3 e

e 4 f h

h 3 k

k 2 l

l 5 m

m = n

n 6 o

o 2 p

p 3 q

q 4 r

V4 gr(sec)

Journal

Thursday Aug 10 1893

71

8.45

✓ R Ursae Majoris

✓ Invisible

S visible

L

Seeing poor.

✓ J Ursae Maj

✓ Invisible

L

✓ S Ursae Maj

n 3v

v 30

L

✓ S Boötis x

b 5v

v 1c

v 5d

✓ R Camelopard

v 2 l

Tuesday Aug 22 1892³

✓ Aurora

9:10

a very faint streamer
in $N^{30}W$ 10° long. Lasted only
about 1 minute.

9:30

✓ R Usar Maj.

$r = h$

seeing poor.

mtl

Aug 25 1893

(2)
8.0

✓ # R Ursae Major

~~X~~ $n \neq 3 a_e$
 $a_e = 0$

Le M

$l 1 \gamma_c$
 $\gamma_c 5 m$
 $0 1 \checkmark$

✓ σ Ursae Major.
✓ not seen.

✓ β Ursae Major
✓ not seen.

✓ R Dacoris

$m 3 \checkmark$
 $v 1 n$

✓ τ Cephei
 $l 3 v_e$
 $v_e \gamma 3 m$

74 Friday Aug. 25 1893

10.0

✓ T Cephei (continued)
 a 5 v
 v 3 b

F m

10.7

✓ S Cephei

E 3 v

f 1 v

v 3-4 g

v = 9 R

L m

| |

Saturday Sept. 2 1893

R Ursae Majoris

m 2 a c

a c 4 p

o 1 m

h

I notice that a prismatic comparison is more affected by bad seeing than a real star of the same magnitude.

l 6 k

k 2 m

h

g 4 m

l 2 g

h

g 2 T

s 3 g

H

✓ R Cassiopeiae

v 2 g R

l 2 v

v 3 m

h m

✓ T Cassiopeiae

N 1 v

h m

✓ S Persei

f 2 v

h m

Saturday Sept. 2^d 1893

✓ S Cassiope

h 3 v f
r = m

h m

✓ R Aurigae

✓ invisible

h m

Thursday Sept. 28 1892

77

6512

✓ T Herculis

a b b

b 4 c' (1)

c' 2 b

c' = 4 R

c 1 d

c 3 d

d 5 e

e 4 f

f 4 g

g 4 h

h 3 k

k 3 l

l 5 m

m 5 n

n 2 v

m = a c

a c 4 n

g. 3 d c

d c 2 h

L ~~4~~ m

L

H

~~4~~ m

m

Saturday Sept. 30 1893

β Lyrae
Photo R w. $2\frac{1}{2}$ ⁱⁿ slars.

Saturday Sept. 30 1893

β Lyrae

Photo R

248.3 250.0
282.0

279.8

71.0 - 30.6
101.6 27.5 4.98
251.9
279.4

250.2 249.4 (249.7) 249.6 70.1
103.8 33.7
749.2 103.8 249.4 324
249.7 70.1 281.8 36.1
281.8 4.70

69.9
104.8 3.49
251.9 291 4.76
281.0 64.0

Saturday Sept. 30 1893

79

Saturday Sept. 30 '93

⁶ β Lyrae

11:38	70.5	340	4.86
	104.5	278	
11:42	251.9	67.3	
	279.2		

	70.9	340	4.74
	104.9	301	
11:52	251.0	64.1	
	281.1		

	69.5	37.1	4.60
	106.6	31.5	
11:59	248.9	68.6	
	280.4		

Monday October 2 1893

13.5

✓ S Cygni

l 2v

v 2 m

H m

13.7

✓ T Cephei

v 3 d

F. m

~~v~~

v 3 d

H m

R = v_c

H "

✓ S? T Cephei

l 3v

v 4 m

H m

13.9
++.

✓ R Cassiope

m 3v

v 2 m

v = qR

H

14.0

✓ R Cassiope

m = v

v 2 m

4 H m

14.1

✓ S Cassiope

R 2v

v 3 s

H m

Monday Oct 2 1893

- 14.2 ✓ S Persei
f 2 v
v 4 g L m
- 14.3 ✓ R Arminiae
v mischie L m
- 14.4 ✓ R Synes
m 2 v H m
- 14.5 ✓ R Ursae Major
g = v
v 4 a H m
- 14.6 J T Ursae Majoris
v mischie H m
- 14.8 ✓ S Ursae Majoris
l 1 v
v 3 m H m
- 14.9 ✓ S Bootis
e 3 v
v 4 f 2 H m
Seeing Very Poor

Monday Oct 2 1893

✓ R Cennetopandi

15.0

8 w
v 2th

H m

✓ R Draconis

v invisible

m barely visible

H m

12ⁱⁿ Boyden

P Persei & P Persei

Phot. R

80

95.5

253.5 258.9

273.5 272.0

15.5

13.1

28.6

2 1/2 in
magn.

6.55

77.0

95.0

256.5

273.2

18.0

16.7

34.7

6.14

16.3

16.3

78.8

95.7

257.3

273.4

15.9

16.1

32.0

6.30

Monday Oct. 2 1893

 $\beta + \rho$ Persei (continued)

16.4

$$\begin{array}{r} 78.0 \\ 96.0 \\ 257.5 \\ 273.1 \end{array}$$

$$\begin{array}{r} 18.0 \\ 15.6 \\ \hline 33.6 \end{array}$$

6.20

16.6

$$\begin{array}{r} 78.4 \\ 94.9 \\ 257.9 \\ 273.3 \end{array}$$

$$\begin{array}{r} 16.5 \\ 15.4 \\ \hline 31.9 \end{array}$$

6.32

77.4

changed position of
shell

97.10

$$\begin{array}{r} 19.6 \\ 14.1 \\ \hline 23.7 \end{array}$$

6.96

258.3

272.4

16.7

16.8

$$\begin{array}{r} 79.2 \\ 96.1 \\ 257.5 \\ 273.9 \end{array}$$

$$\begin{array}{r} 16.9 \\ 16.4 \\ \hline 33.3 \end{array}$$

6.22

73.0

90.8

259.3

Thursday Oct 5 1893

712

✓ R Ophiuchi

0 5 v

#

neb smth following plainly seen
with H eye piece. See Sec. 1 chart
of region for neb

R 3 m

H

m 2 m

m 50

H

a 3 c

L

24 β

β 6 a

82 h'
h' 5 k

R Coronae

84 k

L

04 g

S Coronae

63 c

L

c 4 d²

d² 3 d

Thursday Oct 5 1893.

85

W Huculis

a 4 b.

b 3 c

c 1 d

d 5 e

e 5 f

he

✓ R S Cygni

m 3 m'

m' 2 l

l 4 H

p 2 v

v 2 o

6

24

a h-g
b g-f
c f-e
d e-d
e d-c
f e-b
g b-a
h

+

Friday Oct. 5 1893

β_c Persei

3.2

Saturday Oct. 6th 1892

8.58 β Persei
11.9
149.4 Clouds.

9.9 161.6 149.1 Clear
192.1 139.9
332.0 289.0 3.98 -0.43
12.5

9.12 ^{12.8}
23.7
12.2
(11.5) 161.4 148.6
(161.8) 339.4 299.2 -0.7
13.1

9.16 159.9
194.5 144.3
329.9 125.4
15.6 269.7 +0.25

9.20 157.8
163.7 144.2
335.1 171.4
13.6 315.6 -1.5

9.23 157.3
163.4
334.3 Clouds.

Saturday Oct. 7 1893.

9.29

B. Persei

11.5

156.9

191.8

3 x 35.9

145.4

44.1

145.4

144.1

289.5

9.38

13.9

154.8

197.4

337.0

140.9

139.6

280.5

Clouds.

"

"

"

9.45

10.0

156.7

161.8

340.9

318.5

159.2

149.2

298.4

$\frac{1}{2}$

$\frac{2}{2}$

9.48

13.4

161.0

342.8

11.0

24.4

12.2

148.8

297.6

$\frac{1}{2}$

$\frac{2}{2}$

9.51

159.3

162.9

341.3

9.3

322.2

161.1

9.2

159.8

303.6

$\frac{1}{2}$

$\frac{2}{2}$

9.56

9.7

158.5

192.0

340.0

148.8

148.0

296.8

Saturday Oct. 7. 1893.
B. Pease.

9.59

11.9
161.1
160.9
341.0

10.3

11.4
161.2
193.1
(337.5) 342.0

149.8
148.2
298.0

-0.96

10.7

13.0
160.0
191.3
343.5

149.0
152.2
299.2

-0.80

10.12

10.5
159.5
190.0
342.8

149.0
152.8
301.8

-0.89

10.15

~~40.9~~
10.9
161.4
190.5
3437.9

150.5
147.4
297.9

-0.73

Saturday Oct. 7. 1893.
B. Persei.

10.17

12.0
162.9
191.5
338.7

150.9
147.2
298.1 -0.76

10.20

13.7
164.0
191.0
342.5

150.3
151.5
301.8 -0.88

10.25

10.9
161.0
191.0
342.1

150.1
151.1
301.2 -0.76

10.28

10.0
159.5
193.1
337.0

149.5
143.9
293.4 -0.57

10.36

10.0
161.5
195.0
341.5

151.5
146.5
298.0 -0.70

10.38

9.1
159.9
158.7
339.9

150.8
181.2
332.0
301.6 -0.88 $\frac{1}{2}$

Saturday Oct. 7. 1893.

10.43

B. Perse.

7.5

161.8

159.0

334.8

152.9
305.8
151.5
154.3
195.8
330.1

152.9
305.8 - 1.03

10.46

8.2

161.5 161.0

160.5 (192.0)

342.5 (341.4)

341.9

152.8
149.4
302.2

-0.9

10.50

10.5

161.0

192.0

338.5

150.5
146.5
307.0

-1.1

10.58

7.2

161.0

191.0

340.8

153.8
149.8
303.6

-1.0

11.0

10.5

162.4

190.1

335.7

151.9
145.6
297.5

-0.8

11.2

8.2

162.6

154.4
308.8

-1.2

Sahivalen Oct 7 1893

 β Persi

13.0

158.0

190.9

342.0

$$\begin{array}{r} 145.0 \\ 151.1 \\ \hline 296.1 \end{array}$$

-0.7

11.0

160.5

195.7

339.0

$$\begin{array}{r} 149.5 \\ 143.3 \\ \hline 292.8 \end{array}$$

-0.6

11.17

11.19

10.3

159.5

192.3

343.0

$$\begin{array}{r} 149.2 \\ 150.7 \\ \hline 299.9 \end{array}$$

-0.9

11.21

11.2

162.0

187.6

Clouche

11.27

15.5

163.0

194.1

341.0

$$\begin{array}{r} 147.5 \\ 145.9 \\ \hline 293.4 \end{array}$$

-0.6

11.29

11.30

9.4

160.1

192.0

340.0

$$\begin{array}{r} 150.9 \\ 148.0 \\ \hline 298.9 \end{array}$$

-0.8

Saturday Oct 7 1893

β e Persei

Reversed β e to Left.

11:35 157.1 (152.0)
194.6

143.0
141.4
284.4

-0.3 Clouds

11:44 336.0

11:53 18.6

134.8
139.8
273.6

0.0

153.4

195.0

11:57 334.8

11:58 14.1
155.0
196.5

140.9
138.5
279.4

-0.2

12:00 335.0

~~Re~~ β e on Right.

12:13 12.0
160.6

148.6
148.6
297.2

-0.8

12:15 193.0
341.6

12:16 12.3
159.4
191.9
337.9

147.1
146.0
293.1

-0.6

12:18

Saturday Oct 5th 1893

β Persei
Be on Right

12:13 158.1
194.0
35.7
 $\frac{147.3}{145.1}$ -0.6
292.4

12:16 10.8
13.9
159.4
193.8
35.7
 $\frac{145.5}{142.3}$ -0.4
287.8

12:20 336.1
12:22 13.8
160.0
190.2
35.7
 $\frac{146.2}{150.6}$ -0.7
296.8

12:26 340.8

12:29 9.0
159.3
193.7
35.7
 $\frac{150.3}{143.8}$ -0.6
294.1

12:33 337.5

12:37 12.6
157.2
193.0
35.7
 $\frac{144.4}{148.0}$ -0.6
292.4

12:40 341.0

Saturday Oct 5th 1893

95

Be Persei in Right.

12142	17.5	139.1	
	156.6	136.9	
		<u>276.0</u>	-0.1

	196.2
12148	333.1

13112	61.4	44.1	
	105.5	43.9	
		<u>88.0</u>	4.0
	239.5		

13116	283.4
-------	-------

13117	62.0	45.8	
	107.8	43.7	
		<u>89.5</u>	3.9
	239.3		

13120	283.0
-------	-------

Be in Left

13126	62.1	47.9	
	110.0	51.3	
		<u>99.2</u>	3.7

3
286.0

13132	287.3	(?)
-------	-------	-----

13134	59.0	49.5	
	108.5	50.3	
		<u>99.8</u>	3.7
	236.0		

13138	286.3
-------	-------

13153	65.4	30.5	
	95.9	26.7	
		<u>57.2</u>	5.0
	251.1		

13154	277.5
-------	-------

Saturday Oct 5th 1893

Be Persei

	68.2	26.5	
	94.7	<u>31.2</u>	
		57.7	4.9
	249.9		
141.2	281.1		

	64.2	32.3	
	96.5	<u>33.0</u>	
		65.3	4.7
	245.5		
141.7	278.5		

	67.0	36.2	
	97.2	<u>38.9</u>	
		69.1	4.5
	248.1		
141.0	287.0		

	66.2	31.4	
	97.6	<u>28.6</u>	
		59.4	4.9
	250.0		
141.5	278.0		

	58.7	37.3	
	96.0	<u>30.5</u>	
		67.8	4.6
	247.5		
141.21	278.0		

	65.0	32.2	
	97.2	<u>35.1</u>	
		67.3	4.6
	246.9		
141.26	281.0		

Saturday Oct 5th 1893
 Be Persei

97

14128 64.8

96.8

32.6
 $\frac{38.5}{70.5}$

4.5

14131

243.5

282.0

14134

63.9

98.2

283.4

63.4
 $\frac{98.2}{34.8}$

$\frac{34.3}{9.5}$ $\frac{34.8}{69.6}$

4.5 $\left(\frac{1}{2}\right)$

14138

62.9

14139

96.4

(100.0)

242.6

280.9

32.8
 $\frac{38.3}{71.1}$

4.5

14145

63.6

14146

97.0

248.5

280.0

31.5
 $\frac{63.0}{31.5}$

$\frac{1}{2}$
 4.7

14152

96.0

14158

64.0

100.7

239.9

36.9
 $\frac{45.2}{80.9}$

Clouds
 images faint

4.2

1511

285.1

1516

58.9

102.5

242.2

43.6
 $\frac{41.1}{84.7}$

11

11

4.1

1519

283.3

Saturday Oct 4th 1893

Pe Bessie

15113 61.1
105.015116 242.7
285.0
$$\begin{array}{r} 43.9 \\ 42.3 \\ \hline 86.2 \end{array}$$

4.0

15118 56.7
103.5
242.2
$$\begin{array}{r} 46.8 \\ 40.8 \\ \hline 87.6 \end{array}$$

15121 283.0

4.0 ~~4.9~~15129 57.1
103.2
234.0
$$\begin{array}{r} 46.1 \\ 51.1 \\ \hline 97.2 \end{array}$$

3.9

15132 285.1

15133 102.9 (105.0)
60.5 (61.9)
240.0
$$\begin{array}{r} 287.9 \\ 103.9 \\ \hline 122.4 \\ 61.2 \end{array}$$

$$\begin{array}{r} 32.7 \\ 45.5 \\ \hline 78.2 \end{array}$$

4.2

15139 285.5

15140 58.1
100.1
244.8
$$\begin{array}{r} 42.0 \\ 40.2 \\ \hline 82.2 \end{array}$$

4.1

15143 285.0

15146 56.6
99.0
$$\begin{array}{r} 42.4 \\ 50.0 \\ \hline 92.4 \end{array}$$

3.9

15152 237.9

15153 287.9

Saturday Oct. 17 1893.

99

Be Persei
misty clouds are less dense than
are higher than they were in above

Clouds chain thickened

15:59	57.6	47.4	Majors very faint.
	105.0	46.2	
	240.9	93.6	
16:12	289.1		3.8

16:15	60.1	46.1	Seeing
	106.2	45.9	
	240.1	92.0	
16:18	286.0		3.9 better

16:19	62.2	32.1	4.1
	99.3	45.8	
	240.6	82.9	
16:13	286.4		

16:14	59.1	46.5	3.9
	105.6	43.7	
	243.3	90.2	
16:19	287.0		

16:20	55.0	48.1	3.8
	103.1	96.2	
	290.9		1/2 faint
16:25	298.6		
	288.0		

Saturday Oct 27 1893

BePussii

16:32	57.4	48.2	
	105.6	36.8	
		85.0	4.1

	245.4
16:36	282.7

16:39	61.5	42.5	
	104.0	39.5	
		81.0	4.2
	244.5		

16:40 284.0

16:44	61.5	39.5	
	104.0	46.2	
		79.7	4.2
	241.3		

16:47 281.5

16:48	60.0	39.9	
	97.9	43.2	
		81.1	4.2
	245.1		

16:51 288.3

16:52	63.9	38.5	
	102.4	41.2	
		79.7	4.2
	243.3		

16:55 284.5

Watch one minute slow.

Monday Oct 9 1892

101

✓ S Coronae
 d se
 ex 5 h
 h 4 h
 k 5 l
 l 3 m
 m's n
 m 5 0
 0 3 h
 h 6 9 ✓

Le

Z

Variable Minusible

Stem

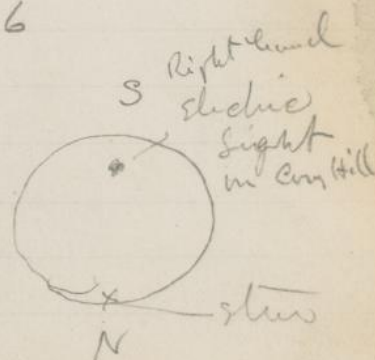
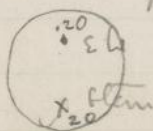
-45° 30'

Sid. P. 22 50
 H angle E 14 1/4 m.

af (1895) 23 3 -45° 40'
 Probability Correlation 91445 c. 3.9 m.

ST 23 5 -45° 46'
 H A W 28 1/2

Star N of Sight 63/100 of field.



69 +5
 60 -4
 63 +1
 -64 ±3

Diameter of field 4" 15"

Monday Oct 9 1893

✓ O Ceti
 $v = 5 \mu(\text{sec})$ $-2^{\circ} 25'$
 about 9 mm.

✓ R Camelopardi
 $v = 9$
 $v = 3 \frac{1}{2}$

L

✓ S Cygni
~~82~~
 $v = 11$
 $v = 4k$

L

14:00

✓ T Cephei
 $d = 11$
 $v = 3e$

F
F

$d = v$
 $v = 5e$
 $v = 10R$

L
"

$0.4 v_c$
 $v_c = 2h$

L

14:30

Aurora in the north. A low
 arch not more than 40° high. The
 auroral slip has been visible all
 night. Between 11 & 12 P.M. faint bands
 were seen in South West. The cloud a

movement apparently with Mr. Douglas
 & I ~~at~~ traced their contours from time to

^{mag.} 5.9 ⁱⁿ 22 ^m 38.3 [°] 47 12 ^{card} 30924.
 time. Find these papers.
 see

Tuesday Oct 20 1893

6905 \checkmark Sagittarii

a 6 l

b 4 c

c 4 d⁺

d⁺ 4 e'

e' 2 f

f 4 g

g 3 h?

h 3 g

h 3 k

k 1 l



l 4 m

m 2 n

n 4 o

o 5 p

h. m
7 39

\checkmark ~~motion~~  ← "metcor" 
 motion S. 45° W
 Sid. time 21 h. 16 m
 hour-ang. W. 2 h. 5 m
 α 19 h. 11 m
 δ -20
 magn. $8\frac{1}{2}$

p 3 q

q 4 r

d = variable

* v 4 e'

c 6 v

v 5 r

C_c = R

q 5 C_c

October 10, 1893.

105

$\begin{matrix} \dagger & 2 & 1 & \text{---} & a_c \\ & a_c & = & m \\ & q & = & \text{---} & a_c \\ & p & 5 & & a_c \end{matrix}$

~~22-2~~
~~47-15~~
~~22-2~~

6572 ✓ τ Herculis.

$\begin{matrix} a & 6 & b \\ c' & 1-2 & b \\ c' & 5 & c \\ c & = & d' \\ d & 3 & c' \\ v & 3 & n \text{ (s.c.c.)} \\ \text{(W.M.R.) } n & 4 & b_c \\ & 2 & 4 & a_c \\ & a_c & 2 & m \end{matrix}$

6733 ✓ $R \chi$ Scutae

$\begin{matrix} h & 6 & k \\ k & 4 & 2 \\ 2 & 5 & m \\ m & 4 & n \\ n & 4 & o \\ o & 6 & p \\ \text{---} & \dagger & \dagger \\ v & = & 1 & h \end{matrix}$

Wednesday October 11 1893

6044 ST Herculis

✓

a 26

b 3c

c 3d

d 5e

e 6f

f 5g

g 6h

h 6k

k 2l

l 5m

m 2n

n 40'

8 4v

v 2h

h

X

5950

✓

W Herculis

f 4g'

g' 6g

g 45h

h 4k

k 6l

l 5m

m 3n'

n' 5n

n 30

o 6p

o 3v

v 3h

H

9.0

Wednesday Oct 11 1293

107

5-950

W Herculis

0 4 cc

cc 3 h

+

Thursday Oct 12 1893

5504 S Corona

a b b

b 4 c

c 3 d²

d² 4 d

d 2 e'

e' 6 h

L

$$e' = \begin{matrix} \text{---} & \text{---} & \text{---} & \text{---} & \text{---} & \text{---} & \text{---} \\ 15 & 3 & 5.3 & +33 & 119.2 & 7.8 & 2546 \end{matrix}$$

k 3 k

k 4 l

l 5 m old (mm) + 31° 15'

m 5 m

m 4 o

o 3 p

p 6 q

+

Thursday Saturday October 14/1893 109

6000 S Herculis
 (1855) a' 16 4.2 53.0 + 13. 31.6 516 3233

9.1 5950 ✓ W Herculis
 02v H Z
 v2p.

6512 ✓ T Herculis

a6b

b6c

c5d

c'1 b

c1 d'

a3b'

b'3b

b3c²

c²4c

10.1

m3v

✓ 6849

R Aquilae

d2v 5cc

v3c "

10.2

✓ 7040

R Cygni

51v

10.3

L

Saturday Oct. 14 1893

10.8

✓ *Gemini New Van No 9*
K 2 V

4

10.8

✓ *X Cygni*
est
vid

4

$v = 7.5$ mag

✓ *Z Cygni*
 $v = 2$

$v = 2.8$

$p 4 v$ $v = 9.5$ mag

7242

✓ *S Aquilae*
a 3 v

$v = 1.2$

$v = 9$ mag

4

10.9

7257

✓ *R Sagittae*
b 1 v

$v = 2$

$v = 9.2$

4

11.0

11.1

7259

✓ *RS Cygni*
o = 4

$p 4 v$

$v = 10 R$

4

47

Saturday Oct 14 1893

111

11.2

7299

u Cygni

l \bar{x} v

v 2m

v = 9 m m

• 2 invisible

L_e

7428

V Cygni

v invisible

m seen

L_e

11.4

7560 ✓ R Pulfrancian

Interval between k + l too large

v 3 l

l?

L_e

11.5

✓ New Variable No 12

v 2 d

v = k

v = 8 m m

v = 7 R

11.7

Sacutae

New Variable No 14

h 4 v

v 3 l

l?

H

11.9

Salisbury Oct 14 1893

12.0

8153 ✓ R Sauter
 $d \approx v$
 $v \approx \beta_v = 8.5$

L

12.1

8230 ✓ S Aquarii
 $n \approx 4v$
 $v \approx 10$
 $v = 9.1$

L

12.3

8290 ✓ R Pegasus
 $v = u$

L

12.6

8512 ✓ R Aquarii
 $g = v$

8
 14.5

✓ S Cygni
 $g \approx 3v$
 $v \approx h$ $g \approx 5$

L

14.7

✓ T Cephæi
 $d \approx v$
 $v \approx h$
 $v = 10$ Radmore
 $v = 7.5$ ^{max}

L

14.8

✓ S Cephæi
 $h \approx v$ $v \approx h$
 $v \approx 4k$
 $v \approx 2d$
 $v = 10R$
 $h \approx k$

L

Saturday Oct. 14 1893

15.0

✓ T Cassiope
 $e = v$
 $v = 9.5^{m/s}$

L

15.2

✓ S Cassiope
~~R 4.45~~
 R 4.5
 $v = 12^{m/s}$

H

15.3

✓ S Persei
 $e = v$
 $v = 1 f$

L

15.4

✓ T Persei
 $e = v$
 $v = 3 d$

L

7.5

15.26

✓ Meteor

8 mag^m Motion E white.
 Sid Time 5^h 19^m
 H.A. 6^h 39^m E
 5 21

$\Delta = 10^{\circ} 38'$ $\delta = +69^{\circ}$

✓ R Ursae Major

15.5

$v = 9$
 $v = 5 h$

14

Saturday Oct 14 1893

15.6

✓ S Ursa Majoris
h2v
v5k

h

15.7

✓ S Boötis
v1f

L

15.8

✓ R Camelopardalis
g2v
v2h

h

Monday Oct. 16 1893

115

8.9

112 ✓ R Andromedae
✓ visible

L m

9.0

114 ✓ S Ceti
m 3v
v = 12 m m -

H m

9.1

243 ✓ ~~N?~~ Cassiopeiae
L 3v
v 4β
not visible

L m

9.2

513 ✓ R Piscium
✓ visible
x visible (sec)

L m

9.3

782 ✓ R Oriens
L 6v
v = h
v 5k

L m

9.4

806 ✓ O Ceti
O 6v
v 2 f c

||

9.7

845 ✓ R Ceti
L visible A faint star is
apparently in the place of it. ~~It is - to R (sec)~~
It is = x (sec) = 10.5 m m.
v 6 f
v = .f

L m

Monday Oct 16 1893

9.8 893 ✓ U Ceti
muv
vzm H

u Canisop. ✓ New Variable No 4
+62596
dzv
v3e L

9.9 1574 ✓ W Tauri
vzm L

9.9 1577 ✓ R Tauri
v invisible L

10.0 1582 ✓ S Tauri
v invisible L

10.1 J β Lyrae
J₂ ✓ E

10.1 ✓ δ Cephei
J6v
vzc
v5j E

Monday Oct. 16 1893

117

7264 ✓ R Delphini

a 5 b

b 2 c

c 6 d

Assume f' to be the star to the
North following the one marked "f'" on chart.

d 5 e

e 4 f'

f' 3 g

g 4 h

h 2 k

k 5 l'

l' 8 m

m 5 n

n 3 o

o 6 p

p 2 q

q 6 r

r 3 s

t = v

v 2 k

✓ S Cygni

t 5 v

v = k

v = 10 p

S seen with difficulty
T " by glimpses
altitude 45°

Monday Oct 16 1893

13.2

2100

✓ U Orionis

m' 1 v

v 4 m'

v = 9.5 ^{mm}

l 4 v

v 2 m²

4

13.4

2266

✓ V Monacatis

l 2 v

v 2 p

v = 10.5 ^{mm}

L

13.7

2528

✓ R Seminorum

m = v

v 6 m

4

13.7

2625

✓ S Seminorum

d = v see

v 3 p "

14.0

2684

✓ S Canis Minoris

o 1 v

v 4 p

v = 12 ^{mm}

X H

14.1

2780

T Seminorum

v = c see

v 2 k see

X H

Monday Oct. 16 1893

- 14.3 2946 ✓ R Cancri
 $\alpha = v$
 $v = 4f$ H
- 14.3 2976 ✓ ✓ Cancri
 $\alpha = v$
 $v = 1d$ H
- 14.4 3060 ✓ U Cancri
 $v = \text{invisible}$
 or very faint. L
- 14.76 3170 ✓ S Hydræ
 $\beta = v$
 $v = 5h$ L
- 14.7 3186 ✓ T Cancri
 $\alpha = v$
 $v = 4d$ (see)
 $v = 10R$ L
- 14.8 3477 ✓ R Leonis Minoris
 $\beta = v$
 $v = 4h$ L
- 15.0 3493 ✓ R Leonis
 $R = v$
 $v = 2s$ L

Mmclay Oct. 16 1893

15.1

3567

✓

✓ Leonis
✓ minibleL₁

845

R Ceti
e still faint = x (see)

The Pinesley Oct 17 1893

121

8.0

845

R Ceti

ϵ still faint. is not visible in h (L m)

✓ β Lyrae

8.7

0 1 v

v 2 3

m E.

R Ceti

The ϵ observed above is undoubtedly an error in the travel chart used. it is not the star used in the sequence of comparison stars.

5950

M Herculis

X $f' g'$
 $g' b' g$

L m

T Herculis

a 3 b'

b' s b

b 3 β

β 4 c

a 4 d

d 4 c

L m

c' 2 b

b' 4 c'

h

Tuesday Oct. 17 1893

7045 R Cygni
+ 85th

L

10:19 Meteor
 motion \times white 6 mag
 Sid Time 0 22 H. Angle 4 45
 R.A. 19 34 + 50°

L

R Cygni
+ 85th
p 29
q 6 q

L

S = 4c
R 3 4cL 2 S
R 1 4c

L

M = 4c
4c 4 m

L

0 5 c
c = p
c 4 q

L

11.4 $\sqrt{0}$ Cassiopeia
 invisible
 L 2 v
 v 5 B

L

Wednesday Oct 18 1893

123

T. Herculis

$\beta =$

$\beta' =$

✓ β Lyrae

J1v

v = d

v i k

m E

8.5-

X Cygni

a b b

b i c

c u d

d = 4R

d z e

e 2 f

f 5 g

g 4 h

h 2 k

h 3 l

perhaps better to omit k

k 2 l

l 5 m

k = 3R

m 4 n

n 1 o

o 6 p

Wednesday Oct 18 1893

 χ Cygni

m 6

X

p 5 q

q 4 R

R 3 S :

S 4 T

T 2 U

X

T 5 χ' $\chi' 5 \gamma$ $\gamma 4 \gamma'$

H

H

 $\chi 3 d_c$
 $d_c = \gamma'$

H

✓

S = γ_c $\gamma_c 3 T$

H

✓

Q 3 v

v 2 b

G

11.2

✓

50 Cygni

g 4 v

v 2 h

G

11.4

Wednesday Oct 18 1893

125

✓ T. Cephei
div
v = e
v ? esp

L

Saturday Oct 21/1893
 ✓ β Lyrae

7.8

 $\begin{matrix} \delta 2 \beta \\ \beta 4 \end{matrix}$

E.M.

8.6

✓ χ Cygni
 $S = V_e$
 $V_e = T$
 $V_e \approx \chi$

H χ
M

Seeing is poor. Therefore observation
 with V_e almost worthless. ~~The~~ V_e looks
 like a planetary nebula.

✓ $\alpha 2 v$
 $v 3 b$

L M

A. $\delta \pm$ 7192 γ Cygni
 $\alpha = v$
 $v 2 \chi \gamma$
 $\beta \chi 6 v$

L M

✓ $\alpha 2 v$
 $v 1 \beta$

H χ M

This obs. w. H is decidedly the better.

 $\delta 6 \alpha$
 $\alpha 3 \beta$

H

Saturday Oct 21 1892

127

9.0 ±	7242 ✓	S Aquilae a2v v12	H	<u>m</u>
9.1 ±	7257 ✓	R Sagittae b5v v=c	H	(
9.2 ±	7259 ✓	R S Cygni h3v v10	L	*
9.3 ±	7261 ✓	R Delphini v=[k] + 8° 35' 7" 12" 0" (1455) h3v		
9.5 ±	7299 ✓	U Cygni h5v v=k 2 invisible e5f f6g	L	<u>m</u>
		if f is 20 15 12 + 47° 27' 8.5" (1455) yes it is.		
9.8 ±	7468 ✓	T Aquarii v invisible T faintly visible	H	<u>m</u> 2
10.0 ±	+53.2684 ✓	Ven No 12 v2d k4v	L	<u>m</u>

28

Oct 21 1897

10.84

✓ New Var #14
H 2v

H m

✓ Suspected Var.
22^m 25^m 53⁴ +12 39 (1755)

L 6v

H m

Y 3v

J 1v

 β Minutilli.

8153

✓ R Lacertan
Y 3v
v = LL 3v
f 6vR ~~4~~
Clouds

10.6 ±

11.0 ± 7560

✓ R Vulpeculae
g' 3v
K 3g'

Σ L m

Oct 21 1893

129

14.4

✓ S Persei
dsv
vie
v2 f

Li

Tuesday Oct 24 1892

5667 R \$ Coronae
 α 2 β
 β 4 f
 γ 5 d.

opera glasses.

X K 9 l
 l 3 m
 e 2 f
 f 4 g
 g 3 k
 m 5 n
 n 20

Z L 6 m

I think these obs.
 were made too near the
 horizon and in too strong a
 moon light to have much value.

T Herculis
 α 3 b'
 β 4 b
 γ = β
 δ 5 c
 ϵ 4 d
 ζ 4 e

2 of Cygnus

X α 6 b'
 β 2 c'
 γ 5 d'
 δ 2 e'
 ϵ 4 a

Tuesday Oct 24 1893

131

8.7

✓ χ Cygni
e'3v
v2a

m apu shue

v 0.5-a difficult to h m
compare on account of brightness and color.

✓ p3v
qvel of

L

7259

✓ χ Cygni
m'4m
m'2l

h

9.2

✓ p3v
v10

Wednesday Oct 25 1893

R Coronae

X α 4 β
 β 3 γ
 γ 5 δ

U Herculis

α 3 β

γ

ϵ 3 f

f 2 g

g 4 h

c' invisible.

h = 1 k

k 6 l

l 1-2 m

m 3 n

n 4 o

o 3 p

p 5 q

L M 2

X δ Herculis

α ' 5 a

T. Herculis

β = 6

γ 5 e

β 4 c

L M

The strong moon light may affect these comparisons.

Wednesday Oct 25 1893.

133

x

7120

 γ Cygni.

a' 6 b'

b' 2 c'

c' 4 d'

d' 3 e'

e' 5 a

m E

e' 1 v

v 5 a

v = d

• γ Cygni

• •

8.8

p v v
v = q $\alpha = \phi$ Cygni.

• d

• β Cygni

7261

R Delphini

g 6 h

h 2 k

k 5 l'

l' 5 m

L m

K 1 v,

v 4 l'

K: $20^{\text{h}} 12^{\text{m}} 5^{\text{s}} + 8^{\circ} 35' 8.5''$ (1855)

e 6 f'

f' 4 g

u Cygni

l 3 m

h 6 v

v 2 k

7299

9.4

Wednesday Oct. 25 1893

9.8

✓ V Cygni
a u b
b = 3 R.

m L

(clouds stopped obs.)

✓ T Caphi

✓ eiv
v s f

m L

10.9

✓ V S Caphi
g 4 v
v 2 h

✓

11.40

Faint Auroral light in the
North. I have noticed it for the
last 1:30

✓ R Cassio
n 5 v
v 20

L m

✓ T Cassio
k 6 v
v 1 m

✓ R Ursae Majoris
g 1 v
v 4 h

✓

Wednesday Oct. 25 1893

135

✓ S Urse Majoris Lm
f. 4v
vig

Saturday Oct 28 1893

9.6

✓ γ Cygni
0.4 v_e
 v_e 2 p

L m

clouds were rapidly approaching from the west and stopped further observation.

9.5

✓ β Lyrae
1.2 β

m E

This observation was made previous to that of γ Cygni.

14.5

112

✓ R Andromedae
 v 1 q

m

H

14.6

243

✓ v Cassiope
 v 2 β
 v 6 α

14.7

513

✓ R Piscium
 n = v
 v 6 0

m H

Saturday Oct. 28

1893

137

14.9

✓ R Arietis

~~K4~~ ~~vr~~ K4v
~~vr~~ ~~vr~~ v2l

H m

R

15.2

84.5

✓ R Ceti

lin
v3k

H

el 7 k

1222

✓ R Porsci

L=v
v60

~~15.3~~
.....

✓ +62.596 New Var. No. 4
vid.
v4-5e

m L

green glass

el=v but v still looked
v5e red.

✓

Red glass

v6d

m L

15.6

✓

v more than 1 magn. e
v22 or
v25

Saturday Oct. 28 1893

15.7

2100

✓

U Orionis

h 4v

v 2m²

h m

15.8

2266

✓

✓ Monocerotis

h = v

15.9

2528

✓

R Geminorum

m 3v

v 3m

16.0 ±

2625

✓

✓ Zosma

h 4v

v 3g

Sunday Oct 29 1893

139

8.4

✓ β Lyrae
 ~~γ β~~
 γ 3-4 β
 β 2 }

E

8.5

✓ χ Cygni
 $d'3v$
 $v2e'$
 $v2-3L$

E

✓ $O2-3v$
 $v2p$

L

✓ Meteor

9.0

white γ m . motion $W20^\circ S$
 sid. T. 23 55 HA 9^h 36^m W
 L 14^h 19^m + 5-4°

9.2

✓ S Cygni
 $v2g$
 $f2v$

L m

$ae \times 5\frac{1}{2}$
 $0 = \times ae$
 $n2 \times ae$

H m

R is the faintest star that I can see

✓ T. Cephri

Ham

$$h_c = T$$

S_1 is too close to V_2 to be used as a comparison star.

~~2~~ 0 6 dc

de 3 9

 $cl_2: 2-3 \text{ h}$

Comparison with μ difficult on account
of 2 faint stars close to μ .

l 2v

v 4 f

✓ R Cassiof

23✓

4 m

V 5 0

we can distinctly = ~~13.2~~ ^{magm} 13.0
where 13.5 is considered limit of telescope
& invisible.

✓ metcon

12.8

white & green reaction W 15-50

Sid T. 3 40

2653 d + 55

H.A. 3 16 E

Sunday Oct 29 1893

141

12.9

✓ R Lyneis

 $a_2 x = m$ $a_2 3 m$ $m H$

13.0

✓ R Ursee Maj,

 $R 4 \frac{1}{2}$ $v_e 1 S$ $v_e 5 t$ $g 2 v$
 $r 4 \frac{1}{2}$

13.1

✓ J Ursee Maj,

 $h u v$ $v 2 k$

13.2

✓ S Ursee Maj,

 $g 2 v$ $r 4 \frac{1}{2}$ $m H$

Monday Oct. 30 1893

T Cephei

$$R = p$$

$$g/3-4/p$$

$$e_c = g$$

$$e_c 4 R$$

m H

✓ Meteor

A 7th mag Red It moved so rapidly that I could not determine its motion. It was either E or W. Meteor = 6 Redness.

$$\Delta = 21^{\text{h}} 8^{\text{m}} \quad \delta = +68^{\circ}$$

$$\text{Sid T. } 6^{\text{h}} 10^{\text{m}}$$

$$\text{H.A. } 9^{\text{h}} 0^{\text{m}} \text{ W.}$$

3:15

15:15

T Cephei

$$h_c = T$$

✓ R Ursa Majoris

$$S R_1 V_c$$

$$V_c 5 t$$

$$g = v$$

$$v 5 h$$

S Ursa Majoris

$$m = b_c$$

$$b_c 4 m$$

$$h 5 a_c$$

$$a_c 2 m$$

Monday Oct. 30 1893

143

S Ursae Majoris

ant

m 7 n

d₂ 2 n
m 5 ~~2~~ d₂

n. . f
m .
⊙

44 +

Tuesday Oct. 31 1893

R Corinae

a 5 b

b = c

c 4 d

d 3 e

B

X Cygni

v = d'

v 3 e'

E

o 2 v_cv_c 3 p

L

+ 62° 59' 6" or HP 441

d = v

v 5 e

v = 10 p

L

Red Glass

v 5 d

v 2 s

L

R Pegasi

c 5 d

d 2 f

k 3 l

l 5 m

F m

F m

L

7.7

7152

8:0

12.5

8290

Tuesday Oct. 31 1893

145_x

8290

R Pegasi

m 4 n

L m

n 50

0 4 g

g 1 R

R 6 S

T 3 U

R Arietis

g 4 g

m 4

g 4 n

n 5 K

K 6 l

L 4 m

m 5 n

n 40

0 = p

p 6 g

g 5 R

R 5 S

S 6 T

T 3 U

Meteor

Motion

S 30° E white

g magn

2 = 2 10 at 24°

(1900)

Did. T. 6th 2^m

H.A. 2th 50^m W

R Arietis

low

v 1 m

Tuesday Oct. 31 1893

R Arietis

$h3X d'_c$

$01 d'_c$

$h = d_c$

m f)

Wednesday Nov. 31 1893

147

7:14

Alcora

arch $C = 14^\circ$

$B = 30^\circ$

2^{mag}

clouds along the Northern Horizon.

7:35

clouds have risen so as to cover arch if it still exists. Many small streamers extend to alt 45° In NW the upper $\frac{1}{2}$ of streamer is red.

$\Delta m + 62.596$

$3.33 + 62.20$

γ Cygni

8:2

fading clouds so affect the region that I consider observations unsafe. $X = d'$ I think is near the true brightness.

✓ $V_{22} p$ prevented from

further observation by clouds possibly above was affected although the stars in the field had very clear definition.

$+62.596$ or $AP 441$

8:7

✓ V_{5e}

V_{1d}

S_{4v}

Auroral light crossed the region also this clouds in immediate neighborhood made

Wednesday Nov. 7 1893

make the observation somewhat
cloudy. Comparison with 3
especially cloudy.

9:20

✓ Red Glass
V 15
V 4-5 d

4

clouds still make obs. doubtful.

9:20

✓ Aurora
Cush 2^{mm}

B = 2°

15

C = 16°

15

clouds on N horizon.

3^d ~~Feb~~
Friday Nov. 4 1893

7:46

✓ ✓
 Auroral streamer in N 12 E E
 magm 3^d . alt. of top 72°. 20°.

112 R Cuckooedae

11.0

✓

u4v

v1w

H

243

✓

U Cassiope

β IV
 v 3.0

H

R. Volprentae 7560

Interval between K + L too large.

Monday Nov. 6 1893

7.5

✓ β Sysae
 $\theta 1 \beta$
 $\beta 0.50$
 $\{ 3 \beta$

E

8.0

✓ γ Cygni

$\beta 4-5 v$
 $v 1.5 d'$

E

$0.3-4 v$
 $v 2 p$

L
L

7261

R Delphin

22

$e 7 f'$
 $f' 4 g$
 $g 5 h$
 $h 2 k$
 $k 4 l$

X

$l' 3 m'$
 $m' 4 n$

$l' 6 m$

I suggest using m' in place of m
 $m' = 20^\circ \eta^m 48^\circ + 8^\circ 43.5' (1855)$
 $K = 20^\circ \eta 15^\circ + 8^\circ 35' (1855)$

Monday Nov. 6 1893

7261. ✓ R Delphin

l' 4v
v 1m'
v 6m

L

7299

U Cygni

l 2m

✓ h 5v
v 3k
v = 10R

L

R 3 fc
fc 3 S

H

9/4 R
R 56 S

H

74² 68

V Cygni

b 6c

c 6d

d 4e

L

h 3g

H

9/2 g

f 1g

Monday Nov. 6 1893

153

7428 ✓ ✓ Cynos

K 3l'
l 7l[±]
l 6m

X

H

A. 6

l 5v
v 2m

H

✓ R Vulpeculae

a 16

b 3.5c

f 49'

v 1e

a 4l

L

X

A. 8

Tuesday Nov. 7 1893

8.5

✓ γ Cygni

$\beta 3v$
 $v 1.5d'$

Hazy

E

~~X~~

$0 2v$
 $v 2h$

L

8.7

✓ δ Cygni

$\beta 3v$
 $v 2h$

L

8.9

✓ τ Cygni

$\beta 6v$
 $v 2f$
 $v 4h$

L

9.2

✓ σ Cygni

$m 3v$
 $v 2h$

H

9.3

✓ ρ Cassiope

$0 1v$
 $v 5h$

L

✓ σ Perse

$\beta 2v$
 $v 1-2f$

L

Tuesday, Nov. 7 1893

10.1

✓ R Camelopard

~~f2v~~

f=v

v2g

Thick Fog. L

10.3

✓ New Ven. No 14

h2v

v4h

L

10.4

✓ Sun Pen
22 28 + 12°

f2v

f1v

p mixing

L

10.6 8153

✓ R Lacertae
v=β

L

10.7 243

✓ U Cassiope
β2v
v2d

L

10.8 513

✓ R Piscium
v < 11 mag

v invisible

possy

L

11.0

806

✓ O Ceti

h2v

v2g

possy

L

Tuesday Nov. 7 1893

11. ~~4~~ 1577 ✓ R Tauri
invisible
n visible 4

11. ~~8~~ 1582 ✓ S Tauri
invisible
n visible 4

12.0 2100 ✓ U Orionis
 $m^2 = v$
 $v = 5m'$ 6

12.2 ~~+~~ 2266 ✓ V Monoceros
 $v = \beta$
identification of var. uncertain 2

Thursday Nov. 9 1893

7.4

✓ β Lyrae

δ 2 β
 β 4 β

E

✓ γ Cygni

$0 = v_c$

$v_4 \frac{1}{2}$

L

7.8

β 3 v
 v 1 d'

E

c 2 β
 β 5 d'

E

7261

✓ R Delphinii

c 4.5 m'

m 3 m +

L

δ 2 +

c 3 v

$v = m$

v 4 m

L

7297

✓ U Cygni

m 1 v

v 4 k

δ 4 +

δ 6 +

7468

T Aquarii

a 7 a

4

L

Thursday Nov. 9 1893

7468 T Aquarii

10.7

✓ T Cephæi
e 5v
v 3f

L

10.8

✓ S Cephæi
m 3v
v 3g

H

10.0

✓ R Cassiopei
o 1v
v 4 1/2

H

11.2

✓ T Cassiopei
K = v
v 3d

H

11.4

✓ R Camelopardalis
e 6v
v 1f
v 6g

L

11.8

✓ R Ursae Majoris
g 5v
v 2h

L

12.0

✓ T Ursae Majoris
g 1v
v 2h

L

Tuesday Nov. 9 1893

159

13.4

✓ S Ursae Major'
ess
v 3f

G

15.4

3493

✓ R Leonis
T 5 V
v 1 k

L

15.6

3567

✓ .V Leonis
v = γ (see)
 γ (see) not seen.
v may possibly be mistaken for γ
v = 12.3

15.8

3994

✓ S Leonis
v γ 12^{mv}

H

16.0

4300

✓ X Virginis
~~gamma~~
h 4 v
v 1 k

H

16.2

4315

✓ R Comae Ber.
0.3 v
v = μ

H

Friday Nov. 10 1893

9.0

✓ S Persei
v z e
d s v

L

9.1

✓ β Lyrae
 $r = \beta$

E

9.1

✓ χ Cygni
 $\beta 4 v$
 $r 1.5 d'$

L

$v_e = 0$

L

$v_e 4 \mu$

9.2

7045 ✓ R Cygni
R mirabile

L

9.4

Var #9
 $d = v$
 $v z e$

L

9.6 ±

7106

✓ S Vulpeculae
d s v
 $v 1 g (sec)$

Friday Nov. 10 1893

2412
(778)7192 ✓ ζ Cygni

9.7

~~L = 3v~~ $L = 3v$
~~V = 0~~ $V = 0$

L

7242 ✓ δ Aquilae $L = 3v$
 $V = 1c$ see

L

9.8

askd
 $L = 4$
 $V = 5c$

L

7257 ✓ R Sagittaesee f 2v
 $V = 6$ see

L

9.9

10.7⁰7259 ✓ $R \delta$ Cygni $n = v$
 $V = 3m$

L

✓ Meteor

10:45 white 8.0 motion E slow. trail 6' long

 $L = 20^h 10^m$ $\delta = +9^\circ$

Circ. T. 153 H. A. 5:41

10.12

7261

✓ R Delphinii $L = 3v$
 $V = 2m$

Z L

obs. has small wt. ? of had seen,

Friday, Nov. 10 1893

10.4

7299

✓ U Cygni
 $v = 3K$
 $\lambda 3-4V$

4

10.5

7428

✓ V Cygni
 $v = 2m$

4

7560

✓ R Vulpeculae

 $d = 5v$ $v = e'$ $v = 3f$

4

10.6

Var #12

 $k = 5v$ $v = 1d$

4

10.7

8153

✓ R Lacertae

 $v = p$ $\lambda 5v$

10.8

8290

✓ R Pegasi

 $v = 12 \text{ m.p.h.}$

10.9

Identification too uncertain for a
 comparison.

24

8373

✓ S Pegasi

 $g = 5v$ $v = R$ H ~~4~~

11.0

Friday Nov. 10 1893

163

8512 ✓ R Aquarii

11.4

K 5 v

v 1 l

v 3 m

H

✓ S Cygni
h = v
v 3 l c

H

✓ T Aphi

v = f

v 3 h

L

✓ S Aphi
m 4 v
v 1 n

H

✓ R Cassio
0 2 v
v 3 h

H

✓ T Cassio
K 2 v
v 2 l✓ R Camelopard
f = v
v 4 g

L

12.2

Friday Nov 10 1893

12.6

✓ R Ursae Maj'

~~v 1-2g~~

g 5-6 V

v 1-2 h

L

12.8

✓ J Ursae Maj'

g 1.5 v

h 3 h

h

13.0

✓ S Ursae Maj'

u 5 v

v 1.5 f

L

14.4

112

✓ R Andr.

v 3 v

v 2 w

H

14.6

243

✓ V Cassio.

g 4 v

v 3 c

H

18.8

782

✓ R Arctis

o 2 v

v 1 h

H

14.9

806

✓ O Ceti

h 3 v

v 2 g

H

Friday Nov. 10 1893

845 ✓ R Ceti
 $\frac{1}{2}(\text{sec}) \times 3v$

#

1222 ✓ R Persei
 $(\text{sec}) \cdot \frac{1}{2} 5v$
 $v = k(\text{sec})$

L

15.0

15.1

$$\begin{array}{r} 359 \\ 316 \\ \hline 43 \end{array} \begin{array}{r} 60 \\ 26 \\ 24 \\ \hline S \end{array}$$

$$a \quad \begin{array}{r} 309 \\ 315 \ 52 \\ \hline 23,4.6 - 41^{\circ} \ 8' \end{array} \quad b.$$

$$b \quad \begin{array}{r} 309 \\ 315 \ 39 \\ \hline 23,4.7 - 41^{\circ} \ 39' \end{array} \quad b$$

$$c \quad \begin{array}{r} 309 \\ 315 \ 39 \\ \hline 23 \ 9.4 - 41^{\circ} \ 39' \end{array} \quad b$$

$$b \odot \quad c$$

$$a \cdot$$

$$N$$

Wednesday Nov. 15 1893

167

8.4

✓ γ Cygni
 β 5-6 v
 γ 0.5-d'
 γ 2 e'

m
 open blurs.
 B

8.6

0=v
 γ 4 h

m L

8.8

✓ 7192 2 Cygni
 δ 1-2 v
 γ 1 e

m H

9.0

7257 ✓ R Sagittae
 (sec) f-v
 γ 5 e (sec)

m H

9.2

7242 ✓ S. Equilae
 γ 2 v
 γ 2 e

m H

9.30

Meteor
 Meteor W 30° S 5 Redman 9.5^m trail across field.
 S.T. 130 2 20th 10^m δ + 38° H.A. = 5th 16^m

9.6

7259 ✓ R S Cygni
 γ 3 m

H.

m m

H

Wednesday Nov. 15 1893

9.8

783

✓ 7261 R Delphini
v 2 m

2 m H

too low on horizon obs doubtful.

10.0

7299

✓ U Cygni
h 2 v
v 4 k

m H

10.2

7428

✓ V Cygni
l' 6 v
v 1 k

10.3

8290

✓ R Pegasi
y 3 v
v 2 y

a 6 b

c 1 = b

b 4 d

+ open glass

10.5

8393

✓ S Pegasi
R 1 = v

m H

10.6

8512

✓ R Aquarii
l = v
v 4 m

10.7

9560

✓ R Vulpeculae
l' 2 v
v 2 f

Wednesday Nov 15-1893

169

10.8

#12

d=v

X K5-6v

L

11.0

#14

h 3-4 v

h

11.1

✓ 815-3 R Lacertae

β 1 v

γ 4 d

+

✓ S Cygni
v = R
v 3 d

H

✓ S Cephei

m 4 v

v 1 m

H

✓ R Cassiope

o 1 v

v 3 p

H

✓ T Cephei
f 3 v
v 3 h

L

Wednesday Nov. 15 1893

11.7

✓ T Cassio

h3v

v1k

v4l

L

✓ S Cassio

s2v

v4k t?

H

✓ S Persei

~~h4v~~

d5v

~~v4f~~

v2e

v4f

L

✓ T Persei

e2v

v4d

L

✓ R Aurigae

o2v

v1p

L

✓ R Lyncis

p4v

v3q

L

✓ R Ursa Major

h2v

L

Wednesday

Nov. 15 1893

171

12.5

782

✓ T Ursae Maj
f 5v
v 3g

L

✓ S Ursae Maj
e 4v
v 4f

L

12.9

112 ✓ R Andromedae

u 3v

v 1w

H

12.8

114

✓

S Ceti

v Invisible
n visible

H

12.9

243

✓

V Cassiope

d 5v

v 1c

H

13.0

✓ R Piscium

n 3v

v 30

H

Identification of V. doubtful.

13.2

782

✓ R Crictis

p 4v
v = q

H

Wednesday Nov. 15/893

14.9

806 ✓ o Ceti
p3v
v3g.

L

15.0

1222 ✓ R Persei
v = 2 (scat)

L

15.1

1574 ✓ W Tauri
o = v

H

15.2

1577 ✓ R Tauri
v2m

15.3

1582 ✓ S Tauri
invisible

15.4

2100 ✓ U Orionis
l2v
v3w

15.5

2266 ✓ V Monacensis
p = v

15.6

2528 ✓ R Tauri
o = v
v3p

ψ φ barely visible = 13 mag

ψ = 6 58 52.7 + 22° 46.5 9.5 1579 (1858.0)

Wednesday Nov. 15 1893

173

15.9

✓ 2625 V Scimmorum
 $v = 2(\text{sec})$
 $v = 12.5$

H

16.1

✓ 2684 S Canis Min.
 l 2v
 v 4m

16.2

✓ 2946 R Cancri
 v 3c

H

16.3

✓ 2976 V Cancri
 $g = v$
 v 3h

H

16.5

3060 ✓ V Cancri
 v invisible
 $n(\text{sec})$ visible
 $n = 72$
 $n = 10.5$

H

The last 45 obs have been
 made through thick haze. Too cloudy
 to continue to obs.

Fri. Thursday Nov. 16 1893

8.0

744

✓ β Lyrae
r 0.5 β

5 m

8.2

✓ χ Cygni
d = v
r 3 d'
v 4 d

after dinner
m

0.3 v

v 2 p

L m

n 6 p

n = 0

7468

T Aquarii
a' 4 a

L m

n 6 p

p = q

q 2 R

R 5 S

S 3 T

T 3 U

S Aquarii
f 4 g
g 2 h
g 5 S

H

9.0

S 5 V

Thursday Nov. 16 1893

175 +

8512 R Aquarii

a 2b
b 4b

h m

m 3m

H

m 60

o 6 h

K 4v

v 2l

v 6m

9.4

✓ S Ceti

K 6 l

l 2m

m 1v

a 3b

b 4c

c 5d

9.6

O Ceti

a 5b

b 3c

d 1c

b 3d

E

e β Tauri 2 & Arcturus cb δ Gem. = β Tauri e

Thursday Nov. 16 1893

O Ceti f

b 2 Sam 2 β Aur. 1 2 Arietis c E
e β Tauri 2 β Aur. f.

c 2 Arietis 6 2 Ceti g
g 2 Ceti 2 β Arietis h

h β Arietis 4 β Tri. 6 g Ceti k

k g Ceti 2.5 2 Piscin l

l 2 Pis 5 d Ceti = ξ^2 Ceti n

n ξ^2 0.5 ξ^1 1 μ μ

m d 1 ξ^1 0

μ μ 6 g
g = R

μ μ 5 R
R 5-5
S = t

R 5 u

u 2 t

u 2 d

t = d

α 4 β

β 1 γ

γ 2 d

d 5 E

E' 6 E

(E) n 60

0 6 h

of the shower



Thursday Nov. 16 1893

177

O Ceti

$\mu 39$
 $\gamma 6R$

$d 5 \epsilon$
 $\epsilon' 3 \epsilon(m)$

✓ $\mu 1v$
 $v 2g$

L

L

16.0

✓ S Persei
 $d 4.5v$
 $v 2e$

L

16.2

✓ S Cephei
 $m 4v$
 $v 1m$

H

3170 ✓ S Hydræ
 $K 2.5v$
 $v 2l^2$

H

16.4

3184 ✓ T Hydræ
 $f' 2v$
 $v = f$

H

16.6

Make a new map of this region.

3186 ✓ T Cenci
(see) $d 4v$
 $v 3e$ (see)
 $v 210R$

H

16.8

Thursday Nov. 16 1893

17.0

3477

✓ R Serpens Minors

l 3v

v = 0m

H

17.1

3493

✓ R Serpens

U 2v

v 2w

H

17.2

3567

✓ V Serpens

(sc) x 3v ^{mag 1}

v = 13.0

H

17.3

4300

✓ x Virginis

h 3v

v 2k

H

W 7 1/2 5 5 H
2-0 9 9 5 2

Wednesday Nov. 22 1893

179

8.1	Seeing Very poor	✓ α Cygni d'2v v2e' v2 ϕ	<u>m</u> E
8.2		✓ β Lyrae $\rho = 1 \gamma$	E
8.3		✓ σ Ceti p3v v2q	L
8.4		✓ δ Cygni h2-3v v=k v3d	<u>m</u> H
8.5		✓ τ Cephei h2v v2g	<u>m</u> L
8.6		✓ δ Cephei v invisible m visible	H
		✓ τ Cassiope h4v v1k	H
		Seeing very poor	

Wednesday Nov. 22 1893

10.5

Seeing Very Poor.

✓

R Ursae Major.

$28^{\circ}41'$
 $55^{\circ}l$

m #

Thursday Nov. 24 1893

10.7

866 ✓ O Ceti

p3v

v39

m L

2266 ✓ Monceratis

v=R

f6v

15.0

L

slated from further into L
tooth ~~at~~ ke, ack

Saturday Nov. 25 1893

7120

✓ χ Cygni
04v
v2h

m6h

01m

m L

7.4

✓ β Lyrae
01 β
 β 1 β
 β 2 α

E

7.6

✓ α Ceti
huv
v3g c

L.

7.7

✓ δ Persei
d4v
v2e

7.

✓ χ Cygni
d'3v
v1e'
v2 ϕ ord

E

~~7.8~~
7.9

Saturday Nov. 25-1893

8.0

✓ T & Cephei

h 3v
v 2g

m L

Sunday Nov. 26 1893

794

9.0

✓ 7 Cygni

$d'4v$

$e' = v$

$v 1-2 \phi$

am E

7045

✓

R Cygni

v invisible

9.1

#9

$d = v$

$v 4v$

$v = 7$ min.

9.1

7106

✓

S Vulpeculae

$d 4-5v$

$v 3 \mu$

$v = 9.0$ 9.1

9.2

7192

✓

2 Cygni

$e 3v$

9.3

9.4

7242

✓

S Aquilae

$v = d$

7257

✓

R Sagittae

$b 2.5v$

$v 2c$

9.5

Sunday Nov. 26 1893

9.8

7259 ✓ R S Cygni
0.1v
v 2m

m L

7299 ✓

V Cygni
h 1v
✓ L K
v = 9.10

9.9

H 12

10.0

v = d
v 5β

10.1

8153 ✓ R Lacertae
3
α K ✓
v 2 E

10.1

8373 ✓ S Pegasi

R 2v
v = 10.5

abz dip. v faint :: m

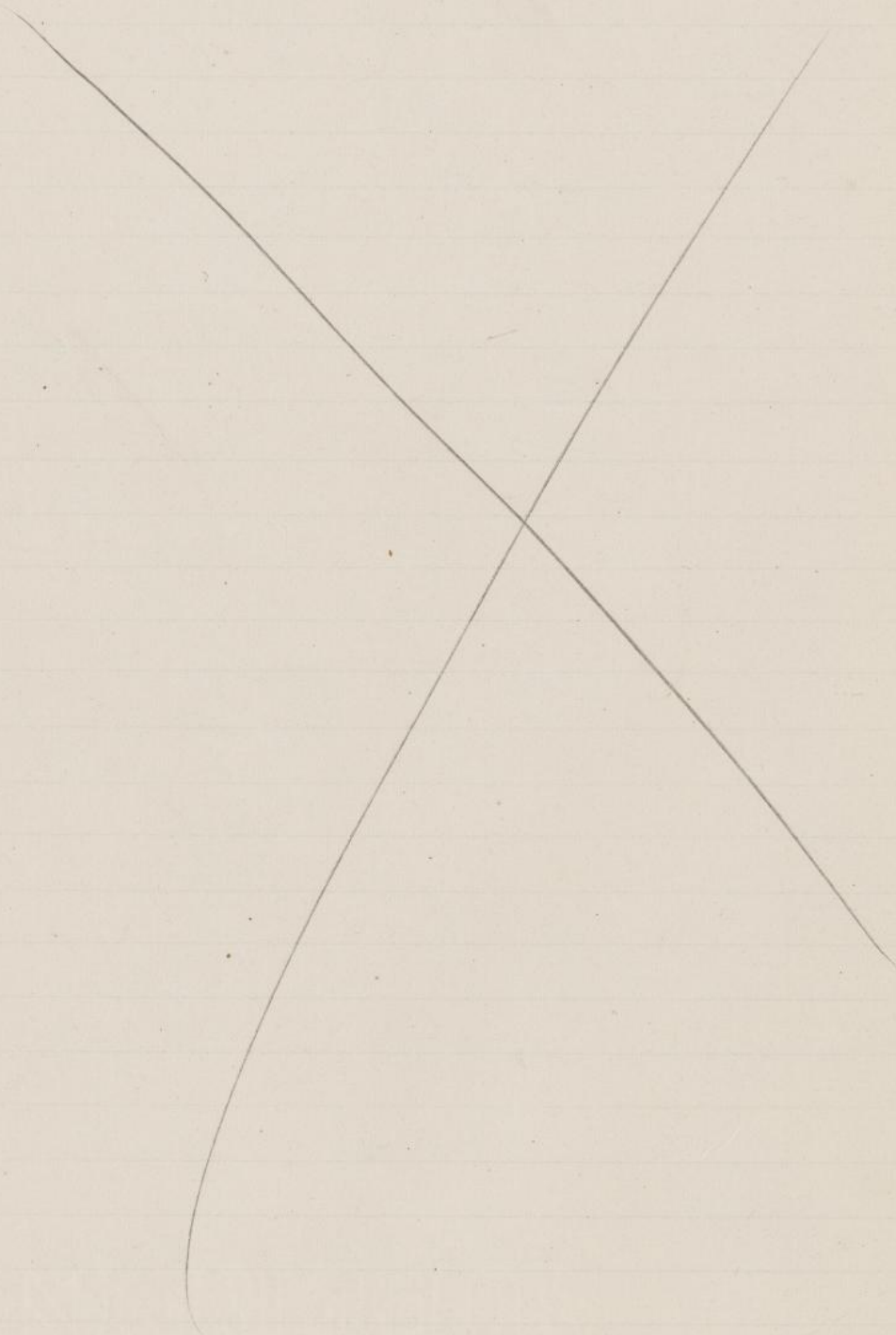
10.2

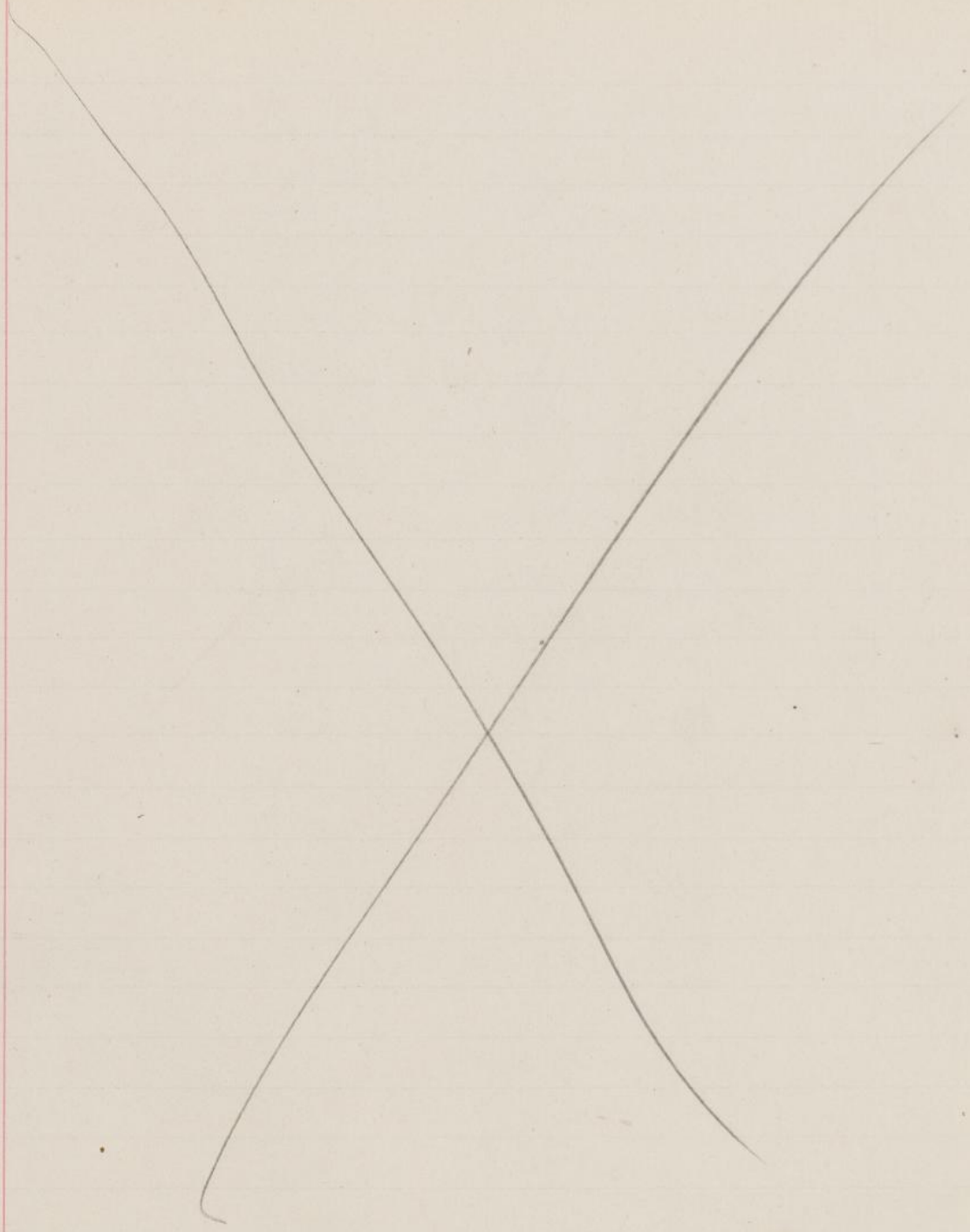
✓ S Cygni
K 2v
v 2 L

H

10.3

✓ T Cephei
h 2v
v = 9.8 10.5
v = 9.7





Sunday Nov. 26 1893

10.9

✓ S Cephæi

m 2v

v 2m

v = 11.5

m H

✓ R Cassiope

p 3v

v 2q

v = 10.6

Seeing very unsteady
obs. is approximate.

✓ T Cassiope

h 2v

v 2k

✓ S Persei

d. 3v

v 3e

✓ T Persei

v = d

e 6v

✓ R Aurigæ

m = v

v 4m

✓ R Syncis

v invisible

< 10.5

Sunday Nov. 26 1893

11.7

✓ R Ursae Maj' m L $v_2 l$
 $v = 8.2$

✓ T Ursae Maj'

 $e 4 v$ $v 1 f$

✓ S Ursae Maj'

 $d 3 v$ $v 2 e$

seeing poor

✓ R Canis Mj

 $c 2.5 v$ $v 4 d$

1222

31

✓ R Persei

 $v = 8.5$ ~~see X~~ $\beta = v$ $v 4 \frac{1}{2} (see)$

1574

32

✓ W Tauri

 $l 2 v$ $v 1 m$ $v 3 m$

Sunday Nov. 26 1893

13.5

✓ V Monocerotis

✓ Muisah < 10.5

M L

make a new chart of
this region
a triple doubtful, identification

Tuesday Nov. 28 1893

191

768
24
2912 996

9.18

806

✓ O Ceti

piv

v49 c

L

9.2

893

✓ V Ceti

div

b2v

✓ v30

L

9.4

2780

T Seminorum

l 2.5v

v = 8.3 ^{mpm}

Thursday Nov. 30 1893

8.6

✓ χ Cygni
e' 1 v
V 3.5 a
 $\Delta 1 = V$

E

Meteor

8.45

Red = 4
7.4 mag.

trail across field meteor medium
sid T 1^h 40^m HA 5^h 19^m W $\delta = +41^\circ$

✓ χ Cygni
p 3 v
v 2 v

L

$n = 0$

$n 7 h$

9.0

8290

✓ R Pegasi
v. barely seen
y 3024 v mag.
V = 12.7

Harry H

9.4

112

✓ R Andromedae
R 24 v
w 8 v mag.

H

9.8

243

✓ U Cassiope
E 6 v
V = 5
V = 9.5

H

Thursday Nov. 30 1893 193

10.3

✓ R Pisium
v invisible

H

h visible = 12.8

10.5

✓ 782 R Crictis

S 3v

v 4 T

H

806 O Cete

~~10.6~~

h 4.5 μ

μ 2 q

L

10.8

✓ 1222 R Persei

d 6v

v = β

v = 8.5

H

1579

✓ W Tauri

v 10

m = v

d 4.5v

✓ v 2 m

H

11.0

1577

R Tauri

invisible

< 13^{mp}

11.1

1582

✓ S Tauri

< 13^{mm}

see 2+4 visible

11.1

Thursday Nov. 30 1893

11.4

2100

✓ V Orionis

l 30

v 4 m'

H

2266

✓ Monocerotis

Make a new chart & be damn quick about it.

✓ R Geminorum

p 3 v

v 2 q

v = 11.8

p 1 ϕ ϕ 3 dq 5 ϕ

H

11.6

✓ V Geminorum

v = 11.0 ^{mag}

v 3 y (see)

m = v

v 3 n

H

11.8

2625

✓

120

2684

S Canis Min.

q 3 v

v 2 h ^{mag}

v = 8.5

✓

2780

T Geminorum

l 3 v

v 3 h

v = 8.0

f

(2.1)

Thursday Nov. 30 1893

195

12.0

✓ 2946 R Cencri

c 1v.

v = 7.8

H

12.5

✓ 2857 U Puppis

v invisible ^{mag.} 13
w visible

H

✓ T Carinae

h 3v

v 1k

c H

✓ S Persei

d 3v

v 3d

c H

In last obs. the wrong star was used in place of d. Perhaps in last 2 or 3 obs. this has been the case. The star called d in those obs. is considerably brighter than the real d.

I judge from an inspection of the observations that the right d was used through out. 12/5/93

802 Monday Dec. 4 1893

✓ γ Gemi

$\alpha 0.5 = V$

E

abs. uncertain 'i' of printers & Z

9.15

$\alpha 2V$
 $V 56$

24
24

9.8

✓ S Ceti

K 3V

V 5L

$V = 9.2$

893

U Ceti

$\alpha 6V$

V 26

$V = 9.3$

10.0

806

O Ceti

$V = 8.8$

10.2

K 1V

V 59 ✓

4

10.6

895

R Ceti

$\phi = V$

$V = 12.7$

abs uncertain seeing poor

4

✓ S Gemi

$V = 11.5$

$m = V$

Monday Dec. 4 1893

11.2

✓
T Cepheik 94v
r 3 1/2 k

H

✓
S Cepheim 4v
v 2 m

H

R Cassiope

p 4.5v
v 2 g

v = 11.1

H

✓
T Cassiopev 2 k
h 6 v

H

Seeing Very poor.

✓
S Cassiope

v 2 t

v = 13.0

H

9.2 9.2

12.1

Dec. 5 1893 ~~Wednesday~~
Tuesday

12

$v = 1/\beta$

7.2

c. 6

$b = 1 = v$

abs. doubtful if passing clouds.

Dec 11 1893 Monday

S Cygni

two men Z. G. W. says he observed it
Friday or Thursday.

H

9.3

34.7
24.7
34.7

✓ T. Cephei

V K

8.3

V L

Seeing very poor, obs. doubtful.

✓ R Cassiope

H

68.1 = 10.6

R V

obs. uncertain within ± 2 grades \therefore R
is too close to V for sd. comparison.

24/12/510

Tuesday Dec. 12 1893

12

d 4v

7.5^{mv}?

77

9.8 ±

v 1β

✓ 7259 RS Cygni

10.0 ±

m 2v

8.3

v 3 l

7424 ✓ ✓ Cygni

10.1 ±

l 3v

9.6

v 4 m

7299 ✓ ~~RS~~ Cygni

10.3 ±

g 3v

8.8

v 1 h

714 ✓ S Ceti

10.5 ±

h 1v

8.9

v 3 K

89.3

✓ U Ceti

10.7 ±

a 1v

6.5?

v 5 b

✓ O Ceti

10.8 ±

o 6v

v = h

v 5 q

Tuesday Dec. 12 1893 201

8153 R Lacertae

10.9±

2 3 5

H

3 4 ✓

10.5

++

v 3 7

✓ R Androm...

11.1±

w 4-5-✓

H

ring poor

obs. doubtful

v = 13^{m/sec}

78^{1/2}

✓ R Arietis

H

11.3±

v = a

v = 13.2^{m/sec}

11.5±

24.3

✓ V Cassiope

v = 5

v = 10.6

11.7±

1222

✓ R. Persei

H

v = β

v = 8.5

11.8±

1266

✓ V monoartis

H

d 2 v

v = 8.2

202

Tuesday Dec. 12 1893

12.0

✓ R Corus Min

 $\alpha 3v$ $v 1\beta$ $v = 11.6$

A

12.06

2684

✓ S Corus Min

 $f 4v$ $v 2g$

9.1

H

12.3

2625

✓ V Germinum

 $\alpha 5v$ $v 5g$ $v = 12.0$

H

12.5 ±

3184

✓ T Hydrae

 $R 3v$ $v = 10.0$

T

12.7 ±

2528

✓ R Saurin

 v invisible $\{ 12.8$ g visible $\phi = \alpha$ seeing, poor ϕ seen w. dif.

Tuesday Dec 12 1893

14.2

2946 ✓ R Cerni
v 3 c Hb 2-3 ✓ F
v 1-2 c F
v = 7.7

14.4 ±

3170 ✓ S Hydraz
v = l H
v = 11.9

Reappearance Jupiter's Satellite No 2.

m m S
✓ 8 42 1.51st Chronometer Comp.

	B. 236.		F 1327	
8	28	29.4	8	31 1.0
	29	29.4		32 1.0

2^d Chronometer Comp.

8	47	29.3	8	50 1.0
8	48	29.3	8	51 1.0

(over)

Tuesday Dec. 12 1893

Reappearance Jupiter's Sat. No 2

The diffinition was very poor. The planet at intervals of a second or so would jump into a confused nebulous mass.

The diffinition was fair when the first trace of the Sat. was seen.

Mrs. Clyma made the chronometer comparisons and recorded time of reappearance.

Observed time	=	^h 8 ^m 42 ^s 1.5	
B 236 at time of reappearance. Slow		2 31.65	referred to F 1327
F 1327	slow	<u>33.95</u>	
True time	=	^h 8 ^m 45 ^s 7.10	Camb. Sid. Time.

S

Thursday Dec 12 1893

✓ S Ponoi

16.2

$$v = d \quad 13.4$$

$$v = 5e$$

$$11.6$$

$$8.9$$

L

$$\frac{25.0}{12.5}$$

✓ ✓ Cameri

$$l2v$$

$$v = 5m$$

$$v = 10.0$$

L

16.4

✓ T Cameri

$$25v$$

$$v = 2e$$

$$v = 8.9$$

16.6

3493

✓ R Leonis

$$w2v.$$

$$v1-2x$$

$$v = 9.8$$

16.8

L

16.9

3562

✓ Leonis

$$v \text{ invisible} < 13.0$$

$$y + x \text{ visible}$$

H

17.0

3477

✓ R Leonis Chinn

$$v = x (sec)$$

$$v = 11.8$$

H

Tuesday Dec. 12 1893

J X Virgins

1702

h 4m

H

 $v = K$ $v = 10.5$ ~~H 9~~~~m = v~~~~v = d~~~~v 4 JX~~~~4~~

Wednesday Dec. 13 1893

88
2412811

β Lyrae

5.3

$\gamma \beta$
 $\beta \gamma$

E

5.4

$\rho \gamma$

E

7.6

\sqrt{x} Cygni
a 4-5 v
v = 6

6.0 L

7.8

2045 \checkmark R Cygni

\checkmark visible < 12²² m

7.9

#9

m v

v = 4

1 v 4 v

v = 7.7

L

2046

\checkmark S Valpeculae

g 1-2 v
v 4 a

9.1

L

8.0

Wednesday Dec. 13 1893

7192

✓ Z Cygni

0.3v
r2λ

10.4

H

8.2

8.4

7428 ✓ Cygni

h'γ-l

H

~~8.6~~

7542

R Arietis
trace Don for this star.

R Eri
make indry of comp &

✓ T Cassiope

$$\frac{28.3}{28.5} = 9.3$$

h1v
v3K
✓ S Persei

L

9.8

$$\frac{12.6}{13.5} = 9.0$$

14.4
div
v4e
✓ T Persei

L

$$\frac{12.9}{13.5} = 9.0$$

$$\frac{11.4}{12.4} = 8.9$$

CSV
ved

L

Wednesday Dec 13 1893

209 +

10.1

✓ R Curigae

v 2 m l

v 3 m

42.3

44.3

43.3

= 10.5

L

Seeing very poor obs. ?

temperature 1° above

✓ R Ursae Major

m 3 v

v 6 o

40.3

33.2

36.7

= 9.7

magn.

L

seeing very poor.

✓ T Ursae Major

v = e

15.4

= 8.1

L

✓ S Ursae Major

e 2 v

v 5 f

14.9

14.1

14.5

= 8.3

magn.

L

10.7

seeing poor & air very thick,

2528 R Zosma

mark 6 m Tracim

2976

✓ Cancri

a 3.4 b

b 6 c

c 1 d

Seeing too poor for obs.

Wednesday Dec. 13 1893

~~Ed~~
Reappearance Jupiter No I

Before

	B 236		s
7	4	21.0	
7	5	21.0	

	F 1327		s
7	7	0.0	
7	8	0.0	

after

7	22	21.0
7	24	21.0

7	25	0.0
7	27	0.0

observed Time $\begin{matrix} h & m & s \\ 7 & 16 & 2.0 \end{matrix}$

Seeing very poor. At short intervals all markings on the planet become invisible

observed time	$\begin{matrix} h & m & s \\ 7 & 16 & 2.0 \end{matrix}$	
B 236	slow	2 39.0 referred to F 1327
F 1327	slow	39.9
True Time	$\begin{matrix} h & m & s \\ 7 & 19 & 14.9 \end{matrix}$	Comb. Sid. Time.

Th 14
7 15
5 16
17

~~At~~ Sunday, Dec. 17 1893

211

8.4

✓ X Gemi

a 6v

6.0

v 26

5.8

v 4c

$$\frac{6.3}{18.1} = 6.0 \text{ mag}$$

m L

S 2v

v 4T

m L

7428 ✓ V Gemi

l' 7l

8.6

v 3l

9.2 mag

m L

7882 R Arictis

8.8

est

f 6g

m L

886 O Ceti

9.0

12v

v 6g

c

32.5

29.5

62.0

31.0

$$31.0 = 8.7 \text{ mag}$$

Sunday

Dec. 17

1893

Ab. & Notation

R Cate
get a new cim L

b 2 a

b 4 c

c 6 d

d 4 e

e 7 f

f 8 g

g 4 h

h 5 k

k 3 l

l 4 m

seeing poor. Very

Meteor

13

13:35

mag = 7

Red = 4

(trail filled)

motion = fast = $W 15^{\circ} S$

Sid Time

 $7^h 42^m$ HA $26^h W.$ $2 + d = \text{Orion Neb.} = \text{S. Orion's}$

Monday, Dec. 18, 1893.

✓ *R. O. Recturiga*

✓ *H. J. L. x*

K. 2. v.

K. 8 or 9 L.

l 2 m

~~ALL~~ Every four

Seeing very poor N.I.L.

39.8 = 10.2^{mag}

7.9^{mag}

8.0

Tuesday Dec. 19 1893

adjustment of telescope

β Aurigae

	Real	Real	abs.	abs.	Cor HA.	Cor σ
G 46 0	$\frac{6}{5} \frac{46}{51} \frac{42}{42}$ Sid. Time Dec	Dec 44.9	HA. 0 51.1 W	Dec 45.1	W 3.1	+0.2
G 54	5 51 42		0 59 W		W 3.3	
7 18.8		3 Jan.	0 14.5 W			
7 24.0			0 23.7 W			

\checkmark Monocerotis

7.6

v42
c5

$\checkmark = 7.7$

m

7.8

2684 \checkmark δ Canis Min
piv

v39

m el

8.0

2946 \checkmark X Canis R?

b6v

v10

$\checkmark = 7.7$

m L

Tuesday Dec 19 1893

215

~~✓~~ Canari

2976

✓ ✓ Canari

V2

seeing very poor. H L

V6 m

V2 9.0

P. 2

Wednesday Dec 20 1893

8-8

γ Cygni

$$\frac{16.4}{6.1} = 2.69$$

v2c

Swing from Lm

v2b

v=Red

~~18~~

a 7v rough estimate

9.0

✓ Octi

h x = v

c v6 x9

35.5

32.5

29.5

62.0

31.0 = 8.7

Lm

✓ T Aphi

g6v

v1c

39.2

34.7

71.9

35.9 = 8.4

Lm

✓ R Cassio

v=12

swing low from for comp.

R7v com. by 7 or 8

v very faint!

Hm

✓ T Cassio

h1v

v3k

28.3

28.5

28.4 = 9.3

mm

✓ S Persci

d=v

v4e

13.4

12.6

26.0

13.0

m H

9.0

Wednesday

~~Nov. 20~~
Dec. 20

1893

71.3

243

V Carriage
v29g
S2V

m 41

116

1222

✓ R Persci
β 3 v
v 2 y

8.7 m

m H

116

✓ R Ceris Min

$$V_1 = \infty$$

v 6 f

 $v = 9.7$ $\underline{m} \quad H$

117

2625

\checkmark \checkmark \rightarrow min.

 $\alpha \neq \beta$ $V = 11.0$

Mr (+)

what diff. to 9?

11.8

2270

✓ 5 Wyck

transible

710.5

Mr H

157

3186

✓ T Cancer

$$V = 10 \text{ V}$$

✓ 3 e

$$V = d$$
$$V = 8.5$$

Wednesday Dec. 20 1893

12.0

3493

✓ R Leonis

WIV

m H

V 5X

V = 9.5

12.1

3567

✓ V Leonis

✓ Invisible < 10.5

12.2

3477

✓ R Leonis Min

V = X (sec)

V = 11.7 ^m _{sec}

V very faint seen w. difficulty

12.3

3994

✓ S Leonis

V Invisible < 10.5

12.4

4300

✓ R X Virginis

hiv

V 1K

V = 10.2

12.5

4315

✓ R Comae Ber.

V = Invisible < 10.5

g also invisible

12.6

4377

✓ T Virginis

h = v

V 5.9

10.5

Wednesday Dec. 20 1893.

Chronometer Comparison			Before		
B 236			F 1327		
^h	^m	^s	^h	^m	^s
9	5	32.0	9	9	0
9	6	32.0	9	10	0
B 236 slow 3 ^m 28 ^s referred to F 1327					

Obs Time ^h 9 ^m 34 ^s 42
 of Reappearance of Jupiter Satellite No I.

Chronometer Comparison			After.		
9	47	2.0	9	50	30
9	48	2.0	9	51	30
B 236 slow 3 ^m 28 ^s referred to F 1327					

Jupiter was about 10° above horizon. At time of reappearance Jupiter was covered by thin clouds. Before reappearance Jupiter was covered by dense clouds that at times made the satellites invisible. The diffinition was exceedingly poor.

Observed Time (B 236)	^h 9	^m 39	^s 42	
B 236 slow	+ 3	28		referred to F 1327
F 1327 slow		+ 37		
True Time Reappearance	^h 9	^m 43	^s 7	Cambr. Sid Time

Saturday Dec. 23 1893

Reappearance Jupiter No. I

Chem. Comparisons. B 326

F 1327

Before

0 6 14

0 10 0

B 326 Referred to F 1327

0 8 14.5

0 12 0

slow 3^m 45.8^s

0 9 44.0

0 13 30

Obs. Time

1 15 5.3

5^s Comb. Sid. Time

Chrometric Comparisons After

B 326

F 1327

1^h 23^m 13.5^s

1^h 27^m 0^s

1 24 13.5

1 28 0

B 326 referred to F 1327 slow 3^m 46.5^s

Observed Time Reappearance 1^h 15^m 5^s 3

B 326 slow + 3 46.4 Referred to F 1327

F 1327 slow + 0 39.

True Time Reappearance No I 1^h 20^m 18.4^s Comb. Sid. Time.

This book
Ledgered throughout

