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Thursday July 9. 1891

R Aurigae

S Aphuichi
12. magnitude

S Herculis
V = L
R 5 V
V 5 m

9.0 m
9.5 magn. L

R Hydrae
V 669 Virginis

L Z B X Feild Glasses.

New variable no. 8

10.1 α 3 V
V 4 β

L
L

10.2 New var. no. 9

δ ε 3 V
V 2 η

L
L

10.3 New var. no. 10

L 2
V 4 β

L
L

10.3 New var. no. 11

β 3 V
V 4 α

L
L

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Thursday July 9, 1891.

Rem var. no. 12. ✓

~~V = δ~~

10.3 β 2 V L.

V = γ

Rem var. No. 13. ✓

V 4 β L

10.6 α 4 V L

✓

10.7 δ Cephei

γ ~~X~~ 3 δ L

10 5- ~~X~~ ε

✓

12.7 β Lyrae

β 2 ~~X~~ ε L.

γ 4 β

✓

10.8 η Aquilae

~~η 3 γ~~

~~γ 3 η~~ β 3 η L.

ε 1 η

η 5- ~~X~~ 1

✓

10.8 10 Sagitt.

~~X~~ γ 3 V L

V = ~~X~~ g

✓

10.9 R Scuti

V ~~4~~ 5- C L.

~~δ~~ g 4 V

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6 7 8 9
(★) * * * * ?

Thursday July 9, 1891

X R Herculis

a 3 b
b 5 c
c 3 d
d 3 e
e 3 f
f 3 g
g 3 h g
g h 3 k h
h k 5 l k
k l 3 m l
l m 4 n m
m n 5 o n
n o 5 p o
o p 4 q p
p q 5 R q

12.5 k 3 v
X v 2 l

U Herculis

a 3 b
b 3 c
c 4 d
d 5 e
e 3 f

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Thursday July 9 1891

Prof. Searle's Sus. Var.
22 29 +12 39 (1855)

Prof Searle's Var
D.M. +12° 4848
γ is D.M. +12° 4852 9.0

13.5 d 4 V
V 1 β

γ not visible with L. eye piece,
nor with H eye-piece ∴ < 13 mag.

L

L

R Pegasi

a 3 b
b 3 c
c 5 d
d 3 e
e 3 f
f 4 g
g 5 h
h 5 k

C

Taurus

14.6 normal brightness

1891phae.proj..448R



Friday July 10, 1891

ν (41) Virginis C Z.

a 4 b
b 5 c
c 4 d
d 5 e
e 6 f
f 4 g
g 4 h
h 5 k
k 5 l
l 4 m
m 4 n
n 4 o
~~o 4 p~~

R Canis Ven.

a 4 b F
b 4 c F
c 3 d F
d 4 e F

made a comph of months obs on the
The previous work on the comp. stars
a, b, c, & d ~~are~~ to be disregarded,

e 5 f F
f 5 g F
g 5 h 4
h 4 k 4
k 3 l 4
l 4 m
m 3 n
n 4 o

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Friday July 10 1891

R Canis Venatici (continued)

| | | | |
|---|---|---|---|
| | o 3 p | | L |
| | p 4 q | | |
| | q 3 R | | |
| | R 4 S | | |
| | S 5 T | | L |
| | T 4 u | | H |
| u | u 5 v w | | H |
| w | w 3 x | | |
| | x 5 y x | | Z C |

S Aquarii

| | | | |
|---|---|---|---|
| | a 3 b | | L |
| | b 6 c | | |
| a | c 3 d | | |
| b | d 4 e | | |
| c | e 3 f | | |
| d | f 3 g | | |
| e | g 5 h | | |
| e | h 4 k | | |
| f | k 4 l | | |
| g | l 2 m | | |
| h | m 4 n | | |
| k | n 4 o | o omited | |
| m | o 4 p | | |
| l | p 5 q | | |
| m | q 4 R | | |
| n | R 4 S | | |
| o | S 4 T | | |
| R | T 4 u R h t h u 5 w q | | |

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Friday July 10 1891

~~h 5 W~~

R Aquilae

14.5 K 4 V
V 3 L

Prof Searles Sir Van

14.8 ζ Sagittæ L

14.9 β Lyrae
ζ 2 β
β 4 ε

14.9 η Aquilæ L
β 5 η
η 4 ζ
ζ 3 η

15.0 10 Sagittæ L
~~h 3 b~~ V 4 b
~~b 4~~ h 3 V

15.1 δ Aphei
ζ 5 δ
δ 3 ε

naked eye = E
L

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~~Frid~~ Saturday July 11 1891

χ Cygni

~~h IV~~

μ 1 ν  see Notation  4 C

ν 4 k

a 5 b  Selection of Comp. Stars  F

b 4 c

c 5 d

d 6 e  4

e 4 f

f 3 g

g 5 h

h 4 k

k 3 l

l 5 m

m 4 n

n 4 o

o 4 p

p 5 q

q 4 R  C

R 5 S

S 5 T

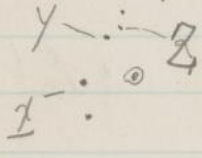
T 3 u

u 3 w

w 4 χ

χ 4 X y

y 3 Z  4




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1891phae.proj..448R



Sunday July 12 1891

R Ophiuchi

a 4 b
b 3 c
c 3 d
d 3 e
e 5 f
f 5 g
g 6 h
h 3 k
k 5 l
l 4 m

L M

L
H
H C

S Ceti

a 6 b
b 3 c
c 5 d
d 6 e
e 6 f
f 4 g
g 5 h
h 3 k
k 4 l
l 3 m

γ Aquilae

15.1 β 3 γ
γ 3 ε

L

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1891phae.proj..448R



Sunday July 12 1891

β Lyrae

15:1 f 3 β
β 3 f

10 Sagittae

15:1 ~~b 4 v~~
v 4 b
h 4 v

δ Cephei

15:2 d 5 f
L 2 d

Taurus

normal brightness

15:3 a 7 v
v 3 b

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1891phae.proj..448R



Monday July 13, 1891

9.2 × R Lyncis I M

a 4 b "
b 5 c "
c 3 d "
d 6 e "
e 5 f "
f 4 g "
g 5 h "
h 3 k "
k #6 l H
~~l #2 ////~~ "
m 5 n "

# $a_c$ 2 g "
$f_c$ 3 $a_c$ "
$c_c$ invisible I
e 4 V
V 3 f

10.1 ~~9.~~ T Persei. L

V 3 d
c 5 V

10.2 S Persei. L

V #2
b 4 V
a 5 b

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1891phae.proj..448R



Monday July 13. 1891.

× S Persei. (continued) I M

b 4 c "
c 6 d "
d 4 e "
e 4 f "
f b 6 g "
g 2 h "
h 5 k 4
k 6 l 4
l 4 m H
m 5 n H
n 4 o H

✓

10.7 S Cassiop I M
V 2 e
d 3 V I M

m 5 $a_c$ $b_c$ I M
// $b_c$ q 2 n
$q_c = n$
$c_c$ 2 0

✓
* T Cassiop
11.1 g 2 V 4
V 3 h
p 3 $d_c$
m 1 $b_c$
~~$b_c + n$~~
$b_c = n$

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Monday July 13 1891

J Cassini (continued)

$b_c$ 2 $c_c$

$n$ 2 $c_c$

$c_c$ 4 0

X X R Cassini

| | | |
|---|---|---|
| a 4 b | M | B |
| b 6 c | | B |
| c 3 d | | B |
| d 6 e | | B |
| e 5 f | | F |
| f 4 g | | L |
| g 5 h | | L |
| h 3 k | | L |
| k 6 l | | L |
| l 5 m | | L |
| m 6 n | | L |
| n 4 0 | | L |
| 0 6 p | | L |
| p 4 q | | L |
| | Main set | |
| q 4 R | | H |
| R 4 S | | H |
| S 4 t | | H |
| t 5 u | | H |
| u 5 w | | H |

$h_c$ 2 S

R 3 $h_c$

R 3 $k_c$

$k_c$ 1 S

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Monday July 13 1891

R Cassiop (continued)

$l_c$ 3 w H

u 3 $l_c$

R 2 $g_c$

$g_c$ 3 S

0 4 V H

13.6 V 1 p

S Cephei

V invisible H

T Cephei

a 5 V B

V 4 b

R Draconis

h 4 V

V 1 k

14.9 β Lyrae

θ 3 β

β 2 λ

14.9 δ Cephei

c 3 δ

δ 4 γ

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Monday July 13 1891

15.0 γ Aquilae
γ 3 β
δ 4 γ
L

15.0 10 Sagittae
c 1 v
v 3 b
L

Taurus
normal brightness

15.1 ξ v 5 b
a 6 v
L.

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Tuesday July 14 1891

β Lyrae

11.9

0 5 β
3 1 β
λ = β
β 1 d

11.9

η Aquilae

η 3 β
η 4 ε

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July 17, 1891. Friday.

R Lyncis.

8.6 β Lyrae M L

β R 3 ε
γ 3 β

8.7 δ Cephei. M L

γ 2 δ
δ 4 ε

8.8 η R Aquilae M L

β 2 η
η R 4 ζ 4 ε
ε 1 η

8.8 10 Sagitt. M L

δ 4 V
V = 9

8.9 R Lyncis A C I M

9.2 R Ursa Maj. L C M

n 2 V C
o 3 V C
V = 7 C

T Ursa Maj.

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Friday July 17, 1891.

9.4 S Ursa Maj. I C M
V 2 e
d 5 V

9.5 S Bootis L C M
C 3 V
d = V

9.6 R Ursa Min. L C M
V 3 d
C 3 V

9.7 T Cassiop L C M
g 4 V
V 3 h

" S Cassiop L C M
V 1 e
V 6 f

The following are Mr. Powe's observations
R Ursae Minoris
d 3 V
V 2 e
a 4 b L C M
b 1 c
c 3 d
d 5 e
Here end Mr. Powe's Observations

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1891phae.proj..448R



Friday July 17 1891

New Variable. No 14

14.2

b 4 r

r 2 a

L

X R Cassiop.

a 3 b

b 5 c

c 4 d

d 7 e

e f 5 f g f

f g 5 h g

g h 5 h

h h 4 k

k 6 l

l 6 m

m 5 n

n 6 o

o 5 p

p 3 q

q 5 R

R 3 S

S 3 T

T 4 u

u 5 w

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Tuesday July 21. 1891

9.5 — γ Cephei

X a 6 b 6 MB

b 4 c

c 3 d

d 4 e F

e 5 f I

f 4 g

f 5 g

f 3 h

h 3 g

g 3 k

k 4 l

l 5 m

m 5 n

m 4 e

o π p H

p 4 q

q 4 R

✓

β Lyrae

10.4 ξ 2 ρ Lm

ρ 1 0

✓

η Aquilae L

10.8 η 2 ρ m

ξ η 3 ε

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Tuesday July 21 1891

10.9

10 Sagittae m

v 1 c

h 3 r L

X R Ursae Minoris

a 4 b

b 3 c L m

c 6 d

d 4 e

e 2 f

f 4 g

X T Cassiopeiae

a 6 b F m

b 4 c

c 3 d

d 6 e

e 3 f

f 5 g

g 4 h

h 4 k

k 5 l

l 4 m

m 3 n

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Thursday July 23 1891

R Ursae Majoris
9.7 P, V m L C

S Ursae Majoris
9.8 d 4V m L, C
V 3 e

S Bootis
V = d m L C

10 Sagittae
10.0 b 3 V L m
V 2 g

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Friday July 24 1891

9.7

~~β~~ β Lyrae

γ 3 β

β 4 ε

L

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Saturday July 25 1891

New Variable No. 8

9.7 r 3 α

β Lyrae

10.3 γ 3 β

β 4 ζ

γ Aquilae

10.5 β 3 γ

γ = ε

R Ursae Minoris

10.6 α 4 V

V 2 e

R Draconis

10.7 ℓ = V

V 4 3 m

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Monday July 27. 1891

9.4

| | | | |
|---|---|---|---|
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10.2

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Here end Power Observations

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Monday July 27 1891

11.3 S Ursae Majoris
d 6 v
v 1 e
L

S Bootis
11.3 d 2 v
v = e
L

R Ursae Minoris
c 4 v
11.4 v 1 d
L

R Draconis
11.6 e = v
v 3 m
L

T Cephei
11.7 v 3 b
B m

R Cassiopeiae
~~0 6~~
12.2 0 6 v
v 2 p
L m

T Cassiopeiae
12.3 v 1 g
f 3 v
L m

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Monday July 27 1891

S Canisipiae

12.4 v 1 e — 4 m
v 5 f

S Persei

a 6 v
12.4 v = b — 4 m
v 4 c

T. Persei

12.5 c 5 v
v 3 d — 4 m

R Aurigae

12.7 k 3 v — 2 4 m
v 3 l

No. 8 New Variable

12.8 f 2 v — 1 4 m
v 2 a

No. 10 New. Variable

12.9 a 3 v — 1 4 m
v 3 β

No. 11 New Variable

13.1 β 4 v — 1 4 m
v = a
v 4 5 d

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Monday July 27 1891

No. 13 New Variable

13.3 α 2 ν
ν 2 β

No. 14 New Variable

13.5 b 3 ν
ν 3 a

S Pegasi

a 4 b Variable below 12mg.
b 4 c
c 3 d
d 4 e
e 5 f
f 5 g
g 3 h
h 4 k
k 4 l
l 3 m
m 3 n
n 3 o

η Aquilae

β 2 η
η 2 ε

β Lyrae

ε 2 β
β 1 δ

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Monday July 27 1891

10 Sagittae L M

15.3 V 8 4c

h 2 V

δ Cephei L M

15.3 V 4 δ

δ 3

Taurus

15.4 normal brightness L M

1891phae.proj..448R



Friday July 31, 1891

8.5 — β Lyrae — Powe obsr.
γ 2 β
β 3 ε

δ Cephei — Powe obsr
6.7 — ζ 2 δ
ζ 2 ε

9.0 — S Bootis — Powe obsr.
a 4 b
b 4 c
c 2 d
d 2 e
e 4 f
f 3 g
g 2 h — Here end Mr Powe obsr's

R Camelopardi
14.3 — l 4 v — H

1891phae.proj..448R



# Sunday August 2 1891

X S Cephei

a 4 b
b 3 c
c 5 d
d 4 e
e 3 f
f 5 g
g 5 h
h 5 k
k 3 l
l 6 m
m 4 n
n 5 o
o 4 p
p 4 q

✓

T Cephei

X

n 4 o
o 5 p
p 4 q
q 3 R
R 5 S
S 4 T
a 7 b
b 4 c
c 6 d
V 1 c
b 4 V
d 3 e
e 5 f

13.3

L 4 H

Y

L H

H

H

H

B

B

L

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Sunday August 2 1891

T Cephei (continued)

f 5- h L
h 2 g
g 4 k
k 3 l
l 3 m L

✓

X R Ursae Minoris.

a 4 b L
b 3 c
c 6 d
d 4 e
e 3 f
f 5- g
g 5- h
h 2 k
k 5- l L

14.0 d 1 V L
V 4 e L
l 5- m H
m 4 n
n 3 O H

✓
X R Camelopardi
~~R Ursae Minoris~~

g 4 h H
h 5- k
k 5- l
l 4 m

14.6 l 4 V
V = n H

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Sunday August 2 1891

R. Camelopardi.

R ~~Ursae Minoris~~ (Continued)

a 7 b
b 6 c
c 6 d
d 1 e
e 6 f
f 3 g 4

δ Cephei

14.9 δ 3 γ
ζ 4 δ 2

β Lyrae

14.9 ζ 2 β
β 2 0 2

η Aquilae

15.0 ε 2 η
η 3 ι 2

107 Sagittae

15.1 g = ν
ν 3 d

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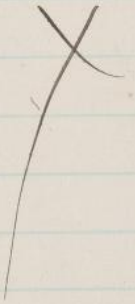
Monday August 3 1891

χ Cygni My 1st Notation.

14.3

a 4 V
V 4 b
a 7 b
b 2 c
c 4 d
d 4 e
e 2 f
f 3 g
g 5 h
h 2 k

get a new l





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1891phae.proj..448R



Tuesday August. 4 1891

β Lyrae

13.2 γ 2 β
β 3 δ
δ 3 γ
γ 4 β

γ Aquillae

13.2 δ 3 γ
γ 4 β

δ Cephei

13.3 c 5 δ
δ 2 γ

χ Cygni

k 4 l
l 4 m
m 3 n
n 2 o
o 5 p
p 4 q
q 4 R
R 4 S
S 5 T
T 4 W
W 5 X

omitted U as unnecessary.
~~omitted the former U~~
~~hereafter w will be U etc~~
~~X = w etc~~

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1891phae.proj..448R



Tuesday · August 4 1891

10 Sagittae

15.0 h 3v

v 3c

Taurus

15.1 Normal brightness

S Persei

15.2 b 3v

v 2c

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1891phae.proj..448R



# Thursday Aug. 6, 1891

8.4 β Lyrae — Powe Obsv. L

β 3 δ
γ 2 β

8.5 δ Cephei — Powe Obsv. L

~~β 3 δ~~ δ 3 ~~β~~ ✓

8.5 β Lyrae — Reed Obsv. L

~~β~~ γ 1 β

S Bootis — Powe Obsv. L

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

e 2 v
v 2 f

S Cusa Inaj. — Powe Obsv. L

a 3 b
b 1 c
c 2 d
d 2 e
e 3 f
f 1 g

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1891phae.proj..448R



Thursday Aug. 6. 1891.

S Ursa Maj. (continued)

g 2 h
h 3 k
k 2 l

l ! V
V 2 f

Ponnis obs. excl.

Sanidsens Sus. Variable

D.M. or M.P. D.M. +19° 4242 8.0
~~H.P.~~ (Vol 24) Numbers"
According to a letter of Aug. 3 '91 (circum.)

~~V 2 (435~~
~~V 2 (+19°435-1)~~
~~V 2 (+20.435-1)~~
~~V 1 (+19.4175)~~
V 3 (+19.4175) L
(+20.435-1) 2 V L

14.0

Sus. Variable is red according to S.C.C. Scale = 3.0

a 5 V Jm F
b 4 V L
(+20°4453) 3 V
a 3 (+20.4453)
b 6 (+20.435-1
(19.4175) 6 (19.4177) !!

7.2
7.0
6.1
20.9
6.9

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Thursday ~~Friday~~ August 6 1891

× R Aurigae

1

a 5 b
b 4 c
c 6 d
d 4 e
e 7 f
f 5 g
g 4 h
h 5 k
k 4 l
l 6 m
m 2 n
n 5 0
10 5 p
p 4 q

14.8

l 2 v
v 4 m
k 4 v
v 3 l
h ×3 k
k 6 l
l 4 m
m 1 n.

15.1

T Aurigae
Normal brightness

β Lyrae

15.1

γ 5 β

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Thursday ~~Friday~~ August 6 1891

10 Sagittae

15;2 ~~v 4 c~~ v 1 c
~~v 4 l~~ v 4 b

S Cephei

15.2 f 5 d
d 3 f
= v

T Cephei

15;3 b 3 v
v 2 c

S Cassiopeiae

a 7 b
b 3 c
c 6 d
d 4 e
e 3 f
f 3 g
g 4 h
h 7 k
k 3 l
l 3 m

l = v
v 4 f
f 3 l
l 1 m

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Friday Aug. 7, 1891.

X

T Cassiopeiae.

a 7 b
b 2 c
b 2 c
c 3 d
d 7 e
e 1 f
f 5 g
g 5 h
h 4 k
k 4 b
b 3 m
m 3 m
n 6 o
o 2 p

X

S 9 T Cassiopeiae

b 5 b
b 6 m
m 5 m
n 3 o
a 4 b
b 4 c
c 5 d
d 3 e
e 1 f
f 5 g
g 4 h
h 5 k

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Friday Aug. 7, 1891.

S Persei (Continued)

14.4

V 3 c

b 2 V

14.4

σ Persei.

c 3 V

V 3 d

S Cassiopeiae copied from page 49 (Aug. 6.)

X a 7 b

b 3 c

c 6 d

d 4 e

e 3 f

f 3 g

g 4 h

h 7 k

k 3 l

l 3 m

14.9

e = V

V 4 f

k 3 l

l 3 m

m 4 n

n 3 o

o 4 p

p 3 q

q invisible, but visible

In comparison of a [ac] was mistaken for R; R really invisible.

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Friday Aug. 7. 1891.

15.1 7

R Lyncis

g 2 V

V 2 h

dawn. L

15.2

Tauri

normal brightness

L

15.3

δ Cephei

f 6 δ

δ 3 5

3

L

15.3

Q Lyrae

f 3 B

L

15.4

10 Sagittae

V = C

V 3 6.

L

15.4

ζ Cephei ~~dawn brightening~~ dawn

f 4 V

V 3 C

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Saturday, Aug. 8. 1891.

X R Ursa Maj.

~~a s b~~ ~~L~~
~~b s c~~ ~~L~~
a 3 b F
~~f~~ ~~4~~ ~~c~~
c 2 d
d 3 e
~~e~~ ~~a~~ 4 f F
f 2 g L
g 4 h L
~~h s k~~ L

✓ β Lyrae θ f 1 β C
β 2 δ L

✓ β Lyrae " β 3 ε
β 2 θ C L

✓

X R Cassiop B
a 3 b
b s c
c 2 d
d 5 e
e 4 f B
f 4 g L
g 4 h
h 2 4 k
k 6 l
l 6 m
m 4 n L

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Saturday, Aug. 8, 1891.

✓

X R Cassiop

n 3.0 — L

0 4 p

p 4 q

q 3 r

r 4 s

s 3 t — L

o v p — H

p v q

q 3 r

r 4 s

s 4 t

t 3 u

u 4 w

v = r

9.6 q 3 v — H

✓

δ Cephei — H

δ o f — H

9.7 δ l c — δ 3 δ — H

10.6 δ v r — ξ 6 δ

✓

XX R Cassiop

$h_c$ $k_c$ = s — H

$k_c$ $h_c$ 3 t

r 3 $h_c$ $k_c$

t 3 $l_c$

$l_c$ = u

$h_c$ 2 s

r 2 $h_c$

q 3 $g_c$ — H

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Saturday. Aug. 8, 1891.

R Cassiop.

$g_c = r$ H
$p$ 3 V L
V 4 $q$
$q$ 3 $p$
$p_c$ 0 3 $q$ L
$q_c$

δ Cephei B
$b$ 4 V
V 1 $c$
$a$ 7 $b$
$b$ 4 $c$
$c$ 7 $d$ B
$d$ 3 $e$ L
$e$ 5 $f$
$f$ 4 $h$
$h$ 4 $g$
$g$ 6 $k$
$k$ 3 $l$
$l$ 4 $m$
$m$ 5 $m$
$n$ 4 $o$
$o$ 5 $p$
$p$ 5 $q$
$q$ 4 $r$
$r$ 1 $V_c$
$V_c$ 3 $m$ L

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Saturday, Aug. 8, 1891.

γ Cephei

XX

± 4 s
s X 2 t

s close comipanion to V.c
d is green

$d_c$ 2 p
0 3 $d_c$
r 4 $h_c$
$h_c$ 2 s
$e_c$ = r
0 3 r

A
H

X R. Ursae Majoris

h 4 l
l 5 k
k 2 m
m 4 n
n = 0
0 4 p

L Z
L Z

X S Cephei

q 3 h
h 4 k
k 3 l
l 5 m
m 2 n
n 5 0
0 2 p
p 4 q

H
H

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Saturday Aug. 8 1891.

S Cephei (continued)

XX X

a 4 b
b = c
c 6 d
d 4 e
e 3 f
f 5 g

c = n
c
a = m
c

β Typae

13.7 J = β
β 2 θ

S Persei

14.0 b 3 V
V 2 c

R Vulpeculae

~~a 6 b~~
~~c 2 b~~
~~b 5 a~~
~~a 3 d~~
~~d 5 4 b b = 8.4~~
~~e 5 b~~

14.9 ~~x 3 V~~ variable invisible
~~V 6 b~~

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Saturday Aug. 8, 1891.

R Vulpeculae

~~α~~ ~~β~~ a ~~=~~ b  a = 7.4 mw

~~α~~ ~~β~~ ~~α~~  b = 7.8

~~β~~ ~~=~~ ~~α~~  c = 8.0

d = 8.0

L

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Monday, Aug. 10, 1891.

R Ursæ Maj.

~~r s s~~ ~~H M.~~

r r Y H M

8 3 Y 4 s

p 6 q

q 2 r

r 6 s

s r t H

✓

β Lyræ L M

β = ε

8 5 β 3 0

✓

T Cassiop. M

X g ~~f~~ 3 ~~g~~ ✓ H

8 9 V 2 h ~~X~~ H

Companion north-east H

9 2 g = V L

V 4 ~~R~~

b 3 0

c

n 3 $b_c$

$c_c$ 3 0

n r $c_c$

0 3 $d_c$

$b_c$ 1 $c_c$ L

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Monday Aug. 10, 1891.

δ Cephei

S Cassiop

r on Aug. 7 was mistaken for $a_c$

δ Persei

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Monday, Aug. 10, 1891.

ε 4 α
β 4 f
ε 4 β
m = $\delta_c$ very faint
ε 2 a

ι Persei

10 7 ζ 4 ν
ν 3 d

R ✗ Camelop.
h 2 $a_c$
$a_c$ 3 k
$\beta_c$ $\alpha_c$ 3 e
$\beta_c$ $\alpha_c$ 1 d

Taurus
Normal brightness

12.4 χ Cygni
a 4 3 r
4 5 6

13.6 R Ursae Minoris
d 2 ν
ν 2 e

e 1 $\gamma_c$

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Tuesday August 11 1891

X Cygni

9.2 a.3 & V

L

Powe observes

R Cassiop

f 4 g

g 3 h

h 2 k

k 3 & l

l 4 m

m 3 n

n 4 o

o 3 p

p 3 q

q 3 t

t 4 u

u 3 w Mr Powe's Obs. end

L

T Cassiop

g 2 V

V 5 h

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Thursday, Aug. 13, 1891.

8 2

R Coronae

r invisible

F & M

a 6 b
b 6 c
c 3 d
d 6 e
e 4 f
f 3 g
g 3 h
h 3 k
k 5 l
l 5 m
m 5 n
n 3 o
o 3 p
p 3 q
q 6 r
r 3 t
t 3 u
u 6 w
w 3 x

F
L
L

u 4 w
w 5 y
x 3 z
z 4 a

H M
H

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Thursday, Aug. 13, 1891.

✓

R Lunae Maj.

a 3 b
b 4 c
e f 5 f
f 3 g
g 5 h
g 6 h
h 5 l
l 5 k
k 4 m
m 4 n
n 5 e
o 4 p
p 5 q
q 6 r
p 5 q
r 5 s
s 4 t
t 5 u

F M
F
L
L
L
H
H
H
L

0 2 m

11 0

r 3 γ
Σ 4 s

n 1 $\gamma_c$
$\gamma_c$ 3 p
$\alpha_c$ 3 m
$\alpha_c$ 2 k
a 5 γ
$q_c$ = s

L + $\alpha_c$

Moon set

L

r 3 p
p 2 q

L
L

1891phae.proj..448R



Thursday August 13 1891

R Ursae Majoris

g 4 d
d 3 h

c / d
d 6 e

δ Cephei

11.8 δ 3 γ
ε 3 δ

β Lyrae

γ 2 β
11.9 β 4 ξ

R Draconis

12.2 V 10
n 5 r

a_c 6 0
a_c = n
m 4 a_c

n 6 e_c
e_c = 0
p 3 e_c

n 5 b_c
b_c 2 0

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Thursday August 13 1891

S Cephei

a 6 b

b = c

c 7 d

d 3 e

e 3 f

f 5 g

g 5 h

h 4 k

k 3 l

l 7 m

m 3 ac

ac 1 n

p 2 bc

bc 3 0



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T F S Su
13 14 15-16



Sunday August 16 1891

13.0

β Lyrae m
β = 5 L
β 40

S Cephei m
m 4 n H
n 50 H1

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Tuesday August 18 1891

R Arietis

a 4 b  4 m
b 5 c
c 5 d
d 4 e  4

✓

Taurus

14.0  normal brightness  m

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Wednesday, Aug. 19, 1891.

β Lyrae

9 4

β = γ M K.

R + S Sagittarii t M

a 5 b

~~b 5 c~~

~~c 4 d~~

b 4 c

c 5 d

~~d 2 e~~

d 4 e

e 3 f

f 3 g

g 3 h

h 3 k

k 3 l

l 5 m

m 4 n

n 4 o

R Aquarii

a 4 b

b 4 c

c 3 d

~~d 7 e~~

d 5 e

e 3 f

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August

Wednesday ~~April~~ 19. 1891

δ Cephei

14.2 c 3 δ

δ 5 f

T Cephei

14.4 c 2 v

S Persei

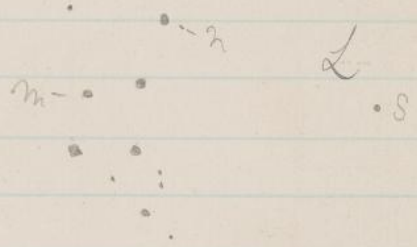
14.6 c 3 v

Taurus.

m 4 S

14.9 S 3 n

Normal brightness




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1891phae.proj..448R



Thursday, Aug. 20, 1891.

~~R. Lyncis~~
~~S Ursae Maj.~~
9 5 R Ursae Min. L M
d 4 V L
V 1 e
R Draconis H M
9 5 o 3 V H
~~S Cep~~
9 6 T Cephei TB M
c 4 V TB
T Cassiop.
9 7 f 3 V L M
V 2 g
S Cassiop
9 7 V 4 g L M
9 7 ~~S T~~ Persei S Persei
V 4 c L M
b 2 V L
9 8 T Persei
c = V L M

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Thursday, Aug. 20, 1891.

~~R Aurigae~~

| | | | | |
|---|---|---|---|---|
| 9 | 9 | δ Cephei | M | L |
| | | δ 1 δ | | |
| 9 | 9 | β Lyrae | M | L |
| | | γ 3 β | | |
| | | β 3 ξ | | |
| 9 | 9 | η Aquilae | M | L |
| | | η 2 β | | |
| | | η 5 ε | | |
| | | δ 6 η | | |
| 9 | 9 | 10 Sagittae | M | L |
| | | ~~b~~ 4 V | | |
| | | V 2 g | | |
| | | New Var. No. 14 | | |
| | | ~~R~~ Lacertae | | |
| | | a 3 c | L M | L |
| | | ~~c 5 d~~ | | |
| | | c 6 d | | |
| 10 | 3 | d 4 V | L | |
| | | b 6 a | | |
| 10 | 6 | h ~~3~~ | | |
| | | ~~V 2 k~~ | | |
| | | New Var. No. 1 | | |
| 10 | 6 | h 3 V | L M | |
| | | V 2 k | L | |

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Thursday, Aug. 20, 1891.

New Variable No. 2. ✓ L

11.2 d 4 V L m
V 2 e

New Variable No. 8. ✓ L L m

12.1 V 2 f

New Variable No. 9. ✓ L m
V Invisible

New Variable No 10 ✓ L
V Invisible L m

New Variable No 11 ✓ L
V Invisible L m

Moon too bright. Stars
of the 10th Mags ~~are~~ Invisible.

New Variable No 12 ✓ L

13.4 γ 5 δ L m
δ 4 ε 1
V = ε L

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Saturday August 22 1891

R Scuti

a 3 b
b 4 c
c 3 d
d 4 e
e 3 f
f 2 g

m

η Aquilae

β 4 η
ε 2 η
η 4 c

m
L

12.7

β Lyrae

12.8

e 3 β
β 2 θ
β 3 ζ

m L

δ Cephei

12.8

δ 5 α
δ 4 ζ

L
m

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Monday August 24 1891

X Cygni

9.4 a 3 v
v 5 b

R B

T Cassiop

10.2 g 2 r
v 5 h

m L

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Tuesday August 25 1891

T Cassiopeiae

8.4 f 5 V
V = g
V 4 h
a 6 b
b = c
c 3 d
d 7 e
e

β Lyrae

8.9 γ 2 β
β 5 ξ

T Cassiopeiae (continued)

e 3 f
f 6 g
g 4 h
h 4 k
k 3 l
l 4 m
m 4 n
n 6 o

γ Aquilae

9.3 δ 3 η
η 2 β

10 Sagittae

9.4 b = V
c 2 V

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Tuesday August 25 1891.

δ Cephei

δ = γ

9.6

L.

R Scuti

g 6 h

h 7 k

k 3 l

l 5 m

~~m 2 n~~

~~n 4 o~~

~~o 3 p~~

m 2 n

n 4 o

o 3 p

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# Friday August 28 1891

## α Cassiop prismatic companion

33.4

| | | | | | |
|---|---|---|---|---|---|
| mags | | | 30.8 | } $\alpha_c^m - \alpha_*^m = \cancel{5.9}\ 3.9$ | |
| ~~5.9~~ | 37.6 | 18.8 | 12.0 | | |
| 3.9 | | | 210.0 | | |
| | | | 12.0 | | |

## λ Aquilae prismatic Companion

~~30~~

| | | | | | |
|---|---|---|---|---|---|
| | L S | 11.3 | 32.0 | } $\alpha_c^m - \alpha^m = \cancel{5.9}\ \cancel{3.9}$ | |
| | 20.7 | 32.0 | 11.3 | | |
| | | 193.0 | 210.3 | | |
| ~~5.4~~ | 48.0 | 17.3 | 210.3 | 193.0 | |
| 3.4 | | | | | |

## Electric Light in Baton prismatic Companion

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | 10.1 | 10.8 | 12.8 | 12.8 | 13.2 | 11.1 | 70.8 | 11.8 |
| | | 18.1 | 29.5 | 30.0 | 30.8 | 29.4 | 29.8 | | 149.5 | 29.9 |
| | L S | | 194.2 | 194.0 | 193.2 | 194.0 | 194.2 | | 969.6 | 193.9 |
| mags. | | | | | | | | | | |
| ~~6.1~~ | 35.1 | 17.0 | 211.4 | 208.9 | 210.1 | 212.9 | 211.4 | | 1054.7 | 210.9 |
| 4.1 | Elec Light | | + prismatic Companion | | | | | | | |
| | | | 12.1 | 13.1 | 12.9 | 12.4 | 12.8 | | 63.3 | 12.7 |
| | | 17.7 | 30.0 | 30.4 | 30.0 | 30.5 | 31.0 | | 151.9 | 30.4 |
| | | | 191.7 | 192.2 | 191.0 | 192.6 | 193.0 | | 960.5 | 192.1 |
| 4.0 ~~6.0~~ | 35.8 | 18.1 | 211.2 | 210.2 | 210.2 | 209.0 | 210.5 | | 1051.1 | 210.2 |

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Friday August 28 - 1891

ζ Tauri

unity focus

To determine ~~the~~ effect of Right + Left position.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | ~~L S'~~ | | 67.5 | 66.2 | 66.4 | 200.1 | 66.7 |
| | | 90.5 | 157.5 | 157.2 | 156.9 | 471.6 | 157.2 |
| Magn | L S | | 247.0 | 247.9 | 246.0 | 740.9 | 247.0 |
| 0.0 | 178.8 | 88.3 | 339.0 | 335.9 | 337.1 | 1006.0 | 335.3 |

Positions revised

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | 66.6 | 67.2 | 67.2 | 201.0 | 67.0 |
| | | 89.0 | 155.8 | 155.8 | 156.4 | 468.0 | 156.0 |
| | | | 247.0 | 248.0 | 246.2 | 743.2 | 247.7 |
| +0.1 | 175.7 | 86.7 | 337.2 | 337.0 | 338.0 | 1012.2 | 337.4 |

γ Tauri & prismatic comparison

| | | | |
|---|---|---|---|
| 100.2 | | | |
| 125.2 | 25.0 | | |
| 280.8 | | L S | Magn |
| 300.3 | 19.5 | 44.5 | ~~5.5~~ |
| | | | 3.5 |

γ + γ₂

| | | | |
|---|---|---|---|
| 102.2 | | | |
| 120.4 | 18.2 | | |
| 283.7 | | | |
| 300.7 | 17.0 | 35.2 | ~~6.1~~ |
| | | | 4.1 |

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Friday August 28 1891

λ Orionis + λc

~~97.0~~ ~~100.0~~
~~103.7~~
103.0
121.0 18.0
285.6 L S Magn
300.5 14.9 32.9 ~~6.2~~
4.2

λ + λc

100.9
121.2 20.3
283.1
300.0 16.9 37.2 ~~5.7~~
3.9

~~ζ Cyg~~

(ζ) υ Cygni + υc

103.2
υ out of field. 121.2 18.0
286.0
300.7 14.7 32.7 ~~6.2~~
4.2

υ + υc

~~100.0~~
102.2
119.2 17.0
284.2
300.0 15.8 32.8 ~~6.2~~
4.2

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Friday August 28 1891

α Cygni

Effect of right & left position

| | | | | |
|---|---|---|---|---|
| ~~338.0~~ | | | | |
| 64.2 | | | | |
| 161.0 | ~~8~~ | 96.8 | | |
| 245.3 | | | L.S | Magn. |
| 338.0 | | 92.7 | 189.5 | −0.2 |

Reversed

| | | | |
|---|---|---|---|
| ~~6.6~~ | | | |
| 66.0 | | | |
| ~~166.3~~ | | | |
| 161.0 | 95.0 | | |
| 247.0 | | | |
| 336.0 | 89.0 | 184.0 | −0.1 |

~~φ' φ² Orionis emfault~~

Disappearances

109.0
109.5
106.7
105.5
105.0
113.6
106.4
116.0

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Friday August 28 1891

Sout'y field $\delta$ Orionis $\delta + \delta_c$

| | | | | |
|---|---|---|---|---|
| 12.3 | | | | |
| 27.0 | 14.7 | | | |
| 195.0 | | 4S | | Magn |
| 211.8 | 16.8 | 31.5 | | ~~6.3~~ |
| | | | | 4.3 |

Sout'y field $\delta + \delta_c$

| | | | |
|---|---|---|---|
| 11.4 | | | |
| 129.1 | 17.7 | Down | |
| 195.4 | | | |
| 209.8 | 14.4 | 32.1 | ~~6.3~~ |
| | | | 4.3 |

Sout'y field $\delta + \delta_c$

| | | | |
|---|---|---|---|
| ~~13.5~~ | | | |
| 12.8 | | | |
| 29.0 | 16.2 | Down | |
| 192.9 | | | |
| 209.4 | 16.5 | 32.7 | ~~6.2~~ |
| | | | 4.2 |

Moon + Moons

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Friday August 28 1891

Moon + Moune

| | | | |
|---|---|---|---|
| 100.2 | | | |
| 104.5 | | | |
| 280.0 | | L S | Mapm |
| 300.2 | 20.2 | 40.4 | ~~5.7~~ |
| | | | 3.7 |

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Tuesday Sept. 1. 1891

Phot. H

γ & χ Cassiop & prismatic Comparison

Came in cloudy.

Electric Light.

Experiments on disappearances.

Electric light disappeared at these readings

210.0
210.0
210.0
210.0
210.0
210.0

The light was visible at any other but these readings but practically this is for this quadrant.

Comparison of Electric light disappeared at following readings.

The smaller is 10. to 1 minute the star at disappearance

22.5
22.3
22.4
22.0
22.0
21.5
22.0
22.3

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Tuesday Sept 1. 1891

α Lyrae + $\alpha_c$

12.9
30.0
193.0
208.5
17.1
$\alpha_c - \alpha$ 15.5
~~6.2~~ 32.6
4.2

α + $\alpha_c$

15.5
29.4
194.0
208.0
13.9
14.0
4.6 27.9

~~α + $\alpha_c$~~

~~15.5~~

δ Ursae Minoris + $\delta_c$

13.8
32.5
194.0
209.0
18.7
$\delta_c - \delta$ 15.0
4.1 33.7

~~δ + $\delta_c$~~

Very weak clear 1 field.

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Tuesday Sept. 1 1891

δ Ursae Minoris + $\delta_c$

12.2

19.5 31.7

193.4

$\delta_c - \delta$ 15.9 209.3

4.0 35.4

Find glass objective corrected with clear. heated & off.

β Aurigae + $\beta_c$

12.0

29.4

192.8

210.8

17.4

$\beta_c - \beta$ 18.0

4.0 35.4

$\beta + \beta_c$

12.7

31.0

194.0

210.0

18.3

$\beta_c - \beta$ 16.0

4.1 34.3

$\beta + \beta_c$

15.0

13.4 28.4

192.9

$\beta_c - \beta$ 17.1 210.0

4.4 30.5

Fr. Three observations 12h 6m 6s A.T. Sun was out by Field.

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Tuesday Sept. 1 1891

Electric Light + Prismatic Comparison by disappearances,

~~20.~~
Electric 21.0
Light. 21.5
201.9
202.9

Comparison.
19.0
24.4
198.5
206.4

Brighter Lights out of field.

Electric Light + Comparison by Equality Intwd,

13.2
28.2
194.1
210.9
15.0
16.8
4.3 31.8
Elect + Compar. by = 14.0
28.2
194.2
210.0
14.2
4.4 30.0 15.8

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Tuesday Sept. 1 1891

Electric Light + Comparison by disappearance.

Electric Light 21.0
21.5
201.3
202.0

Comparison 19.5
24.1
198.5
204.5

Electric Light + Comparison by equality Method

Ele 12.0
30.0
193.2
210.2
18.0
17.0
4.1 ~~6.1~~ 35.0
12.3
29.7
193.6
211.5
17.4
17.9
4.0 35.3

brightness of star must be graded

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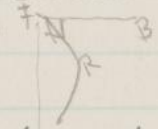


Tuesday September 1 1891

The effect of right & left positions
with two images of same prismatic comparison

62.7 B grows brighter

153.2 " " fainter




Where was Moses when the light went out
Where was "Maxwell" when the light went out?

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# Wednesday September 2 1891

S Ursae Majoris
f 1 v
v 2 g
8.0 L

S Bootis
h 1 v
8.1 L

R Draconis
v below μ
8.2 L

R Ursae Minoris
d 4 v
v = e
8.3 L

passing Clouds

β Lyrae
t 3 β
β 3 1
8.4 L

δ Cephei
f v δ
v 2 ε
8.4 L

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1891phae.proj..448R



Wednesday Sept. 2 1891

T Cephei

8.5 d 4 v F

S Cephei

8.6 v = 0 L

R Cassiop

8.8 s 2 v
v 2 t H

T Cassiop.

8.9 f 6 v
v = g
v 3 h v red 4

S Cassiop

~~8~~ 9.0 v = g 4

S Persei

9.1 b 2 v
v 4 c

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Wednesday Sept. 2 1891

9.2 ~~8.2~~ τ Persei
c = v

R Aurigae
4 2 v
v 2 k

~~8.2~~ 9.3

Z L

Suspected Var. 19.4242
Davidson.

V 2 +20.4351
+20.4351 2 V
b 6 V
a 2 V
v = +19.4175

L D F

Prof Searle's Sus. Var. 1
(1855) 22 2853 +12 39
~~d 5 V~~
~~v = 2~~ wrong region

v = 1
d 5 V
β still missing

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Wednesday Sept. 2 1891

New Variable No 14 ✓

10.7 f 2 v V=12.5 m V=11.0 m 4

New Variable No. 1. ✓ 2

10.9 h 3 v
v 3 k 4

New Variable No. 2 ✓
Drawn object glass
12.0 d 2 v
v 3 β 10.0 m 4

New Variable No 4 ✓ 2

12.3 e=v
v 3 f
v = fully 9.0 on Chandler's scale of coarseness.
k 3 f (old (f))

e 3 f new f
f 5 g

New Vari No 8 ✓ 2

12.5 V 2 f

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Wednesday September 2 1891

New Variable No. 9.
Invisible
V below 13.$^{m}$0 L 4

12.6

New Variable No 10
α 3 V
V 3 β 10.$^{m}$0 L 4

12.7

New Var. No 11 L
α = V
V 5 β 4

12.9

New Variable No 12 L
V = 5
ε 3 V 4

13.2

Down Object glass.

New Var No 13 L
α 3 V
V = β 4

13.7

γ Cygni L
α 4 V
V 4 b B

13.8

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Wednesday Sept. 2 1891

Phot. H

| | | |
|---|---|---|
| | α Lyrae + $\alpha_c$ | |
| α early field | 98.5 | |
| | 118.2 | |
| | 284.5 | |
| | 300.8 | |
| | 19.7 | |
| $\alpha_c - \alpha$ | 16.3 | |
| 4.0 | 36.0 | |
| | 101.8 | $\alpha + \alpha_c$ |
| | 118.2 | |
| " | 283.5 | |
| | 300.8 | |
| | 16.4 | |
| 4.1 | 17.3 | |
| | 33.7 | |
| " | 101.8 | $\alpha + \alpha_c$ |
| | 118.8 | |
| | 284.0 | |
| | 300.0 | |
| | 17.0 | |
| | 16.0 | |
| 4.2 | 33.0 | |
| | ε Draconis + $\varepsilon_c$ | |
| | ~~104~~ 103.2 | |
| | 120.0 | |
| | 285.1 | |
| | 300.1 | |
| | 16.8 | |
| 4.3 | 15.0 | 31.8 |

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Wednesday Sept. 2 1891.

ε Draconis + $\varepsilon_c$

102.5
119.7
285.3
300.0
16.2
$\varepsilon_c - \varepsilon$ 14.7
4.3 30.9
101.4 $\varepsilon + \varepsilon_c$
117.2
285.0
301.1
15.8
16.1
4.3 31.9

σ (sigma) σ Draconis + $\sigma_c$

102.0
117.1
285.9
300.0
15.1
14.1
4.5 29.2

Effect of position ε Draconis Prismatic Comparisons.

67.5 Right image growing faint. B
157.3 F
245.4 B
340.6
89.8
94.2
−0.1 184.0

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Wednesday September 2 1891

Effect of Position Continued

Reversed

| | | |
|---|---|---|
| | 60.4 | B |
| | 159.5 | F |
| | 244.0 | B |
| | 338.5 | F |
| | 99.1 | |
| | 94.5 | |
| −0.3 | 193.6 | |

Σ Orionis

Effect of Position in R + Z

| | | |
|---|---|---|
| | 61.0 | B |
| | 156.7 | |
| | 246.0 | |
| | 339.0 | |
| | 95.7 | |
| | 93.0 | |
| −0.2 | 188.7 | |

Reversed

| | |
|---|---|
| 60.0 | F |
| 159.4 | (B) |
| 252.5 | (F) |
| 343.0 | B |
| 99.4 | |
| 90.5 | |
| −0.2 | 189.9 |

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Wednesday September 2 1891

ε Orionis

60.4 ~~~ B

161.0

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1891phae.proj..448R



(Labor Day)

Monday September 7 1891

9.4

β Lyrae

γ¹ β

ξ² β

W Herculis

X P

| | | | |
|---|---|---|---|
| a | a 5 b | b | |
| b | b 5 c | c | |
| c | c 3 d | d | |
| d | d 5 e | e | |
| e | e 6 f | f | |
| f | f 5 4 g | h | |
| h g | g 5 4 h | k | |
| k | h 4 k | l | |
| l | k 4 l | m | |
| m | l 5 m | n | |
| n | m 5 n | o | |
| o | n 3 0 | p | |
| p | 0 6 p | q | |

f f 3 v

v 3 g h

S Herculis

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1891phae.proj..448R



Monday September 7 1891

T Hyeulis

a 6 b
b 5 c
c 4 d
d 3 e
e 5 f
f 3 g
g 2 h
h 3 k
k 4 l
l 6 m

e 2 v
v 3 f

R Cygni

a 3 b
b 6 c
c 4 d
d 4½ e
e 3 f
f 4 g
g 2 h
h 3 k
k 4½ l
l 3 m
m 4 n
n 2 o
o 5 p
p 6 q

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1891phae.proj..448R



Monday September 7 1891

R Cygni
9 4R L
R 3 S L

~~Var. faint~~
Var. Invisible < S L

δ Cephei

15.0 δ 3 δ L.
δ 4

Taurus

15.0 Normal brightness

Photometer H.
Effect of R + L position on 3d magn. *
25.2 R favouring brighter
117.7 F
206.5 B
295.1 F
92.5
88.6
0.0 181.1
P

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1891phae.proj..448R



Monday September 7 1891

(Continued) from Page 101

Reversed

25.1
117.1 R image increasing.
207.4
~~302.0~~
297.0
92.0
89.6
0.0 181.6

Effect of Pos. Same positions (Continued)

6.7
92.5
186.7 R image decreasing.
278.0
90.8
91.3
0.0 182.1

Reversed

4.6
94.6
184.2
276.9 R growing fainter,
90.0
92.7
-0.1 182.7

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1891phae.proj..448R



Tuesday September 8 1891

β Lyrae

7.7
8.7

γ 3 F
β 4 f

2.

R Bootis

~~a 6 b~~ a is green
a 4 b F
b 5 c F
c 4 d L
d 3 e L

X

X R Herculis

a 4 3
b 4 5
c 2 3
d 4 3
e 4 3
f 5 6
g 3 3
h 4 5
k 5 3
l 5 4
m 3 5
n 5 5
o 5 4
p 5 5
q

a 4 b
b 4 c
c 2 d
d 4 e
e 5 f
~~f 5 g~~
~~g 3 k~~ g was omitted
f 3 h
g = f circum
h 4 k
k 5 l
l 5 m
m 3 n
n 5 & o
o 5 p
p 5 q

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A Tuesday September 8 1891

R Herculis

10.6

~~V = A~~
l = V
V 3 Am

L

β Lyrae

10.7

f 3 β
β 4 ξ.

L.

10 Sagittae

10.8

h 4 V
V 3 e

L

γ Aquilae

10.8

β 3 γ
γ 2 e

L.

R Scuti

a 3 b
b 5 c
c 3 d
d 3 e
e 3 f
f 4 g
g 6 h
h 7 k
k 4 l

F
E
B
B
4
1

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1891phae.proj..448R



Tuesday September 8 1891

R Scuti (Continued)

l 5 m
m 5 n
n 4 o
o 5 p

RS Cygni

a b c d e f g h k l m n o p q R S T

c 6 a
b 6 c
d 3 b
e 6 d
f 6 e
g 5 f
h 4 g
k 3 h
l 3 k
m 5 l
n 2 m
o 3 n
p 4 o
R 4 p
S 3 R
T 4 S

V = 10^R
n 2 v
v 2 m

R.

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Tuesday September 8 1891

R Delphini

a a 2 b b
b b 4 c c
c c 4 d d
d d 3 e e
e e 5 f f
f f 2 x g g
g g 5 h h
~~h i k~~

Look this chart up on photographs.

k i h
h h 4 l k
k l 5 m l
l m 5 n m
m n 4 o n
n o 5 p o
o p 5 q p
p q 3 R q
q R 5 S R
R S 4 t S
S t 4 w u T

V < u (13m

u Cygni

a 5 b
b 4 c
c 2 d
d 5 e
e 6 f

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Tuesday Sept. 8 1891

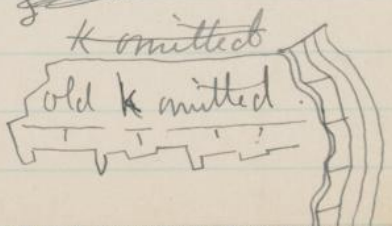
u Cygni (continued)

V = e
v 4 f
V = 9R

f 3 g
g 3 h
h 5 k
k 5 l
l 3 m
m 5 n
n 4 o
o 3 p
p 5 q
q 4 R
R 4 S

V Cygni

o a b 5 a p
n c 4 b o
m d 3 c n
l e 6 d m
k f 6 e l
h g 3 f k
g h 5 g h
f l 3 h g
e m 4 l f
d n 5 4 m e
c o 6 n d




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Tuesday September 8 1891

V Cygni (continued)

6 p 5-0 c

a 9/4 p 6

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Wednesday September 9 1891

β Lyrae

7.9 γ 4 β
β 2 ζ
ζ

γ Aquilae

γ 5 β
8.0 δ 2 η

10 Sagittae

8.0 h 3 ν
ν 5 e

δ Cephei

8.0 δ 3 ζ
ζ 6 δ

α Herculis

X P a 5 b
b 3 c
c 4 d
d 5 e
e 3 f
f 4 g
g 4 h

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Wednesday September 9 1891

~~h~~ U Herculis

h 4 k
k 5 l
l 3 m
m 4 n
n 5 o
o 5 p
p 4 q
q 5 R
R 3 S
S 4 T
T 5 U
U 6 W

V < W

W Herculis

a a 5 b b
b b 4 c c
~~[c + d] omit d.~~
c c 3 d d
d d 4 e e
e e 5 f f
f f 4 g g
g g 5 g h
h g 3 h k
k h 4 k l
l k 4 l m
m l 4 m n
n m 5 n o
o n 4 o p

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Wednesday September 9 1891

W Herculis (continued)

1 06 p v

t f 4 V v L.
V 4 g h

T Aquarii

X

a 4 b
b 5 c
c 4 d
d 4 e
e 4 f
f 6 g
g 6 h
h 4 k
k 4 l
l 4 m
m 6 n
n 3 0
0 5 p
p 3 q
q 3 R
R 4 S
S 3 T
T 3 u
u 4 w
w 3 x
x 4 y

v < y

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Wednesday Sept. 9 1891

13.2 S Bootis
v < g
L Z

R Camelop

e 2 v L
13.3 v 4 f

R Ursae Min
13.3 d 5 v
v = e L

T Cephei

13.4 d 3 v L
1 v 2 e

v = 6R

S Cephei
13.5 n 5 v H
v 2 0

R Cassiop H
1.3.6 v R = 5
v 3 ½ t

T Cassiop
13.7 g 3 v L
v 3 h
v = 7R

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Wednesday Sept. 9 1891

S Persei

13.8 ~~c 2 v~~
~~v 5 d~~ L
v = 6 R
v 1 c Difficult
b 6 v

T Persei

13.9 c 2 v
v 5 d L
v = 3 R

R Aurigae

14.0 f 5 R f 5 v
R 3 g v 3 g
v = 3 R L

R Lyncis

14.1 ~~n~~
n = v L
v 5 0

R Ursae Majoris

14.2 5 5 v H Z

T Ursae Majoris

14.4 0 = v diff. Z H

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Wednesday Sept. 9 1891

S Ursae Majoris

14.5

~~f 2 V~~
~~V 3 g~~

g 2 V
V 3 h

L Z

X T Cephei

a 8 b
b 5 c
c 7 d
d 3 e
e 6 f
f 3 h
h 3 g
g 5 k
k 3 l
l 5 m
m 3 n
n 4 o
o U 5 p
p X 3 q
q 3 R
R 5 S
S 2 ~~4~~ T

R
|
B
L
|
|
|
|
|
|
|
|
|
|
|
|
L
H
|
|
H

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Wednesday Sept. 9 1891

β Cephei + $\beta_c$

131.2

17.6 148.8

309.0

18.6 327.6

4.0 36.2

β + $\beta_c$

132.3

16.1 148.4

311.2

17.8 329.0

4.1 33.9

β + $\beta_c$

132.2

16.0 148.2

311.0

16.8 327.8

4.2 32.8

θ Ursae Majoris + $\theta_c$

112.6 102.6

15.8 118.4

281.7

15.3 297.0

4.3 31.1

θ + $\theta_c$

18.3 8.1

~~13.3~~ 21.4 26.4

192.0

16.7 208.7

~~30.0~~

4.1 35.0

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Wednesday Sept. 9 1891

| | $\theta + \theta_c$ |
|---|---|
| | 8.4 |
| 18.4 | 26.8 |
| | 191.5 |
| 17.8 | 209.3 |
| 4.0 | 36.2 |

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Thursday Sept. 10 1891

R Caesium Venatici.

X P.

a 5 b
b 4 c
c 5 d
~~d 6 e~~
~~e 4 f~~
~~f 6~~
d 4 e
e 6 f
f 4 g
g 6 h
h 6 k
k 4 l
~~l 3 m n omit m~~
~~m 3 n~~
l 3 m
m 3 n
n 6 o
o 3 p
p 3 q
q 3 R
R 5 S
S 5 T
T 6 U
U 6 W
W 6 y omit x

x 2 w

v = 0

F m
F
L
L
H
H
L.

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Thursday September 10 1891

β Lyrae

9.2

O 2 β

β 4 S

δ Cephei

9.3

δ 5 S

4 3 δ

γ Aquilae

9.3

δ 4 γ

γ 3 β

χ Cygni

9.4

V 1 b

R Pegasi

a a a 5 b b ∞ b

b b b 4 c c ∞ c

c c c 4 d' d d

d d d' 3 d e

e d 4 f f e

f f f 5 g g Omit e = 2R f

g g g 4 h h e = d (circum) g

h h h 5 k k h

k k k 4 l l k

l l l 4 m m l

m m m 4 n n m

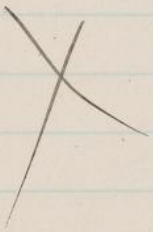
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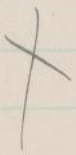


Thursday Sept. 10 1891

R Pegasi (continued)



S Aquarii



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Thursday Sept. 10 1891

S Aquarii (continued)

k m 2 4 p 2 Omit O.
l n p 5 q o
m o q 3 R p
n p R 3 S q
o q S 3 T R
R T 3 U S p
p S U 4 W T q

V Invisible < W

R Aquarii

a 5 b
b 3 c
c 5 d
d 4 e
e 5 f
f 4 g
g 3 h
h 5 k
k 5 l
l 4 m
m 4 n
n 5 o
o 5 p
p 6 q
q 4 R
R 5 S
S 5 T

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Thursday Sept. 10 1891

R Aquarii continued

R 2V
V 438

Photometer R with double image prism extr 8 from
ε Cephei + Ec object glass.

235.6
17.6 253.2 ~~D was formerly 13.~~
60.2
4.1 33.7 16.1 76.3

ε + Ec
235.6
18.2 253.8
59.7
4.1 34.6 16.4 76.1

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Photometer R. Scale 8.

α Pegasi + Dc Cloudy apparently 3 mag

55.7

3.6 21.3 77.0

231.5

0 22.7 254.2

44.0

α + Dc

58.5

3.7 19.5 78.0

232.5

22.3 254.8

41.8

α + Dc

57.7.

3.8 ~~75.0~~

19.5 77.2

233.3

20.7 254.0

40.2

α Ursae Minoris + Dc apparently 4.0 mag

60.0

4.2 15.7 75.7

234.9

17.1 252.0

32.8

α + Dc

60.0

17.3 77.3

4.0 19.5 233.4

36.8 252.9

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α Andromedae + $\underline{\alpha_c}$

63.0 apparently 3d Magn.

3.8 19.0 82.0

233.8

20.5 254.3

39.5

$\alpha + \underline{\alpha_c}$

5-9.2

16.8 76.0

4.1 235.9

19.9 253.8

34.7

$\alpha + \underline{\alpha_c}$

5-8.3

18.1 77.0

233.5

3.9 19.0 252.5

37.1

$\Sigma$ Persei + $\underline{\Sigma_c}$ apparently 3d Magn.

327.7

~~19.9~~ ~~346.6~~

18.8 345.5

3.9 145.5

18.8 164.3

37.6

$\Sigma + \underline{\Sigma_c}$

146.2

16.9 163.1

~~328.4~~

4.1 326.6

18.0 344.6

34.9

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Friday September 11 1891

| | | ε Persei + $\underline{\varepsilon_c}$ |
|---|---|---|
| | | 148.1 |
| | 16.0 | 164.1 |
| | | 327.0 |
| 4.3 | | |
| | 15.6 | 342.6 |
| | 31.6 | |

| | | ε + $\underline{\varepsilon_c}$ |
|---|---|---|
| | | 147.8 |
| | 17.2 | 165.0 |
| | | 328.3 |
| 4.1 | | |
| | | ~~342.4~~ |
| | 17.2 | 345.5 |
| | 34.4 | |

| | | ε + $\underline{\varepsilon_c}$ |
|---|---|---|
| | | 146.4 |
| | 18.1 | 164.5 |
| | | 326.9 |
| 4.1 | | |
| | 17.1 | 344.0 |
| | 35.2 | |

| | | ε + $\underline{\varepsilon_c}$ |
|---|---|---|
| | | 147.8 |
| | 16.1 | 163.9 |
| | | 323.2 |
| 3.9 | | |
| | 21.3 | 344.5 |
| | 37.4 | |

| | | ε + $\underline{\varepsilon_c}$ |
|---|---|---|
| | | 147.0 |
| | 18.7 | 165.7 |
| | | 327.0 |
| 4.0 | | |
| | 17.1 | 344.1 |
| | 35.8 | |

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Friday Sept. 11 1891

| | | $\varepsilon + \varepsilon_c$ | |
|---|---|---|---|
| | | 146.8 | |
| | | ~~163.7~~ | |
| | 19.1 | 165.9 | |
| 4.1 | | 327.3 | |
| | 15.7 | 343.0 | |
| | 34.8 | | |

$\beta$ Aurigae + $\beta_c$ apparently 3rd magn

| | | | |
|---|---|---|---|
| | | ~~34~~ | |
| | | 146.0 | |
| 4.2 | 18.0 | ~~163.0~~ | 165.1 Take mean of these two |
| | | 328.5 | |
| | 16.5 | ~~347.0~~ | 344.0 |
| | 33.5 | | |

$\alpha$ Aurigae + $\alpha_c$ apparently 2d magn

| | | | |
|---|---|---|---|
| | | 145.4 | |
| | 20.6 | 166.0 | |
| 3.8 | | 327.0 | |
| | 18.3 | 345.3 | |
| | 38.9 | | |

$\alpha + \alpha_c$ apparently 1st magn.

| | | | |
|---|---|---|---|
| | | 145.5 | |
| | 19.8 | 165.3 | |
| 4.0 | | 327.8 | |
| | 16.7 | 344.5 | |
| | 36.5 | | |

$\alpha + \alpha_c$

| | | | |
|---|---|---|---|
| | | 146.2 | |
| 4.0 | 18.8 | ~~162.9~~ | 165.0 |
| ~~4.0~~ | | 327.0 | |
| | 17.5 | | |
| | 36.3 | 344.5 | |

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Friday Sept. 11 1891

α Aurigae $\alpha_c$ $\alpha = 2^{mag}$ (cloudy)

146.3
17.4 163.7
4.1 327.4
16.6 344.0
34.0

$\alpha + \alpha_c$ $\alpha = 3^{\alpha}$ magn.
146.4
17.6 164.0
4.1 327.9
17.1 345.0
34.7

$\alpha + \alpha_c$ $\alpha = 2^{\alpha}$ magn.
145.0
4.0 19.6 164.6
327.5
17.4 344.9
36.6

$\alpha + \alpha_c$ $\alpha = 2^{\alpha}$
145.4
19.4 164.8
325.7
3.8 19.7 345.4
39.1

$\alpha + \alpha_c$ $2^{mag}$
144.7
21.2 165.3
3.8 327.5
17.4 344.9
38.6

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Friday Sept. 11 1891

α + αc  α = 1st magn.

14.4.8

3.7 21.1 165.9

326.0

19.5 345.5

40.6

~~β Cetii + βc~~

η Cetii + ηc = 4th magn.

147.4

19.9 167.3

3.9 325.4

~~5.9~~ 17.5 342.9

37.4

η + ηc 4th magn.

146.2

19.0 165.2

3.9 326.0

18.6 344.6

37.6

ε Pegasi + εc 4th magn.

145.6

19.4 165.0

3.9 326.7

18.3 345.0

37.7 ~~145.6~~

ε + εc

147.1

17.1 164.2

4.1 17.2 327.1

34.3 344.3

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Friday September 11 1891

| | $\Sigma + \varepsilon_c$ |
|---|---|
| | 146.1 |
| 19.4 | 163.5 |
| | 328.6 |
| 3.9 | |
| 18.4 | 347.0 |
| 37.8 | |

| | $\Sigma + \varepsilon_c$ |
|---|---|
| | 145.5 |
| 18.8 | 164.3 |
| 4.1 | 328.1 |
| 15.9 | 344.0 |
| 34.7 | |

β Cassiop $+ \beta_c$

| | |
|---|---|
| ~~34.~~ | 148.9 |
| 14.3 | 163.2 |
| 4.6 | 328.6 |
| 13.4 | 342.0 |
| ~~27.7~~ | |

α Lyrae $+ \alpha_c$ Dawn

~~332.5~~

163.2

332.5

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Saturday ~~Friday~~ Sept. 12 1891

Photometer R

β Persei

m

βc + α
45.0
42.7 87.7
226.0
40.1 266.1
2.1 82.8

m

βc + α
45.2
42.8 88.0
224.7
41.9 266.6
2.1 84.7

S Persei + c

m

20.6
8.6 98.4 109.0
199.0
92.7 291.7
−0.2 190.5

S Persei + c

8.7

20.0
92.2 112.2
199.9
~~298.3~~
92.2 292.1
−0.1 184.4

S Persei

9.0

6 2 v
v 3 c

m L

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1891phae.proj..448R



Saturday Sept. 12 1891

T Persei

9.0 c 1v

v 6d

S Persei

9.2 c 4v

Pleiades

Electric Light + Ec — Apparent Mags

12.5 — 4.0

~~12.5~~ 175.0

3.8 20.9 195.9

19.4 35-3.1

40.3

Ec + Ec — 4.0

12.4

177.6

3.9 17.3 194.9

19.8 354.6

37.1

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Saturday Sept. 12 1891

Apparent Magn.
−4.0

| | $\Sigma + \Sigma_c$ | |
|---|---|---|
| | 13.0 | |
| | 177.0 | |
| 18.0 | 195.0 | |
| 3.9 19.0 | 354.0 | |
| 37.0 | | |

No. 2

| | $\Sigma + \Sigma_c$ | ~~+1.0~~ |
|---|---|---|
| | 11.9 | 0.0 |
| | 176.3 | |
| 3.9 18.6 | 194.9 | |
| 19.4 | 352.5 | |
| 38.0 | | |

| | $\Sigma + \Sigma_c$ | 0.0 |
|---|---|---|
| | 10.9 | |
| | 178.1 | |
| 4.2 15.8 | 193.9 | |
| 16.9 | 354.0 | |
| 32.7 | | |

| | $\Sigma + \Sigma_c$ | 0.0 |
|---|---|---|
| | 11.3 | |
| | 177.2 | |
| 4.1 17.4 | 194.6 | |
| 16.7 | 354.6 | |
| 34.1 | | |

| | $\Sigma + \Sigma_c$ | +3.0 |
|---|---|---|
| | 10.4 | |
| | 177.6 | |
| 4.2 16.0 | 193.6 | |
| 16 | 354.0 | |
| 32.4 | | |

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Saturday September 12 1891

| | $\Sigma + \varepsilon_c$ | $+3.0$ |
|---|---|---|
| | 10.8 | |
| | 178.12 | |
| 4.3 | 15.8 194.10 | |
| | 16.3 354.5 | |
| | 32.1 | |

| | $\Sigma + \varepsilon_c$ | $+3.0$ |
|---|---|---|
| | 10.0 | |
| | 179.2 | |
| 4.3 | 16.0 193.2 | |
| | 15.4 354.6 | |
| | 31.4 | |

| | $\Sigma + \varepsilon_c$ | $+4.0$ |
|---|---|---|
| | 10.3 | |
| | 178.0 | |
| 4.3 | 16.1 194.1 | |
| | 15.8 354.5 | |
| | 31.9 | |

| | $\Sigma + \varepsilon_c$ | $+4.0$ |
|---|---|---|
| | ~~9.0~~ | |
| | 10.0 | |
| | 178.6 | |
| 4.4 | 15.3 193.9 | |
| | 15.0 354.0 | |
| | 30.3 | |

| | $\Sigma + \varepsilon_c$ | $+4.0$ |
|---|---|---|
| | 10.0 | |
| | 178.9 | |
| 4.4 | 15.1 194.0 | |
| | 14.6 355.4 | |
| | 29.7 | |

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Saturday 5 September 1891 afternoon

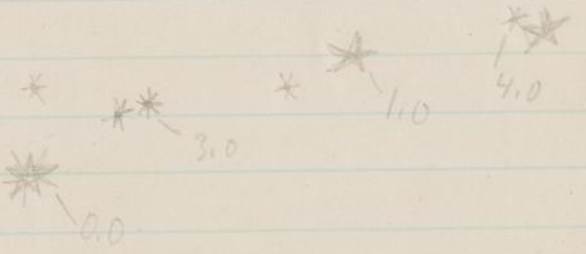
| | | | |
|---|---|---|---|
| | | $\Sigma + \varepsilon_c$ | mags 5.5 |
| | | 13.2 | |
| | | 12.7 | |
| | 7.1 | 176.8 | |
| | 17.3 | 194.1 | Too faint for last work |
| 3.9 | 21.2 | 351.5 | |
| | 38.5 | | |

| | | | |
|---|---|---|---|
| | | $\Sigma + \varepsilon_c$ | +5.5 |
| | | 11.4 | |
| | | 177.0 | |
| | 18.0 | 195.0 | |
| 4.0 | 17.3 | 354.81 | |
| | 35.3 | | |

| | | | |
|---|---|---|---|
| | | $\Sigma + \varepsilon_c$ | +5.5 |
| | | 10.7 | |
| | | 177.2 | |
| 4.1 | 16.7 | 194.9 | |
| | 17.6 | 353.1 | |
| | 34.3 | | |

Brighton from West Equatorial Dome

+ − 5.5




2.0 see top of Comic Hill

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From Saturday September 12 1891

| | | | |
|---|---|---|---|
| | $\Sigma + \varepsilon_c$ | | $+2.0$ |
| | | 9.9 | |
| | 8 | 179.2 | |
| | 14.4 | 193.6 | |
| 4.5 | 14.9 | 355.2 | |
| | 29.1 | | |
| | $\Sigma + \varepsilon_c$ | | $+2.0$ |
| | | 8.9 | |
| | | 179.6 | |
| | 14.0 | 193.6 | |
| 4.4 | 13 4 | 355.5 | |
| | 27.4 | | |
| | $\Sigma + \varepsilon_c$ | | $+2.0$ |
| | | 9.9 | |
| | | 178.9 | |
| 4.5 | 14.4 | 193.3 | |
| | 14.9 | 355.0 | |
| X | 29.3 | | |

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Monday September 14 1891

Phot. R  σ Boötis + $\sigma_c$  clear.

11.0
20.0 31.0
4.1 200.2
14.9 215.1
34.9

$\sigma + \sigma_c$  bad position

11.0
20.3 31.3
4.1 199.9
13.8 213.3 214.1
34.1

$\sigma + \sigma_c$

15.7
14.9 30.6
4.4 200.0
14.9 214.9
29.8

$\zeta$ Aquilae + $\zeta_c$

14.9
16.7 31.6
197.7
4.2 16.4 214.1
33.1

$\zeta + \zeta_c$

~~112.0~~ 108.0
14.9 122.9
289.0
4.6 12.2 301.2
27.1

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Monday September 14 1891

| | | | |
|---|---|---|---|
| | | ζ + $\zeta_c$ | m |
| | | 108.0 | |
| | 15.4 | 123.4 | |
| 4.2 | | ~~259.3~~ 289.2(?) | |
| | 17.7 | 307.0 | |
| | 33.1 | | |
| | | $\zeta$ Aquilae + $\zeta_c$ | |
| | | 108.0 | m |
| | 14.5 | 122.5 | |
| 4.5 | | 287.8 | |
| | ~~31~~ 14.2 | 302.0 | |
| | 28.7 | | |
| | | $\zeta$ + $\zeta_c$ | |
| | | 108.9 | m |
| | 16.1 | 125.0 | |
| 4.3 | | 287.6 | |
| | 14.7 | 302.3 | |
| | 30.8 | | |
| | | $\zeta$ + $\zeta_c$ | |
| | | 108.0 | m |
| 4.2 | 17.0 | 125.0 | |
| | | 287.0 | |
| | 16.1 | 303.1 | |
| | 33.1 | | |
| | | $\zeta$ + $\zeta_c$ | |
| | | 107.9 | |
| 4.2 | 17.1 | 125.0 | |
| | | 290.5 | |
| | 15.5 | 306.0 | |
| | 32.6 | | |

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Monday September 14 1891

| | ζ + ζc |
|---|---|
| | 109.3 |
| 15.6 | 124.9 |
| 4.3 | 289.5 |
| 16.5 | 306.0 |
| 32.1 | |

| | ζ + ζc |
|---|---|
| | 104.4 |
| 19.6 | 126.0 |
| 3.9 | 289.1 |
| 17.7 | 306.8 |
| 37.3 | |

| | ℓ Tauri + ℓc |
|---|---|
| | ~~120.9~~ 118.4 |
| 16.7 | 135.1 |
| 4.3 | 298.8 |
| 15.3 | 314.1 |
| 32.0 | |

| | ℓ + ℓc |
|---|---|
| | 118.1 |
| 15.2 | 133.3 |
| 4.4 | 300.2 |
| 14.7 | 314.9 |
| 29.9 | |

| | ℓ + ℓc |
|---|---|
| | 119.5 |
| 15.0 | 134.5 |
| 4.2 | 297.4 |
| 17.6 | 315.0 |
| 32.6 | |

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Monday September 14 1891

| | | e + $e_c$ |
|---|---|---|
| | | 23.1 27.0 |
| | 15.5 | 43.0 |
| 4.4 | | 211.0 |
| | 14.5 | 225.5 |
| | 30.0 | |

| | | e + $e_c$ |
|---|---|---|
| | | 27.8 |
| | 15.7 | ~~40.~~ + 41.5 |
| 4.5 | | 211.6 |
| | 13.4 | 225.0 |
| | 29.1 | |

| | | e + $e_c$ |
|---|---|---|
| | | 28.1 |
| 4.4 | 13.7 | 41.8 |
| | | 210.9 |
| | 15.8 | 226.7 |
| | 29.5 | |

| | | 25 Orionis + $25_c$ |
|---|---|---|
| | | 24.2 |
| 3.9 | 20.5 | 44.7 |
| | | 210.1 |
| | 17.2 | 227.3 |
| | 37.7 | |

| | | 25 + $25_c$ |
|---|---|---|
| | | 25.3 |
| | 18.6 | 43.9 |
| 3.8 | | 210.0 |
| | 20.0 | 230.0 |
| | 38.6 | |

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Monday September 14. 1891

25 + 25c

25.7

18.9 44.6

211.0

4.0

17.0 228.0

35.9

β Orionis + βc

27.4

14.7 42.1

210.9

4.5

14.0 224.9

28.7

β + βc

28.1

15.2 43.3

211.2

4.4

14.7 225.9

29.9

β + βc

27.4

15.5 42.9

210.9

4.4

15.0 225.9

30.5

β + βc

28.1

15.1 43.2

210.9

4.4

14.7 225.6

29.8

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Monday September 14 1891

| | | |
|---|---|---|
| | | β + βc |
| | | 26.0 |
| 4.4 | 16.7 | 42.7 |
| ~~4.2~~ | | ~~212.8~~ 211.7 |
| | 12.8 | 224.5 |
| | 29.5 | |
| | | β + βc |
| | | 27.8 |
| 4.4 | 15.0 | 42.8 |
| ~~4.2~~ | | 211.0 |
| | 14.5 | 225.5 |
| | 29.5 | |

Effect of Right + Left Position
ε Virginis ~~Approach of Magn.~~

| | | |
|---|---|---|
| | | 83.4 |
| | 83.3 | 166.7 |
| +0.2 | | 262.1 R growing F |
| | 87.6 | 349.7 |
| | 170.9 | |

Revised

| | | |
|---|---|---|
| | | 84.0 |
| | 86.0 | 170.0 |
| +0.1 | | 262.9 |
| | 89.6 | 352.5 R growing F |
| | 175.6 | |

3d Magnitude Star

| | | |
|---|---|---|
| | | 82.0 |
| | 96.0 | 178.0 |
| −0.3 | | 256.4 R n B |
| | 97.2 | 353.6 |
| | 193.2 | |

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Monday September 14 1891

Reversed
80.8
88.3 ~~+76.0~~ 169.1
261.2
+0.1
89.0 350.2 R growing lighter.
177.3

Same as above
84.3
89.7 174.0 R ∥ B
264.0
0.0 88.9 35-2.9
178.6

Reversed
80.5
95.0 175.5
261.5 R growing B
-0.1 92.5 354.0 R ∥ √ F
187.5

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Wednesday September 16 1891

M

~~β α +~~

β Persei

α + β$_c$

17.4 cloudy

54.4

199.6

236.2

α + β$_c$

Clear M

11.0

194.1

233.4

19.0

53.4

~~α β +~~ β$_c$

201.4

231.2

23.1

56.4

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1891phae.proj - 449R



Thursday September 17 1891

Pleiades.

$\alpha_c \beta_c$ 1 $k$ — L, m
$f$ 4 $\beta_c$ $\alpha_c$ — $\alpha_c$

$\beta_c = h$ — L, m
$g$ 4 $\beta_c$ — $\beta_c$

$f = a_c$ — 4 m
$a_c$ 3 $g$ — $a_c$

$h$ 5 $\varepsilon_c$
$\varepsilon_c = i$ — $\varepsilon_c$

$h = \delta_c$
$\delta_c$ 4 $i$ — $\delta_c$

$a$ 4 $\beta$
$\beta$ 3 $b$ — $\beta$

$b$ 3 $\alpha$
$\alpha$ 2 $c$ — $\alpha$

$a$ 5 $\delta$
$\delta$ 2 $b$ — $\delta$

$b$ 1 $\varepsilon$
$\varepsilon$ 6 $c$ — $\varepsilon$

$g$ 5 $\gamma_c$
$\gamma_c$ 1 $k$ — $\gamma_c$

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1891phae.proj..448R



Thursday September 17 1891

Pleiades.

γ $\frac{a}{\gamma}$ 5 γ
γ 3 $\frac{b}{}$

L m

h 3 $b_c$
$b_c$ $b_c$ 2 i

Taurus

14.1 normal brightness 2.

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~~R Ura, Sing.~~
~~variable, visible~~
~~Visible~~
(See page 149)

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Sunday ~~Nov~~ September 20 1891

~~Pleiades~~

S Persei

c 2 V

V 6 d

11.2

4 M

T Persei

V 2 c

T Persei = S Persei

S Persei (again)

b 5 V

V 2 c

Pleiades

1 1 2c

2c 3 k

h 2 pc

pc 5 i

~~ac 1 f~~

e 3 ac

ac 1 f

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Wednesday Sept. 23, 1891.

R Cassiop.
~~9.4~~ 8.9 V = 8 a S H
V = ~~a~~ ~~b~~ T H

T Cassiop.
~~9.5~~ 9.0 V = f L
e = V "

S Cassiop
~~9.6~~ 9.1 V = h L

S T Persei
~~9.6~~ ~~9.5~~ 9.1 V I
V I c
~~b~~ 4 V

T Persei
~~9.6~~ ~~9.5~~ 9.1 V I
V = c

R Aurigae
~~9.7~~ ~~9.62~~ 9.2 ~~e = V~~ L M.
~~Z~~ I V

S Sagittae
~~9.8~~ ~~9.3~~ 9.3 M
γ 4 δ
δ 5 i

η Aquilae
~~9.8~~ ~~9.3~~ 9.3 M
δ 5 η
η 4 β

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Wednesday Sept 23, 1891.

10 Sagittae M

~~9.8~~ 9.3 C 1 V

~~V~~ 3 B

~~9.9~~ 9.4 Pleiades

~~$\alpha_c$ 2 K~~ $f$ 3 $\alpha_c$

~~$f$ 3 $\alpha$~~ $\alpha_c$ 2 K

$f = \beta_c$

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Thursday Sept 24 1891

R Cas. Irg. Z L
8.3 variable invisible
R visible

T Cas. Irg.
8.5 h 4 r L
r 3 k

S Cas. Irg. L
8.6 k 2 r
r 4 m

S Boötis
8.7 Variable invisible L
m visible

~~R Lacerta Irr~~

R Camelop. L
8.7 r = q

R Cas. Irr. L
8.8 d, e
e 4 6
r = d

R Draconis L
8.8 variable invisible
x q visible

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Thursday Sept. 24, 1891.

~~Vesphei~~

9.2 New no. ~~4~~ 14 L

Variable invisible

9.3 New var. no. 2. L

~~$\alpha = V$~~ $\underline{\alpha} = V$

~~$\underline{V} = \beta$~~ $\underline{V}\ 4\ \beta$

9.4 New var. no. 1. L

$V\ 4\ h$

$V\ 1\ h$

$g\ 3\ V$

9.5 New var. no. ~~4~~ 4 L

$V\ 2\ e$

$d\ 1\ V$

$V = g^R$

9.6 New var. no. 8. L

$V\ \#\ \gamma$

$V = \gamma^R$

9.7 New var. no. 9. L

$\eta\ 2\ \underline{V}$

10.0 B Gyrae

$\gamma\ 2\ \underline{\beta}$

$\beta\ 5^{-}\ \underline{\gamma}$

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Thursday Sept. 24, 1891.

10.2 New var: no 10. C Z ✱ L

α 2 V

ν 3 B

Pleiades

~~βc = h~~

~~g~~

g 6 βc

βc = h

e 6 αc

αc 1 f

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1891phae.proj..448R



Friday Sept. 25, 1891.

β Lyrae.

7·9 γ = C
γ 1 ## β

L.

7·9 η Aquilae.
β 1 η
η 2 ζ ε

L.

7·9 10 Sagittae.
V 1 C
h 4 V

L.

7·9 8 ~~b~~ Cygni.
γ 2 8

L.

R Ursa Majoris.

a ½ 2 b
b ½ 3 c
c 2 d
d 5 e
e 5 f
f 1 g
g 6 h
h 6 e
e 4 k
k 3 m
m 4 n

F
|
F
L
|
|
|
|
L

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Friday Sept. 25, 1891

R Aus. Mag.

o 3 m
m 2 o
m 5 p

T Cassiop.

8.4

V = g
f 4 V/2
V = 7
a 2 b
b 3 c
c 2 d
d 7 e
e 3 f
f 3 g
g 4 h
h 4 k
k 4 l
l 3 m
m 2 m
m 6 o

b_c 4 o
m 3 b_c
c_c 2 o
m 5 c_c
o 4 d_c
o 2 p
p 4 g

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Friday Sept 25, 1891.

T Cassiop.

Q 3 R H

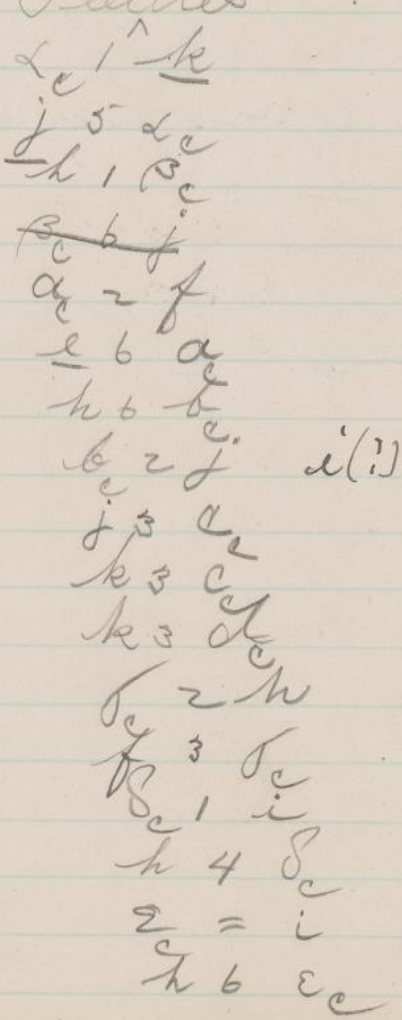
S Cassiop.

X 7 1 2c H

2c 3 Q H

T + S Persei

Pleiades



1891phae.proj..448R



Friday Sept. 25. 1891.

Pleiades

a 3 δ
δ 4 b
δ 2 b
a 5 δ
~~β 4 b~~ β δ 2 b
a 4 β
a 2 c
b d 5 a
b 1 e
e 7 c

I
I

Pole stars.

R Camelop.

* h 2 $a_c$
$\beta_c$ = d

I
I

R Urs. Min.

* h 2 $\gamma_c$
$\gamma_c$ 2 k

T Cephei

e 4 V
V 2 f

12.4

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Friday September 25 1891

T Cephei

X

~~p 5 $d_c$~~ o 5 $d_c$ H
~~$d_c$ 2 q~~ $d_c$ 2 p

Ri $e_c$
$e_c$ 2 S H

~~S of t~~ Ceti

X a 5 c ~~omit b~~ L
~~c 3 d~~
c 5 e ~~omit d~~
e 3 f
f 3 g
g 4 h
h 3 k
k 4 l
l 3 m

2 . 4

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Friday September 25 1891

Pleiades

j 4 $\alpha_c$
$\alpha_c$ 1 k

g 6 $\beta_g$
$\beta_e$ = h

f 3 $a_c$
$a_c$ = g

h 5 $b_c$
$b_c$ 2 i

h 2 $\gamma_c$
$\gamma_c$ 5 i

K 3 $\epsilon_c$ $\epsilon_c$ mean f

h 3 $\delta_c$
$\delta_c$ 4 i

$\varepsilon_c$ = i

a · a 4 $\beta$
$\beta$ 3 b

b $\gamma$ a 5 d
d 2 e

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Friday September 25 1891

Pleiades (continued)

a 4.7
7 3 b
δ 2 b
a 6 δ

b 2 ε
ε 6 c

Taurus

b 6 V
V 3 α Pleiades.

Notation for this star will be that of Pleiades given above there after.

Normal brightness.

1891phae.proj..448R



Saturday Sept. 26, 1891.

R Cassiop.
a 3 b

b 5 c
c 3 d

d 5 e
e 5 f

f 5 g
g 4 h

h 2 k
k 6 l

l 7 m
m 5 n

n 4 o
o 3 p

B

L

Stopped by Clouds.

β Lyrae
B 2 f

10.7

Mr. Pearce independently B 1 f

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~~Friday~~ Saturday Sept. 26 1891

δ Cephei

11.4

$\frac{d}{c}\frac{s-r}{1\ \delta r}$

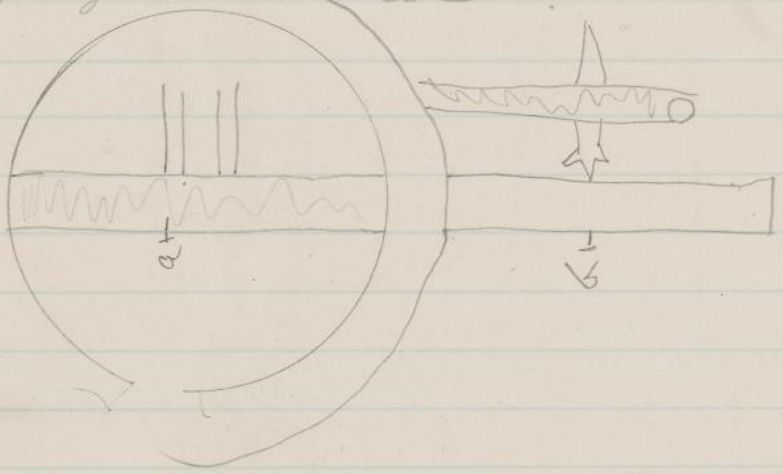
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Monday Sept. 28, 1891

Long Wedge Photometer.




| | | b − a |
|---|---|---|
| a = 1.14 | b = 4.00 | 2.86 |
| a = 0.81 | b = 3.69 | 2.88 |
| a = 0.28 | b = 3.16 | 2.88 |

21h 55 N.P.q.β Cassiop. Dec. +58.5. R.A. 24h 2.8m

~~24h 10~~
~~21 55~~
~~2 21~~

24h 03
21 55
2 08

Polaire.

6.21
5.87
6.35

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Monday Sept. 28. 1891.

~~$\alpha_c$ 4.75~~

$\alpha_c$

4.75
4.21
4.60
4.39
4.46
4.61
4.788
4.73

Draconis
$\alpha$ and $\beta$ S.E. star of two
$\alpha$
6.49
6.37
6.54

Unknown
~~4.81~~
Low Eyepiece $\alpha$ star
8
5.59
5.37
5.90
5.71

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Monday September 28 1891

Constant assumed
mags inch.
1.3 = 1.0

$a_c - a$

4.13

a
6.57
6.30
6.43
6.62
6.63

Mean
6.51

2.55
6.51

3.11
1.3
933
311
4.043

$a_c$
3.29
3.52
3.30
3.39
3.15

3.33

ζ Cephei
5.95
5.94
6.02
5.90
6.40
6.40

4.64

6.10

$\zeta_c$
2.72
2.60
2.63
2.46
2.22

2.53

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Monday September 28 1891

ε Cephei

| $\Delta c - \Delta$ | | Mean |
|---|---|---|
| | 5.34 | |
| 5.11 | 4.94 | |
| | 5.06 | 5.06 |
| | 4.85 | |
| | 5.12 | |

$\varepsilon_c$ very faint.

| | | |
|---|---|---|
| | 1.20 | |
| | 1.11 | 1.13 |
| | 1.09 | |

ζ Cephei

| | | |
|---|---|---|
| 5.24 | | |
| | 5.11 | very faint. |
| | 5.20 | 5.15 |
| | 5.26 | |
| | 5.19 | |
| | 5.00 | |

$\zeta_c$

| | | |
|---|---|---|
| | 1.11 | |
| | 1.13 | 1.12 |
| | 1.12 | |

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1891phae.proj.448



Tuesday September 29 1891

Electric Light.

Wedge photometer (6 in)

| E. | ε | No | ε/No |
|---|---|---|---|
| 5.61 | | | |
| 6.38 | 61.37 | 10 | 6.14 |
| 6.09 | | | |
| 6.10 | | | |
| 6.32 | | | |
| 6.18 | | | |
| 5.98 | | | |
| 6.10 | | | |
| 6.283 | | | |
| 6.38 | | | |

| E c | | | |
|---|---|---|---|
| 3.81 | 35.63 | 10 | 3.56 |
| 3.75 | | | |
| 3.57 | | | |
| 3.59 | | | |
| 3.54 | | | |
| 3.50 | | | |
| 3.32 | | | |
| 3.32 | | | |
| 3.58 | | | |
| 3.65 | | | |

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Tuesday September 29 1891

| Ea | Σ | No | Σ/No |
|---|---|---|---|
| 3.86 | | | |
| 3.53 | 3x6.35 | 10 | 3.63 |
| 3.91 | | | |
| 3.90 | | | |
| 3.41 | | | |
| 3.85 | | | |
| 3.40 | | | |
| 3.50 | | | |
| ~~3.26~~ | | | |
| 3.39 | | | |
| 3.80 | | | |

Σ

wedge sent beyond
index before E and after end.

Chart ⊙ No 1

a

could not be made invisible.

| C | Σ | No | Σ/No |
|---|---|---|---|
| 6.00 | | | |
| 6.07 | 29.82 | 5 | 5.94 |
| 5.97 | | | |
| 5.90 | | | |
| 5.88 | | | |

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1991phae.proj.448R



Tuesday September 29 1891

| Cc | Σ | No. | Σ/No |
|---|---|---|---|
| 2.80 | | | |
| 2.79 | 14.94 | 5 | 2.99 |
| 3.04 | | | |
| 3.10 | | | |
| 3.21 | | | |
| | | | |
| b | | | |
| 1.82 | | | |
| 1.81 | 8.85 | 5 | 1.93 |
| 1.76 | | | |
| 1.62 | | | |
| 1.64 | | | |
| | | | |
| d | | | |
| 5.24 | | | |
| 4.50 | 24.06 | ~~4.81~~ 5 | 4.81 |
| 4.72 | | | |
| 4.72 | | | |
| 4.88 | | | |
| | | | |
| E | | | |
| 4.~~X~~04 | | | |
| 3.78 | 19.49 | ~~3.8~~ 5 | 3.90 |
| 3.97 | | | |
| 3.70 | | | |
| 4.00 | | | |

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Tuesday September 29 1891

| f | Σ | No. | Σ/No. |
|---|---|---|---|
| 4.80 | | | |
| 4.40 | 22.45 | 5 | 4.49 |
| 4.45 | | | |
| 4.42 | | | |
| 4.38 | | | |
| | | | |
| g | | | |
| 4.65 | | | |
| 4.44 | 22.73 | 5 | 4.55 |
| 4.70 | | | |
| 4.44 | | | |
| 4.50 | | | |

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Wednesday Sept. 30, 1891.

β Lyrae

7.9

B 2 δ 5

β = K

α.

V Cassiop.

8.1

h = V

I4

H

$\alpha_c$ = 1r

$\alpha_c$ 4 q

o 3 $\alpha_c$

S Persei

8.4

c 4 V

H

δ = m

H

$\delta_c$ 3 o

m 3 $\#_c$ a

a 3 m

c

m 3 $\varepsilon_c$

ε 3 m

c

a = ε

δ 3 a

H

V 3 c

I1

b 4 V

I

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Sept. 30 1891.

X S Persei
a 4 8 I
Give little weight to the above
observation with H.

8 4 b I

V Persei
8.8 V = c I

X S Cassiop.
c 1 a I
~~a 5 c~~ B 5 a b?

R Aquilae
9.0 V = c I
// V = R
k = $a_c$
$a_c$ 5 l
$b_c$ 1 l
k 4 $b_c$ I

R Canaloparalis
9.1 V 4 C I
b 4 V

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1002phaer.proj.:448R



Wednesday Sept. 25/30 1891.

R Camelop.

g 4 $a_c$ I
$a_c$ = N

$B_c$ 1 e I
d 4 $B_c$

R Ursa Min.

9.5 V = e I
d 4 V

g 1 $\delta_c$
$\delta_c$ 2 h

b 4 c
c = c I

$b_c$ invisible H
$\delta_c$ = 0 circum.

h 5 k
k 6 e

b 4 m
m 4 m

m 50 H

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Wednesday Sept. 30, 1891.

R Draconis

n 2 $a_c$ I

$a_c$ 2 0

0 2 $c_d$

$c_c$ 4 p

$b_c$ = n

e 2 $d_c$ what does this mean? I,

f invisible II

$f_c$ = 4 about

$\gamma$ invisible

S Cygni

$\delta$ Cephei L.

10.7

$\delta$ 2 $\delta$

S Cygni

$\alpha_c$ = k L

b 4 $\beta_c$

$\beta_c$ 2 c

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1891phae.proj - 448R



Wednesday September 30 1891

Long Wedge Photometer

Mgm: Hyades,
M.P. D.M., Numbers,

| | | | | | |
|---|---|---|---|---|---|
| ~~4.59~~ | +15.6 61/24 (a) | ε | No | ε/No |
| 5.77 | 5.08 | | | |
| | 5.50 | 26.68 | 5 | 5.34 |
| | 5.47 | | | |
| | 5.51 | | | |
| | 5.12 | | | |
| | a c | | | |
| | 2.80 | | | |
| | 2.41 | 12.37 | 5 | 2.47 |
| | 2.39 | | | |
| | 2.39 | | | |
| | 2.38 | | | |
| 8.89 | +15.659 (b) | | | |
| | 3.08 | | | |
| | 3.06 | 15.36 | 5 | 3.07 |
| | 3.12 | | | |
| | 2.99 | | | |
| | 3.11 | | | |
| 6.64 | +14.711 (c) | | | |
| | 5.09 | | | |
| | 4.80 | 24.92 | 5 | 4.98 |
| | 4.89 | | | |
| | 4.99 | | | |
| | 5.15 | | | |

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Wednesday September 30 1891

| $C_c$ | $\Sigma$ | $N_0$ | $\Sigma/N_0$ |
|---|---|---|---|
| 2.22 | | | |
| 1.90 | 10.51 | 5 | 2.10 |
| 2.00 | | | |
| 2.22 | | | |
| 2.17 | | | |

~~8.64 +14.721~~

~~8~~

+14.721

⊙ missing

8.64 +14.721 (d)

| | | | |
|---|---|---|---|
| 3.47 | | | |
| 3.51 | 17.72 | 5 | 3.54 |
| 3.68 | | | |
| 3.65 | | | |
| 3.41 | | | |

Star (e)

~~Size~~

Diam of disk 9.5
10
10

2.76
2.78
2.67
2.79
3.00

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Wednesday September 30 1891

Star e
Diam of disc 15s
15

2,32
1,80
1,98

Star f 38s

5,07
5,08
5,19
5,12
5,06

60s

4,89
84
4,34

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Thursday October 1 1891

R Cassiop

0 3 fe L
fe 5 p

p 4 qc
qc = q L

0 6 p H
p 3 q
q 3 R
R 4 S
T 2 u
u 6 w

R 5 hc H
hc = S

T 4 kc
kc 1 w

X u 5 lc
lc 2 w H

R Aurigae

k5 ac L
ac = l
ac 4 m

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Thursday October 1 1891

R Aurigae

~~X~~ m 2 $b_c$

$b_c = n$

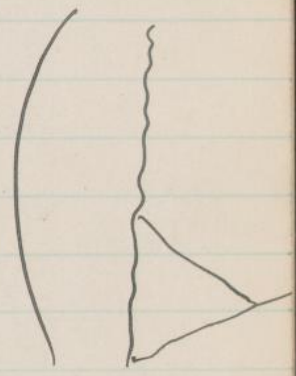
4

10.9 e 2V

$\delta$ Cephei

11.3 3 4 $\delta$

$\delta$ 2 c



Long Wedge Photometer

Stars out of focus.

| Diam | |
|---|---|
| | $10^s$ |
| | 9 |
| | 10 |

| | |
|---|---|
| 6.70 | Influenced by passing clouds. |
| 6.30 | |
| 6.60 | |
| 6.05 | |
| 6.00 | |
| 6.38 | |

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1891phae.proj..448R



Oct 2, 1891. Friday.

8.3 β Lyrae
β 2 δ L

8.3 η Aquilae
Mr Powell, ~~η 4 β~~ η 3 β
seven shown δ 6 η L.
more than one Line. η 3 ε

8.3 δ Sagittae.
Mr. Powell! δ 1 γ L.
Don't dot i 3 δ read ι 3 δ
the Greek letter "ι" (Iota).

8.4 10 Sagittae.
ν 4 ι L.
η 4 ν

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Oct. 5. 1891. Monday.

8.7 δ Cephei.

δ / ε = δ ε

L.

9.1 δ Persei.

V ≥ c

α^x δ ≤ V

I

9.2 ζ Persei.

c ≥ V

L

δ_c ≥ m

m ≤ δ_c

H

m ≥ a_c

a_c ≤ m

b_c ≤ m

m ≥ ε_c

9.8 ζ Persei.

c = V

H

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Thursday Oct. 8, 1891.

R Cassiop.

S 4 T I

9.5 V = R circum

$b_c$ 3 $p$

$b_c = o$ I

S Persei

9.8 V 4 c I

b 2 V

T Persei

9.8 c 2 V I

V 4 d

d d $\alpha_c = n$ H

d d $\alpha_c$ 4 o

m 2 $a_c$

$a_c$ 4 m

m 3 $e_c$

$\varepsilon_c$ 4 m H

a

$\alpha$ 3 d I

d 3 b

a 1 $\varepsilon$

$a = \frac{1}{2} R$

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Thursday Oct. 8, 1891.

R Aurigae

10.3 V = d I

V 5 ε

b 2 n
a
l 4 b c

a 2 b
y
k 2 a c I

R Lyncis

10.7 O = V

β Lyrae.

11.7 γ 1 β L.

δ Cephei

11.8 δ 2 γ L.

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1891phae.proj..448R



Friday, Oct. 9, 1891.

✓

S Cephei.

8.1 m 3 4 V I

V 5 0

m 2 $a_c$ I

$a_c$ 2 m

✓

β Lyrae

8.4 γ x² β L.

S Cephei. I

$b_c$ = m 1

m 3 $b_c$ 1

m 3 $c_c$ 1

$c_c$ 4 0 L

✓

T Cephei.

8.7 V 2 λ I

λ 5 V

✓

δ Cephei

8.7 D 4 ε L.

γ 5 δ

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Friday Oct. 9, 1891.

η Aquilae

8.7 η 2 B
η 4 E
δ 5 η

8.8 10 Sagittae.
b & 5 V
V = 8

R Camelop.

8.9 V 1 b
V = 1 R

R Mus. Inin.

8.9 e & 1 V
f 1 V
e & = f

Mus. Mag.

9.1 E 3 V
V 2 f

k 4 a
$a_c$ 3 k

$\rho_c$ 2 k
$\rho_c$ = k

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Friday Oct. 9. 1891.

✓

V X Tus. Inag.

9.6

V I m

m 3 V

I

I Tus. Inag.

L

X a 5 b

b 3 c

X c 1 d

d 6 e

e 4 f

f X 5 g

g 3 h

h 5 k

k 6 l

l 3 m

o 3 m

m 6 n

$B_c$ 1 k

X Tus. Inag.

$b_c$ 2 m

X m 2 $b_c$

l 3 $a_c$

$a_c$ 2 m

L

$d_c = 0$

H

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Friday Oct. 9, 1891.

Missing star ~~X~~ near D. M. +14.721 is invisible and below 12th magg.

R Aurigae.

10.6 V = d I
V 6 e

New var. no. 2

10.7 V 3 α I
V 2 β

New var. No. 1.

S Persei

10.8 V 3 c I
b 4 V

T Persei

10.8 c = V I

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Wednesday Oct. 14, 1891.

Meridian Phot. stars for determining value of prismatic comparison

-9°.6156 ~~close to moon~~ Too close to moon for observation. L

~~-9°.48~~ -5°.4876
Comparison stars unsuitable M

-9°.48
Too near the moon

-9°.5553 m
Comparison stars unsuitable

-9.4796.
Comp. stars unsuitable. m

-9.4712 m
~~a + b~~
a 1 mag. $d_c$

b 2 mag. $d_c$

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Wednesday Oct. 14, 1891

$-4.4275$
$\alpha_c$ 3 mag. b  I, Z C m

$-5^\circ.4840$ ✓  m
c too faint  1
$\alpha_c$ 1 mag. c
d too faint.

$+0^\circ.5037$
Time of transit of this star $4^m 22^{sec}$ I
Moon too bright.

$-1^\circ.114$ ✓
~~$\alpha_c$ + mag. b~~  $\alpha_c$ 1b M I

$+25^\circ.3221$
Cldy.

$+20.306$
a & $\alpha_c$  C M I
Cloudy

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Thursday Oct 15, 1891

Bright star = $\alpha$.

$+10^{\circ}.4797$ ✓

$\alpha_c = a$ In I,

Good comparison.

$\alpha_c = b$

$+4.293$ ✓

$\alpha_c$ 3 $a$

$\alpha_c$ 4 $b$ In L

$+49.444$ ✓

$a$ 2 $\alpha_c$ In L

$b$ too faint.

$+44.3865$ ✓

$\alpha_c = a$

~~Ba~~

$\alpha_c$ 1 mag $b + c$ L m C

$+34.198$ ✓

$\alpha_c$ 4 $a$

$\alpha_c$ 6 $b$ L m

$\alpha_c = 3$ R.

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1891phae.proj..448R



Thursday
~~Friday~~ October 15 1891

+30°.91 ✓

~~a two faint~~
~~2x 2 (mu[illegible].) a~~
~~a Identification doubtful~~

b 2 $\alpha_c$ L m
~~a~~ c 1 $\alpha_c$

+85.19 ✓

a 1 $\alpha_c$ L m

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1891phae.proj..448R



Friday October 16 1891

Jupiter's Satellites

a 3 c ✓ III 3 II
c 4 b II 4 I
b = d I = IV

7.2 L m

a b c d
• ⊖ • • •
III I II IV

a 2 c ✓
c 5 b F m
b = d

a 3 c ✓
c 4 b H m
b 1 d

✓

β Lyrae.

7.5 γ 3 β E m

γ Aquilae

β 2 γ
7.6 γ 2 c E m

10 Sagittae.

7.6 b 6 v
v 1 g B m

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1891phac.proj.448R



Friday Oct. 16 1891

δ Cephei

7.7 $\frac{\delta 6\ \delta}{\delta 3\ \zeta}$ E. M

New Variable No 13

8.1 $\alpha 2\ V$
$V 5\ \beta$ E. H. M.

New Variable No 10

8.5 $\alpha 2\ V$
$V 6\ \beta$ E H M

β Lyrae

9.3 $\delta 1\ \beta$ E. M

New Variable No 9 Cygnus

9.5 $\delta 3\ V$
$V 1\ \varepsilon$ E. L M

$V = 0^R$

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1891phae.proj...448R



Friday October 16 1891

New Variable No 4 Camelopardus

9.7 d 4V
v 3 e
V = 10^R
L. L m

New Variable No. 1 Perseus

9.8 g 4V
v = h
v 3 k
L. Li m

V = I^R

R Aurigae

10.1 c 3 V
V = I^R
L m

T Ursae Majoris

10.1 e 3 V
1. V = 0^R
Z L m
but clear

R Camelopardi

10.2 v. 5b
V = 0^R
L m

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1891phae.proj..448R



Friday October 16 1891

R Ursae Minoris

X d 5 V
V = e

10.3 L m

d 5 e

T Cephei

f 5 V
V 1 h

10.4 L m

V = 7R

S R Cassiopeiae

V 5 K

10.5 L m

V = 2R

S Persei

b 4 V
V 1 c

10.6 L m

V = 1R

√ T Persei

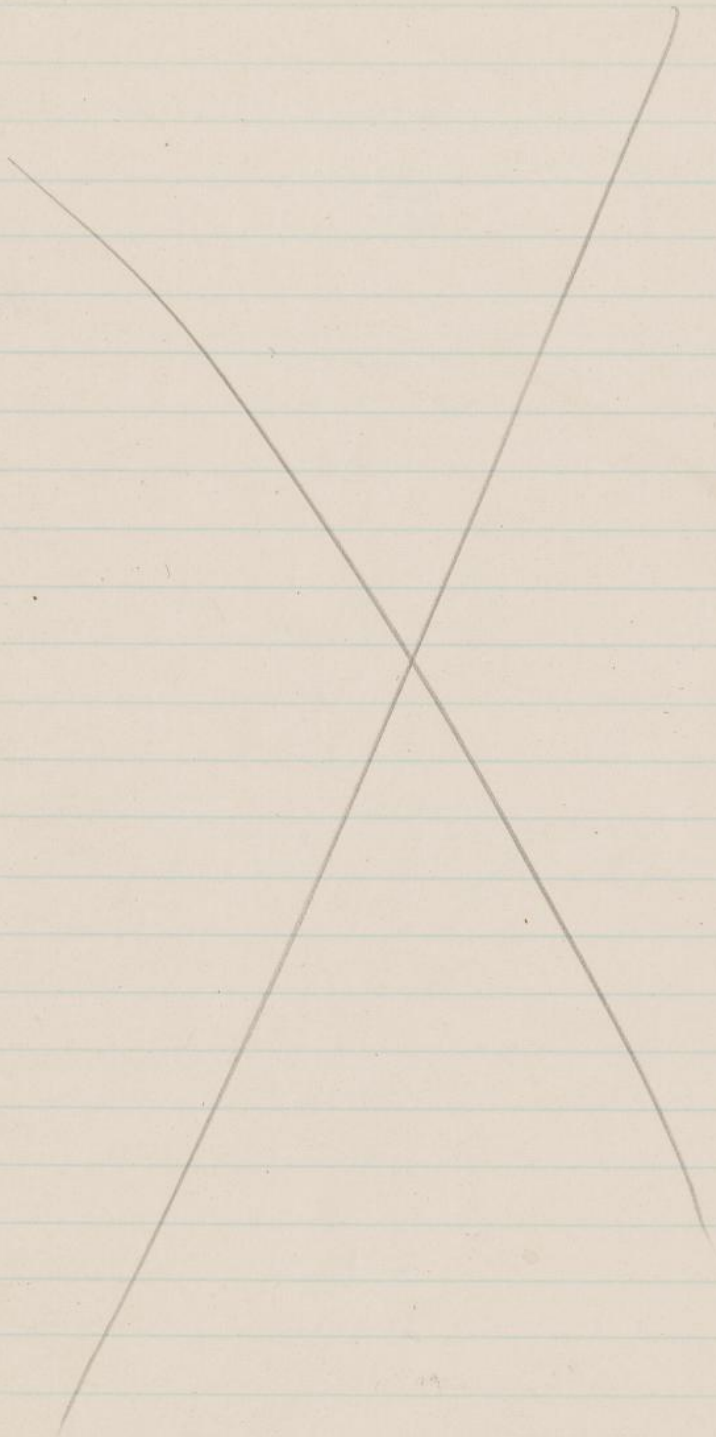
10.6 L m

V 1 C

V = 0R

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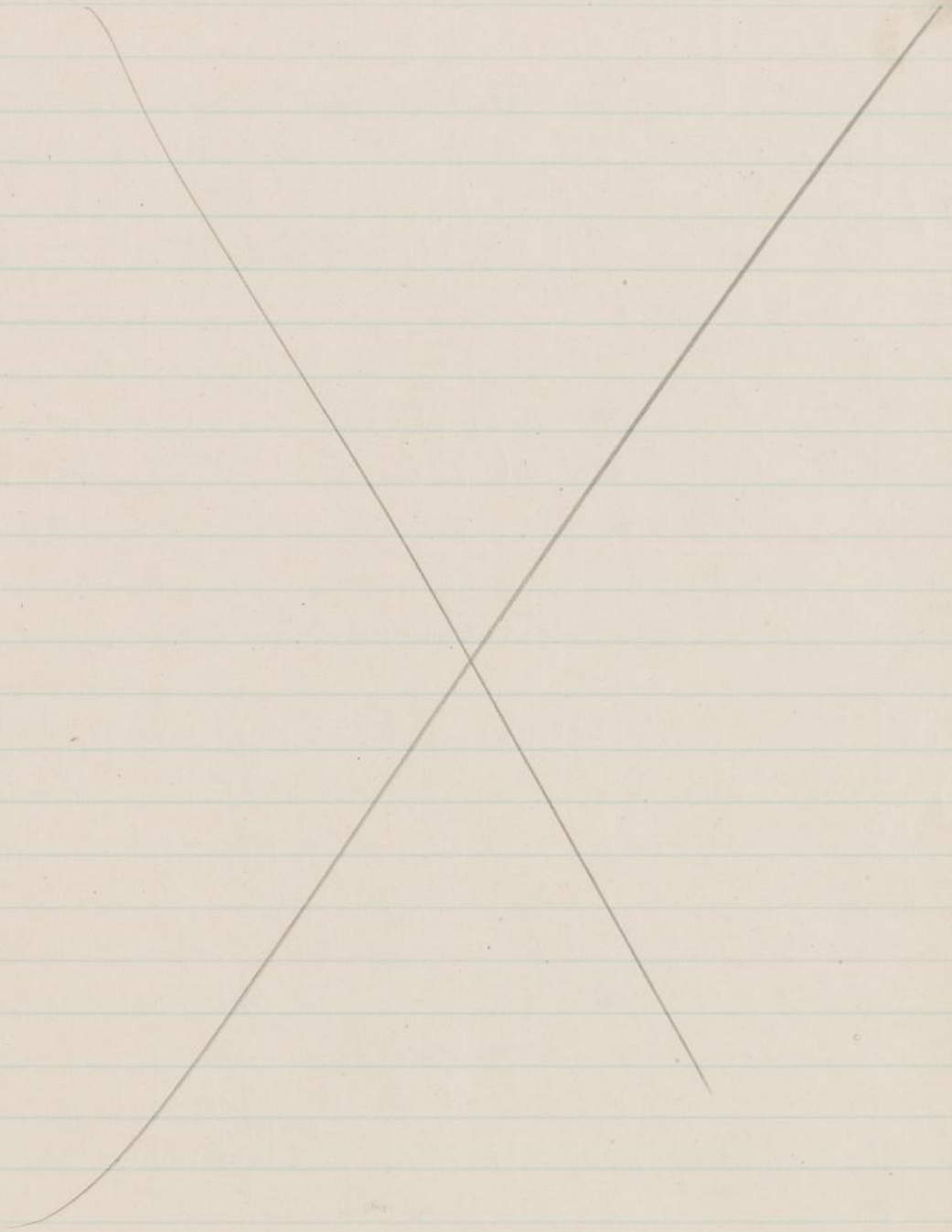
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Friday · October 16 1891

Jupiter's Satellites

a b c d
III ⊖ I II IV ✓

10.7
$a_c$ 3 $c_c$ ✓ III 3 II
$c_c$ 1 $b_c$ II 1 I L m
$b_c$ 2 $d_c$ I 2 IV

III a 3 c ✓ II
II c 1 d IV
IV d 2 b I L m

Taurus ✓

10.8 normal brightness m

β Persei ✓

1?1 d & Persei 5 ~~d5~~ V
11.0 d Orionis 1 V
V 1 d Andromedae E m
V 3 γ Andromedae

11.0 β Tyrae ✓
γ 2 β E m

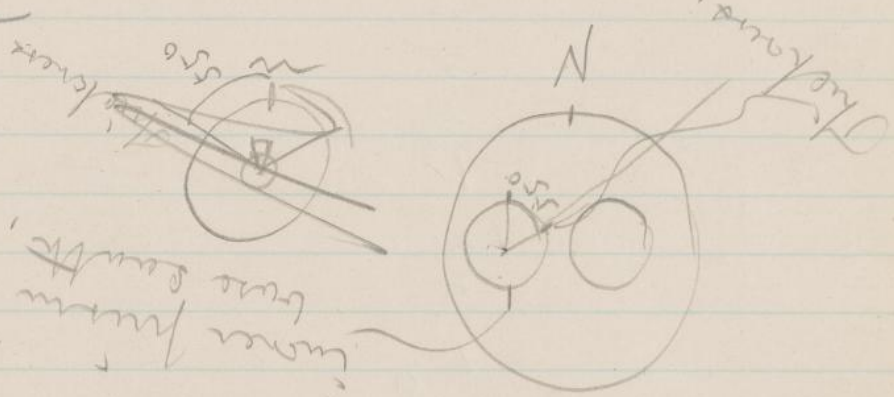
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Tuesday Oct. 29. 1891.

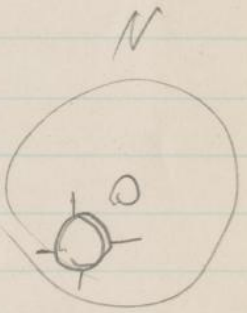
Position of second aeronautic prism




Jupiters Satellites

Sid. time 23.1

III γ 5 δ IV
IV δ = β II
II β 4 α I




III γ $\alpha_c$ $\gamma$ $\delta_c$ IV

IV $\delta_c$ = $\beta_c$ II

II $\beta_c$ 4 $\alpha_c$ I

θ α β γ δ
I II III IV

one.

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198

Tuesday Oct. 20 1891

| | | | |
|---|---|---|---|
| 3 | 9 | 10 | 24.5 |
| 2 | | | 26.0 |
| 1 | Practice for eve | | 32.5 |
| $\alpha_c$ | eclipse | 51.5 | |
| 1 | of Jupiters | 55.1 | |
| 2 | Satellite | 0.1 | |
| 2 | | 8.5 | |
| 1 | | 18.0 | |
| $\beta_c$ | | 42.0 | |
| 1 | | 48.0 | |
| 2 | | 54.1 | |
| 2 | | 59.5 | |
| 1 | | 6.5 | |
| $\gamma_c \delta_c$ | | 12.5 | |
| 1 | | 23.5 | |
| 2 | | 26.0 | |
| 2 | | 34.5 | |
| 1 | | 40.5 | |
| $\delta_c \gamma_c$ | | 48.5 | |
| 1 | | 57.0 | |
| 2 | | 4.5 | |
| 3 | | 11.0 | |
| 4 | | | |

4
3
2
1
$\alpha$
1
2
2
1

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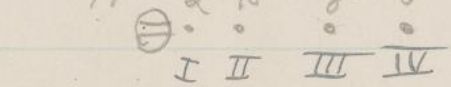
Tuesday October 20 1891

β
1
2
2
1
δ
1
2
2
1
γ
1
2
3
4

Jupiter

Distances of Satellites from centre of Disk.

Apparent positions







10.2 Time of transit from centre of Disk to α is 3.5 seconds.

" " " " α 3.5 "

α is one radius of the Disk from the limb.

Time of transit from centre of Disk to β 7.5 "

" " " " β 8.0 "

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# Tuesday October 20 1891

## Jupiter (Continued from P 199)

Time of transit from Center of ♃ disk to γ is 16 Seconds.

10.3 " " " " γ " 16 "

" " " δ " 30.5 "

" " " δ " 30.4 "

Time of transit of Jupiter's disk 2.2 Disappearance
2.5
2.8
3.1
2.9

3.2 Appearance

S.T. 0h
α S.T. ~~0.8~~ 5m 8.5s +5° 50′ W 2h 5m 2s
a S ¼ field W 1.1 Fd ∴a
10.9 b S 0.45 " E 1.1 Fd ∴b
a 4 α c
α c 3 b

α = 3d Magn.

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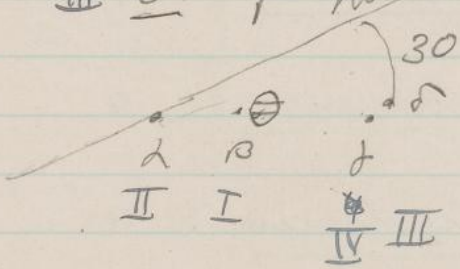


Wednesday October 21 1891

# Jupiter

7.15

IV γ 7 α II
II α 3 δ III
III δ = β I horizontal

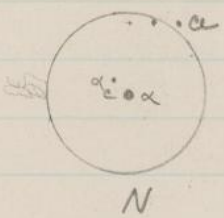



~~Transit~~

Distance from centre of disk of α = 12 Seemed
" " " " γ = 20
δ near edge of disk beyond γ
Estimated α 1/2 " " " " from limb,
∴ Distance from centre of disk of α = ~~2.6~~ 2.6
" " " " " " " of δ = 23.1
Diam of γ = 3.2 3.1

Stars for measuring Prism Constant
22h 6.5m E 1h 27.5m +5°0' 4.5 magn.
α c 4 a

RA = 23h 34m




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Wednesday Oct. 21, 1891.

β Persei ✓

α Arietis 5- β

α Androm. 2 β

γ Androm. 2 β.

1 ?/ α & Persei 5- β

β 5- β Arietis

Tauri ✓

δ. 4 Normal brightness.

δ Cephei

δ. 5- ~~γ 5- δ~~ δ/ ε

δ/ ε

η Aquilae

δ. 5- β 2 η

η / ε

β Cygni

δ. 6 γ = β

1891phae.proj..448R



Wednesday Oct. 21, 1891

10 Sagittae

~~4c~~ V4c

h 2 V

8.7

Sidetime
h m
23 0.3

E h 0,3 min 6.5 + 1° 1' 4.5 mag. L

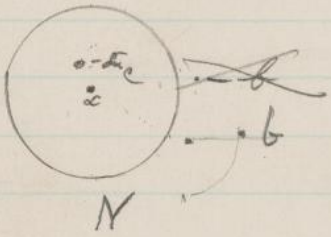
$\alpha_c$ 1 a

$\alpha_c$ 4 b

RA = 23 h 36.8 m

: - a

No. 8




h m
23 16.0 C 0 h 4 m + 5° 5' 4.2 mag.

RA = 23 h 22 m

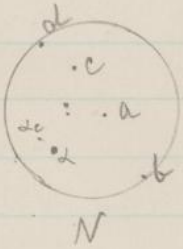
a 1 $\alpha_c$

$\alpha_c$ 2 b

c 1 $\alpha_c$

d = $\alpha_c$

No. 9




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Wednesday Oct. 21. 1891.

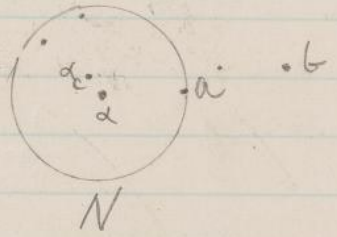
Sid. Time
h m
23 32.2

ε 1h 39m +2° 45′ 4.0 mag. Dm

a 5 $\alpha_c$
b 1 $\alpha_c$

R.A. 0h 11.2m +2° 45′

No. 10

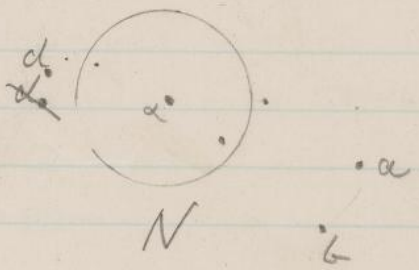



23h 44.7

ε 2h 5.1m +10° 33′ 4.0 mag.

W 1h 9m (?) a 5 $\alpha_c$
b 1 $\alpha$
$\alpha_c$ 4 c

No. 11




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Friday

~~Monday~~, Oct. ~~28~~ 23 1891.

Reg. Jy. I.

1. V = ~~d~~ [Septad d]
2. [Tiptel mtg place]
3. V 3 (Alpha) d — V 3 $\gamma_e$
4. V 4 gamma — V 4 $d_e$
5. V 4 B E — V 4 $\beta_e$
6. V 5 B C — V 5 $\beta_e$
7. d 4 V — d 4 V
8. d 3 V — d 3 V
9. d 3 V — d 3 V
10. d 3 V — d 3 V
11. d 2 V — d 3 V
12. d 2 V — d 2 V

Jim Attwell Recruiter.

first d = $\gamma_e$

first $\gamma$ = $d_e$

Then $d_e$ = $\gamma$

& $\beta_e$ = $\beta$

Second d = d

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Friday Oct. 23, 1891.

Camp. st. time

6.7

Reg. I continued.

γ 7 α

2 1 V

V 6 β

V # is dat. I.

9.5

β Lyrae ✓

β 12

2.

Photometer R Measurements of Prismatic Comp.

Star 3.5m

out of focus by a

small amount.

347.9

α Aurigae

out of focus by a small amount,

81.1

105.1

260.5

285.1

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Friday. Oct. 23. 1891

ζ Aurigae (continued)

283.1
80.7
107.9
261.0
~~263.9~~
283.9
79.0
102.7
264.5

80.0
103.9
263.0
259.9

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Monday Nov 2, 1891,

R Draconis I

8.6 m 6 V
V = D

ε Bootis

8.7 invisible I 2

R Ursa Min.

8.8 V = e I
d 5 V
f 1 V

R Camelop-

8.8 V 6 6 I
V = 1 R

ν Cygni I

8.9 V invisible

τ Cephei I

8.9 V = 7 R
V 2 R

ν Aphei I

9.0 V 5 m
l 5 V

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1891phae.proj..448R



Monday Nov 2. 1891.

R Ursa Majoris.

R Lyncis
Invisible

9.1 II Z

R Aurigae

9.2 V 2 R R I
V 2 C
R b t 3 V

S T Persei

9.2 V 4 C I
b 3 V
V = 9 R

T Persei

9.2 C 2 V I
V = 5 R

S Cassiop.

9.3 k = V I
V 5 l

New var. no. 9

9.4 V 5 5 I
5 = V
V = 0 R

L.

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Monday Nov. 2, 1891.

New var. no. 10 ✓ I.

9.5 α 3 V
V 4 B
V = 0 R

L.

9.7 New var. no. 12. ✓

V = 2 R
V 4 E
δ 3 V

L.

New var. no. 1. ✓

9.7 V 1 R
k 1 V

L.

New var. no. 2. ✓

9.8 V 1 B
V 3 α

L

New var. no. 4 ✓

9.9 V 10 R
d 3 V
V 3 e

L

L

β Lyrae ✓

10.0 γ 3 B

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Monday Nov. 2, 1891.

δ Aphei

10.0 ± δ 1 6
5 4 5

β Persei

10.0 δ Andromed. 4 β
α Andromed. 2 V
V 3 β arietis
ε Persei 6 V

Nov var. no. 13

10.2 V 2 β
α 2 V
V = 0 R

10.4 R Cassiop.

V = 9 S

T Cassiop.

10.4 V = e
V 2 f
V = 5 R

10.5 10 Sagittae

b 5 V
g 1 V

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Monday Nov. 2, 1891

Stars to be observed with the spectroscope

10.7 S Aquilae
S. C. C. notation. L
V 2 a
V = 9.5 mag.

10.8 R Piscium
S. C. C. notation.
V invisible. V fainter than R.
L.

10.9 R Ceti
W. M. R. notation L.
V 2 e
d 5 V

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Tuesday Nov. 8 & 9.

Jupiter's Satellites

7.6

~~β 4 δ~~ II β 4 δ IV I

IV δ 2 γ I

I γ 3 α III α β γ

III II I

7.7

IIc βc 6 γc ~~IVc~~ Ic

Ic γc 3 αc IIIc

IIIc αc 5 δc IVc

η aquilae

7.8

ε 2 η L.

ε 1 V what does this mean?

β Lyrae

7.8

γ 2 β L.

δ Cephei

7.8

ζ 4 δ L.

δ 3 γ

10 Sagittae

7.8

b 4 V L.

V 3 g

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~~Tuesday hor~~

These sidereal times have not been corrected for error in sidereal clock. (standard)

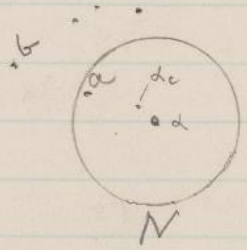
Sid. time

23 16.8 E 2m 24 +8° 45′ 4.5 mag. I

a 2 $\alpha_c$

$\alpha_c$ 4 b

No 1.



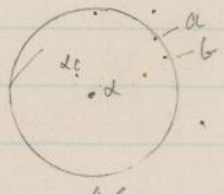

23 28.4 E 2m 07m +5° 0′ 4.5 mag. I

$\alpha_c$ 2 a

$\alpha_c$ 3 b

c 2 α

No 2.



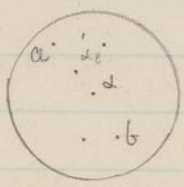

c

23 46.4 E 1m 37 +14° 45′ 4.0 I

$\alpha_c$ 2 a

b 1 $\alpha_c$

No 3.




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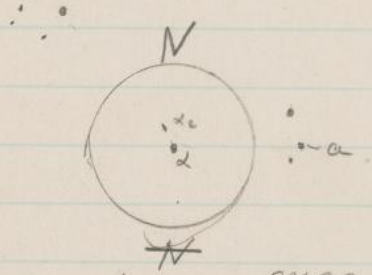


Tuesday Nov. 10, 1891.

Sid. Time.
h m
0 11.2

E 1h 37m +68° 50' 3.5 mag. I

$\alpha_c$ 4 a
b 1 $\alpha_c$

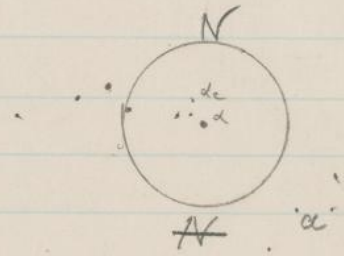



No 4,

h m
0 41.7

E 1h 41m +66° 45' 5 mag. I.

a 2 $\alpha_c$
$\alpha_c$ 1 b



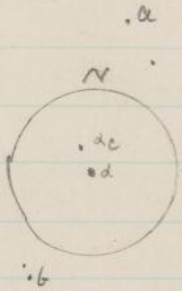

No 5,

mean time
9.7
Sid. time
h m
0 56.X

Tauri, normal brightness.

E 1h 02m +~~7~~10° 45' 4.5 mag. I.

$\alpha_c$ = a
b 4 $\alpha_c$




No 6.

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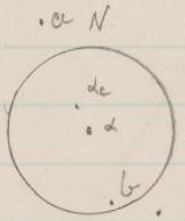


Tuesday Nov. 3. 1891.

Sidereal time
h m
1 8.8

E h 0 m 03 + 85° 40' mag. 4.3 I

$\alpha_c = a$
$\alpha_c$ 4 b




No 7.

Mean time
10.2

ρ Persei ✓
V ρ 2 ζ Andromedæ.
ζ Arietis 3 V
ρ ζ α Persei 4 V
ζ Andromedæ. 3 V

R Ursæ Minoris. I
n 2 $a_c$
$\gamma_c$ = ε
δ 5 $\gamma_c$

L.

R Draconis
Invisible what is invisible? I
W. M. R.

X Cygni I
b 3 $\alpha_c$
$\beta_c$ 4 c
b = $\beta_c$

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This book Ledgered
L.C.
Sept. 17. 1900.

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For W. M. Read.

# Variable Stars to be observed with the 6 inch Telescope.

| Max. Date | Name. | Max. Magn. | 1900 R.A. h. m. | 1900 Dec. ° ′ | | |
|---|---|---|---|---|---|---|
| May 15. 1891. | U Pupis | 8.5 | 7 56.1 | -12 34 | (L) | 9 |
| " 18. " | R Lacertae | 8.6 | 22 38.8 | +41 51 | (S) | 21 |
| " " " | T Aquarii | 6.7 | 20 44.7 | -5 31 | (70) | 20 |
| " 24. " | R Ursae Min. | 8.6 | 16 31.3 | +72 29 | (97) | 15 |
| " 26. " | R Piscium | 7 | 1 25.5 | +2 22 | (70) | 2 |
| June 1. " | S Canis Min. | 7.2 | 7 27.3 | +8 32 | (70) (S) | 7 |
| " 2 " | S Ophiuchi | 8.3 | 16 28.5 | -16 57 | (L) | 14 |
| " 3 " | R Canis Min. | 7.2 | 7 3.2 | +10 11 | (L) | 5 |
| " " " | R Ceti | 7.5 | 2 20.9 | -0 38 | (70) | 3 |
| " 5. " | T Hydrae | 7.0 | 8 50.8 | -8 45 | (70) | 11 |
| " 8. " | S Herculis | 5.9 | 16 47.3 | +15 6 | (70) | 16 |
| " 9. " | V Geminorum | 8.2 | 7 17.6 | +13 17 | (L) | 6 |
| " 12. " | R Sagittae | 8.5 | 20 9.5 | +16 25 | (L) | 19 |
| " 15. " | V Cancri | 6.8 | 8 16.0 | +17 36 | (70) | 10 |
| " 25. " | R Geminorum | 6.6 | 7 1.3 | +22 52 | (70) | 4 |
| " 27. " | V Leonis | 8.6 | 9 54.5 | +21 45 | (L) | 12 |
| July 8. " | S Ceti | 7.0 | 0 19.0 | -9 53 | (70) | 1 |
| " 12 " | X Ophiuchi | 6.8 | 18 33.6 | +8 45 | (S) | 17 |
| " 13. " | T Geminorum | 8.1 | 7 43.3 | +23 59 | (L) | 8 |
| " 31. " | V Coronae | 7.2 | 15 46.0 | +39 52 | (70) | 13 |
| July-Aug. | S Aquilae | 8.4 | 20 7.0 | +15 19 | (L) | 18 |

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1111

~~+86 115~~

+85 19
+84 290
+55 2411
+49 3062
+49 1160
+49 444
+44 3865
+34 198
+30 91
+29 4057
+25 3221
+20 306
+19 2777
+10 4997
+10 2156
+4 293
+0 5037
+0 3076
+0 2663
+0 2926
−1 114
−4 4275
−5 1068
−5 1162
−5 1315
−5 4840
−5 4876
−9 48
−9 553
−9 697
−9 4796
−9 4712
−9 6156
−9 6160

2.0 3.6 1.5

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Measurements of Prismatic Comparison.
Sept. 2 1891

| | |
|---|---|
| α Lyrae + $\underline{\alpha}$ | 4.0 |
| | 4.1 |
| | 4.2 |
| ε Draconis + $\underline{\varepsilon}$ | 4.3 |
| | 4.3 |
| | 4.3 |
| σ Draconis + $\sigma$ | 4.5 |
| $\varepsilon$ | 29.7 |
| $N_0$ | 7 |
| $\frac{\varepsilon}{N_0}$ | 4.24 |

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# For Determining Value of Prismatic Comp[ensation].

| | bright star 1855 | | | M.P. Magn | Faint star | | | M.P. Magn |
|---|---|---|---|---|---|---|---|---|
| 269 | 18h 19m.1 | +86° | 36′ | 4.5 | (unpractical.) | | | |
| 19 | 0 49.9 | +85 | 29 | 4.5 | | | | |
| | | | | | a ~~269~~ 270 | +1m.0 | −28′ | 8.6 |
| | | | | | b 409 | −57m.0 | +35′ | 6.7 |
| | | | | | c 406 | −99m.0 | −23′ | 8.7 |
| 290 | 12 48.1 | +84 | 12 | 4.9 | | | | |
| | | | | | a 303 | +24m | +45′ | 9.2 |
| 2411 | 20 25.8 | +55 | 35 | 5.8 | | | | |
| | | | | | a 2414 | +0.3 | −29 | 9.8 |
| 3062 | 19 32.6 | +47 | 53 | 4.9 | | | | |
| | | | | | a 3065 | +0.4 | +1 | 9.3 |
| | | | | | b 3073 | +2.1 | −1 | 9.2 |
| | | | | | c 3051 | −1.8 | +6 | 9.0 |
| 1150 | 4 7.4 | +49 | 56 | 4.7 | | | | |
| | | | | | a 1128 | −5.2 | +1 | 9.0 |
| | | | | | b 1117 | −7.2 | −1 | 8.8 |
| | | | | | c 1160 | +2.4 | −2 | 8.8 |

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For Determining Value of Prismatic Comparison.

| | Bright Star | | | M.P. Magn. | Faint Star | | | M.P. Magn. |
|---|---|---|---|---|---|---|---|---|
| B.M. | 1855 | | | | | | | |
| 444 | h m 1 34.6 | + 49° | 58′ | 4.3 | | | | |
| | | | | | a | 445 | + 0.1m − 5′ | 8.4 |
| | | | | | b | 422 | − 5.7 − 6 | 9.2 |
| 3865 | h m 21 28.5 | + 44 | 57 | 4.3 | | | | |
| | | | | | a | 3853 | − 2.4 − 4 | 8.6 |
| | | | | | b | 3866 | + 0.5 − 3 | 9.3 |
| | | | | | c | 3868 | + 0.7 0 | 9.5 |
| 198 | 1 1.6 | + 34 | 50 | 2.7 | | | | |
| | | | | | a | 171 | − 5.6 + 4 | 7.2 |
| | | | | | b | 181 | − 3.5 − 6 | 7.5 |
| 91 | 0 31.6 | + 30 | 4 | 3.7 | | | | |
| | | | | | a | 105 | + 4.8 + 3 | 8.8 |
| | | | | | b | 163 | + 7.0 + 5 | 7.7 |
| | | | | | c | 114 | + 7.1 + 6 | 7.6 |
| 4057 | 20 24.9 | + 29 | 53 | 4.1 | | | | |
| | | | | | a | 4055 | − 1.8 + 3 | 9.0 |
| | | | | | b | 4038 | − 3.8 + 1 | 7.2 |
| | | | | | c | 4097 | + 5.1 + 3 | 8.6 |
| | | | | | d | 4109 | + 6.6 + 6 | 8.8 |

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For Determining Value of Prismatic Comparison.

| | Bright Star | | | Feint Star | |
|---|---|---|---|---|---|
| D.M. | 1855 | | M P | | M P. |
| 3221 | 17h 9m.1 | +25° 1′ | 3.1 | | |
| | | | | a 3215 −1m.9 +9 | 7.1 |
| | | | | b 3252 +7.4 +1 | 6.9 |
| 306 | 1 46.6 | +20 6 | 2.5 | | |
| | | | | a 322 +5.0 +15 | 6.1 |
| | | | | b 264 −15.9 +34 | 7.0 |
| 2777 | 14 9.0 | +19 56 | 0.6 | | |
| | | | | a 2779 +0.3 −20 | 5.8 |
| 4797 | 22 34.3 | +10 5 | 4.0 | | |
| | | | | a 4800 +0.6 +15 | 7.6 |
| | | | | b 4769 −9.7 −3 | 8.3 |
| 2166 | 10 25.2 | +10 3 | 3.6 | | |
| | | | | a 2176 +4.4 +5 | 8.5 |
| | | | | b 2165 −0.7 +7 | 8.1 |
| 293 | 1 33.9 | +4 45 | 5.0 | | |
| | | | | a 297 +1.3 +15 | 9.0 |
| | | | | b 282 −4.4 +8 | 8.4 |

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For Determining Value of Prismatic Compensation.

| DM No. | Bright Star 1855 | | M.P. | Faint Star. | | M.P. |
|---|---|---|---|---|---|---|
| 5039 | $23^h$ | $34.^m7$ | $+0^\circ$ 5′9 | 4.5 | | |
| | | | | a 5039 | +1.1 −53 | 8.7 |
| | | | | b 5042 | +3.7 −7 | 8.1 |
| 3076 | 13 | 27.4 | +0 8 | 3.2 | | |
| | | | | a 3075 | −0.5 +18 | 7.4 |
| | | | | b 3074 | −0.6 +44 | 8.8 |
| | | | | c 3079 | +1.1 +1 | 8.7 |
| 2663 | 10 | 22.9 | +0 6 | 5.0 | | |
| | | | | a 2649 | −6.2 +50 | 9.3 |
| | | | | b 2669 | +3.7 +50 | 9.4 |
| 2926 | 12 | 12.5 | +0 8 | 4.0 | | |
| | | | | a 2914 | −4.9 −2 | 8.9 |
| 114 | 0 | 45.6 | −1 57 | 4.8 | | |
| | | | | a 99 | −5.8 0 | 8.8 |
| | | | | b 125 | +6.6 0 | 8.7 |
| | | | | c 128 | +7.2 −6 | 9.3 |

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For Determining Value of Prismatic Conversion.

| D.M. | Bright Stars | | | Faint Stars | | | |
|---|---|---|---|---|---|---|---|
| No | | | M.P. | | | | M.P. |
| 4275 | 17h 18m.9 | -4° 5′ | 4.6 | | | | |
| | | | | a 4258 | -9m.2 | +1′ | 8.4 |
| | | | | b 4301 | +7.8 | -4 | 9.1 |
| 1068 | 4 45:8 | -5 42 | 4.6 | | | | |
| | | | | a 1065 | -0.6 | -40 | 9.5 |
| | | | | b 1106 | +5:1 | -42 | 9.4 |
| 1162 | 5 0.7 | -5 16 | 2.9 | | | | |
| | | | | a 1123 | -7.1 | +40 | 6.6 |
| | | | | b 1177 | +2.8 | -8 | 8.6 |
| 1315 | 5 28.2 | -5 29 | 4.9 | | | | |
| | | | | a 1285 | -2.6 | -25 | 8.5 |
| | | | | b 1323 | +0.2 | -29 | 8.7 |
| | | | | c 1333 | +0.8 | -20 | 9.1 |
| 4840 | 18 5.3.9 | -5 56 | 4.3 | | | | |
| | | | | a 4778 | -11.0 | -49 | 8.6 |
| | | | | b 4775 | -11.6 | -49 | 8.6 |
| | | | | c 4818 | -4.4 | -51 | 9.5 |
| | | | | d 4844 | +1.1 | -56 | 9.5 |

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For Determining Value of Prismatic Compension.

| D m | Bright Star | | | M.P. | Faint Star. | | | M.P. |
|---|---|---|---|---|---|---|---|---|
| NB | 1855 | | | | | | | |
| 4876 | 18h 58.6m | −5° 6′ | | 3.4 | 19 0.9 | −5.2 | | |
| | | | | | a 4877 | +0.9m | +1′ | 8.3 |
| 48 | 0 12.1 | −9 38 | | 3.9 | 0 14.4 | −9 23 | | |
| | | | | | a 49 | +0.6 | +14 | 8.9 |
| | | | | | b 53 | +1.6 | +17 | 8.7 |
| | | | | | c 30 | −5.2 | +1 | 7.9 |
| 553 | 2 49.4 | −9 29 | | 4.2 | 2 51.5 | −9 18 | | |
| | | | | | a 568 | +3.2 | +31 | 8.5 |
| | | | | | f 523 | −11.2 | +28 | 9.5 |
| 697 | 3 26.1 | −9 57 | | 3.9 | 3 28.2 | −9 48 | | |
| | | | | | a 698 | +0.5 | −6 | 9.4 |
| | | | | | b 719 | +7.1 | −26 | 7.1 |
| 4796 | 18 34.3 | −9 11 | | 5.0 | 18 36.8 | −9° 9′ | | |
| | | | | | a 4858 | +8.7 | +49 | 8.9 |
| 4712 | 18 15.7 | −9 0 | | 4.8 | 18 18.2 | −8° 59′ | | |
| | | | | | a 4713 | +0.2 | +58 | 9.3 |
| | | | | | b 4690 | −3.2 | +52 | 8.8 |

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For Determining Value of Prismatic Compensation.

| Dm | Bright Star | | | | Feint Star | | | |
|---|---|---|---|---|---|---|---|---|
| No. | 1855 | | | M.P. | | | | M.P. |
| 6156 | 23h | 8.3m | −9° | 5′2 | 4.6 | 23 | 10.6 −9 | 38 |
| | | | | | a 6133 | −6.5m | +6′ | 8.8 |
| | | | | | b 6139 | −4.7 | +8 | 9.3 |
| 6160 | 23 | 10.4 | −9 | 5′8 | 4.5 | 23 | 12.7 −9 | 44 |
| | | | | | a 6164 | +1.1 | −6 | 9.9 |

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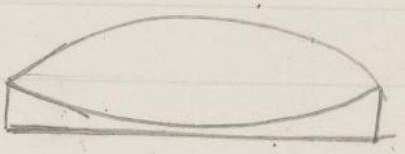
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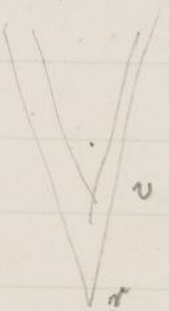
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H.P. 4255 3 obs'.

| | | 4.1 | 4.2 ✓ |
|---|---|---|---|
| 4.30 | Th. | +20 | +10 |
| 4.27 | Bl. | +17 | +7 |
| 4.13 | R | +3 | −7 |
| 4.05 | Robinson | −5 | −15 |
| 1 75 | | | |
| 4.19 | | | |






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