KG
11365
814

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Date	Object	Page.
Mar. 8, 1899	Nova Sagittarii. Meas. of blightness.	4 – 23
	" " " " " "	24
July 8, 1899.	Exam. of plates for susp. var. (H.C.S.) $10^h\ 44^m\ 9 + 14°\ 29'$ (Approx. 1855 H.C.O.)	25
" 26. "	Estimates of separation of components of ζ Centauri	26
" " "	" " " " " " " " " η Scorpii	27 – 28
Oct. 9. 1899	Exam. of plates for Nova C.D.M. –23° 12667 or 12664 susp. by Innes or Gill (?)	29
" " "	Meas. of Nova suspected by Innes or Gill (?)	30 – 49
Dec 6, 1899	Asteroid Magn. 10 Found by. Ch ?	50
" 18, "	Exam. of plates for double star (R.A. $14^h\ 21^m\ 5.27^s$ / $14\ 21\ 8.46$ Dec. $+26°\ 5'\ 55.2''$ / $+26\ 6\ 7.5$) with a large common P.M. of $+0^s.070 - 1''.26$ annually	51
" " "	" " " " " " " " variation if any in B.D. +27° 2561? R.A. 15 53 17.5 +27 24 59.6 (1875) R.A. 15 54 19.6 +27 20 37.3 (1900)	52
Jan. 1, 1900	Annexed list of variables examined to determine their phot. spectra for Rev. J. G. Hagen's 3rd. Series of Charts of variables	53
Jan. 24, "	Exam. for predicted new planet	54 – 56
" 26, "	" of plates to det. variation if any in C.D.M. –24° 10930 R.A. $13^h\ 21^m.9$ Dec. –24° 2 (1875) See Page 119 Bk. 55	57
Feb. 2, "	" " region of Nova Normae (Plate A 2518) & search for variables. Found one variable. E. & P.	58
" 3, "	" " " Sm. Magellanic Cloud and η Carinae for variables E & P.	59
" 6, "	Exam. of plates for Mme Ceraski's New Algol Variable, $19^h\ 40^m\ 59^s.7$ Dec. +32° 2' 6" (1855)	60 – 65
March 5, "	" " " I 24688 & I 24690 for Minor Planet. Fortuna (No 19) Magn. 10.4	66
" 6, "	A further exam. of Plates I 24687 & 24689 shows Asteroids Urania & Fides	67
" 8, "	Exam. of plates to confirm variation if any of –13° 530 $2^h\ 41^m.0$ –13° 4 (1855) 63	68
" " "	" " " " " " " " " " " " –8° 536 $2^h\ 45^m.1$ – 8° 52 (") 7.8	69
" 10 "	" " " " " " " " " " " " +31 1946 9 4.6 +31 23 (1900)	70
" 12 "	" " " " " " " " " " " " A.G. 28085 (Lamb. –3° 4910) R.A. $20^h\ 21^m.1$ Dec. –3° 24 4.4 (1855)	71
" " "	" " " " " " " " " " " " 24228 R.A. $17^h\ 44^m.9$ Dec. –33° 39	72
" " "	" " " " " " " " " " " " –2° 5054 R.A. $19^h\ 28^m.3$ Dec. – 2° 46 7.7 (1855)	73
" " "	" " " " " " " " " " " " A.G. 25638 " $18^h\ 38^m.6$ " –39° 41 (1875)	74
" 13 "	" " " " " " " " " " " " 30605 New var. discovered.	75
April 28 "	" " " " for evidence of variation in K Puppis A.G. 9958 R.A. $7^h\ 37^m.0$ Dec. –31° 35 var. (1900)	76

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Date.	Object.	Date.
April 28, 1900.	Exam of plates for evidence of variation in A.G.C. 30650 (pro.) R.A. 22h 23m 4 Dec. -37° 28′ 7½ mm	
	30649 " 22h 23m 4 " -37° 29′ 8¾	77
July 9, 1900.	Exam. of I 25532 for image of Eros.	78
" " "	Preliminary exam. of plates showing image of Nova Aquilae R.A. 19h 15m 16s Dec. -0° 16′ (1900)	79-80
" 30 "	Exam. of I 25595. Ex 153m. for Eros. (W. P. Jobs)	81
Aug. 14 " "	" plates for +34 447 R.A. 22h 22m 3 +34° 29′ (1855) 9.3 See Letter W. H. Pickhurst Aug. 6, 1900	82
March 12 1901. " "	" susp. var. of Prof. R. W. Willson +8° 4261 According to his obs. magn. 8 on Sept 22, 23, 1899	83
" 13 "	Meas. to det. magn. of Eros. Ident. of comp. stars used for Oct. 28, 30, 31, 1893 marked on print from	
	enl. of plate taken on Oct. 30, 1893	84
" " "	" " " magn. of Eros in 1896	85
" 14 "	Exam. of photos of Eros	86
" 25 "	Est. of br. of Eros on photos	87
June 27 "	Exam. of photos of A.G.C. 19175 magn. 6.6 6.1 P.D. -50° 6654 magn. 9.6 6.1 P.D. -50° 6657 follows. 6.5, 8 south 0.8 mag. (9.0 Campbell)	88
" " "	" a few plates for conf. of Mrs. Ceraski's new Algol var. 18h 6 19h 7 -12° 46′ 9.3 (1855)	89
" " "	" plates for Mme Ceraski's variable 19h 7 37.01 +33° 10′ 12.6 (1855)	90
July 9 "	Meas. of intensity of spectra of Nova Persei No 2.	91-114
" 15 "	" " br. " " " " " " "	115-126
Aug. 3 "	Exam. of plates for J. E. Gore's sixth magn. star in vicinity of Nova Persei No 2	127
" 20 "	" Photos of Lightning	128
Oct. 9 1901.	Search for D. Stewart's Asteroid.	129

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March 8, 1899.

Nova Sagittarii. Meas. of Brightness.

Comparison stars selected and marked on A 2845.

Plate B 21290
d 3 N 8.2
N 4 e 8.2

Plate I 22549
l 2 N
N 1 m

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1899phae.proj..815F

March 11, 1899

Nova Sagittarii.

B 21251 Sf. Cont. Spect.

d 4 N	8.3	8.1 d 2 N	estimated of total light
N0e	8.6	8.3 N 3 e	
N3f	8.8		

B 21258 Sf. Cont. Spect.

e 2 N	8.8	~~8.7~~ 8.2 d 3 n	estimated of total light
n 1 f	9.0	~~8.8~~ 8.3 N 3 e	

B 21319

d 3 N	8.2
N 1 e	8.5

I B 20738

d 4 N	8.3
N 0 e	8.6
N 3 f	8.8

A'	5.3	3.8
	4.0	6.0
	5.9	5.0 A'
B'	5.1	
	20.1	14.9
	5.0	5.0

I 20612

d 1 N	8.0
N 3 e	8.3

Comp next A' and B' 5.1

Identify A'

Brit Col.	Harvard Photo
N 3 A'	C' 8 N
C' 10 N	N 1.5 c
N 1.6 c	N 5 A'
B 5 N	

I 20500

N 15 c	
N 12 & A'	

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1899phae.proj..815F

March 11, 1899.

Nova Sag.

I 20428

N 2.5 C 7.3

N = B' ~~4.6~~ 11.9 6.0 B

Identify

Princeton Cards

C' 7 N 3.7

~~D' 3 N defect.~~

B' B' 2 N 4.8 B

5.1 5.5 4.2

I 22552

m ~~N~~ 1 N

N 1 m

I 22553

l 3 N

N 0 m

N 3 m

March 13, 1899.

611810

l 3 N

N 1 m

m on edge of Exposure. Image may be defective

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1899phae.proj..815F

March 13, 1899.

Measures of Nova Sagittarii

B 2872. Sf.
e = .2
N N.S.

B 3014
f = .3
N. N.S.

B 3077
f = .2
N. N.S.

B 4024 Sf.
b = .5
c not on plate.
N N.S.

I 1545
m = .1
N N.S.

I 1733
m = .1
N N.S.

I 1738
o = .2
N N.S.

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1899phae.proj..815F

Mar. 13, 1899.

Measures of Nova Sagittarii

B 5996
q = .2
M n.s.

B 5998
r = .1
M n.s.

I 3776 Sf.
q = .2
M. n.s.

I 3808 Sf.
q = .1
M n.s.

I 3831 Sf.
e = .2
M. n.s.

B 6545 Sf.
b = .1.
M. n.s.

B 6546
a = .2
M n.s.

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1899phae.proj..815F

March 13, 1899.

Measures of Nova Sagittarii.

I 3911 Sf.
h = .1
N N.S.

I 4092 Sf.
d = .3
N N.S. On edge of plate.

I 4272 Sf.
g = 2
N. N.S.

B 7610
d = .6
N N.S. On edge of plate.

B 7880
o = .1
N N.S.

B 8376 Sf
f = .2
N. N.S.

B 9238
o = .2
N. N.S.

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1899phae.proj..815F

March 13, 1899.

Meas. of Nova Sagittarii.

B 9239
m = .1
N. N.S.

B 9552 Sf.
K = .1
N. N.S.

B 9793 Sf.
e = .2
N N.S.

B ~~9619~~ 9916
Does not cover region.

B 9917
r = .1
N. N.S.

B 9943
g = .2
N N.S.

B 9944
m = .1
N. N.S.

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1899phae.proj..815F

March 13, 1899.

Measures of Nova Sagittarii.

B 10038
t=.1
N. N.S.

B10039
f=.1
N.N.S.

B10078 Sf.
g=.2
N. N.S.

B10162 Sf.
l=.2
N. N.S.

B10169 Sf.
l=.2
N. N.S.

D 11066 Sf.
f=.4
g not on plate. On edge.
N. N.S.

I 11073 Sf.
Too poor.

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1899phae.proj..815F

March 13, 1899.

Measures of Nova Sagittarii

B 11321 Sf.
h = .2
N. N.S.

I 11172 Sf.
h = .2
N. N. S.

B 11480 Sf.
h = .2
N N.S.

B 11487 Sf.
h = .2
N. N.S.

I 11284 Sf.
g = .1
N. N.S.

On edge of plate.

I 11262 Sf.
h = .3
N. N.S.

B 12221 Sf.
h = .1
N N.S.

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1899phae.proj..815F

March 13, 1899.

Measures of Nova Sagittarii.

B 12546
o = .1
N. N. S.

B 12550
o = .1
N. N. S.

I 12921 S/.
f2 = .1
N N. S.

B 13540
s = .1
N N. S.

B 13591
r = .1
N N. S

B 13634
r = .2
N N. S.

I 12980
o = .3
N. N. S.

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1899phae.proj..815F

March 13, 1899.

Measures of Nova Sagittarii.

I 12982 Sf.
k = .3
N N.S.

I 12987 Sf.
f = .1
N N.S.

I 13000
n = .2
N. N. S.

I 13037 Sf.
g = .3
N. N.S.

B 14087
k = .2
N N.S

I 13069
k = .1
N N.S.

I 13081 Sf
Too poor.
On edge of plate

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1899phae.proj..815F

March 13, 1899.
Measure of Nova Sagittarii.
B14177
l = 2
N. N.S.

Continued on page 16.

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1899phae.proj..815F

March 14, 1899.

Measures of Nova Sagittarii. (Continued from page 15)

B 6871 Sf.
g = .1
n n.s.

I 13093
n = .2
n n.s.

B 14200 Sf.
l = .2
n n.s.

B 14208 Sf.
l = .1
n. n.s

I 13179
k = 2
n n.s.

I 13208 Sf.
l = .2
n n.s.

I 13217
s = .3
n n.s.

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1899phae.proj..815F

March 14 1899.

Meas: of Nova Sagittarii.

B 14380 S/.
l = .2
N. N.S.

I 13484
n = .1
N N.S.

I 14795
n = .2
N N.S.

B 16197
l = .3
N N.S.

B 16290
± = .1
N N.S.
Continued

B 16573
ni = .2
N N.S.

B 16853 S/.
m = .1
N N.S.

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1899phae.proj..815F

March 17, 1899.

Meas. of Nova Sagittarii.

B17031 18
l = .3
1 n.s.

B17557
v = .2
1 n.s

I 17511
v = .1
1 n.s

I 17862
v = .1
1 n.s.

B18953
u = .1
1 n.s.

a 16 b
b 5 c
c 3 d
d 5 e
e 4 f
f 3 g
g 3 h
h 2 k
k 3 l

(Continued on page 19)

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March 14, 1899.

Measures of Nova Sagittarii.

B18953 (Continued from page 18)

l 3 m
m 2 n
n 2 o
o 2 p
p 3 q
q 2 r
r 3 s
s 2 t
t 2 u

B17689

t = .2

n N. S.

a 18 b
b 3 c
c 4 d
d 5 e
e 8 4 f
f 3 g
g 2 h
h 3 k
k 3 l
l 3 m
m 2 n
n 3 o
o 2 p
p 3 q

Continued on page 20.

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1899phae.proj..815F

March 14, 1899.

Measures of Nova Sagittarii

B 17689 (Continued from page 19.)

g 2 r
r 3 s
s 2 t

B 16290 (Continued from page 17)

a 16 b
b 3 c
c 4 d
d 5 e
e 4 f
f 3 g
g 3 h
h 3 k
k 4 l
l 3 m
m 2 n
n 3 o
o 3 p
p 3 q
q 2 r
r 3 s
s 2 t

I 18143

f = .5
n N.S.

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1899phae.proj..815F

March 14, 1899.

Measures of Nova Sagittarii.

A B19349
s = .1
N N.S.

B 19512
u = .2
N. N.S.

Continued

I 18276
m = .1
N N.S.

B 19847
p = .3
N N.S.

I 18490
n = .1
N N.S,

B 20060 Sf.
g = .3
N N.S.

B 20207 Sf
e = .4
N N.S.

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1899phae.proj..815F

March 14, 1899.

Measures of Nova Sagittarii.

I 18617 Sf.
f = .3
N N.S.

I 18618
g = .3
N N.S.

B 20614
r = .2
N N.S.

a 2845
y = .3
N N.S.

a 2854
Nova region just off plate.

B 14181 Sf.
k = .3
N. N.S.

I 18332
On edge of plate. Too few.

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1899phae.proj..815F

March 14, 1899.

M

B 1951 2 (Continued from page 21)

a 1 8 b
b 4 c
c 2 d
d 5 e
e 3 f
f 3 g
g 3 h
h 2 k
k 4 l
l 2 m
m 3 n
n 3 o
o 3 f
f 2 g
g 2 r
r 3 s
s 2 t
t 1 u ?

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1899phae.proj..815F

A 2845

a 16 b
b 4 c
c 2 d
d 5 e
e 3 f
f 2 g
g 3 h
h 3 k
k 3 l
l 2 m
m 3 n
n 3 o
o 3 p
p 3 q
q 2 r
r 3 s
s 2 t
t 1 u
u 2 v
v 3 x
x 2 y

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1899phae.proj..815F

July 8, 1899.

Exam. of plates for Susp. var. (M.C.S.).
R.A. 16h 44.9m Dec. +14° 29' (Appnx. 1855 M.C.S.).

Plates I 284 Dec. 9, 1889, 3455 April 24, 1891.
3528 April 30, 1891, 16611 Nov. 30 1896, 17974
April 21, 1897 and I 22178 Jan 22, 1899
Examined and show no evidence ~~fo~~
of variability. W. P. Fleming.

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1899phae.proj..815F

July 26, 1899.

Estimates of separation of components of ζ Centauri

Plate X 5628
Lines single.

Plate X 9228
Lines hazy.

Plate X 9273
Lines double = .006 in. Strong lines to red.

Plate X 9168
Lines double(?) = .002 in.(?) strong lines to violet(?) Image poor.

Plate X 7591
Lines single, hazy

Plate X 8263
Lines wide

Plate X 4127
Lines hazy & wide.

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1899phae.proj..815F

July 26, 1899.

Estimates of Separation of Components of π Scorpii

C 6782
Single, hazy

C 6818
Wide (double?)

C 1960
Wide, hazy

C 45-1
Not on plate

C 970
Single

C 488
Too poor

X 4221
Single, hazy.

X 5657
Double?, .002in?, ft line to violet

X 7822
Double .005in, ft line to violet

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1899phae.proj..815F

July 26, 1899.

Estimates of π Scorpii (Cont).

X 8481
Wide, hazy

X 8621
Hazy.

X 9143
Wide, hazy

X 9163
Double .003 in E.C.P.

X 9218
Double. ft. comp to pred. .006 in

X 9226.
Double .006 in. ft this to violet

X 9284
Broad Double(?) ft this to pred (?)

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1899phae.proj..815F

October 9, 1899

C.D.M. -23° 12667 or 12664

Exam. of plates for Nova, suspected by Innes or Gill?
(See Letter of Dr. Gill, Sept. 4, 1899)

-23° 12667 = 15ʰ 56 44.8 -23 48.7 10
-23 12664 = 15 56 40.5 -23 48.9 10

✓ B ~~38~~ 19145
a 4, 4
4 1 b

c 3 3
3 1 d

1 & 2 not seen

✓ B 3882
a 3 3 4
4 3 2 b

c 3 3
3 1 d
1 & 2 not seen

✓ B 15731
a 3 & 4
4 2 b

c 3 3
3 1 d

1 & 2 not seen.

Print from a 2763.



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1899phae.proj..815F

October 9 1899.

Meas. of Nova suspected by Innes pr Gill(?)

✓B15983

a 3 4

4 2 b

c 3 3

3 1 d

1 & 2 not seen

✓B14037

a 3 4

4 2 b

c 3 3

3 1 d

1 & 2 not seen

✓B16068

a 4 4

4 1 b

c 3 3

3 1 d

1 & 2 not seen

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1899phae.proj..815F

October 9, 1899

Meas. of Nova suspected by Innes of Gill (?).

√ B16145

a 3 4

4 2 b

c 3 3

3 1 d

1 & 2 not seen

√ B 10214

a 3 4

4 2 b

c 3 3

3 1 d

1 & 2 not seen.

√ B 15648

a 2 4

4 2 b

c 3 3

3 1 d

1 & 2 not seen.

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1899phae.proj..815F

Oct. 9, 1899.

Meas. of Nova

✓B11896
a 3 4
4 2 k

c 3 3
3 1 d

1 & 2 N.S.

✓B15862
a 2 4
4 2 k

c 3 3
3 1 d

1 & 2 N.S.

✓B16346
a 3 4
4 2 k

c 3 3
3 1 d

1 & 2 N.S.

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1899phae.proj..815F

Oct. 9, 1

Meas. of Nova.

✓ B 1649 3
a 2 4
4 2 b

c 3 3
3 1 d

1 & 2 N.S.

✓ B 5333
a 3 4
4 2 b

c 3 3
3 1 d

1 & 2 N.S.

✓ B 3526
a 3 4
4 2 b

c 3 3
3 1 d

1 & 2 N.S.

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1899phae.proj..815F

Oct. 9, 1899.

Meas. of Nova

B 6087
a 2 4
4 2 b

c 3 3
3 1 d

1 & 2 N.S.

B 16775
a 3 4
4 2 b

c 3 3
3 1 d

1 & 2 N.S.

B 18886
a 3 4
4 2 b

c 3 3
3 1 d

1 & 2 N.S

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1899phae.proj..815F

Oct. 9, 1899

Meas. of Nova

✓ B 21194
a 3 4
4 2 f

c 3 3
3 1 d

1 & 2 N.S.

✓ B 14976
a 3 4
4 2 f

c 3 3
3 1 d

1 & 2 N.S.

✓ B 17118
a 3 4
4 2 f

c 3 3
3 1 d

1 & 2 N.S.

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1899phae.proj..815F

Oct. 9, 1899.

Meas. of Nova.

✓ B 17140
a 2 4
4 2 b

c 3 3
3 1 d

1 & 2 N.S.

✓ B 17501
a 3 4
4 2 b

c 3 3
3 1 d

1 & 2 N.S.

✓ B 19057
a 3 4
4 2 b

c 3 3
3 1 d

1 & 2 N.S.

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1899phae.proj..815F

Oct. 9, 1899.

Meas. of Nova.

✓ B 19435
a 3 4
4 2 b

c 3 3
3 1 d

1 & 2 N.S.

✓ B 19681
a 3 4
4 2 b

c 1 3
3 4 N.S.

1 & 2 N.S

✓ B 20006
a 3 4
4 2 b

c 3 3
3 1 d

1 & 2 N.S

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1899phae.proj..815F

Oct. 9, 1899.

Meas. of Nova.

✓ B 20318

a 3 4

4 2 f

c 3 3

3 1 d

1 & 2 N.S.

✓ BJ 22551

a 3 4

4 2 f

c 3 3

3 1, d

1 & 2 N.S.

✓ B 23274

a 3 4

4 3 f

c 3 3

3 1 d

1 & 2 N.S.

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1899phae.proj..815F

Oct. 9, 1899.

Meas. of Nova.

✓B 23653
a 3 4
4 2 f

c 3 3
3 1 d

1 & 2 N.S.

✓B 23397.
Too poor.

✓B 6052.
a 3 4
4 3 f

c 3 3
3 1 d

1 & 2 N.S.

✓B 9267
a 3 4
4 1 f

1, 2 3 N.S.
Plate poor.

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1899phae.proj..815F

Oct. 9, 1899.

Meas. of Nova.

B 20256

a 3 4

4 2 1

c 3 3

3 1 d

1 & 2 N.S.

B 21892

a 3 4

4 2 1

c 3 3

3 1 d

1 & 2 N.S.

B 3525

a 3 4

4 1 2

c 3 3

3 1 d

1 & 2 N.S.

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1899phae.proj..815F

Oct. 9, 1899
Meas. of Nova.

✓ I 17992
a 3 4
4 2 b

c 3 3
3 1 d

1 & 2 n.s.

✓ I 23033
a 4 4
4 1 b

c 3 3
3 d n.s.
Plate poor
1 & 2 not sure.

✓ I 22614
a 2 3 4
4 2 b

c 3 3
3 1 d

1 & 2 n.s.

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1899phae.proj..815F

Oct. 9, 1899.

Meas. of Nova.

✓ D 15545
a 3 4
4 2 b

c 3 3
3 1 d

1 & 2 N.S.

✓ D 18598
a 4 4
4 1 b

c 3 3
d N.S
1 & 2 N.S.
Plate poor.

✓ D 18048
a 3 4
4 2 b

c 3 3
3 1 d

1 & 2 N.S.

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1899phae.proj..815F

Oct. 9, 1899.

Meas. of Nova

✓ I 18160
a 3 4
4 2 f

c 3 3
3 0 d

1 & 2 N.S.

✓ I 15468
a 3 4
4 2 f

c 3 3
3 1 d

1 & 2 N.S.

✓ I 15747
a 3 4
4 1 f

c 3 3
3 1 d

1 & 2 N.S.

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1899phae.proj..815F

Oct. 9, 1899.

Meas of Nova.

✓ I 22753
a 3 4
4 1 b

c 3 3
3 1, 2, d N.S.
Plate poor.

✓ I 20788
Too poor

✓ I 23119
a 3 4
4 1 b

c 3 3
1, 2, d N.S.
Plate poor.

✓ I 23203
a 3 4
4 2 b

c 3 3
1, 2, d N.S.
Plate poor.

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1899phae.proj..815F

Oct. 9, 1899.

Meas. J. Nova

✓ I 23204
a 3 4
4 2 f

c 3 3
3 1 d

1 & 2 n.s.

✓ I 20784
a 3 4
4 1 f

c 3 3
3 1 d

1 & 2 n.s.

✓ I 20826
a 3 4
4 2 f

1, 2, 3, n.s.
Plate poor.

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1899phae.proj..815F

Oct. 9, 1899.

Meas. of Nova.

✓ I 17169
Too poor.

✓ I 17254
a 3 4
4 1 f

c = .2
3 N.S.
1 & 2 N.S.
Plate poor

✓ I 18588
a 4 4
4 1 f

c 3 3
3 1 f d

1 & 2 N.S.

✓ I 20497
a 3 4
4 2 f

c 3 3
3 1 f d
1 & 3 N.S.

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1899phae.proj..815F

Oct. 9, 1899.
Meas. of Nova.

✓ I 20716
a 4 4
4 1 f

c 3 3
3 1 f d

1 & 2 N.S.

✓ I 20787
a 4 4
4 1 f

1, 2, 3, N.S.
Plate poor.

✓ I 22837
a 3 4
4 2 f

c 3 3
3 1 d

1 & 2 N.S.

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1899phae.proj..815F

Oct. 9, 1899.

Meas of Nova.

↓a 2763
a 4 4
4 1 b

c 3 3
3 1 d

1 & 2 N.S.

↓a 3690
a 4 4
4 1 b

c 3 3
3 1 d

1 & 2 N.S.

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1899phae.proj..815F

October 10, 1899.

Meas. of Nova.

I 2 3 397.

a 3 4

4 1 b

c & d not seen

1, 2, 3 not seen.

Plate very poor.

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1899phae.proj..815F

December 6. 1899.

Asteroid Magn (0) found by Charlois

R.A. $4^h\ 37^s.9$ $+14°\ 13'$ (1900) Dec. 4. $-14'$ $+4$

2.3

35.4 14 8 (1855)

40' Mar 24 $140' = 9^s.3$

9.3

1855 R.A. ~~4h 45.0~~

1855 R.A. 4 44.7 $+13°\ 28'$

			Cent.	Cap.
I 23825	Dec 16	$5^h.5$	+17.5	$5^h.5$ +11°
23826	" "	5.5	+7.6	
23830	" 18	5.5	+12.6	
			7.6	

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1999phae.proj.0155

December 18 1899.

Examination of plates for double star at R.A. = 14h 21m 5.27s
Dec. = +26° 5' 55".22 with a large common P.M. 14 21 8.46
+0s.070 −1".26 annually. (See Turner's letter of Nov. 24, 1899).

		2	
Feb. 10, 1891	I 3037	3i	
" 25, 1899	I 22492	3	
Feb 25, 1897	I 17440	4	
~~I 17441~~		1	These plates have been examined and show no trace of the above double star. The plates however are not particularly good; others must be examined. W. P. F. Dec. 18, 1899.
Apr 19, 1897	I 17929	3	
June 2, 1890	I 1258	4	
July 18, 1890	I 1482	4i	
May 26, 1892	I 6327	2	

July 11, 1896	I 15446	These additional plates examined and show no trace of the above double star. W. P. F. December 27, 1899.
July 31, 1896	I 15562	
Mar. 29, 1899	I 22632	
May 10, 1895	I 12886	

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1899phae.proj..815F

December 18, 1899.

Examination of plates for variation if any in BD +27° 2561. R.A. 15 53 17.5 +27 24 59.6 1875.0

R.A. 15 54 19.6 +27 20 37.3 1900.0

(See letter of H. H. Turner Nov 24, 1899).

2

May 31, 1892	Plate I	6373	3
May 25, 1891	I	3634	3
June 12, 1892	I	6455	3
June 30, 1893	I	8673	4
June 13, 1894	I	11183	3i
June 25, 1897	I	18280	4
Feb. 25, 1896	I	14561	3
June 17, 1898	I	20874	3½i

These plates show no evidence of variation in the above star. Other plates must be examined as it may be an Algol variable.

W. P. F. Dec. 18, 1899.

Mar 23, 1894	I	10884	
" 21 1890	I	867	
July 7, 1892	I	6520	
" 8 "	I	6526	
Aug. 18 1899	I	23383	

These additional plates examined and show no evidence of variation.

W. P. F. Dec. 26, 1899

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1899phae.proj..815F

January 1, 1900

The annexed list of Variables were examined to determine their photographic spectra for the Rev. J. G. Hagen's 3rd Series of Charts of Variables. They all proved too faint for classification.

103 T Androm	0.3	+26.4	13732	13738	23146			too ft.
814 S Persei	2.3	+58.1	2522	2790	2986	19589		too ft.
1923 S Aurigae	5.8	+34.1	472	5670	4679	7921	8076	13850
2258 V Aur.	6.3	+47.7	—					too ft.
3477 R Lo Min.	9.7	+35.0	20063					too ft.
6894 S Lyrae	19.2	+25.8	4167	13835				too ft.
7192 Z Cyg	20.0	+49.8	15604	12139	11488	9890		too ft.
7220 S Cyg	20.1	+57.7						too ft.
7428 S Cyg	20.6	+47.8	1920	4712	7642	14839	14673	too ft.
7492 RS Cyg	20.8	+47.0						too ft.
7799 S Cph.	21.6	+78.2	13841	17394	4501			too ft.

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1899phae.proj..815F

January 24, 1900.

Obsm. for predicted new planet. See letter of H.E. Lau Jan. 12, 1899.

Plates B19575 R.A. 18h 11m Dec. -22.°7 June 18, 1897. Exp. 10m
" B23695 18 10 -23° July 27, 1899 Exp. 10m

Examined with 2 in eyepiece and no image found.

R.A. 17h 50m to 18h 31m (1900) } covered by
Dec. -17.5 (1855) to -27.5 (1900) } both plates.

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1899phae.proj..815F

January 26 1900.

Expose for predicted New planet (Cont).

Plate I 10549 RA $6^h\ 24^m$ Dec. $+23.5$ Jan. 23, 1894 Ex. 5m
" I 24041 $6^h\ 31^m$ $+22.6$ Nov. 13, 1899 Ex. 13m

Faint image on I 24041 RA $6^h\ 15^m\ 5.2^s$ Dec. $+25°\ 5.0'$ BD $+25°1250$ 9.5 or ft. star free & South ?
not seen on I 10549. May be a variable Star.

R.A. $6^h\ 13^m$ to $6^h\ 43^m$ (1855) } covered by
Dec. $+18.7°$ to $+27.3°$ (1855) } both plates.

Plates I 10103, I 5644 show the star, while it does not appear on I 16990 and I 14751.
These last plates show stars fainter than the variable on I 10103 & 5644.
var. also marked & examined on plates I 12589 20266 21218 10888 21215 22474 12591 17618 14719

This star - Dm. $+25°1250$ - has been announced by Espin as var. See A.N. Vol. 1410 page 217 & Vol. 145 page 327

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1899phae.proj..815F

January 26, 1900

Exam for predicted New planet (Cont.).

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1899phae.proj..815F

January 26, 1900.

Exam. of plates to determine variation if any in
C.M. -24° ~~2930~~ 10930 found on I 5974 R.A. 13h 21.9m Dec. -24° 2(1875)
Ph. Cl. For Spectrum pl.
B10823 ~~ft~~, to ~~faint~~ B8059, 8142, 3673, 15573 ft, 3373 7982
3634 1257 548553 1325, 1145, 1219, 525, 13390 13149, I1010,
I853, B7990, I15112, I14858, B13754 ft, I14594 ft, I14625 ft,
I14658, I5989, I5926 ft, I1074, B8284, B9444, B9605,
B8550, B3633, B13148, B13165 ft, B6217 ft, B11326, B13132,
B5201, B5131, B4877, B7981, and I5974. These plates
~~in general~~ do not show the star except where they
are marked "ft." The object is too faint to show on
spectrum plates in general, and no accurate estimate could be made

B16772 a = C.M. -24° 10924 13h 21.1m -24° 29.8 mag. 9.4 b = C.M. -23° 11080 13h 20.6m -23° 56.1 mag. 9.N

or B16935, B16772, B15986, B15924, B15810, B17198, B17312, B17196,
B16971, B18293, B18487, B18611, B18658, B18678, B18781, B18907,
B15639, B15683, B15726 (too ~~faint~~ poor), B15727 too poor B15728, B11236,
B11230, I20769, I760 too poor, B23008, B14069, B13931, B9523, B9524,
B21430, B22686, ~~B16010~~, B16403, ~~B16310~~, B16177, 16123, 16061,
B16675, 16603, 16411, 14018, 14071, 7379, ~~7379~~, 7380, 3515, 5413, 4992, 5308,
B6493, 11449, 19837, 19674, 19230, 19079, 6433, 6029, 16267, 3574 and 9523.
the star is always fainter than "a" and brighter than "b"

Slightly ~~fainter~~ than b. but near edge of plate (0.1 to 0.2)
B16010, 16310, 4827, 20037, 21082, 3376,

The above examination indicate a slight variation in
-24° 10930 but this does not exceed 0.4 mags. and this may
be due to the position of the stars on the plates.

W. P. Fleming.

Plates I760, B6434, B15727 and 15726 were too low to show the object

As far as B 23008
& I 23008

B or I says
a list of all plates ~~the~~ in this region has been made on the plates noted above include all in the list with the
exception of [illegible] which were not in boxes at time exam. was made.

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1899phae.proj..815F

February 2. 1900.

Examination of region of Nova Aurigae and search for vanilla. A2518 superposed on D—
a content print per A2518. E.C.P. dance.
Found Vanilla. Can also the digits noted which adhere to the
Reversed light in A 3079 June 10. 1898.
Very faint ify print in A ~~2518~~ 2518 June 20, 1897

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1899phae..proj..815F

February 3 1900.

2 00± Region of Sw Nebulous Bands.
Extension of a 2182 with D 7193 and of a 3393
2 40 One star interpolated of variability but not estimated

2 40 Region of γ Cassiopeiae Extension of D 7108 with of a 3018
3 10 extended with a 2208.
Var. fixed bright on D 7108, not visible on a 2208.

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1899phae.proj..815F

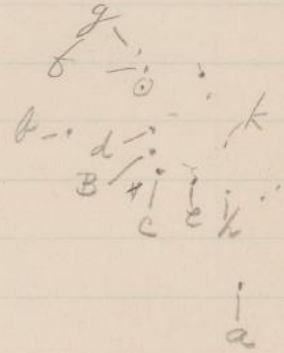
February 6, 1900

Exam. 2 plates for Mme. Ceraski's New Algol Variable. RA 19h 40m 59.7 Dec. +32° 21' 6" (1855).
See Astron. Nach. No. 3614, p. 223.

The variable appears to be about normal brightness on plates I 9113, 8961, 21346, 21263, 9112, 1599, 1220, 1368, 1430, 1755, 1868, 2413, 2274, 3756, 3990, 16403, 7005, 7185, 6807, 6749, 9361, 9032, 8848, 8822, 1660, 16386, 18989, 18927, 22769, 20992, 23460; poor plates 1640, 1217, 1342, 6979; isochromatic plates 18883, 18936; plates for meas of comp. stars 2160, 3757, 4196, and 11379.
normal also A 787 ~~and~~ 982, and 1716

Plate I 2160

a	A	6.6
b	B	7.1
c	a	7.4
d	b	7.8
e	c	8.1
f	d	8.4
g	e	8.7
h	f	8.9
k	g	9.1
l	h	9.4
m	k	9.7
	var.	8.4
10.74	l	
10.99	m	



11.04 11.09 11.09 = 11.07 .03 .02 .02
10.84 10.99 = 10.92 .08 .07
11.09

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1899phae.proj..815F

Feb. 6, 1900

Meas. of Mad Cerasicis var Cart.

Plate I 3757

a	A	5.5
b	B	6.1
c	a	6.5
d	b	6.9
e	c	7.3
f	d	7.7
g	e	8.0
h	f	8.3
k	g	8.6
l	h	8.9
m	k	9.2
var.		7.3
10.74	c 1 v	
10.89	v 2 f	

10.79 10.74 10.69 = 10.74 .05 .00 .05

10.84 10.89 = 10.86 .02 .03

11.09

Plate I 11379

a	A	5.9
b	B	6.4
c	a	6.7
d	b	7.0
e	c	7.4
f	d	7.8
g	e	8.2
h	f	8.5
k	g	8.8
l	h	9.1
m	k	9.4
var.		7.5
10.74	c 0 v	
10.79	v 3 f	

10.84 10.79 = 10.82 .02 .03

10.74 10.79 = 10.76 .02 .03

11.09

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1899phae.proj..815F

February 6, 1900.

Meas. of Mme Lebaskin's var. Cont.

Plate I 4196.

a	A	6.5
b	B	7.0
c	a	7.5
d	b	7.8
e	c	8.1
f	d	8.4
g	e	8.6
h	f	8.9
k	g	9.2
l	h	9.5
m	A	9.8?

var. 8.1 10.69 10.74 10.79 = v 10.74 .05 .00 .05

10.39 d k 3 v 10.69 10.74 10.79 = v 10.74 .05 .00 .05

10.74 v e 0 k 10.74

10.79 v k 3 k f 11.09

Plate I 1262

11.67 k 1 v 11.77 11.85 = v 11.81 .04 .04

11.85 v 1 k 11.95

I 1539

12.55 m 2 v 12.75

v = 1 ~~12.65~~ no ftn. comp st. can be marked

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1899phae.proj..815F

February 6, 1900

Means of Miss Caskie's Algol var. (Cont).

Plate I 1541

11.95 k 1 v 12.05 12.15 = 12.10 .05 .05
12.15 v 1 k l 12.25

Plate I 2011

12.25 l k = 1 2 < 12.45
v ns.

I 4149 plate too near edge where var. is. No est. can be made.

I 3964

11.39 g l = 1 2 < 11.59
v ns.

Plate I 6830

10.74 l 2 v 10.94 10.99 = 10.96 .02 .03
10.99 v 1 k 7 11.09

Also 1 normal br. on A.C. 133(?) 502 280 425, and 341.
Plates A.C. 616, 95, 418, 395, 336, 340, 342, 344, 456, 455, 468, 495, 496, 508, 548, 555, 563, 575, 577, and 371 the var. has not been identified on these plates.
do not show the stars and 467

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1899phae.proj..815F

February 7, 1900.

Meas. of Mme. Craske's Mgl. Var. at +32° (Cent.)

Plate I 6830 2nd Meas.

10.74 e 2 v 10.94 10.99 = 10.96 .02 .03 Normal br.
10.99 v 1 2 f 11.09

I 3964 2nd Meas
11.67 hr = .2 < 11.87 Images poor
v n.s

I 2011 2nd Meas
12.25 e = .3 < 12.55
v n.s

I 1541 2nd Meas
12.25 1 v 12.35
v = .1 ?

I 1539 2nd Meas
12.55 m 2 v
= 2
v = .1

I 1262 2nd Meas.
11.67 hr 2 v 11.87 11.85 = 11.86 .01 .01
11.85 v 1 2 11.95

For Miss Leland's estimates of these plates see E.F.L.'s B17, p. 156.

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1899phae.proj..815F

February 9, 1900.

Meas. of Mme. Ceraski's Algol var. +32° (Cont).

Plate A 787.

10.74 e & 2 v 10.94 10.99 = 10.96 .02 .03
10.99 v 1 & f 11.09

Plate A 787. 2nd. Meas

10.74 e & 2 v 10.94 10.89 = 10.92 .02 .03
10.89 v 2 & f 11.09

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1899phae.proj..815F

March 5, 1900

Exam. of Plates I 24688 and I 24690 for Minor Planet Fortuna (No 19). Magn 10.4
Found independently on I 24687 and I 24689 Plates superposed and planet found. W.P.T.

		R.A. 1855	Dec. 1855
W.P.T.	I 24688	11 5 18	+ 3 56
(M.C.S.)	"	11 5.3	+ 3 56
(W.P.T.)	I 24690	11 5 15	+ 3 57.5
(M.C.S.)	"	11 5.2	+ 3 56
W.P.T.	I 24687	11 5 18	+ 3 54.0
(M.C.S.)	"	11 5.3	+ 3 56
W.P.T.	I 24689	11 5 17	+ 3 ~~55.5~~ 56.0
(M.C.S.)	"	11 5.2	+ 3 56

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1899phae.proj..815F

March 6, 1900.

A further examination of Plates I 24687 & 24689 shows the Asteroids Urania and Fides.

Urania
Fides

	h	m		
Plate I 24690	11	5.2	+3°	56′
I 24688	11	5.3	+3	56
I 24687	11	5.3	+3	56
I 24689	11	5.2	+3	56

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1899phae.proj..815F

Plotting of asteroid March 3, 1908 – magn. R.A. 2
$10^h 30^m$ to $11^h 30^m$, Dec. $= -2°$ to $+7°$ Mean. $-2\overline{3}$ Dec. $+15$

			R.A. 1900	Dec. 1900	R.A. 1855	Dec. 1855	
283 Emma	12.5	10^h	$59^m.7$	$-1°\ 29'$	$10^h\ 59^m.4$	$-1°\ 14'$	
289 Nenetta	13.4	11	30 +4	+2 57 ~~+3 11~~	11 07	+3 14	
* 19 Fortuna	10.4	11	7.9 ~~+5~~	+3 40 ~~+4 4~~	5.6	+3 55	✓
* 37 Fides	10.4	11	16.7 ~~+5~~	+6 41 ~~+7 11~~	14.4	+6 56	✓
30 Urania	10.4	11	18.3	+2 8	16.0	+2 23	✓
271 Penthesilea	13.5	11	19.4	+3 27	17.1	+3 42	
315 Constantia	14.9	11	25.0	+4 16	22.7	+4 31	
268 Adorea	12.9	11	26.6	−3 28	24.3	−3 13	
319 Leona	14.7	11	26.0	−1 26	23.7	−1 11	
81 Terpsichore	12.2	11	30.8	+6 21	28.5	+6 36	

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1899phae.proj..815F

March 6, 1900.

A further examination of Plates I 24687 & 24689 shows the Asteroids Urania and Fides.

R.A. 1855 Dec. 1855

Urania

Fides

March 7, 1900

Emma & Nannette looked for but not seen on I 24688 24690.

Plates 24687 & 24689 exam. show also, an object in R.A. 11h 16m.9 Dec. +4° 7' (1855) Penthesilea?

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1899phae.proj..815F

March 8, 1900.

√ Exam. of plates to confirm variation if any

$-13° 5' 30''$ $2^h 41^m.0$ $-13° 4' 1''$ (1855) 6.3 For Vol. XLV M.P.

~~B~~ Date	Date	Var. Est.
B 20198	Aug 27, 1897.	ft. 7.5
B 22112	Nov. 2, 1898.	br 6.0
B 16861	July 15, 1896.	br 6.0
B 10392	Oct 7, 1893.	6.5
B 20408	Sept 16, 1897.	6.8
B 10415	Oct 13, 1893.	6.0
B 17188	Aug 15, 1896.	6.8
B 12210	Sept 19, 1894.	6.8
B 14964	Oct 25, 1895.	6.5
B 22385	Dec. 30, 1898.	6.0
B 17800	Nov. 9, 1896.	6.2
B 20915	Dec 20, 1897.	7.0
B 14724	Sept 27, 1895.	6.8
B 12611	Nov. 16, 1894.	6.3

Variable.

(See Book 9 - p. 153)

Omit in Table. Vol. XLV. Add to ledgers of Known Vars. Write note.

See note of AC. Plates examined D.N.'s (M.D. Page 47).

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1899phae.proj..815F

✓

March 8, 1900.

Exam. of plates to confirm variation if any in −8°536. $2^h 45^m.1 - 8° 52' 7''.8$ (1855). For Vol XLV. M.P.

Plate	Date	Var	Est
~~B 20198~~	Aug 27, 1897.	Var	6.5
B 22112	Nov. 2, 1898.		7.0
B 16861	July 15, 1896.		6.8
B 20408	Sept 16, 1897.		6.8
B 10415	Oct 13, 1893.		7.0
B 10410	" 12, " .		7.0
I 14181	Dec. 31, 1895.		6.8
I 16294	Oct 25, 1896.		6.7
B 14980	Oct ~~25~~ 26, 1895.		7.1
B 17188	Aug 15, 1896.		6.9
B 12210	Sept 19, 1894.		7.0
B 14964	Oct 25, 1895.		7.1
B 12153	Sept 14, 1894.		6.7
B 14723	" 27, 1895.		7.0
~~B 22385~~			

Variable.

Omit in Table Vol XLV. Add to ledgers of known vars. Write note.

See note of Ac Date plates examined L.D.W.'s Book V. p. 46

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1899phae.proj..815F

March 10, 1900.

6 dam of plates to confirm variation if any in +~~13~~31° 1946 ~~47 44~~ 9^h $4.^m6$ +31° 23' (1900). M.P. Vol XLV.

Comp. Star +31° 1941 BD magn 7.5 used as Standard for est. of br. Obs. Leech.

Plate	Date	Est. Magn.
I 14937	Apr. 16, 1896	7.1
14336	Jan. 27, "	6.9
14900	Apr. 15, "	7.0
13885	Nov. 27, 1895	6.4
12475	Mar. 5, "	6.4
14878	Apr. 10, 1896	7.1
12269	Jan. 29, 1895	7.1
14873	Apr. 10, 1896	6.8
11918	Nov. 15, 1894	6.3
13924	" 28 1895	6.5
15108	May 13, 1896	6.7
15075	" 7 "	6.9

Variable.

Entered in ledgers of vars. Dist in Table in Vol XLV.

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1899phae.proj..815F

March 12, 1900.

✓ Exam of plates to confirm variation if any in A.G.C. 28085 (prob -3°49.0) R.A. 20h 21m.1 Dec -3° 24' 9".4 (1855) (M.P. Vol XLV Zeyhan)

Plate	Date	
B 20618	Oct. 13, 1897.	10
B 9894	July 22, 1893.	1
B 13595	June 4, 1895.	3
B 13710	June 8 1895.	4
B 11810	Aug. 11, 1894.	2
B 16620	July 2, 1896.	5
B 16810	July 11, 1896.	6
B 16908	July 18, 1896.	7
B 16940	July 20, 1896.	8
B 17590	Oct. 7, 1896.	9
B 21485	May 25 1898.	11
B 22172	Nov. 11. 1898.	12
B 22938	May 30, 1899.	13
B 23114	June 19, 1899.	14

Plates fail, to show any evidence of variability.

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1899phae.proj..815F

March 12, 1900.

Volume of plates to confirm variation if any in
A.G.C. 24228 R.A. 17h 44m.7 Dec. -33°39. (See M.P. Vol XLV Supra
On the following plates it is always faintly there
-33° 12534, 9.5, and about equal to -34° 12131, 9.6

Plate	Date	
B15824	May 12, 1896.	1
B18921	April 22. 1897	8
B17443	Sept. 23 1896.	4
B17327	Sept. 2, 1896.	3
B17120	Aug. 13, 1896.	2
B17534	Oct. 1, 1896.	5
B18724	April 2, 1897.	7
B18492	Feb. 2, 1897.	6
B19719	July 2, 1897.	14
B19444	June 8, 1897.	13
B19170	May 22, 1897.	11
B19113	May 13, 1897	10
B19082	May 12, 1897	9
B19217	May 26, 1897.	12

The above plates show no evidence of variation

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1899phae.proj.:815F

March 12, 1900.

Eleven plates to confirm variation if any in
-2° 5054 Rd. 19 28.3 Dec. 24 46 7,776 (See M Plate XLV).

Plates	Dates	
B19597	June 23, 1897	8
B19527	June 10, 1897	7
B 6162	June 1, 1891	1
B 9883	July 22, 1893.	3
B 7834	June 8, 1892	2
B13663	June 6, 1895	4
B16296	June 12, 1896	5
B17368	Sept. 5, 1896	6
B21322	April 29, 1898	9
B 22707	May 2 1899	10

The image is bright and any comparison is thus rendered very difficult. The above plates do not show any easily recognized evidence of variation.

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1899phae.proj..815F

March 12, 1900

Exam. of plates to confirm variation if any in
✓ A.J.C. 25-638. R.A. 18h 38m.6. Dec. -39° 41' (1875). M.P. Vol XLV (pages)

Plate	Date	
B 12170	Sept. 15, 1894.	7
B 3757	July 8 1889	1
B 12138	Sept. 12, 1894.	6
B 11789	Aug. 10, 1894.	5
B 12853	March 6, 1895.	8
B 6110	May 29, 1891.	3
B 3896	July 24 1889	2
B 17143	Aug. 14, 1896.	~~9~~ 10
B 17239	Aug. 25, 1896.	~~10~~ 11
B 18090	Nov. 25, 1896.	~~11~~ 12
B 18728	April 2, 1897.	13
9/ B 6111	May 21, 1891	4
B 16983	July 21, 1896.	~~8~~ 9

Shows evidence of variation of about 0.5 magn. Examine other plates.

~~Bisego Nov. 26, 1896~~

B18950	April 23, 1897	14
B18951	April 23, 1897.	15
B19086	May 12, 1897	16
B19087	May 12, 1897	17
B19201	May 25 1897	18
B19219	May 26 1897	19
B19509	June 10 1897	20
B19450	June 8 1897	21
B19215	May 24 1897	22
B19698	July 1 1897	23
[illegible]	[illegible]	24

These additional plates show no greater range in variation, but the image is quite bright and the examination for slight variation difficult.

W. P. F.

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1899phae.proj..815F

March 13, 1900.

Exam. of plates to confirm variation if any in

A.C. 30605

New Variable discovered photographically while looking up ~~m~~ P. suspected variable.

Comp. star C.M. −29° 18313 mag. 9.0 used as standard for est of br.

Plate	Date	Est Magn	
B17975	Nov. 20, 1896	7.5	12
B17755	Nov. 3, 1896	8.6	11
B17661	Oct. 13, 1896	8.4	10
B 10300	Sept. 20, 1893.	8.4	1
B14766	Oct 5, 1895	8.7	2
B15473	March 26, 1896	7.8	3
B15958	May 22, 1896	7.5	4
B16209	June 8, 1896	7.4	5
B17068	August 6, 1896	8.5	6
B17223	Aug. 18 1896	8.6	7
B17346	Sept. 3 1896	8.1	8
B17463	Sept. 26, 1896	8.7	9

Variable.

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1899phae.proj..815F

April 28, 1900.

Exam. of plates for evidence of variation in R Puppis
A.G.C. 9958 R.A. 7h 37m.0 Dec. -31° 35' var. (1900).

0 B 4641 Nov. 18, 1889.
2 B 10812 March 16, 1894.
14 B 18017 Nov. 24, 1896.
6 B 13012 April 11, 1895.
9 B 15077 Oct. 31, 1895.
18 B 21007 March 3, 1898.
22 B 22622 April 22, 1899.
19 B 21040 March 18, 1898.
15 B 20461 Sept. 18, 1897.
21 B 22456 April 5, 1899.
20
+9 B 21203 April 13, 1898.
5 B 12576 Nov. 13, 1894.
7 B 14970 Oct. 25 1895.
16 B 20602 Oct. 6, 1897.
12 B 17935 Nov. 13, 1896.
10 B 15227 Dec. 16, 1895.
3 B 10947 March 27, 1894.
4 B 11162 May 18, 1894.
1 B 7460 April 23, 1892.
17 B ~~B~~ 20874 Nov. 30, 1897.
13 B 17960 Nov. 16, 1896.
8 B 14989 Oct 28, 1895.
11 B 15459 March 25, 1896.

An examination of these plates shows any variation of about 0.6 magnitude in A.G.C. 9558 R Puppis. It is on some of them about equal to ~~A.G.C.~~ 7h 2572 magn. 8 while on others it is equal to, or perhaps slightly brighter than A.G.C. 9866 magn. 7.5. The star A.G.C. 9961 also shows a variation of about half a magnitude. Another faint star, following A.G.C. 9959 in same dec. (slightly north) is suspected of variation by Miss Leland. Perhaps this all the stars in this small cluster had better be examined by Professor Bailey's method of comparing enlargements.

W. P. F.

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1899phae.proj..815F

V

April 28, 1900.

Exams of plates for evidence of variation in A.G.C. 30650 (1900.) R.A. 22 23.4 Dec. -37° 28 7¼, or in 30649 R.A. 22 23.4 Dec. -37 29 8¾.

B 10001	July 27, 1893	2
B 19991	August 9, 1897	11
B 23090	June 17, 1899	13
B 13723	June 8, 1895	3
B 14769	October 5, 1895	~~4~~ 5
B 6374	June 14, 1891	1
B 13953	July 3, 1895	4
B 15831	May 12, 1896.	6
B 16151	June 5, 1896.	7
B 16400	June 16, 1896.	8
B 16912	July 18, 1896.	10
B 16740	July 8, 1896.	9
B 21587	June 7, 1898.	12

An examination of the above plates fails to show any perceptible variation in either of these stars. The image of A.G.C. 30650 is bright and there are no good comparison stars near.

W. P. F.

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1899phae.proj..815F

July 9, 1900.

Examination of I 25532 for image of Eros.

Plate A I 25532 superposed on I 24106 and region examined. Eros not found.

Eros Ra $0^h 54^m 0^s$ $+14^\circ 23' 53''$ (1855-)

Ephemeris Pos. of Eros July 6. at time plate was taken (reduced to 1899 epoch) was

$0^h 54^m 0^s.$ $+14^\circ 23' 53.''$

0 53 1. +14 7.0 = Diff. +14' 15'' (?)

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1899phae.proj..815F

July 9, 1900.

Preliminary examination of plates showing image of Nova Aquilae. R.A. 19h 15m 16s Dec. −0° 16′ (1900). Approx. phot. magn. est. Sequence of comp. stars to be selected later and measures made when ~~complete list~~ all of plates are available.

Plate	B 23971	Aug 24, 1899.	Ef	10 m.	magn	9.5	1
	B 23450	July 13,	"	"	10 m	9.3	2
	B 23449	July 13	"	"	10 m	9.2	3
	B 23365	July 8	"	"	11 m	9.2	4
	B 22707	May 2	"	"	10 m	8.	5
*	(Sp) B 24449	Oct 27	"	"	145 m	10.	6
	I 23184	July 18	"	"	12 m	9.3	7
**	(Sp) B 23253	July 3	"	Ef	245 m	9.4	8
	B 23105	June 19	"	"	11 m	9.2	9
	I 23290	Aug 7	"	"	10 m	9.3	10
*	(Sp) B 24086	Sept. 7	"	"	150 m	9.5(?)	11
	B 23206	June 27	"	"	11 m	9.3	12
	I 23292	Aug. 7	"	"	10 m	9.3	13
	B 22859	May 19	"	"	10 m	8.8(?)	14
	I 25533	July 7 = 1900	"		84 m m	11.3(?)	~~15~~
(Sp.)	I 25534	July 7 " 1900			~~11~~ 7.4 very pale	N.S. 1 or 2 ft	
	I 23056	June 18 " 1899			10	9.3	15
	I 24079	Nov. 17 " 1899			11	very pale. N.S. 1 or 2 ft	16.

Plate B23253. 4 Hβ, Hγ, Hδ, Hε, Hζ, also 4643 and neb line 5007 can be seen. The cont. sp. is too ft. to show the dark lines if present. Hγ is the strongest line, and the nebular line 5007 is stronger than in Nova Sagittarii on B 21251. 10 5 3 1 6 2

Plate B24086 Hγ br. and another br. line (8) apparently midway bet. Hβ & 5007 which are not seen. Hγ very faint.

Plate B24449 Hγ, 10; and 5007, 12.

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1899phae.proj..815F

July 11, 1900.

Examination of plates of region of Nova Aquilae (Cont).

52 Boche plates, 39 8 inch Draper plates and 3 Bruce plates, taken before April 21, 1899 examined and fail to show any trace of Nova.

	Plate	Date	Ef.	Est. Magn.	
I	25538			11.5 (?)	17
AC	297	April 21 1899	7/m	7.	18
"	809	April 9 1900	55	N.S. (?) ft comp = .1	
"	848	May 5 1900	54 m	N.S.	
"	868	May 29 1900	72 m	N.S.	
"	869	May 30 "	75	N.S. trails from fl...	
"	858	May 11 "	60	N.S.	
"	339	May 31 1899	~~1899~~ 77	9.0	19
"	849	May 6 1900	32	N.S.	
"	882	June 11 1900	69	N.S.	
"	346	June 9 1899	60	9.5 -	20
"	357	July 2 1899	(256) 144	N.S.	
"	362	July 10 1899	(316)	N.S.	
"	363	July 11 1899	(317)	N.S.	
"	377	August 6 1899	64	N.S.	
"	471	October 10, 1899	69	N.S.	
"	378	August 6, 1899	79	N.S.?	
"	416	Sept 5 1899	10	N.S. very fine	
"	417	Sept. 5 1899	60	N.S.	
"	469	October 7 1899	104	N.S.	
"	52	October 3, 1898	72	N.S.	
"	94	November 1, 1898		N.S.	

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1899phae.proj.815F

July 30, 1900.

Efcam. of I 25595 Ef. 153m. for Eros. (W. P. F Hs.).

I 22595. July 28, 1900 Ef. 153m.
An Object found ~~at~~ in R.A. = 1h 30.m75, Dec. = +21° 23' (off by 18")
Positum of Eros July 28, 1900 R.A. = 1h 30.m8, Dec. = +21° 38'

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1899phae.proj..815F

August 14, 1900.

Exam. of plates for +34°447 Ra 2h 22.3m +34° 29' (1855) q.3
See letter of Henry M. Parkhurst of Aug. 6, 1900.

Plate	Date	Ef.	
I 24563	Feb. 6, 1900	14m	9
I 417	Dec. 31, 1889	13	1
I 24666	Feb 15, 1900		10
I 22342	Feb. 25, 1899	17	8
I 21999	Dec. 23, 1898	14	7
I 19860	Dec. 30, 1897	10	6
I 4794	Nov. 19, 1891	35	2
I 7566	Nov. 20, 1892	14	5
I 5308	Jan. 1, 1892	16	3
I 5430	Jan 21, 1892	12.	4

An examination of the above plates fails to show any trace of +34°447.

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1899phae.proj..815F

March 12, 1901.

Exam. of plates for Susp var. of Prof. R. W. Willson
+ 8° 4261. According to his obs, magn. 8 on Sept 22, n 23, 1899.

Plates	Dates.	Estm Mgn.	
I 23641	Sept. 23, 1899.	6.0	near edge.
I 23462	Sept. 12, 1899	5.6	
I 23099	June 29 1899	1°	
I 185-28	August 13 1897		
B 23132	June 20 1899		
B 23416	July 11 1899		
I 4235-	Sept 17 1891		
I 6805	Sept. 1 1892.		

The star is bright on the above plates and the comparison is difficult. There is no evidence of any variation exceeding half a magnitude.

W. P. Fleming.

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1899phae.proj..815F

March 13, 1901.

Meas. to determine magn. of Errors. Ident. of comp-stars used for Oct. 28, 30 and 31, 1893, marked on print from end of plate taken on Oct. 30, 1893.

Plate I 9832 On edge of plate Images very poor

Error = E 9.6 9.6 9.60
1 9.2 9.4 3 2
2 9.5 9.6 4 4 9.55
3 9.9 10.0
E 9.5 9.7

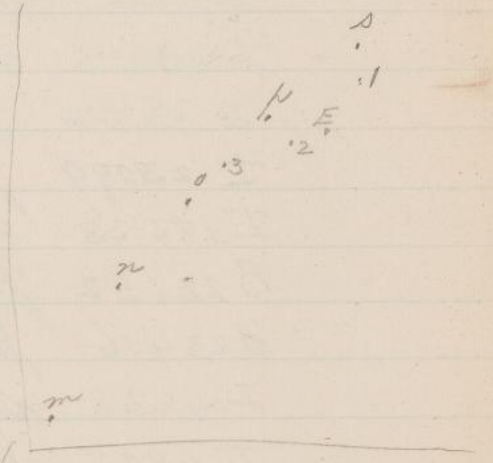


Plate I 9862 On edge of plate. Images very poor.

E 9.3 9.4 9.35
1 9.1 9.2 2 3
2 9.3 9.5 4 4 9.40
3 9.7 9.9
E 9.3 9.4

Interval 1 2 = .27 1 = .00
" 2 3 = .40 2 = .27
3 = .67

∴ Error = 9862 . 017 brighter than
= 9832 − 0.20 brighter than = 9801

Plate I 9801 On edge of Plate. Images very poor

E 9.5 9.3 9.38
1 9.0 9.1 3 3
2 9.3 9.4 4 4 9.35
3 9.7 9.8
E 9.3 9.4

March 14 1901 Observed Error Mrs W. P. Fleming

9 h 45	9832	1 2 &	20	9862	10 &	.00	9801	0 & 2 × 27
		2 0 &	27		& 2 2	.07		& 3 3 37
		3 3 &	37 [97]		& 4 3	.27		~~& 3 3 30~~
			.28			.11		1 3 & .31

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1899phae..proj..815F

March 13, 1901.

Meas. to det. magn. of Eros in 1896.

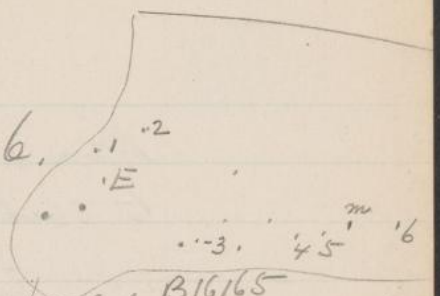


Plate B16165 Comp. stars marked on print from Enl. on June 5, 1896.

		E	A			
	E	~~9.6~~ 9.3 9.4				
f =	1	10.0 9.9	E 4 1	9.55	9.95	
	2	9.8 9.7	E 2 2	9.55	9.75	
	3	9.4 9.3	E 0 3	9.35	9.35	
	4	9.9 9.9	E 5 4	9.40	9.90	
	5	9.8 9.8	E 4 5	9.40	9.80	
h =	6	9.4 9.4	E 2 6	9.20	9.40	
				245	415	
	E	9.4 9.3	E 4 mean = 9.35	9.41	9.69	Magn. mean plate − .28 = magn. Eros

Plate B16108

E	9.3, 9.6, 9.3, 9.6				
1	9.3 9.2	1 2 E	9.45	9.25	
2	9.0 8.9	2 4 E	9.35	8.95	
3	8.8 8.6	3 7 E	9.40	8.70	
4	9.4 9.4	4 0 E	9.40	9.40	
5	9.1 9.1	5 2 E	9.30	9.10	
6	8.7 8.7	3 6 E	9.30	8.70	
			220	610	
E	9.2 9.6, 9.3 9.7	E 8 mean 9.45	9.37	9.02	+.35

∴ Eros on 16108 is 0.63 mag. fainter than on 16165 and on 16157 about 0.2 mag. fainter still

Plate B16157 On edge of plate. Images very poor.

E	10.3	10.3
1	n.s.	—
2	n.s.	—
3	n.s.	—
4	n.s.	—
5	n.s.	—
6	10.1	10.2
E	10.2	10.2

61 E 60 E,

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1899phae.proj..815F

March 14. 1901

Examination of photos of Eros, 1893. 4 26
to determine variation in light

		y	m	d	h		
Max. at beginning	A 222	94	2	5	60	Bright. decreasing during ~~field~~ 12h nearly constant ~~during~~ following	
	B 15531	96	4	6	60	Max. near fall. beginning	marked decrease
Max 46m after beg.	B 16108	96	6	4	70	Max. fall. beginning ~~11h 15m~~ 48h 45m	
Max 12m after beg.	A 1876	96	6	30	60	Superficial prob. irregular diminishing. Max 12m after beginn.	
	I 10353	94	1	1	59 s	No conclusion	
—	I 10407	94	1	8	65 s	No conclusion	
. . .	I 10604	94	1	30	62 s	Duty field 30m, nearly constant	
Max at end (?)	B 15531	96	4	6	60	~~Max. fall. beg.~~ Unsatisfactory light ~~irregular~~ irregularly max. prob. near end	

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1899phae.proj..815F

March 25, 1901.

Est. of br. of Eros on photos.

Plate A 1876 Trail divided into four parts a, b, c, & d,

b / a Fobs	b / a Pobs.	a = 0	0
b 2 # c "	b / c "	b = 1	1
c 2 d "	c 2 d "	a = 3	2
		d = 5	4

Plate B 16578.

s 2 E.		s = 0	2
E. 5 r		t = 2	2
E. 3 t		r = 7	2

Consider d d last and faintest part of trail at 187

~~d 2~~ t 2 d d E.	a = 7	
s 5 d d E.	= 5	
d d E. 2 r	= 5	
	6	∴ d d E. is 4 grades fainter than E. on B 16578

t 0 b d E.	5	
s 3 b d E.	3	
b d E. 4 r	3	
	4	∴ b d E. is 2 grades fainter than E. on B 16578

On Plate 1876, t, s and r, are south following center of Eros.

	s	f
t	2.1	3.2
s	14.8	10.0
r	9.4	14.1

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1899phae.proj..815F

June 27, 1901.

Exam. of photos. of A.G.C. ~~19437~~ 19175 magn. 6.6
C.P.D -50° 6654 magn 9.6. C.P.D. -50° 6657 follows 6.5, South 0.8
magn. 9.0 (Companion).
Comparison ~~Stars~~ A.G.C. 19437 magn. 6.7, and 19138 magn 6.9
C.P.D. -50° 6880 " 7.6 {C.P.D -49° 6679 " 7.3

	Plate	Date	Ex.
10	B 18296	Jan. 8, 1897.	11m
5	B 14275	Aug. 2, 1895.	10
6	B 15322	Jan. 13, 1896.	20
8	B 15860	May 13, 1896.	10
12	B 21096	March 28, 1898.	10
7	B 15370	March 2, 1896.	15
9	B 16016	May 30, 1896.	10
11	B 19997	Aug. 10, 1897.	10
4	B 11203	May 21, 1894.	
3	B 9707		
2	B 9668		
1	B 6067	May 27, 1891	10

On examination of the above plates shows that (C.P.D.-50° 6654) A.G.C. 19175 is on all of them, about a magnitude brighter than A.G.C. 19138 and 19437. This difference may be due to color the spectra being of Classes A, G, and ~~prob~~ K, respectively. All the plates show the star C.P.D.-50° 6657 which is about ninth magnitude.

W. P. F. June 27, 1901.

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1899phae.proj..815F

June 27, 1901.

Exam. of a few plates for conf. of Mrs. Craski's new Algol var. Astron. Nach. 155, p. 351. BD -12° 5202 $18^h 46^m 19^s$ -12° 46.9 9.3 (1854).
Star a X, -12° 5198. $18^h 45^m.2$ -12° 45.8 b, -12° 5199 $18^h 45^m.4$ -12° 40' 9.4
c B, -12° 5208. $18^h 47^m.4$ -12 59 9.3 d, -12° 5204 $18^h 47^m.1$ -12° 55' 9.2 (1854).
Selected provisionally for Comparison.

Plate	Date	Exp.	Est.
B 10038	July 31, 1893	10m	~~a 4 v 2 b~~ a 4 v 2 b
B 26236	Sept. 19, 1900	11	a 2 v 4 b
B 19572	June 10, 1897	10	a 5 v 1 b
B 16290	June 12, 1896	29	a 5 v 1 b
B 13540	June 3, 1895	10	a 3 v 3 b
B 5996	May 20, 1891	10	a 2 v 4 b
B 5998	May 20 1891	10	a 5 v 1 b
B 6546	July 15 1891	10	a 4 v 3 b
B 7880	June 10 1892	14	c 2 v 2 d
B 25429	May 23 1900	10	a 4 v 2 b
B 25614	June 25 1900	10	a 3 v 3 b
B 22705	May 2 1899	10	a 4 v 2 b
B 23502	July 17 1899	10	c 2 v 3 d
B 24529	Nov. 14 1899	29	a 4 v 2 b
B 22093	Nov. 2 1898	10	a 4 v 2 b
B 9917	July 24 1893	10	a 4 v 2 b
B 9943	July 25 1893	10	a 4 v 2 b

On the above plates the star shows a variation of about 0.6 or 0.7 of a magnitude.

W. P. F. June 27, 1901.

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1899phae.proj..815F

June 27, 1901.

Eleven of plates for Mr. Ceraski's variable
19 7 37.01 +33 10 12.6 (1855). Astron Nach 155, p.351

BD +33 3371. 19 7 34.3 +33 7.9 p 2.7 south 2.3.

Plate	Date	Exp.
I 25198	April 19, 1900	10
I 9282	Aug. 22, 1893	14
I 8755	July 11, 1893	21
I 3977	Aug. 10, 1891	10
I 985	April 7, 1890	18
I 18880	Sept. 17, 1897	13
I 21117	Aug. 27, 1898	18
I 11551	Oct. 7, 1894	11
I 22787	April 27, 1899	13
I 2173	Nov. 4, 1890	10
I 9141	Aug. 9, 1893	17
I 25141	April 13, 1900	10.

An examination of the above plates fails to show any star in the position given for the above variable found by Mr. Graski

W. P. F. June 27, 1901

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1899phae.proj..815F

July 29, 1901.

Meas. of Intensity of spectra of Nova Persei No 2. Wedge of shade glass used. Portion of shorter & their Hγ, meas.

	I 26823		cl. 13°				
a	22.5	9.0	A				
b	23.3	11.4	B				
c	11.3	7.5	F				
d	12.6	17.1	A				
e	14.1	18.5	A				
f	18.6	12.8	A67				
g	15.9	12.7	A				
Hγ	15.4 / ~~15.9~~	18.1 / ~~10.4~~	A				
k	11.4	12.7	A				
l	13.5	14.2	A				
m	16.3	9.4	A				
n	16.0	13.5	A				
✓ C	0.63	79 ×125	3.93	314	-21		
N	0.89	111				4.46	12
✓ d	1.14	142	4.98	356	+21		
N	1.08	135				4.70	12
✓ b	0.72	90	4.26 / 7	336 / 1006 (335)	+01	~~4.58~~	
	I 27139		~~5~~ 13°				
✓ f	3.48	435	5.35	100	-10		
N	4.52	565				6.75	-03
✓ g	4.30	538	6.33	095	-15		
N	4.56	~~660~~ 570				6.80	+02
✓ h	~~4.58~~ 4.50	562	6.98	136 / 331 / 110	+26	6.78	

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1899phae.proj..815F

July 9, 1901

Meas. of Spectra cont.

I 27101 5°

	f	0.90	112	5.35	423	+03	
	N	2.77	346			7.66	+04
✓	g	1.80	225	6.33	408	-12	
	N	2.71	339			7.59	-03
✓	h	2.05	256	6.98	442	+22	
✓	k	2.70	338	7.44	406	-14	7.62

1679
4.20-1

I 27091 5°

✓	g	2.65	331	6.33	302	-19	
	N	3.67	459			7.80	+09
✓	h	2.80	350	6.98	348	+27	
	N	3.53	441			7.62	-09
✓	k	3.46	432	7.44	312	-09	7.71

962
3.21-1

I 27075 5°

✓	g	1.89	236	6.33	397	-16	
	N	2.38	298			7.11	-03
✓	h	2.11	264	6.98	434	+28	
	N	2.44	305			7.18	+04
✓	k	2.69	336	7.44	408	-05	7.74

1239
4.13

I 27060 13°

✓	k	3.82	478	7.44	266	+05	
	N	4.15	519			7.80	+02
✓	l	3.80	475	7.25	250	-11	
	N	4.11	514			+07	7.75 -03
✓	m	4.28	535	8.03	268		7.78

7.84 +1

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1899phae.proj..815F

July 9, 1901

Meas of Spectra cont:

I 27112 5°

✓	k	2.68	335	7.44	409	+19	
	N	3.14	392				7.82 −09
✓	l	2.72	340	7.25	385	−05	
	N	3.28	410				8.00 +09
✓	m	3.41	426	8.03	377	−13	7.91

×125 ~~2272~~ 1071 ~~757+1~~ 390+1

I 27095 13°

✓	h	3.17	396	6.98	302	+32	
	N	3.83	479				7.49 ~~06~~ 05
✓	k	3.88	485	7.44	259	−11	
	N	3.90	488				7.58 +04
✓	l	3.80	475	7.25	250	−20	7.54

811 270+1

I 27085 5°

✓	h	2.07	259	6.98	439	+63	
	N	3.02	378				7.54 −10
✓	k	3.15	394	7.44	350	−26	
	N	3.18	398				7.74 +10
✓	l	3.08	385	7.25	340	−36	7.64

1129 376+1

I 27074 5°

✓	g	3.80	475	6.33	158	−11	
	N	4.43	554				7.23 −01
✓	h	4.21	526	6.98	172	+3	
	N	4.45	556				7.25 +01
✓	k	4.53	566	7.44	178	+9	7.24

508 169+1

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1899phae.proj..815F

July 9, 1901

Meas of Spectra cont.

I 27052 13°

✓	h	3.71	464	698	234	+17	
	N	4.03	504			7.21	-04
✓	k	4.30	538	7.44	206	-11	
	N	4.10	512			7.29	+04
✓	l	4.11	514	7.25	211	-6	
					651		
					2.17±0		7.25

I 27015 13°

Too poor.

I 26941 13°

✓	f	3.60	450	5.35	085	-24	
	N	4.21	526			6.35	-05
✓	g	4.21	526	6.33	807	-02	
	N	4.28	535			6.44	+04
✓	h	4.51	564	6.98	134	+25	
					326		
					1.09-1		6.40

I 26897 5°

✓	g	2.57	321	6.33	312	-06	
	N	3.21	401			7.19	-07
✓	h	3.02	378	6.98	320	+02	
	N	3.32	415			7.33	+07
✓	k	3.37	421	7.44	323	+05	
					955		
					3.18+1		7.26

~~I 26852 5°~~

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July 9, 1901

Meas. of Spectra cont

I 26852 5°

✓	c	1.55	194 ×125	3.93	201	+09	
	N	2.18	272			4.64	-08
✓	d	2.45	306	4.98	193	+01	
	N	2.30	288			4.80	+08
✓	e	2.85	356	5.38	182	-10	
					576		
					1.92		4.72

I 26849 13°

Too poor

I 27043 13°

✓	g	4.21	526	6.33	107	-35	
	N	4.52	565			7.07	-01
✓	h	4.38	548	6.98	150	+08	
	N	4.54	568			7.10	+02
✓	k	4.60	575	7.44	169	+27	
					426		
					1.42		7.08

I 26975 13°

	d	3.78	472	4.98	026	-21/45	
	N	3.94	492			5.39	-06
✓	f	4.43	554	5.35	021	-26	
	N	4.03	504			5.51	+06
✓	g	4.30	538	6.33	095	+48	
					142		
					0.47	+1	5.45

e not on plate

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July 9, 1901

Meas. of Spectra cont.

2

I 26948 13°

✓ g	3.75	469	6.33	164	-10	
N	4.09	511				6.85 -01
✓ h	4.28	535	6.98	163	-11	
N	4.11	514				6.88 +02
✓ k	4.40	550	7.44	194 / 521	+20	6.86

1.74-1

I 26886 13°

✓ d	2.90	362	4.98	136	+02	
N	3.17	396				5.30 +01
✓ e	3.12	390	5.38	148	+14	
N	3.15	394				5.28 -01
✓ f	3.34	418	5.35	117 - 17 / 401		5.29

1.34-1

I 26850 13°

✓ c	1.62	202	3.93	191	-22	
N	1.96	245				4.58 +02
✓ d	2.18	272	4.98	226	+13	
N	1.94	242				4.55 -01
✓ e	2.53	316	5.38	222 / 639	+09	4.56

2.13

I 26847 13°

Too Faint

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1899phae.proj.:815F

July 9, 1901

Meas. of Spectra cont.

I 26835 13°

✓	C	1.86	232 (×125)	393	161	+15	
	N	2.64	330			4.76	+08
✓	d	2.95	369	4.98	129	-17	
	N	2.52	315			4.61	-07
✓	e	3.12	390	5.38	148	+02	
					438		4.68
					1.46		

I 26813 5°

✓	d	3.28	410	4.98	088	+08	
	N	3.52	440			5.20	-08
✓	e	3.78	472	5.38	066	-14	
	N	3.65	456			5.36	+08
✓	f	3.60	450	5.35	085	+05	
					239		5.28
					0.80 -1		

I 26808 13°

✓	f	2.70	338	5.35	197	-43 (2)	
	N	2.87	359			5.98	-05
✓	g	3.12	390	6.33	243	+08 (4)	
	N	2.95	369			6.08	+05
✓	h	3.38	422	6.98	276	+37	
					716		6.03
					39		
					2.40 -1		

I

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July 10, 1901

Meas. of Spectra cont.

I 26799 5°

Useless.

I 26693 5°

✓ a	2.62	328	3.10	018	07		
N	1.87	234				2.18	+08
✓ b	3.53	441	4.26	018	+01		
N	1.75	219		033		2.03	-07
α Aurigae	1.28	160		0.16		2.10	

I 26699 5°

✓ a	1.80	225	3.10	085	+78		
N	2.43	304				3.11	-23
✓ b	3.42	428	4.26	002	-09		
N	2.80	350				3.57	+23
✓ c	3.64	455	3.93	062	-69		
				0.07		3.34	

I 26701 5°

PC ✓ a	3.07	384	3.10	074	+13		
N	3.28	410				3.23	+05
✓ b	3.84	480	4.26	054	+33		
N	3.20	400				3.13	-05
✓ c	4.21	526	3.93	133	-46		
				2.61		3.18	
				0.87			

I 26705 5°

α Aurigae	1.71	214					
✓ a	2.72	340	3.10	030	21		
N	2.26	282				2.31	-14
✓ b	3.56	445	4.26	019	32		
N	2.48	310				2.59	+14
✓ c	3.98	498	3.93	105	051	2.45	

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1899phae.proj.815F

July 10 1901

Meas. of Spectra cont.

I 26711 13°

		×125					
α Aurigae	1.97	246					
N	3.59	449					
α Aurigae	1.85	231					
N	3.37	421					
α Aurigae	2.00	250					
N	3.45	431					

I 26727 5°

Tail

✓ a	3.02	378	3.10	068	12		
N	2.39	299				2.43	-10
✓ b	3.67	459	4.26	033	23		
N	2.55	319				2.63	+10
✓ c	3.69	461	3.93	068	12		
α Aurigae	1.83	229					
				169		2.53	
				0.56	+1		

I 26747 13°

✓ b	3.06	382	4.26	044			
N	3.49	436				4.36	+04
✓ c	3.54	442	3.93	089			
N	3.43	429				4.29	-03
✓ d	3.95	494	4.98	004			
				001		4.32	
				0.00			

P.C I 26774 5°

✓ a	3.40	425	3.10	115	+04		
N	3.78	472				3.53	-09
✓ b	4.15	519	4.26	093	+26		
N	3.92	490			-30	3.71	+09
✓ c	4.34	542	3.93	149	357	3.62	

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1899phae.proj..815F

July 10, 1901

Meas. of Spectra cont.

I 26851 —

Dispersion too small

I 27111 13°

			×125					
✓	g	3.97	496	6.33	137	35		
	N	4.38	548				7.20	+12
✓	h	4.10	512	6.98	186	+14		
	N	4.20	525				6.97	−11
✓	k	4.42	552	7.44	192	+20		
					515			
					1.72 −1			708

I 26775 13°

✓	a	1.53	191	3.10	119	+21		
	N	2.40	300				3.98	−14
✓	b	2.52	315	4.26	111	+13		
	N	2.60	325				4.23	+11
✓	c	2.64	330	3.93	063	−35		
					293			412
					0.98 −1			

I 27120 13°

✓	g	2.89	361	6.33	272	−06		
	N	3.55	444				7.22	−06
✓	h	3.34	418	6.98	280	+02		
	N	3.64	455				7.33	+05
✓	k	3.70	462	7.44	282	+04		
					834			7.28
					2.78			

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1899phae.proj.0155

July 10, 1901

Meas. of Spectra cont.

I 26798 13°

✓	a	0.23	B 029	310	281	+49	
	N	1.85	231			4.63	+09
✓	b	1.50	188	426	238	+06	
	N	1.70	212			4.44	-10
✓	c	1.73	216	393	177	-55	4.54
					696		
					232		

I 26877 13°

✓	c	1.57	196	393	197	+40	
	N	2.40	300			4.57	-15
✓	d	2.89	361	498	137	-20	
	N	2.65	331			4.88	+16
✓	e	3.21	401	538	137	-20	4.72
					471		
					1.57		

I 27141 5°

✓	h	2.17	271	698	427	+38	
	N	2.85	356			7.45	-07
✓	k	2.87	359	744	385	-04	
	N	2.96	370			7.59	+07
✓	l	2.95	369	725	356	-33	7.52
					1168		
					3.89+1		

I 27137 5°

✓	k	3.19	399	744	345	+32	
	N	3.74	471			7.84	-07
✓	l	3.49	436	725	289	-24	
	N	3.88	485			7.98	+07
✓	m	3.99	499	803	306	-09	7.91
					938		
					3.13-1		

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1899phae.proj..8155

July 10, 1901

Means of Spectra cont.

I 27100 13°

✓	k	3.94	492	7.44	252	+02	
	N	3.92	490			7.40	-04
✓	l	4.01	501	7.25	224	-26	
	N	3.99	499			7.49	+05
✓	m	4.23	529	8.03	274	+24	
					750		7.44
					2.50		

I 27084 13°

✓	k	3.86	482	6.98	216	+23	
	N	4.24	530			7.23	-03
✓	k	4.45	556	7.44	188	-05	
	N	4.29	536			7.29	+03
✓	l	4.41	551	7.25	174	-19	
					578		7.26
					1.93-1		

I 27061 5°

✓	k	2.98	372	7.44	372	+23	
	N	3.37	421			7.70	-02
✓	l	3.24	405	7.25	320	-29	
	N	3.39	424			7.73	+01
✓	m	3.58	448	8.03	355	+06	
					1047		7.72
					3.49		

I 27051 13°

✓	k	4.01	501	6.98	197	+14	
	N	4.40	550			7.33	+03
✓	k	4.50	562	7.44	182	-01	
	N	4.35	544			7.27	-03
✓	l	4.45	556	7.25	169	-14	
					548		7.30
					1.83-1		

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1999phae.proj.:815F

July 10, 1901

Meas. of Spectra cont.

I 26898 5°

✓	g	2.18	272 ×125	6.33	361	+14	
	H	2.93	336				6.83 −17
✓	h	2.85	356	6.98	342	−05	
	N	2.95	369				7.16 +16
✓	K	3.24	405	7.44	339	−08	7.00
					1042		
					3.47 +1		

I 26848 13°

✓	c	3.50	438	3.93	045	+12	
	N	4.18	522				4.65 −06
✓	d	4.50	562	4.98	064	−07	
	N	4.27	534				4.77 +06
✓	e	480	600	5.38	062	−05	4.71
					171		
					0.57		

I 26846 13°

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1899phae.proj..815E

July 11, 1901

Meas.

I 26846 13°

✓	c	2.94	368	393	025	-37	
	r	3.50	438			5.00	-01
✓	d	3.29	411	4.98	087	+25	
	r	3.52	440			5.02	+01
✓	e	3.72	465	5.38	073	+11	
					185		5.01
					0.62-1		

I 26811 5°

✓	f	2.48	310	5.35	225	-17	
	r	2.88	360			6.02	-08
✓	g	2.97	371	6.33	262	+20	
	r	3.00	375			6.17	+07
✓	h	3.68	460	6.98	238	-04	
					725		6.010
					2.42-1		

I 26805 5°

✓	c	3.72	465	3.93	072	-18	
	r	3.96	495			4.41	-03
✓	d	4.44	555	4.98	057	-03	
	r	4.00	500			4.46	+02
✓	e	4.58	572	5.38	034	+20	
					163		4.44
					0.54+1		

I 26771 5°

✓	b	3.42	428	4.26	002		
	r	3.00	375			375	+01
✓	c	3.32	415	3.93	022		
	r	2.98	372			372	-02
✓	d	3.80	475	4.98	023		
α Aurigae		1.52	190		001		3.74
					000		

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Trail I 26713 5°
×125

α Aurigae	2.00	250				
N	3.16	395			3.64	-08
α Aurigae	1.99	249				
N	3.28	410			3.79	+07
α Aurigae	1.90	238				
✓ d	4.29	536	4.98	038	-07	
✓ e	4.50	562	5.38	024	+07	
				062		
				0.31		3.72

I 26707 13°

Trail a	4.51	564	3.10	254	+01	
N	4.28	535			2.80	+08
a	4.54	568	3.10	258	-03	
N	4.15	519			2.64	-08
a	4.50	562	3.10	252	+03	
				764		2.72
				2.55-1		

P.C. I 26724 5°

✓ a	3.58	448	3.10	138	-02	
N	3.73	466			3.30	-04
✓ b	4.47	559	4.26	133	+03	
N	3.80	475			3.39	+05
✓ c	4.23	529	3.93	136	00	
				407		3.34
				1.36-1		

P.C. I 26698 5°

✓ a	3.87	484	3.10	174	-21	
N	3.73	466			3.13	+02
✓ b	4.48	560	4.26	134	+19	
N	3.70	462				
✓ c	4.36	545	3.93	152	+01	3.09
				472		3.11
				1.51+1		

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Meas. of Spectra cont.

Trail. I 26692 13°

	a 4.17	521	3.10	211	-03	
	N 3.89	486			2.78	-02
	a 4.15	519	3.10	209	-01	
	N 3.93	491			2.83	+03
	a 4.12	515	3.10	205	+03	2.80
				625		
				2.08 +1		

P.C I 26690 13°

✓	a 3.33	416	3.10	106	+15	
	N 3.16	395			2.74	-04
✓	b 4.21	526	4.26	100	+21	
	N 3.22	402			281	+03
✓	c 4.39	549	3.93	156	-35	—
				362		
				1.21 -1		278

I 26833 13°

✓	c 3.69	461	3.93	068	-28	
	N 4.38	548			5.08	-01
✓	d 4.24	530	4.98	032	+08	
	N 4.40	550			5.10	+01
✓	e 4.46	558	5.38	020	+20	
				120		5.09
				0.40		

I 26818 13°

✓	d 2.21	276	4.98	222	00	
	N 2.58	322			5.44	+06
✓	e 2.40	300	5.38	238	+16	
	N 2.49	311			533	-05
✓	f 2.63	329	535	206	-16	
				666		5.38
				222		

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July 11, 1901

Meas. of Spectra cont.

D

I 26819 13°

				×125			
✓	d	2.64	300	4.98	198	+10	
	N	2.76	345			5.33	-03
✓	e	2.79	349	5.38	189	+01	
	N	2.80	350			5.38	+02
✓	f	2.86	358	5.35	177	-11	
					564		
					1.88		5.36

I 26791 13°

✓	c	1.80	225	3.93	168	+02	
	N	2.08	260			4.26	-08
✓	d	2.68	335	4.98	163	-03	
	N	2.20	275			4.41	+07
✓	e	2.97	371	5.38	167	+01	
					498		
					1.66		4.34

I 26741 5°

✓	a	3.01	376	3.10	066	-03	
	N	3.50	438			3.75	+04
✓	b	3.85	481	4.26	055	+08	
	N	3.44	430			3.67	-04
✓	c	3.70	462	3.93	069	-06	
	α Aurigae	2.05	256				
					190		
					0.63	+1	3.71

I 26728 5°

	α Aurigae	S	1.89	236
		N	2.79	349
	α Aurigae		2.10	262
		N	2.81	351
	α Aurigae		2.15	269

b	~~2.9~~	3.70
N	2.90	
d	4.10	
N	2.89	
e	4.34	

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Meas. of Spectra cont.

Trail I 26712 13°

✓	a	1.83	229	3.10	081	+39	
	N	2.32	290			3.37	+08
✓	b	2.87	359	4.26	067	+25	
	N	2.29	286			3.28	-07
✓	c	3.32	415	3.93	028	-64	3.35

1.26
0.42

Trail I 26706 13°

	α Aurigae	2.72	340	
	N	3.43	429	
	α Aurigae	2.68	335	
	N	3.47	434	
	α Aurigae	2.67	334	

P. C I 26702 5°

✓	a	4.20	525	3.10	215	42	
	N	4.01	501			3.28	-02
✓	b	4.48	560	4.26	134	39	
	N	4.05	506			3.33	+03
✓	c	4.50	562	3.93	169	04	3.30

5.18
1.73-1

P. C I 26700 5°

✓	a	4.36	545	3.10	235	51	
	N	4.22	528			3.44	-10
✓	b	4.48	560	4.26	134	50	
	N	4.38	548			3.68	+10
✓	c	4.60	575	3.93	182	02	3.54

5.51
1.84-1

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July 11, 1901

Meas of Spectral coal.

Trail I 26697 5°

a	4.51	564 (×1.25)	3.10	254	+04		
N	4.43	554				2.96	+02
a	4.54	568	3.10	258	00		
N	4.40	550				292	-02
a	4.58	572	3.10	262	-04	294	
				774			
				2.58			

Trail I 26691 13°

α Aurigae 1.98
N 2.77
α Aurigae 1.87
N 2.52
α Aurigae 1.99

I 26834 13°
Too poor.

I 26680 13°

✓ a	3.00	375	3.10	065	+32		
N	1.65	206				1.09	-15
✓ b	4.09	511	4.26	085	+12		
N	1.88	235				1.38	+14
✓ c	4.27	534	3.93	141	-58 (44)	1.24	
				2.91			
				0.97			

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July 11, 1901

Meas. of Spectra cont.

P.C. I 26824 5°

✓	a	3.04	380	3.10	070	+19	
	N	4.12	515			4.26	+08
✓	b	4.10	512	4.26	086	+03	
	N	4.08	510			4.21	-07
✓	c	4.04	506 (×125/5)	3.93	112	-23	4.18

268
0.89+1

I 26679 13°

✓	a	3.79	474	3.10	164	-36	
	N	0.67	084			0.44	-14
✓	b	~~4.18~~ 4.13	516	4.26	090	+38	
	N	0.90	112			0.16	+14
✓	c	4.18	522	3.93	129	-01	0.30

0.83
1.28-1

I 26688 13°

Trail	a	3.42	428	3.10	118	00	
	N	2.43	304			1.86	-06
	a	3.40	425	3.10	115	+03	
	N	2.52	315			1.97	+05
	a	3.45	431	3.10	121	-03	1.92

3.54
1.18

I 27136 13°

✓	f	3.96	495	5.35	040	-41	
	N	4.56	570			6.51	-01
✓	g	4.45	556	6.33	077	-04	
	N	4.57	571			6.52	00
✓	h	4.58	572	6.98	126	+45	6.52

2.43
0.81

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July 11, 1901

Meas. of Spectra cont.

I 26674 13°
Too poor

I 26676 13°
Too poor

Trail I 26678 13°
x125

a	4.61	576	3.10	266	00	
N	3.70	462			1.96	+09
a	4.61	576	3.10	266	00	
N	3.55	444			1.78	-09
a	4.61	576	3.10	266 / 266	00	1.87

I 26677 13°
No Measure.
N. B

I 26675 13°

			238	310	072		
✓	a	1.90	~~449~~	~~310~~	~~161~~	+06	
	N	0.75	094				1.60 00
✓	b	2.92	365	426	061	-05	
	N	0.75	094				1.60 00
✓	c	2.63	329	393	064 / 197	-02	1.60

0.66 -1

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July 11, 1901

Meas of Spectra cont.

I 27176 13°

✓	g	2.75	344	6.33	289	-09	
	N	3.38	422			7.20	00
✓	h	3.20	400	6.98	298	00	
	N	3.38	422			7.20	00
✓	k	3.50	438	7.44	306 / 893	+08	7.20

2.98-1

I 27185 13°

✓	g	1.18	148	6.33	485	+40	
	N	1.89	236			6.81	+12
✓	h	2.21	276	6.98	422	-23	
	N	1.70	212			6.57	-12
✓	k	2.53	316	7.44	428 / 1335	-18	6.69

4.457

I 27148 13°

✓	g	3.69	461	6.33	172	+21	
	N	4.22	528			7.21	+02
✓	h	4.08	510	6.98	188	-05	
	N	4.19	524			7.17	-02
✓	k	4.20	525	7.44	219 / 579	+26	7.19

1.93

I 27149 13°

✓	g	4.02	502	6.33	131	-27	
	N	4.30	538			6.96	+02
✓	h	4.21	526	6.98	172	+14	
	N	4.28	535			6.93	-01
✓	k	4.59	574	7.44	170 / 443	+12	6.94

1.58-1

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July 11, 1901

Meas. of Spectra cont.

I 27163 13°
Too poor.

I 27162
Too poor.

I 26823 13°

~~L~~ K	3.28	3.11	3.26	2	19	14	12	10	07 02
l	3.30	3.30	3.40	20	21	15	19	01	02 04
k	3.50	3.51	3.55	2	12	1	5	03	07 04
2	3.52	3.63	3.56	50	38	39	42	08	04 03
m	4.02	4.01	3.95	13	13	11	12	01	01 01
3	4.15	4.14	4.06						

I 26818 13°

h	3.25	3.36	3.20	27	32	25	28	01	04	03
l	3.52	3.68	3.45	6	2	17	8	02	06	09
K	3.58	3.70	3.62	5	2	5	3	02	05	02
2	3.63	3.68	3.67	30	33	30	31	01	02	01
m	3.93	4.01	3.97	28	29	32	30	02	01	02
3	4.21	4.30	4.29							

a K
a 5 f
a
a 5 f
a
a

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July 11, 1901.

I 26791 13°

h	3.51	3.71	3.62	42	20	37	33	09	13 04
1	3.93	3.91	3.97						
K	3.93	3.95	4.01	0	4	4	3	03	01 01
2	4.05	4.05	4.13	12	10	12	11	01	01 01
m	4.37	4.31	4.33	32	26	20	26	06	00 06
3	4.50	4.49	4.51	13	18	18	16	03	02 02

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July 15, 1901.

Meas. of br. of sp. of Nova Persei No. 2.

h m
11 30 13° Prism plates

I 26823 i.

			mean			
R	1.79	1.52	1.66	13	14	0.18
β 1-2	2.57	2.76	2.66	09	10	1.18
β 6	1.55	1.35	1.45	10	10	0.03
γ 1-2	1.62	1.35	1.48	14	13	
δ 1-2	1.71	1.66	1.68	03	02	0.20

I 26808 i.

R	3.04	3.00	3.02	02	02	0.06
β 1-2	3.93	3.76	3.84	09	08	0.76
β 6	2.96	2.80	2.88	08	08	0.20
γ 1-2	3.04	3.12	3.08	04	04	
δ 1-2	2.93	2.95	2.94	01	01	0.14

I 26818 i.

β 1-2	2.90	2.89	2.90	00	01	0.52
β 6	2.11	2.10	2.10	01	00	0.28
γ 1-2	2.49	2.28	2.38	11	10	
δ 1-2	2.58	2.35	2.46	12	11	0.08

I 26708 i + t.

R	3.44	3.50	3.47	03	03	0.05
β 1-2	3.77	3.75	3.76	01	01	0.24
β 6	3.31	3.34	3.32	01	02	0.20
γ 1-2	3.52	3.52	3.52	00	00	
δ 1-2	3.57	3.63	3.60	03	03	0.08

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July 15, 1901.

I 26850 λ.

			mean			
R	2.39	2.52	2.46	07	06	0.27
B1-2	3.03	2.90	2.96	07	06	0.77
B6	1.97	2.22	2.10	13	12	0.09
γ 1-2	2.22	2.16	2.19	03	03	
δ 1-2	2.30	2.30	2.30	00	00	0.11

I 27052 λ.

R	4.02	4.02	4.02	00	00	0.18
B1-2	4.43	4.40	4.42	01	02	0.22
B6	3.90 4.24	3.92	3.91	01	01	0.29
γ 1-2	4.28	4.15	4.20	04	05	
δ 1-2		4.20	4.24	04	04	0.04

I 27149 λ.

R	4.20	4.36	4.29 (8)	09 (8)	08	0.18
B1-2	4.55	4.55	4.55	00	00	0.09
B6	4.42	4.33	4.38	04	05	0.08
γ 1-2	4.46	4.46	4.46	00	00	
δ 1-2	4.49	5.01	4.75	26	26	0.29

I 27148 λ.

R	4.44	4.42	4.43	01	01	0.15
B1-2	4.61	4.61	4.61	00	00	0.33
B6	4.18	4.13	4.16	02	03	0.12 ~~0.08~~
γ 1-2	4.31	4.25	4.28	03	03	
δ 1-2	4.40	4.39	4.40	00	01	0.12

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July 15, 1901.

I 27176 i.

			mean.			
R	3.86	3.80	3.83	03	03	0.57
B1-2	3.43	3.88	3.87			
B6	3.13	3.15	3.14	01	01	0.12
γ1-2	3.18	3.33	3.26	08	07	
δ1-2	3.53	3.50	3.52	01	02	0.26

I 26791 i.

R	1.98	1.85	1.92	06	07	0.38
B1-2	2.72	2.45	2.58	14	13	1.04
B6	1.30	1.33	1.32	02	01	0.22
γ1-2	1.58	1.50	1.54	04	04	
δ1-2	2.10	1.90	2.00	10	10	0.46

I 27139 i.

R	F	F	F			
B1-2	4.61	4.61	4.61	00	00	0.01
B6	4.55	4.52	4.54	01	02	0.06
γ1-2	4.60	4.60	4.60	00	00	
δ1-2	F	F	F			

I 26846 i

R	3.68	4.00	3.84	16	16	0.28
B1-2	4.30	4.38	4.34	04	04	0.78
B6	3.46	3.80	3.43	03	03	0.13
γ1-2	3.61	3.52	3.56	05	04	
δ1-2	3.70	3.61	3.66	04	05	0.10

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July 15, 1901

I 27060 1.

			mean.			
R	4.04	4.00	4.02	02	02	±.10
B1-2	4.38	4.28	4.33	05	05	0.41
B6	3.88	3.96	3.92	04	04	0.30
γ1-2	3.89	3.94	3.92	03	02	
δ1-2	4.06	4.05	4.06	00	01	0.14

I 27095 1.

R	4.12	4.18	4.15	03	03	0.12
B1-2	4.42	4.41	4.42	00	01	0.39
B6	3.73	3.79	3.76	03	03	0.27
γ1-2	4.06	4.00	4.03	03	03	
δ1-2	4.20	4.18	4.19	01	01	0.16

I 27074 1.

R	4.24	4.34	4.29	05	05	0.09
B1-2	4.55	4.55	4.55	00	00	0.17
B6	4.26	4.18	4.22	04	04	0.16
γ1-2	4.42	4.33	4.38	04	05	
δ1-2	4.50	4.40	4.45	05	05	0.07

I 26941 1.

R	4.42	4.40	4.41	01	01	0.19
B1-2	4.50	4.52	4.51	01	01	0.29
B6	4.08	4.08	4.08	00	00	0.14
γ1-2	4.22	4.22	4.22	00	00	
δ1-2	4.34	4.30	4.32	02	02	0.10

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1899phae.proj..815F

July 15, 1901.

I 26849 i.

			mean			
R	4.54	4.56	4.55	01	01	0.05
B1-2	4.60	4.61	4.60	00	01	0.10
B6	4.42	4.42	4.42	00	00	0.08
γ1-2	4.50	4.51	4.50	00	01	
δ1-2	4.55	4.58	4.56	01	02	0.06

image ray poor

I 26707 i. + t.

R	4.37	4.40	4.38	01	02	0.06
B1-2	4.55	4.55	4.55	00	00	0.23
B6	4.26	4.20	4.23	03	03	0.09
γ1-2	4.34	4.31	4.32	02	01	
δ1-2	4.37	4.40	4.38	01	02	0.06

I 27043 i.

R	4.47	4.52	4.50	03	02	0.04
B1-2	4.61	4.61	4.61	00	00	0.07
B6	4.39	4.46	4.42	03	04	0.12
γ1-2	4.53	4.55	4.54	01	01	
δ1-2	4.60	4.60	4.60	00	00	0.06

I 26975 i.

R	3.01	3.30	3.16	15	14	0.62
B1-2	3.92	3.85	3.88	04	03	0.10
B6	3.53	3.40	3.46	07	06	0.32
γ1-2	3.76	3.79	3.78	02	01	
δ1-2	4.00	3.87	3.94	06	07	0.16

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1899phae.proj..815F

July 15, 1901.

I 26928 i.

			mean			
R	3.74	3.72	3.73	01	01	0.23
B1-2	4.38	4.32	4.35	03	03	0.39
B6	3.80	3.88	3.84	04	04	0.12
γ1-2	3.98	3.93	3.96	02	03	
δ1-2	4.06	4.04	4.05	01	01	0.09

I 26886 i.

R	3.52	3.42	3.47	05	05	0.35
B1-2	4.00	3.75	3.88	12	13	0.76
B6	2.88	2.80	2.84	04	04	0.28
γ1-2	3.10	3.15	3.12	02	03	
δ1-2	3.19	3.23	3.21	02	02	0.09

I 26692 i. + t.

R	3.55	3.53	3.54	01	01	0.11
B1-2	3.98	3.94	3.96	02	02	0.31
B6	3.55	3.22	3.38	17	16	0.27
γ1-2	3.72	3.58	3.65	07	07	
δ1-2	3.98	3.71	3.84	14	13	0.19

I 26690 c. P.b.

B1-2	3.20	3.10	3.15	05	05	0.11
B6	3.03	3.00	3.02	01	02	0.02
γ1-2	3.05	3.04	3.04	01	00	
δ1-2	3.11	3.10	3.10	01	00	0.06

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1899phae.proj..815F

July 15, 1901.

I 26835 l.

R	2.40	2.44	2.42	02	02	0.14
B1-2	3.20	3.23	3.22	02	01	0.34
B6	2.42	2.50	3.46	04	04	0.10
γ1-2	2.55	2.58	2.56	01	02	
δ1-2	2.63	2.72	2.68	05	04	0.10

I 26833 l Too poor.

I 26819 c.

B1-2	2.93	2.72	2.82	11	10	0.32
B6	2.12	2.12	2.12	00	00	0.38
γ1-2	2.52	2.48	2.50	02	02	
δ1-2	2.91	2.67	2.78	18	12	0.29

I 26711 l

R	3.88	3.68	3.78	10	10	0.16
B1-2	4.10	4.08	4.09	01	01	0.47
B6	3.31	3.40	3.36	05	04	0.26
γ1-2	3.73	3.50	3.62	11	12	
δ1-2	3.85	3.68	3.76	09	08	0.14

I 26712 l.

R	1.86	1.80	1.83	03	03	0.35
B1-2	2.78	2.68	2.73	05	05	0.55
B6	2.00	2.00	2.00	00	00	0.18
γ1-2	2.18	2.18	2.18	00	00	
δ1-2	2.33	2.32	2.32	01	00	0.14

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1899phae.proj..815F

July 15, 1901.

I 26743 3 c. mean

B1-2	3.58	3.78	3.68	10	10	0.12
B6	3.42	3.50	3.46	04	04	0.10
γ1-2	3.52	3.60	3.56	04	04	
δ1-2	3.83	3.72	3.78	05	06	0.22

I 27111 l.

R	4.41	4.45	4.43	02	02	0.03
B1-2	4.50	4.60	4.55	05	05	0.15
B6	4.28	4.28	4.28	00	00	0.12
γ1-2	4.42	4.39	4.40	02	01	
δ1-2	4.47	4.45	4.46	01	01	0.06

I 26691 l. ++

R	2.46	2.45	2.46	00	01	0.04
B1-2	3.02	3.05	3.04	02	01	0.54
B6	2.20	2.22	2.21	01	02	0.29
γ1-2	2.46	2.53	2.50	04	03	
δ1-2	2.85	2.79	2.82	03	03	0.32

I 26680 l.

R	1.62	1.68	1.65	03	03	0.19
B1-2	1.88	1.90	1.89	01	01	0.05
B6	1.72	1.60	1.66	06	06	0.18
γ1-2	1.94	1.75	1.84	10	09	
δ1-2	2.20	1.97	2.08	12	11	0.24

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1999phae.proj.815F

July 15, 1901.

I 26775 1.

			mean			
R	2.25	2.45	2.36	08	09	0.00
B1-2	2.75	3.00	2.88	13	12	0.52
B6	2.08	2.15	2.12	04	03	0.24
γ1-2	2.30	2.42	2.36	06	06	
δ1-2	2.48	2.60	2.54	06	06	0.18

I 27120 1.

R	3.69	3.80	3.74	05	06	0.10
B1-2	4.15	4.30	4.22	07	08	0.38
B6	3.52	3.64	3.58	06	06	0.30
γ1-2	3.82	3.85	3.84	02	01	
δ1-2	3.97	3.90	3.94	03	04	0.10

I 26679 1. Image poor.

R	1.53	1.20	1.36	17	16	0.01
B1-2	2.08	1.70	1.89	19	19	0.54
B6	1.15	1.08	1.12	03	04	0.23
γ1-2	1.40	1.30	1.35	05	05	
δ1-2	1.63	1.43	1.53	10	10	0.18

I 26798 1.

R	1.40	1.20	1.30	10	10	0.20
B1-2	2.60	2.25	2.42	18	17	0.92
B6	1.25	1.30	1.28	03	02	0.22
γ1-2	1.45	1.55	1.50	05	05	
δ1-2	1.80	1.70	1.75	05	05	0.25

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1899phae.proj..815E

July 15, 1901

I 26688 l.

			mean			
R	2.20	2.20	2.20	00	00	0.20
B1-2	3.10	3.00	3.05	05	05	0.25 (6)
B6	2.22	2.15	2.18	04	03	0.22
γ1-2	2.45	2.35	2.40	05	05	
δ1-2	2.58	2.52	2.55	03	03	0.15

I 26877 l.

R	2.71	2.68	270	01	02	0.21
B1-2	3.53	3.50	3.52	01	02	0.03
B6	2.26	2.22	2.24	02	02	0.25
γ1-2	2.50	2.48	2.49	01	01	
δ1-2	2.72	2.68	270	02	02	0.21

I 27110 l.

R	3.98	4.05	4.02	04	03	0.00
B1-2	4.21	4.32	4.26	05	06	0.24
B6	3.85	3.78	3.82	03	04	0.20
γ1-2	4.18	3.94	4.02	08	08	
δ1-2	4.18	4.10	4.14	04	04	0.12

I 27084 l.

R	4.19	4.30	4.24	05	06	0.06
B1-2	4.40	4.42	4.41	01	01	0.11
B6	4.11	4.12	412	01	00	0.18
γ1-2	4.32	4.28	4.30	02	02	
δ1-2	4.38	4.38	4.38	00	00	0.08

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1899phae.proj, .815F

July 15, 1901.

I 26678 1.

			mean.			
R	4.35	4.28	4.32	03	04	0.41
B1-2	4.52	4.52	4.52	00	00	0.61
B6	3.72	3.85	3.88	06	07	0.13
γ1-2	3.88	3.94	3.91	03	03	
δ1-2	4.03	4.03	4.03	00	00	0.12

I 27051 1.

R	4.28	4.40	4.34	06	06	0.12
B1-2	4.32	4.47	4.40	08	07	0.18
B6	4.00	4.12	4.06	06	06	0.16
γ1-2	4.18	4.27	4.22	04	05	
δ1-2	4.32	4.38	4.35	03	03	0.13

I 26848 1.

R	3.90	3.83	3.86	04	03	0.26
B1-2	4.23	4.18	4.20	03	02	0.60
B6	3.34	3.43	3.38	04	05	0.22
γ1-2	3.61	3.58	3.60	01	02	
δ1-2	3.70	3.64	3.67	03	03	0.07

I 26677 1. P.C. Image poor

R	4.02	4.08	4.05	03	03	0.17
B1-2	4.10	3.94	4.02	08	08	0.14
B6	3.88	3.80	3.84	04	04	0.04
γ1-2	3.90	3.86	3.88	02	02	
δ1-2	3.96	3.94	3.95	01	01	0.07

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1899phae.proj..815F

July 15, 1901.

I 26675 c. C. b.

			mean			
β 1-2	3.90	3.90	3.90	00	00	0.00
β 1	3.85	3.83	3.84	01	01	0.06
γ 1-2	3.90	3.90	3.90	00	00	
δ 1-2	3.95	3.95	3.95	00	00	0.05

h. m.
1 50

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1899phae.proj.:815F

August 3, 1901.

Exam. of plates for J. E. Gore's sixth magn. star in the vicinity of Nova Persei No. 2.

See letter of J. E. Gore, July 23, 1901.

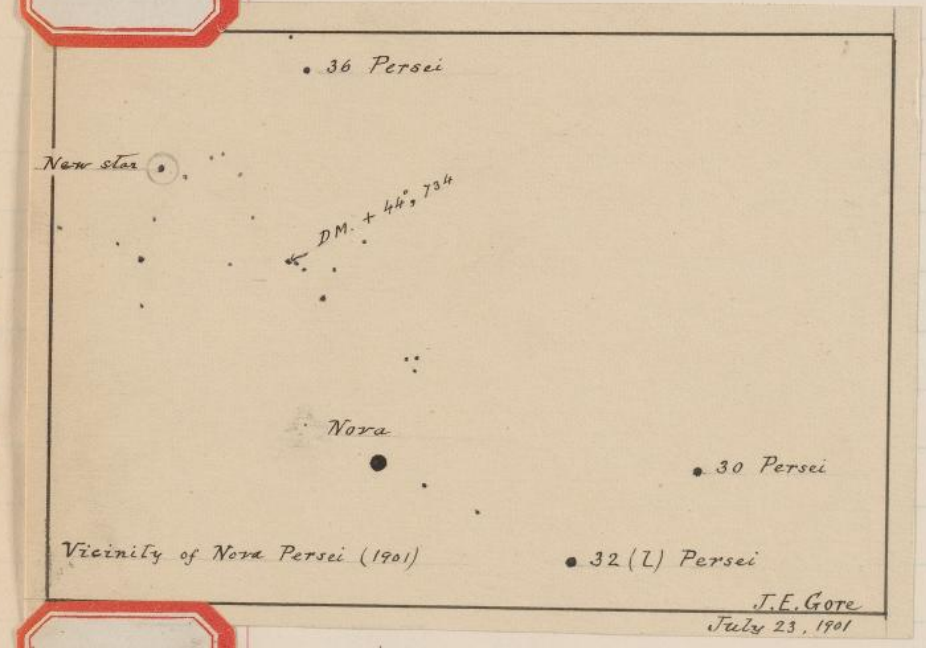
Plate.	Date	Exp.	Limit of mag.
A.C. 1303	Feb. 27, 1901.	6³ᵐ	12 to 13 magn.
A.C. 1309	Feb. 28, 1901.	10ᵐ	10 to 11 magn.
A.C. 1313	March 2, 1901	20ᵐ	9 to 9.5 magn.

New star?

⊙ - Nova Persei No. 2

An examination of the above plates fails to show any trace of a star in the position indicated on the accompanying chart of J. E. Gore.

W. P. F. Aug. 3, 1901.



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1899phae.proj..815F

August 20, 1901.

Exams. of Photos of Lightning. Pobs. F. Lee.

July 18	I 27216	Nothing
" 18	I 27217	Nothing
" 18	I 27218	(1) Ten bright lines
		(2)
		(3)
" 18	I 27219	Nothing
" 18	I 27220	Probably three bright bands.
" 18	I 27221	Three bright bands at R
" 21	I 27236	Nothing
" 21	I 27237	Nothing
" 21	I 27238	
" 21	I 27239	Nothing
" 21	I 27240(m)	
" 21	I 27241	Nothing
	I 27242	Nothing
Aug. 8	I 27293	Nothing
" 8	I 27294	Nothing

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1899phae.proj.:815F

October 8 1901.

Search for Dr. Stewart's asteroid.

Date	Plate	Region			Asteroid.			
July 23, 1901.	B 27952	20h.8	−58°	60″	19h.9	−63°.6	19h46m	62.5 x
" 11 "	27854	19.7	−68	61	20.2	−62.5	20 0	60.0 x
" 12 "	27864	20.3	−58	60	"	"	20 0	"
June 25 "	27754	20.8	−52.2	10	20.7	−56 ±	20 8	57° x nebulous
					Bache, August. eq			
Aug. 5 "	28154	19.3	−62.5	60	19.38	−62.8	19h38	62.4
Aug 17.	28240	18.58	−57.5	60	19 27	−63.0		
Aug. 22	28257	19 50	−62.5	10	19 28	−60.0		
					Bruce Aug. eq.			
Aug. 9	A 5535	19 50	−62.5	54	19 32	−62.8	19 32	−62 ?
~~Aug. 11~~	~~5534~~	18 50	−62.5					
Aug. 14	5548							
Aug 15	5550							
Aug. 17	5554							
Aug. 20	5556							
Aug. 23	5578							
Aug. 23	5579							
					Bache July			
July 13	27875	21.4	−57.1	60	19 45	−63		
July 18	27913	19.9	−57.1	60	19 40	−63	19 50	62.5

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1899phae.proj..815F

April 24, 1902

Measures to determine proper motion of −11°2741.
discovered by Prof. Pickering

Plate 5086 March 30. 1901 Exp. 12m.

	x	y	x	y					
PM	+20.20	+2.80	20.20	+2.85	−11°2741	20.20	0000	2.84	±111
1	0.75	+3.30	0.75	3.30	−11 2732	0.75	00	3.30	00
2	9.55	+3.55	9.55	3.60	−11 2736	9.55	00	3.58	±2
3	15.35	+1.85	15.35	1.90	−11 2734	15.35	00	1.88	±2
4	23.30	+6.95	23.35	7.00	−11 2742	23.32	±3	6.98	±2
2 35. PM	20.20	+2.85	20.20	2.85	−11 2741				

Plate B 2246 Jan 4. 1888.
" B 26871 Dec 29. 1900. Exp. 10m
when superposed show proper motion

	Δx	Δy	Δα	Δδ			
			7.934				
PM−1	+19.45	−46.6	+~~120.8~~	−27.6	9h 46m 10.6	−11° 49′ 15.6	
2	+10.65	−7.2	+43.5	−43.2	10.7	20.9	
3	+4.55	+9.6	+19.8	+57.6	10.5	19.8	
4	−3.12	~~+4.14~~	−12.7	+248.4			
					9h 46m 10.6	−11° 49′ 18.8	

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Cos. 9796 / 48998 / 146.94 — 285.18 / .74 / 285.92

4 | 9796 / 39 / 388 / 800 / 788 / 140 / 97 / 408.1

4 | 9796 / 39184 / 81600 / 78384 / 3216 / 4083 / 324

Dm

43m 58.7 −11° 36.4
57.8 36.4
56.9 36.7
58.3 37.0

Dec. 1900 9h 43m 58.4 Dec −11° 36.6 (1855)

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1899phae.proj..815F

Results of observations at this county & Richmond Land

11° 27 32	9	44	51.16	−11	48	48.0 ~~57.16~~ 27.6
		1	19.4			+ ~~19.4~~
	9	46	10.6	11	49	15.6
11 2736	9	45	27.17	−11	48	37.7
			43.5			43.2
		46	10.7		49	20.9
11 2738	9	45	50.74	11	50	17.4
			19.8			57.6
		46	10.5		49	19.8

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1899phae.proj..815F

May 2, 1902.

Exam. of Plates to det. var. if any in Comp star "m" for U Geminorum.

Plates	Date.
I 17658	March 25, 1897
I 19392	Oct. 29, 1897
I 2795	Jan. 12, 1891.
I 28506	Feb. 15, 1902.
I 2815	Jan 13, 1891.
I 14770	March 31, 1896
I 8203	March 12, 1893
I 20060	Jan 17, 1898.

The above plates fail to show any evidence of var. in "m" = Hagen No. 4. The star, Hagen. 10.47 observed with the meridian photometer was probably the 10.5— magn star prec. and north of +22 1816 9.5.

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1899phae.proj..815F

May 29, 1902.

Exam. of plates for Disp. Novae. (See letter of (1855
F. Ristenpart, March 20, 1902). Stm RA. = 19ʰ 26ᵐ 14ˢ.4, Dec. +17° 26' 23"

Plate		Date		Ecl. 12ᵐ	
I	23642	Sept.	23 1899	~~23~~	12
I	15721	Aug.	19 1896	11	5
I	17677	March	28 1897	13	6
I	18689	Sept.	6 1897	10	8
I	18353	July	16 1897	10	7
I	22334	Feb	15 1899	11	10
I	23037	June	16 1899	20	11
I	25855	Sept.	24 1900	12	14
I	21360	Oct.	8 1898	14	9
I	9459	Oct.	25 1893	11	3
I	15675	Aug.	11 1896	12	4
I	8821	July	19 1893	15	2
I	4148	Sept.	4 1891	11	1
A	4664	Sept.	4 1900	10	13

An examination of the above plates fails to show any object in the above position. The star, +17° 3997, R.A. 19ʰ 26ᵐ 13ˢ.8 +17° 19' 49".9 9.4, which precedes 0'.6, South 1'.5 shows no evidence of variation on these plates. It is always about 0.2 or 0.3 fainter than the star which precedes it at 0ᵐ.5, south 4'.1 (4st mag. 9.2), and is ~~—~~ 0.4 brighter than +17° 4000 9.5

Print from A 4664. Sept. 4, 1900 Ecl. 10ᵐ Sent.

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1899phae.proj..815F

May 29, 1902.

Exam. of plates for pusp. Nova. (See letter of F. Kistenpart March 20, 1902). R.A. 18h 24m 52.8s, Dec. +27° 40' 40" (1855).

Plates	Dates	Exp.	
I 25323	May 10 1900	10m	5
I 1562	Aug 2 1890	10	1
I 25193	April 19 1900	10	4
I 27707	Oct. 5 1901	10	7
I 20981	July 5 1898	16	3
I 8816	July 19, 1893	12	2
A 5486	July 25, 1901	10	6

On examination of the above plates fails to show any star brighter than the magn. 11.0 near the position R.A. 18h 24m 52.8s Dec. +27° 40' 48" (1855). A star of about the magn. 11.0 appears on all these plates near the position given. It shows no evidence of variation on these plates.

Print from A 5486 July 25, 1901, Exp. 10m sent.

Plates I 1562 and I 27707 superposed shows no trace of proper motion in any of the stars near this position. W.P.F. July 14, 1902.

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1899phae.proj..815F

June 7 1902

Exam. of plates for possible variation in −20° 4344, 8.8.
Susp. of var. by E. C. P. See H. Tel. B. 62 p. 206.

Plate	Date	Ex.	
B 13340	May 13, 1895	11	m
18357	Jan. 21, 1897	10	
18939	April 23, 1897	10	
11246	May 22, 1894		
15890	May 14, 1896	10	
20256	Sept 3, 1897	10	
16258	June 11, 1896	14	
9531			
25504	May 31, 1900	60	
27398	May 25 1901	10	
25072	April 10, 1900	10	
22726	May 3 1899	10	
21134	April 2, 1898	10	
16388	June 16, 1896	10	
16974	July 2, 1896	12	

On examination of the above plates fails to show sufficient evidence of variability in −20° 4344. On all of them it is about 0.2 magn. fainter than −20° 4336 magn. 9.1, and about 0.4 magn. brighter than −20° 4347 magn. 9.5.

W. P. F.

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1899phae.proj..815F

June 25, 1902.

Exam. of plates for Bessel-Weisse 16^h 26o 9 mags.
R.A. 16^h 14^m 0^s Dec. -14° 33'.6 (1855). See postal of F. Rustenpeint June 2, 1902.

Plates	Date	Est.
7 B 18769	April 7, 1897	15m
1 B 10023	July 29, 1893	11
8 B 19437	June 8, 1897	14
10 B 27150	April 11, 1901	10
3 B 14033	July 9, 1895	10
4 B 16494	June 27, 1896	11
5 B 16978	July 21, 1896	10
2 B 13980	July 8, 1895	10
9 B 23163	June 26, 1899	10
6 B 18550	February 8, 1897	12

On examination of the above plates fails to show any trace of a star ~~in~~ R.A. 16^h 14^m 0^s Dec. -14° 33'.6 (1855), although most of the photographs show stars as faint as the magnitude 12.0

W.P.F.

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1899phae.proj..815F

June 25 1902.

Exam of plates for star in Rd. $2^h 20^m 16^s$ NPD 78° 27.7 (1900.) Magn. 5½. See postal of Hans Linn. (No date). Rec. June 1902.

	Plate	Date	Ef.
5	I 5429	Jan. 21, 1892	10
4	I 5264	Dec. 19, 1891	19
3	I 4743	Nov. 6, 1891	20
1	I 2142	Oct. 31, 1890	12
2	I 3260	March 10, 1891	10
7	I 15944	Sept. 11, 1896	10
(Isochromatic) 9	I 19087	Sept. 29, 1897	11
13 ~~12~~ ~~X~~	I 24453	Jan. 21, 1900	21
11 ~~10~~	I 22229	Jan 26, 1899	17
8	I 16291	Oct. 25 1896	10
6	I 7564	Nov. 20, 1892	13
12 ~~X10~~	I 24014	Nov. 9, 1899	12
14	I 26657	Feb. 19, 1901	60
10 ~~9~~	I 22166	Jan. 20, 1899	12

An examination of the above plates shows that the star in Rd. $2^h 25^m 6^s$ NPD 78° 27.7 (1900) is probably identical with +11°335 Rd. $2^h 17^m.8$ Dec. +11° 20' (1855) magn. 7.3. It shows slight if any variation in brightness being always about the seventh magnitude. W. P. F.

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1899phae.proj..815F

June 26, 1902.

Exam. 8 plates for var. if any in A.G.C. 13178
magn 8 = C.D.M. -42° 5478 magn. 9.3 (9h 34m 9.3 -42° 18.0) 1875.

Plates	Date	Ex
B 10928	April 17 1894	10m
B 16590	July 2 1896	12
B 18961	April 26 1897	10
B 24642	Jan. 19 1900	12
B 25053	April 10 1900	10

The above plates fail to show any variation in A.G.C. 13178. In the Vol. IX, page 74, of the Results of Observations four observations of R.A. and Dec. are published ~~on~~ but no magnitude is given.

W. P. F. June 26, 1902.

B

Miss Harriman also noticed this diff. in magn. in Oct 1902. 9 more plates were examined but no evidence of var. found.
See Miss Harriman's note Book 1 page 8

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1899phae.proj..815F

July 1, 1902.

Eclam. of plates for var ? if any in Hagen Nos. 13 and 19
Comp. stars for R Cephei Lopardalis. $14^h 25^m + 84° 17'$ (1900).

Plate	Date	Ef.	
I 16540	Nov. 14, 1896	12^m	4
I 28716	May 1, 1902	11	8
I 15209	May 31, 1896	16	3
I 12935	May 29, 1895	10	2
I 16705	Dec. 7, 1896	14	5
I 8236	March 9, 1890	18	1
I 18232	June 16, 1897	10	6
I 25410	June 6, 1900	10	7

An examination of the above plates fails to show any evidence of variation in either No. 13 or No. 19. No. 13 is on all plates about 0.3 magn. brighter than No. 14. and No. 19 is about 0.25 fainter than No. 21

W. P. F.

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1899phae.proj..815F

July 1, 1902.

Exam. of plates to det. var. if any in -9° 3702 Comp Star in Zone -9° fr. δ Virginis. Var. Disp. at Horizontal Telescope, -13h 21' -9

Plate	Date	Ex.
I 14947	April 16 1896	14m
I 10834	March 16 1893	16
I 10737	March 2 1894	14
I 10907	March 26 1894	10
I 10745	March 3 1894	20
I 10938	March 27 1894	10
B 9132	April 17 1893	10
B 16312	June 13 1896	10
B 14016	July 9 1895	14
B 25502	May 31 1900	60
B 23267	July 5 1899	10

An examination of the above plates fails to show any variation in -9° 3702. It is, on all of them, about 0.6 magn. fainter than -10° 3670 magn. 8.0, and about 0.3 magn. br. than -10° 3667 magn. 8.6.

W. P. F.

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1899phae.proj..815F

July 12, 1902.

Exam of plates to det. var. if any in J.C. 18^h 1935 — R.A. $18^h 33^m 3^s.2$ Dec. $-51° 52'.4$ (1875). Sp. Rec. Type IV, IVa. No. 10551 on B 19919. Sp. Rec. Similar to type V, having dark absorption band at same λ as bl. band in fifth type Spectra on A 4350

Plate	Date	Exp.
B 3627	June 21, 1889	45m
B 26084	Sept. 12, 1900	10
B 23073	June 17, 1899	10
B 22071	October 22, 1898	10
B 25425	May 23, 1900	10
B 20479	Sept. 21, 1897	10
B 9693	June 24, 1893	10
B 11938	August 16, 1894	10
B 12172	Sept. 15, 1894	16
B 17711	Oct. 15, 1896	11
B 27912.	July 18, 1901	74
B 6108	May 29, 1891	10
B 3961	Aug 6, 1889	10
B 13583	June 4, 1895	13
B 3536	June 13, 1889	10
B 25497	May 29, 1900	61

An examination of the above plates fail to show any variation in J.C. 18^h 1935. On all of them it is about the same magnitude photographically as the adjacent star CDM $-51° 11723$ $18^h 33^m 1^s.5$ $-51° 51'.5$ 9.8 (1875).

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1899phae.proj..815

July 14, 1902.

Exam. of plates to determine variation if any in A.G.C. 14971 R.A. $10^h 52^m.2$ Dec. $-59° 55' 7''$ 1900. Cor. A 5787.

Plate	Date	Eff.
B 15781	Nov 18, 1895	25
B 13199	May 9, 1895	10
B 26941	Jan. 30, 1901	10
B 21557	June 1, 1898	10
B 9420	May 10, 1893	17
B 22810	May 10, 1899	10
B 24652	January 30, 1900	10
B 25356	May 19, 1900	60
B 16301	June 13, 1896	10
B 16844	July 14, 1896	61
B 15611	April 15, 1896	82
B 9431	May 13, 1893	140
A 5787	April 8, 1902	60
A 5768	March 11, 1902	61.

An examination of the above chart plates fails to show any evidence of variation in A.G.C. 14971. On all of them it is about 0.6 magn. brighter than A.G.C. 14965 $10\ 52.0 -59\ 57$ (1900). It is also about 0.6 magn. brighter than A.G.C. 14965 on A 5768 and 5787 but on B 9431 the spectra appear to be of equal brightness.

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1899phae.proj..815F

Thursday July 17 1902

Measures of intensity of lines in Rowland's Solar Spectrum

24 Scorpii from 5316 to 5331

A 525.0 – 555.0
B 505.0 – 535.0

		A	B	A'	B'		
2 23	53 15.3	4.5	2.0	4.0	2.5	8.5	12
	15.9	0.5	–	0.5	–	1.0	25
	16.8	9.5	5.0	11.0	6.0	20.5	4
	16.9	7.0	3.5	7.5	4.0	14.5	5
	17.6	3.0	–	2.0	–	5.0	18
	18.5	3.5	–	3.0	1.0	6.5	16
	18.9	4.0	0.5	3.5	2.0	7.5	14
	19.2	2.0	–	2.0	~~4.0~~	4.0	23
	19.4	2.5	–	2.5	–	5.0	19
	20.0	2.5	–	2.5	–	5.0	20
	20.2	3.5	~~0.5~~ 1.0	3.5	2.0	7.0	15
	21.3	4.5	3.0	5.5	3.0	10.0	10
	22.2	6.0	4.5	8.5	4.0	14.5	6
	24.4	13.5	12.5	16.0	12.0	29.5	2
	25.5	2.0	0.5	2.5	1.0	4.5	22
	25.7	~~3.0~~ 4.5	3.0	4.5	3.5	9.5	11
	26.4	4.5	2.5	4.0	~~0.5~~ 3.0	8.0	13
	27.0	4.0 2.5	1.0	2.5	0.5	5.0	21
	27.4	1.0	–	1.5	–	2.5	24
	28.2	17.0	17.5	17.0	15.0	34.0	1
	28.4	8.0	7.5	5.5	5.5	13.5	~~6~~ 7
	28.6	12.0	12.0	9.0	8.0	21.0	3
	29.4	5.0	4.5	6.5	4.5	11.5	8
	30.0	3.0	2.0	3.5	2.5	6.5	17
	30.2	5.0	4.0	6.0	4.0	11.0	9
	~~31.6~~						

aus 3 Linien: 2.46 3.06 3.12

Mittelwerte

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1899phae.proj.815E

	A	B	C	D	B-A	C-A	D-A	B-A/+3	D-A/+3		
28.2	17.0	17.5	17.0	15.0	+1	0	-4	+4	-1	17.5 1 3 1 2	7
24.4	13.5	12.5	16.0	12.0	-2	+5	-3	+1	0	14.5 2 1 3 2	8
28.6	12.0	12.0	9.0	8.0	0	-6	-8	+3	-5	11.0 2 5 4 3	14
16.8	9.5	8.0	11.0	6.0	-3	+3	-7	0	-4	9.5 0 0 3 4	7
16.7	7.0	3.5	7.5	4.0	-7	+1	-6	-4	-3	6.0 2 2 3 1	8
20.2	6.0	4.5	8.5	4.0	-3	+5	-4	0	-1	6.5 1 1 4 2	8
28.4	8.0	7.5	5.5	5.5	-1	-5	-5	+2	-2	7.5 1 3 4 1	9
19.4	5.0	4.5	6.5	4.5	-1	+3	-1	+2	+2	6.0 2 0 1 0	3
30.2	5.0	4.0	6.0	4.0	-2	+2	-2	+1	+1	5.5 1 0 1 0	2
21.3	4.5	3.0	5.5	3.0	-3	+2	-3	0	0	4.5 0 0 2 0	2
25.7	4.5	3.0	4.5	3.5	-3	0	-2	0	+1	4.5 0 0 0 2	2
26.4	4.0	2.5	4.0	3.0	-3	0	-2	0	+1	4.0 0 0 0 2	2
15.3	4.5	2.0	4.0	2.5	-5	-1	-4	-2	-1	4.0 1 1 0 0	2
28.4	4.0	1.0	2.5	0.5	-6	-3	-7	-3	-4	3.0 2 1 1 2	6
18.9	4.0	0.5	3.5	2.0	-7	-1	-4	-4	-1	3.0 2 2 1 1	6
20.3	3.5	1.0	3.5	2.0	-5	0	-3	-2	0	3.5 0 2 0 0	2
18.8	3.5	-	3.0	1.0	.	-1	-5	.	-2	3.0 1 . 0 1	2
30.0	3.0	2.0	3.5	2.5	-2	+1	-1	+1	+2	3.5 1 0 0 1	2
17.6	3.0	-	2.0	-	.	-2	.	.	.	2.5 1 . 1 .	2
19.4	2.5	-	2.5	-	.	0	.	.	.	2.5 0 . 0 .	0
20.0	2.5	-	2.5	-	.	0	.	.		2.5 0 . 0 .	0
27.0	2.5	1.0	2.5	0.5	-3	0	-4	0	-1	2.5 0 0 0 1	1
25.9	2.0	0.5	2.5	1.0	-3	+1	-2	0	+1	2.0 0 0 1 1	2
19.2	2.0	-	2.0	-	.	0	.	.	.	2.0 0 . 0 .	0
27.4	1.0	-	1.5	-	.	+1	.	.	.	1.0 0 . 1 .	1
15.9	0.5	-	0.5	1.0	.	0	+1	.	.	0.5 0 . 0 1	1

61

34

1-59/19 24-19/26 1-77/21 14-15/19 8-25/21

+.30 +.02 +.36

±17 ±15 ±16

61/28 35/64 99/92 ±11

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1899phae.proj..815F

Thursday July 31, 1902

Brucia (323)

Object (asteroid?) not in Dm. at $6^h 52^m.6$ $+18° 28'$ found by Miss Henry. var?

			d	h	m	Mag.	Gm.						
24,12,087.4	1891	Dec.	20	9	29	-3.5	2	6 51.5	+21	15	+2.2	-3	6h 49.3
89.5			22	12	16			8 54					6 53.7 +21 12
								11 41 49.2	2.3	+21	54	39	51.4 21 57
90.45			23	11	11			10 36	47.9	1.3	+22	13	50.1 22 10
		Dec	31	9	36			8 52	37.0	12.3	+24	50	177
99.4	1892	Jan	1	9	34	11.5			35.6		+25	10	37.8 25 7

2077

I 5050 1891 Dec 10 7^h 7.5 +17 20 7^h 10.6 +17° 17'

5 55 Object found at about $7^h 4.3$ +17° 25' Meas. in B12 pp. 168.

1

d	h	m	
3.05	3.6	58'	
8.95	12.2	177	

3.6 | 305 — 12.5 — 15.9

3.05 — 1.18

550

305

2450

Dec 10 2077.6

Dec 20 2087.371

22 89.487

23 90.44

31 98.369

1 99.369

16

21

Uciuna.

Dec 31.	$9^h 36^m 27^s$	$6^h 37^m 1.22$	+24° 50' 22".0		
Jan 1	9 58 26	6 35 37.67	+25 9 38.2		
Δ	$1^d 0^h 21^m 59^s$	$-1^m 23^s.55$	+19' 16.2		
	1.015	-1.3925	19.27		
		1.37 mean	19		

23.55 | 60 — 16.2 | 6 — 1.3925 — 19.27 | 1

3.925 — 27 — 27 85 | 203 — 1.37 — 38 54 | 203 — 19

2.03

755

609

1460

1422

38

203

1824

1927

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1999phae.proj.015F

1855		G.M.T.	T-57.37	1.3d	Ra. Cent	G-C	20x7	Cent Dec	G-C
6 49.3	+21 18	2412087.371	0.00	0.0	49.3	0	0	21° 18'	0'
47.0	21 57	89.487	2.12	2.8	46.5	+.5	42'	22 00	-3
45.7	22 16	90.442	3.07	4.0	45.3	+.4	6.1'	22 19	-3
33.4	25 13	99.369	12.00	15.6	33.7	-.3	240.0	25 18	-5

~~7h 6.2 17 23~~

							Dec	R.A.
Jan 16		2412114.37	27.0	35.7	14.2	54.0	+30° 18'	6h 14.2m
21		19.37	32.0	41.6	7.7	64.0	+31° 58'	6 7.7
Dec 10	43 17° 25'	77.37	-10.0	13.7	03.0	200	+17 58	7 3.0 +1.3 -33'

7h 4m 18s +17° 25'

			22.4	30.688	425.6	63.688	64.3	+.612	18 24.4	17 25
6 49 18	+21 18		12.629	17.302	240.95	50.302	49.3	-1.002	21 29.514	-11.05
47 0	21 57		10.513	14.403	199.75	47.403	47.0	-.403	22 19.257	-13.25
45 42	22 16		9.558	13.094	181.60	46.094	45.7	-.394	22 28.40	-12.40
6 34 49.22	24 53	22.0	1.646	2.255	31.274	35.255	34.820	-.435	24 54.726	-53.367
33 25.67	25 12	38.2	0.631	0.864	11.989	33.864	33.428	-.436	25° 18.011	12.633
			14.653	20.075	278.41	6 38.00 12.925			26.30	
			19.641	26.905	373.18	6 6.092			30° 8.41	
						6.285			31° 43.18	

Cent Dec 10. 7h 3.3 +18° 5'
Jan 16 6 12.7 +30 5 2114.653
21 6 5.9 +31 41 21 19.641

29306 / 1460 / 27.441

25256 / 12629 / 240.951

21026 / 10513 / 199.75

19116 / 9558 / 181.60

32.92 / 1646 / 31.274

12.62 / 631 / 119.89

29.0 / 1.45 / 27.55

39.0 / 1.95 / 37.05

4456 / 224 / 4256

25 30 / 7 5.6 / 18 24.4

39282 / 1964 / 3731.8

16.44 / .862 / 17.302

13.7 / .70281 / 14.403

12.33 / .764 / 13.094

13.7 / .885 / 14.585

1.37 / .885 / 2.255

137 / 27.4 / 27.45 / 306.85

19 / 724 / 25 36.6 / 4256

25 30 / 4 34.41 / 30 8.41

25 30 / 4 32 / 30 5

25 30 / 6 11 / 31 41

15618 / .87461 / 16.313

19.18 / 89461 / 20.075

2603 / 87817 / 26.90817

25 30 / 6.1318

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1899phae.proj..815F

August 1, 1902.

Brucia (323). Search for Asteroid.

Plate	Date	Ex.	R.A.	Dec.	?	JD Gr.M.T.
Iro for prec.	I 4546	Oct. 16, 1891	11m	4.4	+11.5	
Iro for N.?	I 4747	Nov. 6,	17	7.7	+22.0	
" " " ?	I 4748	Nov. 6	65	7.7	+22.6	
Iro por ?	I 4936	Dec. 1	10	7.5	+13.0	
" " ?	I 4937	" "	10	7.5	+18.3	
Iro for S.	4935	" "	12 10	7.4	+8.0	
Corres region.	I 5049	Dec. 10	10	7.1	+13.6	Iro por.
	I 5412	Jan. 16	17	6.4	+33.2	2114.653 15 41
	I 5445	Jan. 21	11	6.1	+33.3 4	2119.641 15 23
	5486 (2,1)	Jan. 31	12	6.4	+28.4 4	
	5514 (2,3,1)	Feb. 4	11	6.4	+33.2 3	
	51					
Brucia (?)	I 5050	Dec. 10		7.5	+17.3	2077.835 20.02

Stations Roemer. 1889.

	dep.	m.		d.	m.	s	$\frac{1}{2}$	$\Delta\alpha$ 1-2		
1				24	48	89	14		25	
3	25	50	33	25	50	83	6	100	27	23 50
5	32	64	60	20	50	0	22	114	38	22 60
6	21	42	29	16	22	94	9	74	20	15 35

100 dep. 50 m = R.A.

Predicted Jan 21, 6h 5m +31°0

	R.A.			
Jan. 1 0	6 32		Dec. 22	6 32
11 0	6 46	14	Dec. 22	18
21	6 58	12	" 12	6
31	7 8	10	" 2	5 56
Feb. 10	7 16	8	Nov. 22	48
20	7 20	4	" 12	44

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1899phae.proj..815F

Comp Ra. Comp Dec.
1855 1855

$6^h\ 12.^s927 + 30°\ 8'.41 \quad -0.^s4$

$6^h\ 6.^s092 + 31°\ 43'.8 \quad -0.4$

As a result of this examination Plate I 5050
Cotton Dec 10, 1891, $20^h\ 2^m\ 5^s.7$ = J.D. 2077.835 comRA $7^h\ 3^s.0$ Dec $+18°\ 8'$

I 5412	Jan 16 1892	$15^h\ 41^m$	2114.653	$6\ 12^s.5$	$+30\ 13$
I 5445	" 21 "	$15^h\ 23^m$	2119.641	$6\ 5^s.7$	$+31\ 51$

Upon each plates are the computed positions of the asteroid. I 5445 is noticeably good. I 8005, Feb 4, 1893, covers the same region and shows much fainter stars. The object not a defect appears in this region on I 5445 and on I 8005

Objects assumed to be asteroids were found on I 5412 at about $6^h\ 12^s.1 + 30°\ 2'$ and on I 5445 at $6^h\ 5^s.1 + 31°\ 48'$

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1899phae.proj..815F

August 6, 1902.

Search for Comets (62)

12 20 Phaeton 3.1899. 2h 33.3 +11° 16' 1.0 -3'

Regiomontanus I 23801. Oct 14. a

~~I 23804. Oct. 14. 15~ 2.2 +22.5. 3~

Ephem Oct 14 2 53 +12.3

24 2 43 +11.8

Nov 3 2 33 +11.3

13 2 23 10.8

23 2 13 10.3

Ser RA. Dec. b

I 23820 Oct 16 12 3.2 +17.5 3 2 51 12.2 2 49 12.0 23° 5.5

23819 " 14 3.2 +7.4 3 " 4.6

23910 " 21 10 2.8 +7.1 3 2 46 11.9 2 44 11.7 4° 4.6

✓ 24014 Nov 9 12 2.2 +12.0 3 2h 27 11.0 2 25 10.8 13° 1.2

1 00 24263 Dec 15 16 1.8 +7.0 3

2 15 Regiom 23601 L-24300

23682 Sept 27 10 2.7 +17.0

~~23700 " 30 2.7 17.0~~

L

Ans digits found on I 24014. subtrahend a 24454

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1899phae..proj..815F

Aug 6 1907

Search for Klytia (73)

Oct	25		4 36	+24 54	4 28.0	24 47		
Nov.	4		4 26	" 34	18.0	24 27		
	14		4 16	" 14	08.0	24 7		
8	24	11.8	4 06	+23 54	3 58.0	+23 47		
Dec.	4		3 56	" 34	48.0	23 27		
	14		3 46	" 14	38.0	23 7		
	24		3 36	+22 54	28.0	22 47		
Jan.	3		3 26	" 34	18.0	22 27		

Begin 2380 ~~Φ~~ E 2460

~~Nov. 9 85 4.8~~

24084	"	19	12	4.1	+27.5	3i	3 53.0	23 57	+3 45	single trail Cy.
24164	Dec	2	84	4.0	27.5	3i	3 50.0	23 31	-4 4.0	✓
24209	"	12	15	~~4.5~~ 3.8	27.3	4	3 40.0	23 11		✓
24212	"	"	10	3.5	22.5	3	3 40.0	23 11		✓
24393	Ja	6	60	3.8	22.7	4	2 12.0	22 21		✓

20"

1' = 15' = 900"

1h = 38"

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1899phae.proj..815F

August 6, 1902.

Search for Eurdice. (217)

May 2		$17^h\ 3.8$	$-5°\ 18'$			
12		$16\ 53.8$	$-4\ 48$			
May 22		47.8	$-4\ 18$			
1899 June 1	11.9	$16^h\ 39.8$	$-3°\ 48'$	0.8	+3	
11		31.8	$-3\ 18$			
21		23.8	$-2\ 48$			
July 1		15.8	$-2\ 18$			

Beginning 22780 (23146

23160

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1899phae.proj.815F

August 6, 1902.

Search for Victoria (236)

		1855	1855
~~May 21~~			
May	31	19 3.1	−10 38
"	10	18 54.1	−10 38
"	20	18 45.1	−10 38
1899 June	30	11.0 18 36.1	−10 38
July	10	18 27.1	−10 38
	20	18 18.1	−10 38
	30	18 9.1	−10 38

From 22961 & 23280 α δ

23142	July 10, 99.	14	18h 8	−13°.1	4	18h 27m.1	−10° 38′	21m	2° 28′	✓
23212	" 26	12	18.5	−7.9	4	18 15	10 38	15	2 44	✓
23223	" 27	10	18.2	−7.8	3	18 15	10 38	3	2 50	✓

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1899phae.proj..815F

Aug 7, 1902.

Search for Wilhelmina (322)

Ar. 139 ~ 91

From I 14101 Dec 19 to 14500 Feb 24

~~14138.0 14 85~~

14138	Dec 20	14	8.5	−2.9	4			
14139	"	10	9.1	−3.1	3			
> 14486	Feb 2	14	8.2	−3.0	3	8	22	
14484	"	22	17	7.8	2.0			

-305
40
1220
129.20
86

Feb 2 corr. 8 24 39 −3 39.2 8.6

8.2 22 26.8 −3° 30.6

Aug 8. I 14416 compared on I ~~14138~~ 17686 Feb 20

Object found.

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Aug 7, 1902
Grand Pr. (1894 RG) 393
Ah 139 ± 91.
Pr I 14001 Dec 3, 1895 14400 Jan 30 1896.
No plates covering region

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1899phae.proj..815F

August 15. 1902

Asteroid noted by me near date July 1902
Found by Mr Bailey at Arequipa

R.A.

B 30079 June 14, 20.8 -23°
A 5962 " " 19.5 -22.5 ends feb!
A 5998
6000
6003
6006

July 1

(4) Vesta. July 14 19 34.7 -23 34, 19 47.7 -22 3'
(187) Elsa " 10 19 15.1 -22 23 19 25.9 -21 56
(449) Hamburg 15 19 29.4 -23 40 19 53.4 -22 58
(188) Sarmatia 16 19 42.1 -21 52 19 56.6 -21 27

Setula. B.O. Mosty. 19 50.5 -21 5 19 47.6 -21 ~~12~~ 47
19 ~~47.5~~ 21 57

Vesta July 1. B.J.obs 19 47.7 -22 3 19 44.8 -22 10
" " " Brit Al. 19 47.1 -22 6 19 44.2 -22 13
Mosty. Chart. 19 44.3 -22 10
Asteroid not = B.J. 19 43.6 -22 20

Move letter on trail & determine details

19 20 14 7.8 37°.9 li = .614 8'.8
1920 148.6 cos = .789 = 0.8
1966 1560
R.A. Dec. Mon 1935.5 150.8
324

17 m. feet
1.2 mm < 2h = 24 mm a day = 24'/15 = 1.6
Sarmatia (326) 1.7
Anna (264) 1.6

1935 | 150.80
135 45
15 350
13 545
1 805
19 3.

14.4
6.17
8.4
1.7
8.7

1899phae.proj..815F

January 23, 1903.

~~January 15, 1903.~~

Exam. of plates for Asteroid Lutetia Mag. 10.8

Send Plates I ~~20~~ 22

h 7 25 13	+24 39.1	29876	January 21, 1903	4h. 20m	Mag. 9	R.A. 1855 Dec. 1855 P
25 8	39.5	29880	January 21, 1903	" 22	9	7 25 8 40.0 P
24 12	41.0	29890	January 22, 1903	" 20.	9	7 24 57 38.9
						7 24 2 +24 41.9 P
						24 12 +24 41.0

The asteroid is well shown in the above plates.

Obs. α	δ	Calc.		O−C	
7 25.2 ~~25.0~~	+24 40 24 28.6	7 28.3	+24°30	−3.1	+49'
25.1	40			−3.2	+10
24.2	41	27.2	24 33	−3.1	+8
Means 27	6			−0.4	+4'
				−0.5	+4
				−0.4	+2

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1899phae.proj..815F

January 23, 1903.

Exam. of plates for the asteroid Rhyseis.

Plates	Dates	Exp.	Magns.	RA 1855	Dec.
I 29871	January 21, 1903	21m	9.5	7 58 22	+16 19.0 P
				27	18.5 7
29881	January 21, 1903	22m	9.5	58 [illegible]	[illegible] P
				24	18.5 7 9
29891	January 22, 1903	21	9.5	57 30	+ 26.0 P
				28	26.5 7

The asteroid is well shown on the above plates.

							C − C	
7h	58.4	+16°	19.0′	8	0.4	+16	11	−2.0	+8′
	58.4		19.0	8	0.4	+16	11	2.0	+8
	57.5		26.0	7	59.6	+16	17	2.1	+9
	Means +2.5		−8′					+0.5	0
								+0.5	0
								+0.4	+1

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1899phae.proj..815F

January 23, 1903.

Exam. of plates for asteroid Kalliope.

G.M.T.	Plates	Dates	Exp.	Mags.	R.A. 1855	Dec. 1855	J.D.
	I 29871	January 21, 1902	20.	8	7h 44m 26s	+37 39.6 P	.
					25	39.4 F	
	I 29882	January 21, 1902	22.	8	44 20	+ 40.2 P	.
					20	40.0 F	
	I 29892	January 22, 1902	20	8	43 10	+ 43.2 P	.
					10	43.6 F	

The asteroid is well shown on the above photographs.

	Obs. (1855)				O-C	
	7h 44.4	+37 40	7h 50.2	+37 33	-5.8	+7'
	44.3	37 40	50.2	+37 33	-5.9	+7'
	43.2	37 43	49.2	+37 35	-6.0	+8'
	Means +3.1	-9'			-2.7	-2
					-2.8	-2
					-29	-1

	1903		Calc. 1855			
Jan 17	7 44.0 / 4.0	+37 25 / 8			-2.5 / -2.6	-2
21	7 50.0	+37 33	7h 46.9	37° 42'		-2
22	7 49.0	+37 35	7 47.9	37 44	-2.7	-1

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1899phae.proj..815F

March 20, 1903.

Exam. of plates for +39° 896, 3h 48m 17.0 +39° 32'.5 9.0 (1855).
Susp of var. by J.A. Dunne "Sept. 7, 1902 as about 7.8 magn".

Plates A.C.

A.C. 2900 Oct 14, 1902 v
2805 Sept 22, 1902 v
3304 Feb. 17, 1903 v
3275 Feb. 10, 1903 v
3224 Jan. 30, 1903 v
3177 Jan. 16, 1903 v
3120 Dec. 30, 1902 v
2966 Nov. 1, 1902 v
2832 Sept 11, 1902 v
2802 Aug. 31, 1902 v
2379 March 3, 1902 v
2367 Feb 27, 1902 v
2344 Feb. 19, 1902 v
2291 Feb. 7, 1902 v
I 3311 March 25, 1891.

An exam. of the above plates shows no evidence of var. in + 39° 896. It is always about 0.3 tenths fainter than a = +39° 910 8.3 and about 0.3 brighter than b = +39° 887 7.8

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1899phae.proj..815F

March 28, 1903

Estimates of plates for Nova Geminorum (Turner)

$6^h 37^m$ $+30° 3'$ (apparent pl.) $6^h 34.^m7$ $+30° 16$ (1855.

F. observer L. observer

Plate A.C. 3398 March 6, 1903 Exp 66m

11 51	a 7 R	a 6 R	a 6 R	a 4 R	.58	
	R 2 b	R 3 b	b 1 R	b 1 R	.18	
	c 5 R	c 4 R	c 4 R	c 3 R	.40	
	R 3 d	R 2 d	R o d	d 1 R	.15	
	e 3 R	e 4 R	e 4 R	e 4 R		
	f 5 R	f 4 R	f 5 R	f 5 R		
	g 3 R	g 3 R	g 2 R	R 1 g		
	h 5 R	h 3 R	h 3 R	h 2 R		
	k 3 R	k 4 R	k 4 R	k 4 R		
	l 7 R	l 7 R	l 4 R	l 3 R		
	m 4 R	m 3 R	m ½ R	m 2 R		
	R 4 n	R 5 n	R 4 n	R 4 n		
	R 4 o	R 4 o	R 3 o	R 4 o		
55	R 20 p	R 18 p	R 8 p	R 7 p		
	R 4 q		R 2 q	R 1 q		
	R 3 r		R 2 r	R 1 r		
12 0	R 5 s		R 2 s	R 1 s		

F. observer L observer

A.C. 3429. March 14, 1903 Exp 60 m Magn 5.5

	t 3 R	t 4 R	t 5 R	t 5 R	5.54 K		+29° 1327
	R 2 μ	R 2 μ	u o R	u 1 R	7.46 a		+29° 1320
	R 1 w	R o w	R 1 w	R 3 w	7.23 a		+31° 1363
a	R o p	R o p	R 2 p	R 2 p	7.13		+30° 1318
b	R 6 y	R 5 y	R 5 y	R 6 y	a		+30° 1300
	R 6 z	R 6 z	R 6 z	R 6 z	8.16 a		+29° 1297

Estimates Continued on p. 164.

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1899phae.proj..815F

March 28, 1903.

Spectrum of (Turner's) Nova Geminorum (Cont).

F observer		L observer	
A.C. 3432 March 15, 1903, Ey 70m			
t 6 N	t 6 N	t 4 N	t 6 N
μ 3 N	μ 2 N	u 2 N	u 2 N
w 2 N	w 2 N	w 1 N	w 1 N
p 3 N	p 3 N	N 1 p	N 1 p
N 4 y	N 4 y	N 4 y	N 4 y
N 5 x	N 5 x	N 5 x	N 5 x

F observer ~~March~~		L observer	
A C 3427 March 14, 1903 Ey 58m			
t 5 N	t 5 N	t 4 N	t 4 N
u 2 N	u 2 N	N 1 u	N 1 u
N 1 w	N 1 w	N 1 w	N 1 w
N 1 p	N 1 p	N 1 p	N 0 p
N 5 y	N 5 y	N 7 y	N 6 y
N 5 x	N 5 x	N 7 x	N 7 x

A. J. 876 March 11, 1903 Ey 14.57m

α 5 N	
β 4 N	
N 0 γ	
N 1 δ	
N 3 t	
N 5 μ	

Magn. Sp.

6.23	A	α = Dm +28°1314
5.95	G2K	β = +29°1441
6.89	A	γ = +32°1433
5.76	K	δ = +32°1414

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1899phae.proj..815F

March 31, 1903

Observ. of (Tempel's) Nova Geminorum (Cont.).

Plate A.D. 881 March 12, 1903 Eq. 6h 2m

Plate A.D. 881

β 5 R
γ 2 R
t 3 R
R 2 u
R 4 p
R 3 w

Plate A.C. 3432 14

γ 5 R
δ 2 R
R 1 t — t near edge.
R 0 p
R 3 w
R 4 μ

Plate A.C. 3421

γ ~~α~~ 5 R
δ 2 R — δ near edge
t ~~χ~~ 3 R
R 3 p
R 4 w
R 3 μ

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1899phae.proj..815F

March 31, 1903.

Spectrum of Nova Geminorum (Cont.)

Plate C.D. 889, March 13, 1903. Exp. 60 m.

H 4 N
K 3 N
h 3 N
1 2 μ
N 2 μ
N 3 N

Plate A.D. 898 March 15, 1903 Exp. 73 m.

H 5 N
K 1 N
h 4 N
1 2 μ
N 1 μ
N 2 N

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1899phae.proj..815F

March 31, 1903.

Objective Sp. plates of Nova Geminorum.

Plate I 30216 March 25 1903 Exp. 84m. 3° Prism.
On this plate the Nova resembles Nova Sagittarii as photographed on April 19, 1898. (B21251). Hβ, Hγ, Hδ Hε and Hζ are bright also Hβ.45 Hγ = 12. The last line is the brightest line in this Nova, as it also is in Nova Sagittarii and in N.G.C. 7662. There are very faint traces of one or two other bright lines but the spectrum is near the corner of the plate and these lines are uncertain.

Plate I 30252 March 29, 1903 Exp. 69m. 13° Prism
A comparison of the Nova on this plate with the spectrum of N.G.C. 3918, Gas. Neb. fails to show the presence of any of the nebular lines in the spectrum of the Nova. Hβ 10, Hγ 10, Hδ 7, Hε 3 and Hζ 1 are bright. The strong bright band Hβ.45 Hγ 9 is also present.

Plate I 30250 March 29, 1903. Exp. 60. 3° Prism.
A comparism of the Nova on this plate with that of Nova Persei No. 2 on April 26, 1902 (I 26897) Exp. 17m ~~Spectra~~ (Isochromatic) shows that ~~the same~~ with but one exception (the nebular line near Hζ which is the strongest line in Nova Persei) the same bright lines, ~~as~~ Hβ 10, Hγ 10, Hδ 09, Hε 03, 5003, 02 Hβ.45 Hγ = 10, Hβ.7 Hγ = 2, and Hγ.35 Hδ = 1. Hβ is still at about normal brightness 10 in Nova Geminorum while in Nova Persei the intensity is about .4. Line 5003 is now in this spectrum, intensity about .2, while in Nova Persei it is nearly equal to Hβ. ~~Now~~ The line Hζ appears in Nova Geminorum, intensity 1, while the adjacent nebular line has not yet appeared.

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1899phae.proj..815F

April 2, 1903

Efem of Sp. of Nova Geminorum.

Plate I 30266 April 1, 1903 4h 63m

Line 5003=.2; Hβ=.9; Hβ.45 Hγ=1.1; Hγβ6 Hγ=.1; Hβ7 Hγ=.1; Hγ=1.0;
Hγ5Hδ=.1; Hδ=1.2; Hδ5 Hζ=.2; Hζ=.4; H$_5$=.3.

Plate I 30266

Spec C 3 N 8.49 8.57 = 8.53 04 04
N 3 d 8

Isochromatic. Plate I 30265

C 4 N 8.59 857 = 8.58 01, 01
N 3 d

Plate I 30264

C 3 N 8.49 857 = 8.53 04, 04
N 3 d

Plate I 30255

Image of C pair C 1 N 1 8.29 8.47 8.38 09, 09
N 4 d

Plate I 30256

Sp. C 4 N 8.59 857 = 8.58 01, 01
N 3 d

Plate I 30257

Sp. C 3 N 8.49 867 = 8.58 09, 09
N 2 d

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1890phaer.proj.0155

May 30 1903.

Exam. of T Coronae (Nova 1866).

Plates I 8673 June 30 1893 Ex. 11m
I 1520 July 23, ~~1900~~ Ex 10m 1890/
I 24819 March 12, 1900 Ex 14m.
I 28786 May 13, 1902 Ex 10m

One examination of +26° 2765 on these plates fails to show any variation or change in position. It is about 0.3 mags fainter than a and 0.1 mags brighter than b. on all three plates.

Position of ~~star~~ a, b

	x	y			
N	+5.70	+6.70			
a	+12.90	+6.45	+7.20	-.25 sf	87° S 0.7
b	+2.40	+4.80	~~-3.30~~	-1.90 cb	48° E ~~+2.7~~ S 5.2

163" 26°20'

25

326

815

40.7

0.7

+9.25

19/163

1467

163

309.7

310

5.2

7.2 / 12.1

72

144

72

87.1

105

210

105

127.05

330

66

33

389.3

40'

163 / 1896

896 | 182.9

7340 | 12.1

7168

1720

272 / 876

4

1086 / 1896

896 | 12.1

1900

1792

1080

+ 1'27' 90.7

+ 1'40' 95.2

1899phae.proj..815F

October 6, 1903

Examination of plates for Wolf's Nova.
R.A. $20^h\ 14^m\ 57^s.0$ Dec. $+37^\circ\ 9'\ 49''$ (Eq. 1903.0).
(follows P Cygni 38^s S $34'$.

A 1546 (Sp.) July 30, 1895. Ex. 62m.
Nova?. Spectrum Type IV. Class Na. Like U Hydrae. Magn 10.
Another var. Sp. Class Na. found and proved to be R.S. Cygni

A 677 (Ch). June 13, 1894. Ex. 17m.
Nova? visible about magn 10.8?

A 1547 (Sp.) July 30, 1895. Ex. 65m
Nova? Sp. Class Na?. Image not so good as on A 1546. Magn 10.

I 4675 Oct. 29, 1897
I 7167 Sept. 26, 1897
A 1682. (Ch) Sept. 13, 1895. Ex. 13m.
Nova? Very faint. Probably about magn. 12.

✓ An examination on October 5, 1903, failed to show any new star in position given by "Kreutz" Cablegram. ~~4 for~~ 4 C. plates (one taken on Sept. 24, 1903) and I plates were used. A further examination resulted in ~~the~~ proving the variability of the faint star following and south of $+37^\circ 3876$, which seems to be identical with the supposed Nova.

(Have Miss Leavitt measure and reduce as Carnegie work)

W. P. Fleming, October 3, 1903

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1899phae.proj.8155

October 30, 1903

Exam. of plates for star near V Cygni. See sketch & Chart of John H Gadie, Oct. 27, 1903.

Plate	Date	Ref.
~~I 6924~~	~~Sept~~ 1892 8	11 m
I 7209	Sept. 29 1896	10 m
I 16261	Oct. 24 1897	13
I 18611	Aug. 28 1899	17
I 23488	Sept. 14 1903	11
AC 4040	Oct. 14	62
AC 4060	Oct. 19	64
AC 4077	Oct. 21	53

V Cygni is not visible on any of these plates.

An examination of the above plates shows a star of about the magn. 9.5. On all the plates it is about 0.4 fainter photographically than +47° 3162 magn. 9.5, and about 0.2 brighter than +47° 3167 magn. 9.5. = m

Letter Sent Oct. 29, 1903.

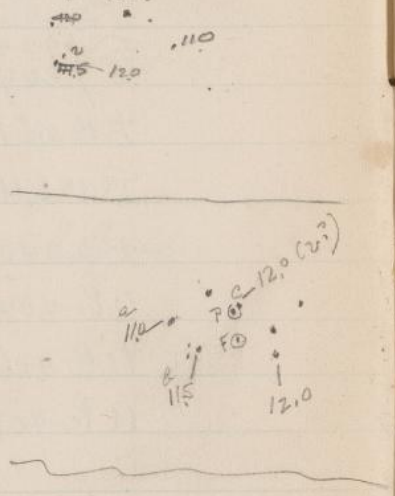
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1899phae.proj..815F

Sunday Feb. 9, 1904.

Variable discovered by E.C.P. VCh. VCh. sent by Chas. Sawtelle

12 48	AC 4519	Jan. 14, 1904	11.5		
	4434	Dec 24 1903	11.7		
	4263	Nov 25 "	11.7		
1 00	4094	Oct 24 "	11.6		
	3320	Feb 9 1903	11.7		
	3305	Feb 17, 1903	11.7		
	3325	Jan 30, 1903.	11.7	11.9	
	2960	Oct. 13, 1902	11.9	12.4	
	2953	Oct. 30, 1902	11.8	12.3	
	2931	Oct. 24, 1902.	11.6	12.2	
	2885	Oct 9, 1902	11.7	12.3	
	2398	March 10, 1902	11.9	12.3	
	2309	Feb 10, 1902	11.8	12.1	
	2156	Jan. 3, 1902	11.7	12.0	
	2057	Dec. 5 1901	11.8	12.0	
	1894	Oct. 21, 1901	11.9	12.1	
	~~1890~~ 1819	Oct 3, 1901	11.5	12.0	
	1793	Sept 26, 1901	12.3	12.0	?
	1779	Sept. 24, 1901	11.8	12.4	
	1369	March 23, 1901	11.5	12.3	
	1328	March 7, 1901	11.8	12.2	
	1272	Feb. 21, 1901.	11.8	12.2	
	1270	Feb. 21, 1901	11.5	12.0	
	1216	Feb. 7, 1901	11.3	12.2	
	1110	Dec. 29, 1900	11.8	12.0	
	1101	Dec. 28, 1900	12.0	12.2	
	719	Feb 8, 1900	11.4	11.8	
	613	Dec. 20, 1899	11.3	12.0	



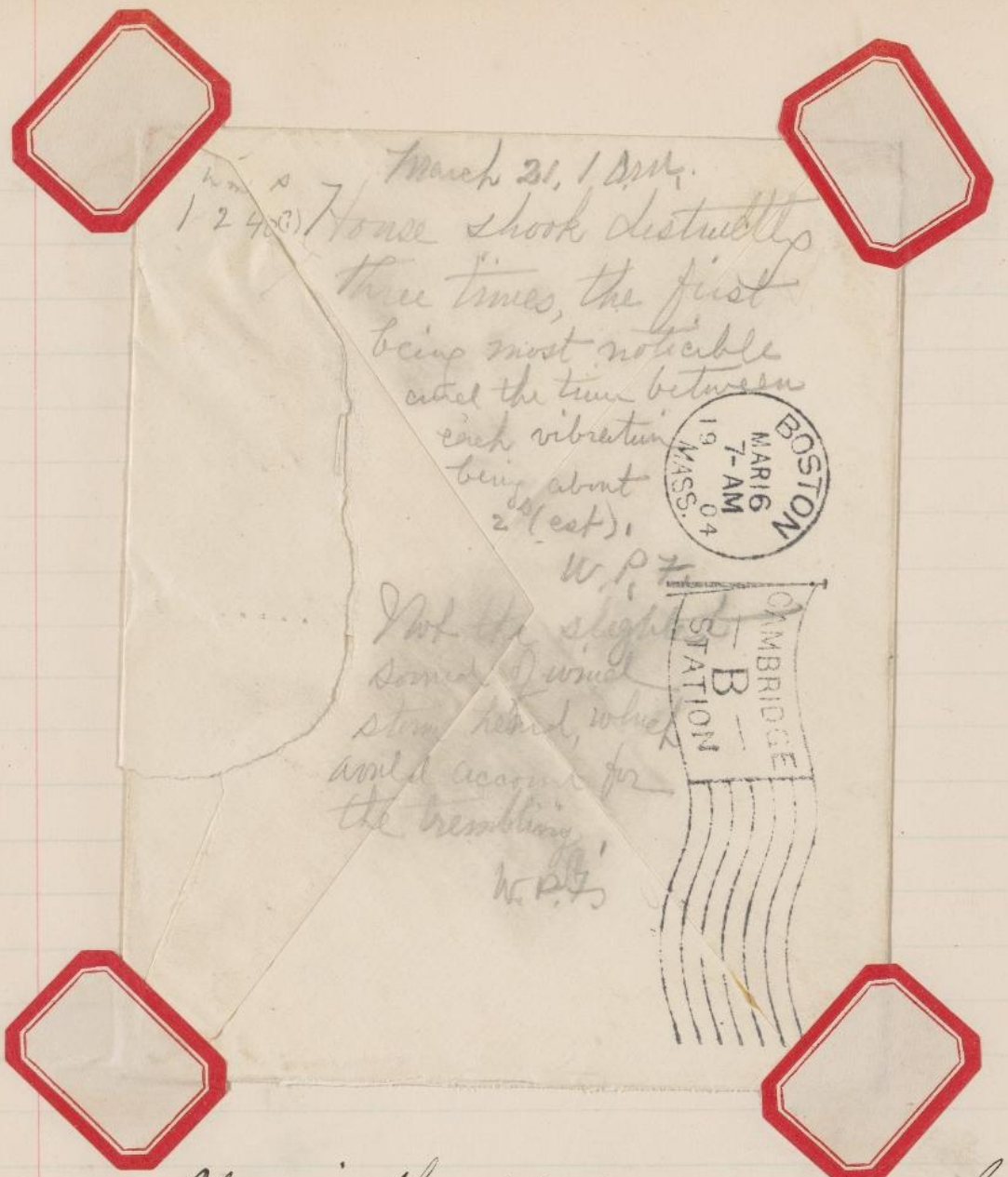
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1899phae.proj..815F

		552	Nov. 24,	1899	11.7	12.2)
		499	Nov. 5,	1899	11.8	12.2)
		256	March 24	1899	11.9	?
		152)	Jan. 11,	1899	11.8	12.2)
1	20	63	Oct. 16,	1898.	11.6	12.1

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1899phae.proj..815F



March 21, 1904. Above is the original record of earthquake as observed by W.P. Fleming, at 273 Upland Road, Cambridge, Mass. and of which a copy in ink is made below, with a statement of some additional sensations (?).

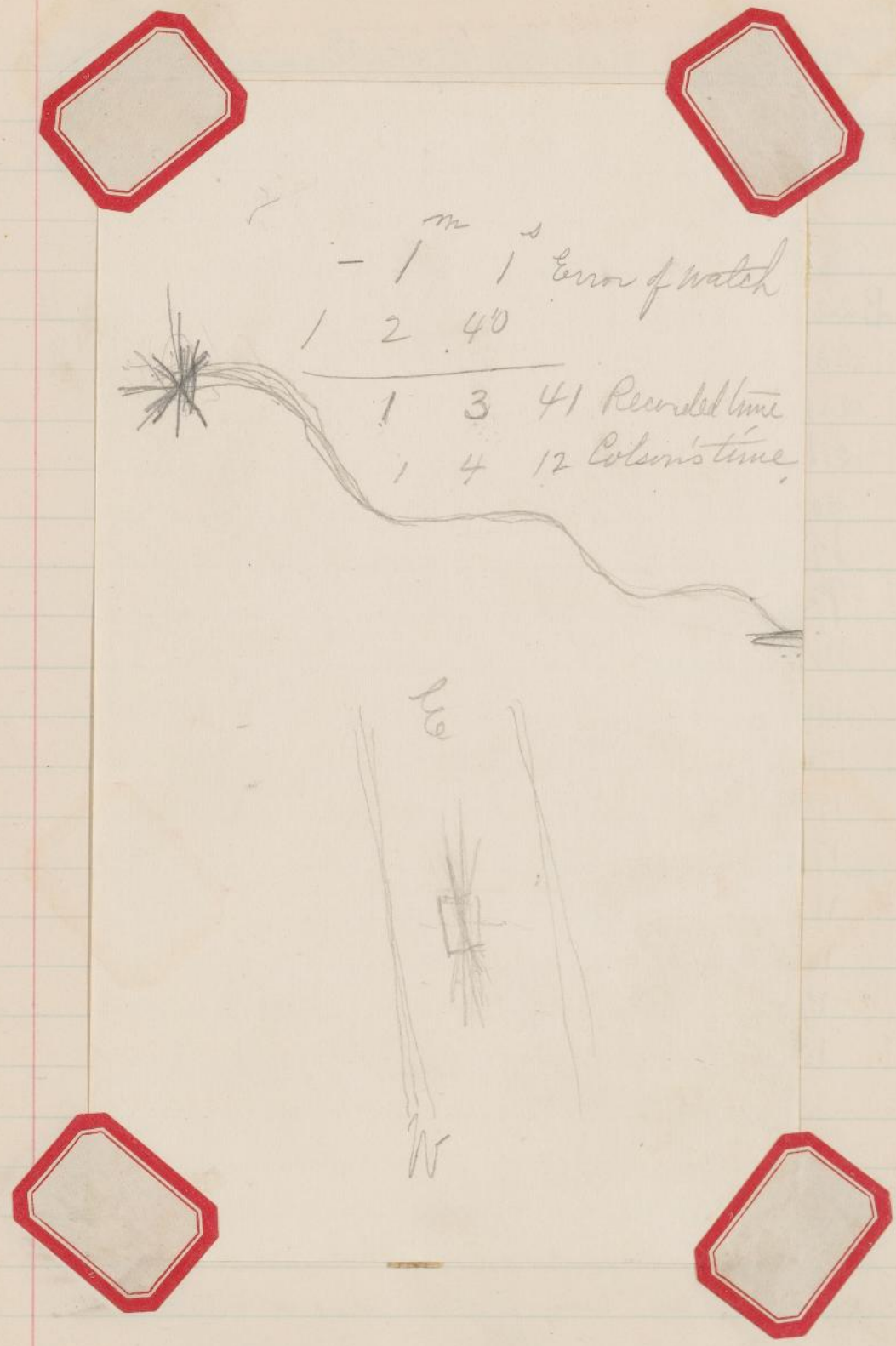
Time
1 2 40 (?) "House shook distinctly three times, the first being most noticable,
−1 1 error of watch
1 3 41 and the time between each vibration being about 2s (est). W.P.F.
Not the slightest sound of wind storm heard, which would accomt for the trembling. W.P.F.

The sensation was similar to that of crossing in a row boat, the waves in the wake of a steamer, taking them head on, not broadside, and riding over them getting three pulsations of which the first was very strongly felt and the last a passing away.



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1899phae.proj..815F

March 29, 1904.

Obsvr. A plates to determine variation if any in A.G.C. 31171 R.A. 22h 49m.9 Dec. -30° 9 magn. 8.
Sp. M e5d on A 6442. (W.P.F. March 26, 1904)

Plate	Date	Ex.
B 22968	May 31 1899	10m
23893	Aug 17 1899	10
25644	June 27 1900	10m
21631	June 10 1898	11m
30934	Oct 20 1902	10m
6729		
9738		
11609	July 16 1894	
17123	Aug 13 1896	12
17009	July 29 1896	13
19802	July 10 1897	10
17811	Nov. 11 1896	10
16705	July 6 1896	11
14942	Oct. 24 1895	10
17299	Aug. 31 1896	12
12560	Nov. 13 1894	10
13959	July 3 1895	10

An examination of the above plates shows very slight evidence of variation in A.G.C. 31171. The change on these plates does not exceed 0.4 magns. Not to be measured.

W.P.F.

This star was suspected of variability before by Mrs. F. on B 12090 "M e5d" & plates were examined & no evidence of variation found ~~ed~~ Book 85 p. 73

Later - April - 1911 on B 11896 Mrs. F again called it "M e5d var" - Examination of chart, & plates by Cow - proved star to be variable. So it is announced in Circ 167 -

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1899phae.proj..815F

March 29, 1904.

Exams. of plates to determine variation if any in C DM -38°9405 R.A. 14 21. 18,3 -38° 20,0 9,3 (1875. Sp. Mc. (var.) on A 6432.

Plate	Date	Ex.
A 3639	June 16 1899	60m
B 27581	June 6 1901	10
31607	May 14 1903	10
25039	April 9 1900	10
27849	July 11 1901	61
6068	May 27 1891	10
23873	Aug 17 1899	10
22740	May 14 1899	10
21098	March 28 1898	10
24918	March 31 1900	70
21921	Sept. 5 1898	10
7643		
25720	July 5 1900	10
19305	June 1 1897	10
5327	May 29 1890	10
16142	June 5 1896	10
14276	Aug 2 1895	10
23317	June 6 1899	10
25253	May 8 1900	10
22725	May 3 1899	10
24830	March 2 1900	10

On examination of the above plates shows a change of about 0.5 magn. in -38°9405. Not to be announced until further evidence of marked variation is found.

W.P.F.

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1899phae.proj..815F

March 29, 1904.

Eform. A plates to determine variation if any in
Chm = 36° 10' 36.0 15h 35m 26.9 -36° 46' 1.0 Mapi 83. (1875).
Sp. Mc'd on A 6433.

	Plate	Date	Exp.
A	2678	Aug. 30 1897	80m
B	15783	May 11 1896	11
	25N9N	May 29 1900	60
	30551	Aug 14 1902	10
	31768	May 14 1903	10
	3373	June 7 1890	60
	5331	May 29 1890	10
	25907	Sept. 3 1900	10
	1111N	May 14 1894	3
	9726		
	1H029	July 9 1895	10
	9157		
	11279	May 23 1894	
	21925	Sept. 5 1898	10
	23W43	July 13 1899	10

One eform. of the above plates shows a change of about 0.4 magn. Not to be announced until further evidence of variation is found.

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1899phae.proj.:815F

[R Centauri]

March 30, 1904.

Exam. of plates to determine variation if any in Star at approx 1875 pos. $14^h\ 41.^m7 - 41\ 59.0$ (slightly preceding nucleus of C. Dun. $-41°\ 9189$ (1875) $14\ 41.9 - 41\ 59.7$) Sp. Md. (variable?). Hγ and Hδ bright-in A 6426.

Plates	Date	Exp. m
B 32039	June 23 1903	61
32073	June 30 1903	61
32118	July 6 1903	10
28079	July 27 1901	10
29973	June 9 1902	60
25106	April 11 1900	10
A 5444	July 11 1901	60
A 1980	Aug. 6 1896	61

Checked from Copy of Records

An examination of the above plates shows a variation of at least 2.5 magns. in the above star marked Md. in A 6426.

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1899phae.proj..815F

April 9, 1904.

Note on Examination of Objects marked by E. Sting. on plate I. 31457.

+39° 1557 6h 5.2m ~~59.5~~ +39 58.9 8.0 (1855).

Spectrum examined and found to be Class M.

Examined on Chart plates, and no evidence of variation found.

I	Kl Date.	Eff.
	21880	
	26066	
	21653	
	24792	
	2444	
	14891	
	20268	
	17107	
	952	
	10210	
	8164	
	24396	
	s446	
	10889	
	11868	
	s-106	
	3109	

Discovery of I 31457. March 5, 1904. W.P.F.

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1899phae.proj..815F

April 9, 1904.

Note on Examination of Objects marked by E.S. King, on plate I 31457.

+42° 1514 6 ~~31.0~~ 5.5 +42 4.6 8.1 (1888).

Spectrum examined and found to be Class K?. It may be Md 1 but the identification of the lines is uncertain and one or more are due to defect.

Spectrum very resemble Procyon. See also I 24536.

I 14 21880 Dec. 1, 1898
17 26066 Nov. 12, 1900
13 21653 Nov. 3, 1898
16 24792 Mar. 12, 1900
2 2444 Dec. 7, 1890
10 14891 April 11, 1896
12 20268 Feb. 26, 1898
11 17107 Jan. 18, 1897
1 952 Apr. 5, 1890
7 10210 Dec. 19, 1893
6 8164 Mar. 2, 1893
15 24396 Jan. 6, 1900
5 5446 Jan. 21, 1892
8 10889 Mar. 24, 1894
9 11868 ~~Mar~~ Nov. 11, 1894
4 5106 Dec. 11, 1891
3 3109 Feb. 19, 1891

Variation of about 0.4 magn. (not more) found on the above photographs by W. P. Fleming, and confirmed by L. D. Wells (?). March 5, 1904. (Cor. to I 31457).

Report from E.S. King on April 7, "Confirmed by Professor Wendell with 15 inch telescope".

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1899phae.proj..815F

April 11, 1904.

Examn. of Plates for Var. in
R.A. $6^h\ 1.6$ $+43°\ 11'$ Sp. Md on I 31457.

	Pl.	Date	Exp.
16 I	30076	Feb. 23 1903	13m
10	21653	Nov. 3 1898	12
15	26066	Nov. 12 1900	10
3	3140	Feb. 22 1891	10
5	5446	Jan. 21 1892	10
2	3109	Feb. 19 1891	10
1	952	April 5 1890	10
4	5106	Dec. 11 1891	10
7	10210	Dec. 19 1893	23
6	8164	March 2 1893	13
9	17107	Jan. 18 1897	12
11	21880	Dec. 1 1898	14
13	24396	Jan. 6 1900	61
12	24361	Dec. 31 1899	67
8	10889	March 24 1894	14
14	24792	March 12 1900	14

Examination of above plates shows variation of about 2.5 magnitudes in the above star.

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1899phae.proj..815F

April 11, 1904.

Exam. of Plates for var. in.
Rd 6 11.3 +42 49 (1855). ~~and of~~ North prec. of two ft. cl. stars. Sp Br lines
on I 31457.

and of No. 6195 on I 31457
Epoch 1855 for 6 11.6 +42 46

Pl	Date	Ex.
I 30076	Feb. 23 1903	13m
21653	Nov. 3 1898	12
26066	Nov. 12 1900	10
~~3440~~	~~Feb. 22 1891~~	~~10~~
54146	Jan. 21 1892	10
3109	Feb. 19 1891	10
952	April 5 1890	10
5106	Dec. 11 1891	10
10210	Dec. 19 1893	13
8164	March 2 1893	13
17107	Jan. 18 1897	12
21880	Dec. 1 1898	14
24396	Jan. 6 1900	61
24361	Dec. 31 1899	67
10889	March 24 1894	14
24792	March 12 1909	14

Exam of above plates shows variation of about 0.5m and about 0.6 magn. in the ~~above star~~ north prec. of two ft. close stars. These changes may be photographic since the plates which show the greatest changes are those which have coarse grain in the film.

[Do not announce. Distribution Circular No. 80.] W.P.F.

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1899phae.proj. .815F

April 14, 1904.

Exam. of plates to det. var in
R.A. $21^h 15.9^m$ -41°13 (1875). Sp. Md. var. on A 6481.

Plate	Date	Exp.	
Obtained from Cty records	B 31778	May 14 1903	11	
	10062	Aug 1 1893	10	
	16812	July 11 1896	16	
	16666	July 3 1896	12	
	8536	Sept. 8 1892	10	
	21449	May 20 1898	10	
	23550	July 18 1899	12	
	26259	Sept. 20 1900	6h	
Obtained from copy of records	A 6481	Spectrum July 31 1903	60	
	A 5698.	Oct 4 1901	60	

On examination of the above plates shows a variation of at least 3.0 magnitudes in the star.

W. P. F. April 14, 1904

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1899phae.proj..815F

April 14, 1904.

Exam of Plates for moving Object found on A.C. 1655, taken Aug. 18, 1901. Found April 12, 1904.
R.A. 17h 35m.5 Dec. +22° 42' (1855).

Assumed to be defect as Plate I 27316 taken August 16, 1901 fails to show any bright object near.

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1899phae.proj..815F

April 14, 1904.

Exam. of Plates for New Algol var. —
+7° 3404 $17^h 27^m 34^s.9$ +7° 29.7 Magn. 9.2. Found by superposition of A.C. 4826 (April 12, 1904) on A.C. 2728 (Aug. 8, 1902) in search for the Asteroid Aquitania, (Magn 8.4 June 1904). Aquitania not found, although the above and another variable (U Herculis) were detected independently in the course of the examination.

	Plates	Dates	Exp.	Mag.		
2	Am. 598	Aug. 30, 1900	65	<11	5262.579	
6	Am. 1192	April 8, 1902	60	<11	5848.767	9.85 / 10.14
3	A.C. 1469	May 15, 1901	85	10.	5520.797	9.40
12	A.C. 2728	Aug. 8, 1902	78	11.	5970.574	10.40
April 16, 1903	A.C. 4826	April 12, 1904	60	8.5 Normal		9.25
	Am 1193	April 8, 1902	60	<11	5848.809	10.1
1	I Am. 1720	August 28, 1890	14	11	1608.614	11.14
9	Am 1251	May 15, 1902	60	11.5	5885.76x	10.63
10	Am 1270	May 26, 1902	60	11	5896.744	11.04
4	A.C. 1511	June 6, 1901	96	11	5542.754	10.20
7	A.C. 2553	May 15, 1902	79	12	5885.728	11.14
April 28, 1904.	B 27590	June 6, 1901	10	11.5	5542.781	→ 11.11
5						
8	B 29705	May 15, 1902	10	11.5	5885.753	10.80
11	B 29822	May 26, 1902	10	11	5896.815	10.85

8.86 · 11.18

Algol variable found April 13, 1904 W.P.F.

Spectrum Cl. A on I 20565, March 31, 1898. Also Cl A on I 25581, July 22, 1900; B 19405, June 5, 1897; and B 11305 on May 25, 1894.

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1899phae.proj..815F

April 15, 1904.

Exam. of Plates for New Var. —
Spectrum Md on A 6464 Rd. 19 11 49 Dec. -31 5 6.8
following and Northern of two close faint stars. Brs. on
B. 12548. One or both components is probably identical
Com, -31°16579.

Checked from Peirce Copy

	Plate	Spectrum	Date		Exp.
A	6464		July	25 1903	~~25~~ 63
A	2726		Sept.	14 1897	10
B	30364		July	14 1902	10
B	23109		June	19 1899	13
B	12548		Nov.	13 1894	10
B	22036		Oct.	13 1898	10
B	17144		Aug.	14 1896	19

The above plates show a variation of ~~about~~ at least 1.5 magns. in the star above whose sp is Md.

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1899phae.proj..815F

April 27, 1904.

Eform. of plates for var. in DM −10° 3353.
R.A. 11h 43m 43.9 Decl. −10° 24' 8.4 (1855). Sf. Merdm I 31594.

Plate	Date	Ef.
I 31594	April 5 1904	60m
B 16125	June 3 1896	10m
B 21762	June 23 1898	10m
B 6032	May 22 1891	10m
B 19647	June 30 1897	10m
A.C. 574	Dec. 6 1899	58m
A.C. 276	April 10 1899	66m
A.C. 641	Dec. 30 1899	90m
A.C. 798	April 6 1900	26m
A.C. 799	April 6 1900	66m
A.C. 2277	Feb. 5 1902	60m
A.C. 2445	March 31 1902	62m
A.C. 2527	May 8 1902	57m
A.C. 3055	Dec. 7 1902	46m
A.C. 3142	Jan. 1 1903	116
A.C. 3314	Feb. 18 1903	67m
A.C. 3365	Feb. 24 1903	65m
A.C. 3380	March 1 1903	63m
A.C. 3513	April 18 1903	61m

and

Plate	Date	Ef.
A.M. 757	April 10 1901	60m
A.M. 774	May 9 1901	65m
A.M. 830	June 6 1901	95m
A.M. 866	June 21 1901	62m
A.M. 1167	April 1 1902	60m
A.M. 1322	June 10 1902	60m
A.M. 1359	June 14 1902	60m
A.M. 1734	Dec. 31 1902	60m
A.M. 1756	Dec. 9 1902	61m
A.M. 1816	Feb. 9 1903	63m
A.M. 1869	April 21 1903	60m
A.M. 1885	April 25 1903	60m
A.M. 2008	June 6 1903	60
A.M. 2029	June 14 1903	60
A.M. 1222	April 30 1902	60m

See also note in B 13807 Book 85 page 197

An examination of the above plates shows only a slight change (about 0.4 mags.) in the images of −10° 3353. It is generally equal to or about 0.3 mags. brighter than [illegible] A.M. 1222, it is certainly 0.1 fainter than that star.
Not to be measured at present.

DM −10° 3354 11h 43m 44s.4 −10° 29' 3.0 mag. 9.0

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1899phae.proj..815F

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Comet Brooks

Plate A.C. 4784.

	x	y		
Comet	+3,10	+2,60		
b	+2,30	+2,60	−0,80	0,00
c	+2,55	+2,75		
Comet	+3,10	+2,60	+3,10	+2,60

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1899phae.proj..815F

May 25, 1904.

Spectra of plates of ν Ursae Majoris, 090151.

Plate	Date	J.D.	Ex	Est.	
I 12473	March 15, 1895	32358.628	10	9.5	
Ac 129	Dec. 16, 1898	4640.779	63	11.0	+21.8
Ac 184	Jan. 30, 1899	4685.153	65	~~[11.5]~~ 9.5	+66.8 × Restamined June 2, Mag. 9.5.
Ac 635	Dec. 29, 1899	5018.924	66	<12	198.4
Ac 642	Jan. 1, 1900	5021.901	90	11.5	00
Ac 653	Jan. 3 1900	5023.781	64	11.4	
Ac 812	April 11 1900	5121.608	60	9.5?	
Ac 2454	April 3 1902	5843.603	95 ~~96~~ 64.	11.2	+15.6
Ac 3141	Jan. 1 1903	6116.803	1.	9.5	
Ac 3195	Jan 19 1903	6134.791	146	9.4	
Ac 3306	Feb 17 1903	6163.905	62	94	
Ac 3357	Feb 24 1903	6170.~~703~~ 659	63	95	
Ac 3374	Feb 28 1903	6174.806	72	96	
Ac 3381	March 1 1903	6175.772	64	95	
Ac 3399	March 6 1903	6180.648	65	9.8	
Ac 3471	April 1 1903	6206.632	62	11.5	167.1
Ac 3506	April 17 1903	6222.608 6029.5.9	71	11.5	183.1
Ac 3546	April 25 1903	6230.601	60	<11	009
Ac 3586	May 2 1903	6237.600	68	10.5	6.6
Ac 4793	April 3 1904	6574.691	60	9.7	

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1899phae.proj..815F

May 26, 1904.

Exam. of plates to determine var. if any in star R.A. $11^h 46.6^m + 19° 39' (1855)$. (Sp. Mesd on I 31692. "Very ft. may be due to defect".)

Plate		Date	Exp.
I	24481	Jan. 26 1900	95m
I	20673	April 8 1898	13
I	14511	Feb. 24 1896	10
I	15247	June 3 1896	7
I	6148	April 24 1892	14
I	8403	April 11 1893	10
I	17945	April 20 1897	10
I	25428	June 9 1900	12
I	26622	Feb. 9 1901	10
I	22490	Feb. 25 1899	14
I	25087	April 8 1900	11
I	22601	March 24 1899	12
I	28548	March 2 1902	20
I	30534	May 21 1903	12

An exam. of the above plate fails to show any evidence of var. in the star R.A. $11^h 46.6^m$, Dec. $+19° 39' (1855)$.

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1899phae.proj.8155

June 11, 1904.

Asteroids.

Object.	Plate	Date	Ef.	Br.	R.A. 1855	Dec. 1855
Aquitania	I 31736	June 3, 1904		8.5	16 57.4	+ 5 24'
Aquitania	I 31747	June 10, 1904	60	11.8	16 48.0	+ 4 50
Aquitania	I 31751	June 11, 1904	60	11.8	16 47.2	+ 4 36

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1899phae.proj..815F

August 11, 1904.

Rough Meas. to det pos. of Phoebe,

Plate A 6677

Measured distance of dot marked on pl. by E.C.P. from BD −16°5816 RA 21 22 30.96 −16 40 42.3 (1900)

14.9

x	y
2.80	+3.70
2.85	+3.75
Dist 2.82	+3.72

4
14.88

39 34

24 37 / 21 23 / 45 60

25.3 / 44.4 / 727

Phoebe is n h *

~~Phoebe Aug 8 04 21h 19m 42s~~

Phoebe Aug 8 04 21h 23m 0s −16° 36.4

22 46 −

−16°5816 (1900)	21	22	31.0	−16	40.7	31.0	16 40.7
			133		+1.6	13.3	1.0
" (1904)	21	22	44.3	−16	39.7	3.1	0.3
							28
			14.9		+2.8	14.9	41
Adj.	21	22	59.2	−16	36.9	02.3	−16 36.6

3C. 1904.0 21 21 11.29 −22 49 38.4

14.43 17.5

+ 3.14 + 20.9

Aquarii 21 26 30.36 −5 59 37.5

33.39 16.9

+ 3.03 + 20.6

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1899phae..proj..815F

September 7, 1904.

Eyeing of Plates for D (21h 44m.0 + 34° 53') of +34° 4539.

	Plate	Date		Exp.	
I	23606	Sept. 21	1899	20m	
I	26114	Nov. 16	1900	14m	
I	18966	Sept. 21	1897	10	
I	27553	Sept. 24	1901		
I	7303	Oct. 10	1892	10m	
I	16263	Oct. 24	1896	10m	
I	8915	July 23	1893	12m	

On examination of the above plates I find that star D has the same magnitude as +34° 4539, and the image of D on these plates does not show any evidence of variation.

W. P. F.

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1899phae.proj..815F

June 24, 1905.

Meas. of Ocllo.

A 6637 April 4, 1904 Ref pos $13^h 24^m - 14^h 54^m$

	x −1.05	y +13.65		
O	~~+0.10~~	~~+13.50~~	−1.05	+13.65
O	~~−0.55 −1.60~~	~~+13.70~~ +13.95	−1.65	+13.90
a	+33.10	+1.30	+33.10	+1.30
b	+15.90	−18.25	+15.90	−18.25
c	+11.80	+25.25	+11.80	+25.25
d	−0.80	+26.85	−0.80	+26.85
e	−1.15	+29.90	−1.10	+29.90
f	−20.55	+32.95	−20.55	+33.90
g	−24.85	+30.55	−24.85	+30.55
h	−33.25	+9.25	−33.25	+9.25
k	−41.75	+13.75	−41.80	+13.70
O	−1.05	+13.65	−1.05	+13.65
O	−1.60	+13.90	−1.65	+13.95

13.5

	12	1.5	+18	59		2^m 8
		13.5		60		0.7 3'
Aug 4	11	48.0	+20	0	(1904)	
		2.6		17		20.1
	11	45.4	+20	17	(1855)	1005

306
50
1530
26

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1899phae.proj.:815F

June 24, 1905

Meas. of

											y			
+33.10	132.4	+27.8	125.8	53 57.1	51	53.3	139.0	51	40.1	+1.30	17 44.4	17 43.1	+3	-1.3
+15.90	63.6	61.9	60.4	52 48.4	51	48.0	66.8		41.6	-18.25	17 24.8	17 43.0	+2	+.2
+11.80	47.2	46.3	44.9	" 29.9		35.0	49.6		39.7	+25.25	7.8	17 42.6	-2	-1.7
- 0.80	3.2	3.2	3.1	51 38.4			1.8		40.2	+26.85	9.6	42.8	0	-1.2
- 1.12	4.5	4.4	4.3	" 37.1			4.7		41.8	+29.90	12.4	42.5	-3	+.4
-20.55	82.2	80.6	78.1	50 15.9			86.3		42.2	+33.92	16.6	42.9	+1	+.8
-24.85	99.4	97.8	75.4	49 57.2			104.4		41.6	+30.55	12.6	42.0	-5	+2
-33.25	133.0		126.4	49 21.8			139.6		41.4	+9.25	17 52.2	43.0	+2	0
-41.78	167.1		158.7	48 48.4			175.4		43.8	+13.72	17 57.0	43.3	+5	+24
									124			72	13-13 / 9	40-42 / 9
- 1.05	4.2		4.0				4.4			+13.65		17° 56.4		
- 1.62	6.5		6.3				6.8					17 56.7		
										+13.92				
								51	41.4	± 0.9		42.8 ± 0.3		

~~18h 51m 45.8 +17° 56.4~~

~~. . 48.2 +17° 56.7~~

11h 51m 37.2 +17 56.4

35.9 +17 56.7

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1899phae.proj..815F

June 24, 1905

Meas. of Actis

Q 6641 April 7, 1904. Exp. 60m. $13^h 20^m - 14^h 20^m$ G.M.T.

O	∓29.70	+22.00	−29.65	+22.00
O	∓30.25	+22.25	−30.25	+22.25
a	+33.10	+1.30	+33.10	+1.30
b	+15.90	−18.25	+15.90	−18.25
c	+11.85	+25.25	+11.85	+25.25
d	−0.80	+26.85	−0.80	+26.85
e	−1.10	+29.90	−1.10	+29.90
f	−20.50	+33.95	−20.50	+33.95
g	−24.85	+30.55	−24.85	+30.55
h	−33.25	+9.30	−33.20	+9.30
k	−41.70	+13.75	−41.70	+13.70
O	∓29.65	+22.00	−29.65	+22.00
Ref. Stars O	∓30.30	+22.30	−30.25	+22.25
End trail 7	30.10	+22.20		

a Dm. +17° 2425 11 53 59.1 +17 44.4 9.2 b

b Dm. +17° 2422 11 52 48.4 +17 24.8 8.5 K

c Dm. +18° 2555 11 52 29.9 +18 7.8 9.4

d Dm. +18° 2549 11 51 38.4 +18 9.6 9.3 aB

e Dm. +18° 2548 11 51 37.1 +18 12.4 9.5

f Dm. +18° 2546 11 50 15.9 +18 16.6 8.5 K

g Dm. +18° 2544 11 49 57.2 +18 12.6 9.3

h Dm. +17° 2417 11 49 21.8 +17 52.2 9.3

k Dm. +17° 2416 11 48 48.4 +17 57.0 9.5

~~k Dm. +17° 2417 11 49 21.8 +17 52.2 9.3~~

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1899phae.proj..815F

x	42x						
~~-29.68~~							
~~-30.25~~							
+33.10	139.0	11h 51m	40.1	-1.4	+1.30	43.1	+3
+15.90	66.8		41.6	+1	-18.25	43.0	+2
+11.85	49.8		41.1	-1.4	+25.25	42.6	-2
- 0.80	3.4		41.6	+1	+6.85	42.8	0
- 1.10	4.6		41.7	+2	+29.90	42.5	-3
- 20.50	86.1		42.0	+5	+33.95	42.6	-2
- 24.85	104.4		41.6	+1.1	+30.55	42.0	-8
- 33.22	139.5		41.3	-2	+9.30	42.9	+1
- 41.70	175.1		43.2	+1.7	+13.72	43.3	+5
- 29.66	124.6				+22.00		
-30.26	127.0				22.26		

13.2 27-30 6.8 11-15

11 51 41.5 ±0.6 17° 42.8 ±0.3

April 4 ~~11h 53m 46.1~~ 18° 4.8

April 7 11h 53m 48.5 5.1

11 49 36.9

* 11 49 34.5 22 0.9 0.3

15 0.6 0.3

0.2 0.3

24 ~~2.8~~ 65 / 48 65 / ~~453~~ 07 / ~~250~~

35.2 .65 / 4/26

57/69 / ~~a95~~ / 0.63 / 0.91 / 16.2 / 0.8

2/7

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1899phae.proj..815F

June 30, 1905

a 6978 Sept. 28, 1904 Exp. 120m.

Meas. of Asteroid near Saturn

	x	y	x	y		
a'	+5.85	+0.55	+5.85	+0.55		
a²	+6.05	+0.55	+6.05	+0.55		
a	−11.85	+0.60	−11.85	+0.60	−17.81	+0.05
b	−5.25	+4.38 +4.40	−5.25	+4.35	−11.21	+3.83
c	−2.65	+10.65	−2.65	+10.65	−8.61	+10.10
d	+5.75	−5.32 −5.30	+5.75	−5.35	−0.21	−5.87
~~e~~	−					
e	+14.55	−2.30	+14.55	−2.30	+8.59	−2.85
a'	+5.85	+0.55	+5.85	+0.55		
a²	+6.10	+0.55	+6.10	+0.55		
Mean a'	+5.85	+0.55				
Mean a²	+6.08	+0.55				
Final Mean	+5.96	+0.55				

1855 positions Magn.

a : Dm. −17° 6206 21 N 18.9 −17° 46.1 9.2 A

b : Dm. −17° 6209 21 S 16.9 −17 28 9.9

c : Dm. −17° 6210 21 S 26.6 −17 36.2 9.5

d : Dm. −17° 6213 21 6 2.8 −17 52.0 9.1 A

e : Dm. −17° 6214 21 6 39.3 −17 49.0 9.0 A

$.23_{42}$ / 4.6

$\frac{92}{9.66}$

log cos 17° 46' 9.97886

log Acc " " 0.02112

log 4 0.60206

42 0.62333

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1899phae.proj..815F

(a) $21^h\ 4^m\ 48.9^s\ -17^\circ\ 46.1'$
$1\ 14.8\ \ +0.0$
$21^h\ 6^m\ 3.7^s\ -17\ 46.1$

(b) $21^h\ 5^m\ 16.9^s\ -17^\circ\ 42.8'$
$47.1\ \ +3.8$
$21^h\ 6^m\ 4.0^s\ -17\ 46.6$

(c) $21^h\ 5^m\ 26.6^s\ -17^\circ\ 36.2'$
$36.2\ \ +10.1$
$21^h\ 6^m\ 2.8^s\ -17\ 46.3$

(d) $21^h\ 6^m\ 2.8^s\ -17^\circ\ 52.0'$
$0.9\ \ -5.9$
$21^h\ 6^m\ 3.7^s\ -17\ 46.1$

(e) $21^h\ 6^m\ 39.3^s\ -17^\circ\ 49.0'$
$36.1\ \ -2.8$
$21^h\ 6^m\ 3.2^s\ -17\ 46.2$

Mean Position. $21^h\ 6^m\ 3.5^s\ -17^\circ\ 46.3'$

30
4.0

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June 30, 1905.

Meas. of Asteroid near Saturn

A 6979. Sept. 29, 1904. Exp. 120m

	x	y	x	y		
a^1	+4.35	+6.20	+4.30	+6.20		
a^2	+4.55	+6.20	+4.50	+6.20		
	−11.82	+6.18				
a	−11.80	+6.15	−11.85	+6.20	−16.24	−0.02
b	−5.20	+10.00	−5.20	+10.00	−9.62	+3.80
c	+2.65	+16.25	−2.65	+16.25	−7.07	+10.05
d	+5.75	+0.20	+5.75	+0.20	+1.33	−6.00
	+14.58					
e	+14.60	+3.15	+14.55	+3.15	+10.16	−3.05
a^1	+4.35	+6.20	+4.30	+6.20		
a^2	+4.50	+6.20	+4.50	+6.20		
Mean a^1	+4.32	+6.20				
Mean a^2	+4.51	+6.20				
Final Mean.	+4.42	+6.20				

1855 positions

a	Dm.	−17°	6206	21	4	48.9	−17 46.1	9.2 A
b.	Dm.	−17°	6209	21	5	16.9	−17 42.8	9.9
c	Dm.	−17°	6210	21	5	26.6	−17 36.2	9.5
d	Dm.	−17°	6213	21	6	2.8	−17 52.0	9.1 A
e	Dm.	−17°	6214	21	6	39.3	−17 49.0	9.0 A

19 42
38
76
80

(a) $21^h\ 4^m\ 48^s.9\ -17^\circ\ 46'.1$
$1\quad 8.2\quad -0.0$
$21^h\ 5^m\ 57^s.1\ -17^\circ\ 46'.1$

(b) $21^h\ 5^m\ 16^s.9\ -17^\circ\ 42'.8$
$40.4\quad +3.8$
$21^h\ 5^m\ 57^s.3\ -17^\circ\ 46'.6$

(c) $21^h\ 5^m\ 26^s.6\ -17^\circ\ 36'.2$
$29.7\quad +10.0$
$21^h\ 5^m\ 56^s.3\ -17^\circ\ 46'.2$

(d) $21^h\ 6\ 2^s.8\ -17\ 52'.0$
$5.6\quad -6.0$
$21^h\ 5^m\ 57^s.2\ -17^\circ\ 46'.0$

(e) $21^h\ 6^m\ 39^s.3\ -17^\circ\ 49'.0$
$42.7\quad -3.0$
$21^h\ 5^m\ 56^s.6\ -17^\circ\ 46'.0$

Mean Position - $21^h\ 5^m\ 56^s.9\ -17^\circ\ 46'.2$ (1855)

56.7
57.1

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