KG
11365
618

15-inch

No-14 1916

KG 11365.618

KG 11365.618

HARVARD
UNIVERSITY
LIBRARY
JUL 2 1956

Tues. Nov. 14 – 1916

LC Ob 15" E Eq. / Rec

Uranus Phot T

2, 16 – 16.4

Frod 3424 used Comp * = same as on the 11th inst.

7" Cap used

Pa. 10

6 11.7 91.1 < Uranus dis. I
174.4 83.3
279.8 64.0
343.8 147.3 — .063

Pa 190
~~45.2~~
62.1 46.9
186.4 64.0
250.4 110.9 —1.40

108 −0.660
~~70.2~~ 52.8 −1.585
63.6 42.8 2.245
199.8 95.6 −177 1.122
242.6 6.830
Pa. 10 Magn. 5.708
275.6
343.3 67.7
92.8 76.6
6 199 169.4 144.3 −0.69
6 15.2 211.82 469 6 167

Nov. 14-1916

	P.A. 10			
6 43.1	268.6			II
	344.8	76.2		
	97.8	68.8		
	166.6	145.0	– 067	
	P.A. 190			
	194.4			
	240.2	45.8		
	10.6	58.0		
	68.6	103.8	– 1.56	
	185.6			– 0.760
	246.2	60.6		– 1.565
	20.0	42.8		2.325
	62.8	103.4	– 1.57	1.162
				6.830
	99.0			5.668
	159.4	60.6		
	272.8	75.8		
6 49.3	348.6	136.2	– 0.85	
6 46.2				
6 47.1	Seeing very poor			

21182.491

Nov. 14–1916

P.a. 10

III

$6\overset{5}{\cancel{4}}4.8$

92.2
172.8
274.8
342.8

80.6
68.0
148.6

− 0.60

P.a. 190

19.4
60.9
187.4
246.0

41.5
58.6
100.1

− 1.65

8.8
68.8
200.2
244.0

60.0
43.8
103.8

− 1.56

−0.610
−1.605
2215
1.108
6830
5.722

P.a. 10

96.0
159.4
264.8
349.0

63.4
84.2
147.6

− 0.62

703.4
198.2
659.1
7 000
21182.500

P.a. = 15.8
Spr = 3.4

Nov. 14th 1916

F.E.B. Rec

		P.A. 10		
7 23 55	94.8 175.5 279.4 339.4	80.7 60.0 140.7	−0.76	IV
		P.A. 190		
	21.1 60.8 183.6 252.4	39.7 68.8 108.5	−1.45	
				−0.735 1.510 2.245 1.122 6830 5.708
	10.9 76.8 198.4 236.0	65.9 37.6 103.5	−1.57	
		P.A. 10		
7 32 50 56 45	278.8 343.8 92.2 170.2	65.0 78.0 143.0	−0.71	

7 28 22

7 29 44

21182.520 // 40 o Ceti est 3.5 N.E. P.C

" " " 34 ~~N.E.~~ ~~P.C.~~ F.E.B.

f.g.

Nov 14th 1916

V

P.G. ~~190~~ 10

7 45 35
269.8
351.8
97.8
159.6

82.0
61.8
143.8

−0.70

P.G. 190

197.8
~~242.8~~
240.80
15.0
74.0

42.2
59.0
101.2

−1.63

0.645
~~−0.595~~
−1.635
2 2 ~~8~~ 5 0
1.1 ×4
6830
5.~~71~~ 69 m

190.5
246.8
20.4
64.8

56.3
44.4
100.7

−1.64

P.G. 10

103.3
161.4
261.6
352.8

58.1
91.2
149.3

−0.59

7 51 20

7 48 .27
7 49 20
21182 53 5

Frod 3 < 2 < = 52 slow at 8:00

Nov. 14 th 1916

$\overline{VI}$

		P.G.10		
8 10 00	92.0	78.6		
	170.6	61.6		
	276.8	140.2	− 0.77	
	338.4			
		P.G.190		
	20.8	42.6		
	63.4	$\overset{5}{\cancel{6}}8.4$		
	$1\overset{8}{\cancel{7}}7.4$	$1\overset{0}{\cancel{1}}1.0$	− 1.63 ~~−0.96~~	
	245.8			
				− 0.68
	8.4			− 1.57
	68.8	60.4		2.25
	191.4	45.6	− 1.51	1.125
	237.0	106.0		6.830
				5.705
		P.G.10		
	98.8	64.5		
	163.3	84.6		
	266.8	149.1	− 0.59	
8 15 20	351.4			

f 12 40
f 13 32
21182.557

Nov. 14 – 1916

Pa. 1°

VII

8 32 50 89.2
167.7
276.3
341.8

78.5
65.5
144.0 −0.69

Pa 19°

197.6
243.8
9.9
77.2

46.2
67.3
113.5 −1.34

−0.680
−1.315
1.995
0.998
6830
5.832

183.3
243.4
14.9
70.2

60.1
55.3
115.4 −1.29

Pa 1°

93.6
161.4
271.8
8 38 5 349.4

67.8
77.6
145.4 −0.67

8 35 20
8 36 20
2((8 2.567)

Nov. 14, 1916

		P.A. 10		VIII
8 48 ω	94.4	69.8		
	164.2	73.0		
	271.6	142.8	−0.72	
	344.6			
		P.A. 190		
	197.5	45.9		
	243.4	51.4		
	17.4	97.3	−1.72	
	68.8			
				−0.645
				−1.665
	195.5	47.3		2310
	242.8	54.5		1.150
	14.9	101.8	−1.61	6830
	69.4			5.68
		P.A. 10		
	267.4	84.2		
	351.6	66.1		
	~~164.2~~ 98.5	150.3	−0.57	
8 54 10	164.6			
f 5 105				

21f2. 57 f

Nov. 14–1916

IX

P. A. 10

9 19 20

276.8
343.8
89.8
171.2

67.0
81.4
148.4

−0.61

P. A. 190

16.8
~~242.0~~
65.8
190.4
250.4

49.0
60.0
109.0

−1.44

−0.660
−1.445
2105
1.052
6.830
5.778

9.0
71.2
198.1
244.6

62.2
46.5
108.7

−1.45

P. A. 10

280.0
340.8
91.8
174.0

60.8
82.2
143.0

−0.71

9 24 25
43 45
9 21 52

211 82.599

P. N. A
Sf. ~~15.8~~ 3.0
Dec. −16.3
H.A. 4 6 W
S.T. 1 15

Nov. 14 – 1916

SU Tauri 054319 Phot R.

Full Aperture

Too Cloudy for this Observation

also see 12" book for observation

variable certainly fainter than

on previous occasion –

144 — 4889

1 – 81 C

1 — 9 B

Wed. Nov. 15 - 1916

ℓCOb

Frod 3×24 used   Uranus   Phot I.
15" Eq.
Same comp ★ as on last night.

Pa. 10   7" Cap   I

6 07.7   96.0 < uranus dis.
169.4   78.4
279.4   61.0
340.4   139.4   − 0.79

Pa. 190
198.7
244.8   46.1
9.8   55.0
64.8   101.1   − 1.63

−0.80
−1.61
2.41

193.6
250.7   57.1   1.205
17.3   45.5
62.8   102.6   − 1.59   6.830
magn. 5.625

Pa. 10
277.4
339.6   62.2
91.4   76.0
6 14.0   167.4   138.2   − 0.81
21.7
6 10.8
6 11.6
21183.467

~~8h12~~
~~Pa. I~~

Nov. 15 – 1916

Uranus

II

P.a. 10°

6 20.5 270.5
350.5 80.0
97.7 67.9
165.6 147.9 —0.62

P.a. 190°

16.6
63.8 47.2
189.2 61.4
250.6 108.6 —1.45

−0.61
−1.545
2.155
1.078
6.830
5.752

8.8
66.8 58.0
201.6 42.8
244.4 100.8 —1.64

P.a. 10°

99.8
163.4 63.6
264.6 85.2
6 26.5 349.8 148.8 —0.60

6 23.5
6 34.3

2118 3.475

Nov. 15 - 1916

Uranus

		P.a 10		III
6 436	92.2			
	170.4	78.2		
	280.4	61.4		
	341.8	140.6	— 0.76	
		P.a 190		
	193.8			
	241.8	48.0		
	13.6	52.7		
	66.3	100.7	— 1.64	
				−0.76
	190.4			−1.57
	248.2	57.8		2.33
	16.8	48.8		1.165
	65.6	106.6	— 1.58	6 830
				5,665
		Pa. 10		
	274.6			
	340.0	65.4		
	95.3	75.5		
6 49.6	170.8	140.9	- 0.76	
6 46.6				
6 47.4				
				Pa. 10 A
				Spr. 3.0
2118 3.491				

Nov. 15 – 1916

Uranus IV

Pa. 10

7 7.2 | 271.8

351.5 | 79.7

699.2 | 67.6

1568 | 147.3 | – 0.63

Pa 190

16.2

61.4 | 45.2

191.0 | 59.4

250.4 | 104.6 | –1.54

–0.625
–1.590
2.215
1.108
6.830
5.722

11.4

67.4 | 56.0

200.0 | 44.7

244.7 | 100.7 | –1.64

Pa 10

99.8

166.8 | 67.0

269.8 | 80.6

7 13.4 | 350.4 | 147.6 | – 0.62

7 10.3
7 11.1
21183.507

Nov. 15 – 1916

Uranus

F.S.B. Rec.

P.a. 10 V

7 29 20 96.4 69.6 ✓
166.0 64.2 ✓
277.4 133.8 ✓ − 0.90
341.6

P.a. 190

200.8 46.0 ✓
246.8 58.2 ✓
11.2 104.2 ✓ − 1.55
69.4

− 0.775
− 1.455

2.230
1.115
6.830

5.715

153.8 ✓
253.3 59.5 ✓
14.4 53.0
67.4 112.5 ✓ − 1.36

P.a. 10

92.8 76.6 ✓
169.4 69.5 ✓
277.4 146.1 ✓ − 0.65
7 33 40 346.9

7 31 30
7 32 22

2118 3.522

Nov. 15 1916

Uranus

		P.G. 16		
7 4$\overset{6}{5}$ 5	$\overset{9}{8}$5.3	70.5 ✓		VI.
	165.8	75.4 ✓		
	273.0	145.9 ✓	−0.66	
	348.4			
		P.G. 190		
	20.4	44.3 ✓		
	64.7	64.2 ✓		
	186.4	108.5 ✓	−1.45	
	250.6			
				−0.720
				−1.495
				2215
	10.9	60.5 ✓		1.108
	71.4	44.4 ✓		6830
	198.6	104.9 ✓	1.54	5.722
	243.0			
		P.G. 10		
	278.0			
	~~283.0~~	62.2 ✓		
	340.2	~~2.5~~ ✓		
	92.7	77.5 ✓		
7 50 55	170.2	139.7	−0.78	

7 46 30
7 49 22
21183.534

Mod 3424 = 52.5 slow at 8.00 (Bell)

Nov. 15 = 1916

Uranus VII

		P.G. 10		
8 01 5	271.8			
	346.4	74.6 ✓		
	97.4	66.7 ✓		
	164.1	141.3 ✓	− 0.75	
		P.G 190		
	16.0			
	62.4	46.4 ✓		
	197.0	51.8 ✓		
	248.8	98.2 ✓	−1.70	
				−0.765
				−1.62
				2.385
	14.7	51.6 ✓		~~1.242~~
	66.3	53.3 ✓		~~6.830~~
	194.0	104.9 ✓	−1.54	88
	247.3			1.192
				6.830
		P.G. 10		5.638
	100.6			
	174.6	74.0 ✓		
	276.7	66.1 ✓		
8 5 25	342.8	140.1 ✓	0.77	

8 03 15
8 04 07

2118 3.544

8 20

o Ceti 021403 NE.

at 3.8 L.C. Red. 7

at 4.0 F.E.B.

Nov. 15 = 1916

Manner

P.A. 10

VIII

8 20 Clouds

P.A. 190

P.A. 10

8 55 ~~[illegible]~~ Too Cloudy to continue

11 2 – 500' plates
1 – 82 C
1 – 10 B

Thurs. Nov. 16 - 1916

L.C. Obs. many phot T.

	P.a. 0		Spr = 3.0	
608.5	9 ~~88.8~~	< many dis.		
	174.6	75.8		I
	276.4	68.0		
	344.4	143.8	− 0.70	7" Cap
	P.a 180			
	196.4			
	243.8	47.4		
	12.8	56.0		
	68.8	103.4	−1.57	
			−	−0.71
	191.8			−1.52
	252.2	60.4		2.23
	15.8	47.5		−1.115
	63.3	107.9	−1.47	6.830
				5.715
	P.a 0			
	275.3			
	338.4	63.1		
	91.6	79.6		
614.4	171.2	142.7	− 0.72	
611.4				

21184.467

Nov. 16 – 1916

Uranus

	P.a. 0		II	
6 19.2	267.7			
	349.2	81.5		
	95.5	67.0		
	162.5	148.5	— 0.60	
	P.a. 180			
	197.2			
	245.4	48.2		
	12.4	54.6		
	67.0	102.8	— 1.59	
				−0.655
				−1.495
	191.4			2.150
	250.0	58.6		1.075
	144	52.2		6.830
	66.6	110.8	— 140	5.755
	P.a. 0			
	277.6			
	345.8	68.2		
	94.8	74.8		
6 26.0	169.6	143.0	— 0.71	
45.2				
6. 22.6				

21184.474

Nov 16-1916

Uranus

		P.a. 0		III
6 27.4	269.8			
	348.3	78.5		
	94.8	73.3		
6 28.7	167.6	151.8	−0.54	
		P.a. 180		
6 29.0	16.6			
	65.6	49.0		
	~~188.8~~	54.2		
6 30.4	243.0	clds 103.2	−1.58	
6 31.0	10.8			−0.645
	69.8	59.0		−1.485
	190.0	52.2		2.130
6 32.4	242.2	111.2	−1.39	1.065
	clds			6830
		P.a. 0		5.765
6 34.0	274.6			
	341.6	67.0		
	96.6	74.4		
6 35.4	171.0	141.4	−0.75	
8.3				
6 31.0				

21184.481

P.a. 30A
Spr. 2.8
~~R~~ HA 1:27 W
Dec −16.4
S.T. 22.35

Nov. 16 – 1916

Dis Jup III

15" Eq. Phot R

L.C.W.B. F.E.B. Rec.

Full aperture

B 3424 Left on Roof

6 59 10.5 7 00 0.0

259	7 3 25	312.6			
7 04 05 5 + 50	4 01	41.3	88.7		
12 04 55	18	312.3	82.9		
			171.6	+ 0.16 + 0.13	− 719^{2}
	35	35.2			
	54	316.4			
307	05 12	41.3	84.9		
7 05 17	25	312.4	87.5		
12 06 07			172.4	+ 0.14 + 0.11	− 647
	36	39.9			
	52	311.6			
62	06 10	37.9	86.3		− 588
7 06 16	20	310.2	89.2		
12 07 06			175.5	+ 0.08 + 0.05	
	40	39.4			
	54	310.6			
65	07 08	43.3	92.7		
7 07 16	23	304.3	95.9		
12 08 06			188.6	− 0.16 − 0.19	528
	38	40.2	171.4		
	52	306.8			
86	08 05	40.0	93.2		
7 08 22	21	128.4	91.8		
12 09 12			185.0 175.0	− 0.09 − 0.12	− 462
	38	220.2			
	52	128.0			
	09 08	218.8			

Nov. 16 1916

			908			
65	7 09 27	132.4				
7 09 16			87.0			
12 10 06	38	19 2~~90~~.4	177.8	+0.04	+0.01	-408
	53	127.5				
50						
7 10 12	10 4	220.0	92.5			
12 11 02	20	128.2	906	x		
	33	218.8	183.1 176.9	-0.06	-0.09	-352
	46	133.3				
18	58	220.0	86.7			
7 11 04						
12 11 54	11 11	130.8	87.2			
	23	218.0	173.9	+0.11	+0.08	-300
	35	131.4				
222	48	220.0	886			
7 11 56						
12 12 46	12 03	134.8	89.4			
	16	224.2	178.0	+0.05	+0.01	-24 ~~488~~
	27	130.9				
179						
7 12 45	38	218.2	87.3			
12 13 35	57	132.8	88.2			
	13 03	221.0	175.5	+0.08	0.05	-199
	13	129.9				
126						
7 13 32	24	222.0	92.1			
12 14 22	38	128.4	7 ~~8~~9.6	+0.16	0.13	-152
			171.7			
	51	218.0				
	14 02	138.0				
71	11	216.9	78.9			
7 14 18	23	30 1~~73~~.9	84.6			
12 15 08			163.5	+0.31	+0.28	-108
	35	215.5				
	46	134.9				
	55	218.0				

Nov. 16 – 1916

07			83.1				
7 15 02	7 15 05	135.8	75.1				
12 15 52	21	210.9	158.2	+0.42		+0.39	−62
210	35	138.8					
7 15 52	46	216.8	78.0				
12 16 62	59	138.0	77.9				
	16 10	215.9	155.9	+0.46		0.43	−~~08~~ 12
152	22	139.8					
7 16 38	34	215.0	75.2				
12 17 28	44	140.0	68.8				
	52	208.8	144.0	0.69		0.66	+34
12 17 58	17 03	143.3	64.7	125.4	1.08	~~07~~ 1.05	64
18 06	12	208.0	63.2	126.4	1.05	1.02	72
16	21	144.8	63.2	126.4	1.05	1.02	82
25	30	208.0	64.0	128.0	1.02	0.99	91
36	40	144.0	63.0	126.0	1.06	1.03	102
46	51	207.0	63.0	126.0	1.06	1.03	112
58	18 02	144.0	62.6	125.2	1.08	1.05	124
19 10	14	206.6	61.7	123.4	1.12	1.09	136
21	26	144.9	65.1	130.2	0.97	0.94	147
30	36	210.0	~~62~~ 63.8	127.6	1.03	1.00	156
40	45	146.2	60.0	120.0	1.19	1.16	166
50	55	206.2	57.3	114.6	1.31	1.28	176
20 00	19 05	148.9	57.1	114.2	1.32	1.29	186
09	14	206.0	56.1	112.2	1.37	1.33	195
24	24	~~144.7~~ 149.9	54.9	109.8	1.42	1.39	210
38	44	204.8	56.4	112.8	1.35	1.32	224
48	52	148.4	56.8	113.6	1.34	1.31	234
12 20 58	20 03	205.2	55.2	110.4	1.41	1.38	+244

Nov. 16–1916

12 21	12	7 ~~20~~ 20	13	150.0	53.0	1060	1.51	1.48	+258
	26		31	203.0	50.7	1014	1.62	1.59	272
	34		41	152.3	50.5	1010	1.60	1.60	280
	40		48	202.8	53.0	1060	1.51	1.48	286
	51		53	149.8	47.2	944	1.80	1.77	297
22	06	21	09	197.0	43.0	860	2.02	1.99	312
	14		22	154.0	42.8	856	2.03	2.00	320
	24		29	196.8	42.8	85.6	2.03	2.00	330
	33		39	154.0	44.2	88.4	1.96	1.93	339
	42		47	198.2	44.2	88.4	1.96	1.93	348
	52		58	154.0	43.0	86.0	2.02	1.99 ~~2.09~~	357
23	02	22	06	197.0	41.1 ~~38.9~~	82.2	2.13	2.10	368
	12		17	155.9	40.5	81.0	2.17	2.14	378
	20		25	196.4	39.5	79.0	2.22	2.19	386
	32		36	156.9	39.3	78.6	2.24	2.21	398
	42		47	196.2	39.0	78.0	2.25	2.22	408
	52		58	157.2	34.2	68.4	2.56	2.53	418
24	02	23	07	191.4	32.5	65.0	2.68	2.65	428
	12		17	158.9	31.3	62.6	2.76	2.73	438
	20		26	190.2	32.6	65.2	2.67	2.64	446
	31		34	157.6	30.8	61.6	2.80	2.77	457
	44		48	188.4	26.2	52.4	3.17	3.14	470
	56	24	01	162.2	25.8	50.6	3.24	3.21	482
12 25	06		10	188.0	24.7	49.4	3.30	3.27	492
			21	$18\overset{6}{3}.3$	troubled by light giving out.				
(12 25 55)		25	05± gone ?						541

Nov. 16 1916

```
     234    7 25 35    157.8 )
 7  25 58         50    190.0 ) p ∠V.  32.2
12  26 48      26 05    154.9 )        33.9
                  24    188.8 )        66.1  +2.64  2.61
     +594
```

Observation very difficult on account of ~~p~~prox. to Jupiter

Compared with mean of two Sats. on opposite sides of Sat. I.

Nov. 16 1916

Uranus

Resumed

7 in Cap

IV

		P.A. 180.		
7 40 50	199.8			
	246.6	46.8		
	10.0	61.4		
	71.4	108.2	−1.46	
		P.A. ~~180~~ 0		
	277.8	62.9		
	340.7	74.7		
	92.8			
	167.5	137.6	−0.82	
				~~−1.1480~~
				−1.480
				−0.705
	265.9	81.1		2185
	347.0	67.9		−1.092
	94.3			6.830
	162.2	149.0	−0.59	5.738
		P.A. 180.		
	13.6			
	64.8	51.2		
	193.1	55.3		
7 45 33	248.4	106.5	−1.50	

45 23

7 43 12

7 44

211[illegible] 531

Nov. 16 1916

Uranus Cont.

✓

P.G. 180

07
8 ~~1~~ 7

12.8
69.0
199.2
245.3

56.2 ✓
46.1 ✓
102.3 ✓ -1.60

P.G. 0

~~1~~90.8
164.0
271.6
345.8

73.2 ✓
74.2 ✓
147.4 ✓ -0.63

-1.785 (2)
-0.720
2445
-1.22~~7~~
6830
~~5.598~~
5.608

96.6
170.4
279.0
343.6

73.8 ✓
64.6 ✓
138.4 ✓ -0.81

P.G. 180

194.0
~~200.0~~
244.9
~~248.6~~
18.0
59.6

50.9 ✓
~~48.6~~
41.6 ✓
~~90.2~~ ✓ ~~-1.91~~ 1.85
92.5

8 12 00
19 07
8 09 34

Observer much disturbed in above group, perhaps it should be rejected.

2118 4. ~~7.2~~
569

Nov 16-1916

Pa. 180 ~~VII~~ VI

ʃ 18 15 11.9 56.3 ✓
68.2 49.9 ✓
195.4 106.2 ✓ − 1.57
245.3

Pa. 0

94.4 69.0 ✓
163.4 73.4 ✓
270.8 142.4 ✓ − 0.73
344.2

−1 585
− 0.730
2.315
−1.157
1830
5.673

95.2 72.5 ✓
167.7 69.7 ✓
275.7 142.2 ✓ − 0.73
345.4

Pa. 180

197.4 45.2 ✓
242.6 54.7 ✓
11.2 99.9 ✓ − 1.66
ʃ 22 40 65.9

ʃ 20 18

[illegible] 556

Nov. 16 1916

P.A. 180

8 38 12 193.3 54.5 ✓ VII
247.8 48.9 ✓
17.8 103.4 ✓ −1.57
66.7

P.A. 0

104.7 53.7 ✓
158.4 68.4 ✓
274.3 122.1 ✓ −1.14
342.7

−1.545 ✓
−1.095 ✓
.2640 ✓
70.0 80.0 ✓ −1.32 ✓
170.0 46.7 ✓ ✓
283.8 126.7 ✓ −1.05 6.83
330.5 5.51 ✓

P.A. 180

197.0 48.0 ✓
245.0 57.7 ✓
8.3 105.7 ✓ −1.52
8 43 03 66.0
15

81 P.A. 182.4
8 40 38 Sp. 2.8
Dec −16.4
21184.570 H.A 3 33 W
S.T. 0 40

Nov. 16th 1916.

Ref Jup. III Phot R.

L.C. Obs. 15th Sq. 7.5:3 Rec

& Full aperture

Compared with screen sat. as in prec. Eclipse

8 53 10 Prod. 3424 = 8 54 00 Light

13 55 40	8 54 50	Jup III ~~[illegible]~~ in sight (already)					500✓
52	8 54 55	190.4	32.9 ~~67.1~~	65.8	+2.65	3.09	488✓
56 02	55 09	157.5	34.5	69.0	2.54	2.98	478✓
12	16	192.0	37.0	74.0	2.38	2.82	468✓
22	27	155.0	40.8	81.6	2.15	2.59	458✓
34	38	195.8	39.0	78.0	2.25	2.69	446✓
46	50	156.8	41.8	83.6	2.09	2.53	434✓
58	56 01	198.6	46.8	93.6	1.82	2.26	422✓
57 18	15	151.8	42.2	84.4	2.07	2.53	402✓
38	40	194.0	48.5	97.0	1.73	2.17	382✓
53	55	145.5	58.9	117.8	1.24	1.68	$3\overset{6}{7}7$ ✓
58 04	57 11	204.4	57.4	114.8	1.31	1.75	$3\overset{5}{6}6$ ✓
14	18	147.0	57.7	115.4	1.29	1.73	$3\overset{4}{5}6$ ✓
26	30	204.7	$6\overset{2}{8}5$	125.0	1.08	1.52	$3\overset{3}{4}4$ ✓
06	42	142.2	62.8	125.6	1.07	1.51	$3\overset{2}{3}4$ ✓
46	51	205.0	61.8	123.6	1.11	1.55	$3\overset{1}{2}4$ ✓
56	58 01	143.2	65.2	130.4	0.97	1.41	$3\overset{0}{1}4$ ✓
59 06	11	208.4	66.4	132.8	0.92	1.36	294 ~~304~~
16	21	142.0 ~~202.0~~	59.8	119.6	1.20	1.60	284
26	32	201.8	61.4	122.8	1.13	1.57	274
37	43	140.4	68.5	137.0	0.83	1.27	263
13 $5\overset{9}{8}$ 44	51	208.9	70.7	141.4	0.75	1.19	256
	8 58 57	138.2	72.0	144.0	0.69	1.13	

Nov. 16 - 1916

13 59 54 14 00 04	8 59 11	210.2	73.4	148.8	+0.64	1.08	-246✓
11	18	136.8	72.2	144.4	0.69	1.13	236✓
18	24	209.0	73.8	147.6	0.62	1.06	229✓
26	31	135.2	74.6	149.2	0.59	1.03	222✓
34	~~40~~	~~209.8~~	75.6	151.2	0.55	0.99	214✓
14 00 42	47	134.2	75.7	151.4	0.55	0.99	206✓ ~~200~~ 198
	56	209.5					
	9 00 04	136.4	74.4	~~148~~	~~0.60~~	~~1.04~~	
62 ~~14~~ 9 00 16	~~13~~	~~210.8~~					174
14 01 06	20	133.4	78.1				
	25	211.5	152.5	0.53		0.97	
	34	134.4					
17.5	~~41~~	~~214.2~~	79.8				
9 00 44	50	135.4	80.6				
14 01 34	58	216.0	160.4	0.37		0.81	146
	01 6	133.3	81.9				
66	~~12~~	~~215.2~~	81.1				
9 01 16	20	135.2	163.0	0.32		0.76	114
14 02 06	28	216.3					
	38	133.0	84.2				
19.3	~~45~~	~~217.2~~	81.3				
9 01 48	52	133.8	165.5	+0.27		0.71	82
14 02 38	58	215.1					
	~~02 6~~	~~125.2~~	92.2				
75	~~15~~	~~217.4~~	89.1				
9 02 19	24	128.8	181.3 178.7	-0.03		0.41	-51
14 03 09	30	217.9					
	9 02 39	127.6					

Nov. 16 - 1916.

199	9 02 46	219.9	92.3			
9 02 50	53	128.2	89.2			
14 03 40	03 01	217.4	181.5 178.5	− 0.03	0.41	-20^{2}
	09	128.2				
71	15	218.8	90.6			
9_{14} 03 18	21	128.8	90.4			
9 06 08	26	217.2	181.0 179.0	− 002	0.42	+ 08
	34	129.8				
9 05 26	9 03 44	220.0	90.2			
9^{14} 06 16	9 7 09	127.4	92.6			
	20	220.0	182.8 177.2	− 005	0.39	1.36
	31	124.9				
167	38	223.0	98.1			
9 07 42	45	120.9	102.5			
14 08 32	53	223.4	200.6 159.4	− 0.39	0.05	272
	8 00	123.9				
9 08 46	07	224.2	100.3			
~~8 00~~ 12	15	124.0	100.8			
14 09 02	24	224.8	201.1 158.9	− 0.40	0.04	302
	33	123.4				
183 9 08 46	42	225.2	101.8			
14 09 36	50	120.0	105.0			
	58	225.0	206.8 153.2	− 0.51	− 0.07	336
	9 07	122.7				
70 9 09 18	17	224.4	101.7			
14 10 08	25	122.2	101.1			
	9 9 31	223.3	202.9 157.1	− 0.44	0.00	+ 368

Nov. 16th 1916

37	9 9 48	163.0	L.V. 29.2
~~9~~ 10 09	56	172.2	29.6
14 10 59	10 19	340.2	58.8 + 2.91 335
	9 10 34	9.8	+419

SU Tauri

0543(1) ent
0133
~~4 50~~
4 10 ε
5 57

05 42 + 18.5
1 40
4 02 ε

R.A. 3 43 ε
Dec. + 18.8
S.T. 1 56

10.00 sei 11.8 7.5 B.
sei 12.1 L.C.

2nd - 5299 Photos
2 - 84 C
2 - 12 B

9.30 o Ceti n.ε = 3.8 L.C.
n.2 = 3.8 7.5 B.

Sat. Nov 18, 1916

15" Eq

L.C. Obs D.B.P. Rec.

Reap. Jup I

12:47.31 Frod. 3424 =

Sat I already in view.

12 48 13 Some few seconds too late

U Gem in 074922

12 43 est 13.8 L.C. Obs.

Frod 3424 = 42^2 slow at 12:57

Mon Nov. 20–1916

L.C.Ob 15" E. Eq.

Eunomia. Plot T.

Cs watch used Spr 100 P.a. 196 A.

P.a 200

6 30.6 280.8 ∠ comp * dis. I

335.6 54.8

102.2 62.2

164.4 117.0 + 1.26

P.a. 20

~~24.8~~

~~55.8~~

198.8 44.6

243.4 44.0

17.4 88.6 + 1.95

61.4

+1.275

+1.865

.1140

1.570

190.6

247.2 56.6

21.6 38.6

60.2 95.2 + 1.78

P.a. 200

281.4

333.3 51.9

101.6 63.7

6 39.0 165.3 115.6 + 1.29

6 34.8 Diff. 48.1

6 32.0

Nov. 20–1916.

Eunomia (Cont.)

II

P.a 200

6 43.3 276.4
340.4
103.3
157.1

640
53.8
117.8 +1.24

P.a 20

21.0
61.2
188.2
250.4

40.2
62.2
102.4 +1.60

9.6
66.4
198.4
242.2

56.8
43.8
100.6 +1.64

+1.135
+1.620
755
+1.378

P.a 200

270.6
339.6
103.8
162.2

69.0
58.4
127.4 +1.03

6 50.3
9.36

6 46.8
6 44.0
21188.2489

0:27 w
+7.6
ST.=23:00

Nov. 20-1916

Eunomia

P.a 200 III

6 54.4	280.4			
	332.7	52.3		
	97.4	69.4		
	~~172.2~~	121.7	+ 1.16	
	166.8			
		P.a 20		
	20.8			
	63.8	43.0		
	185.6	66.8		
	252.4	109.8	+ 1.42	
				+ 1.185
	18.7			+ 1.535
	71.2	52.5		720
	195.4	47.9		1.360
	243.3	100.4	+ 1.65	
		P.a 200		
	101.8			
	161.0	59.2		
	279.2	60.1		
7 00.4	339.3	119.3	+ 1.21	
6 57.2				
6 54.4	C's watch = 2m 50s fast at 7.00 Bell			
496				

Nov. 20 - 1916

Pos of Jup. I Phot R

15" E Eq.
A C Clk.
F.E.B. Rec
Nolte Circle Reader

Comp with Sat on opposite side - Sat

Rod 3×24 used

	7 9 46	16~~7~~2.8	L. V.	29.9			
7 10 30 36	10 26	1~~8~~92.7		21.4		-492	
7 11 06 12	49	166.2		51.3	+322	+3.10	
	57	187.6					
	118						

12 7						-1.3v	
16 04	7 16 28		suspectie				
17 12	36		seeing			-126	
22	41	184.0	18.8	396	+3.91	-116	379
33	52	165.2	21.6	432	3.60	-105	348
	17 02	186.8	38.8	776	2.27	-92	215
46	19	148.0	59.3	1186	1.22	-78	1.10
18 00	30	207.3	64.4	1288	1.00	66	88
12	41	142.9	65.7	1314	0.95	56	83
22	53	208.6	65.4	1308	0.96	43	84
35	18 05	143.2	70.5	1410	0.75	32	63
46	15	213.7	73.3	1466	0.64	22	52
56	25	140.4	73.1	1462	0.65	12	53
19 06	34	213.5	78.7	1574	0.43	00	30
	49	134.8	81.2	1624	0.33	+14	21
32	19 03	216.0	82.2	1644	0.30	+26	18
44	7 19 14	133.8					

Nov. 20 – 1916

12 19 55	7 19 24	218.0	84?	168.4	+0.22	+ 37
	35	133.6			+0.10	
19 51 36	46	219.0	85.4			
12 20 27	57	131.2	91.6 177.0	+ 0.06	−0.06	+69
	20 7	222.8				
	19	131.0				
20 35 36	29	220.8	89.8			
12 21 01	40	133.9	86.5 176.3	+ 0.07	−0.05	+ 103
	52	220.4				
	21 05	131.~~8~~1				
21 23 36	17	222.0	90.9			
12 ~~21~~ 59 21	28	126.0	95.9 186.8	− 0.13	−0.21	+161
	41	221.9	173.2			
	22 00	133.1				
22 16 36	10	215.4	82.3			
12 ~~23~~ 22 52	22	135.4	82.8 165.1	+ 0.28	+0.16	+ 2[illegible] ✓
	32	218.2				
	53	138.8				
12 23 10 36	23 05	218.0	87.2			
12 23 46	16	131.6	85.6 172.8	+ 0.18	+0.06	+ 268
	28	217.2				
	38	130.6				
12 23 54 36	48	217.3	87.3			
12 24 30	24 01	132.0	88.0		−0.03	+312
	7 24 11	220.0	175.3	+ 0.09		

Nov 20 – 1916

	7 25 25	136.2			
12 25 40	38	216.0	79.8		
36			88.2	+ 0.11	
12 26 16	48	128.8	168.0	+ 0.23	+ 418
	59	217.0			
	26 10	131.9			
26 25	20	216.8	84.9		
36				+ 004	
12 27 01	30	129.4	86.5		
	7 26 39	215.9	171.4	+ 016	+ 463

Flod 3 × 2 ×
7 29 24.5

Relay in Rotunda
7 30 00

Eunomia resumed

Nov. 20th - 1916

Eunomia measured

P.A. 210 ~~30~~

IV

7 47 5 98.~~8~~8

164.7 65.9

277.8 626

342.4 128.5 + 1.01

P.A. ~~2~~ ~~70~~ 30

191.0 52.1

243.1 54.3

16.9

71.2 106.4 + 1.50

+0.975

+1.565

+2540

+1.270

184.4 66.4

250.8 34.8

20.7

55.5 101.2 + 1.63

P.A. 210

276.8 59.4

336.2 72.4

97.8 131.8 + 0.94

7 52 35 170.2

99 40

7 49 50

36

7 50 26

7118.535

Nov. 20—1916

Pa 210 — V

8 4 5 — 277.0 — 63.8 ✓
340.8 — 63.8 ✓
100.4 — 127.6 ✓ +1.03
164.2

Pa 30

20.2 — 41.4 ✓
61.6 — 66.6 ✓
186.8 — 108.0 ✓ +1.46
253.4

~~+1.135~~
~~+1.570~~
~~2.705~~
~~+1.352~~

14.8 — 47.45 ✓
62.3 — 51.7
193.7 — 99.2 ✓ +1.68
245.4

+0.995
1.570
2.565
1.282

Pa 210

99.2 — 65.2 ✓
164.4 — 65.6 ✓ — +0.96
274.8 — 140.8 ✓ — ~~+1.18~~
3

8 9 50 — 340.4
13 55
806 54

21188.54 >

1916phae.proj..61OC

Nov. 20th 1916

		P.A. 210		
8 21 40	94.8	76.6 ✓		YC
	171.4	51.5 ✓		
	283.7	128.1 ✓	+1.02	
	335.2			
		P.A. 30		
	194.2	52.8 ✓		
	247.0	54.0 ✓		
	14.4	106.8 ✓	+1.49	
	68.4			
				+1.045
				+1.630
	193.8	54.6 ✓		2.675
	148.4	40.9 ✓		+1.337
	19.7	95.5 ✓	+1.77	
	60.6			
		P.A. 210		
	282.8	57.8 ✓		
	340.6	67.8		
	97.4	125.6 ✓	+1.07	
8 27 10	165.2			
8 24 25				

21188.559

Nov. 20th 1916

P.A. 210

VIII

8 36 20 278.8
339.2 60.4 ✓
98.4 66.4 ✓
164.8 126.8 ✓ +1.05

P.A. 30

20.2 43.2 ✓
63.4 50.9 ✓
194.9 94.1 ✓ +1.81
245.8

+1.190
+1.745
2.935
1.467
+1.468

19.4 41.8 ✓
61.2 57.2 ✓
191.2 99.0 ✓ +1.68
248.4

P.A. 210

281.2 62.5 ✓
343.7 57.4 ✓
104.4 113.9 ✓ +1.33
8 41 00 155.8
7 20
F 38 H0

21188.569
F 46

o Ceti est 3.7 Red 6 A.C.Ch
— — — 3.6 —— F.E.B.

Nov. 20 1916

		P.A. 210		VIII
8 54 50	278.4	63.8 ✓		
	342.2	56.7 ✓		
	99.4	120.5 ✓	+1.18	
	156.1			
		P.A. 30		
	296.0	47.8 ✓		
	243.8	43.6 ✓		
	21.2			
	64.8	91.4 ✓	+1.88	✓
				+1.200
				+1.795 ✓
	186.4	61.6 ✓		2995
	248.0	36.1 ✓		+1.498
	23.8	97.7 ✓	+1.71	
	59.9			
		P.A 210		
	103.6	✓		
	154.2	58.6		
	277.2	68.2 ✓		
~~8~~ 9 00 10	345.4	118.8 ✓	+1.22	
8 57 30				

2118. 572

Nov. 20-1916

IX

P.G. 210

9 11 20

99.2
157.4
283.3
341.6

58.2 ✓
58.3 ✓
116.5 ✓ +1.27

P.G 30

22.2
58.8
195.5
249.0

36.6 ✓
53.5 ✓
90.1 ✓ +1.91

1.250 ✓
+1.885 ✓
3.135
+1.568

22.6
65.8
196.0
244.8

43.2 ✓
48.8 ✓
92.0 ✓ +1.86

P.G. 210

100.8
159.8
281.7
340.8

59.0 ✓
59.1 ✓
118.1 ✓ +1.23

9 16 10
7 30
9 13 45

Diff. 593

Nov. 20 - 1916

		P.G. 210		X
9 33 20	99.6			
	165.2	65.6 ✓		
	2~~7~~87.6	4~~8~~8.1 ✓		
	335.7	~~113.7~~ ✓	~~+0.50~~	
		113.7	+1.33	
		P.G. 30		
	195.5	51.1 ✓		
	246.6	42.3 ✓		
	21.4	✓		
	63.7	93.4	+1.82	+1.260
				+0.845
				+1.775
	190.8	54.7 ✓		3035
	245.5	✓		1.518
	18.0	42.2		
	60.2	96.9 ✓	+1.73	
		P.G. 210		
	284.4	50.4 ✓		
	334.8	69.8 ✓		
	100.4	120.2 ✓	+1.19	
9 38 10	170.2			
11 30 9 35 45				

2 11 F.F. 608

Nov. 20 1916

		P.a. 210	XI	
9 52 56	278.6	60.6 ✓		
	339.2	72.0 ✓		
	96.8			
	168.8	132.6 ✓	+ 0.92	
		P.a. 30		
	194.4	54.4 ✓		
	248.8	41.2 ✓		
	17.2	✓		
	58.4	95.6	+ 1.77	
				+ 1.01
				+ 1.80
				2.81
	196.6	50.6 ✓		+ 1.405
	247.2	42.4 ✓		
	19.6	93.0 ✓	+ 1.83	
	62.0			
		P.a. 210		
	284.8	50.9 ✓		
	335.7	73.2 ✓		
	94.0			
9 57 55	167.2	124.1 ✓	+ 1.10	
0 57				
9 55 26				
21188.622				

Nov. 20 1916

		P.a. 210		
10 4 15	277.4	60.9 ✓		
	338.3	64.8 ✓		
	97.4			
	162.2	125.7 ✓	+1.07	
		P.a. 30		
	17.7	44.1 ✓		
	61.8	62.0 ✓		
	~~1900~~			
	186.8	1061 ✓	+1.51	
	248.8			
				+0.995
				+1.555
				2550
	20.0	46.8 ✓		+1.275
	66.8	55.6 ✓		
	191.2			
	246.8	102.4 ✓	+1.60	
		P.a. 210		
	96.9			
	164.6	67.7 ✓		
	272.8	65.3 ✓		
10 8 50	338.1	133.0 ✓	+0.92	

10 04 32

21188.628

Comp ★ = +7°.4913 (7.8)

P.a.	202. A.
Sp	9.9
Dec.	+7.5
R.A.	3.53 W
S.T.	2 27

Nov. 20 1916

Transit for Eunomia

* A	2	38^{4}	6	North
* A$^{=+6^\circ.5046}$		34	45	
		35	47	North Eun.
		36	20	Eunom —.
* ~~B~~ C		37	11	
* ~~C~~ B$^{+6^\circ.5051}$		37	53	North
* C		37	34	
* C			39	North

Object measured for Eunomia tonight is certainly Eunomia.

242 5541 photo

2 — 86 c

1 — 13 β

Tues. Nov. 21 - 1916

L.C. Obs 15" Eq. Rec.

Eunomia Phot T.

22 35 +10.0
22 20

0 15 E

Flood 3×2× used

Spr = 5.5
P.a. = 180°

Same comp as last night = +7° 4913 (7.5)

P.a. 180

6 15.5

277.6 < comp ✱ dis
337.2 59.6
104.6 55.6
160.2 115.2 + 1.30

I

P.a. 0
200.8
241.2 40.4
18.1 46.3
64.4 86.7 + 2.00

+1.240
+1.925
3.165
+ 1.582

191.6
244.8 53.2
20.6 39.2
59.8 92.4 + 1.85

P.a. 180
287.2
333.6 46.4
96.6 74.0
170.6 120.4 + 1.18

6 23.5
6 19.5
6 20.0

21189.472

Nov. 21-1916

P.a. 180

II

6 28.7 283.2

338.8 55.6

106.8 56.5

163.3 112.1 + 1.37

P.a. 0

19.8

57.8 38.0

194.2 53.0

247.2 91.0 + 1.89

+1.415

+1.885

1300

1.650

16.4

62.8 46.4

198.6 44.8

243.4 91.2 + 1.88

P.a. 180

105.7

162.2 56.5

284.7 51.7

6 35.7 336.4 108.2 + 1.46

644

6 32.2

6 32.7

2189.481

Nov. 21 – 1916

Eunomia (cont)

		Pa. 180		III
6 42.0	102.6			
	162.0	59.4		
	277.8	59.8		
	337.6	119.2	+ 1.21	
		Pa. 0		
	197.7			
	240.7	43.0		
	16.0	~~6~~ 5 4.0		
	70.0	~~10~~ 9 7.0	+ ~~1.69~~ 1.73	
				+1.155
	194.4			+1.780
	248.2	53.8		.935
	23.2	39.2		+1.468
	62.4	93.0	+ 1.83	
		Pa. 180		
	286.6			
	341.2	54.6		
	100.2	69.6		
6 48.4	169.8	124.2	+1.10	
6 45.2				
6 45.7				

21189.490

Nov. 21-1916

		P.a.	180	IV
6 56.4	2756			
	340.5	649		
	105.3	570		
	162.3	1219	+1.15	
		P.a.	0	
	21.2			
	61.6	40.4		
	197.8	50.4		
	248.2	90.8	+189	
				+1.105
			I	
	19.2			+1.825
	63.6	44.4		930
	194.4	51.4		1.465
	245.8	95.8	+1.76	
		P.a.	180	
	100.6			
	1636	63.0		
	2774	63.0		
7 02.4	340.4	126.0	+106	
6 59.4				
6 59.9				

21189.500

Nov-21-1916

P.a. 180 V

7 07.0	99.2 —			
	171.2 —	72.0		
	278.0	58.2		
	336.2 —	130.2	+ 0.97	

P.a. 0

	198.0			
	246.6	48.6		
	13.4	59.7		
	73.1	108.3	+ 1.46	
	193.8			+ 0.990
	246.6	52.8		+ 1.550
	19.2 —	47.8		2.540
	67.0	100.6	+ 1.64	1.270

P.a. 180

	281.6			
	337.8	56.2		
	99.8	72.4		
7 13.0	172.2	128.6	+ 1.01	
7 10.0				
7 10.5				

21189.507

Nov. 21 – 1916

		P.a. 180		VI
> 25 00	278.2	65.4 ✓		
	343.6	63.6 ✓		
	101.2	✓		
	164.8	129.0	+1.00	
		P.a 0		
	$\overset{2}{\cancel{4}}0.4$	44.4 ✓		
	64.8	55.4 ✓		
	194.2	99.8 ✓	+1.66	
	249.6			
				+1.035
				+1.595
	14.2	54.6 ✓		2630
	68.8	50.5 ✓		+1.315
	194.7	105.1 ✓	+1.53	
	245.2			
		P.a. 180		
	102.0	58.8 ✓		
	160.8	67.0 ✓		
	274.8	125.8 ✓	+1.07	
> 29 30	341.8			
> 27 15				
> 27.8				

21189.519

Nov. 21-1916

P.a. 180 - $\overline{\text{VII}}$

7 35 40 98.4
171.4 73.0 ✓
279.8 68.4 ✓
348.2 141.4 ✓ + 0.75

P.a. 0

194.0
244.6 50.6 ✓
14.8 49.6 ✓
64.4 100.2 ✓ + 1.65

0.850 ✓
1.595 ✓
2.445 ✓
+ 1.22

189.8 62.9 ✓
252.7 42.0 ✓
20.2
62.2
~~59.9~~ 104.9 ✓ + 1.54

P.a. 180

283.4 58.8 ✓
342.2 72.6 ✓
94.8 131.4 ✓ + 0.95
7 40 15 167.4

75 55
7 37 58
7 38.5
21189.526

Nov. 21 1916

P.G. 180

VIII

~~7 36 40~~ ~~98.4~~
7 42 55 270.8
344.6
73.8 ✓
60.2 ✓
102.2
134.0 ✓ +0.90
162.4

P.G. 0

18.8
44.3 ✓
63.1
58.9 ✓
189.3
103.2 ✓ +1.58
248.2

1.61 ✓
+1.60 ✓
2.61 ✓
305
+ 1.~~40~~

16.9
49.7 ✓
66.6
51.6 ✓
197.2
101.3 ✓ +1.62
248.8

P.G. 180

103.8
62.8 ✓
166.6
66.7 ✓
276.2
123.5 ✓ +1.12
7 47 20 336.9
10 15
7 45 08
7 45.6
211 Pg 53 2

Nov. 21 1916

		P.A. 180		
8 4 10	96.2			IX
	169.4	73.2 ✓		
	278.2	67.0 ✓		
	345.2	140.2 ✓	+0.77	
		P.A. 0		
	197.0	46.7 ✓		
	243.7	48.8 ✓		
	14.4			
	63.2	95.5 ✓	+1.77	
				+1.725
	193.3	52.4 ✓		+0.930
	245.7	46.5 ✓		2.755
	15.3	98.9 ✓	+1.68	+1.378
	61.8			
		P.A. 180		
	283.0	56.5 ✓		
	339.5	68.1 ✓		
	98.7	124.6 ✓	+1.09	
8 8 15	166.8			

8 6 12
+ 6.7

21189.547

Nov. 21 - 1916

		P.a. 180	X
8 14 30	278.2	59.6 ✓	
	337.8	64.9 ✓	
	98.2		
	163.1	124.5 ✓ +1.10	
		P.a. 0	
	18.6	44.2 ✓	
	62.8	61.8 ✓	
	189.4	106.0 ✓ +1.57	
	251.2		
			1 065 ✓
			+1.510 ✓
	13.4	55.9 ✓	2.575 ✓
	69.3	50.3 ✓	+1.288
	196.9	106.2 ✓ +1.57	
	247.2		
		P.a. 180	
	163.7	64.3 ✓	
	168.0	63.2 ✓	
	278.6		
8 18 35	341.8	127.5 ✓ + 1.03	

p 16 32

Seeing poor

8 17.0

21189.553

Nov. 21 – 1916

P.a. 180 XI

δ 24 40	97.3	72.1 ✓	
	169.4	57.3 ✓	
	279.4	129.4 ✓	+ 0.99
	336.7		

P.a 0

	193.4	54.3 ✓	
	247.7	50.4 ✓	
	13.6	104.7 ✓	+1.54
	64.0		

1015 ✓
+1.610 ✓
2625
+1.312 ✓

	193.7	52.8 ✓	
	246.5	46.3 ✓	
	17.4	99.1 ✓	+ 1.68
	63.7		

P.a. 180

	284.2	52.5 ✓	
	336.7	74.8 ✓	
	94.8	127.3 ✓	+ 1.04
δ 28 40	169.6		

δ 26 40

δ 27.2

21189.560

δ 32 0 Ceti 021403 est 3.7 LCR = 6
– – – est 3.6 Feb.
both with NE

Nov 21–1916

Pa 180 XII

A 36 40 273.9
345.7 71.8 ✓
99.8 65.4 ✓
165.2 137.2 ✓ + 0.83

Pa. 0

19.5 42.3 ✓
61.8 54.7 ✓
192.0 97.0 ✓ + 1.73
246.7

✓
+ 0.985 ✓
+ 1.735
2.720 ✓
+ 1.360

15.8 48.8 ✓
64.6 47.7 ✓
195.6 96.5 ✓ + 1.74
243.3

Pa 180

102.3 59.3 ✓
161.6 63.2 ✓
276.8 122.5 ✓ + 1.14
f 40 45 340.0

A 38 42

f 39.2

21189.569

Nov 21 - 1916

		Pa 180		~~XIII~~
8 49 5	98.2	70.4 ✓		
	168.6	55.8 ✓		
	281.0			
	336.8	126.2 ✓	+ 1.06	
		Pa 0		
	194.7	48.9 ✓		
	243.6	44.9 ✓		
	17.8			
	62.7	93.8 ✓	+ 1.81	
				+ 1.090
	190.7	58.7 ✓		+ 1.695
	249.4	44.4 ✓		+ 1.392
	17.8	103.1 ✓	+ 1.58	
	62.2			
		Pa 180		
	283.3	~~7~~51.1 ✓		
	~~15~~334.4	72.4 ✓		
	92.8	1~~4~~23.5 ✓	~~0.70~~	
8 53 15	165.2		+ 1.12	

8 51 10

8 51.7

21189.578

Nov. 21-1916

		Pa 180	XIV	
9 16 25	284.5			
	335.0	50.5 ✓		
		59.0 ✓		
	101.0			
	160.0	109.5 ✓	+1.43	
		Pa 0		
	19.3	40.7 ✓		
	60.0	49.8 ✓		
	196.0	90.5 ✓	+1.90	
	245.8			
				+1.445
				+1.910
	20.4	43.8 ✓		3.355
	64.2	46.0 ✓		+1.678
	194.4	89.8 ✓	+1.92	
	240.4			
		Pa 180		
	104.6	54.2 ✓		
	158.8	54.0 ✓		
	282.2	108.2 ✓	+1.46	
9 20 30	336.2			
9 18 28				
9 19.0				
2)(19.5 9)				

Nov 21 – 1916

		P.a 180	XV
9 24 40	101.0	61.6 ✓	
	162.6	50.0 ✓	
	285.8	111.6 ✓ +1.38	
	335.8		
		P.a 0	
	196.0	48.9 ✓	
	244.9	40.8 ✓	
	21.0		
	61.8	89.7 ✓ +1.92	
			+1.34
			+1.86
	192.2	54.4 ✓	3.20
	246.6	40.0 ✓	+1.60
	20.0		
	60.0	94.4 ✓ +1.80	
		P.a 180	
	283.8	51.4 ✓	
	335.2	63.8 ✓	
	100.2	115.2 ✓ +1.30	
9 28 55	164.0		
9 26 48			
9 27.3			
21189.602			

Nov 21-1916

Pa 180 $\overline{\text{XVI}}$

9 34 40   282.8   54.4 ✓
337.2   54.4 ✓
104.4
178.8   108.8 ✓   +1.45

Pa 0

22.0   37.8 ✓
59.8   50.6 ✓
196.2   88.4 ✓   +1.96
246.8

+1395 ✓
+1.910
3305 ✓
+1.652 ✓

17.2   43.6 ✓
60.8   48.4 ✓
196.8   92.0 ✓   +1.86
245.2

Pa 180

104.3   56.1 ✓
160.4   57.2 ✓
281.2   113.3 ✓   +1.34
9 39 15   338.4
13 55
9 36 58
9 37.0
21189.609

Nov. 21–1916

		Pa. 180		XVII
9 47 30	97.2	✓		
	167.2	70.0 ✓		
	285.0	53.8		
	338.8	123.8 ✓	+1.11	
		Pa. 0		
	197.0			
	242.2	45.2 ✓		
	14.4	48.9 ✓		
	63.3	94.1 ✓	+1.81	
				1.195 ✓
				+1.820 ✓
	190.8	56.4 ✓		3015 ✓
	247.2	36.8 ✓		1.508
	24.0	93.2 ✓	+1.83	
	60.8			
		Pa. 180		
	28$\overset{3}{8}$.8			
	333.4	49.6 ✓		
	98.9	61.3 ✓		
9 51 55	165.2	115.9 ✓	+1.28 ✓	
9 49 42				
9 50.2				
211 89.618				

Nov. 21 – 1916

P.a 180 XVIII

9 57 00 279.8
337.2 57.4 ✓
103.0 60.3 ✓
163.3 117.7 +1.24

P.a 0

19.8 39.9 ✓
59.7 55.9 ✓
192.3 95.8 ✓ +1.76
248.2

1.225
+1.715
2940
+1.470

14.8 ✓
63.2 48.4 ✓
197.7 51.1
248.8 99.5 ✓ +1.67

P.a. 180

103.0 ~~58.4~~
163.2
~~159.4~~ 60.2
283.3 58.9
10 01 25 342.2 119.1 ✓ +1.21

S.T. = 2.22
P.a. = 177. A
Sfm = 8.8
Ha. = 3.51 W
Dec = +7.7

9 59 12

9 59.7

21189.625 ~~B~~ Flod 3×24 = 9:59:30 at 10:00:00 (Bell)

Nov. 21 - 1916

SU Tauri 05.43.19
2 25
3.18

10 15 cal 12.9 Dec +18.8 seeing very poor
H.A. 3 8 E
S.T. 2 31

288 - 5829 plates
2 - 88 C
1 - 14 B

Wed. Nov. 22 – 1916

E.C. Obs 15-4 E Eq. F.E.B. Rec

27
B 36 +19.2
21 36
6 6 E

Metcalf's Susp. object.

S Cygni 200357

8 00 sxi 10.4 R = 6

SX Cygni 201130
24 26
4 15 W

sxi 14.0 very faint and difficult R —

V Cygni 203847
24 34
3 56 W R = 9

sst. 9.0

S U Tauri 054319
01 52
3 51 E

9.30 sxi. 13.0

S.S. Aurigae 060547
2 00
4 05 E

sxi 13.3

var. not seen.

Nov. 22 1916

U Gem. 07 49 22
02 05
5 44

esi 12.8 var. not seen

10 32 o Ceti NE at 36 Fig B

— 5829 ~~plates~~
5 - 93 C
1 - 15 B

Frid. Nov 24th 1916

o Ceti

9 40	sse (sege)	3.6	R = 4	7.5 B

= =

1 16 B

Mon. Nov. 27 – 1916

21195

L.C. Obs. 15" E. Eq. F.E.B.

SS Aurigae 060547 >
00 40
5 25 E
6 35

8 10 var. not seen # < [illegible] L.C. has faint suspicion of var.

L.C. + A.B.B.

o Ceti est 3.8 LC
8 12 — " 3.8 ABB
— " 3.7 FEB
NE

Sky hazy.

X Aurigae 060450 est. 9.0 R = 3
0 5

V Aurigae 061647 est 10.0 R = 6

U Lyncis 063159 est 12.5 R = 4

S Lyncis 063558 est 10.2 R = 2
R Lyncis 065355
1 28
5 25 est. —

var. suspected but not seen with certainty < 13.0

Nov. 27 1916

L. C. obs. Reapp. of Jup. 15-in Eq. Phot. R.

7 Σ B

Rec.

9 05 23
12
14 05 05

~~9 04 40 184.0~~ 1
9 05 07 168.2
18 181.4
28 169.0
40 179.9
} L. V

132
109
24.1 + 4.88 4.76
~~[illegible] .23~~
− 587

~~8.~~ ~~8~~ 10

14 12 22	9 12 40	Seen					−150 2
34	46	181.6	16.8	33.6	4.15	4.03	138
46	59	164.8	28.4	56.8	2.98	2.86	126
58	13 8	193.2	39.2	78.4	2.24	2.12	114
13 12	25	154.0	41.9	83.8	2.08	1.96	100
20	34	198.9	52.7	105.4	1.53	1.41	92
30	43	146.2	59.0	118.0	1.24	1.12	82
40	52	205.2	60.8	121.6	1.16	1.04	72
49	14 03	144.4	62.5	125.0	1.08	0.96	63
58	11	206.9	64.6	129.2	1.00	0.88	54
14 08	21	142.3	72.7	145.4	0.67	0.55	44
18	31	215.0	77.8	155.6	0.47	0.35	34
28	41	137.2	78.6	157.2	0.43	0.31	24
39	57	215.8	76.8	153.6	0.50	0.38	13
51	15 03	139.0	77.3	154.6	0.49	0.37	− 1
15 02	15	216.3	78.1	156.2	0.45	0.33	+ 12
15	28	138.2	82.4	164.8	0.29	0.17	23
26	38	220.6	86.8	173.6	0.12	000	
37	50	133.8	83.9	167.8	0.23	0.11	34
48	16 01	217.7	84.4	168.8	0.21	0.09	46
14 15 58	12	133.3	88.8	177.6	0.05	−0.07	58
			~~1727~~	~~+0.[illegible]~~			+66

Nov. 27 – 1916

	9 16 21	222.2				
9 16 48 18	32	130.9				
	43	217.7	86.8			
14 16 30	53	131.4	87.0			
	17 02	218.4	173.8	+0.12	0.00	+98
	11	129.6				
9 17 30 18	22	217.2	87.6			
14 17 12	32	129.8	91.0			
	43	220.8	178.6	+0.03	-0.09	+160
	52	131.0				
9 18 06	18 02	219.4	88.4			
14 17 48	11	130.2	90.4			
	21	220.6	178.8	+0.02	-0.10	+176
×	19 23	134.0				
9 19 42	40	220.2	89.2			
18	48	134.0	84.8			
14 19 24	53	218.8	174.0	+0.11	-0.01	+272
	20 05	132.0				
9 20 18	11	218.2	86.2			
14 20 00	23	133.0	85.8 172.0	+0.15	+0.03	+308
	32	218.8				
	41	128.9				
9 20 57	52	218.0	89.1			
14 20 39	21 03	133.3	82.7 171.8	+0.16	+0.04	+347
	12	216.0				
	23	133.2				
9 21 41			85.0			
18	30	218.2	84.4			
14 21 23	50	136.0	169.4	+0.20	+0.08	+391

Nov. 27 - 1916

	9 22 00	220.4	
9 22 28	10	133.0	
14 22 06	18	217.7	84.7
	29	133.3	86.8
	36	220.1	171.5 + 0.16 + 0.04 + ~~4~~34

Trod. 3424
9 24 18.5

Relay
9 24 00

Comp with Neaner Sat on oppos side = Sat III

1000 Sky generally hazy & thinly cloudy, brighter stars only seen.
Too poor to continue with advantage.

65 - 5894 plates
7 - 100 C
1 - 17 B

Fri. Dec. 1 - 1916

15" E. Eq.

LCOb

6 00 Too cloudy to begin.

6 40 Clear in west.

V Drac. 175654 est 13.7
23 46
5 50 W +54.9

X Drac 180666 est < 13.0

W Drac 180565 est 11.9
23 55
5 50 +66.0

Not perfectly clear in this region.

SV Drac 1831 49
24 08
5 37 W +49.3

RY Lyrae 184134
24 18
5 37 W +34.5

7. 30 Impossible to continue for clouds (haze)

Sat. Dec. 2–1916

15" E. Eq.

L.C.Ab.

22 04 12 T Pegasi
2 5 5 x
3 50 w +12.0

22 12 +12.?
25 5 f
3 46 sei 13.3 var. barely seen
+12.2 4:4 W 2:8 16. a

Y Pegasi 22 06 13

R S Pegasi 22 07 14

Clouds

10 15 Sky all cloudy, impossible to continue.

Tues. Dec. 5 – 1916

L.C. Obs. 15" E. Eq.

Comp Stars for Eunomia.

22 24 + 8.4
25 19
2 55 W
+8.4870 (7.8) with + 8°.4874

P.a 70 A
Sfr 9.4

8 20 Cloudy

9 00 Too cloudy to continue.

Wednesday, December 6, 1916.

L.C. Obs. Reap. of Jup. I I. E. Woods, Recorde

15 in Eq. Phot. R

5	3 .	All cloudy
5 39		Impossible to see even
40		Jupiter at $5^h 41^m$

Thurs. Dec. 7 - 1916

L.C.Obs 15" Eq.

Uranus

21 16 - 16.4

23 06

1 50 W

Phot T.

T

Full aperture

C's Watch used = 11s fast at 6.00 P.a. 310

5 54.0

198.2 < Uranus Dis

242.2 440

13.4 538

67.2 97.8 - 1.71

Pa. 130

278.8

348.8

101.2 70.0

162.8 61.6

131.6 - 0.95

282.0 - 1.755

340.6 - 0.915

93.3 586 2670

169.4 761 - 1.335

134.7 - 0.88

7.290

5.955

P.a. 310

11.6

64.6 530

200.9 415

6 00.0 242.4 94.5 - 180

5 57.0

5 56.8

21205.456

Dec 7-1916

Uranus

P.a 310

II

6 05.0	19.2			
	61.0	41.8		
	189.4	55.0		
	244.4	96.8	- 1.74	
		P.a. 130		
	96.4			
	166.6	70.2		
	284.6	54.8		
	339.4	125.0	- 1.08	
	101.6			
	164.2	62.6		-1.825
	274.1	68.7		-1.015
	342.0	131.3	- 0.95	-1.420
				229
		Pa 310		5.87
	197.0			
	243.0	45.2		
	18.0	45.0		
6 10.2	63.0	90.2	- 191	
6 07.8				
6 07.6				

2c205.H64

Dec. 7 – 1916

Uranus

Pa. 310 III

6 18.5 12.2

62.2 50.0

194.2 53.5

247.7 103.5 — 1.57

Pa. 130

97.7

163.6 65.9

282.1 57.1

337.2 121.0 — 1.17

~~100.8~~

100.8

160.4 59.6 −1.120

280.4 66.2 −1.475

346.6 125.8 — 1.07 595

−1.298

7.290

5.992

P.a. 310

10.0

70.0 60.0

196.0 51.8

6 25.4 247.8 111.8 — 1.38

439

6 22.0 Obs. diff. & somewhat hazy here

6 21.8

21^h 20^m.5.474

Dec. 7-1916

Uranus

P.a 310 IV

6 28.8 144.4
64.2 49.8
196.2 50.6
246.8 100.4 — 1.65

Pa 130

94.6
165.6 71.0
282.2 58.6
340.8 129.6 — 0.99

−1.665
−1.010
−1.338
7.290
5.952

101.8
163.6 61.8
276.4 66.0
342.4 127.8 — 1.03

1.338 010
1.298 050
1.420 072
1.335 013
145
191 ±.036
−1.348
7290
5942

Pa. 310

195.8
247.2 51.4
6 34.6 16.6 47.6
64.2 99.0 — 1.68

6 31.7
6 31.5
2/1205.481

Too low to continue with this in low alt & moonlight with haze.

Pa 315.8
Sp = 1.5
Ha = 2:48W
Dec = −16.2
S.T. = 0:00

Dec 7 — 1916.

Comp * for Eunomia

22 24 +8.4
24 14

1 50 w +8.4

+8.4870 (7.8) with 5.8 = +8.4874

Pa. 70

7 20 24.8 < 5.8 dis

Pa 70 A
Sfr 9.4

57.4 32.6
204.7 37.1
241.8 69.7 + 2.52

Pa. 250

104.4
157.2 528
286.6 504
337.0 −103.2 + 1.58

+2.580
+1.605

4.185
2.092
5.820

~~.720~~
7.912

104.2
152.4 48.2
285.2 53.0
338.2 101.2 +163

Pa. 70

205.2
234.6 29.4
21.4 36.6
7 9.0 58.0 66.0 + 2.64

Dec 7 - 1916

+8.4863 (7.9) with (7.8) ~~+~~8°.4470

Pa 75

Pa 73°A

Sep 10.8

} 14.0

178.8 < 7.8 dis
267.6
351.2
83.6

88.8
92.4
181.2
178.8

$\bar{*}$ 0.02

Pa 255

8.6 < 7.9 dis
73.6
188.4
257.0

65.0
68.6
133.6

$\bar{*}$ 0.90

~~−0.155~~
~~+0.950~~
~~−0.05~~
~~95~~
~~− * 0.398~~

9.8 < 7.9 dis
69.4
186.6
252.2

59.6
69.6
129.2

$\bar{*}$ 1.00

+0.135
− 0.950
− 815
−0.408

Pa 7.5

257.0 < 7.9 dis
353.2
~~80.~~
84.8
183.8

} 20 00

96.2
99.0
195.2
164.8

$\overset{+}{*}$ 0.29

Flod 3426
used now
=

Dec. 7 - 1916

+ 7.4868 (8.3) with
7.9 + 8.4863

P.a. - 10 A Sfr = 10.2

7 30 10 197.2
245.4
12.6
62.4

7.9 disp
48.2
49.8
98.0 +1.71

P.a. - 190.

273.4
342.6
97.4
170.6

69.2
73.2
142.4 +0.73

+1.630
+0.675
2305
+1.152

274.8
342.2
89.8
170.2

67.4
80.4
147.8 +0.62

P.a. 10

13.2
65.6
196.8
7 35 30 248.6

52.4
51.8
~~8~~4.2
10 +1.55

7 32 50

Dec. 7 – 1916

+7.4873 (8.0) with +7.4868 (8.3)

		P.a. ~~12~~ 130	P.a. 14 A	Sp. 9.2
7 47 35	7.2	← 8.0 dis		
	72.2	65.0		
	198.0	49.2	−1.32	
	247.2	114.2		
		P.a. 310		
	95.2	70.1		
	165.3	81.3		
	272.7	151.4	−0.55	
	354.0			
				−1.~~07~~ 28
				+ −0.46
				~~1.53~~
	85.4	83.4		~~−0.765~~
	168.8	77.2		
	271.6	160.6	−0.37	1.74
	348.8			−0.87
		P.G. 130		
	197.2	50.1		
	247.3	67.6	−1.24	
	6.8	117.7	~~−0.82~~	
7 51 45	~~1~~74.4			

+7.4873 (8.0) is prob. a var.

P.a.
Sp. 124. A
Sp. 9.2

Dec 7 – 1916.

+7°4880 (8.2) with 7°4886 (7.9)

		P. G. 120		
8 9 35	353.8 ∠7.9 di	87.2		
	81.0	68.1		
	189.2			
	257.3	155.3	+0.47	
		P.G 300		
	260.2 ∠7.9 di	105.8		
	6.0	1042		
	77.0	2100		
	181.2	1450	−	
			~~+~~ 0.58	
				+ 1.530
	262.2 ∠7.9 di			− 0.515
	12.2	110.0		
	85.2	93.6		0.015
	178.8	2036	−0.45	+ 0.008
		1564		
		P.G. 120		
	2.2 ∠7.9 dis	72.6		
	74.8	76.8		
	181.2			
8 D 13 40	258.0	149.4	0.59	8

Dec 7 - 1916.

+7° 4886 (7.9) with
+7.2488 3 (7.9)

P.G. 170

8 23 50 350.1
89.4 99.3 The fol. 7.9 dis
188.4 67.9
256.3 167.2 -0.24

P.G 350

67.8 ∠ fol 7.9 dis. 112.4
180.2 118.8
255.4
14.2 231.2
128.8 +1.00

-0.245
+1.100
+0.855
+0.428

72.2 ∠ fol 7.9 dis 113.8
186.0 126.4
250.0
16.4 240.2
119.8 +1.20

∴ the fol 7.9 is the fainter.

P.G 170

267.6 ∠ prec 7.9 dis. 87.8
355.4 105.2
80.6
8 29 5 185.8 193.0
167.0 -0.25

Will quit this for the Reaf. Jeaf. II

P.G. 162 A
Sp. 12.2

Dec. 7 – 1916

Jupiter ~~Rep.~~ Reap. Sat II.

L. C. ob. Phot. R. 15 in. Tel. F.E.B. R.

Comp. with preceding Sat on opposite side equal Sat I

13 ~~*~~	55	44	8 55	50±	-148 susp					
	55	46	8 55	52	-146 seen					
	56	05	56	04	165.4	28.0	56.0	+	3.02 -127	+3.08
		21		18	193.4	426	852	+	2.05 111	2.11
		32		33	150.8	526	1052	++.	+1.53 100	1.59
		42		43	203.4	55.2	110.4		1.41 90	147
		52		52	148.2	60.4	120.8		1.18 80	124
	57	02	57	03	208.6	63.8	127.6		1.03 70	109
		14		14	144.8	65.8	131.6		095 58	1.01
		24		26	210.6	69.4	138.8		0.80 48	086
		34		35	140.2	79.5	159.0		0.40 38	046
		49		44	219.7	82.4	1648		0.29 23	035
				~~53~~	—					
	58	04	58	06	137.3	78.4	1568		0.44 -8	0.50
		14		15	215.7	75.1	150.2		0.57 +2	063
		25		25	140.6	82.7	165.4		+0.28 13	034
		36		37	223.3	85.9	171.8	~~1682~~	0.16 24	022
		45		46	1$\overset{3}{2}$7.4	79.6	159.2		0.40 33	046
		56		56	217.0	88.8	177.6		+0.05 44	0.11
	59	05	59	07	128.2	92.0	184.0	176.0	-0.08 53	0.02
		14		15	220.2	96.2	192.4	167.6	-0.24 62	-0.18
		22		24	124.0	98.2	196.4	163.6	-0.31 70	-0.25
		30		33	222.2	93.8	187.6	172.4	-0.15 78	-0.09
		40		41	128.4	90.0	180.0		0.00 88	+0.06
		49		50	218.4	93.4	186.8	173.2	-0.13 97	-0.07
14 9 00		00	9 00	06	125.0	92.8	185.6	174.4	-0.11 108	-0.05
6		14		12	217.8	90.6	181.2	178.8	-0.02 +122	+0.04

Dec 7 - 1916.

14 00 26	9 00 27	1$\overset{2}{8}$7.2	93.6	197.2 162.8 - 0.33	+1.34
	36	220.8		- 0.27	
	00 44	124.8			
14 00 51	55	220.2	95.4		
	01 01	128.0	93.4		
	08	221.4	188.8 171.2	- 0.17	+1.57
	19	132.2		- 0.11	
14 01 26	28	220.8	88.6		
	36	127.4	87.4		
	45	214.8	176.0	- 0.07 - 0.01	+1.94
	55	126.8			
14 02 00	02 03	221.2	94.4		
	10	126.2	94.0		+.228
	16	220.2	188.4 171.6	- 0.16	
	24	122.2		- 0.10	
14 02 29	31	223.6	101.4		
	38	125.2	98.2		
	47	223.4	199.6 160.4	- 0.37	+.257
	58	130.2		- 0.31	
14 03 06	03 07	218.9	88.7		
	16	122.4	97.4		
	25	219.8	186.1 173.9	- 0.17	+.294
				- 0.05	
	9 06 25	130.8			
	37	212.8	82.0		
14 06 34	44	126.3	86.6	+ 0.22	+.502
	53	212.9	168.6	+ 0.28	

Dec. 7 1916

	9 7 03	128.5		
14 07 10	11	217.0	88.6	
	20	128.2	90.1	+5.38
	28	218.3	178.7	+ 0.02
				+ 0.08
	36	129.2		
14 07 42	43	219.9	90.7	
	53	130.0	86.6	+5.70
	8 01	216.5	177.3	+ 0.05
				+ 0.11
	10	127.4		
14 08 16	18	218.2	90.8	+.604
	27	129.8	85.0	
	9 8 35	214.8	175.8	+ 0.08
				+0.14

14 09 20	9 9 10	168.2	L.V. 211	+668
	22	189.3	236	
	32	164.8	447	+3.52
	9 9 40	1884		+3.58

Th 3424 Relay

9 11 5.5 = 9 11 00

Dec. 7—1916.

o Ceti Phot. R.

0 2 14 — 3.6
0 2 44
0 30

Index above.

9 24 40 357.6 < var obs
359.2 8.6
271.1 8.1
179.2 15.7 —5.82

Ind. below

260.8
270.2 9.4
80.4 9.4
89.8 18.8 —5.43

—5.660
—5.505
5.582
9.19

261.2 8.6
269.8 8.9
80.7 17.5 —5.58 Magn. 3.61
89.6

Ind. above

170.4 8.8
179.2 9.4
350.4 18.2 —5.50
9 29 40 359.8

Fri Dec 8 - 1916

L.C.Olb 15" E Eq.

Uranus

21 16 - 16.4 Phot T

23 16

20 w - 16.2 Full aperture

C's watch used = 2^m.5 fast

Same Comp * as last night T = -16°

P.a. 330

5 58.2 77 < Uranus dis

70.2 625

195.8 508

246.6 113.3 - 1.34

P.a. 150

100.2

159.8 59.6

281.6 60.1

341.7 ~~129.7~~ 119.7 - ~~0.99~~ 1.20

95.6

164.6 690

276.4 58.6

335.0 127.6 - 1.03

P.a. 330

193.6

253.3 59.7

140 52.2

6 04.6 66.2 111.9 - 1.37

6 01.4

5 58.9

21206.458

T

-1.355

-1.115

-1.235

7.29

6.05

-1.355

-1.165

350

1.260

7.29

6.03

Dec. 8 – 1916

Uranus

		p.a. 330		II
6 09.7	197.4			
	244.2	46.8		
	5.3	68.4		
	>3.7	115.2	– 1.30	
		p.a. 150		
	~~99.6~~			
	99.6			
	162.8	63.2		
	100.2	64.1		
	164.3	127.3	– 1.04	
	285.0			–1.455
	336.6	51.6		–1.185
	98.8	62.4		.640
	161.2	114.0	–1.33	–1.32
				7.29
		p.a. 330		5.97
	11.8			
	68.6	56.8		
	197.8	44.9		
6 16.3	242.7	101.7	– 1.61	
6 13.0				
6 9.5				
21206.465				

Dec. 8 — 1916.

Uranus

P.a. 330

III

6 24.4 18.2
64.8 46.6
190.8 58.4
249.2 105.0 — 1.54

P.a. 150

96.4
169.8 73.4
285.2 52.6
337.8 126.0 — 1.06

— 1.535
— 1.07
— 1.30
7.29
5.99

102.0
158.4 56.4
276.6 68.6
345.2 125.0 — 1.08

P.a. 330

191.8
247.6 55.8
19.8 49.4
6 30.4 69.2 105.2 — 1.53

6 27.4
6 24.9
21206.476

Dec 8-1916

Mars

Pa 330 IV

6 38.0 ~~201.0~~

196.2

246.2 500

10.6 601

70.7 110.1 -1.42

Pa 150

277.2

348.3 71.1

99.8 59.6

159.4 130.7 -0.96

-1.480

-1.045

-1.262

284.8

339.4 54.6

96.6 68.4 7.29

165.0 123.0 — 1.13 6.03

Pa 330

10.6

67.2 56.6

196.8 48.0

6 43.6 244.8 104.6 - 1.54

81.6

6 40.8

6 38.3

21206.485

Dec 8 – 1916

Uranus

Pa. 330 V

6 46..3 *8.6
60.7
193.8
247.5

521
53.7
105.8 −1.52

Pa. 150

94.6
162.6 68.0
283.4 54.6
338.0 122.6 −1.14

101.8 −1.470
157.0 55.2 −1.110
278.4 70.0 580
348.4 125.2 108 1.29
721
6.80

Pa. 330

190.4
248.0 57.6
142 52.5
6 . 520 66.7 110.1 −1.42
98.3
6 49.2
6 467

21206.492

Dec 8-1916

Uranus

P.a 330 VI

6.03 05
5.97 01
5.99 01
6.03 05
6.00 02
5.95 - 03

6)35.97 (0.17
5.98 ±03

6 54.2 198.8
244.8 46.0
8.8 63.4
72.2 109.4 - 1.43

P.a. 150

279.8
342.6 62.8
99.8 60.8
160.6 123.6 - 1.11

282.2
338.0 55.8
99.6 61.7
161.3 117.5 - 1.25

-1.50
-1.18
1.34
7.29
5.95

P.a. 330

9.2
65.3 56.1
196.3 47.5
6 59.4 243.8 103.6 - 1.57
13.6

6 56.8 Region too low to continue.

6 54.3

21206.6496

P.a. 331 A
Spr 1.4
Ha. 3:13
S.T. 0:28
Dec = -16.2

Dec 8 — 1916.

Eunomia

22 50 + 8.0 Phot T.
24 50
2 0 W

I
Transit

1 18 00
18 40
1 18 20
18 59
18 46.5
1 19 12

II
1 50 21
50 50
50 31
51 20
50 57
1 51 31

fr wt time

a 1 19 59 +8°.4952 (9.5)
20 39
b ~~19~~ 20 19 +8.4954 9.5
2058
2045 Eunomia?
c 1 2~~0~~1 10 5th & 6th find the order.

20 1 18 20 19 1 20 19
19 1 18 40 1 20 38
~~21~~ 20
1 ~~19~~ 18 ~~04~~ 59 1 20 58

20 1 50 36
1 50 56
18 1 51 14

Dec. 8 – 1916

Transit.

~~2 44 17~~

a 2 44 30 2 44 46

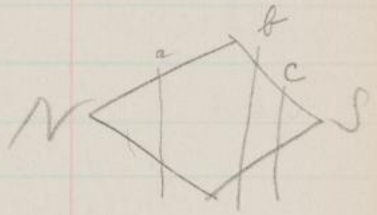
45 03 20

b 44 44 2 45 06 19

45 29 ~~22~~

4X 06 (overwritten: 5 11)

c 2 45 39 2 45 25



~~2 53 26~~

~~3~~

~~36~~

~~54 26~~

~~53 58~~ (55)

~~54 34~~

1 2 50 38 2 50 53

2 51 08

3 52 49 2 51 18

4 57 37

5 57 15 1.A

6 2 51 47 2 51 31

338 – 6232 photom

4 – 104 c

— 17 β

Wed. Dec. 13–1916

P.C.Ob. Uranus 15" E Eq.

21 16 – 16 ✓

23 46 Plat I.

2 30

Cr watch used correct at 6:00

Same Comp as on the 8th of Dec

= –16° 5850 (7.29)

P.a. 220

6 09.0 ~~20~~ 10 3.0 < Uranus dis. I

163.3 60.3

275.8 68.6

344.4 128.9 – 1.00

P.a 40

196.4

246.4 50.0

20.0 42.0

62.0 92.0 – 1.86

–1.105

198.3 –1.745

241.2 42.9 –1.425

10.4 58.0 7.29

68.4 100.9 – 1.63 5.87

P.a. 220

275.8

346.4 70.6

107.2 48.8

6 15.0 156.0 119.4 –1.21

6 12.0

21211.467

Dec. 13 - 1916

Uranus

Pa. 220 II

6 19.0 284.6
335.6 57.0
99.8 61.0
160.8 112.0 — 1.37

Pa 40

14.2
69.2 55.0
194.4 48.0
242.4 103.0 — 1.58

1
17.2 —1.2~~6~~0
62.6 45.4 —1.60
193.4 56.2 —1.4~~3~~95
249.6 101.6 — 1.62 7.29
5.88

Pa. 220

92.7
161.8 63.1
278.8 63.4
6 23.8 342.2 126.5 — 1.05
6 21.4

212/1.473

Dec. 13, 1916

Uranus

		P.a. 220		III
6 29.0	96.0			
	160.2	64.2		
	280.6	62.8		
	343.4	127.0	— 1.04	
		P.a. 40		
	200.2			
	248.0	47.8		
	18.2	48.2		
	66.4	96.0	— 1.75	
	196.3			−1.00
	244.4	48.1		−1.705
	18.0	51.6		1.35
	69.6	99.7	— 1.66	7.29
				5.94
		P.a. 220		
	100.0			
	169.0	69.0		
	282.0	62.0		
6 34.0	344.0	131.0	— 096	
6 31.5				
21211.480				

Dec. 13 – 1916

Uranus

		Pa. 220	IV		
6 35.4	102.0				
	159.8	57.8			
	278.8	66.0			
	344.8	123.8	— 1.11		
		Pa. 160			
	198.0				
	243.6	45.6			
	17.2	46.0			
	63.2	91.6	— 1.87		
	+0				
	197.3			−1.095	
	242.4	45.1		−1.780	
	14.8	53.4		.875	
	68.2	98.5	— 1.69	1.44	
				1.29	
				5.85	03
		Pa. 220		5.94	06
	274.6			5.86	.02
	343.0	68.4		5.87	01
				32	4)13
	100.2	57.0		5.88	±.03
6 40.0	157.2	125.4	— 1.08		
6 37.7				P.a.	221 A
21211.485				Spr	2.8
				Ha	3:13 W
				Decl	−16.3
				ST	0:24

Dec 13-1916.

Eunomia.

23 0 +8.0
26 30
1 30 +8.0

Comp't. Place = 23 0.5 +7 46 (1855)

Sid. Clock

1	0	47	19	a 47 31		27
2		47	43			
3		47	49	b 48 58		
4	0	48	6			
5						
6						

both a & b on North side

1 = (9.3)	0	49	0	a 47 20	~~asteroid~~?
2		49	40		27
3		49	22	b 49 47	asteroid?
4		50	12		59
5		50	25	c 50 46	
6 (5.3)		51	8		

1	0	51	25	a 51 44	
2		52	4		22 ?
3		51	46	b 52 06	
4		52	35		64
5		52	48	c 53 10	
6		53	32		

a & b on South side
c on North

Dec 13 - 1916.

Hrod 3×24 # B Relay
7 23 20.2 7 23.00

Reap Jup I. Plot R.
L.C.Clp 15" E Eq. J.E.B. Rec.

Comp with middle Sat of the 3 on oppos side = Sat. IV

~~7 32 41~~

32	54	7 33 14	sunk						−1.37
32	56	16	seen						−1.35
33	06	20	~~14.4~~ 353.6	30.6	62.2		+2.78	+ 3.60	125
	20	32	26.2	56.4	112.8		1.35	+ 1.97	111
	37	48	329.8	65.4	130.8		0.96	+ 1.58	94
	53	34 06	35.2	72.2	144.4		0.69	+ 1.31	78
34	06	20	323.0	79.8	159.6		0.39	+ 1.01	65
	19	33	42.8	83.2	166.4		0.26	+ 0.88	52
	30	45	319.6	86.8	173.6		+ 0.12	+ 0.74	41
	43	52	46.4	90.2	180.4	179.6	− 0.01	+ 0.61	28
	55	35 10	316.2	92.6	185.2	174.8	− 0.10	+ 0.52	16
35	05	20	48.8	96.5	193.0	167.0	− 0.25	+ ~~0.87~~ 0.57	−6
	16	30	312.3	98.1	196.2	163.8	− 0.31	+ ~~0.93~~ 0.31	+5
	28	42	50.4	10.41	208.2	151.8	− 0.54	+ 0.08	17
	40	53	306.3	106.4	212.8	147.2	− 0.63	− 0.01	29
		36 07	52.7						
36	14	18	308.2	102.6					63
		29	50.8	104.2 208.8 153.2	−0.51			+ 0.11	

Dec. 13 - 1916.

	7 36 40	307.2	104.2 ~~5.8~~			
	50	51.4				
	59	311.8				
12 36 54	37 08	53.2	101.4			
	20	307.4	102.3 208.7			
	30	54.7	151.3	-0.55	+0.07	+103
	39	307.2				
12 37 32	47	53.8	106.6			
	57	307.1	~~34~~ 106.6			
	38 06	53.7	213.2 146.8	-0.64	-0.02	+141
	20	308.4				
12 38 14	29	54.8	106.4			
	40	306.2	105.6			
	48	57.8	212.0 148.0	-0.61	+0.01	+183
	58	306.8				
12 38 52	39 00	53.2	106.4			
	17	306.0	~~48~~ 104.8			
	27	50.8	211.2 148.8	-0.60	+0.02	221
	38	307.6				
12 39 33	48	57.2	103.6			
	58	306.3	107.7			
	40 07	54.0	211.3 148.7	-.60	+0.02	262
	16	302.8				
12 40 10	25	54.8	112.0			
	34	305.3	110.6			
	7 40 44	55.9	222.6 137.4	-0.83	-0.21	+299

Dec. 13 1916

~~7 41 52 48.6~~

7 42 15 342.4

12 42 08 22 19.2

31 342.8

7 42 42 18.8

L. V. 36.8
360
72.8 + 242 ~~417~~
304 417

Sky hazy prob affecting moment of first seeing Satellite.

Transit Eunomia.

Frod 3424

8 14 32

a 15 2[illegible] 30 8 14 47

29 129

14 56 41

b 15 16

15 37 60

15 58 57 16 16

c 16 41

Star a and b on South side of square star c on North side

8 16 57

a 17 2[illegible] 32 8 17 07 31 30

129

b 17 17 41 17 38

17 58 58 59

18 10 52 18 36

c 19 02

Dec. 13 1916

Transit.

Sidereal Clock.

2 15 30 2 15 46

a 16 01 -30

15 55 2 16 16 1m 28s

b 16 38 sf

a 16 49 2 17 14

17 39

a = + 7°.4978 9.3

b = asteroid?

c = +7°.4981 (5.3)

9 05 Too cloudy to continue.

Dec
~~Oct~~. 13 — 1916.

a	b	c	
0 49 0	0 49 22	0 50 25	
49 40	50 12	0 51 8	
0 49 20	0 ~~50~~ 49 47	0 50 46	a = 23 0 43.7
			29.0
	a − b = 27	b − c = 59	23 1 12.7
2 15 30	2 15 55	2 16 49	
16 01	16 38	17 39	
2 15 46	2 16 17	2 17 14	
	a − b = 31	b − c = 57	c = 23 2 12.7
			58.0
			23 1 14.7
			23 1 12.7

mean a − b = 29 mean b − c = 58

R.A. Eunomia = 23 1 13.7

~~+7 49.0~~

~~a − b b − c~~

~~20~~
~~31~~

Δ a	Δ b	Δ c
20	50	43
31	43	50
25.5	46.5	46.5
21.0	93.0	

log 21 = 1.32222
log 7.5 = 0.87506
log cos. δ = 9.99520
156" = 2.19248
156" = 2'.9

log 93 = 1.96848
log 7.5 = 0.87506
log cos δ = 9.99520
~~log~~" = 2.83874
6898
8898
200.0" = 3'.3

a = +7 49.0
29
+7 51.9

c = 7 53.7
3.3
7 50.4
51.9

Dec. Eunomia = 7 51.2

110 6342 Plates
104 C
(?) B

Thurs Dec. 14-1916

L. C. Obs 15" E. Eq.

Inamu Pilot T.

21 16 -16.4
23 40
2 24 W -164

Cs watch used = 25s fast
Compworth -16s 850

P. a. 220
6 01.2
~~279.8~~
~~343.2~~
~~clds~~
93.3
~~clds~~ clearer now

Pa 2260
Spr = 3.4

6 22.0
~~88.8~~
P.a 220
164.7
281.0
344.4
75.9 ✓
63.4 ✓
139.3 -0.79

Pa 40
198.8
242.4
20.0
65.0
197.7
43.6 ✓
45.0 ✓
88.6 ✓ -1.95

245.2
20.4
60.2
47.5 ✓
39.8 ✓
87.3 -199

-0.82
-1.97
2.79
1.395
.729
3.90

21212.475
P.a. 220
276.7
343.3
94.8
164.4
66.6 ✓
69.6 ✓
136.2 ✓ -0.85

6 26.8

Dec. 14-1916

Uranus

Pa 220 II

6 28.4 273.7
357.6 779
99.8 626
162.4 1405 — 0.76

Pa 40

14.8
63.8 490
199.2 471
246.3 961 — 1.75

15.3
65.6 503
199.8 438
243.6 941 — 1.81

~~98.6~~

Pa 220

98.6
160.6 620
277.3 665
6 33.0 343.8 1285 — 1.01

6 1.7
6 30.7

-0.885
-1.780
2.665
-1.33
7.29
5.96
5.90
5.93

Phot T will not reach the two

21212.479 Comp ~~stars~~.

Dec. 14 1916.

L.C.Ob Eunomia

23 0 +8.0
24 30
1 30w +8.0

Plot

Comp ✱ = +7°4991 (5.15)

67 8.0 ~~322.~~2 p.a. 270

I

301.8 < Comp ✱ dis
322.2 20.4 ✓
120.8 166 ✓
137.4 37.0 + 3.94

p.a. 90

35.4 ✓
46.4 11.0 ✓
213.3 109 ✓
224.2 21.9 + 5.09

+ 4.105
+ 5.035
9.140
+ 4.57
5.15
9.72

34.2 ✓
47.7 13.5 ✓
215.6 9.6 ✓
225.2 23.1 + 4.98

p.a. 270

123.1 ✓
134.2 11.1 ✓
301.3 21.1 ✓
15.4 322.4 32.2 + 4.25

23.4
11.7
11.3

21212.508

Dec. 14-1916

P.a. 270 II

> 290 119.2
137.6 18.4 ✓
301.7 17.5 ✓
319.2 35.9 ✓ + 4.01

P.a. 90

216.0 ✓
224.9 8.9
35.4 13.5 ✓ + 5.04
48.9 22.4 ✓

4.035
5.095
9130

214.8 10.8 ✓ 4.565
225.6 10.5 ✓ 5.15
35.5 21.3 ✓ + 5.15 9.715
46.0

P.a. 270

301.1 ✓
318.2 17.1 ✓
17.9
121.3 35.0 ✓ + 4.06
7 34.8 139.2
63.8

P.a. 267. A

7 31.9 sp. 7.6
7 31.5

21112.522

Dec 14th 1916

		P. a. 270		
8 22 40	301.8 321.6 120.4 137.4	18.8 ✓ 17.0 ✓ 35.8 ✓	+4.01	
		P. a. 90		
	34.8 47.0 214.4 224.3	12.2 ✓ 9.9 ✓ 22.1 ✓	+5.07	
				+3.90 +5.07 8.97
	36.3 46.8 214.6 226.2	10.5 ✓ 11.6 ✓ 22.1 ✓	+5.07	+4.48 5.15 9.63
		P. a. 270		
	122.8 140.7 297.6 3~~2~~19.7	17.9 ✓ 257.6 ✓ ~~43.0~~ ✓ 39.5	+3.$\overset{7}{6}$9	
8 27 45 10 25				
8 25 12				
8 24 50 21212.559				

Dec. 14th 1916

		P.A. 270		
8 35 10	120.8	17.4 ✓		IV
	138.2	21.5 ✓	+ 3.83	
	298.7	38.9 ✓		
	320.2			
		P.A. 90		
	213.8	12.3 ✓		
	226.1	10.6 ✓		
	36.3	22.9 ✓	+ 4.99	
	46.9			
				~~4.75~~
	213.3	12.1 ✓		3.870
	225.4	14.6 ✓		+ 4.825
	34.0	26.7 ✓	+ 4.66	8695
	48.6			4.348
				5 15
		P.A. 270		9.50
	299.2	22.0 ✓		
	321.2	15.6		
	122.8	37.6 ✓	+ 3.91	
8 40 20	138.4			
75 30				
8 37 45				
8 37 23				
2 1212.567				

Dec. 14th 1916

P.A. 270

8 45 50	299.4			I
	323.0	23.6 ✓		
	120.2	17.6 ✓		
	137.8	41.2 ✓	+ 3.70	

P.A. 90

	32.4	15.8 ✓		
	48.2	11.9 ✓		
	214.4	27.7 ✓	+ 4.58	
	226.3			+ 3.68
				+ 4.57
				8.25
	35.7	13.1 ✓		+ 4.12
	48.8	14.8 ✓	+ 4.56	5.15
	212.6	27.9 ✓		9.27
	227.4			

P.A. 270

	120.6	20.6 ✓		
	141.2	21.4 ✓		
	297.8	42.0 ✓	3.66	
8 50 45	319.2			

96 35

8 48 18

8 47 55

2|2|2.575

8 50 o Ceti eye est 3.9 P.C.Obs

8 55 — — 4.0 F.S.B.Obs

Dec. 14 1916

P.G. 270

8 57 35 121.4 16.8 ✓

138.2 22.9 ✓

299.7 39.7 ✓ + 3.79

322.6

VI.

P.G. 90

213.6 13.8 ✓

227.4 12.6 ✓

35.8 26.4 ✓ + 4.68

48.4

+ 3.91
+ 4.74
8.65

215.5 9.5 ✓

225.0 15.5 ✓

33.3 25.0 ✓ + 4.80

48.8

+ 4.32
5.15
9.47

P.G. 270

300.8 21.6 ✓

322.4 13.9 ✓

124.2 35.5 ✓ + 4.03

9 02 50 138.1

00 25

9 00 12

22

8 59 50

21212583

Dec. 14-1916

P.a. 270

VII

9 10 50	297.0			
	322.2	25.2 ✓		
	118.4	22.0 ✓		
	140.4	47.2 ✓	+ 3.40	

P.a. 90

	34.4			
	48.5	14.1 ✓		
	213.7	12.3 ✓		
	226.0	26.4 ✓	+ 4.68	
				+ 3.50
				+ 4.53
	33.8	15.6 ✓		8 03
	49.4	14.7 ✓		4.02
	212.2	30.3 ✓	+ 4.38	5.15
	226.9			9.17

P.a. 270

	119.2	23.0 ✓		
	142.2	20.1 ✓		
	299.7	43.1 ✓	+ 3.60	
9 16 15	319.8			
9. 13 32				
21212.592				

Dec. 14 - 1916

P.A. 270 VIII

9 21 55 119.2

139.0 19.8

Clouds faint image gone

P.A. 90

P.A. 270

10 00 Too cldy to continue.

Sat Dec. 16 - 1916

L.C.Obs. 15" E Eq.

Eunomia

Phot T.

Frod. 3424

15" fast at 8.00.   23 0 +8.0

Same comp * as on the 14th

2 +7° 4991 (5.15)

PA 20

7 05.5   248.4 < comp * dis   I

266.0   17.6

68.2   20.6

~~88.8~~   38.2   +387

PA 250

337.6

353.0   15.4

161.4   12.3

173.7   27.7   +458

+3860

+4.615

8.475

338.2

352.4   14.2   4.24

161.2   12.6   8.15

173.8   26.8   +465   9.39

PA 70

63.8

87.4   23.6

250.8   15.0

7 13.0   265.8   38.6   +385   pa 62A

7 09.2   Spr 4.7

21214 506

Dec 16–1916

II

p.a ~~250~~
70

7 27.0
66.0
84.8
246.0
265.8

18.8
19.0
37.8 + 389

P.a. ~~70~~ 250

338.4
353.3
~~173~~
161.8
173.8

149
120
269 + 464

337.7
352.2
162.4
172.7

145
103
248 + 482

+3.835
+4.730
8.565
4.28
5.15
9.43

P.a. ~~250~~ 70
66.3
88.8
247.7
265.0

225
173
39.8 + 378

360
63.0
7 31.5

2121 H. 522

Dec. 16 1916

T.S.B. Rec.

P.A. 170°

III

7 48 30 | 69.8 | 15.9 ✓
85.7 | 24.9 ✓
242.8 | 40.8 ✓ | +3.72
267.7

P.A. 250

163.3 | 10.6 ✓
173.9 | 14.2 ✓
338.8 | 24.8 ✓ | +4.82
353.0

3.905
+ 4.950
8.855
4.42
5.15
9.57

164.2 | 9.2 ✓
173.4 | 12.8 ✓
338.0 | 22.0 ✓ | +5.08
350.8

P.A. 170°

247.2 | 19.4 ✓
266.6 | 14.9 ✓
70.0 | 34.3 ✓ | +4.11
7 55 45 | 84.9

104 45

7 52 8

21214 536

Dec. 16 1916

		P.G. 870		
8 ~~03 00~~	~~248.6~~	6		IV
	263.6	✓		
8 15 45	72.0	13.2 ✓		
	85.2	14.4 ✓		
	249.4	27.6 ✓	+4.59	
	263.8			
		P.G. 250		
	163.6	✓		
	173.0	9.4 ✓		
	340.4	14.2 ✓		
		23.6 ✓	+4.93	
	354.6			
				+4.37
				+4.90
	161.0	12.0 ✓		9.27
	173.0	12.2 ✓		+4.63
	339.8	24.2 ✓	+4.87	5.15
	352.0			9.78
		P.G. 870		
	249.6	15.2 ✓		
	264.8	18.5 ✓		
	67.8	33.7 ✓	+4.15	
9 21 20	86.3			
37 05				
8 18 32				
21214.554				

Dec. 16 1916

		P.G. 470		
8 30 50	247.7 264.6 70.0 86.8	16.9 ✓ 16.8 ✓ 33.7 ✓	+ 4.15	✓
		P.G. 250		
	340.0 352.7 160.8 173.3	12.7 ✓ 12.5 ✓ 25.2 ✓	+ 4.79	
				4.23 +4.67 8.90 +4.45 5.15 9.60
	339.7 353.3 160.0 174.4	13.6 ✓ 14.4 28.0 ✓	+4.55	
		P.G. 470		
8 36 35 85 8 33 42 21214.565	250.4 263.3 68.8 87.2	12.9 ✓ 18.4 ✓ 31.3 ✓	4.31	

8 30 o Ceti (sim. eye) 4.1 F.E.B. obs

9 40 o Ceti " 4.0 L.C. obs

Dec. 16 1916

		P.a. 70		
8 43 10	248.8	✓		VI
	264.2	15.4 ✓		
	64.0	22.8 ✓		
	86.8	38.2	+3.87	
		P.a. 250		
	339.0	✓		
	353.8	14.8 ✓		
	163.3	10.9 ✓		
	174.2	25.7	+4.74	
				3.870
				+ 4.755
	339.8	✓		8.625
	352.7	12.9 ✓		4.312
	161.7	12.5 ✓		515
	174.2	25.4	+4.77	9.46
		P.a. 70		
	63.6	✓		
	88.0	24.4 ✓		
	249.8	13.8 ✓		
8 49 35	263.6	38.2	+3.87	
8 46 22				
21214.574				

Dec. 16 1916

P.G. 70 VII

8 56 55 250.7 ✓

264.8 14.1 ✓

63.2 ← 25.6 ✓ extra image appears

88.8 39.7 +3.79

P.G. 250 No extra image.

~~251.6~~ ~~extra image gone~~

162.2 ✓

173.4 11.2 ✓

339.4 13.9

353.3 25.1 ✓ 4.79

162.2 ✓

176.4 14.2 ✓ +3.655

339.8 13.2 ✓ +4.690

353.0 27.5 ✓ +4.59 8345

+4.172

P.G. 70 515

250.4 932

264.2 ✓

60.0 ← 13.8 ✓ extra image appears

9 5 35 91.0 31.0 ✓ 3.52

2 30 44.8 ✓

9 01 15

21214 584

Dec. 16 1916

		P.A. 70		VIII.
9 22 10	248.8	15.2 ✓	extra image gone	
	264.0	26.7 ✓		
	63.1	41.9 ✓	extra image appears	
	89.8		+3.67	
		P.A. 250		
	339.8	13.5 ✓	extra image gone	
	353.3	13.4 ✓		
	160.8	26.9 ✓	extra image ———	
	174.2		+4.64	
		✓		+ 3.41
	338.2	16.5 ✓		+ 4.58
	354.7	11.9 ✓		7.99
	162.3	28.4 ✓	+ 4.52	+ 4.00
	174.2			5.15
				9.15
		P.A 70		
	62.6	✓	Extra image appears	
	90.8	28.2		
	240.2	24.5 ✓	extra image gone	
9 28 10	264.7	~~4~~52.7 ✓	+ 3.15	
9 25 10				
25 25 5.601				

Dec. 16 1916

		P.G. 70		
9 30 45	60.8		extra image X appears	
	93.7	32.9 ✓		
	249.8	11.6 ✓	extra image gone	
	261.4	44.5 ✓	+3.53	
		P.G. 250		
	340.0	12.8 ✓		
	352.8	12.4 ✓		
	161.8	25.2 ✓	+4.79	
	174.2			
				+3.545
				+4.745
	339.8	13.6 ✓		8290
	353.4	12.6 ✓		+4.14
	340.0	26.2 ✓	+4.70	5.15
	352.6			9.27
		P. 70		
	251.2			
	263.6	124 ✓		
	61.4	31.6 ✓	3.56	extra image appears
9 36 5	93.0	44.0 ✓		
50				
9 33 21				
21214.606				

Dec. 16 1916

P.G. 70

9 40 10 247.6 — 17.6 ✓ — extra image gone X
265.2 — 28.2 ✓
63.0 — 45.8 ✓ — extra image appears
91.2 — +3.47

P.G. 250

338.8 — 11.8 ✓
350.6 — 13.2 ✓ — +4.80
162.8 — 25.0
176.0

+3.425
+4.560
7985
+3.99
5.15
9.14

337.2 — 17.6 ✓
354.8 — 13.6 ✓
161.0 — 31.2 ✓ — +4.32
174.6

P.G. 70

60.9 — 30.1 ✓ — extra image appears
91.0 — 17.6 ✓
249.2 — 47.7 ✓ — +3.38
9 45 45 266.8
5 55

9 42 50
2121461.3

Repeat for
F.E.B.

Dec. 16 1916

P.A. 70

9 51 35 61.0 31.1 ✓ extra image appears XI.
92.1 15.1 ✓
249.8 46.2 ✓ extra image gone
264.9 +3.45

P.A. 250

160.0 15.4 ✓
175.4 15.4 ✓
338.8 30.8 ✓ + 4.35
354.2

+3.500
+4.435
7935
3.967

161.2 15.1 ✓
176.3 13.3 ✓
338.9 28.4 ✓ +4.52
352.2

+ 3.97
5.15
9.12

P.A. 7°

251.4 12.8 ✓
264.2 31.4 ✓ +3.55
59.8 44.2 extra image appears
9 56.10 91.2
7 45
9 53 52
21214.621

P.A. 68 A
Sp. 5.4
Sid Time 3 50
Dec. +8.6
H.A. 448 W

Dec. 16 1916

S.S. Cygni 21 38 43
28 00
6.22

10 15 set 11.8
The 10.9 near 9.4 is alright

SU Tauri 5 43 19
4 08
1.35

10 25 set < 13.5

S. S Aurigae 6 05 47
4 18
Region too high 1.47

3 20 6662 plates
4 108 C
2 19 B

Plates ledgered to here –
Visual " " "

Sat Dec 23-1916

L C Obs 15" Eq. L Gr. Rec

Eunomia Phot T

In region of δ Pegasi

Comp * = 8.96 of δ Pegasi seq. "b"

23 18 + 8 0

24 43

1 25 W Regular nicol used

6-49m9 ~~35.3~~ P. q. 90

35.5 <Vardis

134.4 98.9

217.1 93.1

310.2 192.0 + 0.42

158.0

I

P. q. 270

305.5 <Vardis

46.4 100.9

118.2 109.9

228.1 210.8 + 0.59

149.2

+ 0.17

~~P. q. 90~~ +0.53

301.2 +0.35

44.8 103.6 8.96

122.4 101.2 9.31

223.6 204.8 + 0.47

153.2

P. q. 90

220.2 <Vardis

305.4 85.2

~~33~~ ~~8~~ 35.8 90.8

6-56m3 126.6 176.0 - 0.08

6 53.1 21221.495

Dec 23-1916

II

P. 9.90

7-1.5 35.5 <Vardig 951
130.6 887.7
216.3 1828
304.0 1772 + 0.05

P. 9.270

116.6
~~[illegible]~~
229.8 1284
295.6 2216
44.0 138.4 + 0.81

+0.08
+0.65
+0.36
8.96
9.32

118.8 1078
226.6 380
302.2 ~~1458~~
40.2 205.8
1542 + 0.49

P. A. 90

210.8
308.0 972
42.2 88.6
T-9.#5 130.6 185.8
1742 + 0.11

) 05.5

21221.504

Dec 23-1916

		P. A. 90		III
7.21-0	217.0			
	303.8	86.8		
	83.2	109.5		
	142.7	196.3		
		163.7	+ 031	
		P. A. 270		
	297.2			
	48.2	111.0		
	116.7	108.0		
	224.7	219.0		
		141.0	+ 0.75	
	297.7			+0.335
	43.1	105.4		+0.765
	115.5	114.7		
	230.2	220.1		+0.55
		139.9	+ 0.78	896
		P. A. 90		9.51
	28.8			
	131.5	102.7		
	212.8	96.4		
7-27+.4	309.2	199.1		
7 24.2		160.9	+ 0.36	
21221.517				

Dec. 23 - 916

Phot R nicol used

P. A. 90

IV

7-30.6 245.0 < Error dis

357.7 1127

75.0 913

166.8 2040

1560 + 0.46

P. A. 270

334.0

80.2 1062

149.6 120.2

269.8 226.4

133.6 + 0.90

328.8 +0.495

89.2 120.4 +1.005

150.6 115.9 1.500

266.5 236.3

123.7 + 1.11 + 0.75

896

P. A. 90 971

254.0

346.8 92.8

66.8 104.8

171.6 207.6 + 0.53

152.4

9-44.0

7 37.3

21221.526

Dec. 23-1916

Phot Tricolured

V

748-4	187.2	P. 9.90		
	291.8	104.6		
	11.0	94.5		
	105.1	198.7	+0.36	
		161.3		
		P. 9.270		
	267.5			
	29.6	122.1		
	90.6	121.0		
	211.6	243.1		
		116.9	+1.26	
	266.6			+0.390
	35.7	129.1		+1.195
	92.8	108.0		1.585
	200.8	237.1	+1.13	+0.792
		122.9		896
		P. 9.90		9.75
	9.8			
	110.1	100.3		
	189.4	101.8		
7-53.5	291.2	202.1		
		157.9	+0.42	

101.9
7 51.0
21221.535

Dec. 23-1916

VI

P.A. 90

87.0 11.0

109.8 98.8

199.4 85.4

28 9.8 184.2

175.8 + 0.08

P.A. 270

88.6

206.9 118.3

276.2 113.1

29.3 231.4

128.6 + 1.01

93.6

206.0 111.4 +0.17

277.4 111.4 +0.92

28.8 222.8 + 0.83 109

137.2

0.545

8.96

P. A. 90

9.50

193.8

287.7 93.9

12.8 99.8

P.A.+1 112.6 193.7

131 166.3 + 0.26

8. 6.6

21221.547

Dec. 23 1916

		P.A. 90		
8 24 15	199.0			VII
	284.4	85.4		
	13.6	93.6		
	107.2	179.0	−0.02	
		P.A. 270		
	272.4			
	27.6	115.2		
	94.2	107.2		
	201.4	222.4	+0.82	
		137.6		
				+0.77
				+0.01
	279.8	105.6		
	25.4	111.6		0.78
	92.2		+0.72	+0.39
	203.8	217.1		896
		142.9		9.35
		P.A. 90		
	11.2			
	108.8	97.6		
	209.4	84.4		
8 29 20	284.8	182.0	+0.04	
13 35		178.0		
8 26 48				
212221.560				

Dec. 23 1916

P. G. 90

8 36 30 | 17.2 | 82.6
99.8 | 91.5
193.3 | 174.1 | − 0.11
284.8

P. G. 270

98.8 | 102.5
201.3 | 109.9
275.4 | 212.4
25.3 | 147.6 | + 0.62

− 0.045
+ 0.705
0.660
+ 0.33
896
9.29

97.4 | 101.8
199.2 | 119.0
268.8 | 220.8
27.8 | 139.2 | + 0.79

P. G. 90

193.7 | 91.3
285.0 | 89.6
15.8 | 180.9
8 41 10 | 105.4 | 179.1 | + 0.02
77 40

8 38 50

2/2221, 569

6 30 S. Pegasi 231508 sai 11.9

P. G. 90 A
Sf. 8.2

Dec. 23-1916

S Cancri Phot T

8 38 +19.0
3 23

5 15
9 10 Cldy
6 45

Pa 110

9 21 00 100 f < Var dis
197 2 Cldy

Dec. 23 1916

		S Cancri	P.G. 110	
9 26 20	99.6	99.6	var. dis.	
	199.2	118.8		
	285.6	218.4		
	44.4	141.6	Clouds	
			+ 0.74	
		P.G. 290		
	200.4	802		
	280.6	91.2		
	14.4		− 0.16	
9 30 ±	105.6	171.4		0.58
				+ 0.29
				9 30
				9.59
9 40	Cloudy			

Dec. 23 1916

S. Cancri

P.A. 290

~~9 55~~ clear
10 26

193.3
286.8
11.0
109.6

93.5 var. dis.
98.6
192.1 167.9 + $0.\overset{2}{0}\overset{3}{4}$

P.A 110

$\overset{2}{8}5.8$
96.9
208.8
272.2

71.1
63.4 comp. ✱ dis
134.5 + 0.89

22.0
95.5
207.5
10 35± 272.1

73.5
64.6 ← clouds
138.1 + 0.81

P.A. 290

clouds

Too cloudy to continue
with advantage

P.A. 284 A

Above settings of S. Canc. sp. 2.7
to be rejected

Thurs. Dec. 28-1916

LC Obs 15" E Eq. FEB. Rec

Eros
12 42 -8.4
9 00
3 42 E
8 18

Transit

10 23 15 α 10 23 34
37 23 52 ~~Eros~~? 29

28 23 49 } Eros. 10 24 03
24 17 33
24 22
29 10 24 36
24 51 58
51 25 8 } cluster 10 25 34
25 59 } star all in same side of sq.

~~25 59~~
~~26 ~~26~~ 19~~
~~48~~ II
~~47~~

32 33 58
29 32 57
30.5 32.5 57.5

27 26 I
10 27 44 35 Impossible to measure
32 28 11 III Eros in Photom. T.
10 28 16 28 03 27 II Eros first barely visible.
32 28 30 IV
28 33 30 V
10 28 48
57 29 03 VI
10 29 45 29 17 52 VII } cluster
30 11 VIII

Dec. 28 1916

B's watch 7m slow Eros

16 ~~☿~~ 37 ~~A~~ a 8.5, 3 ~~b~~ b

Transit

A 14 11 17 57 11 18 04
18 11
36 37 36.5
B 16 32 Secs 11 18 40
48
28 27 27.5
C 9 19 03 11 19 08
12
55 53 54.0
D 30 47 Cloudy 11 20 03
20 17 IX
21 24 22.5
E 23 19 VIII cloudy
42 X 11 20 24

11 21 03 I
-7.3485 24 27 11 21 45
37
39 Secs
27 22 06 11 21 52
27
09
-7.3487 20 29 11 22 19
53
50 Cloudy
-7.3490 45 11 23 35 11 23 12
24
-7°3491 45 23 14 11 23 36
11 23 59.

16 ☿ 47 a 6.2 b

16 ☿ 50 see R Cor Bor 6.1 L.C.

Dec. 20th 1916

17 00	a 7, 1 b, 4 c, 6 d
17 18	b 1, 3 c, 4 d
17 33	b 0, 4 c, 5 d
17 45	b 1, 3 c, 4 d
18 00	Too much clouds in region to set. again Twilight coming.

Fri. Dec. 29-1916

L.C. obs	Dis f. ~~Dist.~~ of Jup. III					Phot R. 15-in Eq. F.E.B. Rc.
Trod. 3424.						
	7 12	15	218.4			
7 12 57 -52		54	331.0	112.6		2
12 12 55	13	13	213.3	1185	$-\overset{11}{805}$	
		27	331.8	231.1 128.9	-1.00	$-0.0\overset{3}{\cancel{8}}$
		44	214.4			
7 14 13	14	01	329.4	115.0		2
12 14 10		20	214.4	1141	$-\overset{10}{\cancel{9}}30$	
		38	328.5	229.1 130.9	-0.96	$+0.0\overset{1}{\cancel{4}}$
		51	214.4			
15 15	15	07	329.6	1152		2
12 15 12		24	215.7	1103	-968	
		37	326.0	225.5 1345	-0.89	$+0.0\overset{8}{\cancel{7}}$
		50	214.4			
16 08	16	03	325.0	110.6		2
12 16 05		14	211.8	1121	-915	
		25	323.9	222.7 137.3	-0.83	$+0.\overset{14}{\cancel{09}}$
		36	212.8			
16 52		46	327.2	114.4		2
12 16 49		57	212.4	1128	-871	
	17	09	325.2	227.2 132.8	-0.92	$+0.0\overset{5}{\cancel{0}}$
		21	208.8			
17 40		34	322.4	113.6		
12 17 37		46	210.9	1122	-823	
		57	323.1	225.8 134.2	-0.89	$+0.0\overset{8}{\cancel{8}}$
	18	09	207.5			
18 26		20	324.8	1173	-777	
12 18 23		33	210.4	1127		
		44	323.1	230.0 130.0	-0.98	$-0.0\overset{1}{\cancel{8}}$

Dec. 29 - 1916

	7 18	56	205.3			
7 19 17	19	10	322.4	1171		-726^{2}
12 19 14		25	204.4	1172		
		36	321.6	2343 125.7	-1.07	-0.18^{0}
		49	~~32~~201.2			
20 12	20	04	323.6	1224		
12 20 09		21	204.4	1165		$-.661^{2}$
		32	320.9	2389 121.1	-1.17	-0.25^{0}
		44	201.2			
21 06		59	325.0	1238		-617^{2}
12 21 03	21	12	201.8	1200		
		28	321.8	2438 116.2	-1.28	-0.36^{1}
		40	205.5			
12 22 02		54	317.0	111.5		-558
	22	10	201.6	1173		
		24	318.9	2288 131.2	-0.95	$+0.08^{2}$
		37	199.4			
22 55		49	318.9	119.5		-505^{8}
12 22 52	23	02	201.4	1148		
		13	316.2	2343 125.7	-1.07	-0.14^{0}
23 47		28	202.5			
12 23 44		41	314.2	1117		-456^{2}
		54	201.8	1166		
	24	06	318.4	228.3 131.7	-096	$+0.07^{3}$
		18	199.8			
24 36		30	313.8	1140		-407
12 24 33		~~4~~42	199.7	1153		
		52	315.0	2293 130.7	-0.96	$+0.04^{1}$

Dec. 29 – 1916

7 25 20	7 25	03	199.7			
12 25 17		14	311.2	1115		−36 3
		25	196.1	1169		2
		37	313.0	228.4 131.6	−0.95	+0.07
		49	194.8			
7 26 06		59	313.5	1187		−319
12 26 03	26	13	199.6	1124		−0.03
		25	312.0	2311 128.9	−1.00	~~+0.00~~
		35	200.0			
26 5 2		45	312.8	1128		−271
12 26 49		57	197.0	1101		+0.14
	27	09	307.1	2229 137.1	−0.83	~~+0.07~~
7 12 27 39		21	195.2			−224
12 27 06		33	309.0	1138		+0.13
		44	197.8	109.4		~~+0.08~~
Full brightness		57	307.2	2232 136.8	−0.84	mean = −0.97
	28	12	195.0			
7 28 25		18	302.9	1079		
12 28 22		31	198.8	1060		−178
		40	304.8	2139 146.1	−0.65	+0.32
		52	196.2			
29 09	29	04	303.0	1068		−134
12 29 06		14	197.2	98.6		
		27	295.8	2054 154.5	−0.49	+0.48
		40	195.1			
7 29 56		50	299.0	1039		−87
12 29 53	30	01	197.2	1024		
		12	299.6	2063 153.7	−0.50	+0.47

Dec. 29 – 1916

	7 30 26	198.2			
7 30 43	37	300.1	1019		
12 30 60	49	194.8	1002		-40^{2}
	31 00	295.0	2021 157.9	−0.42	+0.55
	13	198.2			
7 31 30	24	295.5	97.3		
12 31 27	35	195.5	98.4		+ 7
	46	293.9	195.7 164.3	−0.30	+0.67
	59	197.2			
32 15	32 10	290.1	92.9		$+5\overset{2}{7}$
12 32 12	20	198.8	94.1		
	31	292.9	187.0 173.0	−0.13	+0.84
	45	199.7			
33 03	55	290.0	90.3		+100
12 33 00	33 09	198.6	91.4		
	22	290.0	181.7 178.3	−0.03	+0.94
	31	204.0			
33 47	41	289.8	85.8		+144
12 33 44	52	200.0	88.7		1.08
	34 03	288.7	174.5	+0.11	
	13	201.2			
34 30	25	283.6	82.4		+187
12 34 27	36	200.2	82.8		1.27
	46	283.0	165.2	+0.28	
	56	205.1			
35 15	35 05	281.5	76.4		+232
12 35 12	17	205.8	71.4		1.59
	27	277.2	147.8	+062	

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12	35	42	7	35	39	208.7	66.1	132.2	+0.93	1.90	+262
		52			50	274.8	67.6	135.2	0.47	1.84	272
	36	04		36	00	207.2	67.8	135.6	0.86	1.83	284
		17			14	275.0	69.1	138.2	0.81	1.78	297
		28			25	205.9	65.1	130.2	0.97	1.94	308
		39			37	271.0	62.1	124.2	1.10	2.07	319
		48			47	208.9	56.0	112.0	1.37	2.34	328
		57			55	264.9	56.1	112.2	1.37	2.34	337
	37	09		37	05	208.8	55.2	110.4	1.41	2.38	349
		21			18	264.0	54.2	108.6	1.45	2.42	361
		32			30	209.8	54.2	108.4	1.45	2.42	372
		46			40	266.0	53.2	106.4	1.50	2.47	386
		59			58	210.8	47.1	94.2	1.80	2.77	399
	38	08		38	06	257.9	44.9	89.8	1.92	2.89	408
		17			16	213.0	41.4	82.8	2.11	3.08	417
		26			23~~58~~	254.4	36.4	72.8	2.42	3.39	426
		35			35	218.0	35.3	70.6	2.49	3.46	435
		43			40	253.3	35.3	70.6	2.49	3.46	443
		55			53	218.0	31.7	63.4	2.73	3.70	455
	39	07		39	04	249.7	33.8	67.6	2.59	3.56	467
		17			15	215.9	32.5	65.0	2.68	3.65	477
		26			24	248.4	32.6	65.2	2.67	3.64	486
		37			34	215.8	30.5	61.0	2.82	3.79	497
		47			45	246.3	30.5	61.0	2.82	3.79	507
		57			55	215.8	30.0	60.0	2.86	3.83	517
	40	07		40	06	245.8	27.4	54.4	3.08	4.05	527
		18			15	218.4	22.9	45.8	3.47	4.44	538
					27	241.3					

Dec 29 — 1916.

12 40 29			21.9	43.8	3.57	4.54	5.49
39	7 40 37	219.4	22.6	45.2	3.50	4.47	5.59
51	48	242.0	22.0	44.0	3.56	4.53	5.71
	59	220.0					
12 41 06.5	41 09	gone					+586

Flood 3×24
7 45 02.5

Relay
7 45 0.0

	7 49 54	209.8	
7 50 19	50 10	244.0	L.V. 34.2
12 50 16	25	212.8	28.4
	48	241.2	62.6 + 276

+11 36²
3.73

Comp. with nearer Sat. on same scale equals Sat ~~IV~~ I, ~~probably Sat IV~~.

Seeing very poor, and dome found to be cutting off a little at end of observations; dome moved before taking L.V.

L.C.

Almanac G.M.T. of Dis III = 12:31:20

Dec 29 1916

15-in Eq.

L C. Obs. Reappt. of Jup. III. Phot R.

F.E.R.

Comp. with mean Sat. in same Re-side equal sat I.

~~9 02 20 305.8~~
~~31 311.4~~
~~44~~

	9 02 58	293.3	
+ 9 03 12	03 8	311.4	L. V. 18.1 -678
14 03 09	17	291.2	20.5
	25	311.7	38.6 +3?5 384

14 & 04 35	9 04 38	seen					✲ -585
46	04 45	289.8	17.0	34.0	+4.13	4.12	-574
55	53	306.8	16.6	33.2	4.18	4.17	566 ~~583~~
05 05	05 04	290.2	18.6	37.2	3.93	3.92	585
15	13	308.8	17.4	34.8	4.08	4.07	545
27	24	291.4	19.9	39.8	3.78	3.77	533
38	37	311.3	23.6	47.2	3.60	3.39	522
47	45	287.7	25.1	50.2	3.26	3.25	513
57	54	312.8	25.8	51.6	3.20	3.19	503
06 07	06 05	287.0	28.6	59.2	2.89	2.88	493
20	16	315.6	30.9	61.8	2.79	2.78	480
31	30	284.7	31.9	63.8	2.72	2.71	469
40	39	316.6	32.4	64.8	2.68	2.67	460
48	47	284.2	32.7	65.4	2.66	2.65	452
57	55	316.9	37.5	75.0	2.35	2.34	443
07 07	07 06	279.4	40.5	81.0	2.17	2.16	433
17	15	319.9	37.6	75.2	2.34	2.33	423
	26	282.3					

Dec. 29 1916.

14 07	27								
	38	9	07 35	$\overset{3}{4}$20.0	37.7	75.4	2.33	232	-413
	47		47	280.2	39.8	79.6	2.21	220	402
	55		54	319.8	396	79.2	2.22	224	393
08	04	08	03	279.0	40.2	806	218	219	385
	11		11	322.2	43.2	864	2.01	200	376
	20		18	277.8	44.4	888	1.95	194	369
	30		28	321.9	441	882	1.96	195	360
	39		38	276.2	45.7	894	1.93	192	350
	46		45	323.4	47.2	944	1.80	1.79	341
	54		53	279.7	43.7	874	1.98	197	334
09	03	09	01	322.8	43.1	862	2.02	201	326
	12		10	275.0	47.8	956	1.77	176	317
	22		20	326.9	51.9	103.8	1.57	156	308
	33		30	272.1	54.8	109.6	1.43	142	298
	42		41	326.6	54.5	109.0	1.44	143	287
	55		49	271.2	55.4	1108	1.40	139	$27\overset{8}{7}$
10	09	10	6	327.8	56.6	113.2	1.34	133	$26\overset{5}{6}$
	19		18	271.4	564	112.8	1.35	134	$25\overset{1}{2}$
	29		27	330.0	58.6	117.2	1.25	1.24	$24\overset{1}{2}$
	39		36	268.0	62.0	124.0	1.11	110	$23\overset{1}{2}$
	50		47	329.8	61.8	123.6	1.11	110	$22\overset{1}{2}$
11	01		57	265.8	64.0	128.0	1.02	101	210
	12	11	10	329.0	63.2	126.4	1.05	104	199 ~~201~~
	22		20	266.0	63.0	1260	1.06	105	$18\overset{8}{9}$
	32		30	329.8	63.8	127.6	1.03	102	178
	45		40	264.0	65.8	131.6	0.95	094	168
	57		55	333.0	68.0	1380	0.81	080	155
		12	05	261.4	~~80~~ 71.6	143.2	0.71	070	140

DEC. 29 1916

14 9 12 8				72.6	145.2	067	066	-132
19	9 12	17	334.0	726	145.2	067	066	121
28		26	261.4	68.4	1368	084	083	112
39		36	329.8	71.0	1420	0.73	072	101
51		49	258.8	741	1482	0.61	060	89
14 13 01		59	332.9	76.5	153.0	0.52	051	79
	13	10	256.4				047	-69
14 13 11				77.6	155.2	0.47		
		18	334.0					
14 13 44		29	256.0	78.8				
14 13 41		41	334.8				0.31	-39
		50	255.9	82.5 161.3	+0.36			
		57	338.4					
	14	09	254.0	88.2			004	~~+00~~ -01
14 14 22		17	342.2					
14 14 19		28	251.0	89.0 177.2	0.01			
		36	340.0					
		43	252.1					
14 14 54		52	340.1	88.0 ~~108.1~~	007		0.06	+31
14 14 51		58	257.7	176.1 ~~175.9~~	~~0.30~~			
	15	05	339.8					
		12	250.8					
14 15 22		19	338.8	88.0				+ 5 69
14 15 19		26	250.1	89.8 177.8	+ 0.04	+0.03		
		32	339.9					
		40	250.6					
50		47	339.6	89.0				
14 15 47		54	250.0	89.3 178.3	+ 0.03	+0.02		+87
	16	01	339.3					
		06	250.4					

Dec. 29 1916.

			89.5			
14 16 18	9 16 15	339.9	90.9			
14 16 15	22	248.9	180.4	− 0.01	0.00	+115
	31	339.8	179.6			
	42	248.4				
14 16 56	53	339.4	91.0			
14 16 53	17 00	250.0	89.6			
			180.6			
	08	339.6	179.4	− 0.01	000	+15³
	16	249.4				
	25	338.9	89.5			
14 17 30						
14 17 27	34	248.9	89.9			
	45	338.8	179.4	+ 0.01	+ 0.01	+ 187

Frod 3424
9 26 02.8

Relay
9 26 0.0

Obs on Reap better than for Dis.
Seeing much ~~better~~

Almanac G.M.T. of Reap III = 14 ~~7~~ 14 20

Dec. 29 1916

I Transit.
Eros.

I 9 18 35
II 19 22
III 19 ~~20~~ 46
V 20 15
IV 19 50
VI 20 21
VII 20 53
VIII 21 33

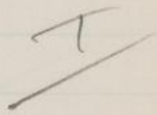
II.

9 22 14 I 9 21 51 } 7.3 ✱ = −8° 34 29 (7.3)
II 22 37 }
23 16 III 23 01
IV 23 ~~34~~ 31
23 22 V 23 06 } air.
VI 23 37 }
24 28 VII 24 09 } comp✱ used with plate T.
VIII 24 47 } = −8° 34 3~~8~~6 (9.~~8~~6)

Dec. 29 1916

Eros.

		P.a. 100		Phot T. 15 in Sq
15 11 35	300.4			
	357.4	57.0	comp & clin.	
	127.6	45.6		
	173.2	102.6	+ 1.59	
		P.a		
	314.2	40.9		
	355.1	52.3		
	123.6			
	175.9	93.2	+ 1.83	
				+ 1.71
		P.a. 280		+ 2.48
~~15 19 30~~	218.4			419
	255.4	37.0		+ 2.095
	$4\overset{2}{\cancel{8}}.2$	37.4		
	79.6 ~~217.4~~	74.4	+ 2.36	
		P.a.		
	219.8	33.9		
	253.7	33.8		
	$4\overset{5}{\cancel{9}}.\overset{8}{\cancel{9}}$			
15 25 30	77.6	67.7	$+ 2.\overset{5}{\cancel{6}}9$	
15 18 32				



Dec. 29 1916

P.A. ~~100~~ 280

15 29 50
212.9
256.6
44.0
76.3

43.7
32.3
76.0
2.32

88
71

223.0
254.3
46.8
75.2

31.3
28.4
59.7
2.87

+ 2.~~7~~60
+ 1.82
~~4~~ ~~4~~ 2
+ 2.21

P.A. 100

~~15 37 35~~
130.2
171.4
296.3
347.7

41.2
51.4
92.6
1.84

126.8
177.2
309.8
354.0

50.4
44.2
94.6
1.79

15 40 45
70 35
15 35 18

Dec. 29. 1916

P.A. 100

15 53 00	309.4	37.2		III
	346.6	48.8		
	126.6	86.0	+ 2.02	
	175.4			
	321.2	32.7		
	353.9	39.4		
	129.4	72.1	2.44	
	168.8			

+ 2.23
+ 2.72
495
+ 2.48

P.A. 280

	222.4	27.4	
	249.8	34.3	
	46.7	61.7	
	81.0		2.80
	221.4	43.3	
	245.8	32.9	
	44.8	66.2	2.64
16 05 05	77.7		
1 18 05			
15 59 02			

Dec. 29 1916

P.a. 280

16 07 15   220.8

258.0   37.2

44.7   37.1

81.8   74.3   + 2.37

IV

220.9

254.9   34.0

40.2   35.6

75.8   69.6   + 2.52

+2.445

+1.665

4.110

+ 2.06

P.a. 100

126.7

174.2   47.5

296.3   52.9

349.2   100.4   1.65

122.4

175.8   53.4

307.4   45.6

16 15 10   353.0   99.0   1.68

22 25

16 11 12

5+)

Dec. 29 1916

P.A. 100

16 28 00 122.6

172.8

305.9

348.7

50.2

42.8

93.0 +1.83

V

128.0

178.8

304.5

354.4

50.8

49.9

100.7 + 1.64

+1.735

+2.800

4.535

+2.27

P.A. 250

44.7

76.4

225.8

256.0

31.7

30.2

61.9 + 2.79

44.8

79.4

231.2

16 35 50 258.0

63 50

16 31 55

34.6

26.8

61.4 + 2.81

Dec. 29 1916

P.A. 280

16 5$\overset{2}{\text{X}}$ 30	46.2 75.9 ~~227.4~~ 219.0 250.7	29.7 31.7 61.4	+2.81	$\sqrt{1}$ /
	40.0 77.7 221.6 253.4	37.7 31.8 69.5	+2.52	+2.665 +1.660 4.325 +2.16

P.A. 100

	306.2 355.0 127.9 175.8	48.8 47.9 96.7	+1.74
17 5 30 1[illegible]8 00 16 59 00	305.5 357.8 123.8 174.8	52.3 51.0 103.3	+1.58

P.A. 84 A
Sp. 3.3.

Sat Dec 30 - 1916

Obs 15" E Eq.

Eunomia

Phot 17

23 28 + 7.6
24 53
1 25 w

G Watch used
= 12 slow at 7:00

Comp ✱ = +9° 52 31 (9.0)

Pa 60

6 41.0 114.4 < comp ✱ dis
192.6
285.0
372.8

T

97.2
87.8
166.0 + 0.27

Pa 240

202.2
275.0 72.8
31.6 58.2
89.8 131.0 + 0.96

211.6
269.8 58.2
25.6 68.0
93.6 126.2 + 1.06

+0.36
+1.01
+1.37
+0.685

Pa 60

289.6
371.6 82.0
115.8 74.2
6 47.8 190.0 156.2 + 0.45

6 44.4
6 44.6
2122 A H89

Pa = 53.4
Spr = 8.3

Dec 30-1916

Eunomia

P.a 60

II

6 52.6 289.3

367.2 77.9

103.6 87.0

190.6 164.9 + 0.29

P.a. 240

27.2

92.3 65.1

209.8 63.1

272.9 128.2 + 1.02

+ 0.295

+ 0.940

1.235

+ 0.618

29.6

91.6 62.0

204.0 73.8

277.8 135.8 + 0.86

P.a 60

106.2

192.6 86.4

292.4 77.6

6 59.6 370.0 164.0 + 0.30

12.2

6 56.1

6 56.3

21228.497

~~Comp.~~

Dec. 30 – 1916

P.a. 60 III

7 10.2 112.3
191.0 78.7
283.2 88.4
371.6 167.1 + 0.24

Pa 240

202.6
275.6 730
32.2 590
91.2 1320 +0.94

+0.335
+0.928
1.255
+0.628

207.4
276.2 688
30.4 652
95.6 1340 +090

P.a. 60

287.7
368.6 809
112.4 76.4
7 17.0 1888 157.3 +0.43

2.2
7 13.6
7 13
21228.510

Dec. 30 - 1916

P.a. 60 IV

7 212 292.2
366.2 750
110.6 847
195.3 1597 + 041

P.a. 280

203.7
272.6 689
24.4 71.4
95.8 140.3 + 077

203.6
274.2 70.6 + 0.245
28.8 61.8 + 0850
90.6 132.4 + 0.93 +0.548

Pa 60

288.2
369.8 81.6
101.6 94.2
7 28.0 195.8 175.8 + 008
92
7 24.6
7 24.8
21228.517

Dec. 30 - 1916

P.a 60 V

7 43.0 282.2
372.2 90.0
110.4 77.0
187.4 167.0 + 0.25

P.a 240

28.8
96.8 68.0
201.3 76.0
277.3 144.0 + 0.69

+0.125
+0.710
0.835
+0.418

26.6
95.6 69.0
202.4 73.4
275.8 142.4 + 0.73

P.a. 60

107.3
195.0 87.7
284.6 92.2
7 49.6 376.8 179.9 + 0.00
7 46.3
7 46.5

21228.532

Dec. 30-1916

Pa 60 — VI

7 54.8

103.2
196.0
284.6
370.0

92.8
85.4
178.2 +0.03

Pa 240

205.7
276.4
22.6
98.6

70.7
76.0
146.7 + 0.64

+0.065
+0.665
+0.365

203.4
277.8
24.2
94.0

74.4
69.8
144.2 + 0.69

Pa 60

286.7
373.6
106.0
193.8

86.9
87.8
174.7 + 0.10

7 58.0
9.8

7 54.9
7 55.1

21228.538

Dec. 30 – 1916

VII

P.a. 60

10
8 16 15 ~~28~~1.8
199.4
287.4
373.2

97.6
85.8
183.4
176.6

− 0.06

P.a. 240

21.8
99.2
194.6
281.6

77.4
87.0
164.4

+ 0.30

− 0.005
+ 0.355
+ 0.350
+0.175

21.4
101.0
197.6
276.5

79.6
78.9
158.5

+ 0.41

P.a. 60

288.8
375.8
104.4
194.6

87.0
98.2
177.2

+ 0.05

8 21.45
38 00
8 19 00

21228.555

178

Oct. 30 1916

P.A. 60

VIH.

8 25 20 284.0
375.5 91.5
105.9 88.8
194.7 180.3 — 0.01
179.7

P.A. 240

201.8 79.2
281.0 80.6
21.8
102.4 159.8 + 0.38

— 0.095
+ 0.470
~~0.565~~
200.6 80.2
280.8 70.6
26.2
96.8 150.8 + 0.56
+ 0.375
+ 0.188

P.A. 60

99.8
193.8 94.0
279.7 95.6
8 30 15 375.3 189.6
55 35 170.4 — 018
8 27 48

21228.361

Dec. 30 1916

		P.A. 60		
8 47 35	280.0	97.0		IX.
	377.0	86.5		
	110.8	183.5	− 0.06	
	197.3	176.5		
		P.A. 240		
	24.8			
	92.2	67.4		
	202.2	73.6		
	275.8	141.0	+ 0.75	✓
				−0.04
				+ 0.69
	24.6			0.65 ✓
	97.8	73.2		+ 0.325
	202.4	73.9		
	276.3	147.1	+ 0.63	
		P.A. 60		
	196.3 < Enormous dis here	81.1		
	277.4	97.7		
	13.3	178.8	− 0.02	
8 53 30	111.0			

8 50 32

21228.577

Dec. 30th 1916

Rd 3424
1 s-sec fast
at 9.00

P.G. 60

8 57 45	288.0			X
	373.2	85.2		
	105.3	93.0		
	198.3	~~178.2~~ 178.2	+ 0.03	

P.G. 240

	23.6			
	98.4	74.8		
	203.3	74.1		
	277.4	148.9	+0.60	
				+0 085
				+0.575
	23.6			0.660
	97.3	73.7		+0.330
	203.2	77.6		
	280.8	151.3	+ 0.55	

P.G. 60

	109.8		
	196.3	86.5	
	285.8	85.8	
9 02 30	371.6	172.3	+0.14
25			
9 00 12			

2122F.583

Dec. 30-1916

		Pa 60		XI
9 1835	107.6			
	194.8	87.2		
	288.8	84.0		
	372.8	171.2	+ 0.17	
		Pa. 240		
	202.7			
	271.4	68.7		
	26.2	71.2		
	97.4	139.9	+ 0.78	
				+ 0.285
				+ 0.775
	201.7	72.7		1.060
	274.4	67.4		+ 0.53
	26.3			
	93.7	140.1	+ 0.77	
		Pa. 60		
	289.8			
	366.6	76.8		
	108.4	82.4		
		159.2	+ 0.40	
9 23 15	190.8			
41 50				
9 20 55				
598				

Dec. 30 1916

			P.G. 60		
9 26^{m}	10	285.4			
		378.2	92.8		XII
		110.8	81.6		
		192.4	174.4	+ 0.11	
			P.G. 240		
		39.2	55.2		
		94.4	69.6		
		205.8			
		275.4	124.8	+ 1.09	
					+ 0.21
					+ 0.99
		34.0			1.20
		96.3	62.3		+ 0.60
		202.2	72.2		
		274.4	134.5	+ 0.89	
			P.G. 60.		
		108.8	82.3		
		191.1	81.2		
		290.0		+ 0.31	
9 30 45		371.2	163.5		
9 28					
603					

Dec. 30 1916

~~X III~~

P.A. 60

9 33 25 105.1
193.8 88.7
290.9 79.5
370.4 168.2 +0.22

P.A. 240

203.8
272.7 68.9
27.2 72.1
99.3 141.0 +0.75

+0.235
+0.805
1040
+0.52

198.8 76.4
275.2 59.2
34.4
93.6 135.6 +0.86

P.A. 60

290.6
371.1 80.5
108.4 86.2
9 38 10 194.6 166.7 +0.25
11 35

9 36
.608

P.A 55 a
Sp. 9.6
H.A. 5.6 W
Dec. +9.7
S.7 4 17

Dec. 30 1916

Neptune

P.a. 60

15 ca 10 ~~14~~ 40	~~186.0~~		~~Nep. dis~~	I
15 30	290.0	104.0	← comp. * dis	
	10.6	80.6		
	115.1	71.5	+0.53	
	186.6	152.1		

P.a. 240

	30.0	57.8		
	87.8	62.9		
	212.8	120.7	+1.18	
	275.7			
				+0.635
				+1.245
	30.8	66.8		1.880
	91.6	54.0		+0.940
	214.6	114.8	+1.31	6.74
	268.6			7.68

P.a. 60

	116.4	65.0		
	181.4	76.5		
	291.3	141.5	+0.74	
10 20 55	367.8			
36 25				
10 18 12				

Comp. * equals +19° 2027 (7.2) = 6.74

Dec. 30 1916

		P.A. 60		
10.27 30	114.4	76.7		II.
	191.1	75.2		
	290.2	151.9	+0.54	
	5.4			
		P.A. 240		
	216.5	51.1		
	267.6	56.1		
	30.7			
	86.8	107.2	+1.48	
				+0.535
	213.8	57.8		+1.500
	271.6	47.9		2035
	38.4	105.7	+1.52	~~0.518~~
	86.3			+1.02
				~~+0.52~~
		P.A. 60		674
	290.8			776
	6.7	75.9		
	116.6	76.2	+0.53	
10 32 30	192.8	152.1		
10 30 00				

P.A. 57 A
8h. 7.1
Dec. +15.0
H.A. 3.52 E
S.T. 5 25

Sat. Jan 6 - 1917

L.C. Obs 15" E. Eq. F.E.B. Rec.

Eunomia

Phot

23 36 +9.5

regular seeing

25 42

2 6 W

Prism screw reads 9

Comp * = +10.4989 (~~8.0~~)

P.a. 220

6 45 10 320.4 ← comp. * div.

367.7 47.3

136.5 54.3

190.8 101.6 +1.62

P.a. 40

229.4 52.4

281.8 47.8

50.8 100.2 +1.65

98.6

+1.640

+1.685

3.325

+1.662

231.2 46.2

277.4 51.1

46.6 97.3 +1.72

97.7

P.a. 220

138.4 52.8

191.2 47.2

317.4 100.0 +1.66

6 57 05 364.6

6 48

21235492

Jan. 6th 1917

		P.A. 220		~~Phot. R'scope space.~~
6 55 15	58.4			
	111.4	53.0		II.
	237.8	50.6		
	288.4	103.6	+1.57	
		P.A. 40		
	327.5	52.3		
	19.8	46.3		
	150.4	98.6	+1.69	
	196.7			
				+1.570
				+1.585
	329.5			+1.58
	20.4	50.9		
	148.8	56.6		
	205.4	107.5	+1.48	
		P. 220		
	234.8	58.6		
	293.4	44.8		
	63.0	103.4	+1.57	
7 00 05	107.8			
115 20				

6 57 40

21235.497

Tonight I am using a new eye~~p~~ stop 50% larger than former eye~~piece~~ stop. Images appear brighter and in spite of moonlight measures go along more smoothly than for a long time.

Jan. 6th 191~~6~~7

		P.a. 220		
7 09 15	236.7 291.8 56.2 111.8	55.1 55.6 110.7	+1.40	III
		P.a. 40		
	147.6 201.2 324.4 23.8	53.6 59.4 113.0	+1.35	
				1415 +1.365 2780 +1.39
	147.4 203.8 326.6 21.8	56.4 55.2 111.6	+1.38	
		P.a. 220		
7 13 40 7 11 28	58.4 115.2 240.8 293.3	56.8 52.5 109.3	+1.43	
21235.509				

Jan. 6th 191~~6~~7

		P.A. 220		
7 21 00	60.6			IV
	108.8	48.2		
	235.8	58.8		
	294.6	107.0	+1.49	
		P.A. 40		
	328.8	53.9		
	22.7	55.9		
	144.6	109.8	+1.42	
	260.5			
				+1.47
				+1.35
	323.6			+1.41
	25.2	61.6		
*	149.6	54.6	+1.28	
	204.2	116.2		
		P.A. 220		
	238.4	49.3		
	287.7	59.5		
	53.8	108.8	+1.45	
26 10	113.3			
23.6				
21235.517				

* Sector ran out

Jan. 6 1917

P.a. 220

7 35 30

53.4
113.3
~~128.2~~
232.8
295.8

59.9
63.0
122.9

+1.13

V

P.a. 40

327.8
21.6
148.8
200.8

53.8
52.0
105.8

+1.52

+1.175
+1.380
2555
+1.28

326.8
23.2
145.4
206.8

56.4
61.4
117.8

+1.24

P.a. 220

228.4
297.7
60.0
109.4

69.3
49.4
118.7

+1.22

7 40 20

7 38

21235.528

Jan. 6 1917

		P.a. 220		
7 45 w	53.0	60.1		VI
	143.1	62.9		
	234.4	123.0	+1.13	
	297.3			
		P.a. 40		
	326.0	58.2		
	24.2			
	149.2	49.5	+1.47	
	198.7	107.7		
				1.170
				1.505
	226.6			+1.34
	17.3	50.7		
	150.1	54.1	+1.54	
	204.2	104.8		
		P.a. 220		
	232.1	60.7		
	292.8	58.5		
	55.2			
7 49 45	143.7	119.2	+1.21	
7 47.5				
21 235.53 X				

Jan. 6 1917

		P.G. 220		
8 01 30	235.8			VII.
	292.2	56.4		
	53.3	61.1		
	114.4	117.5	+1.25	
		P.G. 40		
	146.2			
	197.8	57.6		
	318.8	65.2		
	24.0	116.8	+1.26	
				+1230
				+1.255
	142.8	63.4		+1.24
	206.2	54.0		
	326.8	117.4	+1.25	
	20.8			
		P.G. 220		
	52.8	63.8		
	116.6	55.4		
	237.8	119.2	+1.21	
8 8 20	293.2			
9 50				
8 04 55				
1 28				
8 06 23				
21235.546				

Jan. 6 1917

		P.A. 220		
8 19 00	58.4	55.3		VIII.
	113.7	52.8		
	237.4	108.1	+1.46	
	290.2			
		P.A. 40		
	325.2	56.1		
	21.3	57.1		
	143.3	113.2	+1.34	
	200.4			
				+1.435
				+1.345
	318.8	62.0		+1.389
	20.8	50.9		
	150.4	112.9	+1.35	
	201.3			
		P.A. 220		
	241.5	49.7		
	291.2	60.7		
	51.9		+1.41	
8 24 50	112.6	1104		
5 50				
8 21 55				
1 28				
8 23 23				
21 2 35.557				

Jan. 6 1917

		P.G. 220		
8 31 00	238.8			
	289.7	50.9		IX.
	58.8	57.6		
	110.4	102.5	+1.60	
		P.G. 40		
	148.4			
	198.2	49.8		
	325.1	608		
	25.9	110.6	+1.40	
				+1.59
				+1.43
	142.4			+1.57
	202.0	59.64		
		48.5		
	231.5	108.1	+1.46	
	20.0			
		P.G. 220		
	64.4			
	105.4	41.0		
		622		
	233.3	103.2	+1.58	
8 36 35	295.5			
7 35				
8 33 48				
1 28				
8 35 16				

21235.566

Jan. 6 1917

P. A. 220

8 4~~9~~ 50 59.2

109.6 50.4

239.3 48.9

288.2 99.3 + 1.67

$\overline{X}$

P. A. 40

329.8

16.8 47.0

147.4 504

197.8 97.4 + 1.72

+ 1.72
+ 1.77
+ 1.74

329.2

17.8 48.6

155.0 44.8

199.8 93.4 + 1.82

P. A. 220

247.2

287.9 40.7

56.8 546

8 49 40 111.4 95.3 + 1.77

14 30

8 47 15
~~1~~ 28
8 48 43

Frod. 3424 = 8 58 32

81235.576 Bell — = 9 00 00 ∴ Frod. 1m 28sec slow.

Jan. 6 1917

P.a. 220

9 01 15	239.2			XI
	290.6	57.4		
	59.8	47.0		
	106.8	98.4	+1.70	

P.a. 40

	149.2			
	201.3	52.1		
	331.6	49.5		
	21.1	101.6	+1.62	
				+1.610
				+1.615
				+1.61
	150.6	49.0		
	199.6	52.8		
	328.4			
	21.2	101.8	+1.61	

P.a. 220

	61.2	48.4		
	109.6	57.1		
	235.3	105.5	+1.52	
9 05 45	292.4			
9 03 30				
1 28				
9 04 58				
2(2 31.58)				

Jan. 6 1917

		P.G. 220		
9 10 30	57.8			XII.
	111.4	53.6		
		45.5		
	240.9	99.1	+1.68	
	286.4			
		P.G. 40		
	330.8	48.0		
	18.8	503		
	149.4	98.3	+1.70	
	199.7			
				+1.660
				+1.705
	327.4	52.8		+1.68
	20.2	45.0		
	153.6	97.8	+1.71	
	198.6			
		P.G. 220		
	243.4	41.8		
	285.2	58.9		
	53.6	100.7	+1.64	
9 14 45	112.5			

9 12 38
~~9~~ 1 28
9 14 06
21235.593

Jan. 6 1917

		P.a. 220		
9 21 05	235.1			
	293.0	57.9		XIII
	61.6	45.2		
	106.8	103.1	+1.58	
		P.a. 40		
	153.2	47.4		
	200.6	51.0		
	329.8	98.4	+1.70	
	20.8			
				1.7~~70~~35
				+1.615
				~~+1.69~~
	147.1	56.2		+1.675
	203.3	49.1		
	327.3	105.3	+1.53	
	16.4			
		P.a. 220		
	62.2	43.6		
	105.8	47.4		
	239.8	91.0	+1.89	
9 25 30	287.2			
9 23 18				
1 28	21235.601			
9 24 46	59.4	46.2		H.a. 5.13
Photo	105.6	46.8		Dec. +10.8
	242.4	93.0	1.83	P.a. 220 A
9 27 20	289.2			Sp. 3.8

Observation [illegible]
difficult [illegible]
impossible to continue

Jan. 6 – 1917

Neptune Phot T.
7.5" Cap used on this object.

Prism screw-reads

		P.a. 250		I
9 57 40	324.3	← comp * dis.		
	19.6	55.3		
	146.3	56.9		
	203.2	112.2	+1.37	
		P.a. 70		
	234.6	61.8		
	296.4	73.7		
	47.8	135.5	+0.87	
	121.5			+1.26
				+0.90
	228.6	70.0		2 1 6
	298.6	62.5	+0.93	+1 0 8
	53.3	132.5		6.74
	115.8			7.82
		P.a. 250		
	143.6	61.6		
	205.2	60.8		
	324.6	122.4	+1.14	
9 57 30	25.4			

Jan. 6 1917

P.A. 250

10 26 15   145.8   61.0

206.8   65.4   II

320.2   126.4   + 1.05

25.6

P.A. 70

55.5   62.1

117.6   58.2

236.6   120.3   + 1.19

294.8

0.970
1.095
2065
+ 1.03
6.74
7.77

53.8   63.4

117.2   65.4

228.8   128.8   + 1.00

294.2

P.A. 250

318.2 $\overset{6}{7}8.4$

26.6   66.1

143.6   134.5   + 0.89

10 31 10   209.7

57 25

10 28 42

Pris. Sc. 12

R.A. 2.28 E

Dec. +19.0

P.A. 248 A

Sp. 9.5

Jan. 6 1917

Star A

10 50 55 6.8
4.9
7.2
4.4
23.3

Neptune

15.6
15.2
16.4
15.6
62.8

Star B.

15.4
13.8
14.4
14.0
57.6

Neptune

16.2
18.0
17.2
17.7
4|69.1 27.28

Star C

22.8
$\overset{2}{1}0.4$
19.4
20.0
82.6

Jan. 6 1917

Nebulium

11 00 00 16.8
17.8
16.7
18.2
69.5

Star C

19.4
19.0
18.0
18.0
74.4

Nebulium

11 02 30 12.8
12.2
13.4
11.9
50.3

Star B.

9.6
10.1
8.8
10.0
38.5

Nebulium

11 04 30 12.8
16.0
14.4
14.2
57.4

Calendar

Jan. 6 1917

Star A

11 10 10 2.2

2.6

2.1

2.2

9.1

These made with Plate X attached to ~~B~~ 15" E. Eq.

Thurs Jan. 11, 1917

L.C.Ob. 15" E Eq. Rec

,,Plot T

Neptune. ~~7.5" Cap~~ used

Cs watch used = 20s fast at 6.15

8 24 +18.5
2 00
6 24 E
5 36

p.a. 250

6 52.0 324.2 comp + dis
23.6 59.4
139.8 71.5
211.3 130.9 +0.96

p.a. 90

223.3
299.8 76.5
49.2 67.4
116.6 143.9 +0.70

+0.98
+0.70
+0.84
67.4
7.58

230.3
301.3 71.0
46.7 72.5
119.2 143.5 +0.70

p.a. 250

143.7
205.8 62.1
320.6 67.1
7 00.0 27.7 129.2 +1.80

6 56.0
6 55.8
211 HO. 497

Images blurry, prob due to low altitude

1916phae.proj..61OC

Jan. 11, 1907

		~~Neptune~~		II
		Pa 250		
> 21.0	146.6	57.2		
	203.8	68.8		
	318.8	126.0	+ 1.06	
	27.6			
		Pa 70		
	51.6	68.8		
	120.4	66.4		
	231.8	135.2	+ 0.87	
	298.2			
				+ 0815
				+ 1.100
				1.915
	44.8	76.2		+ 0.957
	121.0	64.4		+ 0.96
	229.8	140.6	+ 0.76	6.74
	294.2			
		Pa 250		+ 7.70
	317.2	69.1		
	26.3	53.2		
	149.6	122.3	1.14	
> 26 45	202.8			
> 45				
> 23 52				
> 23 32				
40.576				

Jan. 11 1917

		P. G 250		
7 27 15	321.2	60.9		III
	22.1	64.6		
	142.8			
	207.4	125.5	1.07	
		P. G 70		
	231.4	71.4		
	302.8	72.6		
	50.0	144.0	0.69	
	122.6			
				1 105
				0.770
	230.3			1875
	295.6	65.3		+ 0.937
	47.4	70.9	0.85	674
	118.3	136.2		76.68
		P. G 250		
	141.0	66.8		
	207.8	55.1		
	323.7	121.9	1.15	
7 32 20	18.8			

Jan. 11 1917

		P.G. 250		
7 39 00	143.2			IV
	200.4	57.2		
	321.6	63.6		
	25.2	120.8	+ 1.18	
		P.G. 20		
	43.0			
	116.8	73.8		
	227.4	74.9	+ 0.60	
	302.3	148.7		
				+ 1.22
				+ 0.53
	46.8			1.75
	121.4	84.6		
	228.2	71.2	+ 0.46	+ 0.87
	299.4	155.8		6.74
				7.61
		P.G. 250		
	322.8			
	24.6	61.8		
	146.8	55.2	+ 1.26	
7 43 45	202.0	117.0		

S.P. 11.5
P.G. 71. A
G.Sc. 14

Jan. 11 1917

S. Cancri 083819

P.a. 10 Photo T

7 52. 45 293.8 conf * dis conf. with just S. of 9.6
50.0 var. = 9.55
125.4 116.2
225.8 1004
216.6 − 0.71
143.4

P.a 190

213.3 100.8 ~~var. dis~~
314.1 121.3
24.3
7 55 50 145.6 222.1 − 0.82
137.9 −0.86
−0.80

7 56 10 209.8 112.0 −0.83
321.8 1156 ~~var. dis~~ 9.55
24.6 8.72
140.2 227.6 − 0.93
132.4

P.a. 10

~~190~~
~~223.~~ 1100
299.6 1156 − 0.89
49.6
120.2 225.6
7 59 15 235.8 134.4
24 00

7 56 00 Pr. Sc = 14 P.a. 12 A
7 55 40 Sp. 6.4
21240539 Sc. 10
712989
−174

Jan. 11 1917

S. Cancri

II

P.G. 10

8 19 00 297.2 < comp * dis

50.4 123.2

123.8 103.4

227.2 226.6 −0.91

133.4

P. 190

318.8 < Var dis

32.0 74.2 var dis

137.2 86.6

8 21 45 213.8 160.8 − 0.37

−0.79

8 21 55 317.2 −0.455

32.8 75.6 1245

135.8 76.4 −0.62

212.2 152.0 −0.54 9.55

A.9B

P.G. 10

226.6

297.7 71.1

45.4 73.9

8 24 10 119.3 145.0 −0.67

6 50

8 21 42

8 21 22

21 240.556

713

−.157

Jan. 11 1917

S. Cancri

		P.a 10		
8 24 50	228.8 vandir			Old Eye-stop used
	307.4	78.6		
	42.8	83.6		
	125.8	161.6	−0.35 —	~~1/4~~
		P.a. 190		
	140.0	75.6		
	215.6	66.4		
	320.8			
8 27 05	~~1~~ 27.2	142.0	−0.73	
				−0.39
				−0.655
8 27 20	138.2	73.1		1045
	211.3	76.8		
	317.2			−0.52
	34.0	149.9	−0.58	955
				9.03
		P.a. 10.		
	41.8	80.4		
	122.2	77.0		
	225.8			
8 29 50	362.8	157.4	−0.43	
29 05				
8 27 31				
8 27 11				
21240.560				
.713				
−.153				

Jan. 11 1917

S. Cancri

		P.G. 10		new eye stop.
8 57 52	355.5	86.0 var. dis		IV.
	81.5	81.4		
	176.8	167.4	−0.24	
	258.2			
		P.G. 190		
	269.6	74.2		
	343.8	76.8		
	89.8			
8 54 45	166.6	151.0	−0.56	
				−0.235
				−0.575
8 54 55	273.2	70.4		0.800
	343.6	80.0		− 0.40
	89.2	150.4	−0.57	9.55
	169.2			~~9.03~~
				9.15
		P.G. 10		
	174.7	86.5		
	261.2	81.4		
	0.8		−0.23	
8 57 05	82.2	167.9		

8 57 05
18 35
8 54 39
8 54 19
21240.579
.713
−.134

P.G. 13. A
Sf. 6.3
~~Sf. 15.~~
Tr. Sc. 10

Jan. 11 191~~6~~7

Neptune (resumed.)

		P.A. 70		
9 00 00	179.4	71.0		V.
	250.4	83.0		
	351.2	154.0	+0.50	
	74.2			
		P.A. 250		
	102.2	56.6		
	158.8	54.9		
	281.4			
9 03 15	336.3	111.5	+1.38	
				0.515
				1.370
9 03 25	104.8			1885
	158.4	53.6		+0.942
	274.4	58.9	+1.36	674
	333.3	112.5		~~580~~
		P.A. 70		7.68
	357.4	75.2		
	72.6	77.1		
	177.7		+0.53	
9 5 25 ~~10~~	254.8	152.3		

Jan. 11 1917

Neptune

VI

P.a. 70

9 36 20 | 357.8 | 71.4
69.2 | 65.5
184.3
249.8 | 136.9 | + 0.84

P.a. 250

275.2 | ~~5~~5.2
33~~0~~4.4 | 62.4
102.0
164.4 | 127.6 | + 1.03

274.2 | 63.5
337.7 | 71.5
92.5
164.0 | 135.0 | + 0.88

+0.845
+0.955
1.800
0.90
6.74
7.64

P.a. 70

185.3 | ~~X~~63.9
249.2 | 72.2
359.8
9 40 35 | 72.0 | 136.1 | +0.85

Jan. 11 1917

S. Cancri

P.a. 10

10 16 20

90.8
171.8
265.0
354.4

81.0 comp * dis
89.4
170.4 + 0.18

V

P.a. 190

353.6
78.8
181.2
262.2

85.2
81.0
166.2 + 0.26

10 19 00

0.150
0.245
+ 0.20
955
9.75

10 19 20

0.0
86.4
179.7
261.3

86.4
81.6
168.0 + 0.23

P.a. 10

263.0
352.6
85.8
169.8

89.6
84.0
173.6 + 0.12

10 23 10
37 50
10 19 28
10 19 08
2124 0.638
.713
-.075

Some doubt as to
identification of
comp* used, as
Spr of p.a. differs
slightly from that of
earlier obs tonight.
P.C.
Jan. 12th 1917.

P.a. 8 A
Sp. 3.8
Pr. Sc. 10.

Jan 11 1917

Neptune

		P.a. 70		
10 30 00	180.0			
	256.4	76.4		
	3.3	66.0		
	69.3	142.4	+ 0.73	
		P.a. 250		
	97.8	59.5		
	157.3	74.9		
	267.3			
	342.2	134.4	+ 0.89	
				0.745
	94.8			1.000
	158.6	63.8		0.87
	275.2	60.1		6.74
	335.3	123.9	+ 1.11	7.61
		P.a. 70		
	3.8	68.0		
	71.8	72.9		
	178.9			
10 34 50	251.8	140.9	+ 0.76	

Seeing very poor
& images blurry
throut evening.

Sp. a. 75 A
Sp. 11.6
P, Sc 14.

Fri. Jan. 12, 1917

15" E. Eq.

L.C. Obs. Neptune Rec

8 24 + 18.5
1 50
6 34 E
5 26

Os watch used = Correct at 7:00

Phot T

Same Comp as on prev. nights = 6.74

P.a. 70

6 30.0

180.8 < comp * dia
252.2
8.3
72.7

71.4
64.4
135.8 + 0.86

P.a 250

98.3
169.7
273.8
340.2

71.4
66.4
137.8 + 0.82

918
167.3
272.7
341.6

75.5
68.9
144.4 + 0.69

+0.845
+0.755
0.80
6.74
7.54

P.a. 70
3.6
72.6
183.3
251.3

69.0
68.0
137.0 + 0.83

6 38.0
6 34.0
212 45 482

P.a. 75.5 A
Spr = 11.6
Pr Screws = 14

Jan. 12, 1917.

Neptune

P.a. 70

II

6 45.2 3.0

77.2 74.2

185.7 65.7

257.4 139.9 + 0.78

P.a. 250

275.5

334.7 59.2

92.8 68.9

161.7 128.1 + 1.02

+ 0.75

+ 1.01

1.76

0.88

6.74

7.62

271.2

337.4 66.2

101.0 62.9

163.9 129.1 + 1.00

P.a. 70

182.4

253.2 70.8

26 71.8

6 51.8 74.4 142.6 + 0.72

6 48.5

21241.492

Jan. 12, 1917

Neptune

III

P.a. 70

6 53.5
171.4 < comp & dis
262.8 91.4 Comp with the 7.38
353.5 83.1 just prec. the 6.74
76.6 174.5 + 0.10

P.a. 250

83.7
173.7 90.0
265.0 82.8
347.8 172.8 + 0.14

~~88.8~~
169.0 80.2
258.4 92.8
351.2 173.0 + 0.13

+ 0.055
+ 0.135
+0.095
7.38
7.475

171.7 89.9
261.6 89.6
358.8 179.5 + 0.01
7 01.4 78.4
114.9
6 57.4
21 41.498

P.a. 74A
Spr. = 9 3
Pre = 14

Jan 12-1917

Neptune

P.a. 170

IV

Nept. with the 7.38

7 20 40	181.4			
	252.7	71.3		
	354.4	86.0		
	80.4	157.3	+ 0.43	
		Pa. 250		
	85.8	83.2		
	169.0	75.5		
	267.7			
	343.2	158.7	+ 0.41	
				5
				+ 0.44
	90.4	76.2		+ 0.32
	166.6	91.8		0.76
	260.0	168.0	+ 0.23	+ 0.38
	351.8			7.38
				7.76
		PG. 70		
	355.2	79.2		
	74.4	76.4		
	179.4	155.6	+ 0.47	
7 26 00	255.8			
7 23 20				
723.3				
21241.576				

Jan. 12 1917

Neptune

P.a. 70 with ~~7.4~~ 6.74

7 27 m	0.2			V
	76.6	76.4		
	183.3	71.3		
	254.6	147.7	+0.62	
		P.a. 252		
	278.8			
	340.8	62.0		
	92.5	74.9		
	167.4	136.9	+0.84	
				+0.760
				+0.925
	270.5	70.1		1.685
	340.6	58.2		+0.84
	100.0		+1.01	6.74
	158.2	128.3		7.58
		P.a. 70		
	188.4	63.6		
	252.0	70.0		
	2.8			
7 31 10	72.8	133.6	+0.90	
7 29.1				
21241.520				