KG
11365
478

R 43 KG 11365.478

Reduction of photometric observations in this book, so far as previously made in the book, checked by Miss Saunders, Sept., 1878. List of errata found by her pasted below.

Changes made

Page	h	m	
10	7	10	π Gem. ✓
16	9	21	Zero ✓
17	9	41	Zero ✓
25	9	20	zero ✓.
56	7	58	o² Erid. ✓
71	7	52	zero ✓
83	8	37	zero ✓
170	7	37	ν Urs. Maj. ✓
174	9	42	δ Boötis ✓
188	9	37	τ Leon. ✓
194	8	40	zero ✓
198	9	47	π Gem. ✓
201	7	55	τ Tauri ✓

Don't understand

Page 19 + a part of 20 *
48 – 55 †
100 + 101 ‡
152 §
216, 217 &c. ¶

* Magnifying power of Photometer 1 H by dynameter.

† Charts of stars & transits.

‡ Thickness of object-glass.

§ Positions of small stars near γ & η Cephei.

¶ Transit of Mercury.

Dec. 13, 1878. R43 compared with Journal.

KG 11365.478

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Feb. 16th. 1878. Dome opened at 5 P.M.

λ Orionis P obs.

6 06 46.4
89.2 42.8
225.8
268.7 42.9
630.1 85.7
157.52 21.42

6 10 3.3 P. obs.
135.3 43.9
179.2
317.9 45.4
635.7 89.3
158.92 22.32

32 Eridani

6 21 7.4 P. obs.
130.3
184.2 53.9
310.9 56.5
632.8 110.4
158.20 27.60 S obs

6 25 7.8
129.4 58.9
188.3
309.0
634.5 58.8 117.7
158.62 29.42

Feb. 16, 1878

32 Eridani; other diagonal   P.A.

40.4
97.7   57.3
216.0   62
278.4   5~~8~~.4

632.5   119.7 92
158.12   29.~~4~~2

6 34   36.1   8 obs
96.2   60.1
215.4
277.9   62.5
625.6   122.6
156.40   30.65

α Geminorum

6 56   16.8   8 obs
117.1   75.5
192.6
299.3   77.5
625.8   153.0
156.45   38.25

7 0   22.5   83.6   8 obs
106.1
210.0
256.5   76.5
625.1   160.1
156.27   40.02

Feb. 16, 1878

α Gem.; other diagonal

7 5 26.4 Ch. obs.
104.4 78.0
207.7
279.0 71.3
617.5 149.3
154.37
~~129.37~~ 37.32

7 09 10.5 U obs
116.6
191.4 74.8
299.4
71.1
617.9 145.9
154.47 36.47

7 13 5.5 P obs
122.6 62.7
185.3
303.2 62.3
616.6 125.0
154.15 31.25

7 15 35.6 64.4 P obs.
100.0
211.3 69.5
280.8
627.7 133.9
156.92 33.47

Feb. 16, 1878

8 Monoc. P obs

7 24 134.7
41.7
176.4
316.6
41.5
358.1
985.8 83.2
246.45 20.80

7 27 × 47.6
~~57.6~~
35.8
83.4
225.0
38.7
263.7
619.7 74.5
154.92 18.62

P obs.

×Repeated 57.6 Images differ widely, select 46.4

7 31 ~~46.0~~
46.0
40.0
86.0
226.6
35.6
262.2
620.8 75.6
155.20 18.90

U obs.

7 35 355.0
133.0 42.5
175.5
315.2 39.8
978.7 82.3
244.67 20.57

U obs

Feb. 16, 1878

ξ Orionis
7 44 49.7 P obs
39.2
88.9
231.6
38.5
270.1
640.3 77.7
19.42
160.07 P obs
7 47 359.6
133.4
47.7
181.1
320.0 39.6 Seeing bad
994.1
248.52 87.3
21.82 U obs

7 50 179.2
318.5
38.2
356.7
141.5 37.7
995.9 75.9
248.97 18.97

7 54 48.1 38.5 poor U obs
86.6
232.7 33.7
266.4 poor.
633.8 72.2
158.45 18.05

Feb. 16, 1878

8 Monoc. ρ obs

7 24 134.7
41.7
176.4
316.6
41.5
358.1
985.8 83.2
246.45 20.80

7 27 × 47.6
~~57.6~~ ρ obs.
35.8
83.4
225.0
38.7
263.7
6[illegible]9.7 74.5
154.92 18.62

× Repeated 57.6 images differ widely, select 46.4

7 31 ~~46.0~~ U obs.
46.0
40.0
86.0
226.6
35.6
262.2
620.8 75.6
155.20 18.90

7 35 355.0 U obs
133.0 42.5
175.5
315.2 39.8
978.7 82.3
244.67 20.57

Feb. 16, 1878

ξ Orionis

7 44 49.7 P obs
88.9 39.2
231.6
270.1 38.5
640.3 77.7
160.07

7 47 359.6 P obs
133.4
181.1 47.7
320.0 39.6 Seeing bad
994.1
248.52 87.3
21.82
U obs

7 50 179.2
318.5
358.7 38.2
141.5 37.7
995.9 75.9
248.97 18.97

7 54 48.1 38.5 poor U obs
86.6
232.7 33.7
266.4 poor.
633.8 72.2
158.45 18.05

Feb. 16, 1878

11 Monoc.

Also another comp. – 6m
P 115 D 3''

Haze too thick. gave up observing at 8 00

Monday Feb 18th 1878 Opened Dome at (1.30 S.T.)

Set on β Ceti −18 40 Reading Dec Circle 21° 48'

555 α Geminorum Pos. a & b
32.6 63.6
96.2
~~210.1~~
214.8 63.8
278.6
622.2 127.4
155.55 31.85

558 Pos.
9.9
123.8 65.9
189.7
305.6 64.1
629.2 130.0
157.30 32.50

Catgut string of photometer H broken & replaced by another.

Feb. 16, 1878

α Geminorum, a & c   c is of the 11th mag.

6 21 149.9 4.5 P. obs.
154.4
332.4 4.1
336.5
973.2 8.6
24~~X.80~~ 3.30 2.15

6 24 S obs   Seeing poor
148.9 5.5
154.4
329.9 6.2
336.1
969.3 18.7
242.32 2.9~~7~~ 2

6 38 59.2 P. obs.
62.7 3.5
240.3 4.2
244.5
606.7 7.7
151.67 1.92

6 44 65.1 ~~4~~ S obs
59.5 ~~5.6~~ 5.6
239.5 4.7
244.2
608.3 10.3
152.07 2.57

10

Feb. 16, 1878

α Gem. a and c.

6 53 59.2 U. obs.
64.6 5.4

239.8
244.6 4.8

608.2 10.2
152.05 2.55
6 57 149.5 U. obs.
153.6 4.1

330.0
334.7 4.7

967.8 8.8
241.95 2.20 π Geminorum
7 10 146.2 S obs
156.6 10.4

338.8 ~~8.8~~ 11.2
~~11.2~~
327.6 19.2 216
969.2 ~~21.6~~ ~~4.80~~
242.30 ~~5.40~~ 5.40
59.2 8 Obs
8.6
67.8

237.5
248.2 10.7
612.7 19.3
153.17 4.82

Feb. 16, 1878

π Geminorum

7 22 U ds.
58.5
68.2 9.7
238.1 10.5
248.6
6134 20.2
153.35 5.05
7 31 147.1 U ds.
158.2 11.1
328.5
338.7 10.2
972.5 21.3
243.12 5.32
7 36 ~~148.2~~ P ob
147.4
156.8 9.4
328.3 check gives much trouble
337.9 9.6
9704 19.0
242.60 4.75
7 50 58.4 P ob
67.6 9.2
237.8
248.3 10.5
612.1 19.7
153.02 4.92

Feb. 16, 1878

δ Geminorum P obs

7 58 57.1 14.0
71.1
237.9 13.3
251.2
617.3 27.3
154.32 6.82 R obs.

8 00 148.7 11.3
160.0
327.5 13.3
340.8
977.0 24.6
244.25 6.15

8 03 147.0 14.5 U obs.
161.5
325.3
340.2 14.9
974.0 29.4
243.50 7.35

8 12 ~~52.6~~ ~~18.8~~ W. obs. Double image prism unsteady; first reading rejected on account of change of position.
71.4
237.5 15.5
253.0
57.8 13.6
619.7 29.1
154.92 7.27

∥ Looked at 11 Monocerotis. Triple. Too difficult for bad seeing.

Feb. 16, 1878

γ Androm.

8 32	46.8		P. obs.
	78.7	319	
	230.6	280	
	258.6		
	614.7	59.9	
	153.67	14.97	
8 34	49.5	28.7	S. obs.
	78.2		
	231.0	30.5	
	261.5		
	620.2	59.2	
	155.05	14.80	
8 37	350.3		P. obs.
	137.3	32.9	
	170.2		
	316.6	33.7	
	974.4	66.6	
	243.60	16.65	
8 40	138.8	30.9	S. obs.
	169.7		
	314.4		
	349.5	35.1	
	972.4	66.0	
	243.10	16.50	

~~η Persei Companion very blue~~

Feb. 16, 1878

η Persei Companion very blue

8 46 53.8 P. obs.
65.3 11.5
233.6
247.3 13.7
600.0 25.2
150.00 6.30

8 48 142.6 P. obs.
156.7 14.1
323.9
336.7 12.8
959.9 26.9
239.97 6.72

8 51 144.0 U. obs. Comp. only bluish, ~~and~~ but principal star very golden.
158.5 14.5
322.8
338.7 15.9
964.0 30.4
241.00 7.60

8 53 52.6 U. obs.
67.5 14.9
232.5 15.6
248.1
600.7 30.5
150.17 7.62

Feb. 16, 1878

8 56 53.9 8 obs Principal star decidedly yellow, companion grayish blue
66.5 12.6
232.2 14.8
247.0
599.6 27.4
149.90 6.85

9 00 154.8 9.6 8 obs.
145.2
323.8 11.2
335.0
958.8 20.8
5.20
239.70 ε Persei

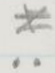
9 8 146.0 12.1 8 obs
158.1
324.9 12.8
337.7
966.7 24.9
241.67 6.22

9 13 55.1 13.1 8 obs
68.2
235.5 11.0
246.5
605.3 24.1
151.32 6.02

Feb. 16, 1878

ε Persei

9 18 56.7 U. obs.



67.7 11.0

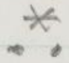
235.8

247.5 11.7

607.7 22.7

151.92 5.67

9 21 144.6 U. obs.



159.4 14.8

324.0

338.6 14.6

966.6 29.4

~~1~~241.65 7.35

ζ Persei Too difficult for the seeing.

η Tauri

9 31 49.4 P. obs.

70.4 21.0

228.4

252.4 24.0

600.6 45.0

150.15 11.25

9 35 45.1 S. obs

74.1 29.0

225.1

251.5 26.4

595.8 55.4

148.95 13.85

Feb. 16, 1878

9 38 P obs

135.0
160.6 25.6
318.1
343.7 25.6
957.4 51.2
239.35 12.80

Images will not come within 1/3 diameter of field; about 45"; see p. 18.

9 41 S obs
138.7 21.3
160.0
320.1 21.7
341.8
960.6 43.0
x40.15 10.75

2

9 44 U U obs.
133.4 33.2
166.6
313.0 33.7
346.7
959.7 66.9
239.92 16.72

9 48 U obs.
43.2 28.8
72.0
225.0 28.2
253.2
593.4 57.0
148.35 14.25

Images very large and blurred. Measures of little value.

Feb. 16, 1878

9 53 Diameter of field by transits of η Tauri. Separate U. Ms.

11.8	11.8		
23.4	11.6	1.06744	
35.0	11.6 log 23 43	.96168	
46.4	11.4	1.10576	127.6
58.4	12.0		6.4
	11.68		134.0

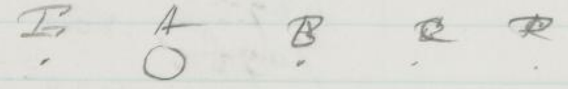
9 57 Other stop watch P obs

12.1	12.1			(134) (132) 133"
23.7	11.6	.06070		
35.3	11.6	.96168		
46.4	11.1	.09902	125.6	
57.5	11.1		~~[illegible]~~	
			~~889~~	
	11.50		131.9	

Diameter of field = 133"

Tuesday Feb 19th 1878. Dome opened at 4.00

Internal reflection in achromatic lenses



Sun ~~reflected in large~~ refracted through large quartz sphere forms very bright artif star A, B white colorless C ~~colored~~ prismatic D very faint, seen with difficulty except on black background. E reflection from surface of separation of flint and ~~[illegible]~~ crown. E is colored and has about the brightness of C
Red in centre in C and E.

Magnifying power of eyepiece of Phot. II. by Dynameter

6.836
6.882
6.859

12786
807
12.7965

12796
6.859
6.037
5.937

6.817
" .869
" 932
" .853
" .868
339
6.8678
6.837
1704

12.804
.796
12800
777
12788
6850

12783
.772
12777
12788
6852
5.936

6.822
.853
6.837
5.937
5.936

Feb. 19, 1878

6.292 7.096 7.925 13.002 12.173 13.794

6.292
7.096 .804
7.925 .829
12.173 .829
13.002 .792
13.794
54

.813 = mean div

2968

$\frac{1}{50}$ = ~~.0127~~ 508 mms.

.813
.508
6504
4065
.413002

2986
.508
23888
~~14930~~
1.73188
23888
14930
1.516888
1.517 mms

5 47 [illegible] = .274

.813|2968
904
5936 .274
21940
20776
11640
11872

* : Comp.

Photometer H.
Sirius & companion
P. obs.

6 15 58.4
57.6 .8
57.6
58.4 .8
57.6
58.5 .9
348.1 2.5 .83 .42
58.02 .8333
.417

379.5|1.517
3034 250.1
7610
7585
250

6 19 330.5 1.6 P. obs. V index * : Cut
332.1
330.4 1.5 6 -
332.9
330.6
332.3 1.7
4.9 1.63
~~4.8~~ +.6
79
331.32 5522

1.633
.817

Pos. angle of companion 70°
image 90°
in dir. 90°

Companion visible with Sirius in the field,

Feb. 19, 1878

6 27 331.0 1.0 S. obs. Y index on right.
332.0
331.1 1.0
332.1
330.8 1.3 1.1 .55
332.1
9.1
331.52

6 40 151.0 U. obs. φ index on left.
151.3 1.0 151.13
152.0 1.0
152.3
151.1 152.07 0.8
151.9 .94 .93 .47
9.6
151.60

151.0 152.0
151.3 152.3
151.1 151.9
.4 .2
151.133 152.067
.934
.467

U attempted to get measures with images thus *.. but ghost interfered with companion

U obs.

7 15 59.7 1.3 V Index left and below
61.0
61.3 1.4 Image above comp.
59.9
60.0 reject [illegible]
61.6 1.0
60.6
364.1 3.7 1.233
60.68 ~~0.92~~ .62 .617

6 Feb. 19, 1878

ο² 40 Eridani
U obs.

Seeing steady but cloudy

companion not divided

7 33
54.6
65.4 10.8

232.5
244.5 12.0

597.0 22.8
149.25 5.70

7 37
143.4
157.5 14.1
323.0
335.6 12.6
959.5 26.7
239.87 6.67

U obs

7 42
144.8
155.6 10.8
323.6
332.9 9.3
956.9 20.1
239.22 5.02

P obs

7 44
54.7
64.0 9.3
235.1
244.3 9.2
598.1 18.5
149.52 4.62

P obs

Feb. 19, 1878

39 Eridani

7 47 47.2 20.8 P obs
68.0
230.8 20.8
251.6
597.6 41.6
149.40 10.40
7 50 139.3 P obs
19.1
158.4
322.3 19.0
361.3
961.3 38.1
240.32 9.52
7 52 139.0 21.5 U obs
160.5
319.1 19.8
338.9
957.5 41.3
239.37 10.32
7 56 50.6 U obs
19.1
69.7
229.3
20.9
250.2
599.8 40.0
149.95 10.00

Looked for satellite of Neptune
Not seen

Feb. 19, 1878

π Arietis

8 44 40.9 P. obs.
73.7 32.8
227.4
256.6 29.2

598.6 62.0
149.65 15.50

8 46 137.6 P. obs.
165.0 27.4
316.6
346.3 29.7

965.5 57.1
241.37 14.27

[3]
8 50 157.8 S obs Observer certain that the first reading was not 157.8 as recorded, but cannot remember the true reading; it was probably 137.8
137.8
169.8 12.0 [32.0]
320.5
31.5
352.0
980.1
245.02
~~60.1~~ ~~70~~
63.5
15.87

8 58 139.5 U. obs.
168.7 29.2
321.3
~~29.5~~ 29.7
351.0
980.5 58.9
245.12 14.72

Images tolerably steady, but very variable in brightness; faint stars sometimes quite disappear for several seconds.

Feb. 19, 1878

9 1 50.7 S obs
82.8 32.1

232.1
261.6 29.5

6272 61.6
156.80 15.40
9 8 51.0 U. obs.
78.9 27.9
232.0 26.5 Seeing very much poorer than before.
258.5
54.4
620.4 13.60
155.10 ζ Persei
9 20 149.5 P obs
155.4 5.9.

327.2 6.6
333.8

965.9 12.5
~~1~~441.47 3.12
2
9 22 58.5 6.8 P obs
65.3

239.4 6.8
246.2
609.4 13.6
152.35 3.40

Feb. 19, 1878

9 25 58.0 6.6 Sob
64.6
238.9 6.8
245.7
6072 13.4
151.80 3.35

9 30 150.2 6.8 Sob
157.0
331.3 6.1
337.4
975.9 12.9
243.97 3.22

9 39 150.9 5.5 U. obs.
156.4
331.3 6.3
337.6
976.2 11.8
244.05 2.95

9 44 63.3 5.8 U. obs.
69.1
243.8 7.0
250.8
627.0 12.8
156.75 3.20

Feb. 19, 1878

o Persei

9 50 59.7 10.6 P. obs.
70.3
[241.0] reject; reading inaccurate
240.6 11.8
252.4

623.0 22.4
155.75 5.60

9 53 149.1 11.9 P. obs.
161.0
327.7 13.7 } hurried
341.4

979.2 25.6
244.80 6.40

9 55 148.3 12.6 S obs
160.9
329.8 ~~14~~ 13.0
342.8

981.8 25.6
245.45 6.40

9 58 59.3 12.8 S. obs.
72.1
238.9 13.1
252.0

622.3 25.9
155.57 6.47

Feb. 19, 1878 & Feb. 22

o Persei

10 3 59.7 12.0 U. obs.
71.7
238.6 14.4
253.0

623.0 26.4
155.75 6.60

10 8 148.1 14.2 U. obs.
162.3
329.8 13.0
342.8

983.0 27.2
245.75 6.80

Feb. 22, 1878.

Diameter of hub of decl. circle - - - - 0.6~~0~~93
interior " " " - - - - {1.9~~0~~70, 1.9~~0~~66} 1.9~~0~~68

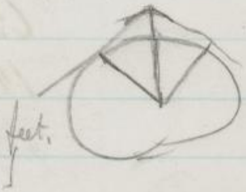
Hub to interior 0.6~~0~~38

1.2~~0~~76
0.6~~0~~92

Circumference hour circle including projection
= 3.222 - .2 = 3.022

Projection = 3/8" to 7/16; say 0.4 inches 3 [illegible] 31 120

which makes the increased length due to the projection 0.016 inches; hence circumference 3.006 feet.



Feb 24th 1878. Opened Dome at 5 ±.

6.07 Sirius & companion.

Photometer I

6 28 0.79 P. obs.

0.84 Companion redder than chief star.

0.72

0.66

0.71

0.744

6 31 0.54 S obs. Companion seen only at intervals.

0.59

0.57

0.55

0.60

285

0.570

β Orionis

6 48 0.74 P. obs.

0.68

0.66

0.62

0.64

0.668

Feb. 24, 1878

β Orionis

6.52 0.77 S. obs.
0.73
0.74
0.76
0.81
0.762

7 33 f Orionis (c) Pols
Photometer H.
148.1
158.4 10.3
326.7
335.7 9.0
968.9 19.3
242.22 4.82

56.5 P. obs.
67.4 10.9
237.5
248.3 10.8
7 38 609.7 21.7
152.42 5.42

7 49 τ Orionis fdl. cat. 70° 30" ±
P. obs. Photometer I.
4.34
4.50
3.98
4.00
3.71
20.53
4.106

Feb. 24, 1878

τ Orionis new comp. 260° 30"±

2.69 P. obs.
2.55
2.90
2.77
2.33
13.24
2.648

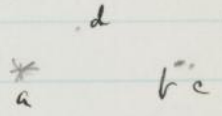
β Eridani

8 11 1.55 P. obs.
1.40
1.41
1.35
1.57
7.28
1.456

8 15 1.17 Sds.
1.20
1.13
1.24
1.25
1.198

40 (o^2) Eridani (Burnham's companion, d)

8 23 2.46 P. obs.
2.22
2.67
2.75
2.67
2.554



other companion not suffic. separated from bright companion o² Eridani S.obs Feb. 24, 1878

8 30 2.36
1.92
2.02
1.79 Looked again, but thought setting fair.
1.97
10.06
2.012

γ Orionis
8 38 0.66 P.obs.
0.69
0.73
0.74
0.65
47
0.694

8 40

S.obs.

0.55
0.59
0.47
0.47
0.50
0.516

o² Orionis
8 52 2.38 P.obs. Doubtful for lamp
2.50 2.316 reading at next set
2.11
2.35
2.24
1158

Feb. 24, 1878

8 54 S obs.

3.53

3.73 Dome moved although it did not cut off aperture -

2.50

1.94

2.91 Found that the projection carrying

14.61 the quartz sphere near the object-glass

2.922 was in the way of the prism.

Reject the last set on this account;

α Tauri & bright companion

9 27 1.23 S. obs. Faint companion not seen by either observer.

1.28

1.22

1.21

1.26

1.240

9 33

1.42 P. obs.

1.51

1.14 Looked again & thought this faint

1.35

1.15

1.314

Feb 24 & Feb. 26, 1878

9 54 γ Ceti. S obs.
1.30
0.84
0.80
0.77
0.73
44.6
0.892
10 0 1.05 P. obs.
1.02
1.08
0.98
1.03
.516
1.032

1898 Feb. 26.
β Eridani Photometer I
6 30 2.17 P. obs. Refocussed after first setting
1.69
1.40
1.44
1.44
1.43
9.57
1.595 Mean of all
1.480 " " last 5

Feb 26, 1878

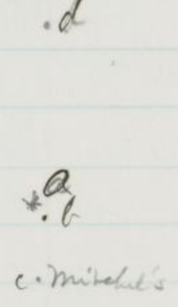
S obs

6 37 0.99 Stars about same color; yellowish.
0.90
1.11
0.94
1.00
4.94
0.988

6 46 1.62 U. obs. Companion of no striking color.
1.57
1.26
1.57
1.59
1.522

β Orionis ~~Mitchel's~~ Comp.

7 0 0.29 S obs
0.35 0.326
0.37
0.29
0.33
.326



~~Wrong~~ Star b

Pos Ang 180°
Dist ~~1/2~~ 90"

7 06 0.42 U obs.
.40
.33
.41
.38
~~1.94~~
~~0.368~~ 0.388

Feb. 26, 1878

β Orionis Mitchel's amp.

7 15 1.59 P obs.
.73
.65
.70
.66
0.670

7 17 .44 U obs.
.58
.52
.61
.36
0.502

7 25 ~~.36~~ ~~U obs~~

τ Orionis foll. comp.

7 28 3.65 P. obs.
3.39
3.80
3.66
4.17
3.67
3.734

7 31 U thought comp. a little brighter than reflected image of star.
Instrumental adjustments made.

Feb. 26, 1878

τ Orionis preceding comp.

7 57 2.84 P obs.
2.54
2.45
2.43
2.60
286
2.57²

8 00 2.24 U obs.
2.26
1.92
1.86
2.29
2.114

δ Orionis. Companion not seen

α. Tauri ~~[illegible]~~
S obs Could not see Burnham's
Not seen by U Suspected by P

o² Orionis
8 40 2.01 P. obs,
2.12
2.18
2.13
2.22
66
2.132

Feb. 26, 1878

S obs.

8 46 1.75
1.86
1.86
1.90
2.04
1.882

γ Orionis

9 0 0.45 S obs
0.49
0.46
0.50
0.44
2 3 4
0.468

9 05 0.51 U obs
0.62
0.63
0.63
0.62
0.602

9 10 0.52 P. obs.
0.63
0.57
0.59
0.54
0.570

Feb. 26 1878

α Can. Min.

9 15 0.75 P. obs.
0.68
0.69
0.76
0.88 looked again & thought this too bright.
0.75
4.51
0.752 mean of all
0.726 mean, rejecting 5th setting

9 23 0.65 U. obs.
0.77
0.65
0.60
0.75
0.684

9 30 0.77 S ob
.82
.86
.78
.75
.796

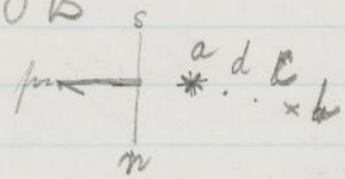
β Canis minoris a & c (see sketch next page)

9 52 0.61 S obs
.60
.51
.51
.50
0.546

Feb. 26, 1878

10 0 β Can. Min. a & c P Ob

0, 55
0.67
0.62
0.51
0.69
0.608



Stars in a line; distances 3, 6, 10 (tenth) parts of the distance from a to b.

10 5 1.27 a & b P. obs.

1.26
1.24
1.09
1.36
1.244

10 9 0.64 U. obs. a & c

0.65
0.65
0.77
0.67
338
0.676

10 15 0.55 U. obs. a & d

0.66
0.54
0.56
0.62
0.586

10 20 1.67 U. obs. a & b
1.57
1.36
1.13 faint.
1.31

204
1.408

Feb. 27th, 1878. Opened Dome at 4.30
Replaced small prism of Phot. I by ~~Ad~~ [illegible] [illegible]

5 41 Sirius seen with unassisted eye just before sunset.
5 45 [illegible] not seen at sunset

Photometer H
Sirius & companion
6 25 63.4 P. obs. V index left & above
64.6 1.2~~8~~
64.6 2.0
63.2 1.4 1.333
64.6 1.4 .667
63.2
383.6 40~~3.6~~
0.67.~~60~~
63.9~~3~~

Feb 27, 1878

6 35 64.6 1.0 U. obs. ♃ index left
65.6
64.6 2.6
65.6 1.0 .867
.433
64.6
0.6
65.2 Images scarcely seen on this reading
2.6
390.2 0.43
65.03

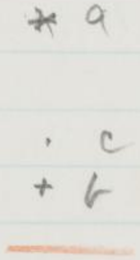
6 45 65.6 S obs ♃ Index left
1.1
64.5
65.4 1.0 3.2
64.4 1.067
.533
65.7 1.1
64.6
390.2 1.07
~~.54~~
65.03 .53

6 50 333.5 S obs ♀ Index left Other diagonal
333.8 1.3
332.2 1.6 4.9
332.2 1.633
.817
333.8 2.0
331.8
1997.3 4.9
332.88 ~~0.617~~
~~.600~~ 0.82
333.1 U. obs. ♀ index left.
1.1
332.0
333.1 1.1 3.6
1.20
332.0 .600
333.4 14
332.0
15.6 26 .60
332.60

Feb. 27, 1878 Phot. I

η Cephei brighter ~~fa~~comp i.e. b
P obs

7 23 2.13
2.09
2.19
1.80
1.87
2.016



Comp c ~~a~~
P ob

7 26 1.44
1.32
1.30
1.18
1.32
1.312

7 33 0.90 U obs pt comp c
1.06
1.02
0.92
1.10
1.00

7 39 1.56 U obs comp b
2.00
2.25
2.23
2.31
2.070

Feb. 27, 1878

η ǂ Cephei

7 50 1.36 P obs

1.47

1.69

1.28

1.63

1.486

7 55 U obs.

1.07

1.25

1.52 not too high

1.23

1.39

1.292

Y Cass.

8 6 0.92 P obs

.96

.94

.91

1.20

0.986

8 10 0.85 U. obs.

0.82

0.84

0.78

0.73

0.804

Feb. 27, 1878

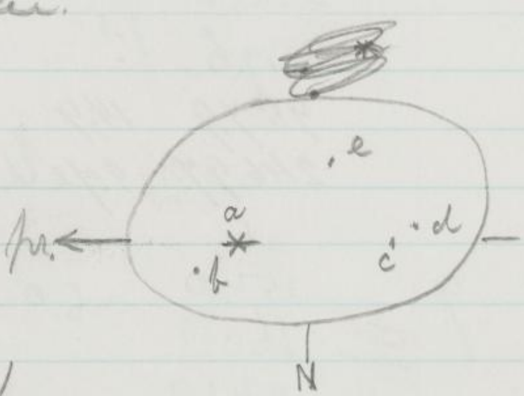
S obs

8 22 0.83
0.83
0.82
0.77
0.67
0.784

Companions of ν Persei.

320°	60"	b
90°	180"	c
93°	190"	d
240°	210"	e

none at 226° 55"



Photometer H

ν Persei

8 58 151.6 P. obs.
161.2 9.6
331.1
340.7 9.6
984.6 19.2
246.15 4.80

9 0 61.7 P obs
71.3 9.6
242.3
250.3 8.0
625.6 17.6
156.40 4.40

Feb. 27, 1878

9 2 S obs

62.4
70.2 7.8
242.0
250.7 8.7
625.3 16.5
156.32 4.17

9 5 154.0 S obs
161.8 7.8
332.5
339.6 7.1
987.9 14.9
246.97 3.72 U obs.

9 9 154.0 6.0
160.0
332.9
340.0 7.1
986.9 13.1
246.72 3.27

9 12 62.7 6.6 U. obs.
69.3
242.7
250.3 7.6
625.0 14.2
156.25 3.55 Phot. I

Regulus &

9 28 1.53 * n.f. Uranus S. obs.
1.54
1.44
1.72 } left eye
1.70 }
7.93
1.586

1878 Feb. 28

Telescope touched sector and broke metal ribbon connecting it with clock.

Companion of Sirius very visible.

Photometer I.

α Urs. Min. & companion: Aperture 5 in.

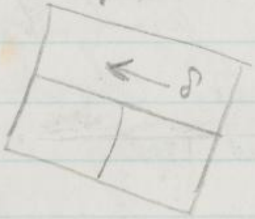
7 8 1.56 U. obs. unfavorable
7 16 1.34
1.37 haze
0.92
1.17
1.272

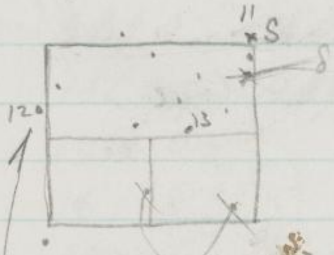
7 22 1.72 P obs
1.82
1.67
1.62
1.21 none too faint - if anything too bright
1.608

Feb 28, 1878

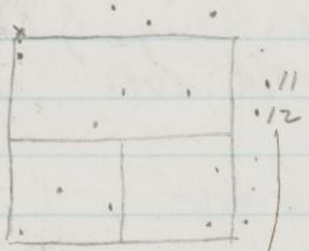
Charts of stars near the pole
U. obs. & recorder for sets 1 & 2.
Afterwards U. obs. S. rec.

Starting with *S very near pole

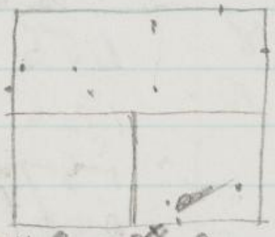




1st set



2d set



3d set

x 0,	y 2½	
x 0	y 4	
x 2½	y 2½	
x 3	y 4	
x 6	y 1	
x 8	y 0	13th meas.
x 6	y 4	
x 10	y 2	(1st of 4th set)
x 7	y 10	
x 6	y 11	10th meas.
~~x 6~~	~~y~~	
x 6½	y 9	
x 9	y 8	

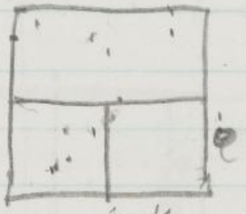
These two are the same marked 11 & 12 above

y ~~x~~ is measured down
x ~~y~~ to the right
~~on~~ a scale of 10

Starting point of 7th set
The 12 should be 11, on reconsideration, & the position lower.

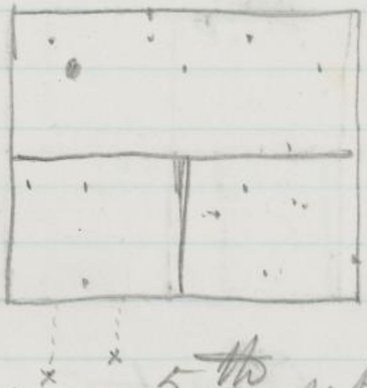
This may be No 25 of the chart by Carrington

Feb. 28, 1878



⊕ × 4th set

x10 y2 8th of 3d set
x11 y1
x14 y2
x15 y3
x18 y2 13th mag.
x18 y0
x16 y5
x14½ y7
x13 y7
x12½ y8½
~~x3 y7~~
x13 y8
x12 y12 12th mag.
x20½ y6 (1st of 5th set)
9

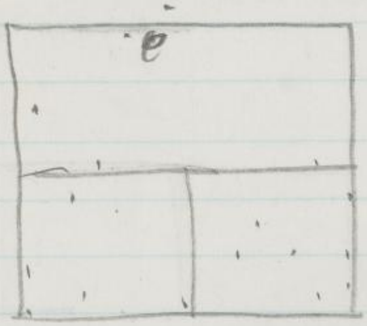


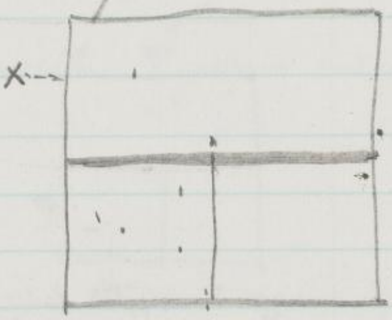
5th set

	x	y	
(last of 4th set)	20½	6	
	21	1	
	24	0	
	24	1	
	27	1	
	25	2	
	29	2	
	28	5	
	22	6	
	22	9½	
	21	12½	11th mag
	23	12	
	26	7	
	27	6	
	28	6½	
	28+	6½+	
	27½	9	
(1st of 6th set)	~~2~~0 3	8½	

Feb. 28, 1878

Returned to star s very near pole.





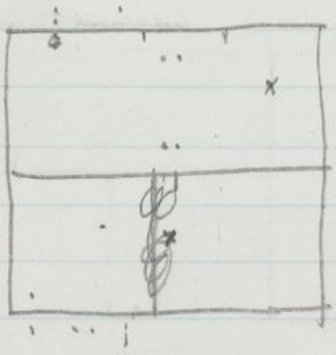
6th set

x	y	
30	8½	(last of 5th set)
0½	3	
4	0½	
4½	−0½	10th magn, perhaps No. 21 of the chart
2½	5	
1½	6	
10	10	
2	9½	
5	10	
7	8	
7½	7	
8	8	
9	9½	
10	8	
10	6	
10	9	
9	5	

7th set

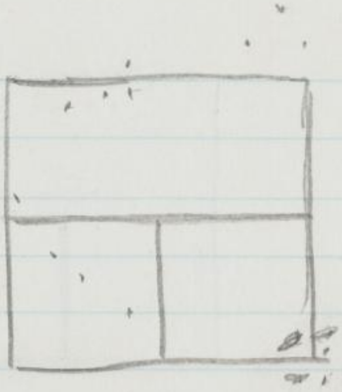
x	y	
10	4½	(see 1st set
10	5½	
−2	2	10th mag.
2	2	
4	6	
5	5	
1	7	
2	7½	
4	8	
5	10	
5	10+	

Hour circle reads $5^h 42^m$
Clock (sid. time) 7 10
These stars are $5^h\frac{2}{3}$ [illegible] past lower culmination. $\alpha = 14^h$



8th set

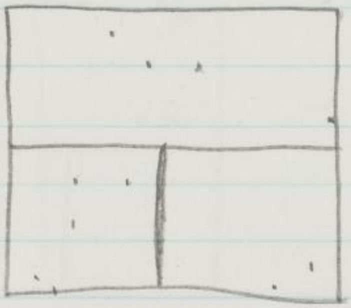
	x	y	
1	8	2	(3d of 7th set)
2	1	− 0½	
3	1	− 0	
4	3	− 0½	
5	4	0	
6	5	1	
7	5½	1	
8	7½	0	
9	5−	4	
10	5+	4	
11	3	7	
12	5	7½	
13	0½	10[illegible]	
14	0½	10½	11th mag.
15	2	10½	
16	2+	10½	
17	4	12½	

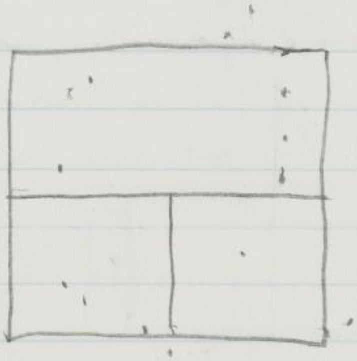


9th set

x	y	
10½	10	} Nos. 13 & 14 of 8th set
10½	10½	
0	4½	(No 1 of 10th set)
4	− 0½	
3	0½	
4	0½	
2½	1	
8	− 1	
9	− 2	
10	− 1	
1	6	
2	7	
4	8	

Feb. 28, 1878





10th set

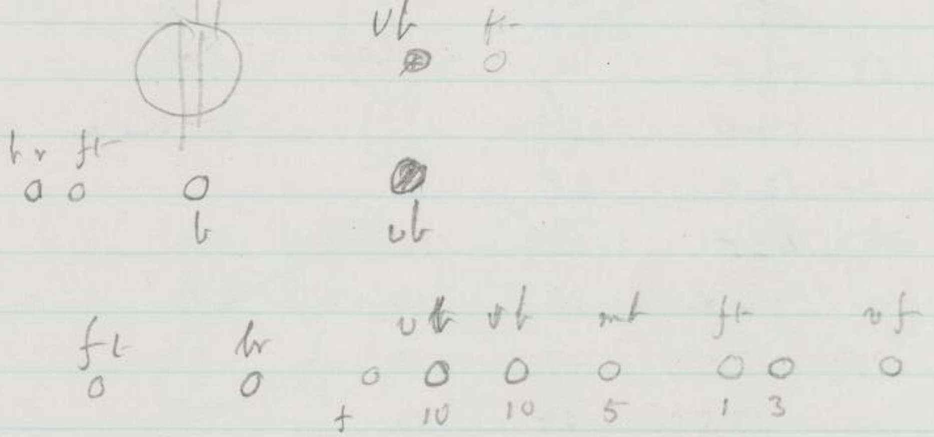
x	y
10	4½ (No 3 of 9th set)
4	2
6	2
3	1
4	7
2	6
2	7½
0½	9½ (1st of 11th set)
1	10
8	10
9½	9

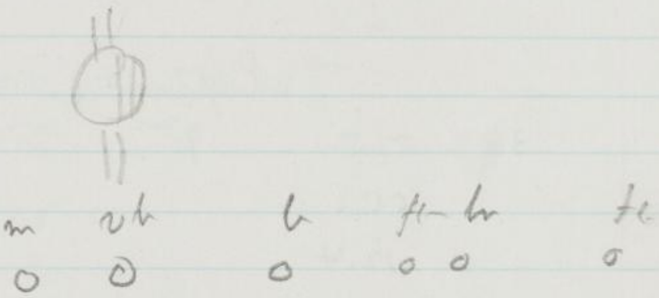
11th set

x	y
10½	9½ (8th of 10th set)
1	4
2	1
9	1½
9	3
9	4½
1	8
2	8½
4½	10
5	10½
7½	7½
7	−0½
7½	−1

March 12th 1878. Dome opened at 4 P.M.

Reflection from Achromat. glitter





Search for Nova Cass.

Set on κ Cass. 245′ 23″

5 7 53 t
4 49 20
0 18 33
8 38
9 55
5 13 0
5 3 5

Found 9m

Mar. 1, 1878

Transits and declinations beginning with 9m

9m set at 37'.5 Frod 3451

		Times	9m Declination	Magn.	
5	32	~~53.5~~			
		~~12.7~~			
5	33	51.5			Sob
		54.0	28'.5		u Rec
	34	12.0	28		
		43.5	34	13m	
		54.2	33.5	10	
	35	10.5	27	13	
		17.5	34	10	

Repeated

36	51.5	9m	
	55.3		
	12.4		

5	38	9.0	37.5 9m	9
		13.0	28.5	13.5
		29.7	28	13
		36.8	25	14.5

These δ's all wrong N, & S being ~~confounded~~ reversed

The 9m was at 27.5 instead of 37.5 & the other declinations are as much north of it as they were said to be south of it. Thus 28.5 should be ~~0~~ 36.5; 28 should be 37, etc.

Mar. 1, 1878

Times	Declinations	Magnitudes	
29.0	37'.5	9^m	S obs
38.5	26.	~~12.5~~ 13	
48.5	30.5 33	12.5 12.5	
56.5	27.5	12	
59.0	31 33	13 13	

~~0.0~~	~~0.0~~	9^m	U obs
~~6.5~~	~~5.5~~		
33	35		
34			

0.0	0.0	37.5 9^m
6.5	5.5	
16.5	17.5	
17		
24.5	24.5	27.5
28.5	28.5	two stars

246 43 = Dec. C. reading

for 9^m

Mar. 1, 1878

o^2 Eridani β's companion (d)

7 53 2.39 β Obs

2.87 Photometer I

2.14

2.42

2.92

2.548

Comp. c close to b

7 58 3.86 β Obs

4.11

3.12

3.41

3.45

~~1~~95

2

3.~~3~~90

5

8 03 2.26 U obs. β's comp. (d)

2.39

2.42

2.32

2.12

2,302

8 10 3.15 U obs

3.05

2.96

3.29

3.54

3.198

Mar. 1 1878

τ Orionis prec. comp.

8 30 1.56 S obs

1.63

1.70

2.05

2.05

1.798

8 35 foll. comp.

4.30 S ob.

3.91

3.82

4.47

3.83

4.066

foll. comp.

8 46 4.03 U. obs.

4.23

3.77

3.67

4.16

3.972

prec. comp.

8 56 2.61 U. obs.

3.05

2.40

2.65

2.89

2.720

Mar. 1, 1878

Uranus & a satellite nearly north (Titania).

Regulus & Titania

9 21 ~~1.09~~ U. obs.
~~1.35~~ Light partly cut off
~~1.71~~ from prism. Turned
~~1.92~~ prism into new position
~~1.95~~ at close of this set.
reject.

9 32 0.38 U. obs.
0.42 .432
.49
.42
.45
16
0.432

9 40 0.33 Bob
0.33
.49
.47
.38
.400

9 45 0.60 Bob
.62
.42 Altered pos. of images
.43
.48
.510

Uranus & Titania

9 52	2.67	Pob
	2.83	2.766
	3.28	
	2.78	
	2.27	
	383	

9 58	2.00	S.obs.	Uranus & Titania
	2.03	1.996	
	1.82		
	2.02		
	2.11		
	998		

10 10	2.90	U. obs.
	2.86	2.664
	2.55	
	2.38	
	2.63	
	332	

Oberon seen; measures not undertaken.

March 4th 1878.

ψ Cass. Phot H

6 53 60.4 S obs Seeing 2, 5, 2; but wind shakes telescope too much to allow any judgment of steadiness

70.0 9.6

240.8

251.7 10.9

622.9 20.5

155.72 5.12

6 57 149.7 S obs

167.5 17.8

325.2

343.8

345.3 } 343.8 18.6 The second of these two is the best & should have twice the weight of the other

343.0

986.2 36.4

246.55 9.10

7 5 149.5 U. obs.

165.7 16.2

326.6

343.6 17.0

985.4 33.2

246.35 8.30

7 6 66.5 U obs

73.6 17.1

237.6 14.1

251.7

619.4 31.2

~~1549.5~~ 154.85 7.80

7 18 39 Eridani

53.4 P obs

78.6 25.2

232.8 23.9

256.7

621.5 49.1

155.37 12.27

Mar. 4, 1878

7 21 145.0 P Ob
167.2 22.2
323.4
346.6 23.2

982.2 45.4
245.55 11.35 U obs.

7 23 147.9 18.3
166.2
325.8
344.8 19.0

984.7 37.3
246.17 9.32 U obs.

7 30 56.6 19.6
76.2 Stars scarcely visible
237.1 16.8
253.9
623.8 36.4
155.95 9.10
11 Monoc. a to b b between
7 42 29.4 Pols a to c
106.8 77.4
205.8 82.3
288.1
630.1 159.7
157.52 39.92

7 46 15.9 P Ob
120.4
195.6 75.2
299.6 76.3
631.5 151.5
157.87 37.87

Mar. 4, 1878

7 50 13.3 U obs. a and B.
117.3
194.1 76.8
300.8 72.5
625.5 149.3
156.37 37.32

7 54 21.7 83.6 U obs
105.3
208.7
285.5 76.8
621.2 160.4
155.30 40.10

8 Monroe.

8 5 353.8 8 obs
132.7
173.4 40.7
212.6 41.2
972.5 81.9
243.12 20.47

8 8 43.5 Ph. obs. Dome partly covered object-glass.
83.0 39.5
226.7
263.9 37.2

Seeing 7, 4, 3.

617.1 76.7
154.27 19.17

8 12 41.5 U. obs.
84.3 42.8
223.9
262.0 38.1
611.7 80.9
152.92 20.22

Mar. 4 1878 & Mar. 5

8 17 352.0 U. obs. Passing haze
134.3
173.6 39.3
313.2
38.8
973.1 78.1
243.27 19.52
Clouds.

March 5th 1878. Dome opened at 3.40
Adjusted ~~photometer~~ plate of phot. I to make emergent pencil coincide more nearly.
Tried bubble photometer.

6.09 Cap Lucis 6 h (Photometer I?)
.90
.78
.65
.70
.74
Mean .75

6.37 π Aurigae
140.5
171.6 31.1
320.2
350.3 30.1
982.6 61.2
245.65 15.30

Mar. 5, 1898

6 38 50.1 Seeing. 8.8.8
81.6 31.5
232.4
261.3 28.9
625.4 60.4
156.35 15.10
Comp b ι Cass.
6 54 141.9 295 U obs
171.4
321.3 29.7
351.0
985.6 59.2
246.40 b 14.80

7 02 52.2 30.3 U obs
82.5
~~229.5~~ repeat
232.5 moved to other part of field
260.5 28.0 ~~29.5~~
627.7 58.3
156.92 14.57
c U obs
7 06 55.0 20.0 Comp. C
75.0
235.1 19.0
254.1
619.2 39.0
154.80 19.75
7 10 c u obs
323.6
344.9 21.3
144.5 21.0
165.5
978.5 42.3
244.62 10.57

Mar. 5, 1878

Comp. [illegible] c

7 15 144.6 P obs
166.6 22.0
322.5 21.9
344.4
978.1 43.9
244.52 10.97

7 18 52.2 P obs
76.9 24.7
232.7 24.3
257.0
618.8 49.0
154.~~75~~70 12.25

Comp b

139.2 P obs
7 21 174.7 35.5
316.0
352.4 36.4
982.3 71.9
245.54 17.97

7 24 44.7 P obs
85.5 40.8
222.3 43.4
265.7
618.2 84.2
154.55 21.05

Examined ~~x~~ 30 Tauri. Comp. plainly separated but too close to measure

α Tauri ex, β's comp not seen

δ " faint comp not seen

Mar. 5, 1888

Titania & Uranus

7 58 3.41 P ob

3.45

3.59 3.342

3.14

3.12

171

Titania & Regulus P obs.

8 2 .73

.68 .638

.61

.56

.61

319

8 4 Regulus & Titania U obs

.47

.53 273 / 455

.43

.48 237 / 36 / 273 / 455 / .47"

.36

227 / 454 .46

.455

Suspected a very faint object between Titania and Uranus but not confirmed

8 28 Uranus & Titania U obs

2.62

2.78

2.59

2.79

2.61

2.678

β Eridani

8 43 1.45 P obs

1.35 1.428

1.42

1.39

1.53

7.14

70

8.46 ~~1.53~~ U obs

1.70

2.06

1.65

1.81

1.93

1.83

ι Orionis foll comp (b)

8 53 2.56 P obs

2.98

3.42

3.06

2.96

2.996

U obs (b)

8 55 4.14

4.35

4.70

4.86

4.58

4.526

Mar. 5, 1878

Bec. comp. (cd)

9 17 2.65 P dist.

2.20

reject 3.42 reduced to 2.20

2.27 Image of comp. blurred

2.21 ~~2.322~~ rejecting 3.42

2.28 ~~2.282~~

~~161~~ ~~2.035~~

~~141~~ 2.322

2.161

9 20 2.60 U dist (cd)

2.36 2.824

2.78

3.18

3.20

14.12

95

β Eridani Phot H

9 28 ~~63.0~~ P.os

~~63.6~~

~~63.4~~ Abandoned owing to smallness

63.1 of angle

11 Monocerotis

b & c P.os 0 Index

9 38 [27.4 < b disappears 0 Index] rej. lid behind shutter

24.3

[b disapp. 73.5

97.8 < c "

202.8 Approx. pos. angle index about 135°

82.6

284.9

609.3 156.1

152.32 39.02 r Index

9 43 17.5 (b, c)

< c disapp. 82.4

111.7

194.1 82.2

294.6 82.9

617.9 154.47 165.3 41.32

Mar. 5, 1878

9 45 U dis. V India b.c
119.0 71.8 B dis.
190.8
301.4 71.0
12.4
623.6 142.8
155.90 35.70

9 48 U dis. V India b.c
26.2 79.6
105.8
207.0 74.6 B dis.
281.6
620.6 154.2
155.15 38.55

9 54 28.6 76.4 V India U dis. a.b
105.0
206.5 74.5 A dis.
281.0
621.1 150.9
155.27 37.72

9 56 9.7 U dis O India a.b
118.0 75.5
193.5
297.0 72.7
618.2 148.2
154.55 37.05

9 58 10.8 8 Ob a.b
111.4 82.9
194.3
298.6 72.2
615.1 155.1
153.77 38.77

Mar. 5 & Mar. 6 1878

other diag, a, b

10 0 25.7 P Obs

103.8 78.1

203.6

283.3 79.7

616.4 157.8

154.10 39.45

March 6, 1878

Sirius Phot I

6 53 .55 U Obs

.70

.59

.72

.65

.642

R Leporis Phot H

7 20 141.3 U Obs

173.2 31.9 Clearly defined at times only

319.1

355.0 35.9

988.6 67.8

247.15 16.95 U Obs

82.7

84.2 83.4

83.4

50.7 32.7

231.2

6

3~~5~~.0

7 30 267.2

6 32.5

~~32.5~~ 68.7

158.12 17.17

Mar. 6, 1878

μ Canis Maj. U obs

7 45 84.3
48.5 35.8 redstar
227.5
266.6 39.1

626.9 74.9
156.72 18.72

358.6 U obs
140.3
178.7 38.4
7 52 321.3 37.3

9~~8~~98.9 75.7
24~~7.22~~ 9.72 18.92

Examined Uranus very carefully but no satellites seen nor even suspected, probably on account of haze.

March 8th 1878 Opened Dome at 5 P.M,

6.00 Looked at Sirius comp not visible -2,2

Dec. Circ. 19.36 -16 33   Scintillation 7,8,5
16 8   13 5

6 _ 22   5 7
4 50

6.30 α Orionis
111   P Ob
1.00
1.00
1.03
1.10
1.048

Σ 855 Orionis
648 60.8   P Ob
10.4
71.2
242.4
11.1
253.5
627.9   21.5
156.97   5.37

6 50 149.7   P Ob
12.5
162.2
330.6
12.2
342.8
985.3   24.7
246.32   6.17

Mar. 8, 1878

6 54 150.8 U ob
160.8 10.0
331.2
342.0 10.8
984.8 20.8
246.20 5.20
61.3 U ob
11.6
72.9
240.8 10.6
6 59 251.4
626.4 22.2
156.60 5.55
7 4 κ Leporis
55.1 U ob
28.5
83.6
234.4 29.4
263.8
636.9 57.9
159.22 14.47
148.2 R ob
27.1
175.3
327.7 $26.\overset{6}{7}$
7 12 354.3
1005.5 53.7
251.37 13.42
γ Orionis
7 18 0.51 P ob
.61
.65
.60
.65

.604

Mar. 8, 1878

7 20 U hs.
.60
.52
.45
.52
.47
.512

o² Orionis brighter comp. P 100 Ang. 60
7 30 brightness about equal to max. of artificial
fainter comp~~[illegible]~~
2.41
2.34 P 8hs
2.47 2.652
2.85
3.09
3.26

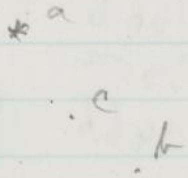
7 37 U hs.
3.05 2.852
2.82
2.47
2.98
2.94
14.26 Could not see β's comp. to α ~~Orionis~~ Tauri

η Cephei faint comp. c ~~[illegible]~~
7 55 1.59 P 8hs
1.99 1828
2.05
1.72
1.79
9.14

Mar. 8, 1878

Brighter comp. b

7 58 1.92 P obs
1.89 1.800
1.64
1.73
1.82
900



U obs
8 04 1.76 1.664
1.6.4
1.56
1.65
1.71
832

probably b

C about midway between a and b and has a little less angle of position.

8 16 1.68 U obs
2.05 1.884
1.89
1.75
2.05
942

Mar. 8, 1878

8 27 Σ 4 Camel. Pobs

1537
166.6 129

335.7
346.6 11.4

1002.1 24.3
250.52 6.07

623 Pobs
15.0
77.3

241.0
13.9
254.9

8 37 635.5 28.9
158.87 7.22

8 40 η Phelii Pobs.
comp blue

152.2
162.5 10.3

330.1
343.5 13.4

988.3 23.7
247.07 5.92

8 42 61.8 Pobs
12.6
74.4

239.6 12.0
251.6

627.4 24.6
156.85 6.15

Mar. 8, 1878

848 θ Phelei

62.5 9.3 P Obs

71.8

243.6 10.4

253.7

631.6 19.4

157.90 4.85

153.6 10.1 P Obs

163.7

330.6 10.9

854 341.5

989.4 21.0

247.35 6.25

901 ε Phelei P Obs

151.3 11.5

162.8

333.6 9.6

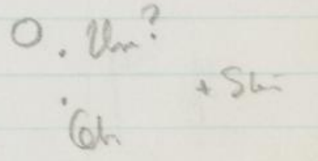
343.2

990.9 21.1

247.72 6.27

902 63.6 9.8 P Obs

73.4



241.7 10.9

252.6

631.3 20.7

157.82 5.17

Uranus Ex. Oberon seen and also another object near its position being ½ that of outer 10° greater.

Mar. 8, 1878

Uranus & Oberon

9.20 2.73 P obs
2.78
2.80
2.52
2.39
2.644

Regulus & Oberon

9 25 .43 P obs
.40
.37 .386
.33 8
.40 ~~.3316~~
193

9 35 U obs. Oberon & Uranus
2.49
2.90
2.32
2.48
2.69
2.576

9 39 Regulus Oberon U obs.
.48
.41
.43
.40
.37
.418

Mar. 8, 1878

9 50 Umbriel? U dis

.39
.36
.37
.38

.47 (?)
.46
.405

Titania not seen

Image of Uranus shines thro' bar close to artif *.

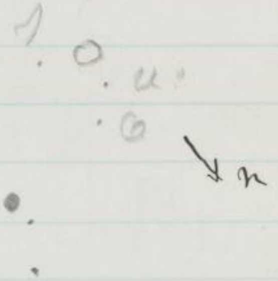
9 59 .61 Pos Umbriel

.45
.37
.37
.34
.428

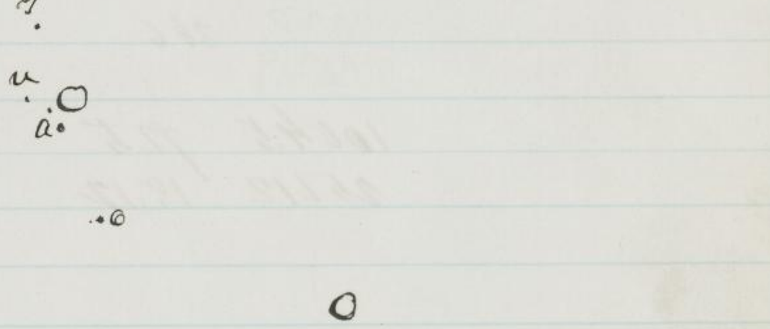
Titania (?) seen at Pos 270° and about same distance as Umbriel (?); with achr. eyepiece

Titania (?) apparently fainter than Oberon

U's figure



Computed positions



Mar 9th, 1878 Obs. Dome opened at 6.15

6 32 Sirius Seeing 7, 5, 5.

.86 .72

.88

.88

.88) uncertain

.76

362

—

7 15 κ Leporis

49.2 40.0

89.2

234.2 34.8

269.0

641.6 74.8

160.40 18.70

7 19 143.7 37.9

181.6

322.3 34.6

356.9

1004.5 72.5

251.12 18.12

7^{25} o² 40 Eridani

	155.1	10.7
	165.8	
	333.2	8.7
	341.9	
	996.0	19.4
	4	
	2~~2~~9.00	4.85
7^{28}	64.7	8.8
	73.5	
	245.4	9.6
	255.0	
	638.6	18.4
	159.65	4.60

o² 40 Eridni

Plate-I

4.37	4.264
4.16	
4.06	
4.45	
4.28	
21.32	

Mar. 9, 1878

7.58 γ Andromedae

144.1 28.2
172.3
324.3 27.1
351.4
992.1 55.3
248.02 1382

800 54.2 30.6
84.8
230.4 29.4
259.8
629.2 60.0
157.30 15.00

805 57.0 red glass
81.0 24.0
235.0 26.3
261.3
634.3 50.3
158.57 12.57

807 146.2 25.2
171.4
326.3 24.3
350.6
994.5 49.5
248.62 12.37

Blue glass interposed

357.8
142.0 32.3
174.3
322.5 35.3

996.6 67.6
249.15 16.90

8 18 52.2 34.4
86.8
232.6 32.5
265.1

636.5 66.9
159.12 16.72

k Puppis

8 37 26.7 86.9 150 dis.
113.6
205.8 87.4 150 dis
293.2

6~~2~~39.3 174.3
15~~7~~9.~~3~~82 43.57

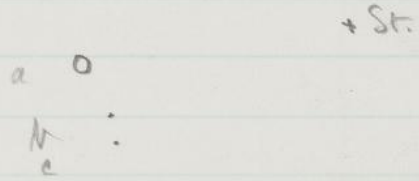
8 41 24.2 — 330 dis
117.4 93.2
205.9 90.3
296.2

643.7 183.5
160.92 45.87

Omitted by mistake

Mar. 9, 1878

9 03 ± Uranus Sat and Regulus



43 .468
.47
.46
.48
.48
.48
34

b thought to be brighter than c,

Uranus and b ~~of [illegible]~~

9 07 2.62 2.684 only difficult to separate b and c in making comparison.
2.81
2.54
2.64
2.81
342

τ Leonis

9 48 ~~89.6~~ Wide pair 180° +
58.7
30.9
89.6
235.4 3̸7.6
269.0

652.7 64.5
163.17 16.12

9 51 146.8
31.2
178.0
325.2
34.2
359.4
65.4
1009.4 16.35
252.35 for other blue

83 Leonis

9 55 133.3 58.5 Close pair 160° ½ dist
191.8
316.9 55.7
12.6
654.6 114.2
163.65 28.55
9 58 38.6 63.7
102.3
219.8 60.8
280.6 124.5
641.3 31.12 Dome begins to cut off.
160.32

March 10th Dome opened at 4 P.M.

7 23 γ Leonis Pole Seeing 2, 8, 8.
41.4 65.7
107.1
219.1 61.7
280.8
648.4 127.4
162.10 31.85
128.3 63.0
191.2
310.6 63.0
7 29 13.6
643.6 126.0
160.90 31.50

Mar. 10, 1878

7 40 ε Hydrae 240°

62.6 22.0
84.6

239.1
265.6 26.5

651.9 48.5
162.97 12.12

7 44 151.2 23.0
174.2

330.4 22.0
352.4

1008.2 45.00
252.05 11.25

7 55 54 Leonis.

139.5 42.0
181.5

321.3 40.3
1.6

643.9 82.3
160.97 20.57

49.3 46.4
95.7

228.8 48.9
277.7

651.5 95.3
162.87 23.82

Mar. 10, 1878

8.07 ξ Ursae Maj. v. clr

18.7
118.5
198.4 79.9
299.4 79.3

635.0 159.2
158.75 39.80

28.7
107.0 78.3
210.0 Rever. 74.4
284.4

630.1 152.7
157.52 38.17

858 140.6 ι Leonis
183.6 43.0
324.7 33.3 repeated later 3222
358.0

1006.9 76.3
251.72 19.07

855 229.9 39.0
268.9
49.6 40.6
90.2

638.6 79.6
159.65 19.90

Mar. 10, 1878

9 03	12 Can Venat.			
	56.3	30.1	15.2	− 1
	86.4		14.9	− 4
	236.1	31.3	15.4	+ 1
	267.4		15.9	+ 5
				11
	646.2	61.4		.27
	161.55	15.35		
	145.0	31.3	16.5	+ 9
	176.3		14.8	− 8
	326.8	31.0	14.7	− 9
	357.8		16.3	+ 7
				33
	1005.9	62.3		.82
	251.47	15.57		
9 11	ζ Ursae Maj.			care.
	1385	46.8	22.1	− 21
	185.3		24.7	+ 5
	314.4	50.0	26.2	+ 20
	44		23.8	− 4
				50
	642.6	96.8		1.25
	160.65	24.20		
9 14	45.2	47.4	24.6	+ 9
	92.6		22.8	− 9
	226.9	47.6	22.9	+ 8
	2745		24.7	+ 10
				36
	639.2	95.0		.90
	159.80	23.75		

Mar. 19, 1878

Dist 142

9 30 ? ι Bootis 240° angle ny 5-7

135.8 46.4
182.2

Dec Circ 310° 43'

320.8 38.8
359.6

998.4 85.2
249.60 21.30

9 33 49.6 42.0
91.6

227.6 44.2
271.8

640.6 86.2
160.15 21.55

March 15th 1878. Dr G. E. Ellis and two ladies visited the Observatory

δ Geminorum

7 30 153.3 U obs
18.4
171.7
333.7 18.3
352.0
1010.7 36.7
252.67 9.17

63.0 U obs
17.6
80.6
243.6
16.1
7 38 259.7
646.9 33.7
161.72 8.42

δ Gem. U obs

7 46 155.2
5.5
160.7
335.7 5.8
341.5
993.1 11.3
248.27 2.82

7 49 65.4 U obs
5.9
713
245.5 6.0
251.5
633.7 11.9
158.42 2.97

ζ Cancri

7 55 17.6 P obs
125.6 67.8
193.4
308.4 69.2
645.0 137.0
161.25 34.25

Mar. 15, 1898

ζ Cancri other set

7 58 40.2 67.2 P obs
107.4
213.3 74.6
287.9
648.8 141.8
162.20 35.45

8 00 38.5 63.8 U obs
102.3
221.6 62.8
284.4
646.8 126.6
161.70 31.65

8 5 11.4 U. obs.
130.4 60.9
191.3
306.8 64.6
639.9 125.5
31.37
159.97 ε Hydrae

8 13 56.8 P obs
81.2 24.4
232.2 34.6
266.8
637.0 59.0
159.25 14.75

8 15 1.3 P obs
146.8 28.7
175.5
316.6 ~~44.7~~
[319.6] 41.7
322.6 ~~38.9~~
643.2 70.4
160.80 17.60

Mar. 15, 1878

8 20	355.4		U hs.
	175.2	23.1	
	152.1		
	328.9	26.5	
	1011.6	49.6	
	252.90	12.40	Uhs
8 23	~~625~~	~~19.8~~	
	~~823~~		Slider moved began again
	60.5	21.7	
	82.2		
	239.8	26.7	
	266.5		
	649.0	48.4	
	162.25	12.10	
8 30	54 Leonis		P hs
	11.2		
	135.6	48.7	
	184.3		
	316.0	55.2	
	647.1	103.9	
	161.77	25.97	
	47.8	49.8	P hs
	97.6		
	226.6	48.6	
	275.2		
	647.2	98.4	
	161.80	24.60	

Mar. 15, 1878

8 34 49.5 Uobs
94.8 45.3
228.6
273.1 44.5
646.0 89.8
161.50 22.45

8 39 141.4 Uobs
181.4 40.0
316.6
362.9 46.3
1002.3 86.3
250.57 21.57

12 Can Ven.

8 46 54.4 Pobs 16.7 -.7
88.5 34.1 17.4
233.1 18.0 +6
268.6 35.5 17.5 +1
14
.35
644.6 69.6
161.15 17.40

139.8 Pob 19.7 +1.1
177.1 37.3 17.6 -1.0
322.0 17.5 -1.1
359.0 37.0 19.5 +9
41
1.02
997.9 74.3
249.47 18.57

Mar. 15, 1878

In Moonlight
Seeing 5, 5, 5 (P)
6, 3, 3 U

8 51	143.4	35.9	U obs	17.7	2
	179.3			18.2	3
	323.1	35.7		18.0	1
	358.8			17.7	2
	1004.6	71.6			8 .20
	251.15	17.90			
8 53	52.2	34.7	U obs	17.3	1
	86.9			17.4	
	231.9	35.0		17.6	2
20	266.9			17.4	
	637.9	69.7			3
	159.47	17.42			.07

Mar. 15, 1878

	ζ Urs. Maj.			with care
8 58	45.4		Pobs	
	97.1	51.7	26.7	+1.2
	227.8		250	−.5
		50.4		
	278.2		26.3	−1.2
	448.5	102.1	26.1	+.6
	162.12	25.62		35
9 0	137.4	46.2	Pobs	.87
	183.6		23.5	+7
	318.8		22.7	−1
		45.1	22.1	−7
	363.9		23.0	+2
	1003.7	91.3		17 .42
	250.92	22.82		
9 02	134.3	54.5	Uobs.	
	188.8		26.8	+4
			27.7	+1.3
	315.0	51.2	26.1	−.3
	366.2		25.1	−1.3
	1004.3	105.7		33 .82
	251.07	26.42		
9 07	43.1	54.7	28.3	+1.1
	97.8		26.4	−8
	225.4	54.1	26.0	1.2
	279.5		28.1	9
	645.8	108.8		40
	161.45	27.20		1.00

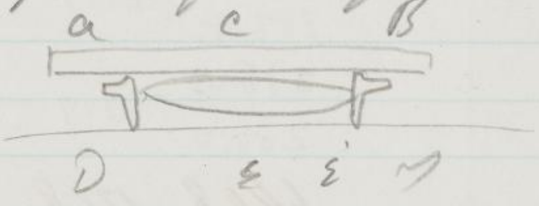
Mar. 15, 1878

9 15		τ Leonis	P Obs	
		53.2		
		80.3	27.1	
		233.6		
		263.3	29.7	
		630.4	56.8	
		157.60	14.20	P obs.
		141.6		
		173.3	31.7	
		344.4		
		353.3	28.9	
9 21				
		992.6	60.6	
		248.15	15.15	
9 22	1	139.5	41.3	Uobs
		180.8		
		323.2	30.0	Could not focus well - one image nebulous the other oblong
		353.2		
		140.9	34.5	
		175.4		
		1313.0	105.8	
		218.83	17.63	
9 31		52.2	35.6	Uobs
		87.8		
		226.1	45.0	
		273.1		
		641.2	80.6	
		160.30	20.15	

83 Leonis

9 35 40.7 Pols
61.1
101.8
218.3
61.7
280.0
640.8 122.8
160.20 30.70
124.0 Pols
65.2
189.2
308.8
63.5
12.3
634.3 128.7
158.57 32.17
9 40 125.0 Uds
68.6
193.6
304.3
69.1
13.4
636.3 137.7
159.07 34.42
9 42 101.1 Uds
213.3
68.1
281.4
66.4
34.7
630.5 134.5
157.62 33.62

March 15th 1878 22h 50m
Thickness of Object glass of E Equatorial



Front up.

A 5".6.0 =146.05
C 2 7.1 93.3
B = a

ε = 3 5.5   D = F = a = B

ε' = 3 5.4 93.6

2

5
129

5.75
254
2300
2875
1150
146.05

7.1|8
64
70 2.8875
254
115500
144375
57750
73.3425

5.4|8
3.675
254
14700
18375
7350
93.345

	mns.	ins ref.	final
	146.05	146.05	146.1
ε	93.6	93.34	93.5
	73.3	73.34	73.3
ε'			93.8

~~93.18 or 93.20~~
93.45
93.60
93.50

2h

Mar. 15, 1878

Thick

2,3.02 | 8

1902

23775 ~~190200~~

254

95100

118875

47550

60.3885 61.0

85.1 = thickness of cell

85.1 − (146.1 − 93.5) − (146.1 − 73.3)

− 52.6 − 72.8

32.5

12.3

44.8

40.3 mms

12

3.4 mms = corr.

March 16th 1878. Opened Dome at 6.15

7 33 γ Leporis P obs.

137.8
174.6 36.8
315.2
353.3 38.1
980.9 74.9
245.22 18.72
42.9 40.5 P. obs.
83.4
224.5
266.5 42.0
617.3 82.5
154.32 20.62

7 45 η Tauri P. obs.

52.2
74.9 22.7
232.6
256.7 24.1
616.4 46.8
154.10 11.70

143.3 — 143[illegible] 19.4 P. obs.
162.7 — 1[illegible]2.7
320.6 26.6
347.2
973.8 46.0
243.45 11.50

Mar. 16, 1878

				Seeing.
8 0 2	ε Persei	Pobs		
	151.3	10.9		
	162.2			
	329.7	123		
	342.0			
	985.2	23.2		
	246.30	5.80		
8 6	60.1	10.7	Pobs,	
	70.8			
	240.9	10.5		
	251.4			
	623.2	21.2		
	155.80	5.30		
8 12	60.7	10.9	Sobs	
	71.6			
	240.6	11.4		
	252.0			
	624.9	22.3		
	156.22	5.57		
8 16	148.6		Sobs.	
	163.1	14.5		
	328.9	14.5		
	343.4			
	984.0	29.0		
	246.00	7.25		

Mar. 16, 1878

η Persei

8 21	148.8	12.6	P. obs.
	161.4		
	327.6	12.1	
	339.7		
	977.5	24.7	
	244.37	6.17	S
	148.7	11.2	S obs
	159.9		
	330.2	11.7	
	341.9		
	980.4	22.9	
	245.17	5.72	
8 28	58.3	12.8	P. obs.
	71.1		
	236.7	14.5	
	251.2		
	617.3	27.3	
	164.32	6.82	
8 31	58.0	12.7	S obs.
	70.7		
	237.2	13.2	
	250.4		
	616.3	26.9	
	154.04	6.47	

26 Aurigae

Seeing 4 5 2 P
4 7 5 S

8 37 50.6 27.8 P obs.
78.4
232.6 25.6
258.2
619.8 53.4
154.95 13.35

8 40 50.5 S obs.
78.3 27.8
231.9 26.6
258.5
619.2 54.4
154.80 13.60

8 45 143.3 P obs.
170.6 27.3
322.2
28.8
351.0
987.1 56.1
246.77 14.02

S obs

8 48 141.0 30.0
171.0
322.0 30.1
352.1
986.1 60.1
246.52 15.02

Mar. 16, 1878

14 Antigone

8 55			S obs.
	142.5	28.5	
	171.0		
	323.8	25.3	
	349.1		
	986.4	53.8	
	246.60	13.45	
8 59	145.2	26.7	P. obs.
	171.9		
	323.9	24.1	
	348.0		
	989.0	50.8	
	247.25	12.70	
9 02	51.6	32.3	S obs
	83.9		
	232.2		
	261.9	29.7	
	629.6	62.0	
	157.40	15.50	
9 4	50.2	32.1	P. obs.
	82.3		
	231.4		
	264.5	33.1	
	628.4	65.2	
	157.10	16.30	

Mar. 16, 1878

α Aurigae

9	8	139.6	34.4	P. obs.
		174.0		
		318.8	35.4	
		354.2		
		986.6	69.8	
		246.65	17.45	
9	11	142.7	27.1	S obs
		169.8		
		324.5	26.8	
		351.3		
		988.3	53.9	
		247.07	13.47	
9	14	52.2	29.7	P. obs.
		81.9		
		232.4	29.4	
		261.8		
		628.3	59.1	
		157.07	14.77	
9	15	50.1	33.0	S
		83.1		
		231.0	35.9	
		266.9		
		631.1	68.9	
		157.77	17.22	

Mai. 16, 1878

19 Cam.

9 24	56.8		P. obs.
	80.5	23.7	
	234.6		
	257.3	22.7	
	629.2	46.4	
	157.30	11.60	
9 27	54.7	23.6	S obs.
	78.3		
	235.0	25.3	
	260.3		
	628.3	48.9	
	157.07	12.22	
9 30	148.2		P. obs.
	166.1	17.9	
	328.6		
	347.5	18.9	
	990.4	36.8	
	247.60	9.20	
9 33	146.0		S obs.
	167.2	21.2	
	328.8	18.3	
	347.1		
	989.1	39.5	
	247.27	9.87	

Mar. 16, 1878

δ Gem.

9 38 60.3 P. obs.
14.3
74.6
240.4
15.1
255.5
$6\overset{3}{2}0.8$ 29.4
157.70 7.35
9 40 61.6 S obs
12.8
74.4
242.2
13.1
255.3
633.5 25.9
158.37 6.47
9 43 151.4 P obs.
13.6
165.0
329.6
13.5
343.1
989.1 27.1
247.27 6.77
9 149.6 S obs
15.7
165.3
330.7
14.1
344.8
990.4 29.8
247.60 7.45

Mar. 16, 1878

λ Gem.

9	49	63.6	6.6	P. obs.
		70.2		
		245.1		
		252.1	7.0	
		631.0	13.6	
		157.75	3.40	
9	52	153.7	6.6	P. obs.
		160.3		
		334.5		
		342.2	7.7	
		990.7	14.3	
		247.67	3.57	
9	54	152.2	8.8	S. obs.
		161.0		
		333.9		
		341.8	7.9	
		988.9	16.7	
		247.22	4.17	
9	59	63.4	8.4	S. obs.
		71.8		
		244.0	8.2	
		252.2		
		631.4	16.6	
		157.85	4.15	

March 18th 1878. Dome opened and telescope set on τ Leonis but clouds prevented any observations.

Mar. 19, 1878

π Arietis Rds

7^{43} 61.8 8.3
70.1
244.2 7.1
251.3

627.4 $1\overset{5}{\cancel{7}}.4$ Rds.
156.85 3.85
7^{46} ± 153.6 9.0
162.6
331.2 9.0
340.2

987.6 18.0
246.90 4.50
7^{53} 153.8 6.7 Uds,
160.5
333.2 7^{3}
340.5

988.0 14.0
247.00 3.50
7^{56} 63.4 7.8 Uds
71.2
242.7 7.8
250.5

627.8 15.6
156.95 3.90

41 Arietis a & b

St. watch
7.0
14.2

Po. Ang 230

Distance 120″

Mar. 19, 1878

41 Arietis

8 15 rej. {150.1 / 157.1} 7.0 P obs } reject
rej. {333.2 / 336.7} 3.5 string cut off light }

8 17 328.3 / 339.4 11.1
147.6 / 157.9 10.3
973.2 21.4
243.30 5.35

8 20 59.6 / 68.8 9.2 P obs
240.3 / 249.3 9.0
618.0 18.2
154.50 4.55

a lucid companion about the brightness of ghost.
dist 30" ang 200°

61.7 / 66.5 4.8 U obs } Ghost!
241.7 / 246.9 5.2 }
616.8 10.0
154.20 2.50

8 30 58.7 / 69.4 ~~9.7~~ U obs
~~10.7~~
236.6 / 251.5 12.9
618.2 23.6
154.55 5.90

Mar. 19, 1878

8 32 ~~327.0~~ U obs.
146.9 15.4
162.3
325.8 13.7
339.5
974.5 29.1
243.62 7.27

η Persei

8 36 152.9 P obs
159.4 6.5
331.4 6.7
338.1
981.8 13.2
245.46 3.30

8 40 62.1 P obs
67.8 5.7
241.4 6.4
247.8
619.1 12.1
154.77 3.02

8 42 62.2 5.4 U obs.
67.6
241.9 5.7
247.6
619.3 11.1
154.82 2.77

8 44 151.5 6.7
158.2
332.0 6.2
338.2
979.9 12.9
244.97 3.22

Mar. 19, 1878

ι Cassiopeiae, close comp.

8 50 132.9 Pols
176.7 43.8
311.9
357.5 45.6
979.0 89.4
244.75 22.35

8 53 46.3
86.8 40.5 Pols
224.6
269.6 45.0
627.3 84.5
156.82 21.37

Other comp.

8 55 52.8
74.2 21.4 cloud Pols
233.0
257.4 24.4 ~~hazy~~ clouds
617.4 44.8
154.35 11.45

140.5
8 57 165.3 24.8
322.0 25.2
347.2
} Pols clouds passing

976.0 50.0
243.75 12.50 Clouds

	dist	comp	U dbs
9 12	140.5	24.2	
	164.7		
	322.9	23.1	
	346.0		
	974.1	47.3	
	243.52	11.82	
9 14	51.4	22.4	U ds.
	73.8		
	228.5	26.0	
	254.5		Seeing better
	608.2	48.4	
	152.05	12.10	

Close companion ~~still~~ given up although seen

Mar. 19, 1878

9 30 ω Aurigae Uobs

134.2 43.3 being only 6.3, 3
177.5 variable
315.5 40.1
355.6

982.8 83.4
245.70 20.85

9 38 44.6 Uobs
83.9 39.3
227.8 34.5
262.3

618.6 73.8
154.65 18.45

9 42 136.2 Pobs
172.7 36.5
314.2 34.2
348.4

971.5 70.7
242.87 17.67

9 44 48.9 Pobs
79.8 30.9
228.6
258.1 29.5

615.4 60.4
153.85 15.10

Mar. 19, 1878

9 48 14 Aurigae

50.7

75.2 24.5 Pols Also another comp, 120° gr. angle than this comp. Distance about the same.

230.4

257.7 27.3

614.0 51.8

153.50 12.95 Seeing 5 5 5

9 50 139.1

166.4 27.3

321.3 Pols

348.9 27.6

975.7 54.9

243.92 13.72

9.52 136.0 33.0 U obs

169.0

317.3 31.7

349.0

971.3 64.7

242.82 16.17

9 54 47.6 32.0 U obs

79.6

228.3

257.5 29.2

613.0 61.2

153.25

~~128.25~~ 15.30

March. 20th 1878 Opened Dome at 6

6 40 η Tauri

54.7 17.4 P obs
72.1
231.5
253.8 22.3 thro' clouds
612.1 39.7
163.02 9.92

6 45 140.1 P obs images poor
167.5 27.4 that of η elongated.
321.3
346.2 24.9
975.1 52.3
243.44 13.07

6 47 137.4 u obs
167.6 30.2 higher clouds rapidly
3~~2~~1.6
348.5 26.9 only faint
975.1 57.1
243.77 14.27

6 51 52.3 24.2 u obs
76.5
2~~2~~8.7 27.0
255.7
613.2 51.2
153.30 12.80

Mar. 20, 1878

ζ Persei

7 8 618 U ob
67.2 5.4
240.7 6.5
247.2
616.9 11.9
154.22 2.97
150.3 6.9 U ob
157.2
331.0 6.8
7 13 337.8
976.3 13.7
244.07 3.42
149.4 6.8 P ob
156.2
331.2 7.6
338.8
975.6 14.4
243.90 3.60
7 18 58.7 6.2 P ob
64.9
240.1 7.3
247.4
611.1 13.6
152.77 3.37

Mar. 20, 1878.

o Persei Clear.

7 22 57.1 Pobo
69.1 12.0
236.7
248.7 12.0
611.6 24.0
152.90 6.00

7 25 146.7 Pobo
159.4 12.7
324.5
337.2 12.7
967.8 25.4
241.95 6.35

7 30 146.6 Udhs
159.3 12.7
326.7
338.8 12.1
971.4 24.8
242.85 6.20

7 33 56.6 Udhs
69.3 12.7
236.5
249.4 12.9
611.8 25.6
152.95 6.40

π Arietis

7 45 55.9 8 obs
65.8 9.9

238.3
249.2 10.9

609.2 20.8
152.30 5.20

7 49 150.2 8 obs
158.8 8.6

327.0
334.8 7.8

970.8 16.4
242.70 4.10

7 54 150.5 4 obs
157.6 7.1

328.9
335.4 6.5

972.4 13.6
243.10 3.40

59.4 4 obs
66.2 6.8

239.5
246.3 6.8

611.4 $1\overset{3}{\cancel{4}}$.6
152.85 3.40

Mar. 20, 1878

(5) 38 Tauri

8 17	55.3	14.6	P obs
	69.9		
	236.6	16.5	
	253.1		
	614.9	31.1	
	153.72	7.77	
8 19	145.2	17.2	P obs
	162.4		
	322.9	18.8	
	341.7		
	972.2	36.0	
	243.06	9.00	
8 21	146.0	15.2	U obs
	161.2		
	323.5	17.9	
	341.4		
	972.1	33.1	
	243.02	8.27	
8 27	53.9	20.0	U obs.
	73.9		
	234.0	19.5	
	253.5		
	615.3	39.5	
	153.82	9.87	

α Tauri

8 33 152.4 P Obs

153.9 1.5

330.5 rej; clouds

330.9

332.4 1.5

969.6 3.0

242.40 0.75

8 37 61.2 P Obs

62.6 1.4

243.1

243.7 0.6 clouds prevent finishing

610.6 2.0

152.65 0.50

clouds and strong wind.

Mar. 20 1878

θ Persei

9 4 148.6 P obs
157.3 8.7
329.1
337.6 8.5
972.6 17.2
243.15 4.30

9 6 59.3 P obs
68.3 9.0
238.6
247.6 9.0
613.8 18.0 Wind shakes telescope
153.45 4.50

9 10 58.3 9.2 U obs
67.5
240.0 8.8
248.8
614.6 18.0
153.65 4.50
148.6 8.7 U obs
157.3
329.0 8.7
337.7
972.6 17.4
243.15 4.35

26 Aurigae

9 18 140.2 P obs Seeing. 8 6 5
168.3 28.1
317.8 28.8
346.6
972.9 56.9
243.22 14.22

9 20 52.7 P obs
77.5 24.8
229.2
256.6 27.4
616.0 52.2
154.00 13.05

9 23 48.7 26.9 U obs.
75.6
229.4 27.8
257.2
610.9 54.7
152.72 13.67

9 26 138.0 U obs
168.0 30.0
319.4 26.4
345.8
971.2 56.4
242.80 14.10

Mar. 20, 1898

λ Orionis c

9 35	149.4	4.2	U obs.
	153.6		
	332.9	3.5	
	336.4		Tr. star out of field
	972.3	7.7	
	243.07	1.92	
9 38	61.4	3.4	U obs
	64.8		
	240.8	4.9	
	245.7		
	612.7	8.3	
	153.17	2.07	
9 44	60.6	3.5	P obs
	64.1		
	241.6	4.6	
	246.2		
	612.5	8.1	
	153.12	2.02	
9 46	150.4	4.5	P obs
	154.9		
	332.2	4.5	
	336.7		
	974.2	9.0	
	243.55	2.25	

March 21st 1878

41 Arietis

7	8	58.9		P obs
		67.4	8.5	
		238.0		
		248.6	10.6	
		612.9	19.1	
		153.22	4.77	
7	4	147.7		P obs
		157.3	9.6	
		330.0		
		339.6	9.6	
		974.6	19.2	
		243.65	4.80	
7	9	145.8	13.0	U obs
		158.8		
		328.7	11.8	
		340.5		
		973.8	24.8	
		243.45	6.20	
		57.6	10.8	U obs
		68.4		
		238.3	12.6	
		250.9		
		615.2	23.4	
		153.80	5.85	

Mar. 21, 1878

2 H. Camel.

7 21 P obs

55.4 19.9 Very difficult object

75.3

235.6 16.8

252.4 Leiz 4.8.8

618.7 36.7

154.67 9.17

7 24 145.8 24.0 P obs

169.8

319.5 26.1

345.6

980.7 50.1

245.17 12.52

U obs

7 27 ~~727~~ Companion hardly seen

149.0 15.4

164.4

329.1 12.3

341.4

983.9 27.7

245.97 6.92

7 34 57.3 15.5 U obs

72.8

239.0 16.1

255.1

624.2 31.6

156.05 7.90

Mar. 21, 1878

11 Monocerotis

7 47 b & c c pos. ang 120°
~~X~~25.3 Pots b brightest
103.0 77.7
203.6 87.0 < b ang 300° disappears
290.6
622.5 164.7
155.62 41.17
~~290.~~

7 51 20.1 Pots b brightest
113.5 T*120° disappears
198.4 84.9
297.7 82.4
629.7 167.3
157.42 41.82

7 55 121.0 Uds
193.2 72.2
298.5 b dis
14.4 75.9
627.1 148.1
156.77 37.02

8 02 29.5 76.0
105.5
210.1
282.1 72.0
627.2 148.0
156.80 37.00

Mar. 21, 1878

11 Monocerotis.

nobs

8 10 102.8

a dir

207.3 $7\overset{4}{2}.6$
281.9
30.0 72.8

122.0 147.4
166.40 $36.8x^{5}$

8 12 190.6 nobs

294.2 $\overset{8}{7}0.3$
14.5
115.2 75.4
614.5 155.7
153.62 38.92

8 18 16.8 Pobs

116.7
192.3 75.6

292.1 84.7
617.9 160.3
154.47 40.07

$\overset{223}{102.4}$ 80.1 Pob

204.7
279.3 74.6
608.7 154.7
152.17 38.67

Mar. 21, 1878

ε Hydrae

8 28 320.2 26.6 Pok
346.8
143.1 25.7
168.8
978.9 52.3
2144.72 13.07

8 31 52.3 23.5 Pok
75.8
233.5 23.3
256.8
618.4 46.8
1444.60 11.70

8 34 ~~8 34~~ U dr.
55.0 23.1
78.1
233.6 25.1
258.7
625.4 48.2
1466.46 12.05

8 43 1453 (146.9 U dr.
143.8
1. 4. 5. 3
162.9 17.6
320.2 27.4
347.6
976.0 45.0
2144.00 11.25

Mar. 21, 1878

ι Leonis

8 54 51.5 30.3 P Obs
81.8
230.3 31.3
261.6

625.2 61.6
156.30 15.40

139.5 140.08 ~~4.6~~ P Obs
324.1 27.1
351.2
140.7
142.2 ~~32.8~~ 32.5
9 03 172.6

988.0 59.6
247.00 14.90 D Obs

Seeing very bad
Abandoned

Clouds prevent further work.

March. 22, 1878

7 2 (1) 30 Tauri Polo Fairly good.

148.5 16.1
164.6
328.7 15.3
344.0
985.8 31.4
246.45 7.85

7 5 58.1 15.5 Polo
73.6
240.3 14.7
255.0
627.0 30.2
156.75 7.55

7 8 59.1 15.8 U bs.
74.9
239.5 16.2
255.7
629.2 32.0
157.30 8.00

7 10 146.5 20.5
167.0
329.2 17.6
346.8
989.5 38.1
247.37 9.52

Mar. 22, 1878

(2) α Tauri

7	16	153.7	2.0	U obs.
		155.7		
		335.3	1.7	
		337.0		
		981.7	3.7	
		245.42	0.92	
7	20	65.0	1.1	U obs
		66.1		
		245.0	1.5	
		246.5		
		622.6	2.6	
		155.65	0.65	
7	24	65.0	1.0	P obs
		66.0		
		244.8	1.5	
		246.3		
		622.1	2.5	
		155.52	0.62	
7	26	155.0	2.1	P obs
		157.1		
		333.8	1.4	
		335.2		
		981.1	3.5	
		245.27	0.87	

(3) λ Orionis

7 29 152.4 Pols
157.1 4.7
335.3
340.8 5.5
985.6 10.2
246.40 2.55
7 32 64.3 Pols
68.6 4.3
244.2
249.3 5.1
626.4 9.4
156.60 2.35
7 34 60.2 U ds
64.1 3.9
241.0
244.9 3.9
610.2 7.8
152.55 1.95
7 39 149.0 3.3
152.3
331.2 3.8
335.0
967.5 7.1
241.87 1.77

Mar. 22, 1878

7 56 α Tauri C.

U thought he saw it but could not measure

8 35 Ariel? Uranus

3.46 P Obs

2.85 2.981 3 points seen near Uranus

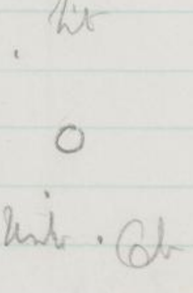
2.97 {Position 60° less than Oberon 45°

2.63 Ariel? {and ½ distance

3.02 Oberon & Titania.

14.93

8 38 Oberon Uranus



3.67 P Obs

4.00 3.510

3.59

3.37

2.92

17.55

8 45 Uranus

Ariel? U Obs

3.39 2.642

2.95

~~2.11~~ ~~At~~ too bright object

2.31

2.17

2.39

13.21

Object taken for Ariel
30° less than Oberon and
3/4 distance from planet

Mar. 22, 1878

Oberon & Uranus

8 57 3.13 3.356 U Obs
3.36
3.09
3.49
3.71
1678

9 7 Titania & Uranus
3.43 3.394 P Obs
3.14
3.51
3.33
3.56
1697

9 11 2.07 Titania & Uranus U obs
2.35 2.164
2.40
2.01
1.99
82

Titania & Regulus
9 24 .63 0.536 P Obs
.47
.48
.57
.59
268

Mar. 2~~8~~2, 1878

9 30 Titaniæ Regulus. U ds.
.41 0.452
.48
.44
.43
.50
226

9 38 ι Leonis Pols
139.0
173.4 34.4
321.3 33.4
354.7
988.4 67.8
247.10 16.95

9 41 48.0 Pols
83.5 35.5
234.5
267.5 33.0
633.5 68.5
158.37 17.12

9 43 53.6 U ds
82.2 28.6
235.8
262.8 27.0
634.4 55.6
158.60 13.90

9 49 147.0 23.9 U ds [illegible] [illegible] by [illegible]
170.9
327.3
352.5 25.2
997.7 49.0
249.42 12.27

March 23d 1878. Opened Dome at 6.45

7.15 41 Arietis P. obs.

60.7 8.1
69.0
241.0 9.0
250.0

620.9 17.1
155.22 4.27

332.3 8.4
340.7
150.4 8.2
158.6

982.0 16.6
245.50 4.15

Searched for π Arietis and o Piscium haze too thick

7 55 τ Tauri

140.8 28.5
169.3
320.5 27.9
348.4

979.0 66.4
244.75 16.10

7 58 48.2 33.0
81.2
230.7 30.9
261.6

621.7 63.9
155.42 15.97

Mar. 23, 1878

8 06 88 Tauri.
51.2 24.6
75.8
234.1 20.9
255.0

616.1 45.5
154.02 11.37

8 09 141.8 25.7
167.5
322.0 26.8
348.8

980.1 52.5
245.02 13.12

8.17 14 Aurigae
141.5 28.5
170.0

322.0 28.3
350.3

983.8 56.8
245.95 14.20

8 20 52.6 27.6
80.2

230.0 30.3
260.3

623.1 57.9
155.77 14.47

Mar. 23, 1878

	26 Antliae		Comp. very faint. Hazy.
8 28	~~49.2~~		
	45.2	30.4	
	76.6		
	228.3	35.1	
	263.4		
	613.5	66.6	
	153.37	16.62	
	135.3	36.8	
	172.1		
	320.4	32.5	
	352.9		
	980.7	69.3	
	245.17	17.32	
9 06	α Antliae		
	138.4	32.9	
	171.3		
	320.2	31.4	
	351.6		
	981.5	64.3	
	245.37	16.07	
	50.2	32.7	
	82.9		
	227.2	32.4	
	259.6		
	619.9	65.1	
	154.97	16.27	

Mar. 23, 1878

11 Monoc. bc

9 7 22.1
115.1 93.0
201.6 90?
291.8) poor

630.6 1832
157.65 Secy 45.80 465

Mar. 25, 1878 Uob

λ Gem. Uobs Cloudy the first part of evening.

8 35 62.2 Uobs
5.7
67.9
244.9 6.3 Very windy Telescope unsteady.
251.2
626.2 12.0
156.55 3.00
1524 Uobs 8, 4, 5
6.3
158.7
330.5 6.4
8 47 336.9
978.5 12.7
244.62 3.176 Cancri
9 2 1362 Uobs
31.1
167.3
315.9 30.5
346.4
965.8 61.6
241.45 15.40
9 46.1 37.0 Uobs
83.1
224.9 35.6
9 17 260.5
1 614.6 72.6
153.65 18.15

Mar. 25, 1878

v Urs Maj.

9 28 635 10.6 U obs . Wind subsided

741

241.6 10.5 10, 8, 5

252.1

621.3 211

157.82 5.27

152.5 13.5 U obs

166.0

332.2

9 36 344.6 12.4

995.3 24.9

248.82 6.147

24 Comae Ber.

9 44 40.8 48.1 U obs

88.9

218.9 51.1

270.0

618.6 99.2

154.65 24.80 U obs

120.1 63.2 Images noticeably larger

183.3 in this set than in last.

305.9 58.6

9 53 364.5

973.8 121.8

243.45 30.45

March 26th 1878. Phot. K recd
from P.B.C on trial.

π Arietis

7 29 150.3 8.6 Pobs
158.9
327.7 8.9
336.6
973.5 17.5
243.37 4.37

7 31 240.6 8.2 Pobs
248.8
60.1 7.6
67.7
617.2 15.8
154.30 3.95

7 37 60.6 Uobs
67.8 7.2
240.3
247.4 7.1 Limit of visibility
616.1 14.3
154.02 3.57

149.9 8.6 Uobs
158.5
330.4
7 45 337.5 7.1
976.3 15.7
244.07 3.92

Mar. 26, 1878

o Persei

7 51 59.6
69.3 9.7 Pflo
238.1
248.9 10.8
615.9 20.5 Rde
153.97 5.12

7 53 146.6
160.8 14.2 Images look brighter
327.2
340.2 13.0
974.8 27.2
243.70 6.80

7 57 148.5 12.2 U ds
160.7
326.5 12.5
339.0
974.7 24.7
243.67 6.17

8 02 58.4 11.6
70.0
238.6 10.7
249.3
616.3 22.3
154.07 5.57

2 Hev. Caml.

8 11	60.9	14.1	Uobs.
	75.0		
	241.1	13.2	
	254.3		
	631.3	27.3	
	157.82	6.82	
8 18	150.6	15.0	Uobs.
	165.6		
	330.3	15.1	
	345.4		
	991.9	30.1	
	247.97	7.52	
8 25	146.5	21.8	Pobs
	168.3		
	325.7	23.5	Images too close
	349.2		
	989.7	45.3	
	247.42	11.32	
8 30	57.4	19.5	Images perhaps a little too distant
	76.9		Pobs
	239.7	18.9	
	258.6		
	632.6	38.4	
	158.15	9.60	

Mar. 26, 1878

4 H barrel

8 34 59.4 14.2 P.ob
73.6
238.2 14.2
252.4

623.6 28.4
155.90 7.10

8 37 149.9 13.6 P.obs
163.5
329.0 13.6
342.6

985.0 27.2
246.25 6.80

8 41 149.4 13.6 U obs
163.0
329.5 13.0
342.5

984.4 26.6
246.10 6.65

8 44 60.0 13.6
73.6
240.5 12.1
252.2

625.9 25.7
156.47 6.42

Mar. 26, 1878

5^m south of 7 Camel is a double star   Dist 10" Pos ang 30   Mags 5, 6

7 H Camel

8 57   63.5   6.8   Polo
70.3
244.6   6.2
250.8

629.2   13.0
157.30   3.25

8 58   153.2   6.9
160.1
333.3   6.6
339.9

986.5   13.5
246.62   3.37

9 04   154.4   6.1   U ds
160.5
333.8   6.0
339.8

988.5   12.1
247.12   3.02

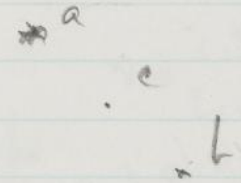
9 07   64.9   5.6   U ds
70.5
245.7   5.7
251.4

632.5   11.3
158.12   2.82

Mar. 26, 1878

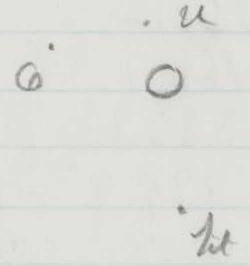
γ Cephei   Semidiam. 300"
140°   200"   bright 9 m.
210°   60"   "   12 m
300°   200"

η Cephei =



c a little less position angle
"   "   ½ distance

Looked at Uranus



O L U expected by P.

March 30th 1878.

805	η Cancri		P. obs.
	138.6	25.7	
	164.2		
	319.7	23.1	
	342.8		
	965.4	48.8	
	241.35	12.20	P. obs.
	48.8	21.6	
	70.4		
	229.7	23.4	
	253.1		
	602.0	45.0	
	150.50	11.25	
813		S. obs.	
	44.9	29.0	
	73.9		
	228.9	27.6	
	256.5		
	604.2	56.6	
	151.05	14.15	
816	136.2	27.8 S obs	
	164.0		
	319.2	25.5	
	344.7		
	964.1	53.3	
	$24\overset{1.02}{0.52}$	13.32	

Mar. 30, 1878

ψ Cass.

8 25 54.5 P. obs.

67.7 13.2

233.3

246.6 13.3

602.1 26.5 clouds

150.52 6.62

8 40 α Leonis. S. obs.

60.7 2.6

63.3

241.0 2.0

243.0

608.0 4.6

152.00 1.15

8 46 152.2 1.9 S. obs.

154.1

330.7 1.3

332.0

969.0 3.2

242.25 0.80

8 49 152.4 P. obs.

154.0 1.6

331.0

331.7 0.7

969.1 2.3

242.27 0.57

α Tauri continued
8 54 61.1 P. obs
Too hazy to continue

λ Orionis A&C, faint companion
9 0 149.9 P. obs. bright star out of field
153.3 3.4
332.3
336.4 4.1
971.9 7.4
242.97 1.87
9 3 60.8 P. obs.
65.3 4.5
239.9 4.8
244.7
610.7 9.3
152.67 2.32
9 7 64.7 4.2 S. obs.
60.5
241.1 4.7
245.8
612.1 8.9
153.02 2.22
9 21 149.5 4.6 S. obs.
154.1
332.0 3.9
335.9
971.5 8.5
242.87 2.12

Mar. 30, 1878

[illegible]

Sing 76.2 P   474 S

r Leonis   S. obs.

9 35   37.2
94.8   57.6
220.0
270.9   50.9
622.9   108.5
155.72   27.12

10 0   33.2   66.1 P. obs.
99.3
217.6
277.0   59.4
627.1   125.5
156.77   31.37

10 2   118.8   73.2   S obs.
192.0
11.0   65.7
305.3
627.1   138.9
156.77   34.72

10 15   8.6   P. obs.
128.5
187.4   58.9
306.9   61.7
631.4   120.6
157.85   30.15

March 31st 1878 Opened Dome at 6 15

A.Hs.

6 53 β Orionis

6 53	63.8	5.6	
	69.4		
	245.4	6.0	
	251.4		
	630.0	11.6	
	157.50	2.90	
	153.4	6.0	P.obs.
	159.4		
	335.7	5.6	
	341.3		
	989.8	11.6	
	247.45	2.90	

δ Orionis

1 01	59.4	13.6	P.obs.
	73.0		
	241.3	14.3	
	255.6		
	629.3	27.9	
	157.32	6.97	
	148.6	16.0	P.obs.
	164.6		
	330.3	14.6	
	344.9		
	988.0	30.6	
	247.10	7.65	

Mar. 31, 1878

7 31	γ Serpens.		P. obs.
	135.4	38.0	Small star red
	173.4		
	313.4	38.4	tinged white.
	351.6		
	973.8	76.2	
	243.45	19.05	
	45.1	35.7	P. obs.
	80.8		
	224.9	34.2	
	259.1		
	609.9	69.9	
	152.47	17.47	
7 42	η Tauri		P. obs.
	52.3	21.4	
	73.7		
	231.4	22.4	
	253.8		
	611.2	43.8	
	152.80	10.95	
	142.3	20.4	P. obs.
	162.6		
	322.6	22.1	
	344.7		
	972.1	42.5	
	243.02	10.62	

Mar. 31, 1878

7 49 α Tauri

624 .6 P. obs.

63.0

62.7 .6 im appar will not dis.

62.8

243.6 1.0

244.6

738.6 2.2

123.10

~~153.10~~ ~~0.44~~

152.6 1.6 P. obs.

154.2

331.2 1.3

332.5

971.5 2.9

242.62 0.72

ω Aurigae. ✝ P. obs.

58.8 8.4

67.2

238.6 8.2

246.8

611.4 16.6

152.85 4.15

8 7 147.9 8.7 P. obs.

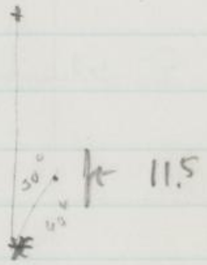
156.6

329.2 9.4

338.6

972.3 18.1

243.07 4.52



Mar. 31, 1878

8 12 148.0 7.5 S obs
155.5
330.5 6.0
336.5

970.5 13.5
242.62 3.37

8 18 60.2 5.1 P. obs.
65.3
239.4 5.6
245.0

609.9 10.7
152.47 2.67

ψ Cass.

8 28 149.3 11.5 P. obs.
160.8
326.8 11.8
338.6

975.5 23.3
243.87 5.82

8 30 149.0 12.8 S obs
161.8
326.4 12.4
338.8

976.0 2~~4~~5.2
244.00 ~~5.80~~ 6.30

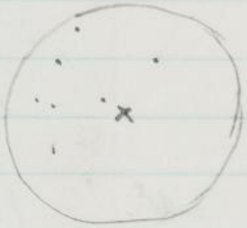
8 36 58.4 P. obs.
69.6 11.2
238.4 12.~~4~~2
250.6

617.0 23.4
154.25 5.85

8 39	70.1	12.3	S ds.
	57.8		
	237.0	10.4	
	249.4		
	616.3	22.7	
	154.07	5.67	

P. looked at γ Cephei with lowest power micrometer eye-piece: radius of field taken as unity; companions seen as follows:

Pos. angle	Distance	Magn.
140°	0.5	11
220	0.7	12
220	0.2	14
215	0.8	13
240	0.65	12
240	0.7	13
300	0.6	14



also looked at: π, β,

~~49 H. Cam.~~

Mar. 31, 1878

19 H Camel.

9 12 60.8 15.1 S. obs.
75.9

7.55 Clouds came up.

χ Gem.

9 25 ~~58.7~~ P. obs.
Dome in the way; began again

59.3
68.3 9.0
240.8
248.8 8.0

617.2 17.0
154.30 4.25

9 28 149.8 P. obs.
157.4 7.6
330.4
338.2 7.8

975.8 15.4
243.95 3.85

9 30 149.2 7.9 S. obs
157.1
336.3
337.9 7.6

974.5 15.5
243.62 3.87

9 36 60.8 8.6 S. obs.
69.4
238.2
246.3 8.1

614.7 16.7
153.67 4.17

ε Gem.

9 40 60.9 6.4 P. obs.
67.3
240.3 5.9
246.2
614.7 12.3
153.67 3.07 S obs.

9 43 60.7 7.5
68.2
239.0 8.6
247.6
615.6 16.1
153.87 4.02

9 46 151.3 P. obs.
158.4 7.1
330.2 6.8
337.0
976.9 13.9
244.22 3.47

9 48 148.0 S obs.
11.0
159.0
327.3 10.8
338.1
972.4 21.8
243.10 5.45

Seeing from recollection April 1
7, 7, 4 P. 5, 4, 4 S.

Apr. 2, 1878

η Tauri

7 37 52.7 20.9 Pobs
73.6
231.6 23.1
254.7
612.6 44.0
153.15 11.00

7 39 138.3 26.4 Pobs
164.7 Images brighter than in last set
320.3 25.9
346.2
969.5 52.3
242.37 13.07

Ends — Clouds prevent

ψ Cass.
7 46 57.6
should × 59.7 2.1 Pobs
be 69.7 236.5
248.7 12.2
69.3 ~~9.8~~

57.6
69.5 11.9
236.5
248.7 12.2
612.3 24.1
153.07 6.02

7 50 148.3
160.4 12.1 Pobs
326.8 10.8
337.6
973.1 22.9
243.27 5.72

*

Apr. 2, 1878

U obs. cont double
Dist 5" Ang 250°
C 1 mag fainter B
a B. 110°

7 55 150.1
159.2 9.1 b with image not (b+c)
328.2
337.1 8.9
974.6 18.0
243.66 4.50

8 0 58.8 U obs.
68.6 9.8
238.5
247.2 $\overset{8.}{9.7}$
613.1 18.5
153.27 4.62

8 02 60.1 7.8 φ Cass. a & c
67.9 U. obs.
239.7 6.9
246.6
614.3 14.7
153.57 3.67

151.3 U. obs.
158.5 7.2
329.0
337.0 8.0
975.8 15.2
243.94 3.80 Could not compare b with c

Apl. 2, 1878

a with b+c

ψ Cass. ~~B & C~~.

8 20 147.5 8 obs

160.9 13.4

327.0

340.2 13.2

975.6 26.6

243.90 6.64 Clouds prevent further obs

γ Leonis

8 40 5.0 8 obs

124.9 60.1

185.0

311.9 53.1

626.8 113.2

156.70 28.30

8 42 33.6 S. obs.

93.1 59.5

217.8

276.2 58.4

621.7 117.9

155.17 29.47

8 45 37.0 U. obs.

94.1 57.1

218.4

273.2 54.8

622.7 111.9

155.67 27.97

8 48 128.1 U. obs.

181.0 52.9

307.7

366.6 58.9

983.4 111.8

245.84 27.94

through clouds

δ Bootis S. obs. cloudy

9 14 23.4 80.0 23.4 bad owing to dimness of both images
103.4 25.0 slightly better afterwards
48.4
211.9 67.0 24.2 D.e 329° 17
278.9
102.2 24.2 78.6
25.0 77.2 103.4 102.8
102.2 205.6 211.9 67.0 33° 47'
102.8 278.9
617.8 145.6
224.2 154.45 36.40

9 19
17.1 S. ob.
118.8
194.1 75.3
297.6 79.5
627.6 154.8
156.90 38.70
58.1 } U. obs. images too blurred
68.0 } only approximate
reject

9 35 56.5 S. obs. : evidently the string
68.1 slipped before the first two
sets were taken so that the
images compared were both of
one star. Reject the whole.

Seeing 2, 6, 4. S. during his observation
5, 7, 3. P. for the whole evening
8, 8, 8 U. for the first stars
2, 5, 2 U. " " last "
Adopted 8, 6, 6 to 2, 6, 3.

April 3d 1878

η Tauri image too large
74±

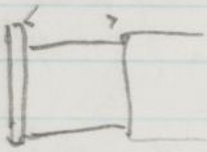
Images larger than heretofore this year

Estimated diameter of disk of Sirius 20" P
20" U ~~22~~ R 1/6 – 1/7 field (22" – 19")

At particular focus image becomes a large ball resembling a globule of ~~gr~~ mercury in a state of vibration, with distinct waves.

	P obs	U obs.
7 45±	1ᶜ 4.0ᵐ	1.36
	4.4	1.32
	5.5	1.28
	4.0	1.22
	4.7	1.21
	26	39
	1.452	1.278

Measures of difference of focus by measuring distance from inside of rim of achromatic eyepiece to edge of projecting frame which holds the eyepiece, as in drawing. Focus upon the waves of Sirius



Apr. 3, 1878

Waves seem to be moving from
P. Ang 240° to 80° P obs
270 to 90 U obs
290 to 110 S obs

8' 10 1.21 S obs
1.16
1.25
1.19
1.17
5.98
1.196 Examined Arcturus - same effect -
i. e. direction of the disturbance appears to be
about the same.
310° to 130° S obs resembles bonfire
240 to 60 U obs

β Ursae Minoris presents similar appearance but not so marked.
Po 0 to 180 S obs

Apl. 8th 1878.

7 32 ν Ursae Majoris U obs.

57.3 8.6
65.9
237.2 9.1
246.3

606.7 17.7
151.67 4.42

7 37 147.4 10.5 U obs
157.9
328.1 10.0
338.1

971.5 20.5
242.87 5.1×2

7 43 145.1 10.3 P obs.
155.4
328.3
337.8 9.5

966.6 19.8
241.65 4.95

7 46 57.8 9.0 P obs
66.8
238.4 8.4
246.8

609.8 17.4
152.45 4.35

? Oberon probably star. Apr. 8, 1878

~~Titania~~ of Uranus Phot. I

8.7 3.46 Pobs

3.46

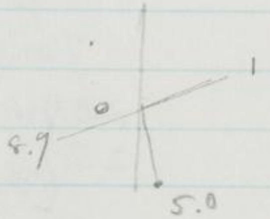
3.10 Bright, clouds drifting by

clouds

8 18 3.44 Pos. Ang. 210 ∴ is probably

3.07 not Titania, may be Oberon

3.306



ε Boötis

8 49 52.2 Sobs

82.3 30.1

Seeing very poor.

233.2 30.5

263.7

631.4 60.6

157.85 15.15

15.6	+5
14.5	-6
14.6	-5
15.9	+8
	24
	.60

8 52 141.9 Sobs

171.2 29.3

323.2 35.7

358.9

995.2 65.0

248.80 16.25

16.9	+.7
12.4	-3.8
15.6	-6
20.1	+39
	90
	225

apr. 8, 1878

θ Virginis

148.4 19.3 P obs

167.7

328.6 20.0

348.6

993.3 39.3

248.32 9.82

9 0 57.1 P. obs.

76.3 19.2

239.4 18.2

257.6

630.4 37.4

157.60 9.35

9 5 58.3 U. obs.

77.9 19.6

239.0

258.0 19.0

633.2 38.6

158.30 9.65

9 8 147.8 U. ob

167.5 19.7

327.1 19.5

346.6

989.0 39.2

247.25 9.80

Apr. 8, 1878

9 13 147.9 21.9 Sob
169.8
329.1 21.8
350.7
997.5 43.7
249.37 10.92

9 18 59.2 18.6
77.8
239.7 18.5
258.2
634.9 37.1
158.72 9.27

δ Boötis

9 32 146.0 Sob
157.4 11.4
330.8 7.6
338.4
972.6 19.0
243.15 4.75

~~9 43~~ ~~58.8 12.3 U Ma~~
~~71.1~~

apr. 8, 1878

δ Boötis

9 36 146.0 Pob
160.7 14.7
328.7
341.9 13.2
977.3 27.9
244.32 6.97

9 39 58.6 Pob
71.4 12.8
236.5
250.8 14.3
617.3 27.1
154.32 6.77

9 42 58.8 12.3 U ob.
71.1
234.2 15.~~2~~0
249.2
613.3 27.~~5~~3
153.32 6.8~~7~~2

9 48 142.5 17.9 Uob
160.4
325.1 15.9
341.0
969.0 33.8
242.25 8.45

Apr. 8, 1878

δ Corvi

9 53 58.8 P obs
67.8 9.0
239.0 8.0
247.0
612.6 17.0
153.15 4.25

9 56 147.4 P obs
159.1 11.7
328.0 10.1
338.1
972.6 21.8
243.15 5.45

9 59 147.2 12.5 U obs.
159.7
328.4 9.8
338.2
973.5 22.3
243.37 5.57

10 4 57.7 10.~~5~~6 U obs.
68.3
238.3 11.0
249.3
613.6 21.6
153.40 5.40

Apr. 9, 1878

δ ~~Tauri~~ Orionis

7 17 54.8 P obs 2 4 3 Seeing, P.
4, 3, 3, " S. (from recollection); but this is meant to apply to the seeing of April 8

71.2 16.4

235.1

250.8 15.7

611.9 32.1

162.97 8.02

7 20 145.2 P obs

159.0 13.8

326.1

340.0 13.9

970.3 27.7

242.~~44~~57 6.92

7 22 U obs

144.0

160.9 16.9

324.1

341.1 17.0

970.1 33.9

242.52 8.47

7 24 56.5 12.9 U obs

69.4

235.9

250.1 14.2

611.9 27.1

152.97 6.77

τ Tauri

7 38 48.6 P obs

75.8 27.2 clouds

April 13, 1878

Almost wholly cloudy early in the evening; clouds near the horizon afterwards, and often higher; passing continually, and nearly preventing observations.
Seeing 2, 3, 4.

8 35 δ Orion. S. obs.

145.1

160.1 15.0

326.3

340.0 13.7

971.5 28.7

242.87 7.17

8 38 56.2 S. obs.

70.0 13.8

236.0

249.1 13.1

611.3 26.9

152.87 6.67 72

9 5 ψ Cass. Small star faint, not seen double.
S. obs.

146.5 15.8

162.3

327.8 15.1

342.9

979.5 30.9

244.87 7.72

Apr. ~~9~~ 13, 1878 & Apr. 14

ψ Cass. continued; small star less distinctly seen than in last set.

9 10 58.0
71.0 13.0
S. obs.
239.4
250.3 10.9

618.7 23.9
154.67 5.97

κ Gem. Companion seen occasionally, not well enough to measure.

April 14 1878

41 Arietis not visible to naked eye; opera glass could not be found; swept for the star some minutes but saw nothing double; companion probably invisible at that altitude.

ψ Cass. Invisible to naked eye; found after a while by sweeping; both of the small stars seen.

A compared with B+C; A above B & C

8 53 144.5
S. obs.
160.0 15.5

324.4
338.8 14.4

967.7 29.9
241.92 7.44
S. obs.

8 59 56.3
65.9 9.6 Other diagonal; A below B & C, which were still separated, at least by glimpses.
236.6
247.7 11.1
606.5 20.7
151.62 5.17

Apr. ~~9~~ 14 1878

A & B only; A below B & C

9 7 56.9 8.3 S. obs.
65.2
237.8 8.3
246.1

606.0 16.6
151.50 4.15

9 14 146.0 11.5 Other diagonal; A above B & C.
157.5 A & B compared
324.8 S. obs.
338.0 13.2

966.3 24.7
241.57 6.67

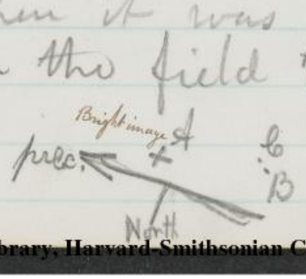
9 21 146.3 8.7 Images reversed; A ~~a~~below B & C.
155.0 A & B compared.
327.2 S. obs.
336.0 8.8

964.5 17.5
241.12 4.37

9. 25 54.6 12.2 Other diagonal; A above B & C.
66.8 A & B compared.
236.4 S. obs.
246.5 10.1

604.3 22.3
151.07 5.57

B & C always seen more distinctly as separate stars when A was above both than when it was below. The bright image of A in the field throughout these measures.



ap. ~~8~~14, 1878 & ap. 16

2 H. Cam. probably found but not seen double.

4 H. Cam. Companion barely seen, but right position & distance.

10 5 144.0
160.0 16.0 S. obs.
325.2
339.2 14.0
96.84 30.0
242.10 7.50

10 10 55.2
69.8 14.6 S. obs.
234.6
247.5 12.9
607.1 27.5
151.77 6.84

Seeing 3, 6, 5.

April 16, 1878.

7 15 U made vain attempts to measure
41 Arietis
η Tauri, δ Orionis,
γ Leporis
κ Geminorum but clouds prevented in each case.

κ Gem. could be seen, but the companion did not appear.

Apr. 16 (contin)

ι Cancri

8 29	42.8		Sobs
	80.0	37.2	
	222.8	37.0	
	259.8		
	605.4	74.2	
	151.35	18.55	
8 33	134.4		Sobs
	167.8	33.4	
	312.2		
	348.1	35.9	
	962.5	69.3	
	240.62	17.32	
8 38	130.2		U. obs.
	169.5	39.3	
	312.2		
	349.3	37.1	
	961.2	76.4	
	240.30	19.10	
8 41	39.2		U. obs.
	77.7	38.5	
	220.6		
	259.3	38.7	
	596.8	77.2	
	149.20	$19.\overset{3}{\cancel{8}}0$	

Apr. 16, 1878

83 Leonis — Stars more or less hidden by clouds.

8 50 1.2 Sobs

111.8

182.5 70.7

302.7 58.5

598.2 129.2

149.55 32.30

8 54 25.4 Sobs

93.6 68.2

209.9 66.1

276.0

604.9 134.3

151.22 33.57

8 58 25.9 U. obs.

89.6 63.7

207.7 63.6

271.3

594.5 127.3

148.62 31.82

9 3 121.8 Ub — Stars scarcely visible. often totally invisible.

177.8 56.0

296.1

363.9 67.8

959.6 123.8

239.90 30.95 Too cloudy to continue

Seeing 2, 4, 4 (S.)

2, 5, 5 (U.)

1878 April 17. Partly clear; observer busy till 9h in assisting to find azimuth errors of photographic apparatus for transit of Mercury.

ι Leonis S. obs. Seeing perhaps too bad for this star.

9 13 139.7
174.6 34.9
317.2
355.5 38.3.

987.0 73.2
246.75 18.30

9 19 49.8 S. obs. Images of each pair set a little farther apart.
82.3 32.5
229.3
263.1 33.8

624.5 66.3
156.12 16.57

κ Gem.

9 37 147.8 S. obs.
155.0 7.2
325.5
334.7 9.2
963.0 16.4
240.75 4.10

9 41 57.4 S. obs.
64.7 7.3
236.9
244.9 8.0

603.9 15.3
150.97 3.82

Seeing 6, 4, 4.

Clock stopped. Difficulty found to be the jamming of the strap used to hold down the endless screw. Strap taken off and put on differently. 10 10

1878 April 18

η Tauri　　　　8, 27

7 8　46.8　U. obs.

75.5　28.7

227.9

255.3　27.4

605.5　56.1

151.37　14.02

Could not see companion to 41 Arietis

7 12　139.4　U. obs.

166.3　26.9

316.7

345.9　29.2

968.3　56.1

242.07　14.02

[illegible] ζ Orionis U. obs.

7 38　60.6

63.6　3.0

241.5

243.6　2.1

609.3　5.1

152.32　1.27

Much troubled by clock stopping on account of strap jamming.

7 46　150.~~8~~3　U. obs.

153.4　3.1

331.2

334.0　2.8

968.9　5.9

242.22　1.47

Trouble with clock remedied.

Apr. 18, 1878

δ ~~Tauri~~ Orionis

8 4 143.9 15.2 U. obs.
159.1
322.9
340.8 17.9
966.7 33.1
241.67 8.27

54.6
~~56.5~~
68.4 13.8 U. obs. comp. seems fainter than in previous set.
235.5
249.6 14.1
408.1 27.9
152.02 6.97

Set upon γ Leporis—too low to measure—
μ Canis Maj. examined—plainly separated, at times but not measurable on account of poor definition

κ Puppis too low—stars very much blurred—

Apr. 18, 1878

ε Gem. — 8, 5, 5. Est. seeing U.
7, 4, 3. S.

8 47 58.6 U. obs.
66.6 8.0
238.1
245.6 7.5
608.9 15.5
152.22 3.87

8 49 147.7 U. obs.
155.7 8.0
329.7 7.3
337.0
970.1 15.3
242.52 3.82

8 53 146.8 S. obs
156.1 9.3
328.3 8.7
337.0
968.2 18.0
242.05 4.50

8 57 56.8 S. obs
68.4 11.6
238.9 8.1
247.0
611.1 19.7
152.77 4.92

(A & C) Apr. 18, 1878

α Gem with C

9 5	59.8 65.7	5.9	Sobs	Bright images out of field
	239.0 245.0	6.0		
	609.5	11.9		
	152.37	2.97		
9 8	149.8 154.6	4.8	Sobs	Bright images out of field
	330.2 335.2	5.0		
	969.8	9.8		
	242.45	2.46		
9 15	149.2 153.8	4.6	U. obs.	Bright images out of field
	330.7 335.6	4.9		
	969.3	9.5		
	242.32	2.37		
9 18	60.2 64.7	4.5	U. obs.	Bright images out of field
	239.6 244.6	5.0		
	609.1	9.5		
	152.27	2.37		

β Gem. examined. Several companions in about the position given -

Apr. 18, 1878

T Leonis

9 37	46.8		U. obs.
	75.8	29.0	
	229.1		
	257.5	28.4	
	609.2	57.4	
	152.~~35~~30	14.~~8~~35	
9 39	135.6		U. obs.
	168.2	32.6	
	316.1		
	349.1	33.0	
	969.0	65.6	
	242.25	16.40	
9 45	135.8		Solo
	163.9	28.1	
	321.0		
	343.7	22.7	
	964.4	50.8	
	241.10	12.70	
9 50	46.0		Solo
	79.7	33.7	
	225.0		
	261.2	36.2	
	611.9	69.9	
	152.97	17.47	

Apr. 18, 1878

α Gemin

10 5 149.2 Uobs
158.9 9.7
324.0
11.0
335.0
967.1 20.7
241.77 5.17

10 10 57.7 Uobs
66.2 8.5
236.6
10.0
246.6
607.1 18.5
151.77 4.62

Could not see companion to π Gemin.

23 h Urs. Maj.

10 46 55.5
65.6 10.1 Uobs
237.2 9.4
246.6
604.9 19.5
151.22 4.87

10 50 145.3 Uobs
10.0
155.3
325.4
11.4
336.8
962.8 21.4
240.70 5.35

Apr. 19. 1878

β Orionis 5, 3, 3.

7 30 133.7 6.0 U obs
139.7
314.4 6.5
320.9 clouds
908.7 12.5
227.17 3.12

7 38 44.0 5.6 U obs
49.6
224.4 6.4
230.8
548.8 12.0
137.20 3.00

δ Orionis

7 45 39.3. 16.2 U obs
55.5
217.3 18.0
235.3

547.4 34.2

136.85 8.55

7 49 128.9 16.9 U obs
145.8
310.4 14.1
324.5

909.6 31.0

227.40 7.75

Set upon 88 Tauri - clouds interfered just as begun to measure

Apr. 19. 1878

κ Puppis

8 23 93.7
183.2

Abandoned on account of clouds and because too low to measure on such a night –

Could not see companion to π Gem.

Apl 21st 1878. Opened Dome at 6.

7 30 β Orionis Robs 4.5.5

133.6
140.8 7.2

313.4
329.1 5.7

906.9 12.9
226.72 3.22

42.6
50.1 7.5 v poor definition 452

225.6 6.4
232.0

550.3 13.9
137.57 3.47

7 55 88 Tauri. Robs.

125.2 228 7.7.6 ~~76~~
148.0

304.3 22.1
326.4

903.9 44.9 Clouds.
225.97 11.22 743

8 03 34.1 23.0
57.1

214.9 25.4
240.3

546.4 48.4

136.60 12.10

Tauri Apr. 21, 1878

8 15 88 ‸ S obs.

297.7 ~~30.9~~ 31.1 (A above B)
60.8

214.0
25.9
239.9

Images very faint & diffuse, particularly in second set.

544.0 57.0
136.10 14.25
~~144.10~~

8 17 128.8 18.1 me S. obs. (A below B)
146.9
308.7 ~~14.5~~
323.2 14.7
323.4 323.7 for verification
907.8 32.8
226.95 8.20

τ Tauri R obs.

8 24 124.7
147.6 22.9
306.0
330.3 24.3
906.6 47.2
227.15 11.80 S obs.

8 27 121.3
148.7 27.6
305.4
331.0 25.6
906.6 53.2
226.65 13.30

Apr. 21, 1878

I Tauri

8 30	210.2	36.0	P. obs.
	246.2		
	31.3	32.3	
	63.6		
	551.3	68.3	
	137.82	17.07	S. obs.
8 33	29.9	33.5	
	63.4		
	211.0	30.7	
	241.9		
	546.2	64.4	
	136.55	16.10	

4 H. Cam.

8 40	41.4	13.2 ~~12.8~~	P. obs
	54.6		
	220.8	13.9	
	234.7		
	551.6	27.1	
	137.8x7	6.77	
	40.8		
	54.7		

Apr. 21, 1878

8 42	40.8		S obs. Changed focus
	54.7	13.9	A above & to the left of B
	221.9		
	236.3	14.4	
	553.7	28.3	
	138.42	7.07	
8 46	133.1		S. obs. A below & to the right of B
	145.7	12.6	
	309.6		
	323.0	13.4	
	911.4	26.0	
	227.85	6.50	
8 53	132.7		P. obs.
	144.3	11.6	
	311.1		
	324.6	13.5	
	912.7	25.1	
	228.17	6.27	
8 59	7 Cam.		
	132.0		P. obs.
	140.0	8.0	
	315.4		
	323.1	7.7	
	910.5	15.7	
	227.62	3.92	

Apr. 21, 1878

7 Cam.

9 2 45.2 6.3 P. obs.
51.5
224.5 7.8
232.3
553.5 14.1
138.37 3.52

9 04 S obs
449 6.1
51.0
224.0 7.5
231.5
551.4 13.6
137.85 3.40

S obs Almost invisible

9 11 134.0 4.8
138.8
312.0 10.0
322.0
906.8 14.8
226.70 3.70

Apr. 21, 1878

ε Geminorum

9 25 44.7 5.6 P. obs.
50.3

222.2 6.1
228.3

546.5 11.7

136.37 2.92

9 27 42.8 7.5 S obs ~~Be~~ A redder than B
50.3

221.0 8.2
229.2

543.3 15.7
135.82 3.92

9 31

133.7 7.4 P. obs.
141.1

312.6 6.0
318.6

906.0 12.4
226.~~66~~50 3.35

9 33 133.7 6.9 S obs
140.6

311.3 7.3
318.6

900.2 14.2

226.05 3.55

Apr. 21, 1878

π Gem.
9 44 43.8 P. obs.
51.5 7.7
223.0
231.7 8.7
550.0 16.4
137.50 4.10
9 47 132.0 P. obs.
139.4 7.4
314.3
323.2 8.9
908.9 1~~8~~6.3
227.22 4.~~5~~07

9 49 130.9 8.8 S obs
139.7
314.9 8.9
323.8
909.3 17.7
227.32 4.42
9 52 52.2 S obs
44.4 7.8
222.2
229.8 7.6
548.6 15.4
137.15 3.85

α Gem. A & C.

10 0 133.6 P. obs.
137.7 4.1
316.0
320.0 4.0
907.3 8.1
226.82 2.02

10 2 44.0 P. obs.
48.3 4.3
225.0
229.8 4.8
547.1 9.1
136.77 2.27

8,6,6 p
5,4,6 s

Apr. 24, 1878

ι Cancri P obs

8 6 68.6
31.9
36.7 Colors marked Y-blue
214.5
36.1
250.6
570.4 68.0
142.60 17.00

8 8 126.6 R obs. 288
31.9
158.5
307.6
31.9
339.5
932.2 63.8
233.05 15.95

8 15 128.1 U obs
33.9
162.0 scarcely visible
302.5
39.1
341.6
934.2 73.0
233.55 18.25

8 18 38.8
29.4
68.2
218.8
31.9
250.7
576.4 61.3
144.12 15.32

~~Apr. 24, 1878~~

τ Tauri

May 1, 1878

7 53 125.6 26.9 Sobs
152.5
306.7 27.2
333.9

918.7 54.1
229.67 ~~14.27~~ 13.52

7 55 33.9 30.4 Sobs
64.3
214.6 31.5
246.1

558.9 61.9
139.72 15.4~~8~~7

7 59 35.6 30.9 Nobs 35.0 66.6 31.5 15.75
66.5
214.3

34.3
35.6
69.9
34.95
66.5
101.45
50.72

clouds

κ Gem. barely seen - could not be measured

12 Can. Ven. examined - clouded as soon as found -

May 1, 1878

ζ Ursæ Maj:

9 40	108.3	53.0	S obs	26.8	- 1.1
	161.3			26.2	- 1.7
	286.2	58.5		28.9	+ 1.0
	344.7			29.6	+ 1.7
	900.5	111.5			5.5
	225.12	27.87			1.37
9 43	19.3	51.0	S obs	27.9	+ 2.5
	70.3			23.1	- 2.3
	204.2	50.8		23.0	- 2.4
	255.0			27.8	- 2.4
	548.8	101.8			9.6
	137.20	25.45			2.40
9 47	19.1	58.1	U obs	30.2	+ .4
	77.2			27.9	- 1.9
	199.9	61.1		29.4	- 4
	261.0			31.7	+ 1.9
	557.2	119.2			46
	139.30	29.80			1.15
9 54	110.9	54.7	U obs	26.7	- 5
	165.6			28.0	+ 8
	289.9	54.3		27.7	+ 5
	344.2			26.6	- 6
	910.6	109.0			24
	227.65	27.25			.60

23 h Ursæ Maj.

10 8 133.2

141.6 8.4 P obs

311.9 9.8

321.7

908.4 18.2

227.10 4.55

10 10 41.8 P obs.

50.8 9.0

221.5

232.8 11.3

546.9 20.3

136.72 5.07

~~10 13~~ Clouds ~~W obs.~~

K Puppis May 2, 1878

Pols

7 30 ~~42~~ 1.5 < 320° image disappears

95.7 94.2

87.5 183.2 92.6

85.7 275.8

173.2 556.2

43.30 139.05

92.3 < 320 disappears 95.2

187.5 95.2

84.6 272.1

~~97.5~~ 87.5 1 4.8 92.7 92.7

172.1 556.7

43.02 139.17

7 36 95.0 ~~320~~ < ~~140~~ dis. u ds

84.8 179.8 97.6 < 140° ds

277.4

79.4 358.8 98.2

164.2 909.0

41.05 227.25

7 38 91.8 92.9 u ds. Ue ds.

184.7

89.1 273.8

85.5 6.3 92.5

174.6 556.6

43.65 139.16

β Orionis examined - very low and no comp. seen

May 2, 1878

88 Tauri Dec. +9 54

7 45 Unobs

Cld Over.

ε Tauri Dec +22 42

7 52 U obs

34.2 26.2
60.4

215.4 26.8
242.2

552.2 53.0
138.05 13.25

7 55 120.6 30.6 U obs
151.2

301.9 29.8
331.7

905.4 60.4

226.35 15.10

May 2, 1878

11 Monoc. −6 56

8 1 8.5 ← Br. comp 300 disappears P obs

93.3 84.8

197.4 75.2 Seeing good 787

272.6

571.8 160.0

142.95 40.00

8 4 96.8 ← Br. comp 300 disappears P obs

186.3 89.5

276.2 85.1 . Seeing poor ~~787~~ 755

1.3

560.6 174.6

140.15 43.65

μ Can. Maj.

8 12 119.4 48.6 P. obs. difficult

168.0

300.7 43.9

344.6

932.7 92.5

233.17 23.12

~~[illegible]~~

8 15 31.3 41.1 P. obs.

72.4

211.2 38.6

249.8

564.7 79.7

141.17 19.92

May 2, 1878

μ Can Maj. Continued

8 20 — S.bs

73.7 38.7
35.0

209.0 40.7
249.7

567.4 79.4
141.85 19.85

Could not see companion afterwards.

8 36 2 Camel. S. ds.

44.8 ~~12.9~~
57.9 13.1
223.8 17.0
240.8

567.3 30.1
141.82 7.52

8 39

133.3 15.7
149.0

313.9 18.1
332.0

928.2 33.8

232.05 8.45

~~130.6~~

Reversed images

May 2, 1878

32 Camel.

130.6
151.3 20.7 Pob
311.1
333.1 22.0

926.1 42.7

231.52 10.67

8 53 43.0 P. obs. Reversed images.
58.4 15.4 Companion more easily
225.7 seen.
250.1 24.4 P. begins regularly to reverse
images on changing diagonal.

577.2 39.8

144.30 9.95

8 57 46.3 U. obs.
60.5 14.2

224.0
237.8 13.8

568.6 28.0 Seeing good

142.15 7.00 7 7 5

9 3 135.2 U. obs. Images not reversed.
149.5 14.3

314.4
330.8 16.4

929.9 30.7

232.47 7.67

β Crateris not divided – definition quite poor

May 2, 1878

δ Boöti

9 20	43.8		Pob
	54.1	10.3	
	224.2	10.0	
	234.2		
	556.3	20.3	
	139.07	5.07	
9 22	135.6		
	144.8	9.2	
	312.8	9.5	
	322.3		
	915.5	18.7	
	228.87	4.67	
9 26	135.8		Sob
	143.0	7.2	
	315.9	6.6	
	322.5		
	917.2	13.8	
	229.30	3.45	
9 28	44.2		Sob
	54.7	10.5	
	223.0	12.1	
	235.1		
	557.0	22.6	
	139.25	5.65	

Looked for 7 Cam.; not seen or not seen double.

May 2, 1878

19 H. Cam.

9 45 37.2 20.6 P. obs.
57.8
220.8
239.6 18.8

555.4 39.4
138.85 9.85

9 47 128.6 18.5 P. obs.
147.1
308.6
326.4 17.8

910.7 36.3
227.67 9.07

9 50 128.3 U. obs.
146.5 18.2
307.3
327.8 20.5

909.9 38.7
227.47 9.67

9 52 37.1 20.0 U. obs.
57.1
216.5
238.8 22.3

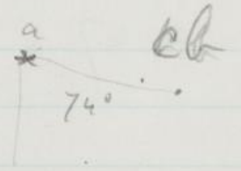
549.5 42.3
137.37 10.57

May 3 1878

8 5 κ Geminorum - comp. just seen - not measurable - Partly cloudy

π Gem. comp. not seen

	b	c
β Geminorum	4.5	3.0
	270"	180"



37 20 +183 04 for circle rdt.
37
220 24

8 37 19 H. Camel.
127.6 P. olo
149.6 22.0
304.8
325.9 21.1
907.9 43.1
226.97 10.77

8 40 39.0 Polo
59.8 20.8
217.9
236.9 19.0
553.6 39.8
138.40 9.95

May 3, 1878

8 45 19 Cam (centre) U ds.

38.0 216
59.6
207.0 217
238.7 42.3
553.3
138.32 10.82

9 47 127.8 22.2
150.0
305.3 22.7
328.0

911.1 44.9
227.77 11.22

9 04 U dist ~~te~~ 32 Camel.

6.0 ~~fainter, top~~ 88.0 ~~180°~~
94.0 fainter. left 338°

~~340°~~ disk large
seeing poor

183.5 85.0
268.5
552.0 173.0
138.00 43.25

9 11 101.9 78.7 Definition Pole star just
180.6 improved, visible to naked eye.
279.3 73.0
352.3
914.1 151.7
228.52 37.92

May 3, 1878

32 Cam. centre Polo

9 13 100.9 ~~Faint~~ ~~Comp 170 disappear~~
172.3 ^ <170 disappear Apparent prec. any 170
285.3 71.4
354.8 69.5

913.3 140.9
228.32 35.22

9 15 83.3 fainter disappear Polo
191.2
262.0 70.8
10.4 72.9

546.9 143.7
136.72 35.92

May 3, 1878

38 Lyncis

9 26 24.9 53.9 P obs
78.8 faint comp reddish
204.2 52.9
257.1

565.0 106.8
141.25 26.~~45~~70

9 28 116.3 47.5 P obs Seeing good 6.8.7
163.8
298.8 44.2
343.0

921.9 91.7
230.47 22.92

9 34 120.5 46.9 U obs
167.4

298.6 50.3 Seeing poor. images blotty -
348.9

935.4 97.2
233.85 24.30

9 41 29.8 46.8
76.6

210.3 43.2
253.5

570.2 90.0
142.55 22.50

May 3, 1878

ξ Ursae Majoris

U obs

9 50 0.2
105.6
181.3 75.7
285.5 74.7
572.6 150.4
143.15 37.60

9 52 U ds

104.4 73.8
178.2
280.4 81.9
362.3
925.3 155.7
231.32 38.92

P obs
fainter disapp. ~~60~~° 240°

9 59 357.7
101.3 77.4
178.7
283.2 74.5
920.9 151.9
230.22 37.97

10 4 3.6
101.3 88.8
190.1
280.8 82.8
5~~7~~75.8 171.6
14~~6.45~~3.95 42.90

Seeing poor

v Ursae looked at or not measurable.

Chronom Bond 4.40 Tact 4.4.30. corrected

May 6 1878 West Equatorial

	m	s	
10	29	19½	1st contact E.C.P. obs
10	32	10½	2nd Contact.

faint line of light seen

1st Contact

2nd Contact ○

1st Computed. 10 28 55.7
29 19.5
23.8 after contact.

2d. 32 2.7
10.5
7.8 after 2nd contact.

3rd Contact.

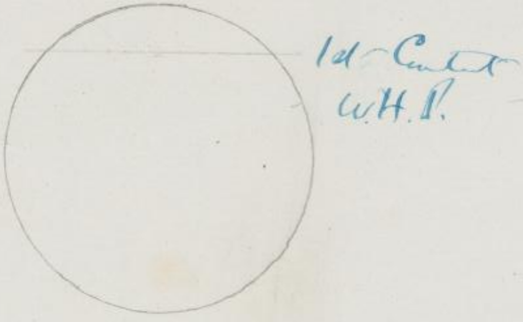
6h -1, 9½ = 5 59 9.5 Merc. emerges from
Cloud cusp = ⅔ diam

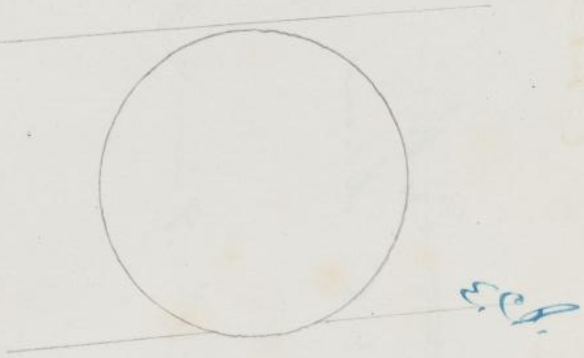
6-0-50 enters cloud
interval cusps .6 diam

4th Contact

6-1-22 interval cusps .3 diam
6-1-26½ cusps not seen

6-3-45 Merc. looked for, but not seen


1st Contact
W.H.P.


E.C.P.

~~A.G. G.B.C.~~

A.G.C. observed 1st contact at 10 28 53.5 − 9
2d " " 31 33 − 9

Watch 9 seconds fast.

W. H. Pickering. Chronometer. Bond. 332 Slow 4 3.0

1st 10h 21.1m   Interval 1st & 2d } 3m 7s
2d.   3d & 4th }
3d.
4th. 9h 56.7m

21 45 1st – 1/6 way on
24 5 – just – touched }
24 16 saw light – ? } 2nd
24 31 saw light – clearly }

Corrected Time   C – O
26 15   25 33.1   – 41.9
28 35
28 46   – 5.9
29 01

W. H. P. obs. ~~E. C. P.~~ J. F. McC. records

h m s
9 53 22 midway (?) ~~half way off the sun~~ (a)
55 24 4th contact (??) (b)

Three times observed only two noted.
1st ~~halfway~~. internal contact (?)
~~2d. internal~~
2nd halfway.
3d. last contact, only doubtful.
(b) certainly 4th contact
(a) probably 3d contact.

	E.C.P.	W.H.P.	G.G.C
alat	23.8	41.9	33.1
ntact	7.8	5.9	5.6