1888phae..proj..1324S

KG
11366
v.32/b

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1888phae.proj.15245

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1888phae.proj.1324S

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1888phae.proj.1324S

Jan. 21, 1888

Region of Juno (3) S. obs.

2 11.5 −1.37

2 12 −1 27

2 10 −1 37

Juno? and DM. −1° 311

Stopwatch

6 30 10.0 Planet follows star 3.s1, 6' south. Scale 3.90

13.1 3.44

16.2 .46

12.8

3 58

5 12

5 87 8

DM. +5° 457 and +4° 508 identified and selected as new comparison stars for Juno.

Stopwatch

7 9 16.2

21.1

26.5

31.8 Juno now follows DM. −1° 311 5.s2

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1888phae.proj.1324S

2

Jan. 21. 1888.

Juno and Comp. Stars. Yr. obs.

2 12 −1.4 3−3√=7 28

7 20

3. 3√

+1 23

+1 32 −4

3 4√

+2 13

7 37 −√ 309 √.7α √.4√ 5.80 −2 3.48'

5.9√ √.90 5 5 5.87'

10

5.87 28 7.63'

Juno (3) 3.46 3.9√ 3.80 −6 3.60'

3.7α 4.01 10 −2 3.90'

3.90 15

21

40 105.07'

−4° 269 4.30 4.66 4.30 28

4.√α 4.√α 23 36 2.12

28 4.53

4.53 1923

−√ 304 3.9√ 4.10 4.00 −5 .589

4.06 4.16 6 16 4.27'

4.27 4.06 16 4.07'

276

5.28

Juno (3) 3.66 3.9α 3.60 6 3.51'

3.4√ 4.02 28 5 3.88'

3.51 3.88 38

11127

−√ 306 3.46 3.7√ 3.80 6 5.04'

8 40 4.0√ 3.7α 5 25 3.41'

3.85 −8 3.85'

3.41 21

5.00'

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1888phae.proj.1324S

Jan. 21, 1888

Region of Alcmene (82) Sidereal.

Stopwatch Scale

31.8 Alcmene follows star b } 3.97
50.0 18.s2, same δ } 3.97
68.1

9 35

68.1 Alcmene precedes star n } 4.00
72.0 3.s8, 0'.4 south. } 3.97
75.8 103

.384

DM, +24° 629

4.20 4.09 4.00 20
4.10 3.80 10
4.19 4.09 4.08 9
6.47 4.10 -20
5.30 9.5

Alcmene (82)

2.19 2.10 -2
2.19 2.18 2.20 -10
2.20 2.30 -12
1.16 2.19 -10
2.85 -4

a

2.00 2.56 2.00 34
2.14 2.51 29 109
1.74 2.20 2.31 2.29 3
2.98 1174|29

b (this comparison star, not the star near Alcmene)

1.70 1.92 1.50 20
1.69 1.68 26 32
1.54 1.82 1.73 1.76 42
2.29 154|25+

Alcmene (82)

2.20 2.22 2.20 9
2.29 2.07 2
2.14 2.13 2.19 22 2 13
1.35 2.89 15
2

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1888phae.proj.1324S

Jan. 21, 1886.

DM. +24° 626

3.88	3.70	3.70	18	
3.77	3.80	14	35	
3.95	3.93	3.84	23	
5.03		4.99	13	

11 2

Stopwatch

10.0 Alcmena now follows star b
29.0 19.0
48.1

10.0 Alcmena precedes star a
13.0 3.0
15.9

Moonlight rather strong.

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1888phae.proj.1324S

Jan. 22, 1888

Region of Juno (3) S. obs.

Stephanie

10.0 Juno fol. DM. -1° 314
27.1 17ˢ.0, 0.1 south
44.0

6 35

44.0 Juno prec. DM. -1° 316
72.9 29ˢ, 6'.1 south.

Scale
4.84
4.41
4.40
.48
12.6
512
1024
6141
4.13

DM. +5° 4157 3.50 3.85 4.13
3.40 4.01 3.69
3.57 3.80

147 -19
266 -29
413 -12
3.69 +16
+32
+11

3.50 -10 (4.13^ 3.69^)
3.40 +7
3.57 +19
3.60 3.55
3.69 +30
3.51
3.69 6|6 113
+10 19

Juno (3) 4.01 3.90 4.80^
3.79 3.91
4.12 4.00

292 +5
281 -17
573 +16
3.96 -6
-5
+4

3.90 11 (5.72^ 3.96^)
-11
22
10
3.96 6|33
5.15^ 5+

SD -5° 309 5.18 5.31
5.10 5.52
5.40 5.08

68 -8
91 -16
159 +14
5.26 +5
+26
-18

5.20 -12 (1.59^ 5.26^)
20
11
5.26 32
-12
6.84^ 6|39
6

SD -5° 304 4.20 4.00
3.90 3.80
4.18 4.15

28 +16
5 -14
23 +14
4.04 -4
-24
+11

4.00 20 (6.23^ 4.04^)
4.04 -10
4
4.04 -20
15
5.25^ 6|23
3+

Juno (3) 3.90 3.88
3.79 4.00
3.96 3.81

265 +1
269 -10
534 +7
3.89 +11
-8

3.80 9 (5.34^ 3.89^)
9 18
28
9 2|54
3.89 6|54
5.06^

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1888phae.proj.1324S

DM. +4° Jan. 22, 1888

508

226 +17
225 −13
451 + 3
3,75 + 3
− 4

3,92 3,83 3,70 22 4.52
3,62 3,72 5 −8 3.75
3,72 3,71 3,75 15 3
4.52 32
5

Stopwatch 22.2 4.88
10,0 Juno arou Follows
33,0 DM. −1° 314 23s
55,6

55,8 Juno precedes
77,8 DM. −1° 316 22s.

DM. Zone +29°. Series 14.

10 27 '672

4,50 4.27 23
4.27 .16 2 3
4,52 4.43 3 148 6

5.76

680 { n/p stars 2,68 2.68 6
2,74 .9 20
2,86 2.77 3 126 8 2/3

3.60

s/p stars 2,70 2.50 20
2,70 .13 20
2,50 2.63 3 140 13

3.42

688 3,31 3.31 19
3,50 .15 27
3,58 3.46 3 76 15

4.50

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1888phae.proj:1324S

Jan. 22, 1886

694
2.90
2.97
3.10
2.90 (6) 2.96 · 7, 10, 3|17, 5⅔, 3
3.85

695 (of 2)
3.00
3.00
3.11
3.00 (4) 3.04 · 3|11, 3⅔
3.95

696 (of 2)
2.80
2.70
2.70
2.70 (3) 2.73 · 3|10, 3
3.55

698
3.28
3.52
3.50
3.28 (15) 3.43 · 24, 9, 3|46, 15
4.46

700
3.95
3.90
4.00
3.90 (5) 3.95 · 5, 10, 3|15, 5
5.14

707 (has a small companion foll.)
3.11
3.45
3.11
3.11 (11) 3.22 · 3|34, 11
4.19

715
3.56
3.69
3.70
3.56 (9) 3.65 · 13, 4, 3|27, 9
4.74

720
3.30
3.40
3.40
3.30 (5) 3.37 · 10, 10, 3|30, 5⅔
4.38

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1888phae.proj.1324S

Jan. 22, 1886.

722 not in place

Stopwatch	Scale
10.0	4.11
70.8	3.90
131.1	.21
	12.8
	256
	2688

There is a star $60^s.5$ preceding DM. +30° 695, 2'.7 south. This has another preceding it about 6^s, 2' south. The first would be at $4^h 27^m 4^s$ +30° @ 3.6. This is the nearest object to the place of +29° 722.

Star described above 2.00

722 (2)

2.00	2.00	23
2.23	.15	23
2.23	2.15	3|46 15

2.80

732

2.56	2.30	20
2.50	.15	26
2.30	2.45	3|46 15

3.18

754

3.02	2.87	13
2.87	9	16
3.00	2.96	3|38 28 2 9

2.89
2.96

765

292		3.85
3.00	2.81	11
2.81	.10	19
	2.91	3|30 10

3.78

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1888phae.proj.1324S

Jan. 22, 1886.

766

3,30
3,20
3,40

3,20
.10
3,30

20
10
3130
10

4:29"

11 53 769

2,55
2,41
2,70

2,41
.14
2,55

14
29
3143
14

3.82"

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1888phae.proj.1324S

9

Jan. 24, 1888

Regina 4 Trans (3) S. obs.

Chro. abd Diff. — 1° 321

Stopwatch

Scales.

2.54
1.80
.74
12.8
592
888
9.472

@6 53 Planet & star in same α
planet 9'.5 south of star.

7 8 10,0 Planet now follows star 1s
11,0
12,0

Diff. Tim +9°

1 46 +9.9

3 55

+2 9

Gr. obs.

3 45=7 15

Series 15.

23s. 4.81 4.81 26
.07 .21 35
5.16 5.01 3161
20 2/3

6.51

7 43

247 3.42 3.63 19
3.79 .12 16
3.63 3.75 3135
.7 11 2/3

11.24
4.847

8
4.48

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1888phae.proj.1324S

Jan. 24. 1888.

2V1

2.97
2.69
2.76

2.69
.12
2.81

28
9
3|37
12

8.44
3.65

8.65

2V3

4.31
4.14
4.40

4.14
.14
4.28

14
26
3|43
14

5.56

2V6

2.22
2.48
2.49

2.22
18
2.40

26
27
3|53
17 2/3

2δ2

2.8V
2.90
2.9V

2.85
4
2.89

5
7
3|12
4

8.12
3.76

27V

3.37
3.V0
3.60

3.37
12
3.49

13
23
3|36
12

4.54

276

2.30
2.30
2.19

2.19
4
2.26

11
11
3|22
7

2.94

2δ6

2.40
2.1V
2.40

2.15
17
2.32

25
25
3|50
16 2/3

6.95
3.01

3.02

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1888phae.proj.1324S

Jan. 24, 1888.

2AA
2.60
2.60
2.59

2.59 + 1 = 2.60 ·

3 | 12 — 1, 1, 2/3

3.38 ·

303
2.70
2.42
2.57

2.57 + .14 = 2.71 ·

3 | 41 — 13, 28, 13⅔

8.12
3.52

3.52 ·

304
3.74
3.43
3.67

3.67 + 8 = 3.75 ·

3 | 23 — 16, 7, 7⅔

4.88 ·

305
4.44
4.41
4.45

4.41 + 3 = 4.44 ·

3 | 10 — 6, 4, 3

5.77 ·

30A
2.26
2.26
2.76

2.40
2.60
2.74

6.99
3.03

309
2.03
2.02
1.97

(Arrange diff.)

2.40
2.60
2.74

2.40 + .19 = 2.59 ·

3 | 56 — 22, 34, 18⅔

3.87 ·

3.19
3.30
3.19

3.19 + ~~.14~~ = ~~3.26~~ 3.23

3 | ~~22~~ 11 — ~~11~~, 7, ~~4~~

9.68
4.19

4.20 ·

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1888phae.proj.1324S

Jan. 24, 1888.

316
6.15
6,21 6.15 6
6 30 4 15
6.22 · 3|21
7

8.09

314
4,35
4,30 4.10 25
4,10 15 20
4.25 · 3|45
15

5.52

319
4.54
4,64 4.54 14
.18 39
4.93 4.72 3|53
17 2/3

6.14

321
4,97
4,24 4.84 3
4 5 13
4.88 3|46
4.89 4 5
4,47

6.36

322
3,72
3,73 3.72 1
12 36
4.14 3.84 3|37
12

4.99

9

Dk. zone +9° S.obs. Series 16.

925 342
3,71
3,47 3.47 24
12 11
3,59 · 3|32
17 2/3

4.67

345
3.00
2,78 2.78 22
11 12
2,90 2.89 3|34
11

3.76

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1888phae.proj.1324S

Jan. 24, 1888

351
2.18
2.20
2.28
2.18 2 4 2.22 10 3|12 4

2.89

353
5.07
5.11/6
5.19
5.07 9 4 12 5.14 3|12 7

6.68

358
2.67
2.89
2.67
2.67 3|2 7 2.74

3.56

363
3.48
3.49
3.30
3.30 18 12 19 3.42 3|7 12

4.45

372
2.48
2.40
2.52
2.40 8 4 12 2.47 3|20 6 2 3

8.21

373
4.78
4.93
4.99
4.78 15 12 21 4.90 3|36 12

6.37

380
3.58
3.69
3.60
3.58 11 4 2 3.62 3|13 4

4.71

381
4.02
4.19
4.00
4.00 2 4 19 4.04 3|12 4

5.29

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1888phae.proj.1324S

9

Jan. 24, 1888

385

4,10 4,14 6
4,04 ,10 2 3
4,29 4,14 3|37
10

5.38

398

3,62 3,62 13
3,75 10 18
3,80 3,72 3|31
10

4.84

400
(star nearest
Dbl. place)

1,36 1,36 5
1,41 10 25
1,61 1,46 3|30
10

1.90

A brighter star following 398 about 20 same S'

2,78
2,71 2,60 18
10 11
2,70 3|29
9 2/3

3.51

404

3,12 2,95 17
3,04 9 9
2,95 3,04 3|26
8 2/3

3.95

415

3,97 3,97 15
4,12 11 18
4,15 4,08 3|33
11

5.30

416

2,30 2,30 22
2,52 ,10 11
2,41 2,40 3|33
10

3.13

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1888phae.proj.1324S

Jan. 24, 1888

430
1.78
2.01
2.09
1.78 +18 +.89 = 1.96
~~3 23~~ 21 ~~31~~ 31 54 +18
1.96 1.13 588 196 2.548

433
2.72
2.84
2.87
2.72 9 2.81
12 15 3|27 9
2.81 1.13 843 281 3.653
8.43 3.65

441
2.22
2.00
2.08
s/p of 2 stars about 20" apart
2.00 .10 2.10
22 8 3|30 10
2.1 1.3 63 21 2.73

10 48
447
4.22
4.31
4.27
4.22 5 4.27
9 5 3|14 4⅔
4.27 1.3 1281 427 5.551

Region Hellmann (82) 1.0 to 1.5
Too much moonlight to look for the planet with advantage.

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1888phae.proj.1324S

Jan. 27, 1888

Beginning of June (3) S.obs.

6 20 Stopwatch
10.0
19.8
29.1

June ? prec, a small star 9.5 about same S

6 30 DM. +4° 508.

91
157
248
3.62

2.48

3.41 3.71 3.50 9 21 36 48
3.50 3.86 12 12 3.62 4.71

June (3)

152
189
341
3.85

3.40

3.80 3.91 3.70 12 21 28 16 15
3.72 3.98 15 3.85 5.00

SD −4° 269

42
135
177
4.44

1.77

4.19 4.70 4.20 2 50 45 24 97 24
4.23 4.65 4.44 5.77

SD −5° 306

115
142
257
3.64

1.57

3.54 3.72 3.50 15 42 14 4.57 1.4
3.61 3.70 3.64 4.78

June (3)

120
191
311
3.78

3.11

3.60 3.98 3.60 38 33 5.71 18+
3.60 3.93 3.78 4.91

DM. +5° 457

189
200
389
3.97

2.89

3.91 3.98 3.90 9 20 42.9 7
3.98 4.02 3.97 5.16

Stopwatch

7 30 10.0
15.0
20.0

June now precedes the small star mentioned above 5.0, a little north.

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1888phae.proj.1324S

Jan. 27, 1888

Ephem of Nemesis (82) Lobs.

3 57.8 | 23 51
45.3
3 58.1 | 23 51
2 | 6
3 56 | 23 45

D.M. +23° 609
3 55.7 | 23 43

Stopwatch

10.0 Star called a follows D.M. +23° 609 32°.5, 3'.8 north
43.0
75.0
3 55 41.7 | 42.6
3 56 14.2 | +23° 46'.4

Scale
3.96
3.66
.30
12.8
3.84

This seems the nearest star to the predicted place of the planet.

10 3

10.0 Star called b
97.1 precedes a
21.8 7°.5, 4'.6 north.

Scale
4.30
3.94
.36
12.8
3.84
2.6
4.608

24.8 Star called c
34.0 follows a
43.0 9°.1, 5'.8 south.

3.94
3.49
.45
12.8
640
512
5.760

43.0 Star called d
75.7 follows a
108.0 32°.5, 0'.9 south.

3.93
3.86
.07
12.8
.896

All these stars are faint in the moonlight.

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1888phae.proj.1324S

Jan. 27, 1888

DM Zone 1 +19° 1.5 lbs.

10 45

670	4.04	3.80	24
	3.80	8	8
	3.80	3.88.	
678	1.74	1.80	-6
	1.80	2	13
	1.93	1.82.	4
			2
680	2.48		-2
	2.68	2.50	18
	2.72	173	22
		2.623	38
			12
			3

Series discontinued; moonlight too strong for good observation of the fainter stars.

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1888phae.proj.1324S

Jan. 24. 1888.

Obs. of occultations at Lunar Eclipses
H. Obs.

Zero of position 131,5

194 not seen
138 " "
142 " "
197 " "
207 " "
210 " "
144 " "
148 " "
201 " "
209 " "
155 " "
157 " "
196 " "

Moon in clouds

150 not seen
152 " "
156 " "
153 " "
212 " "
223 clouds conceal limb of Moon
224 " " " "
216 " " " "
225 " " " "
221 " " " "
172 not seen
166 " "

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1888phae.proj.13245

Jan. 28, 1888.

164	5	42	35.0	−1.5 by estimate.
165			not seen till 5h 44.5; very faint.	
190			not seen	
236			5 49 49.2	
237			not seen	
181			" "	
226			" "	
180			5 52 43.0; well seen, but faint.	
242			suspected	
194			not seen	
247			6 2 24.4	
201			6 7 50.7	
197			not seen	
255			not seen	
244			" "	
208			6 13 9.0	
259			6 15 18.0	suspected
207			6 19 22.0	
218			not seen	
209			6 20 12.1	suspected −1°
216			6 20 23.2	confirmed
212			not seen	
263			" "	
260			" "	
265			" "	
266			6 22 33.0	
226			not seen	
221			6 25 24.8	
216			not seen	

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1888phae.proj.1324S

Jan. 28 1888

269	not seen			
	6	26	59.2	
264	not seen			
249				
247	"	"		
274	"	"		
251	"	"		
271	6	31	5.9	
223	6	32	38.0	
225	6	33	56.0	
251	omitted; same time as 276			
276	6	39	~~20.0~~ 25.0	
273	not seen			
237	"	"		
236	6	44	36.0	
248	6	47	19.8	suspected
242	not seen till $6^h 49.^m4$			
287	6	56	18.2	suspected only
275	not seen			
282	omitted; same time as 286			
286	not seen			
247	7	0	52.2	
290	not seen			
255	7	4	2.0	not confirmed
281	not seen			
293	7	7	55.1	Suspected only
273	not seen			
264	7	9	9.6	
275	not seen			
289	"	"		
254	"	"		
289	"	"		

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1888phae.proj.1324S

Jan. 28, 1888

263 Not seen

260 " "

Times recorded on the supposition that the entire second beat is that at which the hand stands before the second mark.

B. + C. 11 h 2.			Bal. 103.		
7	27	53.4	7	28	00
	28	53.7		29	00

B + C. was 2.0 slow of Balloon 103 at 4h 40m

Region of Alcmene (82)

Seeing too bad for faint stars; stars C and d thought to be recognized; see page 18.

Stopwatch

10.0

75.1

1'40.0

Star supposed to be d follows Dkl. +23° 609 65s.0, about 2'.5 north. This agrees with place given on page 18. There is a star near d, north preceding, not mentioned on page 18.

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Jan. 28, 1888.

10 4

Sth/watch
10.0 The star above mentioned
14.0 precedes d 4ˢ.0, about 1'.5 north.
18.0

10.0 A star follows Dll. +23° 609
33.5 2 4ˢ, 9' north. If this
57.7 is b of page 18, it may
be supposed that a is (82)
and is the star near d tonight.

These observations made with square bar micrometer used for previous observation of occultations.

Images very variable in brightness from badness of seeing. Observations with wedge photometer thought to be inexpedient. Many thin clouds visible in many parts of the sky.

Remarks in connection with the previous occultations.

On account of the low altitude, clouds and somewhat bad atmospheric conditions, due to cold and proximity to horizon, it was quite impossible to do anything with the fainter stars on the list of occultations, as, if they were visible at all, they became invisible when near

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Jan. 24, 1888.

the limb of the moon. A few of the faintest stars were brought to be seen at occultation, being marked "susp." if not absolutely certain.

The observations on all the other stars were considered fully satisfactory. Yr.

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Jan. 29, 1888.

B 2206 F. 1327

2 26 18.2 2 28 0.0
27 18.1 29 0.0

Bar micrometer S. obs.

Zero 130.5
45.
Setting 175.5

DM. +51° 54, 58, 62
62 in southern, others in northern half
Order; 54, 54, 58, 58, 62, 62

3 31 43.8 50.6 3 39 26.6
31 57.5 39 40.5
32 1.0 25.9 39 44.5
32 50.8 40 34.1
33 25.7 37.1 41 8.8
33 48.5 41 31.9

3 36 ~~23.3~~ 3 42 4.1
56.7 42 16.8
37 10.2 42 21.7
37 14.1 43 10.9
38 3.9 43 46.6
38 38.6 44 9.1
39 1.2

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1888phae.proj.1324S

Jan 29, 1888

3 44 40.6
44 53.5
44 58.0
45 47.5
46 22.4
46 45.3

Dll. +54° ~~Dec~~ 69, 71, 82, 87.
71 in south half, others in north.
Order; 69, 71, 71, 69, 82, 87, 82, 87.
87 is double distance about ½" components equal, position 85° and 265°; mean observed.

6 20 9.8
20 38.2
21 10.0
21 24.8
22 2.6
22 52.1
22 57.8
23 9.1

6 24 14.9
24 43.1
25 14.5
25 29.2
26 7.9
26 ~~5~~ 41.7
27 2.4
27 13.3

6 28 33.1
29 6.3
29 32.1
29 53.0
30 25.7
31 4.5
31 26.2
31 38.0

6 32 3.8
32 36.7
33 3.1
33 23.2
33 56.5
34 45.3
34 57.2
35 6.1

6 35 45.3
36 17.6
36 44.2
37 4.3
37 37.7
38 26.6
38 38.0
38 49.6

24.8
~~24.8~~ ~~23.4~~
30.9 6.1
7.8 @1 36.4
38.1 2 7.2
Clouds becoming too thick to continue

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1888phae.proj.1324S

Jan. 29, 1888

B 236

7	12	13,8
	13	13,8

F. 1327

7	14	0.0
	15	0.0

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1888phae.proj.1324S

Jan. 30, 1888

B 236 F, 1327

2 50 7.4 2 52 0.0
51 7.4 53 0.0

Bar micrometer. S. obs.
Position unchanged. Stars traverse diagonal.
D M. +51° 109, 110, 113;
109 in northern, others in southern half.
Order; 109, 110, 109, 113, 110, 113

3 38 31.7 3 41 11,9 3 43 51.1
38 50,8 29,8 44 9.3
39 5.5 45.0 24.0
39 27.3 42 7.0 46,5
39 47.3 27.0 45 7.0
40 32,4 43 13,9 53,9

3 46 13.7 3 48 44.1 0.4
31.6 49 2.0 31.0
47.1 16,8
47 8,5 39.2 73,2
29.2 50 0.0
48 16.4 47.1

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Jan. 30, 1888

DM. +54° 173, 177, 178

All in southern half

Order; 173, 173, 176, 177, 177, 178

3 9 16.2
28.0
33.5
39.1
10 28.2
48.1

3 11 31.2
42.8
48.5
54.0
12 43.5
13 3.3

3 13 35.7
47.1
53.0
58.6
14 48.0
15 8.0

3 15 26.0
37.3
43.0
48.6
16 38.1
58.4

3 17 37.2
49.6
54.8
18 0.3
49.7
19 16.0

43.4
92.4 49.0
85.0 41.6

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1888phae.proj.1324S

Jan. 30. 1888.

0 K9 +V2,V K 3=7 1V

K 33

+3 KK

K 3K

K V

0 29

K 36

0 K9

+3 K7

W. obs.

Dm. +V2° 201 and 202 (no other star available in addition.)

K V1 7.0 (201)
28.K (202)
VK,K (202)
V2 V.V (201)
} South half.

V3 6,0
27.3
V3.K
VK 4.V

Clouds.

Stopped by clouds.

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1888phae.proj.1324S

Jan. 30, 1888

B 236 F. 1327

6 14 5.2 6 16 | 0.0

15 5.2 17 0.0

/

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1888phae.proj.1324S

Jan. 31. 1888.

0 49 +5 2,5
5 49
+5 0
6 4
0 49
+5 1 5

+5 2° 201 and 202 Mr. 66.

6h 14 40,7 (201)
15 10,1 (202)
45,0 (202)
5 6,0 (201)
} South half.

16 40,0
17 0.4
36,2
47,1

18 20,2
41,6
19 16,9
27,8

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1888phae.proj.1324S

Jan. 31. 1888.

6 20 12.0
32.9
21 0.6
19.6

22 22.6
44.0
23 19.7
30.9

25 41.3
3.0

26 30.9
52.2
24.0
39.2

B 236
6 37 59.3
38 54.3

7.1327
6 40 0.0
41 0.0

Bar micrometer. S. obs.
DM. +54° 183, 184, 191: all in south half
Ordn. 183, 184, 184, 183, 191, 191

7 5 15.8 28.4
20.5 28.6
37.2
41.1
6 16.5
7 24.1 0.3

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1888phae.proj.1324S

Jan. 31, 1888

7	10	42.6	55.5	7	14	36.6	49.9	
		47.1	55.8			41.1	50.4	
	11	4.5				59.6		
		8.4			15	3.2		
		43.6	87.6			37.8	82.2	
	13	11.6			17	6.5		
7	18	1.9	15.6	7	21	26.5	40.4	
		6.6	16.2			31.3	40.8	
		25.9				50.4		
		29.3				54.2		
	19	3.3	48.0		22	27.8	72.2	
	20	32.8			23	56.5		
7	26	6.0	20.1					
		10.3	20.2					
		30.0						
		34.2						
	27	6.9	52.0					
	28	37.1						

last time doubtful, as chronometer did not agree with count; reject.

Region of Hesperus (82).

10.0	10.0	Star d (see page 23) recognized; it now has no star n/p.
23.6		
37.0	76.0	

~~37.0~~ 10.0
40.9
70.4

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1888phae.proj.1324S

Jan. 31, 1888

There is a star following
DM. +23° 619 3°, 6' north, which may
be (82). Call this a.

11 20 Another bright star follows DM. +23° 619
23°, 9.5 north. Call this b.

B 236		F. 1327	
8	26 56.0	8	29 0.0
	27 56.0		30 0.0

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1888phae.proj.1324S

Feb. 1, 1888.

Region of Hermene (82). 5 obs.

Star 7a of last night (p. 36) is not in place, and was apparently (82).

9 10 Stopwatch 10.0 47.2 84.8

There is a star following DM. +23° 619 37.5 4, about 7' North, which is probably (82).

9 35 DM. +24° 626 4.71 ^

	3.80	3.62	3.60	2 4
	3.64	3.44	3.62 ^	11 0

Hermene (82) 2.68 ^

2.50	1.99	2.16	2.00	15
	2.00	2.10	2.06 ^	10 25

b 2.68 ^

1.25	2.10	2.22	2.00	2 22
	2.00	1.92	2.06 ^	24

c 1.92 ^

	1.40	1.50	1.40	28
	1.56	1.42	1.48 ^	30

Hermene (82) 2.78 ^

	2.22	2.20	2.10	22 12
	2.10	2.05	2.14 ^	17

DM. +24° 629 5.36 ^

	3.90	4.20	4.00	1 20
	4.09	4.30	4.12 ^	38

In second series, (82) observed before b instead of before DM. +24° 626.

10 17 Stopwatch Scale

10.0	4.10	464
48.8	3.52	696
	.58	7.424
87.0	12.8	

Hermene now follows DM. +23° 619 38.5 5; 7.4 north.

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1888phae.proj.1324S

Feb. 2, 1888

Region of Juno (3) S. obs.

Juno follows DM. +0° 431

6 58

Stopwatch	Scale	
10,0	1,32	21.s0, 0'.3 north.
31,0	1,30	
51.9	12.8	
	.256	
10.0	1.18	Star a precedes DM. +5° 457
62.1	0.90	52.s0, 3'.6 south
113.9	12.8	
	1024	
	256	
	2584	
10.0	1.18	Star b follows DM. +5° 457
28.6	1.12	18.s5, 0'.8 south.
47.0	12.8	
	.768	

7 20

10.0	Juno now follows DM. +0° 431
32,3	22.s3
54.6	

Dw Zone ~~+19°~~ +9° S. obs.

3	22	+10.0
√	√	
+1	43	

1	√6	+4.√
√	17	
3	21,	

Region not easily identified.

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1888phae.proj.1324S

Feb. 2. 1888.

	Juno and comp. stars.			Fr. obs.	
8 25 ±	+4° 504	3.52	3.40	3.60	-8
	4.78 1	3.67	3.75	8	20
				3.68 1	34
	Juno (3)	3.25	4.00		-3
	5.04 1	3.92	3.76	3.90	-10
			3.53	-2	-14
				3.88 1	-7
	-4° 269	4.40	4.60		2
	5.88 1	4.52	4.55	4.40	12
				+12	20
				4.52 1	15
					47
					12
	-5° 306	3.44	3.70	3.70	7
	4.99 1	4.00	3.77	14	18
			14 80	3,84 1	30
					55
					14
	Juno (3)	3.47	3.95		
	5.04 1	3.72	3.90	3.80 +7	15
		3.50		8 -2	10
				3.88 1.	47 15.2
	+5° 457	3.90	3.46	3.80	25
9 5		3.95	3.44	.10	14
	5.07 1			3.90 1	59 10

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1888phae.proj.1324S

Feb. 2 1888.

Region of Alcmene (82) S. obs.

		Stopwatch	Scale	
9	35	10.0	3.00	Star following
		81.8	2.54	Dm. + 23° 619 $71^s.2$,
		152.3	.46	$5'.9$ north
			12.8	
			7.68	
			5.12	
			5.884	
		10.0	3.09	Another following this
9	40	15.8	2.91	$5^s.6$, $2'.3$ north; hence
		21.3	.18	following Dm. +23° 619
			12.8	$76^s.8$, $8'.2$ north. This is
			2.304	probably (82).

9	52	a		2.50	2.60	2.50	19
			3.28^	2.59	2.40	2	−10
						2.52^	419
							2
		Alcmene (82)		2.07	2.08	2.00	23
			2.72^	2.15	2.06	9	14
						2.09^	37
							9
		b		2.00	2.20	2.00	25
			2.65^	2.05	1.93	4	−7
						2.04^	18
							4
		a		1.50	1.50	1.50	19
			2.08^	1.69	1.73	10	23
						1.60^	42
							10
		Alcmene (82)		1.89	2.09	2.00	−11
			2.68^	2.00	2.26	6	35
						2.06^	24
							6 2.06
		Dm. + 24° 626		3.51	3.68	3.30	21
			4.68^	3.30	3.77	26^	38 404 "
						3.56	44 26
11	5	Alcmene now follows the star above compared with it 8^s					

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1888phae.proj.1324S

Feb. 3, 1888

Begin A Juno (3) S. obs.

Juno mean Dec. + 0° 434

Stopwatch Scale

6 15 20.0 1.20 Planet follows star 13.5.3,
23.1 0.71 6'.3 north.
36.7 .49
12.8
6.4
6m.3

6 24 Dec. +5° 457 4.08 4.23 4.10 −1 19
5.49^ 4.11 4.44 12 13 67
4.22^ 34 86
46 4.22
12^

a 2.54 2.49 2.50 −3
3.48^ 2.43 2.70 9
14 20
2.64^ 56
164

Juno (3) 4.20 4.47 4.20 26
5.58^ 4.19 4.30 9 10
4.29^ 36
9

SD −5° 309 5.84 6.02 5.80 1
7.69^ 5.77 5.41 6 22
5.86^ 24 23.20
6 24

SD −5° 304 3.71 4.43 4.39 4.40 13 4.44
5.82^ 3.63 4.50 4.52 8 17
4.48^ 30
8*

1st pair rejected from doubt whether the eye was properly placed.

SD −5° 306 4.00 4.17 4.00 −11
5.23^ 3.89 4.00 2 17
4.02^ 46
2*

SD −4° 269 4.98 4.25 8
6.45^ 5.09 4.92 4.90 19
6 −3
4.96^ 2
24
6

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1888phae.proj.1324S

Feb. 3, 1888.

Juno (3)	4.20	4.20	4.10	15	
5.41^	4.13	4.10	4	10	
			4.16 .1	23	
				6	
b	2.31	2.30	2.20	16	
2.94^	2.25	2.20	4	10	
			2.26 .1	26	
				6	
DM. +4° 508	4.07	4.00	4.00	5	
5.30^	3.98	4.29	8	24	
			4.08 .1	34	
				8	

W. recorded most of 2d series.

Juno fol. +0° 4334 19 recs at 7h 34m

Juno and Comp. Stars. W. obs.

7 34

+5° 4507	4.12	4.08	4.00	14
5.30^	4.02	4.08	8	16
			4.08 .1	30
				8
Juno (3)	4.06	4.12	4.00	-14
5.23^	3.80	4.08	2	20
			4.02 .1	46
				2*
a	2.72	2.63	2.70	17
3.55^	2.85	2.71	3	-7
			2.723 .1	1
				11
				2.3
b	2.27	2.52	2.20	7
3.07^	2.20	2.43	16	32
			2.36 .1	23
				62
				15*
Juno	3.98	3.99	4.00	3
5.21^	4.02	4.04	1	+
			4.01 .1	

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1888phae.proj.1324S

Feb. 3. 1888.

+4° 504 4.20 4.02 4.00 20
5.33^ 3.97 4.19 10 −3
4.10^ +2
+19
38
11
10

Ended at 9h 6m

Region of Alcmene (82) & obs.
Alcmene ? nf. DM. +23° 625

9 40 10.0 4.21 Planet follows stars 5s.8, 2'.8 north.
15.8 3.99
21.5 12.2
12.8
256
256
2816

9 50 DM. +24° 626 3.30 3.53 3.30 −11 49
23 96
4.37^ 3.19 3.43 6 13 145
3.36^ 125 3.36
6

Alcmene (82) 2.09 2.26 2.00 +9 199
12 −10 247
2.76^ 1.90 2.21 2.12^ 26 446
2.12
46
11+

c 1.50 1.63 1.56 10 110
2.09^ 1.60 1.72 11 13 135
1.61^ 22 245
45 1.61
11

b 2.51^ 1.83 2.01 169
1.86 2.02 1.80 9 203
13 22 372
1.93^ 53 1.93
13

Alcmene (82) 2.06 2.22 1.93 ~~14~~ 13 272
1.93 2.19 ~~1720~~ ~~32~~ 26 80
2.13^ ~~30~~ 29 2.10
~~8~~ 6 ~~8~~
~~4~~ 17

a 2.45 2.30 2.30 15 79
3.08^ 2.34 2.40 4 16 149
2.37^ 29 2.37
5 7

10 29 Alcmene now follows DM. +23° 625 6.9

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1888phae.proj.1324S

Feb. 3. 1888.

B. + C. 11h 2.

16 3 4V.0
4 4V.0

Balloon 103

16 9 0.0
10 0.0

Dio. Sup. I. Plat. R. Obs.
Coinc. with Sat. III.

16 12 2V.0 14.0
Cloudy.
13 37.0 96.2
17 V6.0 12.1
19 7.V 97.0
23.V 1V.0
32.V wrong side.
20 21.0 vy. 79.0
21 3.0 17.2
37V 79.0
V3.V 22.0
2V 4.0 92.0
23.0 1V.0

Obs. all uncertain - made through clouds.

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1888phae.proj.1324S

Feb. 6, 1888

Region of Juno (3) S. obs.

Stophwatch Scale

6	44	10.0		Juno? precedes another star
		27.5		$17^s.2$ near same S
		44.4		
		61.7		
		10.0	1.89	Juno? precedes Dm. +1° 273
		85.2	1.80	$75^s.4$, 1'.2 south.
		160.8	.09	
			12.8	
			1.152	
7	0	10.0		Juno now precedes this star first
		26.9		mentioned $16^s.4$.
		43.0		
		59.1		
7	10	~~Dm. +4°~~	1.00	
			~~3.80~~	

Juno and Comp. Stars. Sr. obs.

4 30 = 7 13

7	10±	+v° 4v-7	4.10	3.96	
			4.25	4.20	
					#.51 ^
					#.13 ^
					5.37 ^

over.

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1888phae.proj.1324S

Feb. 6. 18 8.

Juno (3)	3.90	4.0 2	3.90	18
5.17 1	4.0 4	3.90	8	12
			3.98 .1	30
				8 1
a	2.7 4	2.5 1	2.50	39
3.63 1	3.0 0	2.4 4	29	28
			2.79 .1	117
				29
b	2.40	2.41	2.40	11
3.15 1	2.5 0	2.3 4	2	2
			2.42 .1	9
				2
Juno (3)	3.46	4.10	3.90	21
5.23 1	3.9 5	4.1 5	12	25
			4.02 .1	46
				12
+4° 5 0 4	4.12	4.0 7	4.00	29
5.84 1	4.17	4.0 9	11	16
			4.11 .1	45
				11
−4° 26 9	4.6 5	4.7 4	4.60	15
6.08 1	4.7 0	4.5 4	8	18
			4.68 .1	3
				31
				8 1
−5° 30 6	3.7 4	3.8 5	3.80	7
4.97 1	3.7 5	3.90	2	5
			3.82 .1	10
				18
				2

Ended at 9h 10m

Region of Algenib (82) L. obs.

Object following D.M. +23° 625 110°, 11' north.

4.50 Another " " 139°, 7' "

9 45

3.162	4.119	Stopwatch	
.88	3.62		
12.4	.57	16.0	Interval between these two
1024	18.8	34.8	29s
1024	896		
11264	640	68.0	The second is Antabuth (82)
	256		

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1888phae.proj.1324S

Feb. 6, 1888

10 3

b 4.37

	2.00	2.40	2.00	-20
2.72^	1.80	2.17	9	57
			2.09^	37
				9

Alcmene (82)

	1.90	2.28	2.00	-10
2.76^	2.16	2.12	12	28
			2.12^^	46
				11

a

3.33^	2.25	2.90	
	2.46	2.62	2.23^
			2.56^

c

2.21^	1.80	1.62	2.79^
	1.77	1.60	1.70^^

Alcmene (82)

	2.45	2.11	4.56^
2.78^	1.98	2.02	2.14^^

DM. +24°626

	3.28	3.62	2.32^
4.65^	3.60	3.82	3.58^^

10 46

Stopwatch
10.0
42.8
75.3

Alcmene now follows this star previously compared with it

$32^s.6$

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Feb. 8, 1888

Region of Alcyone (82) S. obs.

DM. +24° 632 follows DM. +23° 625 $2^m 57^s$

(DM. ~~+24° 632~~ $2^m 57^s$)

229^s
179 50^s

$25\frac{6}{2}-6$ $\frac{256}{128}$

	Stopwatch	Scale	
9 38	10.0	2.13	A star ~~(a)~~ called a
	66.9	1.91	follows DM. +24° 632 57^s, 2'.8 south
	10.0	2.00	A star called b precedes
	17.9	1.79	a $7^s.9$, 2'.7 south
	25.8	1.62	A star called c follows
	10.0	12.8	b $19^s.4$, 2'.2 north of a
	29.3	17	
		216	
9 43	48.7		
10 5	10.0		Star a now follows b $8^s.5$ and is
	18.6		probably (82)
	27.1		

Stars in Pleiades.

10 14	h	4.87	5.02	4.70	−4
		4.66	4.80	14	17
				4.84	32
					10
					55 13
	k	2.50	3.41	2.90	−2
		2.84	3.55	18	−40
				3.08	51
					65
					74 18
	j	3.89	4.29	4.00	−11
		4.07	3.92	4	24
				4.04	−8
					17 4

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g	4.39	5.12	4.40	−1	
	4.80	4.83	38	40	
			~~5.78~~	12	
				43	
				1154	38
l	2.12	2.39	2.10	2	
	2.03	2.50	16	7	
			2.26	29	
				40	
				64	16
m	1.50	1.70	1.56	10	
	1.50	1.60	8	20	
			1.58	80	8.5
n	1.02	0.84	1.00	−2	
	0.95	1.00	~~1.9~~ −5	−16	
			~~.81.95~~	~~4~~ 2 −19	
				−5	

o not seen. There are two a little farther north, not shown on print.

d (seeing worse)	4.80	5.18	5.00	−20	
	4.98	5.10	~~36~~ 9	2	
			~~5.36~~	48	
			5.09	10	
				~~4~~ 36	
				9	
f	4.90	4.60	4.30	60	
	4.30	4.40	25	30	
			4.65 ~~55~~	10	
				100	
				25	
i	3.68	3.91	4.00	−32	
	3.95	3.80	16	−5	
			3.84	−9	
				−20	
				166	
				16	

Seeing good at end of series, but too variable during the observations to make them trustworthy.

Region of Nemesa (62)

11 15 Stopwatch

10.0 Planet now follows star b 11s.5.

21.6 Star b is apparently D.M. +23° 644.

33.0

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Feb. 9 1888.

Reapign of Juno (3) S. obs.

		Stopwatch	Scale				
6	34	10.0	3.49	Juno? follows DM. +1° 484			
		27.9	3.35	17ˢ.8, 1'.8 south.			
		45.7	.14				
			12.8				
			179.2				
6	45	DM. +5° 457	3.92	4.01	182	4.03	
			3.90	4.20	221	4.03	1
					403	5.21	^
					4.01		
		Juno (3)	3.89	4.40	−27	4.66	
			4.07	4.30	−9	4.16	1
					+24	5.41	^
					+14		
		a	2.91	2.98		3.37	
			2.85	2.63		2.84	1
						3.69	^
		b	2.14	2.10		.73	
			2.30	2.19		2.18	1
						2.83	^
		Juno (3)	3.50	4.21		3.40	
			3.59	4.10		3.85	1
						5.00	^
		DM. +4° 508	4.01	3.97		4.16	
			4.00	4.18		4.04	1
						5.25	^
7	33	Stopwatch					
		10.0	Juno now follows				
		32.1	DM. +1° 484 22ˢ.				
		54.0					

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Feb. 9. 1888.

	Juno and Comp. Stars.		Gr. obs.
7 46	+5° 4[illegible]7	3.79 4.09	4.11
		4.10 4.13	4.03 "
			5.24 "
	Juno (3)	3.80 4.11	4.16
		4.15 4.10	4.04 "
			5.25 "
	a	2.50 2.42	2.83
		2.71 2.40	2.71 "
			3.52 "
	b	2.39 2.23	1.03
		2.19 2.22	2.26
			2.94 "
			3.94
	Juno	3.88 4.13	3.98 "
		3.87 4.06	5.17 "
	+4° 50 4	4.09 4.29	.52
		4.04 4.10	4.13 "
			5.37 "
	−4 269	4.71 4.62	2.63
		4.80 4.50	4.66 "
			6.06 "
	−5 306	3.83 3.95	3.33
		3.77 3.74	3.83 "
			4.98 "

Ended at 9h 3m

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1888phae.proj.1324S

Feb. 9, 1888

Region of 1' Alcmene (82) Lowbr.
Star foll. DM. +24° 632 1m. 56s.9, 2'.9 north,
is probably (82)

2.8 256
12.8 384
29

There is apparently some error in this description. The identification of (82) is not satisfactory.

Stopwatch
10.0
9 28 28.6 (82) has a star following it
46.6 18s.3, about 7' north.
64.8

9 39	a	2.08	2.60	1.37 ^
		2.29	2.40	2.34 ^
				3.04 ^
	Alcmene (82)	1.82	2.14	3.66 ^
		1.81	1.89	1.92 ^
				2.50 ^
	DM. +24° 626	3.33	3.84	2.37 ^
		3.50	3.70	3.59 ^
				4.67 ^
	DM. +24° 629	4.09	4.27	.64 ^
		4.16	4.12	4.16 ^
				5.41 ^
	Alcmene (82)	1.83	1.84	2.68 ^
		1.86	1.90	1.67 ^
				2.17 ^
	b	1.59	1.91	3.09 ^
		1.70	1.84	1.74 ^
				2.30 ^

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1888phae.proj.1324S

Feb. 9, 1888

10 20 Stopwatch
10,0
27,9
44.0
61.7

Alamene now precedes the star above mentioned 17ˢ.2.

Stars in Pleiades.

10 28 i
4.81 4.49 4.50 31
4.56 4.50 9 1
4.59. 369

e
5.40 5.57 5.40 50
5.60 5.60 22 17
5.62. 187 217

f
4.54 4.50 4.50 4
4.73 5.00 19 23
4.69. 77 49

g
4.17 5.30 } the integer certainly 5 for second set.
4.81 5.10
28 8
4.72

o not seen. The two stars seen south of its place, as last night. Perhaps it is the south following of these. It would be too faint for the wedge.

m
1.50 1.84 1.50 28
1.78 1.71 20 21 34 21
1.70 1 183 21

l
2.20 2.59 2.20 37
2.57 2.43 25 39 23
2.45 199 25

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Feb. 9, 1888

h	4.32	4.77	4.30	2 47 50 99 245
	4.30	4.80	245	
			4.545	
n	0.86	0.84	.80	6 4 2 12 3
	0.80	6.82	3	
			83.	
k	3.05	3.40	3.05	−4 5 40 20 61 15
	2.96	3.20	15	
			3.15.	
j	3.66	3.90	3.70	−4 16 20 −7 65 6
	3.86	3.63	6	
			3.76.	

11 40 Ended.

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Feb. 13, 1888

Region of Juno (3) S. obs.

	Stopwatch			
6 34	10,0	Juno? foll. DM. +2° 4440		
	12.4	2s.5, about 0'.5 south		
	14.8			
	17.4			
6 45	DM. + 4° 508	3.99	1.87	
		3.88	3.47	
			3	
			3.94	1
				5.12 1
	Juno (3)	4.34	.56	
		4.22	4.14	
			2	
			4.28	1
				5.56 1
	b	2.14	.29	
		2.15	2.07	
			2	
			2.14	1 2.78 1
	DM. +5° 457	4.00	1.94	
		3.94	3.48	
			2	
			3.96	1 5.15 1

Position of star supposed to be Juno unchanged. This star is itself ~~the~~ DM. +2° 4440, and the preceding star is a fainter object, not in DM. Juno should be n/s this place.

	Stopwatch	Scale	Juno?	Prec. DM.
7 15	40,0	430	+2° 445	30s.8
	41,2	3.70		7'.7 south
	71.7	.60		
		12.8		
		7.68		

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Feb. 13. 1888.

		Juno and Comp. stars.		Fr. obs.
7	2 v f	+5° 457	3.67	3.9 v	3.63
			3.79	4.2 v	3.91 ^
					5.08 ^
		Juno (3)	3.89	4.09	4.12
			4.14	4.00	4.03 ^
					5.24 ^
		a	2.64	2.84	3.40
			2.90	3.0 v	2.85 ^
					3.70 ^
		b	2.29	2.3 v	1.34
			2.31	2.4 v	2.34 ^
					3.04 ^
		Juno (3)	4.00	3.97	3.73
			4.04	3.74 v	3.93 ^
					5.11 ^
		+4° v 08	3.83	3.99	3.46
			4.00	3.64	3.86 ^
					5.02 ^
		−4° 269	4.82	4.7 v	3.02
			4.66	4.79	4.75 ^ 6.18 ^
		−v° 306	3.89	3.90	3.26
			3.72	3.7 v	3.82 ^
					4.97 ^

3.86 1.3 3.8 5.6 11 3.8 5.0

Ended at 8h 51m

The object assumed above to be Juno was correct, as indicated by the sextant.

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Feb. 13, 1888

Region of Alcyone (8) S.obs.

$4^m\ 11^s$ foll. D.M. +24° 632, about 8' north, is a star; call this a.

$4^m\ 57^s$ foll. D.M. +24° 632 about 7' north, is a star; call this b.

Stopwatch

q 18

10.0	A star precedes a 10.2, about 2' north
20.4	
30.2	
40.5	

q 20

10.0	A star precedes b 2.0, about 2' north.
12.2	
14.1	
15.9	

Stars in Pleiades.

q 32

a	4.90	5.61	4.90	−3
	4.87	5.41	30	41
			5.20.	51
				119
				29
g	5.32	5.08	5.00	−16
	5.40	4.84	16	32
			5.16.	40
				8
				164
				16
b	2.60	3.00		
	2.37	2.84	2.60	−23
			10	40
			2.70.	34
				141
				10
m	1.66	2.10		
	1.79	1.96	1.70	−4
			18	9
			1.88.	40
				26
				471 (17-3

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Feb. 13, 1888

j	4.21	4.28	4.20	25
	4.44	4.39	13	8
			4.33.	19
				52
				13
k	3.08	4.01		35
	3.50	3.85	3.10	2
			31	40
			3.61.	91
				204 L51
h	4.46	5.18		
	4.70	5.22	4.50	-4
			39	20
			4.89.	68
				72
				156 L39
w	0.90	0.99		
	1.00	0.90	.90	10
			4	9
			94 5	19 5
e	5.80	6.09	5.80	29
	5.80	6.03	13	23
			5.93.	52
				13
i	4.59	4.82	4.60	-1
	4.78	4.61	10	18
			4.70.	22
				40
				10

Region of Alnemen (82)

10.0 Star precedes a (cc 1.57) 9.8
20.0
29.2
39.2
49.0

49.0 Star precedes b 1.2
50.1 The star preceding b is
59.2 perhaps (82)
10 25 52.7

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Feb. 13, 1888

10 34	a	2,17	2,53	1.10 ^	
		2,02	2,36	2.28 ·· ^	
				2.96 ^	
	Hamburg (82)? (star prec. b)	2,21	2,18	4.43 ^	
		2,05	1,99	2.11 ·· ^	
				2.74 ^	
	b (the comparison star, not that Oll. (82)?)	1.70	2,19	3.99 ^	
		1,97	2,13	1.99 ^	
				2.00 ··	2.60 ^
	c	1.37	1,60	1.98 ^	
		1.61	1,40	1.49 ·· ^	
					1.94 ^
	Hamburg (82)?	2,10	2,21	4.37 ^	
		2,19	1,87	2.09 ·· ^	
					2,72 ^
	DM. + 24° 62.6	3,81	3,75	3.22 ^	
		3,94	3,72	3.81 ·· ^	
					4.95 ^

10,0
20,0
29,2
38,8

Star precedes a 9.5 6

10,0
10,8
12,0
11 15 13.3

Star precedes b 1.1

Probably neither star is (82).

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Feb. 15, 1888.

Region of Juno (3) S. obs.

		Stopwatch	Scale	
7	12	10,0	4.00	Juno 2 follows
		20,6	3.62	Dm. +3° 411
		31,8	.38	$10^s.9$, 4'.9 south
			12.8	12
			1024	
			384	
			4.864	
7	18	10,0		
		21,6	Planet now follows star	$11^s.6$
		33.1		

		Juno and Comp. Stars.		Fr. obs.
7	31	+5' 45".7	4.12	4.18	4'.76
			4.28	4.18	4'.19"
					5.45'
		Juno (3)	3.79	4.0K	3.82
			4.01	3.9A	3.95"
					5.14'
		a	2.72	2.9A	3.00
			2.42	2.4A	2.75"
					3.58'
		b	2.13	2.28	
			2.20	1.95	4.56
					2.14"
					2.78'

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Juno	3.64	3.49	3.19
	3.42	3.40	3.79
			3.80 " 4.94'
+4° 504	3.97	3.45	4.08
	4.12	4.08	4.02 "
			5.28'
−4° 269	4.65	4.72	3.05
	4.45	4.43	4.76 "
			6.19'
−5° 306	3.75	3.45	3.33
	3.93	3.40	3.88 "
			3
			4.98'

3.50
3.00
5°
12.4
6.4

Ended at 4h 55m
The object assumed for Juno was correct.
Juno fol. star 16.5 secs. & 6.4 south.

Region A Hymenæa (82) 5 obs
Stars observed Feb. 13 in place.
Some error in record or observation
Feb. 9, which caused error in search
Feb. 13.

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Feb. 15, 1888

	Stopwatch	Scale	
9 32	10.0	3.10	Star following
	16.9	2.93	DM. +24° 641
	24.8	.17	7.5, 2' south
	32.1	1.18	may be (82)
	39.9	2.176	
	47.4		
			Another star following
	10.0	3.61	DM. +24° 641
	47.5	2.180	37.6, 10.2 south,
	85.2	.81	probably too bright
	1024	12.8	for (82)

Stars in Pleiades.

9 52	e	5.82	5.64	5.60	6
		5.62	5.70	.10	2 2
				5.70.	10
					38
					9.5
	g	5.141	5.60	5.30	-3
		5.141	5.27	12	11
				5.42.	11
					30
					49
					12
	m	1.90	1.69		
		1.72	1.58	150	48
				22	2 2
				1.72.	19
					189
					2 2
	h	4.48	5.09		
		4.80	4.80	4.50	-2
				.26 29	30
				4.76 29	59
					30
					89 117
					28 29
	l	2.86	2.80		
		2.61	2.79	2.60	26
				26	20
				2.86	59
					106
					26

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47. p. 46. Est. of mag. in Pleiades.
49. " 44-90. Exam. of region of Pleiades.
46. p. 62 " " 140. Light of stars in Pleiades.
41. p. 73-K " " " " "
41. p. 133 " " " with Pritchard's wedge.
41. p. 139 " " " " " "
41. p. 70-71 " " " " " "

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Feb. 15, 1886

k	3.96	3.60	3.60	5
	3.60	3.65	.10	36
			3.70.	41
				10
i	4.30	4.40	4.30	−8
	4.68	4.22	10	38
			4.40.	10
				140
				10
f	5.40	5.40	5.30	−3
	5.49	5.27	9	10
			5.39.	10
				19
				36
				9
n	1.10	1.20	1.10	10
	1.10	1.20	5	10
			1.15.	20
				5
i	4.84	4.86		
	4.74	4.72	4.70	4
			.10	2
			4.80.	14
				18
				38
				9.5

Region of Alcmene (82)

Stopwatch

[0 52 10.0
17.0
24.2

10.0
H7.0
D3.5

Stays previously observed
Follow D.M. +24° 641
7s.1 and 36s.8.
No change.

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Feb. 17, 1888.

Region of Juno (3). S. obs.

Stopwatch

6 59 10,0 32.5 = Δα of two stars s/p and n/f
32,8 south preceding bright star at
55,2 22h 56m +3°.5 (α Ceti; DM. +3° 419).

7 8 10,0 Scale The first star
95,8 2,3.9 precedes α Ceti
181,3 1.60 .79 85.5.6, 10'.1 south.
12.8
115-2
896

7 15 10,0 101
31,2 The Δα of the two
52,5 stars is now 21s.2

Juno and Comp. Stars. Gr. obs.

+5° 457 3.72 1.67
3.95 3.83
4.98

Juno. 4,05
3.82 1.87
3.93 5.11

a Clouds.

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1888phae.proj.1324S

Feb. 17. 1888.

to

Juno.

+4° 502

−4° 269

−5° 306

Stopped by increasing cloudiness.
Clouds prevented taking star a
and may have affected Juno although
the readings fail to show it. H.

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1888phae.proj.1324S

Feb. 18. 1888.

Juno, and Comp. Stars. Gr. obs.

7-42 = 9 30

2 ν6 +3.6

7 49

+4 ν3

1ν/20 +1ν 40ν 1ν+9/61 ν/136 +16 +11

10	10	+ν° 4ν7	3.4ν	4.07	3.67 ·^
			3.9ν	3.40	3.92
					5.10^
		Juno (3)	4.01	3.77	2.48
			3.47	3.43	3.87 ·^
					5.03^
		a	2.76	2.40	2.97
			2.66	2.7ν	2.74 ·^
					3.56^
		b	2.3ν	2.2ν	1.17
			2.40	2.20	2.29 ·^
					2.98^
		Juno (3)	3.92	3.4ν	3.58
			3.7ν	4.06	3.89 ·^
					5.06^
		+4° ν08	3.7ν	3.6ν	2.88
11	ν		3.70	3.74	3.72 ·^
					4.84^

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Feb. 18. 1888.

Juno and comp. stars getting rather too low for the best of measurement!

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1888phae.proj.1324S

Feb. 22 / 1888.

Region of Juno (3). S. 8 hrs.

		Stopwatch	Scale		
6	45	10.0	2.30	Juno? Precedes	
		17.4	1.60	DM + 4° 502	
		25.0	1.70	7.5, 9.0 south.	
			12.8		
			8.96		
6	53	a	2.33	2.67	2.07'
			2.27	2.80	2.52'
					3.28'
		Juno (3)	3.98	3.97	3.73'
			3.88	3.90	3.93'
					~~5.17~~ 5.11
		DM. +5° 457	3.90	3.90	4.13'
			4.30	4.03	4.03'
					5.24'
		b	1.84	2.00	3.32'
			1.80	1.68	1.83'
					2.38'
		Juno (3)	3.68	4.18	4.04'
			4.00	4.18	4.01'
					5.21'
		DM. +4° 508	3.99	4.09	4.17'
			4.09	4.00	4.04'
					5.25'

1.83 1.3 1.37 1.83 1.37 1.37 9

		Stopwatch		
7	19	10,0	Juno now precedes	
		15,0	DM. +4° 502	
		20.0	5.0	

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1888phae.proj.1324S

Feb. 22. 1888.

Juno and Comp. Stars. Gr. obs.

7 33	+5° 47 7	3.9 a	4.00	3.91 ^
		3.81	4.12	3.98 ^
				5.17 ^
	Juno (3)	3.82	3.80	3.80 ^
		3.67	3.91	4.94 ^
	a	2.50	2.94	2.49 ^
		2.51	2.54	2.62 ^
				3.41 ^
	b	2.30	2.23	4.76 ^
		2.24	1.99	2.19 ^
				2.85 ^
	Juno	3.70	3.78	
		3.70	3.78	2.96 ^
				3.74 ^
				4.86 ^
	+4° 50 a	3.91	4.20	4.29 ^
		3.96	4.22	4.07 ^
				5.29 ^
	Juno	3.72	3.91	3.61 ^
		3.82	4.10	3.90 ^
				5.07 ^
	−4° 269	4.62	4.75	3.09 ^
		4.81	4.91	4.77 ^ 6.20 ^

over.

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1888phae.proj.1324S

Feb. 22. 1888.

−5°306 3.7v 3.9v 3.36
3.88 3.81 3.84
4.99

Star is very faint in moonlight and rather difficult of measurement.

Ended at ~~9h~~ 10h 45m

Stars in Pliades. L. obs.

9 55 h 4.97 4.61 4.60 3 1/2
4.93 4.90 25 3 3
4.85. 30
101
25

k 3.55 3.74 3.60 5
3.82 3.80 ~~12~~ 3 22
3.723 14
20
151
123

j 3.96 3.99 3.80 4
3.84 4.01 15 16
3.95. 19
21
160
15

g 4.90 4.96 4.60 30
5.00 4.60 02 60
4.92. 38
128
32

f 5.41 5.00 5.00 41
5.40 5.07 22 40
5.22 188
22

e 5.50 5.77 5.50 6
5.56 5.50 8 24
5.58. 38
8

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1888phae..proj..1324S

Feb. 22, 1888.

i	4,21	4.58	4,20	41
	4.60	4.47	26	38
			4.46	27
				106
l	2,18	2,17		26
	2,00	2.00	2.09	18
			2.08	17
				135
				89
m	1.02	~~1.07~~ 1.07	1.00	2
	0.98	1.02	2	3
			1,02.	3
				2

n not visible in moonlight,

1043 Ended.

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1888phae.proj.1324S

7 0

Feb. 24, 1888.

Some thin clouds and haze. S. obs.
Dome opened, but photometric observations not undertaken.

$6^h\ 0^m = 7^h\ 24.$

Juno and Comp. Stars. Gr. obs.
Too much cloud and haze as yet, for obs.

4/22 ν.ν 4/13 ν 3 3.

$3^h\ 17^m.6 \quad +4^\circ\ 40'$
$-1.7 \quad -7$
$3\ 15.9 \quad +4\ 33$

3.14 (22) 9 ν 2 9 ν 2 = 103.6 ν
+13.0 (23.) 39 39 = ν 29.

3 1 ν 6 40 = +3 24.

3 39 / 6 ν 4 = +3 1.9

7 0 / 3 1 ν = +3 44

6 47 / 3 1 ν / 3 3 ν

61.1 / 6 / 121.1 ν / ν | 119.1 / ν 9.6

24 ν / 24.1

ν | ν 9.1 / 29.6

Juno (↓) fol. star ~~ν 9.6~~ ν 9.6 same dec.
Star is at 3^h ν.1 $+4^\circ$ 34' ± by Dun. chart.

Thin clouds continue preventing photometric observations

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1888phae.proj.1324S

Feb. 24. 1888.

B. & C. 1142.

14	22	24.6
	23	24.5

Balloon 103.

14	29	0.0
	30	0.0

Dis. Jups. III. Phs. Comp. with cal. next preceding.

14 43 9

	&	12
14	51	21
14	22	25.
	22	56.
14	29	0.
14	57	56.

14 51 21
14 29 0
22 21
14 22 25
14 44 46

Both satellites cannot be seen at same time on account of clouds.
Jupiter has ~~not~~ now disappeared 14h 34m

14 43 54 134.2

Sats not vis. simultaneously.
At 14h 44m cal. III. much too far.
No obs. obtained on account of clouds.

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1888phae.proj.1324S

Feb. 26. 1888.

B. & C. 11 hr.

16 ν 43.7
7 43.ν

Balloon 10 3.

16 13 0.0
1ν 0.0

Dis. Syst. I. S. obs.
Plat. R. Comps. with cat II,

16 27 11
4 12

16 3ν 23.
16 13 0.

22 23.

16 ν 44.
16 24 7 Approx. time eclipse.

16 17 33 0
ν6.ν
18 11.ν
21.ν
30.0
44.0
νν.0
19 3.0
12.0
24.ν

16 4.2
272.0
174.0
243.0
177.4
272.9
140.0
242.2
170.0
27ν.3

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1888phae.proj.1324S

Feb. 26. 1888.

16	19	45.0	173.3
		56.0	240.0
	20	7.0	175.0
		17.0	275.2
		27.0	172.3
		33.0	279.1
		54.0	175.2
	21	3.0	275.3
		12.0	179.2
		22.0	256.9
		32.0	169.5
		41.0	276.0
		54.0	164.5
	22	13.0	274.1
		22.0	179.7
		33.0	270.1
		44.0	153.2
		54.0	271.3
Cadd. 2	23	5.5	156.9
		16.0	270.0
		26.0	177.1
		35.0	276.2
		54.0	180.9
	24	4.0	274.2
		14.5	173.1
		24.0	240.2

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1888phae.proj.1324S

Feb. 26. 1888.

16	2h	33,5	167,4
		h3,0	253,1
		52,0	187,1
	25	5,0	220,0
		13,0	141,0
		23,5	269,1
		32,0	175,0
		39,0	273,9
		50,0	14 5,3
		57,0	264,0
	26	4,0	140,0
		9,0	274,0
		16,5	149,0
		25,0	270,2
		31,0	136,4
		39,5	27h,1
		h7,5	145,1
		55,5	264,2
	27	3,0	190,0
		12,0	263,1
		20,0	144,8
		27,5	26h,2
		37,0	191,2
		h3,5	262,0
		50,0	200,0
		57,0	25h,5

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1888phae.proj.1324S

Feb. 26. 1888.

16	28	4,0	200,0
		9,5	257,4
		17,5	202,4
		24,5	253,9
		31,5	205,0
		37,5	251,0

Not seen later.

Limit of Vis.

16	29	4,0	205,4
		20,0	245,1
		29,5	212,0
		40,5	241,2

Comet Olbers — Fr. obs.

B. + C. 1142. — Ballou 103.

16	34	42,5	16	42	0.0
	35	42,5		43	0.0

18	1	−7,5
15	26	
−2	35	

Moon too bright for comet.

New comet not seen in southern horizon.

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1888phae.proj.1324S

Feb. 28, 1888

Region of Juno (3). S. obs.

Stopwatch

6 45 10.0
25.0 Δα of two stars sp & nf
39.2
53.3
14.3 mean

6 58 10.0 The sp star is apparently
23.2 Juno. It follows
36.5 DM. +5° 472 2m 33s,
49.4 near same N.
12.1 mean

At 7h 8m DM. +5° 472 in field of large telescope; hour circle 2h 45m, decl. circle +5.8

7 0 = α 9

Juno and Comp. Stars. Fr. obs.

7 39 +5° 457 3.7 v 4.0 A 3.66
3.9 v 3.AA 3.92 ^
5.10 ^

Juno (3) 3.80 3.70
3.7 v 3.90 3.15
3.79 ^
4.93 ^

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1888phae.proj.1324S

Feb. 24. 1888.

a	2.69	2.70	2.88
	2.77	2.72	2.72 ·1
			3.54 1
b	2.20	2.14	1.15
	2.40	2.37	2.29 ·1
			2.98 1
Juno (3)	3.42	3.7 v	3.11
	3.6 v	3.49	3.78 ·1
			4.91 1
+4° v0 a	3.77	3.60	2.86
a v0	3.67	3.42	3.71 ·1
			4.89 1

Obs. prob. not quite as good as common - some light cloud.

9 5 Clouds increasing later.

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1888phae.proj.1324S

Feb. 29, 1888

Region of Juno (3) S. obs.

Stopwatch

6 46 10.0
29.9
49.0
68.8

Juno ? has a faint star sp it
Δα 19ˢ.6

6 56 b 2.17 1.99 3.96 1.99 " 2.59 ^
1.90 1.93

Juno (3) 3.72 3.68 2.64 3.66 " 4.76 ^
3.80 3.44

DM. +4° 504 3.70 4.20 3.89 3.97 " 5.16 ^
3.91 4.08

DM. +5° 457 4.00 3.87 3.27 3.82 " 4.97 ^
3.70 3.70

Juno (3) 3.70 3.45 2.54 3.66 " 4.76 ^
4.00 3.49

a 2.41 2.42 2.10 2.52 " 3.28 ^
2.69 2.58

Stopwatch

7 30 10.0
33.2
56.1

Juno now follows the star
Sp it 23ˢ.

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1888phae.proj.1324S

Feb. 29. 1888.

Juno and Comp. Stars. Nights.

+5° 457	3.71	3.72	3.39
	4.07	3.82	3.83 "
			4.98 "
Juno (3)	3.86	3.87	2.65 "
	3.68	3.64	3.66 "
			4.76 "
a	2.45	2.77	2.66 "
	2.72	2.72	2.67 "
			3.47 "
b	2.20	2.21	.74
	2.25	2.08	2.18 "
			2.83 "
Juno (3)	3.68	3.91	3.26
	3.87	3.80	3.82 "
			4.97 "
+4° 508	3.68	4.01	3.38
	3.81	3.82	3.83 "
			4.98 "

Ended at 8h 25m

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1888phae.proj.1324S

Feb. 29, 1888
Stars in Pleiades. S. obs.

9	30	f	5.04	5.30	3.00	4 / 30 / 9 / 43 / 10 / 3/4
			5.00	5.09	3.10	
		g	4.63	4.89	4.63	25 / 36 / 45 / 196 / 24
			4.86	5.08	24	
					4.87.	
		j	3.74	4.10	3.74	42 / 36 / 26 / 4|104 / 26
			4.16	4.00	26	
					4.00.	
		k	3.76	3.51	3.70	+6 / −4 / −19 / −21 / 4|38 / 10
			3.66	3.49	38 10	
					3.32 60	
		l	2.52	2.37	2.30	−6 / 22 / −2 / 4|21 / 5
			2.28	2.24	5	
					2.35.	
		m	0.93	1.21	1.00	−7 / 41 / 21 / 4|16 / 4
			1.04	0.98	4	
					1.04.	
		n	5.01	5.08	5.00	−1 / 20 / −3 / 24 / 6
			5.20	4.97	06	
					5.06.	
		e	5.63	5.71	5.60	3 / 10 / 11 / 24 / 6
			5.70	5.60	6	
					5.66.	
		i	4.50	4.51	4.40	10 / −1 / 13 / 4|23 / 5
			4.39	4.43	6	
					4.46.	
10	13	o not visible in moonlight				

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1888phae.proj.1324S

Feb. 29, 1888

DM. zone + 9°. Series 17. S. obs.

10 37 1646 2.82 2.82 11
8 of 2 2.93 9 17
2.99 2.91 3|28
9

3.78

1648 3.64 3.64 17
3.81 14 25
3.89 3.78 3|42
17

4.91

1656 2.61
8 of 2 2.98 2.61 37
18 18
2.79 2.79 3|55
18

3.63

1662 2.50
8 of 2 2.96 2.50 46
24 27
2.77 2.74 3|73
24

3.56

1663 3.20 3.20 22
n of 2 3.42 17 28
3.46 3.37 3|50
16 2/3

4.08

1667 3.90 3.90 20
4.10 20 39
4.29 4.10 3|59
19 2/3

5.83

1670 3.53 3.53 ~~28~~ 25
3.78 ~~19~~ 18 29
3.82 ~~3.72~~ 3.71 3|54 ~~19~~ 18
.71

4.82

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1888phae.proj.1324S

Feb. 29, 1888

1680
4.20
4.31
4.11
4.11 .10 4.21 · 3|12 9 2/3 · 9

5.47

1682
p of 3
2.75
2.58
2.56
2.58 6 2.64 · 3|11 5 2/3

3.48

1687
3.96
4.31
3.85
3.85 19 4.04 · 3|15 7 19 · 11 46

5.25

1697
3.48
3.62
3.81
3.48 16 3.64 · 3|14 7 15 3/3 · 14 33

4.73

1700
8 of .2
3.10
3.36
3.29
3.10 15 3.25 · 3|14 5 15 · 26 19

4.22

1706
3.40
3.29
3.78
3.29 20 3.49 · 3|16 0 20 · 11 49

4.54

1708
2.90
3.10
2.78
2.78 45 3.23 · 3|14 4 1 2/3 · 12 32 · 2.78 15 2.93 · 3|14 4 14 2/3

3.81

1709
2.50
3.02
2.80
2.50 27 2.77 · 3|8 7 27 · 52 30

3.66

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1888phae.proj.1324S

Feb. 29, 1888.

1717 · 4.30 4.26 4.15 — 4.15 / 9 / 4.24 · 15 / 11 / 3|13.6 / 8 / 3

5.51 ·

1718 3.50 3.58 3.38 — 3.38 / ~~11~~ / 3.53 / ~~49~~ · ~~12~~ / ~~20~~ / 3|~~44~~ 32 / ~~7~~ 2/3 / 11 — 10.46 — 4.53

4.54 ·

1722 2.97 3.08 3.11 — 2.97 / 8 / 30.5 · 11 / 14 / 3|12.5 / 8

3.96 ·

1723 3.70 4.21 4.21 — 3.70 / 34 / 4.043 · 51 / 51 / 3|102 / 34

5.25 ·

1732 3.77 3.90 3.65 — 3.65 / 12 / 3.77 · 25 / 12 / 3|37 / 12

4.90 ·

1734 3.51 3.61 3.76 — 3.51 / 12 / 3.63 · 10 / 24 / 3|37 / 12

4.72 ·

1738 3.26 3.30 3.42 — 3.26 / 4 / 3.33 · 4 / 16 / 3|20 / 6 2/3

4.33 ·

1745 3.81 3.72 3.56 — 3.58 / 12 / 3.76 · 23 / 14 / 3|37 / 12

4.81 ·

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1888phae.proj.1324S

Feb. 29, 1888

11 46 1753

4.40
4.70
4.75

4.40
.22.
4.62

30
33
3 | 65
21 2/3

6.01

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1888phae.proj.1324S

March 3, 1888

6 50 Region A Juno (3) S. obs.
Clouds, delay observations.
Juno should be about $3^h\ 20^m$, $+5^\circ.9$,
on the Ast. chart.

$$\begin{array}{r} 22.9 \\ 7 \\ \hline 12\,|\,160.3\,(13.4 \\ 12 \\ \hline 43 \\ 36 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 12\text{r} \\ 7 \\ \hline 12\,|\,47\text{r}\,(3 \\ 24 \\ \hline 3\text{r} \end{array}$$

$$\begin{array}{r} .0\text{r}\text{r} \\ 33 \\ \hline 17\text{r}6 \\ 17\text{r}6 \\ \hline 1.716 \end{array}$$

$$\begin{array}{rr} 3 & 3\text{r}.0 \\ & -13.4 \\ \hline 3 & 21.6 \\ & -1.7 \\ \hline 3 & 19.9 \end{array}$$

$$\begin{array}{rr} +7 & 12 \\ -1 & 13 \\ \hline +6 & \text{r} \\ & -7 \\ \hline +\text{r} & \text{r}2 \end{array}$$

$$\begin{array}{r} 0.21 \\ 33 \\ \hline 69 \\ 69 \\ \hline 6.9 \end{array}$$

7 30

10.0
12.7
16.0
19.0

Juno? foll. another star
3.0

19.0
20.0

$$\begin{array}{r} 46\text{r} \\ 13.1 \end{array}$$

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1888phae.proj.1324S

Mar. 3. 1888.

Juno and Comp. Stars. Fr. obs.

7	50 ±	+5° 45′	3.91	3.94	3.51
			3.90	3.72	3.88 ·^
					5.04 ^
	Juno (3)		4.04	3.90	3.74
			3.87	3.89	3.94 ·^
					5.12 ^
	a		2.69	2.84	3.10
			2.72	2.81	2.77 ·^
					3.60 ^
	b		2.06	2.15	.50
			2.10	2.19	2.12 ·^
					2.76 ^
	Juno (3)		3.68	3.89	3.12
			3.87	3.68	3.78 ·^
					4.91 ^
		+4° 50′	3.61	3.89	3.14
			3.67	3.97	3.78 ·^
					4.91 ^

Ended at 4h 25m

There is apparently an error on chart at about 3h 22m and +6° 4′
of a small triangle of faint stars, only 2 here in position. There is ~~a~~ a very faint star in the position of the northernmost of the 3 but about 12 or 13 mag. Besides, the chart does not correspond to the volume.

(Continued on next page)

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1888phae.proj.1324S

Mar. 3. 1888.

It would seem to be impossible for so faint a star to be seen with the 23 in. telescope, but it is singular that there should be a star in that exact place. Var. (?) Is it an error in D.M. volume and variable too (?)

Region of the Pleiades. S. of η.

η 25 i

4,53

4,40

clouds

10 0 clouds continue.

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1888phae.proj.1324S

March 4, 1888.

Region of Juno (3) 8 obs.

Stopwatch

6 37 10.0
68.6 Δα of 2 stars 58ˢ
126.2 Trans circle 2ʰ 20ᵐ, decl. circle +6.7

8 40 10.0
58.5 Δα 48ˢ. The preceding
106.1 star is Juno (3)
Recording for mer. plat. delays
observations. Region too low to continue.

Stars in Pleiades.

9 20	i	5.06	4.88	4.80	8 21 26 / 4|55 / 13
		5.01	4.80	.14	
				4.94	
	e	5.80	5.97	5.80	45 17 / 4|62 / 15
		6.25	5.80	.15	
				5.95	
	n	0.88	1.00	.88	10 12 4 / 4|26 / 16.5
		0.98	0.92	.06	
				.94	
	h	5.12	5.10	5.10	2 20 15 / 4|37 / 9
		5.30	5.35	.09	12 25 47 12
				5.19	22
	m	2.05	2.19	1.86	19 3 3 / 4|53 / 13
		1.87	1.86	.13	
				1.99	
	l	3.09	2.88	2.71	38 3 14 / 4|58 / 14
		2.74	2.71	.14	
				2.85	

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1888phae.proj.1324S

March 4, 1888

k
3,37 3,65 3.37 58
3,45 3,79 .32 28
3.69 42
4 128
32

f
4,50 4,58 4.41 9
4,41 4,66 .123 17
4.53 4 25
4 11
+2
13

g
5,32 5,62 5.32 28
5,60 5,60 22 30
5.54 4 86
21.5

f
5,57 5,97 5.50 7
5,50 5,60 1+6 24 47
10
5.6+6 4 44 64
+4 16

10 3 Ended.

Dk. Zone +9°. Series 18. S. obs.

10 42 1524
3,70 3.59 11
3,70 7 3 22
3,59 3.66 4
4.76
6

1525
3,22 3.22 2 5
3,28 10 3 3 1
3.32 10
3,47
4.32

1528
2,85 2.85 12
12 23
3,08 2.97 3 33
12
2,97
3.86

1530
3,12 3.10 2
81 42 3,10 11 31
3,41 3.21 3 33
11
4.17

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1888phae.proj.1324S

March 4, 1888

1531
3.71
3.86
4.08
5.04

1534
3.50
3.60
3.66
4.76

1541
3.99
3.94
4.01
5.17

~~1545~~
1545
1 of 2
3.10
3.05
3.30
4.10

1554
2 of a group
2.72
2.80
2.70
3.56

1559
2.80
2.90
3.20
3.86

1564
3.21
3.27
3.32
4.25

1565
2.14
2.19
2.19
2.82

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1888phae.proj.1324S

March 4, 1888

1597
3.58
3.70
3.87
3.58 / 14 / 3.72
12 / 29 / 3141 / 13 2/3
4.84

1586
4.82
5.00
4.69
4.69 / 14 / 4.83
13 / 31 / 3144 / 14 2/3
6.29

1590
3.65
3.78
3.90
3.65 / +13 / 3.78 / 78
13 / 25 / 38 / 3148 / +13
4.91

1604
2.60
2.60
2.79
2.60 / 6 / 2.66
3149 / 6
3.46

1610
3.20
3.70
3.66
3.20 / 32 / 3.52
50 / 46 / 3196 / 32
4.58

1620
4.60
5.12
4.80
4.60 / 24 / 4.84
52 / 20 / 3172 / 24
6.29

1128 1630
3.49
3.80
3.83
3.49 / 22 / 3.71
31 / 34 / 3165 / 21 2/3
4.82

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1888phae.proj.1324S

March 6, 1888

Region of Juno (3) + S. obs.

6 38	Stopwatch	Scale	
	10.0	2.98	Juno? precedes
	31.3	2.33	DM. +6° 554
	52.5	.65	21s.3, 8'.3 South.
		12.8	
		520	
		780	
6 47	10.0		
	31.0		Planet precedes star 20s.6
	51.3		
6 53	a	2.39 2.70	1.87
		2.39 2.39	2.47 ·1
			3.21 ^
	Juno (3)	3.76 4.27	4.00
		3.98 3.99	4.00 ·1
			5.20 ^
	DM. +5° 457	3.77 4.13	3.80
		4.15 3.75	3.95 ·1
			5.14 ^
	b	2.10 2.21	.73
		2.05 2.37	2.18 ·1
			2.83 ^
	Juno (3)	4.00 4.11	3.80
		4.02 3.67	3.95 ·1
			5.14 ^
	DM +4° 508	4.01 4.08	.29
		4.12 4.08	4.07 ·1
			5.29 ^
7 27	Planet now precedes star 18s.		

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1888phae.proj.1324S

Mar. 6, 1888.

			Juno and Comp. Stars.		Fr. obs.
γ	3d	+5° 45′ 7	3.9d	3.77	3.42
			3.8d	3.79	3.86 "
					5.00 '
		Juno (3)	3.8v	3.5v	2.83 "
			3.5d	3.8d	3.71 "
					4.82 '
		a	2.71	2.4d	2.56
			2.6d	2.69	2.64 "
					3.43 '
		b	2.30	2.30	1.50
			2.51	2.39	2.37 "
					3.08 '
		~~Juno~~	3.53	3.70	2.70
		~~+4° 50d~~	3.69	3.7d	3.67 "
					4.77 '
		+4° 50d	3.62	4.02	3.41
			3.79	3.9d	3.85 "
			Ended at 2h 30m		5.00 '

3.67
3.3
1.1
1.0
1.7
3.67
4.7

Dun Tune. +9°

Fr. obs.

7h 30m = d "

6 24 +10
7 30
+1 2

5 27 49
7 27

Tune abandoned. Too late for a sufficient number of stars

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1888phae.proj.1324S

Mar. 6, 1888,

Reg'n of discrepancy in R.A. ~~of star~~
noticed Mar. 3. Fr. obs.

3 = 3 +5°

8 4

+4 41

Star pr. 53 secs 2' north
" fol 13 " 2' "
~~21~~ 1.5
" fol 21 " 1.5 south.
" " 34 " 3.5 north.

An exceedingly faint star (12 to 12.5 mag.) fol.
+6° 536 13 secs. 2' north. (by 2 m. 14 secs,
1.4 north)
+6° 539 fol 536 by watch. 21 secs. 1.5 south
(By 2 m. 22.1 secs. 2.4 south)
∴ ~~It~~ It would seem that the 12 mag. star was
the star 537 (mag. 9.5) in R.A. but it would
seem to be impossible to see it at its present
faintness. Var.(?)

Reg'n of Flora (8) Fr. obs.

Stopwatch. Scale

10 14	10.0	2.29
	31.0	1.90
	52.0	.39
	62.8	12.6
	73.1	312
		468

Flora ↑ follows Dll. +1° 2816
21.0, 5'.0 north, and
precedes Dll. +1° 2818
10.5, 5'.0 north.

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March 6, 1888

Comparison stars for Flora (8)

DM. + 0° 2997 and 3002.

Stopwatch	Scale	
10,0	1.88	Star a follows
74.7	1.74	DM. + 0° 2997 64.8,
139.7	.14	1'.8 north.
	12.5	
	179 2	

DM. +1° 2768 selected for the fourth comparison star.

	Stopwatch	Scale	
20 58	10,0	2.11	Planet now follows
	30,0	1.73	DM. +1° 2816 20.0 and
	50.0	.38	precedes DM. +1° 2818 12.0
	62,0		
	74.0		

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March 7, 1888

Region of Juno (3) S.Obs.

		Stopwatch	Scale	
6	50	10,0	4.34	Juno ? follows
		47.6	3.80	D.M. +6° 556
		84.8	.54	37s.4, 6'.9 south.
			12.8	
			5 1 2	
			6 40	

7 28 Planet now follows star 40s.

W. Obs.

7	33	+5° 457	3.9 v	3.7 v	3.32
			3.80	3.8 v	3.83 " ^
					4.98 ^
		Juno (3)	3.7 v	3.89	2.96
			3.87	3.4 v	3.74 " ^
					4.86 ^
		a	2.5 v	2.63	2.65
			2.7 v	2.7 v	2.66 " ^
					3.46 ^
		b	2.33	2.40	1.58
			2.53	2.3 v	2.39 " ^
					3.11 ^
		Juno. (3)	3.91	3.5 v	2.74
			3.79	3.5 v	3.68 "
					4.78 ^
		+4° 508	3.75	3.9 v	3.37
			3.93	3.77	3.84 "
					4.99 ^

Ended at 8h 15 v

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Mar. 7. 1888.

Dm. Low +9°

Yr. obs.

6 30 = 7 9

√ 27 +10.

7 2√

+1 √4

Series 19.

4 1K	46√	4.10		
		3.90		
		4.04	12.04	
	467	3.40		5.22
		3.26		
		3.02	9.68	
	462	3.62	~~12.58~~	4.19
		3.42		
		3.67	11.11	4.85
	872	2.44	~~1.44~~	
		2.70	Double	
		2.67	Comps about equal.	
			Bright. of individ comps. meas.	
	874	3.10	8.21	3.56
		3.24	~~10.67~~	3
		3.51	9.89	
	840	3.40	~~12.86~~	4.28
		4.00		
		4.04	11.88	
				5.14

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Mar. 7. 1888.

890	3,39	Fol. and brtr. of pair.
	3,39	
	3,40	
		10.18'
		4.41'
894	3,20	
	3,21	
	3,05	
		9.46'
		~~12.30~~ 4.10'
901	3,31	
	3,60	
	3,59	
		10.50'
		4.55'
904	2,32	
	2,44	
	2,52	
		7.32'
		3.17'
917	3,09	~~7.82~~
	3,09	
	3,16	
		9.34'
		4.04'
923	3,10	~~12.14~~
	3,05	
	3,05	
		9.20'
		~~11.96~~ 8.98'
934	3,01	
	2,90	
	3,00	
		8.91'
		8.86'
		~~11.53~~

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1888phae.proj.1324S

Mar. 7. 1888.

939 4.00
4.29
4.27 12.56'
5.44'

941 3.50
3.72
3.57 10.79'
4.67'

~~943~~

Ended at 9h 5m

Region of Parthenope (11) 5 obs.

	Stopwatch	Scale	
10 0	10,0	2,73	Stars a and b; a nf b
	77,2	2,11	Δα 67s.0 Δδ 7'.9
	144,0	62	
		25-6	
		768	
	10,0	2,74	Star a nf DM. +3° 2668
	31,2	1,61	Δα 21s.0 Δδ 14'.5
	52,0	1,13	
		12 6 8	
		1 2 4	
		3	
10 14	10,0	2,20	Star c s/o b
	27,8	2,09	Δα 17s.5 Δδ 0'.1
	45,0		

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1888phae.proj.1324S

March 7, 1888

Region of Flora (8) S. obs

10 33 Stopwatch / Scale

10,0 2,60

25,0 1,71

40,2 0,89

12,8

10 68

Flora now precedes DM. +1° 2816 15s.1, ~~8s.2~~

10'.4 north

10 45 DM. +0° 3002 5,51 5,80 2.62

5,49 5,82 5.64 ~~5.6~~

7.3 ~~7~~ 6

Flora (8) 3,20 3,71 2.10

3,59 3,60 3.52

4.58

a 2,20 2,125 .75

2,21 2,09 2.19

2.85

DM. +1° 2768 3,04 3,28 4.44

southern of two stars 2,91 3,21 3.11

4.04

Flora (8) 3,51 3,40 2.24

3,59 3,74 3.56

4.63

DM. +0° 2997 4,14 4,13 .84

4,17 4,40 4.21

5.47

Stopwatch

11 30 10,0 Flora now precedes DM. +1° 2816

26,5 16s.5

43,0

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March 7, 1888.

Stopwatch

Region of Parthenope (11)

10,0
31,0
51,9

Star a follows
D.M. + 3° 2668 21.s0 as before

11 41 10,0
24,9
39,8

Star b follows c 14.s9
Hence b is the planet.

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March 9, 1888

Region of Parthenope (11) L.Obs.

Parthenope n p a (see p. 101)

	Stopwatch	Scale	
9 25	10,0	2,60	Planet precedes star
	32,3	2,17	22s.4, 5'.5 north.
	54,8	4,3	
		12,8	
		384	
		512	

Region of ⊙ Flora (8)

Flora of DM. +1° 2813

	Stopwatch	Scale	
9 38	10,0	2.82	Planet follows star
	71,2	2.09	61s.0, 9'.4 south.
	132.0	7,3	
		415	
		896	

9 48	DM. +0° 2997	3.88	4.32	4.77
		4.29	4.28	4.19 5.45
	Parthenope (11)	3,28	3,28	1.38
		3,50	3,32	3.34 4.34
	Flora (8)	3.68	3,59	2,53
		3.66	3.66	3.63 4.72
	DM. +1° 2768	3,50	3,41	1.35
		3,39	3,05	3,34 4.34
	a	2,70	2,38	1.73
		2,32	2.33	2.43 3.16

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1888phae.proj.1324S

March 9, 1888

Flora (8)	3,56	3.48	2.47 ^
	3,73	3,70	3.62 v
			4.71 ^
Parthenope (71)	3,82	3.40	2.75 ^
	4,01	3,52	3.69 .
			4.80 ^
DM. +0° 3002	5.60	5.72	~~2.20~~ 3.20 ^
	6,17	5.71	~~.55~~ 5.80 -
			7.56 ^

10 45 Interrupted by clouds after first observation of Flora in second series. Resumed observations in about 15 minutes.

Stopwatch

11 19 10,0 Parthenope now precedes
36,0 a 25ˢ.8
61,5

11 26 10,0 Flora now follows
67,2 DM. + 1° 2813 57ˢ.3
12 41,7

1888phae.proj.1324S

March 10, 1888

Region of Juno (3) S. obs.

	Stopwatch	Scale	
6 45	10.0	2.03	Juno? follows
	15.4	1.99	DM. +7° 535
	21.0	.04	5ˢ.5 − , 0′.5 north
		.51 2	

DM. +9° 590 and DM. +10° 583 are the most available stars for connecting a new group of comparison stars with that recently used.

	Stopwatch	
6 56	10.0	Juno now follows DM. +7° 535
	16.2	6ˢ.3
	22.6	

DM. +9° 570 is followed 5ˢ 6′ north, by a star called a, and is preceded 19ˢ, 6′ south, by one called b.

3 JC
4 22
K A

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March 10. 1888.

Juno and Comp. Stars. Yerkes.

7 h	+9° 57′ 0	5.29	5.14	.82
		5.09	5.30	5.20 ^
				6.76 ^
Juno (3)		3.60	3.44	2.56
		3.54	3.50	3.64 ^
				4.73 ^
	a	3.04	2.42	3.66
		2.90	2.46	2.92 ^
				3.80 ^
	b	2.31	2.52	
		2.04	2.74	1.65
				2.41 ^
				3.18 ^
Juno (3)		3.94	3.53	
		3.64	3.50	2.65
				3.66 ^
				4.76 ^
+10° 54 3		5.07	5.75	2.11
		5.60	5.69	5.53 ^
				7.19 ^

Ended at 4h 15m

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March 10. 1888.

Stars in Pleiades. Gr. obs.

i	4.62	4.57	4.57	15 / 21 / 4|39 / 3 / 4
	4.70	4.78	.10	
			4.67.	
e	5.89	5.32	5.15	74 / 57 / 17 / 4|148 / 37
	5.72	5.15	.37	
			5.52.	
u	1.13	1.91	1.00	13 / 91 / 85 / 4|189 / 4 7
	1.00	1.85	.47	
			1.47.	
h	4.74	5.00	4.80	−6 / 20 / 60 / 4|74 / 18
	4.80	5.40	18	
			4.98.	
m	1.80	2.38	1.80	1 / 58 / 69 / 4|138 / 32
	1.81	2.49	32	
			2.12.	
l	2.51	2.93 ~~2.52~~	2.50	1 / 43 / 4|202 / 46 / 11.5
	2.50	~~2.78~~ 2.52	.12	
			2.62.	
k	3.47	3.70	3.50	−3 / 40 / 20 / −1 / 4|20 / 5
	3.54	3.49	5	
			3.55.	
j	4.02	3.79	3.80	−1 / 22 / 17 / 8 / 4|46 / 11.5
	3.97	3.88	.12	
			3.92.	

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March. 10. 1888.

g	4.97	5.07	5.00	−3	
	5.20	5.32	.14	29	
			5.14	32	
				456	
				14	
f	5.15	5.30	5.15	16	
~~g 20t~~	5.31	5.25	.10	13	
			5.25	10	
				4141	
				16	

Star "n" rather faint for good measurement in wedge. Seek a little better in return series than in first series.

Ended at 9h 20m f.

Region of Parthenope (11) 5 obs.

Stopwatch	Scale	
10.0	2.09	Plant precedes
17.1	2.03	DM. +3° 2665
9.39 24.2	6	7s.1, 0'.8 south.
	12.8	
	768	

Region of Flora (8).

Clouds delay observations.

Stopwatch	Scale	
10.0	2.40	Plant follows
30.7	2.19	DM. +1° 2813
9.54 50.3	21	20s.2, 2'.7 south
	12.8	
	576	

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1888phae.proj.1324S

March 10, 1888

10.10	a.	1.90	2.16	4.07
	=	1.60	2.41	2.02 ↑
				2.63 ↑
	~~Flora~~			
	Flora	3.11	3.42	1.26
		3.52	3.21	3.32 ↑
				4.32 ↑
	Parthenope	3.40	3.61	2.03
		3.22	3.80	3.51 ↑
				4.56 ↑
	D. M. +0°3002	5.15	5.70	~~2.0.7~~
		5.53	5.69	2.07
				5.52 ↑
				7.18 ↑
	D. M. +0°2997	4.90	4.06	5.41
		4.50	3.95	4.35 ↑
				5.66 ↑
	Parthenope	3.20	3.38	~~2.92~~ 4.92
		3.40	2.94	~~+8~~ 3.23 ↑
				4.20 ↑
	Flora	3.21	3.53	1.38
		3.54	3.86	3.34 ↑
				4.34 ↑
	D. M. +1°2768	2.66	3.11	4.36
		3.20	3.17	3.09 ↑
				4.02 ↑
	Stopwatch		10.0	Flora now
10.54			25.1	follows D.M. +1° 2813
			46.1	18.0

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March 10 1888

Stopwatch

10 58 10.0 Parthenope now precedes
20.0 D.M. +3° 2665 10.5.0
30.0

Sky somewhat hazy and haze suspected to be variable,

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March 15. 1888.

Stars in Pleiades. Gr. obs.
Herr wedge Photometer.

Clouds.

No chance for observation.
Closed dome.

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Mar. 16. 1888.

B. + C. 1142.

11h 12m	57	1.0
	58	1.0

Ballou 103.

12	9	0.0
	10	0.0

Dis. Sup. II. Plt. H. P. to. Comp. with Sat. I.

12	36	1V
	4	12
12	44	27
12	9	0
	3V	27
11	V7	1
12	32	28

Sup. trans dis.

~~Lower~~ Southern Sat. assumed to be I. (I and II close together.)

12	21	4V.0	4Δ.1
		VΔ.0	132.Δ
	22	9.V	4V.2
		24.0	130.4
		3V.0	47.7
		43.V	133.6
		V7.0	47.6
	23	3.0	132.9

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Mar. 16. 1888.

12	23	14.V	46.0
		24.0	133.2
		37.0	52.0
		53.0	131.6
	24	2.0	43.3
		16.0	131.6
		24.0	46.A
		42.V	133.0
		V1.V	47.3
	2V	2.0	130.V
		39.V	44.4
		V4V	133.4
	26	7.0	44.6
		27.0	133.2
(add'l)		42.V	41.V
		V9.V	133.9
	27	13.V	44.4
		27.0	130.4
		41.0	44.0
	24	7.0	131.2
		21.V	44.7
		31.V	133.6
		44.0	52.2
	29	2.0	129.2
		11.0	52.A
		26.0	126.1

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1999phae.proj.13245

Inav. 16. 1888.

12	29	40,0	56,5
		45,5	121,6
	30	45	61,5
		47,0	121,4
		24,0	60,4
		41,0	112,6
		52,5	63,6
	31	3,0	107,5
		16,5	65,1
		35,0	reen.
		42,5	106,3

Limit of Vis.

12	32	27,0	65,4
		41,5	109,7
		57,0	67,3
	33	10,0	112,4

B. + C. 1888.

12	~~43~~	~~0.0~~
	44	0.5
	45	0,5

Balloon 103.

12	~~55~~	~~0.0~~
	56	0.0
	57	0.0

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1888phae.proj.1324S

Mar. 17. 1888.

Sun and Comp. Stars. Nr. obs.

+24.0 +115'

12)168(14 12)1405(67'

72

68

3 35.0 +7 14

14 7

349.0 74 28

−14 −6

Sum. (14+5) 347.2 74 19

3.33 +10.24

999 32

999 324

1065.99 3256.4

3 6 14 +9°

7 20

74 2

2 47 0 20

19 24

28 2020

7 32 +9° 9/70 5.40 5.22 1.0 ν

5.10 5.33 ν.26^

6.84^

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1888phae.proj.1324S

Mar. 17. 1888.

Juno (3)	3.65	3.54	2.47
	3.58	3.70	3.62 "
			4.71
a	2.95	2.83	3.52
	2.77	2.97	2.88 "
			3.74
b	2.63	2.56	
	2.50	2.44	2.13
			2.53 "
			3.29
Juno (3)	3.70	3.68	
	3.57	3.56	2.51
			3.63 "
			4.72
+10° ♃ 23	5.75	5.62	2.35
	5.48	5.50	5.59 "
			7.27

Ended at 2h 2m

Nano in Pleiades. Gr. obs.

Ended at 8h 55m

i	4.78	4.82
	4.69	4.74
e	5.54	5.47
	5.57	5.48

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1888phae.proj.1324S

Mar. 17. 1888.

w	0.85⁻	0.91
	0.90	0.77
h	4.73	4.80
	4.67	4.72
m	2.02	1.77
	1.80	1.81
l	2.30	2.45⁻
	2.21	2.58
k	3.25⁻	3.50
	3.34	3.28
j	3.75⁻	4.06
	3.88	4.03
g	5.09	5.06⁻
	4.88	5.19
f	5.11	5.17
	5.12	5.20

Ended at 8h 55⁻

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1000phae.proj:15245

Mar. 17. 1888.

Regcon of Flora (A) Gr. ob.

$\frac{20/16..}{-0.2}$ $\frac{20/142.}{+7.1}$

i. Flora should ~~fo~~ prec. +1°2<16 about 2 min. and be about 1.2 north, and Parthenope should prec. +3°266 about 2.5 and be about 1.2 north.

13 >5 +4.4
10 0
−3 >5

10	A	+0°3002	5.70	5.57	2.45
			5.83	5.65	5.61
					7.29
		Flora (A)	3.62	3.57	2.10
			3.57	3.40	3.52
					4.58
		a	2.28	2.26	.83
			2.17	2.12	2.21
					2.87

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1888phae.proj.1324S

Mar. 17. 1888.

+1°276 a	2.97	3.02	4.32
	3.15	3.18	3.08.
			4.08
Flora (A)	3.55	3.45	2.08
	3.42	3.66	3.52.
			4.58
+0°2997	4.30	4.20	.77
	4.02	4.25	4.19.
			5.45

Motion of assumed Flora about what it should be (in amount and direction) by Ephemeris in interval.

Ended at 11h 5m

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1888phae.proj.13248

March 18, 1888

Regions of Thoza (8) and Parthenope (11)
S. obs.

13 ~~29.5~~ 14.5 — 1.7 — 13 ~~27.8~~ 12.8 — 2 36

12 22.7 — 1.7 — 12 21.0 — 4 25

DM. star at $12^h\ 20^m.8$, $+4°\ 0'$, called a.

Stopwatch	Scale	
10.0	~~2.11~~	b precedes a $14^s.0$
24.0	1.39	1'.5 south
38.0	1.27	

12 × 12.8 = 256 + 1536

9 35

~~10.0~~	0.84	
23.8	12.8	
36.9	~~a67~~ 672	
49.5	~~100~~ 1008	
	10.752	

10.0	c precedes b $12^s.7$
22.8	10'.8 north
35.5	c is probably (11)
48.2	

DM. star at $13^h\ 12^m.5$, $+2°.4$, called a

Stopwatch	Scale	
9 55 10.0	1.88	b precedes a $35^s.1$
45.0	1.20	8'.7 north
80.2	68	and may be (8)
	12.8	
	544	
	816	

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1888phae.proj.1324S

March 18, 1888

10 5

DM +0° 3002 — 5.27 5.91 — 2.34 — 5.58 — 7.25

Flora (8) — 3.73 3.81 — 3.26 — 3.82 — 4.97

Parthenope (11)? — 2.86 2.97 — 3.81 — 2.95 — 3.84

DM. +0° 2997 — 4.21 4.20 — 1.21 — 4.30 — 5.59

DM. +1° 2768 — 3.40 3.53 — 1.90 — 3.47 — 4.51

Parthenope (11)? — 3.00 3.11 — 4.05 — 3.01 — 3.91

Flora (8) — 3.50 3.72 — 2.15 — 3.54 — 4.60

a — 2.30 2.76 — 1.97 — 2.49 — 3.24

Stopwatch

11 10

10.0
23.0
36.0
49.2

Region of Parthenope
c precedes b $13^s.1$

10.0
23.4
37.2

b precedes a $13^s.6$

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1888phae.proj.1324S

March 18, 1888

Stopwatch
10,0 c precedes b 13^s,0
23,1
36 0

c is probably not the planet, but no other star appears near the expected place.

Region of Flora

Stopwatch
11 25 10,0 Flora now precedes a
48 8 39^s,0
87,9

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1888phae.proj.1324S

Mar. 22. 1888.

Juno and Comp. Stars. 7 2f 27 1r
Fr. obs.

3 2r 1f2r
7 f3
+3 r1

2r5r
1r4

30.0 36.0
r
Clouds. delay obs.

Scale { 32.1r Juno
36.1 Star.
3.9r

Juno prob. found (in 9 obs.)

Juno (r.) prec. +9°534, 12"2 3.9r scale div.
south, at 4h 12m

Juno lost in clouds. This was prob. Juno, as preliminary transits, at intervals, seemed to indicate motion. Besides, there is no Dm. star in this place, and it was decidedly better than Dm. 534, and a little better than 536, — both 9.5 mag. by Dm.

Adjusted rate of driving clock, so that it runs now very perfectly.
Too cloudy for better work.
Closed dome.

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1888phae.proj.1324S

Mar. 23. 1888.

Sun. +11° 7' 0 ~~"~~, 744 ± Fr. obs.

3 19 +V.
4 7
16 42

Pos. Zero.
269.4
45.0
Setting 314.4

~~42~~ ~~33~~ ~~2.6~~
8 33 47.4
34 10.2
3V 2.V
3V 26.V

36 4.V
36 27.V
37 20.3
37 44.0

38 31.9
38 54.2
39 47.1
40 10.6

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1888phae.proj.1324S

Mar. 23, 1888.

δ	31	$\delta.0$
		31.2
	42	24.0
		47.0
	43	44.1
	44	$\delta.0$
	45	0.7
		23.2

Order in above transits.
744, 744, 750, 750.

744 in Southern and 750 in northern half of square.

Transits of D M. +52° 750, 752 and 758.

9	~~9δ~~	50.7
	~~40~~ 9	0.6
	9	15.3
	10	5.7
	10	18.8
	11	6.4

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1888phae.proj.1324S

Mar. 23. 1888.

9 11 √4.3
12 4.1
12 23.√
13 12.3
13 2√.1
14 13.2

14 ~~47.7~~
√7.6
15 36.4
46.6
16 2.2
√2.4
17 √.0
√3.0

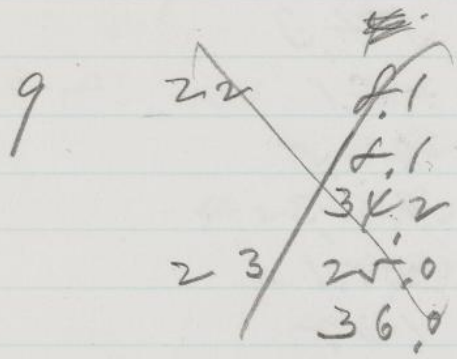
18 3K.1
4K.0
19 0.1
√1.6
20 2.9
√1.0

over.

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1888phae.proj.1324S

Mar. 23. 1888.



19 ∨47
20 4.3
21.0
11.7
22.6
11.8

Order in above sets 7∨0, 7∨2, 7∨0, 7∨2, 7∨4, 7∨8.
All in southern half.

Fr. 1327

9 42 1.0
43

B. 236.

9 44 30.1
45 30.1

4 36 ∨∨.3
9 ∨5
∨ 19

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1888phae.proj.1324S

Mar. 23. 1888.

Dyn. + 54°. 809. and 819.

10h	1	54.5
	2	45.0
	3	50.9
	4	59.0
	5	44.9
	6	35.4
	7	41.2
	8	50.0
	9	33.0
	10	24.2
	11	29.7
	12	39.1
	13	19.0
	14	10.9
	15	15.4
	16	25.2
	17	19.5
	18	11.2
	19	15.9
	20	25.5

over

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1888phae.proj.1324S

Jan. 23. 1888.

Order in previous transits.
Δ09. Δ09. Δ19. Δ19.
Both in southern half of Lyncis.

4	55	+51,K
10	27	
+5	32	

Dm +50° 107 4 and 1076.

10 34 40.9
57.0
39 10.0
34.6

10 40 44.1
59.6
41 13.5
42.0

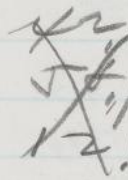
42 24.0
40.0
53.6
43 22.2

43 58.7
44 14.4
24.0
56.9

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1888phae.proj.1324S

Mar. 23. 1888.



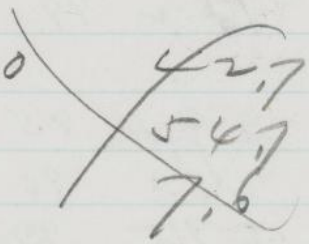
47 13.0
2.7
41.9
48 11.7

Order in forming transits.
1074. 1076. 1076. 1076.

1074 south inside.
1076 north outside.

Dm +53°, 49 ✓. 496 and 499.
✓ 10 +✓4.1
10 ✓✓
+✓ 4✓

11 0



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1888phae.proj.1324S

Mar. 23. 1888.

11	4	30	95
	4	23.7	96
	4	56	99
	5	16.0	96
	5	27.0	95
	5	44.0	99
	6		
	6	59.1	95
7	2	0.0	96
		6.0	99
8	1	3.1	96
	2	3.7	95
		0.3	99
9	2	6.8	95
	4	8.0	96
10	2	4.1	99
	4	1.0	96
		2.1	95
11	1	8.2	99
11	5	9.8	95
12	2	1.0	96
	5	7.5	99
13	1	4.2	96
	2	7.2	95
	5	1.6	99

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1888phae.proj.1324S

Mar. 23, 1888,

15	29.4	95
	51,0	96
16	27.0	99
	44,0	96
	55,0	95
17	21,0	99

Order in above sets.
δ95. δ96. δ99. δ96. δ95. δ99.

δ95 in southern half,
δ96+δ99 " northern "

Very strong wind from north west during observations, shaking telescope at times.

Fer. 1327		
11	32	1.1
	33	1.1

B. 236.		
11	34	29.0
	35	28.9

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1888phae.proj.1324S

March 23, 1888.

B'ful 1182.

14	41	17.7
	42	17.7

Balloon 103.

14	55	0.0
	56	0.0

Dis. Sup. II. Comp. with I. Ob.
Plot. K.

15	9	4√
	8	12
15	17	√7
14	√√	0
	22	√7
14	41	14
15	4	15

Sup. this eclipse.

14	48	43.0
	49	√.√
		32.√
		√√.0
	√0	12.0
		27.0
	√1	2.0
		2√.√
		√0.0
	√2	√.√

227.8
312.8
230.6
313.√
226.2
306.9
229.√
303.√
226.0
306.7

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1888phae.proj.1324S

Incr. 23. 1888.

14	√2	27.0	229.4
		39.√	306.√
		√4.0	232.√
	√3	4.√	[illegible]
	√4	16.0	230.√
		26.√	299.4
		√4.0	231.2
	√5	35.√	306.4
(add 1°)		√0.√	233.0
	√6	4√	304.√
		19.0	235.7
		31.0	304.3
		41.0	227.4
		√3.√	307.1
	√7	√.0	230.7
		16.0	306.2
		33.√	230.3
		4√.√	302.9
	√8	4.0	229.4
		18.√	302.3
		34.√	231.1
		√3.0	304.1
	√9	10.0	224.7
		29.√	303.1

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1888phae.proj.1324S

Mar. 23. 1888.

14	59	46.0	229.3
15	0	0.0	301.4
		11.5	235.5
		25.5	294.4
		36.5	303.0
		51.0	296.4
	1	1.5	237.5
		12.5	300.4
		22.5	241.3
		31.5	300.0
		43.5	234.4
		50.5	295.2
		59.0	246.5
	2	5.5	296.7
		25.5	294.5
		40.5	Sun's a

Limit of Vis.

3	17.0	242.3
	33.5	244.2
	42.0	240.0
4	3.0	249.4

Seeing bad. Stars large and dim.

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1888phae.proj.1324S

Mar. 23. 1888.

B. + C. 1142.

15 13 17.2
15 17.1

Bal. 103.

15 27 0.0
29 0.0

21. 27 — 5.5
16 5.2

— 4 4.7

17 0

23

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1888phae.proj.1324S

Mar. 23. 1888.
Comet Swift's.
Pos. Zero.

3 4 2 v
4 v
---
2 9 7. v

~~17~~

17 7 4 v 1 = } South half.
2 2. 4 = }
13 3 2. v *
13 v 3. 4 * } South half.

14 3 4. 0
14 v 2. 7
20 20. 7
20 4 3. 2

21 4 2. 1
22 2. 4
27 27. 7
27 v 1. v

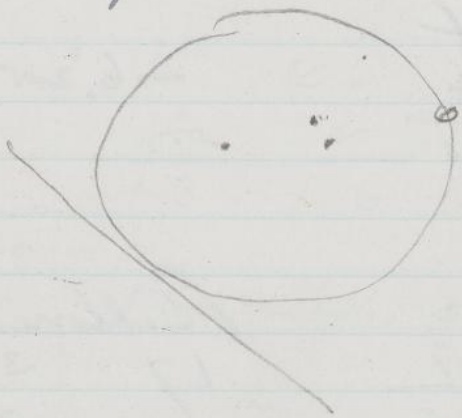
28 4 2. v
29 4. v
34 27. 0
34 v 2. 1

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1000phaec.proj:13246

Mar. 23. 1844.

For reduction see book "Comet Reductions No 4" p. 204.



19 24.5 } 2 d/4
19 42.6

33 27.5 } Approx.
33 40.0

17 36 20.1
36 42.7
42 8.2
42 35.9

Order in all the sets the same.

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1888phae.proj.1324S

Nov. 23, 1888.

S. T. = 17 44
−3 56
*R.A. 21 40

−6.2v

B. 236.
17 55 13.7
56 13.8

Ballou 103.
17 31 0.1
32 0.0

Comp. star in previous comet transits.
−6° 58 27 (6.2 B.)

Bond 236 used.

∴ B. 236. is 34.1 slow.

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1888phae.proj.1324S

Mar. 24, 1888

Dm. +53°. 44V; 44A and 44g. Gr. Hs.

4	46	+53.5
A	2	
+3	16	

Pos. Zero. 342.0
45.
297.0

A	~~25~~	~~24.1~~
	~~25~~	~~43.0~~
	~~26~~	~~37.8~~
	~~27~~	~~29.0~~
	~~24~~	~~5.3~~
	~~28~~	~~23.7~~
	~~28~~	~~53.5~~
A	29	46.1
	30	37.6
	31	13.3
	31	32.0
	32	2.1
	32	13.7

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1888phae.proj.1324S

Mar. 24. 1888

8h	33	9.9
	34	1.3
	34	37.5
	34	53.8
	36	25.9
	93	40.3
	36	20.4
	37	12.2
	37	47.8
	38	6.9
	38	36.0
	38	50.2
	39	33.0
	40	24.9
	41	0.9
	41	19.1
	41	49.5
	42	3.2
	42	43.0
	43	34.8
	44	11.0
	44	29.2
	44	59.1
	45	12.7

Order 845, 845. 848. 849. 849. 848.
845 in southern half.
848 & 849 " northern "

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1888phae.proj.1324S

Mar. 24, 1888.

D.M. +53° 2494.

The position of this star and the one fol. in the D.M. agrees with B.D. II. There seems to be an error in copying on the working list, and until this is looked up, further examination of sky is postponed.

D.M. +53° 1110, 1111 and 1114.

5	36	+51,4
2	17	
+3	19	

9	17	
4	36	
+3	39	

4	13	47,4
9	20	
5	7	

9	24	
5	36	
+3	48	

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1888phae.proj.1324S

Bmm. 24. 1888.

There must be something radically wrong in the position of +51° 1110 relative to 1911 (mag. 6.4) N 6 f.6 near it.
A ft. star (9.1 ±) pre. the 6.4 some 15 secs. south 5' south. Look up. position of 1110 in ~~Argelander~~. Bmm obs.

An 8.3 follows a D. M. +51° 11. 11 59 secs 4½ minutes ~~north~~ South

a 7.5 follows the 8.3 1m 52.3 - 3 secs & is 5 minutes south of it.

a 6.5 follows this last star 64.3 secs & is 9 minutes north of it.

Evidently something is wrong in D. M. To be looked up in catalogues.

D M. +5K° 9K3. and 9 Q2.

5 36 +5K.K
9 5
+K 1 9

~~See next~~ See next pages for transits, Star to be obs. is northernmost of a little triangle of faint stars (See D M. charts.

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1888phae.proj.1324S

Mar. 24. 1888.

9 58
5 48
4.10

10h	.5m	38.5s
	6	13.0
	6	31.0
	6	52.4
	7	24.6
	7	39.0
	7	57.0
	8	18.4
	8	50.6
	9	5.0
	9	22.9
	9	44.1
	10	17.3
	10	31.1
	10	49.3
	11	11.0
	11	39.1
	11	53.0
	12	11.6
	12	33.0

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1888phae.proj.1324S

Mar. 24, 1888.

Order in previous transits 943, 942, 942, 943, — 943 in Northern half & 942 in Southern half

Dm +52° 1020, and 1019.

5	48	+54.3
10	21	
14	33	

The dec. of 1020 relative to 1019 is wrong in Dm. — also 1020 (dec) relative to 1022. but the dec. of 1019 relative to 1022 is right so that the error in dec. is with 1020, it being about 6.7 north of 1019 in sky against 8.9 in Dm. Diffs. of R.A. correspond with Dm.

For transits see next page.

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1888phae.proj.1324S

Mar. 24. 1888

10h	46	33.6
	46	50.3
	47	27.3
	47	48.5
	48	25.0
	48	42.4
	49	19.6
	49	40.0
	50	24.0
	50	38.8
	51	16.0
	51	36.4
	52	8.0
	52	22.7
	53	0.3
	53	20.1
	53	53.1
	54	8.1
	54	45.2
	55	57.1

in previous transits

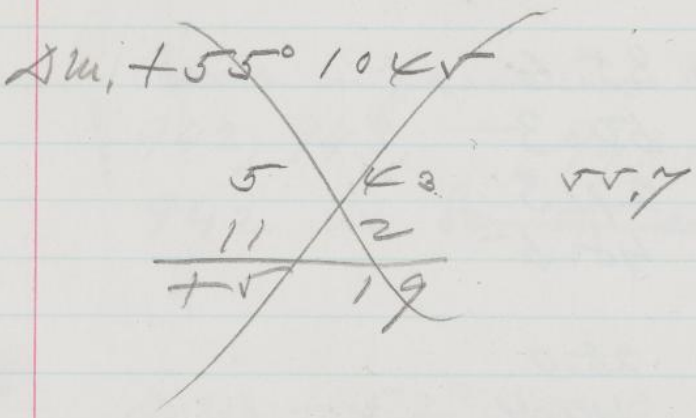
Order 1019, 1020, 1019, 1020

1019 in Southern half

1020 " Northern "

1888phae.proj.1324S

Mar. 24, 1888.



B. 236.

11	42	21.5
	43	21.5

Fr. 1327

~~Balloon 103.~~

11	40	1.0
	41	1.0

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1888phae.proj.1324S

Mar. 29. 1888.

+53° 929 and 942 Fr. obs.

5 42 +7.43
4 12
+2 24

This star is a faint double.
Which component (?)
More information wanted.

+55° 1045 and 1037

4 27
7 42
+2 39

Pos. Zero, 342.3
45,
297.3

A	37	43.2	1037	South half.
	39	12.5	"	
	40	25.1	1045	
	40	55.4	"	

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1888phae.proj.1324S

Mar. 29. 1888.

~~8 41 59.0~~

8-44-34.6
46 4.7
~~47~~ 16.9

8	53	22.3
	54	52.9
	56	4.0
	56	35.9
8	57	8.8
	58	39.2
	59	50.5
9	0	22.7
	~~1~~	~~0.2~~
		0
9	1	0.2
	2	31.4
	3	42.1
	4	14.8
9	5	33.5
	7	5.3
	8	15.7
	8	48.5

Order and position in all the sets the same.

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1888phae.proj.1324S

Mar. 29. 1888.

B. 236. Fr. 1327.

9	14	59.5	9	13	1.0
	15	59.4		14	1.0

Dm. + 510 ~~993 and 999~~ 993 & 999

4 r-6 +r-1.4
9 4.0
14 4.4

9	50	26.7	93
	51	35.6	"
	51	42.4	99
	52	16.6	"
	53	13.5-	~~93~~
	54	22.0	
	54	29.6	
		33.2	
		~~10.3~~	
	~~56~~	~~17.1~~	
	56	~~51.6~~	
		0.5-	

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1888phae.proj.1324S

Mar. 29. 1888

9	58	53.3	93
	59	58.1	"
10	0	10.0	99
	0	29.4	"
	1	4.6	93
	1	59.4	"
	2	21.0	99
	2	40.0	"
	3	8.1	93
	4	2.6-	"
	4	24.5-	99
	4	43.7	"
	5-	15.0	93
	6	9.2	"
	6	31.5-	99
	6	50.6	"

Order in previous transits 993, 993, 999, 999.
Both in Northern half.
999 is a rather close double—Preceding and brighter component observed

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Mar. 29. 1888.

5	36	+51.5
10	13	
+4	37	

4	22	+51.2
10	24	
+2	6	

+50° 1364 + 1077

10	39	38.6	64
	40	14.3	"
	42	27.7	71
	42	54.2	"
	43	31.3	64
	44	6.2	"
	46	20.1	71
	46	47.0	"
	47	22.3	64
	47	58.2	"
	50	11.7	71
	50	37.7	"

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1888phae.proj.1324S

Mar. 29. 1888.

10	51	29.2
	52	5.6
	54	19.0
	54	44.7
	55	23.7
	56	0.0
	58	13.5
	58	39.5

Order in previous transits 1564, 1564, 1571, 1571.
1564 in Southern half.
1571 " Northern "
This star is apparently not double. Its place checks moderately well with Paris M. Stars immediately adjacent.

B. 236.

11	23	54.5
	24	54.5

Fr. 1327.

11	22	1.0
	23	1.0

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1888phae.proj.1324S

Mar. 29. 1888.

Dis. Jup. I. Plat. R. P. obs.
Camps Twith first sat. fol. (Prob.
preceding was intended as this was not
sat. fol.) Comp. Sat. = II.

B. + C. 1182		Bal. 103.	
12	40	1.0	12. VV 0.0
	41	1.0	56 0.0

12	KV	7.0	196.0	
		14.0	241.0	1
		23.V	193.0	
		32.0	241.0	
		40.0	14V	
		46.V	277.2	2
		V2.V	141.V	
	K6	6.0	279.0	
		V.V	146.2	
		12.0	27V.1	3
		17.0	140	
		2V.0	276.0	
		30.0	190.7	
		36.V	27V	K

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Mar. 29. 1888.

K6	46.0	16.0	4
	52	20.—	
	4.0	14.7	
K7	5.0	23.9	5
	16	14.2	
	2K0	20.3	
	16.0	14.4	
	K.0	27K.0	6
	K6.0	16K.	
	52	27K.3	
	59.0	14.7	
K4	5.0	27.7	7
	10	14.K	
	14.0	29.5	
	2K0	14.7	
	29.5	26.9	8
(aaaa)	— 55	14.3	
	K55	27.2	→
	K4.0	19.9	
	54.0	27.2	
	59.0	19.3	
K9	5.0	27.4	
	12.0	19.5	
	14.0	27.1	
	2K.0	19K4	
	30.5	29.7	

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1888phae.proj.1324S

Mar. 29, 1888.

59	25.0	192.7
	25.5	267.5
	25.0	192.2
	29.0	266.4
50	25.0	194.5
	22.0	269.4
	17.0	192.7
	22.0	266.0
	26.0	194.5
	30.0	266.1
	35.0	206.1
	40.0	270.0
	44.0	194.5
	47.5	277.0
→	53.5	208.2
	54.5	254.2
51	3.5	204.0
	8.5	253.7
	10.0	212.7
	19.0	270.0
	24.0	210.0
	30.0	246.2
	36.0	214.2
	42.0	242.5
	52.0	220.2

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1888phae.proj.1324S

Mar. 29. 1888.

Limit of Vis.

12 [illegible] 40	21 [illegible]
30.0	240.0
~~29.0~~	
46.5	219.5
52.0	242.5

Seeing good. Meas. satisfactory.

B. + C. 1152.

12	59	59.5
13	1	0.0
	2	0.0

Bal. 1053.

13	15	0.0
	16	0.0
	17	0.0

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1888phae.proj.1324S

Mar. 31. 1893.

Too cloudy for photometry.

+51°

5 36 51.5

9 19

+3 43

Clouds.

~~+55°~~

~~9 42~~ ~~+54.7~~

11 23 +49.7

9 43

−1 40

Sw +53° 1692 ~~and~~ 1699. and 1694.

14 2 52.5

9 47

−4 23

1 47.5

2

1 47.5

14 10 12.

14 2 26

over.

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1888phae.proj.1324S

Mar. 31. 1888.

This star is not double and there is no other star close enough to place to be mistaken for it. Its R.A. is some 9ses greater than indicated in D M. (as the remarks on working list also state). There is undoubtedly an error in D M.

Francis.

Pos. Zero. 333.1

Setting $\frac{4\nu.}{2\,4\,8.1}$

Clouds.

10	22	2.2
	23	0.0
	23	55.0
	24	54.0
	25	31.0
	26	50.1
	27	47.9
	28	46.0
	29	41.4
	30	40.5
	31	17.5
	32	37.0

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1888phae.proj.1324S

Mar. 31. 1888.

Clouds.

10 33 58.9
34 56.3

Clouds.

New series.

42 22.7
43 20.1
44 15.9
45 14.7
46 51.2
47 10.2

48 34.0
49 34.9
50 31.3
51 29.7
52 7.4
53 26.0

~~55 0.9~~
55 ~~52.3~~

57 34.2
58 35.9
59 31.6
11 0 30.3

over.

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1888phae.proj.1324S

Mar. 31. 1888.

11	1	54.0
	2	51.2
	3	47.0
	4	46.0
	5	23.3
	6	42.1

B. 236.

11	9	49.7
	10	49.7

Fr. 1327.

11	8	1.0
	9	1.0

Order in previous transits
1694. 1694. 1694. 1694. 1699. 1699.
All in southern half.

+50° 2420, 2425. and 2429.

17	24	+52.4
11	23	
-6	5	

33 37.0
33 51.4

1888phae.proj.1324S

Mar. 31. 1888;

11 3√ 29.0 4.0

37 37 40.7 19.2

38 39 39 40 40 41 √√.3 1√.0 √6.0 20.7 32.4 40.0

42 42 43 43 44 45 32.7 √2.0 32.9 √4.4 1√.√ 17.0

46 46 47 47 47 48 4.4 24.0 4.9 34.√ √1.2 √3.√

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1888phae.proj.1324S

Mar. 31. 1888.

11	√0	13.7
	√0	32.7
	√1	13.4
	√1	39.7
	√1	√6.0
	√2	54.6
	√3	√1.0
	√4	9.7
	√4	√6.2
	√√	16.√
	√√	32.9
	√6	3√.√

Order in previous transits.

24√0. 24√0. 24√√. 24√√. 24√9. 24√9.
24√0 in southern half.
24√√ + 24√9 " northern "

The position of 24√√ (the star in question) is about as indicated in Dm. relatively to 24√6, which is also faint and rather near. An attempt was made to include the latter also in the scheme of transits, but it is rather too near ~~to~~ to 24√√, as the bars are set, for good obs.

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Mar. 31. 1888

~~#6~~

+50° 2410. 2411. 2415.

~~+50 11 15.6~~

12 12 15.5
12 33.1
12 555
13 5.5
13 35.5
14 11.5

15 0.5
17.4
39.7
15 49.5
16 20.0
16 55.9

17 34.5
55.1
18 17.4
27.0
57.9
19 33.9

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1888phae.proj.1324S

Mar. 31. 1888.

12	20	15.5
		31.4
		5 4 4
	21	4.4
		35.0
	22	10.9
	23	5.5
		21.9
		44.1
		5 4.4
	24	25.1
	25	1.2

Order in previous transits.
2410. 2411. 2410. 2415. 2411. 2415.
2410 in southern half.
2411 & 2415 " northern "

By running 2311 and 2315 through the angle of the square, as set for transits, the former seems to be a part of a minute of arc north of the latter, whereas by Dec. it is 0.1 south.
The transits however will decide the question.

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1888phae.proj.1324S

Mar. 31. 1888.

B. 236.

13	32	44.5	
	33	44.5	

~~B~~ Fir. 1327.

13	31	1.0
	32	1.0

B + C. 1142.

11	32	30.5	
	33	30.5	

Bal. 103.

11	44	0.0
	49	0.0

12	4	52	
	4	12	
12	13	4	
11	44	0	
	2	4	
11	32	30	
11	57	34	Asp. this Ecl.

Reap. Asp. III. P. obs.
Plot R Comps. with ~~cat.~~ fol. cat.
of all. (Cat. II)

Seeing poor, - clock running well
in this eclipse and that Mar. 29,

1888phae.proj.1324S

Mar. 31. 1888.

11	6	7.0	296.0
		17.0	301.2
		22.0	292.7
		27.0	300.5
		35.0	289.7
		41.0	302.9
		~~46.5~~	293.5
		5 4.0	296.0
		56.0	304.6
	7	7.0	291.2
		9.0	303.5
		14.5	290.2
		19.5	302.2
		26.0	290.1
		31.0	306.5
		37.0	292.5
		44.0	303.2
		49.0	289.0
		54.0	304.1
		59.0	287.5
	8	5.5	309.2
		11.0	289.7
		16.0	304.9
		22.5	284.7
		29.0	304.9
		34.0	289.0
		40.0	304.7

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Mar. 31. 1888.

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1888phae.proj.1324S

Mar. 31. 1888.

12	1	22.0	27.9
		20.0	27.6
	2	16.5	27.2 4
		20.5	27.5
		20.0	27.0
		19.0 60	27.0
(added)		19.0	26.9
		16.0 1	26.4
		16.0 2	26.7 8
	3	19.5 3	27.0
		12.0 4	27.5
		16.0 5	27.0
(added 1)		22.0 6	27.4 9
		20.0 (67)	27.2
		16.0	26.5
		25.5	27.0
	4	18.0	27.7 10
		14.0	27.2
		17.0	27.4
		21.0	27.5
		26.0	27.3 11
		25.0	27.2
		21.0	27.2
		19.5	27.0
0 (71)		16.0	27.2 12
	5	0.5	27.5
		17.5	27.4
		20.0	27.7

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1888phae.proj.1324S

Jan. 31. 1888.

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1888phae.proj.1324S

Mar. 31. 1888.

12 h	43	276,0	20
	50,5	356,2	4
	56,0	267,4	
9	2,0	46	
	10	266,0	1
	14,0	37,1	20
	24,0	264	4
	31,0	356,7	

Limit of Vis.

12	9	43,5	24,5
		50,0	37,0
	10	4,0	29,0
		14,5	33,2

B. + C. 1882.

12	26	29.1
	27	29.2

Bal. 103.

12	42	0.0
	43	0.0

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1888phae.proj.1324S

Apr. 2. 1888.

	Mars in Pleiades		Yr. obs.
i	4.62	4.40	3.24
	4.97	4.47	4.81.
e	.37	.40	
	.69	.61	2.05
			5.61.
w	0.44	0.77	
	0.72	0.90	3.27.
			.82.
k	4.93	4.42	
	4.40	4.97	3.50
			4.87.
m	1.70	1.99	
	1.90	1.40	3.39
			1.85.
l	2.79	2.44	
	2.36	2.37	1.76
			2.44.
k	3.62	3.72	
	3.30	3.41	1.85.
			3.46.
j	3.97	3.86	
	3.96	4.02	3.79
			3.95.

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1888phae.proj.1324S

Apr. 2. 1888.

g	5.01	5.20	.48
	5.12	5.15	5.12.
f	5.30	5.42	.90
	5.10	5.04	5.22

Ended at 4h 44m

Refcon of Flora. (4) Gr. obs.
and Parthenope (11)

−19.3 1 9
6.
96
11 8
20)125.4 (6.3
120
54

119
6.
714
20)773. (38.7
60
173
160
13

13 6.0 +3° 20′ 3.0 −19.4
−6.3 +38.7 33 33
17 9.7 +3 8.7 91 42
−1.7 +10.7 94 54
12 8.0 +4 9.4 100.6 60.2

12 4 +4.0 Scale 39.8
9 6 40.5
3 2 80.3

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1888phae.proj.1324S

Apr. 2. 1888.

19.2 / 2.0 / 3) 17.2 / 5.73

19.9 / 2.2 / 3) 17.7 / 5.9

11.2 / 2.2 / 3) 9.0 / 3.0

11.2 / 2.2 / 3) 9.0 / 3.0

~~2 13.2~~

133.2 / 2.0 / 3) 131.2 / 43.73

133.0 / 2.0 / 3) 131.0 / 43.66

135.2 / 2.0 / 3) 133.2 / 44.4

135.9 / 2.2 / 3) 133.7 / 44.56

$-1\sqrt{.9}$ / $6.\sqrt{}$ / $7\,9\sqrt{}$ / $9\sqrt{}4$ / $20\,|\,10\,3.3\sqrt{}$ / $\sqrt{.2}$

$+10\,4.$ / $6.\sqrt{}$ / $\sqrt{.20}$ / $62\,4$ / $20\,|\,67\,6.0$ / $+3\,3.4$

$12\quad 13.4$ / $-\sqrt{.2}$ / $1\sqrt{}\quad 7.4$ / -1.7 / $1\sqrt{}\quad 6.1$ / $11\quad 19$ / -47

$+\sqrt{}\quad 2\sqrt{}$ / $+3\,3.4$ / $+\sqrt{}\quad \sqrt{}4.4$ / $+10.7$ / $+6\quad 9.\sqrt{}$

~~26.0~~ / ~~2.9~~ / ~~2410~~

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1888phae.proj.1324S

c

Apr. 2. 1888.

26.0 | 2.0 | 3)24.0 | 8.0

23.9 | 2.2 | 3)23.7 | 7.9

24.0 | 2.0 | 3)24.0 | 8.0

27.8 | 2.2 | 3)25.6 | 8.53

29.9 | 2.0 | 3)27.9 | 9.3

Scale 36.9 / 38.9

10 10	a	2.15-	2.27	.78
		2.28	2.08	2.19
				2.20
				2.86^
	Flora	3.57	3.47	2.22
		3.60	3.58	3.56
				4.68^
	Parthenope	3.65-	3.68	2.42
		3.55-	3.54	3.60
				4.68^
	D.M. +0° 3002	5.56	5.40	2.09
		5.48	5.65-	5.52
				7.18^
	D.M. +0° 2997	4.08	4.01	.74
		4.30	4.35-	4.18
				5.43^
	Parthenope	3.49	3.60	2.36
		3.62	3.65-	3.59
				4.67^

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1888phae.proj.1324S

April 2. 1888

Flora	3.60	3.62	2.18
	3.51	3.45	3.54
			4.60
D.M. +1°2768	3.18	2.95	4.33
	2.99	3.21	3.08
			4.00

Ended at 10.5.3

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1888phae.proj.1324S

Apr. 3. 1888.

Juno and Comp. Nats. Obs.

9.7	10.1	42.8	42.2	14.7	15.2
2.0	2.1	2.0	2.1	2.0	2.0
3)7.7	3)8.0	3)40.4	3)40.1	3)12.7	3)13.2
2.56	2.66	13.6	13.36	4.23	4.40

42.2	42.2
2.1	2.0
3)40.1	3)40.2
13.36	13.4

Juno found, by transits - also near a faint star and seen to increase its distance with respect to it.

7	v2	+9° v 9/10	5:57	5:48	1.69
			5:32	5:37	5.42 "
					7.05 '
		Juno (3)	3.49	3.20	1.24
			3.15	3.40	3.31 "
					4.30 '
		a	2.73	2.42	2.64
			2.80	2.69	2.66 "
					3.46 '
		b	2.40	2.38	1.78
			2.25	2.53	2.44 "
					3.17 '

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1000phae.proj.1324S

April 3. 1885.

Juno (3)	3.32	3.38	1.26
	3.26	3.30	3.32 ^
			4.32 ^
+10° √ 3	5.35	5.42	1.67
	6.37	5.38	5.42 ^
			7.05 ^

ended at 8.47

Susp. Variable Fr. obs.
(−20° 32 43)

10 ∠ √ −20. √
9 √ √
− √ 0

10 ∠ 6 −19.° ∠
10 √
− 41

−20° 32 80	4.71	4.57	2.45
	4.49	4.68	4.61 .
−20° 32 43 (Vol.)	3.55	3.90	
	3.47	3.66	2.58
			~~3.[illegible]4~~
			3.64 .

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1888phae.proj.1324S

April 3. 1888.

-20° 3282	3.11	2.84	3.94
	3.09	2.90	2.98.
~~-20° 3288~~			
-20° 3283 (var)	3.62	3.73	
	3.60	3.58	2.53
			3.63.
~~-20° 3288~~	3.91	3.92	
	4.03	3.79	3.65
			3.91.
-20° 3287	3.60	3.36	
	3.58	3.61	2.07
			3.52.

~~Star blood~~ Variable blood-red — One of the reddest stars ever seen. — Spectrum brilliant — Red in Spectrum very ~~Remarkable~~ prominent — Absorption bands thought to be strongly marked.

Flora and Comp. Stars. Yr. 1.

6/V 9.V-0 / -9.79

6/379" / 63"

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1000phae.proj.13245

Apr. 3. 1688.

12	√a	41	+4	12	0
		−10		+1	3
12	√a	31	+4	13	3
	−1	41		+10	40
Pro. Theor. 1+√√ } 12	√−6	√−0	+4	23	43

~~1248+1~~

12 48+1 + 49.2°

11 19

−1 29

61.8 / 2.0 / 3)59.8 / 19.93

61.9 / 2.0 / 3)59.9 / 19.96

44.2 / 2.1 / 3)42.1 / 14.03

44.7 / 2.2 / 3)42.3 / 14.16

61.3 / 2.0 / 3)59 3 / 19.76

61.1 / 2.0 / 3)59.1 / 19.7

62 ur.

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1888phae.proj.1324S

Apr. 3. 1888.

Flora and Comp. Stars con. N. No.

10 20	a	2.02	2.17	.47
		2.20	2.08	2.12
				2.76
	Flora	3.28	3.38	1.63
		3.41	3.41	3.41
				4.43
	D.M. +0°3002	5.47	5.53	2.04
		5.56	5.48	5.51
				7.16
	D M. +0°2997	4.08	4.09	.50
		4.22	4.21	4.15
				5.40
	Flora	3.38	3.49	1.56
		3.42	3.27	3.39
				4.41
	D.M. +1°2768	3.20	3.15	.49
		3.12	3.02	3.12
				4.06

Ended at 11.05

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1999phae.proj.19245

Apr. 4. 1888

Juno and Comp. Stars. Fr. obs.

20/42.3 +2.1

20/10.5 +7.5

4 24 +9.9 +4° 26' 7

4 24
4 44
+4 20

22.9
2.0
3|20.9
6.97

23.0
2.0
3|21.0
7.00

14.5
2.1
3|16.4
5.47

14.5
2.1
3|16.4
5.47

∴ This is Juno.

Juno Corr. +11° 6' 7 1m 22s 9' south

7 √3 +9° √70 9 +7

√.14 √.40 1.28
√.34 √.32 5.8'
6.9'

Juno (3) 3.20 3.30 .87
3.07 3.30 3.22'
4.19'

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1888phae.proj.1324S

Aftor. 4. 1888.

a	1.94	2.10	4.54
	2.21	2.25	2.13 ^
			2.77 ^
b	2.50	2.48	1.78
	2.30	2.50	2.44 ^
			8.17 ^
Jano (3)	3.18	3.39	1.00
	3.30	3.13	3.25 ^
			4.22 ^
+10°.5243	5.21	5.17	.77
	5.20	5.19	5.19 ^
			6.75 ^

Ended at 4h 42m

(+20° 3243) New Variable. Fr. obs.

10 46 −19.4

10 5

−41

−20° 3240	4.79	4.68	
	4.68	4.50	

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1888phae.proj.1324S

Apr. 4. 1888.

−20° 3224 3 (Var)	3.64	3.60	
	3.60	3.69	2.57 3.64.
−20° 3242	2.74	3.20	
	3.30	3.20	4.48 3.12.
−20° 3243	3.63	3.44	
	3.54	3.20	2.45 3.61.
−20° 3244	3.97	3.99	
	4.28	3.26	4.05 4.01.
−20° 3247	3.59	3.57	
	3.29	3.50	1.95 3.49.

Ended at 9h 37m

Flora (4) and Comp. Mer. N. obs.

12 4L +42.

11 0

−1 42

1888phae.proj.1324S

April 4. 1888.

10	2	a	2.07	2.19
			2.15	2.03
				.44.
				2.11.
				2.74
		Flora	3.44	3.58
			3.61	3.29
				1.96
				3.49.
				4.54
		Dm +0° 3002	5.54	5.59
			5.66	5.70
				2.49.
				5.62.
				7.81
		Dm +0° 2997	3.90	4.18
			4.04	4.19
				4.35
				4.09.
				5.32
		Flora	3.55	3.42
			3.34	3.39
				1.74
				3.43.
				4.46
		Dm. +1° 2762	3.18	3.20
			3.09	3.10
				.57
				3.14.
				4.08

Ended at 11h 5m

At first setting on Flora, it followed a star about 4 sec. 1.5 south. and crossed the bar a little ~~earlier~~ later. It now decidedly precedes the star. There is no doubt as to its being Flora.

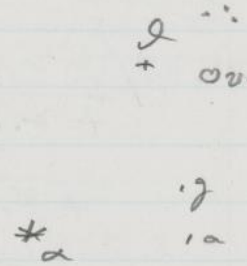
Flora follows Dm. +4° 2647 1m 12s and is about 8' south of it.

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April 6, 1888.

12 20 Star not in D.M., U.A. or Heis but being
magn. 5.5 ± .5 RA $12^h\ 55^m$ Dec $-5°$ ✓

Var 1 of Virgo . a 1 Var



over

θ 1 magn brighter

This is Uranus.

1888phae.proj.13245

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1888phae.proj.1324S

Apr. 6. 1888.

Juno and Comp. Mass. Gr. obs.

20/42.3 20/15'0'
+2.1 7.5
2 2
+4.2 +15'
1.4
+2.8 +6'

4 26 4n +11° 11'
+2 4 +6
4 29 30 +11 17'

4 24 +10.0
4 √3
+4 2√

6 26 4n +11 11
24 19 11 7
1 37 -4
1.6
2.8
Juno. +1.2 +10'

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1888phae.proj.1324S

April 6. 1888.

89.7	90.0	78.2	77.4
2.1	2.0	2.1	2.2
3) 87 6	3) 88.0	3) 76.1	3) 73.2
29.2	29.33	25.36	25.06

31.9	32.7	75.1	75.2
2.0	2.0	2.0	2.2
3) 29.9	3) 30.7	3) 73.1	3) 73.0
9.96	10.23	24.36	24.33

~~Intervals~~ Distances of assumed Juno increasing with reference to a preceding star and diminishing with reference to a following star, by about right amount.

This is Juno. ~~It follows~~

It follows 2m +11° 6 32 (6.7) 1m 17.6 and is 11' north of it.

7 46 ~~α~~ +9° ~~7~~ 9 0

~~3.40~~	3.78	3.56
~~3.07~~	3.68	~~3.58~~
		2.60
	7.34'	5.65 .1

~~α~~ Juno (3)

~~3.20~~	3.40	3.34
~~3.34~~	3.07	3.20
		1.01
		3.25'.1
		4.22'

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1888phae.proj.1324S

Apr. 6. 1888.

a	2.65	2.69	2.79
	2.70	2.75	2.69
			3.51 2.70
b	2.30	2.20	1.11
	2.33	2.28	2.28
			2.96
Juno (3)	3.38	3.10	.88
	3.20	3.20	3.22
			4.19
+10° ν Δ3	5.63	5.28	1.76
	5.30	5.55	5.44
			7.07

Ended at 8.33

Comparison of photograph of Saturn with sky. Gr. obs.

Comet Sawerthal Gr. obs.

22 1Δ +8°.4

16 4ν

−ν 33

−ν 14 +ν7

16 ν0

2 ν 4

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1888phae.proj.1324S

Apr. 6. 1888.

22 · 14
16 51

27

− 14 + 9.1
16 59
---
22 17

Pos. Zero. 1927
40.0

Setting = 237.7

17 ~~14 20.5~~
15 8.1 *
16.7 =
37.7 =
15 16.6 *

} South Half.

over.

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1888phae.proj.1324S

Apr. 6. 1888.

17	17	10 3	
		19.0	2d " rub.
		40.1	
	17	√8.2	
	18	42.1	
	~~19~~ 18	√0.4	3d " rub.
	19	12.1	
	19	30.0	
	20	12.1	
		21.0	4th " rub.
		43.0	
	21	0.1	
	~~21~~	~~√2.0~~	
	~~22~~	~~24.4~~	
	~~23~~	~~14.9~~	

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1888phae.proj.1324S

Apr. 6. 1888.

17 24 9.6
17.7
40.7
24 56.2

5th " set.

2 30.0
2 37.9
26 1.2
26 17.0

6th " set.

fol. 6.2 1' south.
" 2m 9.2 2' south.

1946.6
4 V.
1953.6

orders in all the sets the same

Comp. star fol. +9° 0030 (dbl.) 2m 9.2
and is 2' south.

Comp. star is +9° 5040 (7.7 K)

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1888phae.proj.1324S

Apr. 6. 1888.

Examined comet carefully for separation of nucleus, announced by Mr. Hill. Announcement not confirmed. With ordinary power No. 1. the nucleus seems defined with unusual sharpness, and with two other higher powers the division is not confirmed.

The axis of the tail is a line of light (instead of darkness) for some little distance from the head, as in Coggia's Comet of 1874, and it is probably from some supposed inequality in the distribution of the light along this axis, near the head, that the deception occurred.

Tr.

B. 236, Ballon 103,

18	15	6.7	16	56	0.0
	16	6.8		57	0.0

∴ B 236 is 47.0 slow.

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1888phae.proj.1324S

Apr. 7. 1888.

Juno and Comp. Moro. Gr. obs.

1.3 +7.6
2.1
+3.4 +19'

4 2A +9.9
A 4K
+4 16

14.2	14.6	8.3	8.2	12.2	12.9
2.2	2.1	2.0	2.0	2.1	2.1
3)12.0	3)12.4	3)6.3	3)6.2	3)10.1	3)10.8
4.0	4.13	2.1	2.06	3.36	3.6

Juno, fol. d. m. +11° 632 (6.7) 3m 22.5s
about 18m North

10.0	10.0
2.0	2.0
3)8.0	3)8.0
2.66	2.66

Clouds.

Delayed by clouds.

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1888phae.proj.1324S

April 7. 1888.

+9° 570	8.23	5.00	.58
	5.11	5.14	5.14 "
			6.68 "
Juno (3)	3.35	3.37	.98
	3.02	3.21	3.24 "
			4.21 "
a	2.53	2.54	2.26
	2.57	2.60	2.56 "
			3.38 "
b	2.20	2.10	.62
	2.17	2.15	2.16 "
			2.81 "
Juno (3)	3.36	3.10	.96
	3.31	3.19	3.24 "
			4.21 "
+10° 583	5.20	5.40	1.03
	5.25	5.18	5.26 "
			6.84 "

Ended at 9h 3m

Clouds in north and west which probably affected measurements. ~~Also~~ Object thought to vary at times during observations.
Juno low.

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1888phae.proj.1324S

Apr. 7. 1888.

Flora and Comp. Nebs. Fr. obs.

1	12		$\sqrt{.9}$
2	$\sqrt{7}$		
4	9	+10′	+17.7

12	4s	+4.°2
10	4$\sqrt{}$	
−2	3	

Cloudy.

Clouds prevent further observation.

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1888phae.proj.1324S

Apr. 7, 1888

Dis. Jup. III. comp. with II., Prof. R. Loba., G. rec. without eyestons.

B + b.	1182	13	36	39.5
Ballou	103	13	35	00
B + b.	1182	13	37	39.5
Ballou	103	13	36	00

14	18	9.5	82.0
		31.5	187.1
		43.5	78.0
		59.0	183.2
19		10.0	86.0
		23.0	184.3
20		1.5	75.3
		16.0	185.1
		27.5	79.8
		38.0	184.0
		48.5	81.5
		58.5	190.8
21		12.0	75.0
		23.5	191.2
		39.5	73.5
		49.5	184.0

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1888phae.proj.1324S

Apr. 7, 1888

14	22	1.5	78.8	
		14.5	185.0	5
		25.5	81.0	
		44.5	189.0	
		59.5	74.1	
	23	7.0	189.5	
	24	#50	80.2	6
	~~24~~	18.0	183.8	
		27.0	79.2	
		38.0	189.0	7
		50.0	80.4	
	25	0.0	187.3	
		12.5	80.0	
		22.0	190.9	8
		32.5	77.0	
		43.5	186.4	
	~~26~~	58.5	76.1	
	26	8.5	187.1	9
		20.0	82.0	
		32.0	189.2	
		#2.5	79.2	
		53.5	185.2	
	27	2.0	79.4	10
		9.0	187.1	

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1888phae.proj.1324S

Apr. 7 1888

14	27	24.5	78.4
		35.0	182.9 4
		47.5	76.3
		55.5	182.9
	28	5.5	81.9
		14.5	189.0 11
		25.5	85.0
		32.5	182.4
		45.5	82.1 13
		55.0	182.1
	29	6.5	78.3
		19.0	182.2
		28.5	83.2 14
		38.5	182.0
		49.0	85.0
		55.5	180.2
	30	2.5	79.3
		8.0	177.3 15
		17.5	83.2
add 2		26.5	179.0
		Some clouds	
		41.5	77.9 16
		52.5	180.5
		1.5	80.0
	31	11.5	180.1

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1888phae.proj.1324S

Apr. 7/1888

31	21.5	80.2	
	28.5	180.1	17
	38.6	82.5	
	50.0	179.2	
	59.5	85.8	
32	7.0	182.0	
	15.5	86.8	18
	23.5	177.9	
	35.0	84.2	
	42.5	180.0	
	50.0	90.0	19
33	6.5	176.7	
23 45	clouds thick		
34	31.5	82.0	
	41.5	177.0	20
	51.0	86.0	
	58.5	184.0	
35	5.5	90.9	
	15.0	176.2	21
	23.5	94.0	
	29.5	177.0	
	36.0	88.9	
	48.0	171.9	
36	5.5	95.3	22
	11.0	176.2	
	20.2	93.8	
	32.5	161.2	
	1.5	98.3	23
	14.5	168.0	
	28.0	86.2	

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1888phae.proj.1324S

23.0

Apr. 7 1888

37	33.5	163.2	24
	43.4	95.2	
	48.5	168.5 →	
	58.0	92.2	
38	5.0	163.4	
	clouds		
	34.5	103.7	
	44.5	160.1	
	52.5	109.2	
39	1.5	162.5	
	clouds		
	21.5	105.9	
	32.0	155.0	
	42.0	98.0	
	52.5	155.3	
40	4.0	107.0	
	12.5	157.1	
	24.5	109.3	
	34.0	157.1	
	44.5	111.2	
	56.5	153.3	
41	7.5	110.2	vy.
	clouds		
42d	16.5		
	clear Sat. N.S not seen		
	Hemet obs.		
42	31.5	114.0	
	47.0	142.0	
43	3.5	109.8	
	18.5	148.5	

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1888phae.proj.1324S

Aug. 7, 1888.

B.+b.	1182	15 27	38
Ballou	103	15 26	00
B+b.	1182	15 28	38
Ballou	103	15 27	00

Reap. Sup. III Comp. with
Sat II S. Obs. Grec.
Phot R. without eyestop.
Comet vis.

16	6	9.0	110.2
		26.5	152.1
		51.5	108.7
	7	7.5	152.2
	9	43.5	Seen
		53.5	108.0
	10	16.0	156.2
		26.6	107.1
		34.0	155.8
		42.5	101.2
		50.5	153.0
		57.5	102.0
	11	8.0	158.0
		22.5	99.2
		30.5	162.8
		38.5	95.3
		49.0	160.0

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1888phae.proj.1324S

Nov. 7, 1888

	55.5	101.5
12	2.5	162.8
	8.5	107.2
	18.0	162.1
	26.0	92.0
	32.0	166.0
	48.0 20	94.5
	53.5	172.3
13	11.5	86.0 1
	19.5	168.2
	27.0	91.3
	34.5	170.0
	42.5	85.0 2
	51.6	168.8
	59.5	82.2
14	7.5	168.8
	18.5	90.0
	27.0	173.0 3
	38.0	88.1
	49.5	167.8
15	8.0	85.7
	18.5	175.8 4
	26.5	80.8
	35.0	172.0
	43.0	90.7
	52.5	175.0 5
16	2.5	84.0
	12.5	175.3
	20.5	86.0

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1888phae.proj.1324S

Apr. 7, 1888

~~16~~ ~~20.5~~

16	30.5	175.1
	39.5	86.0
	48.0	178.0
	57.5	78.8
17	9.5	172.9
	18.5	84.7
	27.0	173.3
	37.0	82.0
	46.5	180.0
	54.0	73.8
18	8.5	180.2
	20.5	83.0
	30.5	183.0
	50.5	77.3
19	3.5	181.8
	17.0	80.0
	25.5	182.2
	43.5	78.2
	54.5	179.5
20	2.5	79.9
	13.5	183.0
	24.0	79.0
	33.5	177.0
	45.0	76.7
	55.0	182.8
21	3.5	76.0
	12.5	184.6

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1888phae.proj.1324S

Apr 7, 1888

21	22.5	77.6 13
	40.0	181.9
	50.0	73.4
22	0.0	185.0
	9.0	77.0
	17.5	185.2 14
	27.5	80.8
	36.0	180.3
	45.5	76.0
	54.5	195.0 15
23	5.5	78.0
	16.0	180 179.8
	30.5	70.9
	47.0	190.0 16
	58.0	75.1
24	8.5	188.9
	21.0	76.8
	35.5	183.2 17
	47.5	76.0
	58.0	180.0
25	7.5	72.8 18
	18.0	182.0
	27.5	77.0
	38.5	185.0
	51.0	75.8 19
26	2.0	182.9
	13.5	74.8
	24.5	183.8
	38.0	72.0

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1888phae.proj.1324S

Nov 7, 1888

26	46.5	188.5	20
	58.5	70.0	
27	9.5	186.8	
	21.5	69.0	
	34.5	187.2	21
	51.5	71.0	
28	1.5	184.3	
	11.5	73.0	
	22.5	184.2	22
	33.5	71.3	
	42.0	187.8	
	56.0	66.0	
29	7.5	186.0	23
	17.5	67.2	
	31.0	186.5	
	42.0	76.0	
	62.0	182.0	24
30	5.0	72.0	
	13.5	184.5	

B+b	11.82	16 42	37.7
B	10.3	16 41	00
B+b	11.82	16 43	37.7
B	10.3	16 42	00.

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1888phae.proj.1324S

Apr. 9. 1888.

		Juno and Comp. Stars.		Fr. obs.
	+9°5770	5.60	5.54	2.28
7 30		5.52	5.62	5.57 "
				7.24 ^
	Juno(3)	3.15-	3.22	.77
		3.25-	3.15-	3.19 "
				4.15 ^
	a	2.70	2.71	2.72
		2.66	2.65-	2.68 "
				3.48 ^
	b	2.30	2.23	1.08
		2.25-	2.30	2.27 "
				2.95 ^
	Juno(3)	3.32	3.20	.82
		3.15-	3.15	3.20 "
				4.16 ^
	+10°583	5.42	5.47	2.04
		5.60	5.55-	5.51 "
				7.16 ^

Ended at ~~4.20~~ 4h 20m-

Juno fol. Dm. +11°643 1.2 min.
25' south.

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1888phae.proj.1324S

Apr. 9. 1888.
New Variable. Fr. 66.

~~−20° 3280~~

10 46 10 46 −19.°4
10 2 9 50
−44 −56

−20° 3280	4.62	4.72	2.39
	4.55	4.50	4.60
−20° 3283 (var.)	3.55	3.52	1.82
	3.70	3.65	3.46
−20° 3282	3.15	3.27	.86
	3.27	3.17	3.22
−20° 3283 (var.)	3.65	3.58	2.22
	3.54	3.45	3.56
−20° 3286	3.95	4.08	
	4.10	3.96	4.09
			4.02
−20° 3287	3.60	3.45	2.14
	3.52	3.57	3.54

3283 (var.) 5 ~~3282~~ 3282

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Apr. 9. 1888.

Flora and Comp. Stars. Gr. 6

	12	52	37	+4	42	49
		-1	42		+10	40
1255	12	50	55	+4	59	29

3.10
1.33

933
930
---
10 2.30

-19.4
3 3

542
542

6K 0.2

12 42 +4.2
11 40

-1 2

27.0	26.8	26.9	26.7	26.5	26.0	25.8
2.0	2.2	20	22	2.1	22	2.2
3) 25.00	3) 24.6	3) 24.9	3) 24.5	3) 24.4	3) 23.8	3) 23.6
8.33	8.2	8.3	8.16	8.13	7.93	7.86

19 00	a.	2.13	2.16	.45
		2.07	2.07	2.11.
				2.74
	Flora.	3.30	3.34	1.36
		3.42	3.30	3.34.
				4.34
	D. M. 03002	5.56	548	1.89
		5.43	542	5.47.
				7.11

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Apr. 9. 1888.

D. M +0°2997	4.20	4.03	.39
	4.04	4.12	4.09
			4.10
			5.33
Flora	3.22	3.35	1.23
	3.38	3.28	3.31
			4.30
D. M. +1°2760	3.22	3.20	.57
	3.04	3.11	3.14
			4.08

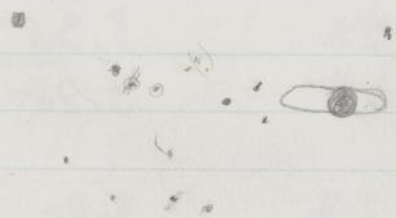
Endiolat 10h 57m

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1888phae.proj.15245

Apr. 12. 1888.

Looked for susp. New Sat. of Saturn. Ob.



The above represents about all the stellar objects that can be certainly seen in the ~~region~~ theoretical region of supposed new
10h 35m Sat. of Saturn. Cleared rather suddenly and late, so that the atmospheric conditions and altitude are not the best. H.

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1888phae.proj..324S

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