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KG
11866
v. 781

Polar Catalogue
Circle Readings – Explanatory Remarks
A 4 1872–3

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Pole Star Observations
Chronograph Record.
A4
1872-3

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15 Lyncis
6 46 07
58 25

| | | | | | |
|---|---|---|---|---|---|
| 1873 Feb. 11 | 45 | 0 | 41.0 | 25.0 | |
| 17 | 45 | 0 | 44.0 | 33.2 | |
| 20 | | | AR, | | |
| 22 | 45 | 0 | 42.8 | 25.1 | |
| 26 | 45 | 0 | 1.0 | 4 50.4 | lost 1 at 1, W. |
| March 9 | 45 | 0 | 38.0 | 33.8 | |
| 10 | 45 | 0 | 40.1 | 33.2 | |
| 13 | 45 | 0 | 29.2 | 25.1 | |

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50 Draco
6 50 31
+75 17
10443

1873

| | | | | |
|---|---|---|---|---|
| Feb. 14 | 35 | 3 | 35.3 | 22.7 |
| 17 | 35 | 3 | 23.1 | 16.0 |
| 19 | 35 | 3 | 42.8 | 35.8 |
| 20 | AR. | | | |
| 22 | 35 | 3 | 21.1 | 9.1 |
| 24 | 35 | 3 | 26.5 | 35.4 |
| 26 | 35 | 3 | 35.9 | 26.9 |
| March 9 | 35 | 3 | 39.1 | 38.1 |
| 10 | 35 | 3 | 28.0 | 23.2 |
| 13 | 35 | 3 | 34.1 | 32.1 |

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1872phae.proj.1385.

d Draco

18 5-5-58
+71 07
10853

| | | | | |
|---|---|---|---|---|
| 1873 Feb. | 11 | 25 | 4 | 55.3 42.3 |
| | 17 | 25 | 4 | 39.8 31.1 |
| | 19 | 25 | 4 | 41.8 35.3 |
| | 22 | 25 | 4 | 52.3 39.1 |
| | 24 | 25 | 4 | 40.4 26.5 |
| | 26 | 25 | 4 | 45.8 37.0 |
| Mar. | 4 | 25 | 4 | 34.9 32.1 |

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1872phae.proj.1385.

63 Aurigae
7 02 47
+39 32

| 1873 | | | | |
|---|---|---|---|---|
| Feb. 11 | 45 | 4 | 6.8 | 51.5 |
| 17 | 45 | 4 | 3.9 | 52.0 |
| 20 | | | AR, | |
| 22 | 45 | 4 | 8.1 | 52.5 | 9. Wires |
| 24 | 45 | 4 | 6.8 | 49.8 |
| 26 | 45 | 4 | 4.2 | 51.6 |
| March 9 | 45 | 4 | 7.9 | 2.3 |

Gr. 2784
19 03 27
+76 53
103 07

| 1873 | | | | | |
|---|---|---|---|---|---|
| Feb. 11 | 10 | 4 | 12.9 | 0.5 | last 2 W'2, |
| 19 | 10 | 3 | 26.4 | 20.0 | |
| 22 | 10 | 4 | 9.8 | 57.8 | last 3 W'2 |
| 24 | 10 | 4 | 15.0 | 62.8 | A-1 |
| March 9 | 10 | 3 June | 1.1 | 58.1 | 2, 1 & A+1 |
| 16 | 10 | 3 | 26.3 | 28.9 | |
| M | AR. | | 32.1 | | A-1 |

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1872phae.proj.1385.

64 Amycae

7 9 04.
+41° 07

1873

| | | | | |
|---|---|---|---|---|
| Feb. | 17 | 10 | 3 | 37.8 27.7 |
| | 19 | 10 | 4 | 13.2 3.8 |
| | 20 | ∆R. | | |
| | 22 | 10 | 4 | 19.0 4.2 |
| | 24 | 10 | 4 | 12.9 56.9 |
| | 26 | 10 | 4 | 19.9 9.0 |
| March | 9 | 10 | 4 | 12.0 7.0 |
| | 16 | 10 | 4 | 9.1 6.7 |
| | 17 | ∆R. | | 9 m. |

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ν Geminor

1225

12213

1873.

| | | | | | |
|---|---|---|---|---|---|
| Feb. 17 | 5 | 2 | 34.1 | 22.8 | |
| 19 | 5 | 2 | 25.2 | 18.6 | |
| 20 | | | A R. | | |
| 22 | 5 | 2 | 36.1 | 20.8 | |
| 24 | 5 | 2 | 42.0 | 26.1 | |
| 26 | 5 | 2 | 30.3 | 18.0 | |
| March 4 | 5 | 1 | 47.1 | 34.4 | md. W. & fill. |
| 9 | 5 | 2 | 28.1 | 21.3 | |
| 16 | 5 | 2 | 25.0 | 24.9 | |
| 17 | | | A R. | | |

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1872phae.proj.1385.

Gr. 1308
+17 28
+68 44

1873 Feb. 26 35 2 32.9 21.8
March 4 35 2 36.0 24.7
9 35 2 42.3 37.1 A-1, +A1, 2, 3, 4, 5.
17 AR,

P Procy
19 18 06
+78 07
106 53
19 17 59
+73 7 8

Feb. 20 AR,
26 25 4 29.0 20.2 3, 2, 1+8-1, rej. 3
March 4 25 4 34.3 25.1 A1+A-1
9 25 4 27.2 24.8 A-1
16 25 4 21.1 23.8
17 AR 8 2 1 A-1

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1872phae.proj.1385.

Q Semiov Feb. 22 A.R.

7 21 49

+32 0 2

7 20 56

+32 2 4

| | | | | |
|---|---|---|---|---|
| Feb. | 24 | 15 3 | 28.0 | 12.1 |
| | 25 | ~~15 3 33.~~ | | |
| | 26 | 15 3 | 17.0 | 4.3 |
| March | 4 | 15 3 | 20.1 | 10.2 |
| | 5 | 15 3 | 16.2 | 3.5 |
| | 9 | 15 3 | 9.8 | 13.9 |
| | 16 | 15 3 | 22.7 | 20.9 |
| | 17 | A.R. | | |

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BAC 2320 Ins Mus

7 25 21
89 00

1873

| | | | | | |
|---|---|---|---|---|---|
| Feb. | 25 | 20 | 1 | 21.8 | 8,3 |
| | 26 | 20 | 1 | 23.8 | 12,9 |
| March | 4 | 20 | 1 | 27.1 | 17,0 |
| | 5 | 20 | 1 | 26.0 | 14,5 |
| | 9 | 20 | 1 | 20.0 | 16.0 |
| | 16 | 20 | 1 | 16.5 | 15.2 |
| | 17 | A. | R. | | |

lost 1, 8, & 9

~~lost 1, 8, & 9~~

Get 5 mod. nurses

A 4, 5, 6

Gr. 2900

19 29 27
+79 20
100 40

19 29 20
+79 20 46

1873

| | | | | | |
|---|---|---|---|---|---|
| Feb. | 25 | 40 | 2 | 40.0 | 28.1 |
| | 26 | 40 | 2 | 36.0 | 26.3 |
| March | 4 | 40 | 2 | 37.8 | 28.0 |
| | 5 | 40 | 2 | 37.2 | 28.5 |
| | 9 | 40 | 2 | 40.7 | 37.0 |
| | 16 | 40 | 2 | 27.1 | 20.9 |
| | 17 | A. | R. | | |

3, 2, 1 + 8 − 1, A −1

4, 3, 2, 1 + A rej. 8 years 3

nucleus + gulf −1

4, 3, 2, 1 + A −1

5, 4, 3, 2, 1 + A −1

3, 2, 1 + A −1

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24 Lyncis

~~7 32 06~~

~~+59 03~~

aCam. Min.

7 32 33

+5 33

7 32 39

+5 32 54

| | | | | |
|---|---|---|---|---|
| | 1873 | | | |
| ~~Feb.~~ | ~~24~~ | ~~45~~ | ~~2~~ ~~14.7~~ | ~~55.1~~ |
| Feb | 25 | 45 | 2 8.9 | 52.9 |
| | 26 | 45 | 2 3.1 | 50.0 |
| March | 4 | 45 | 2 4.0 | 48.0 |
| | 5 | 45 | 2 10.1 | 56.5 |
| | 9 | 45 | 2 9.9 | 3.1 |
| | 16 | 45 | 2 11.9 | 9.7 |
| | 17 | ~~AR.~~ | | |
| | 24 | 45 | 1 59.8 | 49.8 |

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1872phae.proj.1385.

Gn-2917
1935-40
+71 19
108 41

1873
Feb. 25
March 4
5
9
16
17

| | | | |
|---|---|---|---|
| 40 | 1 | 19.1 | 8.3 |
| 40 | 1 | 28.8 | 21.0 |
| 40 | 1 | 29.0 | 20.0 |
| 40 | 1 | 19.8 | 16.1 |
| 401 | | 23.4 | 23.9 |

X R,

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1872phae.proj.1385.

Plseminor, 1873

7 37 26
+28 20
7 37 33
+28 19 50

| | | | | |
|---|---|---|---|---|
| Feb. 25 | 0 | 0 | 33,9 | 18,1 |
| March 4 | 0 | 0 | 35,2 | 21,7 |
| 5 | 0 | 0 | 11,8 | 29,1 |
| 9 | 0 | 0 | 39.9 | 33,9 |
| 16 | 0 | 0 | 36,1 | 34,2 |
| 17 | | | | |
| 27 | 0 | 0 | 36,1 | 27,3 |

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1872phae.proj.1385.

1873

η Geminor. 7h 39 12 +33 44

γ 39 19 +33 43 31

| | | | |
|---|---|---|---|
| Feb. 25 | 35 | 50.0 | 35.1 |
| March 4 | 35 | 59.1 | 45.5 |
| 5 | 35 | 5.1 | 54.0 |
| 9 | 35 | 59.9 | 53.0 |
| 17 | | HR, | |
| 27 | 35 | 0.0 | 51.2 |
| Am. 1 | 35 | 55.1 | 44.9 |

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1872phae.proj.1385.

Gr. 1374
7 44 42
+74 18

7 44 57
+74 15 10

1873

| | | | | | |
|---|---|---|---|---|---|
| March | 4 | 5 | 0 | 58.2 | 43.9 |
| | 5 | 5 | 0 | 54.1 | 41.1 |
| | 9/16 | 5 | 0 | 57.8 | 49.8 |
| | 17 | AR. | | | |
| | 27 | 5 | 0 | 53.0 | 44.0 |
| Apr. | 1 | 5 | 0 | 49.7 | 49.9 |

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E Draco.

19 48 39
69 56
110 04

19 98 36
+69 56 39

1873

| | | | | | |
|---|---|---|---|---|---|
| March | 4 | 15 | 3 | 56.6 | 49.9 |
| | 5 | 15 | 4 | 2.9 | 53.4 |
| | 6 | 15 | 3 | 2.0 | 55.13 |
| | 8 | 15 | 3 | 47.2 | 45.5 |
| | 9 | 15 | 3 | 47.1 | 45.0 |
| | 10 | 15 | 3 | 44.9 | 40.9 |
| | 13 | 15 | 3 | 42.3 | 40.9 |
| | 16 | 15 | 3 | 40.9 | 42.5 |
| | 27 | 15 | 3 | 39.1 | 35.9 |
| Apr. | 1 | 15 | 3 | 33.2 | 40.1 lost first 3 wires |

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1 Ursæ Min

9 52 14
+88 55
9 1 05

1951 19
+88 25 33

1873

| | | | | | |
|---|---|---|---|---|---|
| March | 4 | 15 | 1 | 53.3 | 41.1 | 5 mod Wires |
| | 5 | 15 | 1 | 50.1 | 40.0 | |
| | 6 | 15 | 1 | 48.9 | 39.9 | wires 6, 5, 4, 3. |
| | 8 | 15 | 1 | 44.9 | 40.7 | ~~Mod. Wires Gold~~ 5, 4, 3, 2. |
| | 9 | 15 | 1 | 45.0 | 40.9 | 32 strokes for 1st & 2nd wires |
| | 10 | 15 | 1 | 44.1 | 37.7 | 8 & between Wires 6 & 5 = wire 3 sec. late. |
| | 13 | 15 | 1 | 44.2 | 39.9 | Mod. Wires |
| | 16 | 15 | 1 | 39.6 | 38.6 | 1st. W. = 3 sec. late. |
| | 17 | A.R. | | 4 5 | 4 3 2 1 | |
| | 27 | 15 | 1 | 47.0 | 42.1 | long str. for 1st W |
| Apr. | 1 | 15 | 1 | 32.0 | 35.1 | |

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2 Mus. Min.

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1872phae.proj.1385.

6 Cauci

7 55 36
+28 09

7 55 43
+28 8 53

1873 March 6
8
10
13
17
Apr. 1

10 1 42.9 31.8
10 1 26.0 19.7 rej. last wire
11 1 37.7 29.8
10 1 30.9 25.6

Obsd by Prof. Bass. no obs. for 8

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27 Lyncis 1873 March 6 25 3 26.8 18.3
7 58 45 8 25 3 31,9 27,1
+58 52 17 AR.
7. 58 53
+51 52 12

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1872phae.proj.1385.

3 Mus Min 76.
8 00 03
+68 57
See where this
is got from.
what Cat?

1873
March 6
17
Apr. 1

4
30 0 7.2 38.0 lost 2
AR,
30 0 0.9 3.0

Op. 1408
8 03 16
+76 09
8 3 32
+76 8 24

1873
March 6
17
Apr. 1

10 2 42.1 30.1
AR,
10 2 26.9 26.4

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β Cancri

8 9 32
+9 35
8 9 38
+9 34 30

1873 March 6 — 45 0 39.0 25.1
8 — 45 0 41.3 33.0
10 — 45 0 44.0 33.2
13 — 45 0 41.3 33.8
16 — 45 0 38.2 33.9
17
Apr. 1 — 45 0 39.7 36.2

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Phaethusa Ephei

| | | | | | |
|---|---|---|---|---|---|
| 1872 March. | 8 | 40 | 1 | 17.0 | 14.8 |
| | 10 | 40 | 1 | 38.7 | 33.1 lost 1st & 3 wires |
| | 13 | 40 | 1 | 6.3 | 4.2 |
| | 16 | 40 | 1 | 12.9 | 13.9 |
| | 17 | AR. | | | |
| | 31 | 40 | 1 | 22.0 | 23.8 |
| Apr. | 1 | 40 | 1 | 0.0 | 6.0 |

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o Ursæ Maj.

δ 19 33
+61 09

δ 19 42
+61 8 23

1873

| | | | | |
|---|---|---|---|---|
| March | 10 | 10 | 2 | 22.1 13.9 |
| | 13 | 10 | 2 | 23.1 18.1 |
| | 16 | 10 | 2 | 25.0 23,0 |
| | 17 | #R, | | |
| | 31 | 10 | 2' | 20.0 17.0 |
| April | 1 | 10 | 2 | 15.0 16.4 |
| | 10 | 10 | 2 | 14.0 18.2 |

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Ln. 1412?
δ 24 32
+38 27
δ 24 39
+38 26 58

1873
March 10 50 3 41.7 32.0
13 50 3 6.0 59.0
16 50 3 32.0 28.0
17 H.R.
31 50 3' 29.0 24.6
Apr. 1 50 3 24.3 25.1
10 50 3 26.9 28.6

Ln. 1446
δ 25-18
+74 0.5
δ 25 32
+74 4 12

1873
March 10 15 1 44.1 34.0
13 15 1 22.1 14.8 lost 1st 3 W's.
16 15 1 38.0 33.1
17 H.R. Cloud
31 15 1 32.9 28.4
Apr. 1 15 1 21.9 22.0
10 15 1 30.0 31.4

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Gr 1460 1873
8 29 44
+5 8 10
8 29 52
+5 3 9 15

| | | | | | |
|---|---|---|---|---|---|
| March | 10 | 10 | 1 | 25.8 | 16.9 |
| | 13 | 10 | 1 | 30.5 | 23.9 |
| | 16 | 10 | 1 | ~~29.2~~ | ~~25.1~~ |
| | 17 | ~~A R~~ | | | |
| March | 27 | 10 | 1 | 26.1 | 20.0 |
| | 30 | 10 | 1 | 22.3 | 20.0 |
| Apr. | 1 | 10 | 1 | 25.1 | 25.2 |
| | 10 | 10 | 1 | 16.9 | 18.8 |

Gr. 3241
20 30 30
+ 3 2 06
10 7 54

1873

| | | | | | |
|---|---|---|---|---|---|
| March | 10 | 25 | 3 | 28.3 | 21.1 |
| | 13 | 25 | 3 | 41.9 | 38.1 |
| | ~~16~~ | ~~25~~ | ~~3~~ | ~~14.8~~ | ~~13.7~~ |
| | 17 | ~~A R~~ | | 6 5 4 3 2 1 | |
| Apr. | 1 | 25 | 3 | 29.8 | 34.0 |

A-1

A-1

outside wires

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1872phae.proj.1385.

To Procv.

2 0 22 10

+ 4 31

105 29

20 33 9

+4 31 8

1873

March 10 50 326.9 19.9

13 50 3 2.8 58.0

16 ~~50 2 48.5 48.0~~

17 HR 1

31 50 2 43.3 42.1

April 1 50 2 50.2 54.7

10 50 3 3.2 8.4

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1872phae.proj.1385.

S Bauci

8 37 21
+18 38
8 37 28
+18 37 9

1873
March 8
10
13
17
31
Apr. 1
10

40 3 16.1 7.0
40 3 9.2 57.9
40 3 6.9 0.0
A.R.
40 3 2.9 56.7
40 3 3.0 59.9
40 3 4.9 3.6

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ε Hydrae

8 39 57
+6 53

8 40 3
+6 58 00

1873

| | | | | |
|---|---|---|---|---|
| March | 8 | 10 | 2 | 14.1 5.5 |
| | 10 | 25 | 1 | 56.0 47.1 |
| | 13 | 25 | 1 | 21 56.0 |
| | ~~15~~ | ~~25~~ | ~~2~~ | ~~12.2~~ |
| | 17 | HR. | | |
| | 31 | 25 | 2 | 9.9 4.0 |
| Apr. | 1 | 25 | 1 | 59.9 57.8 |
| | 10 | 25 | 1 | 59.5 58.9 |
| | 15 | 25 | 2 | 9.7 5.8 |

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5 Urs Maj = Gr. 1472

8 42 49
+62 29

| | | H. R. | |
|---|---|---|---|
| Mar. | 17 | 50' 4 | 34.8 31.4 |
| | 31 | 50 4 | 41.0 43.9 |
| Apr. | 10 | 50 4 | 36.8 35.8 |
| | 15 | | |

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δ Cancri. Mean. 1873

8 46 23
+31 04

8 46 29
+31 3 31

Mar 17
31
Apr. 15

# 12.

15 1 54.8 51.0 (double)
15 1 53.9 52.7 (mean)

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B Hydrae May 17
8 48 35
+6 26
Apr. 15 31
8 48 41
+6 25 38

A R.
50°4 20.0 14.1
50 4 24.6 21.0

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1873

Inc. May:

S 50 23
+48 33

Mar 17
31
Apr. 15

AR,

45 3 17.2 13.3
45 3 21.0 19.8

S 50 30
+48 32.8

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1872phae.proj.1385.

1823

η Draconis Mar 17
205140 31
+82 03 Apr. 15
9 7 5 7

20 51 39
+82 3 32

UL L Cor 1 ≃ 2

| | | | | | |
|---|---|---|---|---|---|
| 25 | 0 | 0.1 | 59.0 | lost 1 | 4 |
| 25 | 0 | 59.2 | 41.1 | lost 9, 8, 7. | |

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1823

Br. 2749 Mar 17
20 53 17 31
+80 07 Apr. 15
99 56 23

20 53 17
+80 4 29

AR

25 0 51.1 50.1
25 0 54.0 56.8
25 0 52.6 54.3

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1872phae.proj.1385.

1873

12 * Invs. May Mar 17

δ 5 4 49
+47 40

δ 54 57
+47 39 24

31
Apr. 15
16
23

A R

40 1 9.5 5.6
40 1 6.9 5.1
40 1 8.0 8.7
40 0 42.7 42.2

Polar
Catalogue
Circle Reading
A R-6

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0² Ins. May

8 59 02
+67 39
8 59 11
67 38 51

1873
March 17

| | | | | | |
|---|---|---|---|---|---|
| March | 27 | 40 | 2 | 56.8 | 58.2 |
| | 30 | 40 | 2 | 55.5 | 2.0 |
| Apr. | 15 | 40 | 1 | 55.7 | 55.0 |
| | 16 | 40 | 1 | 54.0 | 55.0 |
| | 23 | 40 | 1 | 55.2 | 55.4 |

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1872phae.proj.1385.

36 Lyncis

905-22

+43 45

9 5 29

+43 44 22

1873

March 27

30

Apr. 1

15

16

23

| | | | |
|---|---|---|---|
| 35 | 1 | 23.0 | 12.1 |
| 35 | 1 | 23.2 | 18.2 |
| 35 | 1 | 13.9 | 12.2 |
| 35 | 1 | 11.0 | 7.9 |
| 35 | 1 | 5.0 | 3.9 |
| 35 | 1 | 7.3 | 4.9 |

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1872phae.proj.1385.

~~O. Hoydraz~~
~~9 04 39~~
~~+2 8 2~~
hr. 15 37
9 07 43
8 1 54 ?
(8 2 12)

γ Draco
21 08 01
+77 36
102 24
21 8 00
+77 36 38

| | | | | | |
|---|---|---|---|---|---|
| March 30 | 55 | 3 | 10.1 | 9.8 | |
| Apr. 1 | 55 | 3 | 28.4 | 32.9 | |
| 10 | 55 | 3 | 15.0 | 20.0 | lost. 9 |
| 15 | 55 | 3 | 1.1 | 3.9 | |
| 16 | 55 | 2 | 56.9 | 2.1 | |
| 23 | 55 | 2 | 4.0 | 8.2 | |

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1072phae.proj.1385.

38 Lyncis March 27 0 0 15.9 6.4
9 10 49 30 0 0 11.1 7.9
+37 21 Apr. 15 0 0 9.1 7.5 foll #.
16 0 0 6.1 6.2
23 0 0 9.9 10.4 foll #

9 10 56
+37 20 19

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1872phae.proj.1385.

40 Lyncis

9 13 12
+34 56

9 13 19
+34 55 40

| | | | | | |
|---|---|---|---|---|---|
| March 27 | 25 | 0 | 58.1 | 49,0 |
| 30 | 20 | 4 | 48.3 | 43.0 |
| Apr. 15 | 20 | 4 | 44.1 | 42.1 |
| 16 | 20 | 4 | 42.9 | 42.8 |
| 23 | 20 | 4 | 43.9 | 42.2 |

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1872phae.proj.1385.

~~a Hoy~~

h.3452 (J.N.)
21 16 55-
10331

March 27 5 0 0 19,8 13,5
30 5 0 0 3,8 2,0
Apr. 15 5 0 0 1,9 3,9
16 5 0 0 10.1 14,0
23 4 5 4 52,0 55.0

1 Hd Draconis
9 18 54
81 53

9 18 47
+81 53 5"

Mch 27 25 2 53.5 56,7

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1872phae.proj.1385.

α Hydrae March 30 25 / 18.2 10.0

~~27~~

9 21 16

−8 06

9 21 21

−8 6 34

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1872phae.proj.1385.

d Ins. May
9 23 02
+0 24
9 23 13
+0 23 11

| | | | | | | |
|---|---|---|---|---|---|---|
| March 27 | 55 | 2 | 22.0 | 12.9 | H+1 | |
| 30 | 55 | 2 | 51.9 | 46.9 | | |
| Apr. 1 | 55 | 2 | 37.2 | 35.8 | | |
| 10 | 55 | 2 | 39.0 | 39.2 | 5 W. | |
| 21 | 55 | 2 | 21.3 | 20.0 | | |
| 27 | | | | | H R | |

7504 Ins Mini.
21 24 45
+86 30
93 29
30

| | | | | | |
|---|---|---|---|---|---|
| ~~March 27~~ March 30 | 50 | 1 | 44.0 | 40.6 | 5 wires. 7.5 mag |
| Apr. 1 | 50 | 1 | 43.8 | 44.9 | lost 4. wires |
| 10 | 50 | 1 | 37.9 | 41.1 | lost 1 3 W. |
| 16 | 50 | 1 | 40.9 | 43.9 | lost 1 Wire |
| 21 | 50 | 1 | 41.0 | 42.1 | |
| 27 | 50 | 1 | 39.5 | 43.2 | D & C |

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1872phae.proj.1385.

Blephei 1872.
21 27 00
+70 00
111 00

March 27
30
Apr. 16
21
27

20 2 20.0 14.2
20 2 13.2 11.0
20 2 18.6 23.0
~~20 2 34.0 36.0~~

A.R. 5 c d

21 27 1
+70 0 11

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1872phae.proj.1385.

1873

Ln. 1564
9 31 10
+69 49

9 31 20
+69 48 48

| | | | | | |
|---|---|---|---|---|---|
| March 27 | 30 | 2 | 13.6 | 4.9 | |
| 30 | 30 | 2 | 1.0 | 6.10 | |
| Apr. 1 | 30 | 1 | 0.1 | 59.0 | |
| 10 | 30 | 1 | 54.0 | 54.2 | |
| 15 | 30 | 2 | 3.1 | 1.1 | |
| 16 | 30 | 1 | 58.0 | 58.2 | |
| ~~21~~ | ~~30~~ | ~~1~~ | ~~51.7~~ | ~~51.3~~ | |
| 23 | 30 | 1 | 56.9 | 56.9 | |
| 26 | 30 | 1 | 34.1 | 35.1 | 4 dc. |
| 27 | 30 | 1 | 52.9 | 55.0 | |

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1872phae.proj.1385.

1873

o Leonis

9 34 16
+10 29

9 34 22
+10 28 8

| | | | | | |
|---|---|---|---|---|---|
| March 27 | 50 | 2 | 2.4 | 60.1 |
| ~~30~~ | ~~50~~ | ~~1~~ | ~~1.0~~ | ~~53.3~~ |
| Apr. 15 | 50 | 2 | 6.5 | 1.8 |
| 16 | 50 | 1 | 59.9 | 56.6 |
| 21 | 50 | 1 | 51.9 | 48.1 |
| 23 | 50 | 1 | 56.9 | 54.3 |
| 26 | 50 | 2 | 1.3 | 59.1 |
| 27 | 50 | 1 | 57.5 | 58.1 |

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1872phae.proj.1385.

E Leonis

9 38 32
+24 22

9 38 38
+24 21 28

673

| | | | | | |
|---|---|---|---|---|---|
| March 27 | 55 | 4 | 4.5 | 53.3 | |
| ~~30~~ | ~~55~~ | ~~3~~ | ~~46.9~~ | ~~41.4~~ | |
| Apr. 15 | 55 | 3 | 56.5 | 57.0 | |
| 16 | 55 | 3 | 55.1 | 54.1 | |
| 23 | 55 | 3 | 52.2 | 52.1 | |
| 26 | 55 | 3 | 46.9 | 52.1 | |
| 27 | 55 | 3 | 51.5 | 55.1 | |
| May 1 | 55 | 3 | 49.4 | 57.7 | |

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1872phae.proj.1385.

11 Ephei
21 40 02
+70 43
109 17

21 40 3
+70 43 36

1873

| | | | | | |
|---|---|---|---|---|---|
| March | 27 | 5 | 0 | 55.0 | 49.4 |
| | 30 | 5 | 0 | 40.0 | 38.9 |
| Apr. | 1 | 5 | 0 | 56 | 4.8 lost 1 & 3 wires |
| | 10 | 5 | 1 | 14.8 | 20.0 |
| | 15 | 5 | 0 | 38.0 | 40.2 |
| | 16 | 5 | 0 | 40.1 | 44.0 |
| | 23 | 5 | 0 | 42.0 | 46.0 |
| | 26 | 5 | 0 | 35.3 | 40.0 |
| | 27 | 5 | 0 | 40.5 | 47.9 |

May 1 A R.

A-1

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1872phae.proj.1385.

| | | | | |
|---|---|---|---|---|
| b. Mus. May | March 27 | 40 2 | 49.9 | 40.9 |
| 9 41 50 | 30 | 40 2 | 47.6 | 43.7 |
| +5 9 38 | Apr. 16 | 40 2 | 10.7 | 11.9 |
| 9 41 56 | May 1 | 40 2 | 36.7 | 463 |
| +5 9 38 3 | | | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1872phae.proj.1385.

Ln. 1586
9 46 47 04
+73 30

9 46 58
+73 28 54

| | | | | | |
|---|---|---|---|---|---|
| March | 27 | 50 | 2 | 16.5 | 7.2 |
| | 30 | 50 | 2 | 9.5 | 3.7 |
| Apr. | 16 | 50 | 2 | 0.0 | 58.9 |
| May | 1 | 50 | 1 | 57.4 | 6.4 |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1872phae.proj.1385.

19 Leo. Mir.
9 49 47
+41 40

9 49 54
41 39 33

1873
March 30 ~~40 1 2.3 57.0~~
Apr. 21 40 0 25.0 25.1
May. 1 40 0 59.4 6.0

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1872phae.proj.1385.

79 Draco. 1873 March 30 ~~25 2 5 0 56.3~~
40
21 5 20
+73 06
10659

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1872phae.proj.1385.

1873

77 Leon's

9 5-3 24

+8 40

9 53 30

+8 39 9

Apr. 16 — 40 0 1.7 57.8

May 1 — 40 0 57.6 4.9

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1872phae.proj.1385.

Ch. 3667
2155-50
10019

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1872phae.proj.1385.

ζ Leonis
10 00 18
+11 23

10 0 24
+11 22 51

1873
Apr. 16 55 2 27.0 24.8
21 55 2 25.9 21.5
May 1 55 2 21.5 25.6
4

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1872phae.proj.1385.

1873

a Geminis Apr. 1

10 01 30 10 45 0 56.9 52.9
+12 36 16 45 0 1.5 59.1
40 4 56.5 55.0
10 1 36 21 35 45 0 0.8 57.1
+12 35 13

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1872phae.proj 1385.

24 Cephei 1873
22 07 20
+71 43
22 + 22
+71 42 57

| | | | | | |
|---|---|---|---|---|---|
| Apr. | 1 | 35 | 4 | 26.2 | 25.3 | Both 1 stroke for each S. neg. declin |
| | 10 | 35 | 4 | 24.0 | 24.1 | both, reg. order |
| | 16 | 35 | 3 | 0.0 | 1.1 | 1 stroke for S. for both, lost 2, hazy |
| May | 1 | 35 | 4 | 27.8 | 37.4 | Both, new sheet S. 6 hrs. |
| | 4 | 35 | 4 | 13.0 | 16.0 | 1 stroke for S for 2nd # |

32 Aurigae
10 8 50
+65 45

| | | | | | |
|---|---|---|---|---|---|
| 1873 May. | 1 | 35 | 1 | 16.6 | 25.8 | |
| | 4 | 35 | 1 | 17.1 | 19.9 | |
| | 6 | 35 | 1 | 49.9 | 59.2 | 67+9=A+1 |

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1872phae.proj.1385.

N Mus. Maj: 1873

10 09 18
+43 83

10 9 26
+43 32 50

| | | | | |
|---|---|---|---|---|
| Apr. | 1 | 45 | 2 | 44.1 42.3 |
| | 10 | 45 | 2 | 46.2 46.0 |
| | 16 | 45 | 2 | 43.9 42.5 |
| | 21 | 45 | 2 | 42.5 41.0 |
| May | 1 | 45 | 2 | 9.0 17.9 |

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1872phae.proj.1385.

Lu. 1621 (6)
10 11 40
+84 54

1873

| | | | | | |
|---|---|---|---|---|---|
| Apr. | 1 | 25 | 2 | 24.0 | 24.7 |
| | 10 | 25 | 2 | 6.9 | 9.1 |
| | 16 | 25 | 2 | 21.0 | 22.0 |
| May | 1 | 25 | 2 | 13.0 | 25.3 |
| | 4 | 25 | 2 | 13.1 | 18.1 |
| | 6 | 25 | 1 | ~~58.9~~ | ~~11.7.~~ |

~~6, 7, 8, 9~~

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1872phae.proj.1385.

μ Ursæ Maj.
10 14 38
+42 09

1873
Apr. 1 10 2 20.0 18.7
10 10 2 6.0 5.9
21 10 2 22.9 22.0
May 1 10 2 13.2 22.6
4 10 1 51.9 54.4 lost a 1

Next Star.
10 14 45
+42 8 14

30 Ursæ Maj.
10 14 5 C
+66 13
10 14 57
+66 12 26

1873
Apr. 1 5 2 58.1 57.2 7, 8, 9 A +1
May 5 5 3 9.2
6 5 3 4.5 15.1

See opposite page

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1872phae.proj.1385.

3/ Leo Min 1873

10 20 25

+37 22

10 20 32

+37 21 25

| | | | | |
|---|---|---|---|---|
| Apr. | 10 | 55 | 4 | 1.0 | 0.0 |
| | 16 | 55 | 4 | 4.9 | 4.0 |
| | 21 | 55 | 3 | 3.2 | 1.1 |
| May | 1 | 55 | 3 | 58.9 | 7.8 |
| | 4 | 55 | 3 | 59.9 | 1.0 |
| | 5 | 55 | 3 | 54.8 | 0.1 |
| | 6 | 55 | 3 | 56.9 | 5.5 |
| | 12 | | | | |

30 Ν Camelop. 10 15 23 +83° 12′ 1″

10 15 23 +83° 12′ 10″

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1872phae.proj.1385.

b/k:
1851 Mus Mil P.B. /
222309
85 28
94 32

1873

| | | | | | |
|---|---|---|---|---|---|
| Apr. | 10 | 45 | 4 | 13.0 | 15.5 |
| | 16 | 45 | 4 | 13.9 | 15.6 |
| | 21 | 45 | 4 | 22.1 | 22.7 5 wires |
| May | 1 | 45 | 4 | 4.5 | 16.4 |
| | 4 | 45 | 4 | 8.1 | 13.9 |
| | 5 | 45 | 4 | 6.0 | 14.2 |
| | 6 | 45 | 4 | 6.8 | 17.9 |
| | 7 | 45 | 4 | 8.0 | 18.8 lost 9 |

9 Mod Occ.
222409
+7.6 2 2

1873

| | | | | | |
|---|---|---|---|---|---|
| Apr. | 10 | 55 | 3 | 54.1 | 53.3 |
| | 16 | 55 | 3 | 37.0 | 36.2 |
| | 21 | 55 | 3 | 55.1 | 52.4 |
| May. | 1 | 55 | 3 | 28.8 | 37.2 |
| | 4 | 55 | 3 | 38.4 | 40.1 lost A1 |
| | 5 | 55 | 3 | 31.9 | 37.3 lost A1 |
| | 6 | 55 | 3 | 29.7 | 37.9 lost A1 |
| | 7 | 55 | 3 | 29.0 | 36.1 lost A1 |
| | 12 | 55 | 3 | 37.7 | 40 |

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1872phae.proj.1385.

ℓ Leo.

10 26 02
+9 58

10 26 ½
+9 57 33

1873
Apr. 10
16
21
May 1
5
6
7
12

| | | | |
|---|---|---|---|
| 20 | 2 | 33.0 | 30.5 |
| 20 | 2 | 35.5 | 32.0 |
| 20 | 2 | 32.9 | 28.8 |
| 20 | 2 | 26.5 | 32.7 |
| 20 | 2 | 30.9 | 33.9 |
| 20 | 2 | 30.1 | 35.1 |
| 20 | 2 | 29.2 | 34.8 |
| 20 | 2 | 27.7 | 32.4 |

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1872phae.proj.1385.

226 Bloeph
223007
+75 34
10426

1873 Apr. 10 55 0 48.8 51.9
15 55 1 17.9 20.0
May 1 55 1 41.3 55.9
4 55 0 55.1 3,5
6 ~~55 0 0.0 13.1~~
7 ~~55 0 48.0 0.2~~

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1872phae.proj.1385.

31 Ceph.

22 32 36
+72 59
10701

22 32 36
+72 59

1873

| | | | | | |
|---|---|---|---|---|---|
| Apr. | 10 | 20 | 0 | 48,6 | 52.0 |
| | 16 | 20 | 0 | 48.4 | 51.9 |
| | 23 | 20 | 0 | 44.8 | 47.9 |
| | 27 | 20 | 0 | 56.1 | 2.2 |
| May | 1 | 20 | 0 | 36.8 | 49.9 |
| | 4 | 20 | 0 | 41.0 | 47.2 |
| | 5 | 20 | 0 | 54.7 | 5.6 lost 9 & 8 |
| | 12 | 20 | 0 | 32.7 | 44.8 |

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1872phae.proj.1385.

41 Geo. Mini

10 36 25

+23 52

10 36 30

+23 51 8

1873

| | | | | |
|---|---|---|---|---|
| Apr. | 10 | 25 | 4 | 8.1 2.1 |
| | 16 | 25 | 4 | 14.2 13.0 |
| | 21 | 25 | 4 | 13.2 12.0 |
| | 23 | 25 | 4 | 5.7 5.5 |
| | 26 | 25 | 4 | 10.0 10.7 |
| | 27 | 25 | 4 | 11.3 14.1 |
| May | 1 | 25 | 4 | 13.1 22.9 |
| | 6 | 25 | 4 | 9.2 17.7 |
| | 12 | 25 | 4 | 9.0 10.9 |

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1872phae.proj.1385.

42 Sec. Min

10 38 41
+31 22

10 38 48
+31 21 1

1873

| | | | | |
|---|---|---|---|---|
| Apr. 10 | 55 | 4 | 19.8 | 21.0 |
| 16 | 55 | 4 | 25.6 | 26.8 |
| 21 | 55 | 4 | 28.1 | 28.1 |
| 23 | 55 | 4 | 24.5 | 26.0 |
| 26 | 55 | 4 | 22.5 | 23.3 |
| 27 | 0 | 2 | 47.5 | 51.0 |
| May 1 | 55 | 4 | 22.0 | 32.2 |
| 6 | 55 | 4 | 23.9 | 32.7 |
| 12 | 55 | 4 | 19.8 | 28.1 |
| 15 | 0 | 0 | 24.1 | 31.0 |

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1872phae.proj.1385.

ℓ Leo.
10 42 30
+11 14
10 42 30
+11 12 09

| | | | | | | |
|---|---|---|---|---|---|---|
| 1873 Apr. | 10 | 5 | 1 | 24.9 | 22.9 | A.2+c. A2? |
| | 16 | 5 | 2 | 12.8 | 8.9 | |
| | 21 | 5 | 2 | 15.1 | 11.1 | |
| | 23 | 5 | 2 | 10.9 | 7.2 | |
| | 26 | 5 | 2 | 10.6 | 8.0 | |
| | 27 | 5 | 2 | 10.9 | 10.7 | |
| May | 1 | 5 | 2 | 10.5 | 17.1 | |
| | 5 | 5 | 2 | 11.9 | 19.9 | |
| | 6 | 5 | 1 | 56.9 | 2.0 | |
| | 7 | 5 | 2 | 1.1 | 6.4 | |
| | 12 | 5 | 2 | 6.0 | 11.9 | |

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1872phae.proj.1385.

46 Lw. Min

10 46 06

+34 55

10 46 12

+34 53 59

1873 Apr. 10

? 21

23

26

27

May 1

6

12

14

| | | | |
|---|---|---|---|
| 25 | 1 | 35.4 | 35.9 |
| 25 | 1 | 36.5 | 35.0 |
| 25 | 1 | 35.0 | 34.0 |
| 25 | 1 | 40.0 | 39.8 |
| 25 | 1 | 36.2 | 33.9 |
| 25 | 1 | 31.0 | 39.9 |
| 25 | 1 | 16.0 | 23.2 |
| 25 | 1 | 23.6 | 31.8 |
| 25 | 1 | 33.7 | 39.8 |

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1872phae.proj.1385.

Prdorenko
Lal. 4309
22 48 01
+79 42
100 08

B.A.C. 7990
22 47 56
82 29

1873 Apr. 10 0 3 24.1 27.3
23 0 3 9.1 12.9
26 0 3 6.9 9.4
27 0 3 17.2 24.6
May 1 0 3 5.0 18.0

Don't reject.

B.A.C. 8158
10 49 34
+78 28
10 49 44
+78 26 59

1873 Apr. 10 50 3 58.3 58.9
21 50 4 5.0 4.1
23 50 3 55.0 56.0
26 50 3 56.8 57.8
27 50 3 45.2 49.9 last 1
May 1 50 3 55.4 5.2
4 50 3 53.9 56.9
5 50 3 39.0 45.9 7, 8, 9
6 50 3 53.4 3.2
12 50 4 11.1 20.1
14 50 3 52.0 1.1
15 55 0 9.0 16.1

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1872phae.proj.1385.

Bus May:
10 54 03
+5 4 04

10 54 10
+5 3 44

1873

| | | | | |
|---|---|---|---|---|
| Apr. | 10 | 15 | 2 | 0.0 | 1.9 |
| | 21 | 15 | 1 | 59.9 | 58.9 |
| | 23 | 15 | 1 | 59.8 | 1.5 |
| | 26 | 15 | 2 | 1.9 | 2.3 |
| | 27 | 15 | 1 | 59.3 | 3.1 |
| May | 1 | 15 | 1 | 56.0 | 5.9 |
| | 5 | 15 | 1 | 16.9 | 23.9 |
| | 6 | 15 | 1 | 40.8 | 49.1 |
| | 7 | 15 | 1 | 51.1 | 0.8 |
| | 12 | 15 | 1 | 53.4 | 2.2 |
| | 14 | 15 | 1 | 53.4 | 2.7 |
| | 15 | 15 | 3 | 14.2 | 21.1 |
| | ~~18~~ | 15 | 3 | 7.1 | 14.9 |

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1872phae.proj.1385.

a Mus. May 1873

10 55 49
+62 22 "

10 55 52,
+62 26 "

| | | | | | |
|---|---|---|---|---|---|
| Apr. 10 | 50 | 4 | 41.4 | 41.9 | 124 A-1 |
| 21 | 50 | 4 | 39.2 | 37.1 | |
| 22 | 50 | 4 | 32.2 | 32.8 | |
| 26 | 50 | 4 | 31.7 | 32.9 | |
| 27 | 50 | 4 | 28.5 | 32.0 | |
| May 1 | 50 | 4 | 32.0 | 42.4 | |
| 4 | 50 | 4 | 6.9 | 40.2 | |
| 5 | 50 | 4 | 35.9 | 42.1 | |
| 6 | 50 | 4 | 29.9 | 39.7 | |
| 7 | 50 | 4 | 44.5 | 53.9 | |
| 12 | 50 | 4 | 30.8 | 39.9 | |
| 14 | 50 | 4 | 30.0 | 39.8 | |
| 15 | 55 | 0 | 47.5 | 54.8 | |
| 18 | 55 | 0 | 39.9 | 48.1 | |

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1872phae.proj 1385.

1873

χ Leo.

| | | | | | |
|---|---|---|---|---|---|
| Apr. | 21 | 15 | 3 | 48.2 | 45.9 |
| | 23 | 15 | 3 | 41.9 | 40.1 |
| | 26 | 15 | 3 | 54.5 | 52.3 |
| | 27 | 15 | 3 | 32.0 | 30.0 |
| May | 1 | 15 | 3 | 41.9 | 48.1 |
| | 5 | 15 | 3 | 49.9 | 53.1 |
| | 6 | 15 | 3 | 43.9 | 50.4 |
| | 7 | 15 | 3 | 35.8 | 41.0 |
| | 12 | 15 | 3 | 41.2 | 48.2 |
| | 14 | 15 | 3 | 11.9 | 17.0 |
| | 15 | 15 | 4 | 56.1 | 1.0 |
| | 18 | 20 | 0 | 59.1 | 4.7 |

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1872phae.proj.1385.

1873

April 12 5 4 25.9 25.1
23 5 4 27.1 26.0
26 5 4 27.5 26.0
27 5 4 ~~25.8~~ ~~26.1~~
May 1 5 4 19.0 28.7 lost A 1
6 5 4 23.5 32.3
7 5 4 18.1 27.8
12 5 4 19.1 27.9
14 5 4 16.0 24.0
15 10 0 35.9 43.1
16 10 0 33.5 41.7

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1872phae.proj.1385.

Tr Eph.
2303 49
+74 42
108 18

23 35 2
+74 42 3

1873

| | | | | |
|---|---|---|---|---|
| Apr. 23 | 0 | 3 | 50.0 | 52.1 |
| 27 | 0 | 3 | 49.8 | 55.0 |
| May 1 | 0 | 3 | 44.0 | 56.8 |
| 4 | 0 | 3 | 38.6 | 45.1 |
| 6 | 0 | 3 | 48.2 | 0.5 |
| 7 | 0 | 3 | 48.5 | 1.0 |
| 14 | 0 | 3 | 41.3 | 53.0 |
| 15 | 5 | 0 | 3.0 | 12.9 |
| 18 | 5 | 0 | 6.0 | 17.0 |

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1872phae.proj.1385.

Sep. 1873
11 07 14
+21 14

11 : 7 21
+21 13 8

Apr. 21
23
26
~~27~~
May 1
5
7
14
15
18

| | | | | |
|---|---|---|---|---|
| 5 | 2 | 16.2 | 13.8 | |
| 5 | 2 | 7.2 | 6.0 | |
| 5 | 2 | 11.5 | 10.0 | rej at $\frac{1}{2}$ lost as |
| ~~5~~ | ~~2~~ | ~~8.1~~ | ~~9.1~~ | ~~o/c~~ |
| 5 | 2 | 5.0 | 12.4 | |
| 5 | 2 | 12.9 | 16.9 | |
| ~~5~~ | | | | |
| over 5 | 2 | 1.3 | 7.8 | |
| 5 | 2 | 6.0 | 12.9 | |
| 5 | 3 | 26.2 | 31.6 | |
| 5 | 3 | 23.5 | 30.1 | |

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1872phae.proj.1385.

1873

$\alpha_{1757} = 11\ 9\ 26$
$+50\ 11$
$11\ 9\ 32$
$+50\ 10\ 8$

| | | | | | |
|---|---|---|---|---|---|
| Apr. 21 | ~~10~~ | ~~0~~ | ~~33.1~~ | 33.3 | $A_{+2}$ $A_{-2}$ Reg A |
| 23 | 10 | 0 | 33.8 | 35.0 | |
| 26 | 10 | 0 | 33.0 | 35.4 | |
| 27 | 10 | 0 | 35.0 | 39.9 | |
| May 1 | 10 | 0 | 25.2 | 39.9 | |
| 5 | 10 | 0 | 14.0 | 21.7 | lost $A_{-1}$ |
| 6 | 10 | 0 | 32.9 | 43.0 | |
| 7 | 10 | 0 | 29.0 | 39.9 | |
| 14 | 10 | 0 | 14.0 | 24.3 | |
| 15 | 10 | 1 | 45.7 | 54.8 | |
| 18 | 10 | 1 | 46.7 | 56.9 | |

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1872phae.proj.1385.

1873

Ψ Leo. May. Apr. 26

27

May 1

5

6

7

13

14

15

18

19

| | | | |
|---|---|---|---|
| 30 | 3 | 19.3 | 19.1 |
| 30 | 3 | 22.5 | 24.0 |
| 30 | 3 | 15.3 | 23.0 |
| 30 | 3 | 8.5 | 13.2 |
| 30 | 3 | 13.2 | 21.1 |
| 30 | 3 | 9.3 | 17.6 |
| 30 | 3 | 11.5 | 20.0 |
| 30 | 4 | 10.0 | 16.1 |
| 30 | 4 | 32.0 | 38.0 |
| 30 | 4 | 31.8 | 39.0 |
| 30 | 4 | 26.9 | 35.8 |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1872phae.proj.1385.

1873

Ln 1771 Apr. 27
May 1
11 15 10
+65 0 2
11 15 17
T65 1 30

5
7
13
14
15
18
19
20

| | | | | |
|---|---|---|---|---|
| 15 | 4 | 21.9 | 23.4 | |
| 15 | 4 | 7.0 | 15.8 | |
| 15 | 4 | 18.9 | 24.9 | |
| 15 | 4 | 12.3 | 20.3 | |
| 15 | 4 | 19.1 | 28.1 | |
| 15 | 4 | 5.0 | 13.1 | |
| 20 | 0 | 34.0 | 40.0 | 5 wires |
| 20 | 0 | 27.2 | 34.1 | |
| 20 | 0 | 28.1 | 37.0 | |
| 20 | 0 | 26.1 | 38.0 | |

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1872phae.proj.1385.

i Lev.
11 17 12
+11 14

11 17 18
+11 13 42

1873
Apr 27
May 5
7
14
15
18
19
20

| | | | | |
|---|---|---|---|---|
| 5 | 1 | 26.2 | 25.0 | pr, ## |
| 5 | 1 | 30.0 | 32.0 | lost 7, 8, 9 |
| 5 | 1 | 27.2 | 33.1 | |
| 5 | 1 | 20.8 | 25.3 | |
| 5 | 2 | 36.9 | 41.5 | |
| 5 | 2 | 42.0 | 44.1 | |
| 5 | 2 | 46.1 | 51.9 | |
| 5 | 2 | 42.2 | 50.7 | |

T Lev
11 21 14
+3 0 34

1873
May 18
19
20

| | | | |
|---|---|---|---|
| 45 | 2 | 56.3 | 1.5 |
| 45 | 3 | 0.4 | 6.2 |
| 45 | 2 | 55.9 | 4.0 |

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1872phae.proj.1385.

\Draco
11 23 47
+70 02 ?
11 23 50
+70 1 57

1873

| | | | | | |
|---|---|---|---|---|---|
| May | 1 | 15 | 3 | 58.1 | 7.3 |
| | 4 | 15 | 3 | 58.5 | 0.0 |
| | 5 | 15 | 3 | 30.0 | 35.0 lost 7 8? |
| | 6 | 15 | 3 | 48.9 | 57.2 |
| | 7 | 15 | 3 | 48.1 | 55.3 |
| | 12 | 15 | 3 | 57.1 | 5.0 |
| | 13 | 15 | 3 | 55.1 | 3.5 |
| | 14 | 15 | 3 | 53.0 | 60.8 |
| | 15 | 20 | 0 | 16.8 | 23.9 |
| | 18 | 20 | 0 | 15.2 | 23.7 |
| | 19 | 20 | 0 | 9.9 | 20.0 |
| | 20 | 20 | 0 | 9.7 | 22.1 |

§213 Mrs Mui P.B.
23 27 50
93 24

| | | | | | |
|---|---|---|---|---|---|
| May | 1 | 55 | 2 | 26.8 | 38.8 |
| | 5 | 55 | 2 | 27.8 | 36.0 |
| | 6 | 55 | 2 | 26.4 | 36.7 5 md. wires |
| | 7 | 55 | 2 | 29.1 | 39.9 |
| | 13 | 55 | 2 | 28.9 | 40.1 |
| | 14 | 55 | 2 | 22.1 | 33.0 |
| | 15 | 55 | 3 | 44.9 | 53.2 |
| | 18 | 55 | 3 | 42.5 | 52.3 |
| | 19 | 55 | 3 | 42.7 | 54.7 |
| | 20 | 55 | 3 | 42.6 | 55.9 |

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1872phae.proj.1385.

1873

| | | | | |
|---|---|---|---|---|
| | May 1 | 25 | 2 | 13.2 | 19.1 |
| | 5 | 25 | 2 | 17.3 | 20.3 |
| | 6 | 25 | 2 | 25.9 | 30.9 |
| | 7 | 25 | 2 | 20.8 | 25.0 |
| | 13 | 25 | 1 | 32.0 | 37.9 |
| | 14 | 25 | 2 | 17.6 | 21.0 |
| | 15 | 25 | 3 | 39.5 | 42.7 |
| | 19 | 25 | 3 | 31.7 | 36.1 |
| | 20 | 25 | 3 | 33.0 | 40.9 |
| | 25 | 25 | 3 | 27.9 | 39.0 |

Dec.

30 21

0 07

11 30 27

-0 7 23

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1872phae.proj.1385.

Jupiter
2 3 34 06
+7 6 55
10 3 05

23 34 9
+76 55 24

1873

| | | | | | |
|---|---|---|---|---|---|
| May | 1 | 15 | 1 | 57.8 | 10.2 |
| | 4 | 15 | 1 | 46.5 | 52.3 |
| | 5 | 15 | 2 | 3.1 | 12.0 |
| | 6 | 15 | 1 | 51.0 | 2.7 |
| | 14 | 15 | 1 | 39.0 | 51.4 |
| | ~~15~~ | 15 | 3 | 11.2 | 21.9 |
| | 19 | 15 | 3 | 10.1 | 24.1 lost 9+8 |
| | 20 | 15 | 3 | 5.9 | 21.2 |
| | 25 | 15 | 3 | 5.9 | 24.3 |

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1872phae.proj.1385.

X

X Mrs. May:

11 39 14

+48 30

11 39 20

+48 29 00

1873

| | | | | |
|---|---|---|---|---|
| May 1 | 50 | 1 | 36.0 | 44.8 |
| 4 | 50 | 1 | 23.1 | 25.1 false break after #1 |
| 14 | 50 | 1 | 33.1 | 42.1 |
| 19 | 50 | 2 | 50.4 | 59.9 |
| 20 | 50 | 2 | 48.9 | 59.1 |
| June 1 | 50 | 2 | 24.0 | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1872phae.proj 1385.

× B Leo.

11 4 22.8
+15 1.f

11 42 35.~
+15 16 55.~

1873

| | | | | | |
|---|---|---|---|---|---|
| May | 1 | 0 | 3 | 21.1 | 26.1 |
| | 4 | 0 | 3 | 20.7 | 18.1 |
| | 5 | 0 | 3 | 18.2 | 20.2 |
| | 14 | 0 | 3 | 18.1 | 21.8 |
| | 19 | 0 | 4 | 42.5 | 47.1 lost all the wires after Ci 2 |
| | 20 | 0 | 4 | 35.9 | 42.5 |
| | 25 | 0 | 4 | 34.9 | 45.9 |
| | 29 | 0 | 4 | 37.9 | 48.0 |
| June | 1 | 0 | 4 | 39.1 | 46.9 |
| | 2 | 0 | 4 | 37.0 | 44.3 |

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1872phae.proj.1385.

X.

β Virginis 1873

11 44 02
+2,30

11 44 05
11 44 05
+2 28 99

| | | | | |
|---|---|---|---|---|
| May 1 | 50 | 1 | 11.0 | 18.1 |
| 4 | 50 | 0 | 54.7 | 55.0 lost 1st wire |
| 5 | 50 | 1 | 12.0 | 15.3 |
| 14 | 50 | 1 | 12.2 | 16.5 lost |
| 19 | 50 | 2 | 23.7 | 29.8 lost all the wires after a 2 |
| 20 | 50 | 2 | 18.3 | 26.1 |
| 25 | 50 | 2 | 21.2 | 34.0 |
| 29 | 50 | 1 | 45.3 | 57.2 a 2, 3, 4, 5, 6, 7, 8, 9. |
| June 1 | 50 | 2 | 24.0 | — |

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1872phae.proj.1385.

× Phe. May. 1873

11 47 01
+54 24

11 47 8
+54 24 3

May 1
4
5
14
19
20
25
27
29
June 1
2

| | | | | |
|---|---|---|---|---|
| 55 | 1 | 40.9 | 49.9 |
| 55 | 1 | 42.0 | 44.9 |
| 55 | 1 | 44.8 | 51.2 |
| 55 | 1 | 32.9 | 41.0 |
| 55 | 2 | 57.2 | 6.1 |
| 55 | 2 | 54.9 | 6.2 |
| 55 | 2 | 45.2 | 1.5 |
| 55 | 2 | 2.1 | 15.3 |
| 55 | 2 | 53.4 | 10.0 |
| 55 | 2 | 54.0 | 7.2 |
| 55 | 2 | 45.4 | |

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1872phae.proj.1385.

Gn. 4163.

23 48 57

+73 42

106 18

1873 May 4 14 19 20

| | | | |
|---|---|---|---|
| 0 | 3 | 0.8 | 6.1 |
| 0 | 3 | 6.1 | 11.3 |
| 5 | 0 | 25.0 | 37.1 |
| 5 | 0 | 24.7 | 44.0 |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1872phae.proj 1385.

Gr. 1845 (6)
11s-4 02
f 1384

1873

| | | | | | |
|---|---|---|---|---|---|
| May | 4 | 45 | 2 | 24.0 | 29.0 |
| | 14 | 45 | 2 | 19.0 | 28.0 |
| | 19 | 45 | 3 | 39.9 | 51.1 |
| | 20 | 45 | 3 | 35.5 | 48.1 lost the last N. |
| | 25 | 45 | 3 | 34.0 | 50.8 |
| | 27 | 45 | 3 | 7.6 | 23.2 |
| | 29 | 45 | 3 | 19.2 | 37.9 |

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1872phae.proj.1385.

Orig.

1873

May 4 — 40 3 0.1 1.1

14 — 40 3 57.2 3.9

19 — 45 0 13.9 22.1 ~~lost 1st 3 rays~~ Observation

20 — 45 0 15.9 27.1

25 — 45 0 17.5 31.0

27? — 40 4 51.3 5.3 A9+A41

~~11 58 40~~

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1872phae.proj.1385.

B.A.C. 4070 Ina Mui (P.B.)

1873

| | | | | | |
|---|---|---|---|---|---|
| 1 58 16 | May 4 | 0 3 | 26.0 | 29.3 | 8, 9, + a +1 |
| 8 6 18 | 14 | 0 3 | 22.5 | 31.1 | 8, 9, + a +1 |
| | 20 | 0 4 | 39.5 | 51.8 | a, 8, 9 + a +1 |
| | 25 | 0 4 | 36.0 | 50.9 | a 8, 9 + a +1 |

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1872phae.proj.1385.

1873

ν Ψ Ν Draco

12 06 11
+78 20

12 6 13
+78 19 19

| | | | | | |
|---|---|---|---|---|---|
| May | 4 | 0 | 1 | 27.1 | 24.3 ? |
| | 12 | 0 | 1 | 35.0 | 46.4 |
| | 14 | 0 | 1 | 42.5 | 50.9 |
| | 19 | 0 | 3 | 5.9 | 14.0 lost 1 |
| | 20 | 0 | 2 | 57.0 | 7.2 |
| | 25 | 0 | 2 | 48.8 | 3.1 |
| | 27 | 0 | 2 | 48.1 | 1.9 |
| | 28 | 0 | 2 | 54.1 | 10.6 |
| | 29 | 0 | 2 | 52.1 | 6.9 |
| June | 1 | 0 | 3 | 1.7 | 16.0 |
| | 2 | 0 | 2 | 38.0 | 10.1 |

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1872phae.proj.1385.

1873

2 Cam. Sem. — May 4 — 55 3 32.0 33.7
12 09 40 — 12 — 55 3 35.3 42.9
+41 23 — 27 — 55 4 43.2 55.2
next # 1st — 28 — 55 4 23.9 38.0
29 — 55 4 6.0 19.2 a 3,4,5,6,7,8,9,+41
June 1 — 55 4 47.1 58.5
12 9 45 — 2 — 55 4 31.7 42.5
+41 22 2

X

X h. 29
0 08 00
+76 14
103 46
0 9 3
+76 14 41

1873
May 4 — 55 3 32.0 33.7
May 14 — 35 1 8.1 19.0
19 — 35 2 26.8 40.7 lost 5,6,7,8,+9,
28 — 35.2 32.3 51.2 5 md. Wires.
29 — A.R. a 3,2,1

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1872phae.proj.1385.

X.

Virginia

12 13 18

+0 08

12 13 29

+0 2 21

1873

| | | | | |
|---|---|---|---|---|
| May 4 | 15 | 2 | 32.2 | 34.1 |
| 12 | 15 | 2 | 28.0 | 32.0 |
| 20 | 15 | 3 | 55.1 | 2.7 |
| 27 | 15 | 3 | 58.0 | 5.0 |
| 29 | 15 | 3 | 50.1 | 2.0 |
| 31 | 15 | 3 | 52.2 | 0.0 |
| June 1 | 15 | 3 | 57.1 | 6.7 |
| 2 | 15 | 3 | 56.0 | 4.9 |

Blo. 4165 Ino Min (P.B.)

12 14 18

88 25

1873

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| May 4 | 55 | 55 | 1 | 56.4 | 59.8 | least first 3 wires | X |
| 12 | | 55 | 1 | 49.1 | 59.0 | " " " | |
| 20 | | 55 | 3 | 11.1 | 23.0 | " " " | |
| 27 | | 55 | 3 | 3.6 | 17.8 | " " " | |
| 28 | | 55 | 2 | 54.9 | 11.9 | " " " | |
| 29 | | 55 | 3 | 1.8 | 17.0 | " " " | |
| June 1 | | 55 | 3 | 0.9 | 16.8 | " " " | |
| 2 | | 55 | 2 | 58.3 | 11.9 | " " " | |

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1872phae.proj.1385.

Sch. 9
0 18 27
+71 06
108 54

1873

| | | | | | |
|---|---|---|---|---|---|
| May | 4 | 25 | 3 | 25.1 | 25,0 |
| | 12 | 25 | 3 | 15.0 | 25.9 |
| | 20 | 25 | 4 | 36.9 | 46.5 |
| | 27 | 25 | 4 | 48.1 | — lost 1 |
| | 28 | 25 | 4 | 41.1 | 59.8 |
| | 29 | 25 | 4 | 29.0 | 46.3 |

x 6 Cam. Sch.
12 19 29
+39 44
12 19 35
+39 43 23

1873

| | | | | | |
|---|---|---|---|---|---|
| May | 4 | 35 | 1 | 35.7 | 39.5 ? |
| | 12 | 35 | 1 | 26.7 | 32.9 9 W |
| | 20 | 35 | 3 | 21.1 | 30.1 |
| | 27 | 35 | 3 | 7.1 | 19.1 |
| | 28 | 35 | 3 | 16.2 | 31.5 |
| | 29 | 35 | 2 | 55.3 | 7.2 9 W |
| June | 1 | 35 | 3 | 9.5 | 20.95 W |
| | 2 | 35 | 3 | 26.1 | 37.6 |

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1872phae.proj.1385.

ζ Coronae
12 23.14
+21 37

12 23 20
+21 35 59

| | | | | |
|---|---|---|---|---|
| May 12 | 40 | 4 | 22.5 | 28.1 |
| 28 | 45 | 0 | 35.1 | 48.1 |
| 29 | 45 | 0 | 39.1 | 51.4 |
| 31 | 45 | 0 | 19.1 | 27.0 |
| June 1 | 40 | 4 | 59.5 | 8.7 |
| 2 | 45 | 0 | 26.8 | 35.5 |

Gn. 67
0 23 37
+85 37
94 22

| | | | | |
|---|---|---|---|---|
| May 12 | 55 | 3 | 27.8 | 37.8 A_1 |
| 13 | 55 | 4 | 32.5 | 45.0 |
| 28 | 55 | 4 | 36.9 | 54.1 last 3 wires + A_1 |
| 29 | 55 | 4 | 40.5 | 56.2 at 3,2,1. |

Gn. 29
0 8 56
76 14
+03 46

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1872phae.proj.1385.

Hamburg
12 27 36

+~~02 03~~ ?
42 03

K ~~X~~Draco +
12 28 m
+70 30
X

12 28 3
+70. 29 18

May 12
28
29
31
June 1
2

50 0 55.2 6.4 A +1 J. F. M.
A. R.
A. R.
A. R.
50 2 48.5 1.1
50 2 58.9 9.5

J. F. M.
J. F. M.
J. F. M.
J. F. M.
J. F. M.

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1872phae.proj.1385.

24 Comae
12840
+1905

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1872phae.proj.1385.

Gr 1909
12 30 20
80 57

1873

| | | | | | |
|---|---|---|---|---|---|
| May | 12 | 20 | 3 | 39,5 | 48.4 last 4. W's |
| | 28 | 20 | 4 | 55.0 | 10.8 |
| | 29 | 20 | 4 | 50,9 | 6.6 a 7, 8, 14 $A_{+1}$ |
| | 31 | 25 | 0 | 8.9 | 19,8 |
| June | 1 | 20 | 4 | 51.9 | 5.3 $a_{+1}$ |

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1872phae.proj.1385.

γ Virginis

12 35 08
−0 24 4

12 35 14
−0 45 10

1873

| | | | | | |
|---|---|---|---|---|---|
| May | 12 | 5 | 2 | 49.6 | 57.9 |
| | 13 | 0 | 4 | 37.9 | 42.0 mean 5 W. |
| | 28 | 5 | 1 | 25.8 | 35.8 both δ for pr. #./pr. |
| | 29 | 5 | 1 | 22.8 | 33.8 both |
| June | 1 | 5 | 0 | 46.3 | 56.0 mean A.R 1 stroke |
| | 2 | 5 | 1 | 25.1 | 32.9 for each δ. 5 W 1 stroke for each δ. |

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1872phae.proj.1385.

× 21 bars

0 37 14
+4 4 17
108 43

0 37 16
+4 4 35

1873

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| May | 12 | 35 | 4 | 11.1 | 21.0 | | |
| | 13 | 35 | 4 | 30.5 | 41.1 | | |
| | 28 | 40 | 0 | 24.5 | 42.9 | | |
| | 29 | 40 | 0 | 30.9 | 47.0 | | |
| | 31 | 40 | 0 | 58.5 | 12.9 | 4, 3, 2, 1. | |
| June | 1 | 40 | 0 | 41.3 | 56.8 | | |
| | 2 | 40 | 0 | 35.0 | 49.1 | | |

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1872phae.proj.1385.

23 Cass
0 39 18
+74 10
10550

May 12
13
28
29
31
June 1
2

| | | | | |
|---|---|---|---|---|
| 30 | 0 | 43.6 | 53.8 | |
| 30 | 0 | 48.8 | 59.0 | [after 8.3] |
| 30 | 1 | 0.5 | 18.8 | false stroke on $a_{+1}$ |
| 30 | 1 | 2.1 | 18.8 | |
| 30 | 2 | 22.9 | 36.1 | |
| 30 | 2 | 9.1 | 25.0 | |
| 30 | 1 | 1.0 | 16.0 | |

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1872phae.proj.1385.

| | | | | |
|---|---|---|---|---|
| Gr. 1927 | May 12 | 0 | 2 | 3.1 | 13.0 |
| | 13 | 0 | 1 | 58.8 | 8.9 |
| 12 41 00 | 28 | 0 | 3 | 11.6 | 28.9 |
| +8 1 20 | 29 | 0 | 3 | 12.0 | 26.5 |
| | 31 | 0 | 3 | 17.0 | 29.8 |
| | June 1 | 0 | 3 | 13.0 | 25.9 |
| | 2 | 0 | 3 | 19.1 | 32.8 |

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1872phae.proj.1385.

82 Camel
12 48 13
+84 06

| | | | | | |
|---|---|---|---|---|---|
| May 12 | 10 | 4 | 47.2 | 55.4 | foll.# |
| 13 | 10 | 4 | 51.2 | 1.1 | foll# |
| 28 | A. R | | | 11 | 11 md wires |
| 29 | A. R | | | foll# | J. Z. M. |
| 31 | A. R | | | foll# | J. Z. M. |
| June 1 | A. R | | | foll# | J. Z. M. |
| 2 | A. R. | | | 11 | 11 J. Z. M. |
| 10 | 15 | 1 | 2.8 | 14.9 | |

Z. M.

240 Ursæ Min (P. B.)
0 49 00
+88 20
91 40

| | | | | | |
|---|---|---|---|---|---|
| May 12 | 40 | 1 | 43.7 | 53.0 | last 3 wires |
| 13 | 40 | 1 | 44.0 | 55.0 | 11 11 11 |
| 27 | 40 | 2 | 54.9 | 5.0 | |
| ~~28~~ | ~~40~~ | ~~2~~ | ~~54.1~~ | | |
| June | 40 | 2 | 56.8 | | |

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1872phae.proj.1385.

* ~~δ~~ 43 Eph.
0 5 13 8
+ 55 34
9426
0 5 14 7
+ 55 34 28

1873
May 13
25
June 9
10

55 0 45.7 56.2 lost 9+8
55 1 58.0 14.0 ~~+ 9+8~~ 5 mag Ws
55 1 54.8 8.8 lost 5, 4, 3, 2, 1
55 1 54.0 7.0

ε Virginis
12 55 45
+11 39
12 55 57
+11 38 32

1873
May 13
19
25
29
31
June 2
9
10
11

40 1 39.0 44.4
40 2 57.9 2.6
40 2 54.1 5.9
40 2 57.5 8.3
40 2 4.1 11.6 A 6, 9+A +1 rep. [illegible]
40 2 56.8 4.1
40 2 0.0 7.0
40 2 53.0 0.5
40 2 53.5 3.0

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× 2 (see below) 1873

~~o Virg.~~

~~1 58 41~~

~~o~~ Virginis

13 03 16

— 4 5 1

(next # first)

13 3 23

−4 51 38

| | | | | |
|---|---|---|---|---|
| May | 13 | 10 1 | 21.8 | 26.7 |
| | 19 | 10 2 | 42.9 | 46.9 |
| | 27 | 10 2 | 7.5 | 16.0 |
| | 28 | 10 2 | 43.2 | 53.8 |
| | 29 | 10 2 | 56.3 | 6.0 |
| | 31 | 10 2 | 46.5 | 52.0 |
| June | 1 | 10 2 | 49.2 | 56.7 |
| | 2 | 10 2 | 45.9 | 52.8 |
| | 5 | A.R. | | |
| | 10 | 10 2 | 48.2 | 56.1 |
| | 11 | 10 2 | 37.5 | 45.1 |
| | 12 | 10 2 | 41.1 | 49.0 |

new o for sheet

lost a +1 42

# 44 N Oph.

~~0 8 1 38~~

1 01 18

+78 59

1 01 01

1 1 23

+78 59 98

| | | | | |
|---|---|---|---|---|
| | 1873 | | | |
| May | 13 | 20 1 | 7.1 | 17.9 |
| | 29 | 20 2 | 19.0 | 35.4 |
| | 31 | 20 2 | 40.8 | 55.1 |
| June | 1 | 20 2 | 11.8 | 26.4 |
| | 2 | 20 2 | 35.8 | 50.4 |
| | 10 | 20 2 | 36.0 | 51.2 |
| | 11 | 20 2 | 38.9 | 56.1 |

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X 43 Comae

13 05 57
+28 32

13 5 57
+28 31 21

1873

| | | | | | |
|---|---|---|---|---|---|
| May | 13 | 45 | 4 | 9.2 | 16.9 |
| | 19 | 50 | 0 | 20.1 | 28.7 |
| | 27 | 50 | 0 | 21.3 | 34.8 |
| | 29 | 50 | 0 | 26.0 | 40.0 |
| | 31 | 50 | 0 | 26.1 | 36.9 |
| June | 1 | 50 | 0 | 25.7 | 36.4 |
| | 2 | 50 | 0 | 25.8 | 36.0 |
| | 5 | 50 | 0 | 27.0 | 39.0 |
| | 9 | 50 | 0 | 23.0 | 33.5 |
| | 10 | 50 | 0 | 18.2 | 30.3 |
| | 11 | 50 | 0 | 21.0 | 32.5 |
| | 12 | 50 | 0 | 26.0 | 36.3 |

A-1

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1872phae.proj.1385.

x Polaris

+ 91 24

1 12 18

+88 37 56

1873

| | | | | | |
|---|---|---|---|---|---|
| May 4 | | | | | |
| 13 | | | 55 | 4 | 1.9 12.9 |
| 19 | ~~0~~ | ~~0~~ | ~~21.2~~ | 0 | 0 21.2 32.3 |
| 27 | | | | 0 | 0 18.0 33.4 |
| 29 | | | | 0 | 0 14.8 31.0 |
| 31 | | | | 0 | 0 18.7 31.2 |
| June 1 | | | | 0 | 0 15.5 30.3 |
| 2 | | | | 0 | 0 18.7 32.0 |
| 5 | | | | 0 | 0 17.3 32.4 |
| 9 | | | | 0 | 0 19.0 33.2 a 9,6,5,3,2 |
| 10 | | | | 0 | 0 ~~18.2~~ 29.2 |
| 11 | | | | 0 | 0 14.4 31.7 |
| 12 | | | | 0 | 0 16.2 31.9 |
| 15 | | | | 0 | 0 12.1 27.7 |
| 17 | | | | 0 | 0 20.2 38.0 |

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# Polar Catalogue

## Observed with the Meridian Circle,

## 1872-'73.

### Approximate places for 1873

| | A.R. h | m | s | N.P.D. ° | ′ | ″ | Lay S |
|---|---|---|---|---|---|---|---|
| α Androm. | 0 | 1 | 50 | +28 | 23 | 21 | |
| 22 Andromedae | 0 | 3 | 44 | +45 | 21 | 55 | |
| 4 Draconis (H.C.) | 12 | 6 | 13 | +78 | 19 | 19 | |
| Groom. 29 | 0 | 9 | 3 | +76 | 14 | 41 | |
| i Ceti | 0 | 12 | 57 | −9 | 31 | 42 | |
| Sch. 9 | 0 | 18 | 27 | +71 | 6 | 14 | |
| Groom 67 | 0 | 23 | 38 | +85 | 37 | 5 | |
| χ Cassiop. | 0 | 25 | 48 | +62 | 13 | 50 | |
| κ Draconis | 12 | 28 | 3 | +70 | 29 | 18 | |
| ε Androm. | 0 | 31 | 51 | +28 | 37 | 19 | |
| α Cassiop. | 0 | 33 | 19 | +55 | 50 | 25 | |
| 21 Cassiop. | 0 | 37 | 18 | +74 | 17 | 35 | |
| 23 Cass = Gr. 136 | 0 | 39 | 16 | +74 | 9 | 9 | |
| κ Cassiop. | 0 | 41 | 26 | +57 | 8 | 29 | |
| 32 H. Camel. Jdl. | 12 | 48 | 13 | +84 | 6 | 10 | |
| γ Cassiop. | 0 | 49 | 4 | +60 | 1 | 42 | |
| B.A.C. 240 Ursæ Min. (P.B) | 0 | 49 | 12 | +88 | 20 | 30 | |
| 43 H. Cephei | 0 | 51 | 47 | +85 | 34 | 28 | |
| ε Piscium | 0 | 56 | 21 | +4 | 12 | 21 | |
| 44 H. Cephei | 1 | 1 | 23 | +78 | 59 | 48 | |
| τ Piscium | 1 | 4 | 40 | +29 | 24 | 53 | |
| Polaris | 1 | 12 | 18 | +88 | 37 | 56 | |
| γ Cassiop. | 1 | 16 | 59 | +67 | 27 | 57 | |
| ~~B.A.C. 152~~ | | | | | | | |
| η Piscium | 1 | 24 | 41 | +14 | 41 | 25 | |
| 40 Cass. | 1 | 28 | 25 | +72 | 23 | 28 | |
| Groom. 2029 | 13 | 34 | 12 | +71 | 53 | 34 | |
| ο Piscium | 1 | 38 | 41 | +8 | 31 | 3 | |
| Gr. 2063 | 13 | 45 | 49 | +83 | 28 | 7 | |
| ε Cassiop. | 1 | 45 | 17 | +63 | 2 | 35 | |
| Groom. 404 | 1 | 50 | 4 | +77 | 17 | 49 | |
| 50 Cassiop. (N.A.) | 1 | 52 | 3 | 8 +71 | 4 | 8 | 18 |
| γ Andromedae | 1 | 56 | 7 | +41 | 43 | 8 | |
| α Arietis | 2 | 0 | 1 | +22 | 51 | 39 | |
| β Trianguli | 2 | 1 | 59 | +34 | 23 | 7 | |
| Sch. 109 | 2 | 6 | 0? | 50 | 8 | 17 | |
| 4 Ursæ Min. | 14 | 9 | 23 | +78 | 8 | 39 | |
| i Cassiop. | 2 | 18 | 38 | +66. | 49 | 55 | |
| 36 H. Cassiop. | 2 | 26 | 0 | +72 | 15 | 37 | |
| 5 Ursæ Min. | 14 | 27 | 49 | +76 | 15 | 4 | |
| ζ Arietis | 2 | 31 | 37 | +21 | 24 | 38 | |
| δ Persei | 2 | 35 | 32 | +48 | 41 | 22 | |
| γ Ceti | 2 | 36 | 43 | +2 | 41 | 57 | |
| Sch. 853 | 2 | 37 | | +80 | 12 | 30 | |
| η Persei | 2 | 41 | 27 | +55 | 21 | 59 | |
| τ Persei | 2 | 45 | 16 | +52 | 14 | 26 | |
| 47 H. Cephei | 2 | 49 | 18 | +78 | 54 | 47 | |
| β Ursæ Min | 14 | 51 | 6 | +74 | 40 | 27 | |
| α Ceti | 2 | 55 | 39 | +3 | 35 | 23 | |
| ζ Persei | 2 | 57 | 3 | +38 | 20 | 47 | |
| β Persei | 2 | 59 | 55 | +40 | 29 | 52 | |
| B.A.C. 660 Ursæ Min. | 3 | 2 | 28 | +84 | 27 | 47 | |
| 48 H. Cephei | 3 | 4 | 17 | +77 | 15 | 51 | |
| Gr. 2212 | 15 | 4 | 15 | +84 | 26 | 14 | |
| ζ Arietis N.A. | 3 | 7 | 36 | +20 | 34 | 21 | |
| 1 H. Ursæ Min. | 3 | 15 | 16 | +49 | 24 | 24 | |
| α Persei | 3 | 15 | 16 | +49 | 24 | 24 | |
| B.A.C. 5746 Ursæ Min. | 15 | 18 | 58 | +87 | 43 | 6 | |
| 12 Ursæ Min. | 15 | 20 | 58 | +72 | 17 | 09 | |
| Groom. 642 | 3 | 23 | 56 | 86 | 18 | 55 | |
| ε Eridani | 3 | 26 | 57 | −9 | 53 | 23 | |
| Groom. 716 | 3 | 31 | 9 | +62 | 48 | 7 | |

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| | h | m | s | ° | ′ | ″ |
|---|---|---|---|---|---|---|
| ι Persei | 3 | 38 | 53 | +47 | 22 | 44 |
| Ursae Min. | 15 | 35 | 14 | +77 | 46 | 13 |
| κ Camel. | 3 | 36 | 59 | +70 | 56 | 15 |
| π Tauri | 3 | 39 | 56 | +23 | 42 | 37 |
| 97 Tauri | 3 | 41 | 37 | +23 | 39 | 47 |
| 9 κ Camel | 3 | 46 | 19 | +60 | 44 | 2 |
| Ursae Min | 15 | 48 | 38 | +78 | 11 | 2 |
| ε Persei | 3 | 50 | 44 | +35 | 25 | 25 |
| λ Tauri | 3 | 53 | 39 | +12 | 7 | 46 |
| ~~Lyr. 1750 Cat. 1875~~ | 3 | 57 | 24 | +85 | 13 | 0 |
| C Persei | 3 | 59 | 27 | +47 | 22 | 14 |
| Sch. 230 = Gr. 779 | 4 | 4 | 54 | +80 | 30 | 27 |
| Groom. 2320 | 16 | 5 | 57 | +68 | 8 | 40 |
| γ Tauri | 4 | 12 | 34 | +15 | 19 | 8 |
| 19 Ursae Min. | 16 | 14 | 28 | +76 | 11 | 46 |
| S Tauri | 4 | 15 | 37 | +17 | 14 | 33 |
| Groom. 828 | 4 | 18 | 47 | +72 | 14 | 51 |
| 1 Camel. Jole | 4 | 21 | 59 | +53 | 37 | 54 |
| α Tauri | 4 | 28 | 38 | +16 | 15 | 7 |
| N. Draconis | 16 | 28 | 14 | +69 | 2 | 34 |
| Groom. 848 | 4 | 31 | 47 | +75 | 42 | 18 |
| Groom. 2372 | 4 | 32 | 49 | +78 | 13 | 49 |
| T Tauri | 4 | 34 | 37 | +22 | 42 | 39 |
| Groom. 2373 | 4 | 37 | 07 | +77 | 40 | 58 |
| 4 Camel. | 4 | 37 | 26 | +56 | 31 | 42 |
| α Eridani | 4 | 39 | 9 | −3 | 29 | 22 |
| 9 Camel | 4 | 41 | 26 | +66 | 7 | 24 |
| π⁴ Orionis | 4 | 44 | 27 | +5 | 23 | 10 |
| i Aurigae | 4 | 48 | 43 | +32 | 57 | 45 |
| Groom. 2391 | 16 | 48 | 43 | +77 | 42 | 56 |
| 10 Camel. | 4 | 52 | 8 | +60 | 15 | 11 |
| ζ Aurigae | 4 | 53 | 36 | +40 | 53 | 16 |
| i Tauri | 4 | 55 | 30 | +21 | 24 | 22 |
| η Aurigae | 4 | 57 | 37 | +41 | 3 | 36 |
| ε Ursae Min. | 16 | 59 | 4 | +82 | 14 | 33 |
| 19 κ Camel. | 5 | 1 | 40 | +79 | 4 | 43 |
| λ Eridani | 5 | 3 | 4 | −8 | 55 | 9 |
| ω Aurigae | 5 | 4 | 44 | +38 | 19 | 53 |
| α Aurigae | 5 | 7 | 19 | +45 | 51 | 57 |
| β Orionis | 5 | 8 | 26 | −8 | 21 | 2 |
| τ Orionis | 5 | 11 | 26 | −6 | 59 | 1 |

| | h | m | s | ° | ′ | ″ |
|---|---|---|---|---|---|---|
| Groom. 2437 | 17 | 18 | 11 | +71 | 55 | 34 |
| B.A.C. 1662 Ursae Min. (P.N.) | 5 | 21 | 31 | +85 | 7 | 24 |
| Groom. 966 | 5 | 22 | 45 | +74 | 57 | 16 |
| ι Orionis | 5 | 25 | 31 | −0 | 23 | 44 |
| φ¹ Orionis | 5 | 27 | 57 | +9 | 24 | 4 |
| ε Orionis | 5 | 29 | 46 | −1 | 17 | 7 |
| ζ Draconis | 17 | 32 | 28 | +68 | 12 | 56 |
| θ Aurigae | 5 | 36 | 4 | +49 | 46 | 2 |
| ω Draconis | 17 | 37 | 42 | +68 | 48 | 58 |
| 130 Tauri | 5 | 40 | 2 | +17 | 40 | 45 |
| δ Aurigae | 5 | 49 | 4 | +54 | 16 | 17 |
| ψ Draconis | 17 | 44 | 12 | +72 | 12 | 37 |
| α Orionis | 5 | 48 | 18 | +7 | 22 | 51 |
| β Aurigae | 5 | 50 | 13 | +44 | 55 | 53 |
| 35 Draconis | 17 | 55 | 8 | +76 | 58 | 40 |
| B.A.C. 1879 Ursae Min. | 5 | 56 | 1 | +86 | 45 | 45 |
| β Orionis | 5 | 90 | 49 | +1446 | | 53 |
| 22 κ Camel. | 6 | 4 | 51 | +69 | 21 | 36 |
| κ Geminorum | 6 | 7 | 13 | +22 | 32 | 28 |
| 2 Lyncis | 6 | 8 | 25 | +59 | 3 | 11 |
| S Ursae Min. | 18 | 13 | 18 | +86 | 36 | 25 |
| μ Geminorum | 6 | 15 | 17 | +22 | 34 | 35 |
| 8 Monocerotis | 6 | 17 | 2 | +4 | 39 | 19 |
| ψ Draconis | 18 | 22 | 35 | +71 | 16 | 11 |
| χ Draconis | 18 | 23 | 18 | +72 | 40 | 47 |
| 23 κ Camel | 6 | 24 | 31 | +79 | 41 | 41 |
| 51 Aurigae | 6 | 29 | 51 | +39 | 30 | 1 |
| 15 Monocerotis | 6 | 33 | 59 | +10 | 0 | 39 |
| ε Geminorum | 6 | 36 | 7 | +25 | 15 | 16 |
| γ⁵ Aurigae | 6 | 37 | 35 | +43 | 42 | 3 |
| 43 Camel. | 6 | 40 | 00 | +69 | 1 | 54 |
| 51 Cephei | 6 | 40 | 15 | +84 | 14 | 11 |
| θ Geminorum | 6 | 44 | 25 | +34 | 6 | 42 |
| 15 Lyncis | +6 | 46 | 16 | +58 | 35 | 8 |
| 50 Draconis | 18 | 50 | 24 | +85 | 16 | 58 |
| ν Draconis | 18 | 55 | 57 | +71 | 7 | 34 |
| 63 Aurigae | 7 | 2 | 55 | +39 | 31 | 30 |
| Groom. 2784 | 19 | 3 | 26 | +76 | 52 | 31 |
| 64 Aurigae | 7 | 9 | 12 | +41 | 06 | 23 |
| S Geminorum | 7 | 12 | 32 | +22 | 12 | 50 |
| Groom. 1308 | 7 | 17 | 39 | +68 | 43 | 16 |

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| | h | m | s | ° | ′ | ″ |
|---|---|---|---|---|---|---|
| τ Draconis | 19 | 17 | 57 | +73 | 7 | 8 |
| QQ Geminorum | 7 | 18 | 56 | +32 | 2 | 4 |
| B.A.C. 2320 Ursæ Min. | 4 | 26 | 42 | +88 | 59 | 55 |
| Groom. 2900 | 19 | 29 | 20 | +79 | 20 | 46 |
| α Cam. Min. | 4 | 32 | 39 | +5 | 32 | 54 |
| Groom. 2917 | 19 | 35 | 53 | +71 | 16 | 57 |
| β Geminorum | 7 | 37 | 33 | +28 | 19 | 50 |
| π Geminorum | 7 | 39 | 19 | +33 | 43 | 31 |
| Groom. 1374 | 4 | 44 | 57 | +74 | 15 | 10 |
| ε Draconis | 19 | 48 | 36 | +69 | 56 | 39 |
| λ Ursæ Min. | 19 | 51 | 19 | +88 | 55 | 33 |
| 6 Cancri | 4 | 55 | 43 | +28 | 8 | 53 |
| 27 Lyncis | 4 | 58 | 54 | +51 | 52 | 12 |
| 3 Ursæ Min. R | 8 | 0 | 3 | +68 | 57 | |
| Groom. 1408 | 8 | 3 | 32 | +76 | 8 | 24 |
| β Cancri | 8 | 9 | 38 | +9 | 34 | 30 |
| R XIII Cephei | 20 | 18 | 4 | +77 | 19 | 40 |
| o Ursæ Maj. | 8 | 19 | 42 | +61 | 8 | 23 |
| Groom. 1450 | 8 | 24 | 39 | +38 | 26 | 58 |
| Groom. 1446 | 8 | 25 | 32 | +74 | 4 | 12 |
| Groom. 1460 | 8 | 29 | 52 | +53 | 9 | 15 |
| Groom. 3241 | 20 | 30 | 32 | +76 | 6 | 5 |
| 73 Draconis | 20 | 33 | 9 | +74 | 31 | 8 |
| S Cancri | 8 | 37 | 28 | +18 | 34 | 9 |
| ε Hydræ | 8 | 40 | 3 | +6 | 53 | 0 |
| 5 Ursæ Maj. Gr. 1472 | 8 | 42 | 54 | +62 | 29 | 8 |
| 57 Cancri. Beam | 8 | 46 | 29 | +31 | 3 | 31 |
| ζ Hydræ | 8 | 48 | 41 | +6 | 25 | 38 |
| i Ursæ Maj. | 8 | 50 | 30 | +48 | 32 | 18 |
| 76 Draconis | 20 | 51 | 39 | +82 | 3 | 32 |
| Br. 2749 | 20 | 53 | 17 | +80 | 4 | 29 |
| K Ursæ Maj. | 7 | 54 | 57 | +47 | 39 | 24 |
| o² Ursæ Maj. | 8 | 59 | 11 | +67 | 38 | 57 |
| 36 Lyncis | 9 | 5 | 29 | +43 | 44 | 22 |
| 77 Draconis | 21 | 8 | 0 | +77 | 36 | 38 |
| 38 Lyncis | 9 | 10 | 56 | +37 | 20 | 19 |
| 40 Lyncis | 9 | 13 | 19 | +34 | 55 | 40 |
| Groom. 3452 | 21 | 17 | 2 | +76 | 28 | 14 |
| K Draconis | 9 | 18 | 47 | +81 | 53 | 5 |
| a Hydræ | 9 | 21 | 21 | −8 | 6 | 34 |
| d Ursæ Maj. | 9 | 23 | 13 | +70 | 23 | 11 |

| B.A.C. | h | m | s | ° | ′ | ″ |
|---|---|---|---|---|---|---|
| 7504 Ursæ Min. | 21 | 24 | 34 | +86 | 30 | 26 |
| β Cephei | 21 | 4 | 1 | +70 | 0 | 11 |
| Groom. 1564 | 9 | 31 | 20 | +69 | 48 | 48 |
| o Leonis | 9 | 34 | 22 | +10 | 28 | 8 |
| ε Leonis | 9 | 38 | 38 | +24 | 21 | 28 |
| 11 Cephei | 21 | 40 | 3 | +70 | 43 | 36 |
| υ Ursæ Maj. | 9 | 41 | 56 | +59 | 38 | 3 |
| (Groom. 1586) | 9 | 48 | 24 | +46 | 37 | 26 |
| 19 Leonis Min. | 9 | 49 | 54 | +41 | 39 | 33 |
| π Leonis | 9 | 53 | 30 | +8 | 39 | 9 |
| η Leonis | 10 | 0 | 24 | +17 | 22 | 57 |
| α Leonis | 10 | 1 | 36 | +12 | 35 | 13 |
| 24 Cephei | 22 | 4 | 22 | +71 | 42 | 57 |
| 32 Ursæ Maj. | 10 | 8 | 47 | +65 | 44 | 25 |
| XV Ursæ Maj. | 10 | 9 | 26 | +43 | 32 | 52 |
| Groom. 1620 | 10 | 11 | 31 | +81 | 53 | 59 |
| u Ursæ Maj. | 10 | 14 | 45 | +42 | 8 | 14 |
| 30 Ursæ Maj. | 10 | 14 | 57 | +66 | 12 | 26 |
| 30 Ursæ Maj. | 10 | 15 | 23 | +88 | 12 | 10 |
| 31 Leonis Min. | 10 | 20 | 32 | +84 | 21 | 25 |
| (B.A.C. 7651 Ursæ Min. (P.)) | 22 | 23 | 12 | +85 | 27 | 53 |
| 9 K. Draconis | 10 | 24 | 14 | +76 | 21 | 57 |
| ζ Leonis | 10 | 26 | 4 | +9 | 54 | 33 |
| 226 (B) Cephei | 22 | 30 | 2 | +75 | 34 | 19 |
| 31 Cephei | 22 | 32 | 38 | +72 | 59 | 2 |
| 41 Leonis Min. | 10 | 36 | 30 | +28 | 51 | 8 |
| 42 Leonis Min. | 10 | 38 | 48 | +31 | 21 | 1 |
| ζ Leonis | 10 | 42 | 35 | +11 | 12 | 54 |
| 46 Leonis Min. | 10 | 46 | 12 | +34 | 53 | 54 |
| Lal. 4309 Fedorenko | 22 | 48 | 6 | +79 | 47 | 14 |
| Br. 1508 | 10 | 49 | 44 | +78 | 26 | 59 |
| B Ursæ Maj. | 10 | 54 | 10 | +54 | 3 | 44 |
| a Ursæ Maj. | 10 | 55 | 52 | +62 | 26 | 9 |
| χ Leonis | 10 | 58 | 28 | +8 | 1 | 18 |
| ψ Ursæ Maj. | 11 | 2 | 31 | +45 | 11 | 12 |
| π Cephei | 23 | 3 | 52 | +74 | 42 | 3 |
| S Leonis | 11 | 7 | 21 | +21 | 13 | 8 |
| Groom. 1757 | 11 | 9 | 32 | +50 | 10 | 8 |
| 26 Ursæ Maj. | 11 | 11 | 37 | +33 | 49 | 13 |
| Groom. 1771 | 11 | 15 | 17 | +65 | 1 | 30 |
| i Leonis | 11 | 17 | 18 | +11 | 13 | 42 |
| T Leonis | 11 | 21 | | +3 | 34 | |

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| | h | m | s | ° | ′ | ″ |
|---|---|---|---|---|---|---|
| 1 Draconis | 11 | 23 | 50 | +70 | 1 | 54 |
| B.A.C. 213 Ursæ Min. (P.B.) | 23 | 27 | 50 | +86 | 36 | 44 |
| Leonis | 11 | 30 | 27 | −0 | 7 | 23 |
| Cephei | 23 | 34 | 9 | ~~+43 37 52~~ +76 55 24 | | |
| X Ursæ Maj. | 11 | 39 | 20 | +48 | 29 | 00 |
| B Leonis | 11 | 42 | 35 | +15 | 16 | 55 |
| B Virginis | 11 | 44 | 5 | +2 | 28 | 49 |
| γ Ursæ Maj. | 11 | 47 | 8 | +54 | 24 | 3 |
| Groom. 4163 | 11 | 48 | 07 | +78 | 42 | 10 |
| Groom. 1845 (6 Mag.) | 11 | 53 | 43 | +81 | 33 | 46 |
| Groom. 1852 | 11 | 58 | 46 | +77 | 36 | 57 |
| B.A.C. 4070 Ursæ Min. (P.B.) | 11 | 58 | 13 | +86 | 18 | 7 |
| 4 K Draconis | 12 | 6 | 13 | +78 | 19 | 19 |
| 2 Can. Ven. | 12 | 9 | 45 | +41 | 22 | 2 |
| Groom. 29 | 0 | 9 | 3 | +76 | 14 | 41 |
| η Virginis | 12 | 13 | 24 | +0 | 2 | 21 |
| B.A.C. 4165 Ursæ Min. (P.B.) | 12 | 14 | 18 | +88 | 24 | 54 |
| Sch. 9 | 0 | 18 | 27 | +71 | 6 | 14 |
| 6 Can. Ven. | 12 | 19 | 35 | +39 | 43 | 23 |
| 20 Comæ | 12 | 23 | 20 | +21 | 35 | 59 |
| Groom. 67 | 0 | 23 | 37 | +85 | 36 | 53 |
| K Draconis | 12 | 28 | 3 | +70 | 29 | 18 |
| Groom. 1909 | 12 | 30 | 17 | +80 | 57 | 2 |
| γ Virginis | 12 | 35 | 14 | −0 | 45 | 10 |
| 21 Cassiop. | 0 | 37 | 18 | +74 | 17 | 35 |
| 23 Cassiop. | 0 | 39 | 18 | +74 | 9 | 11 |
| Groom. 1927 | 12 | 41 | 10 | +81 | 19 | 14 |
| 32 Camelop. Nr. Jodr. | 12 | 48 | 13 | +84 | 6 | 18 |
| B.A.C. 240 Ursæ Min. (P.B.) | 0 | 49 | 12 | +88 | 20 | 30 |
| 43 K Cephei | 0 | 51 | 47 | +85 | 34 | 28 |
| ε Virginis | 12 | 55 | 51 | +11 | 38 | 32 |
| 44 K Cephei | 1 | 1 | 23 | +78 | 59 | 48 |
| θ Virginis | 13 | 3 | 23 | −4 | 07 | 38 |
| 43 Comæ | 13 | 5 | 57 | +28 | 31 | 21 |
| Polaris | 1 | 12 | 18 | +88 | 87 | 56 |

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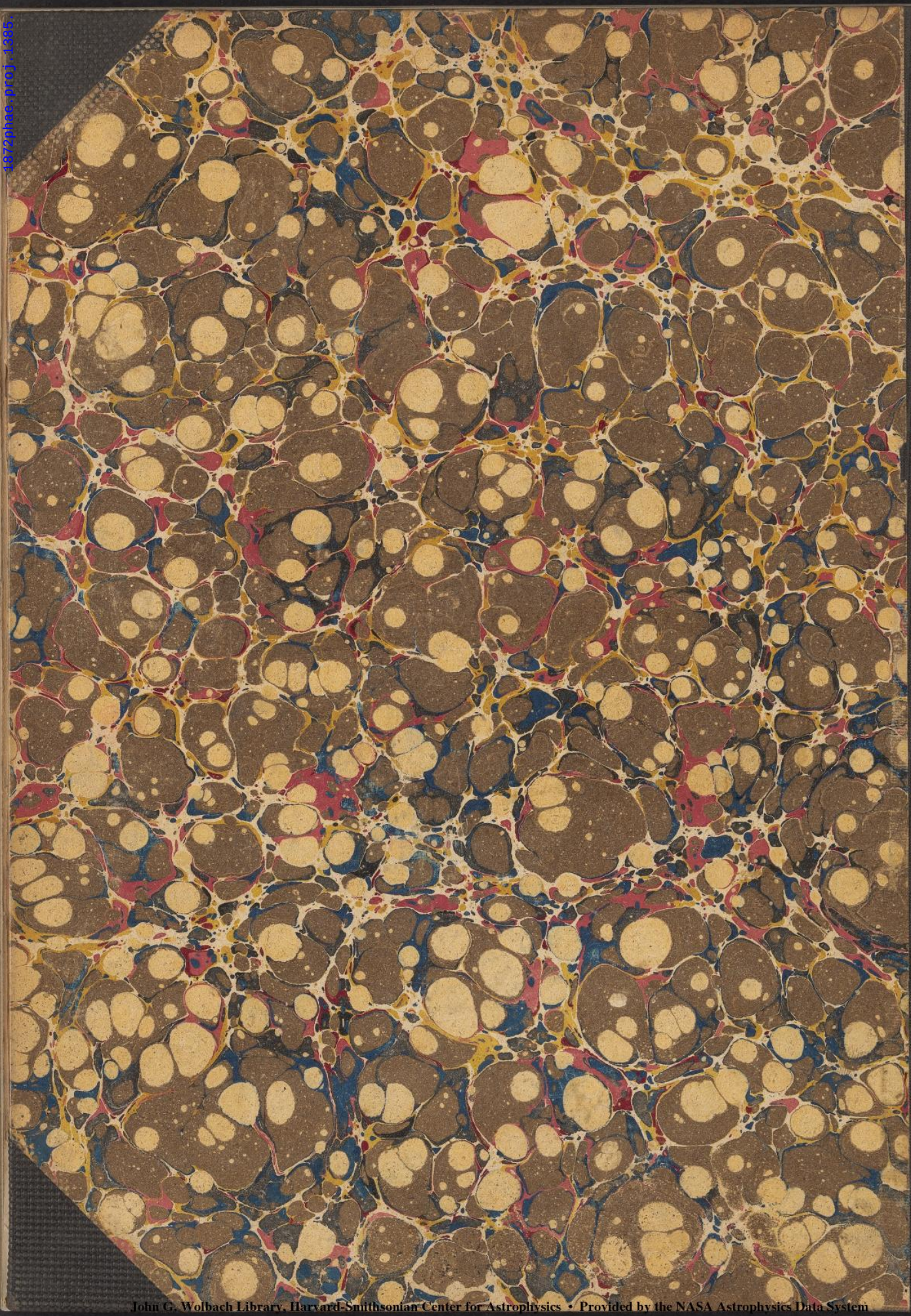
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