KG
11366
v.416

Fundamental and Zone Stars
Circle Readings
from June 2 1885 to Oct 12 1885

June 21 1885

Polaris ✓

DM

1327 36

5240

1 3 28 40

~~+54 00~~

453 24,8 25,5

23,4 27,8

38,5 43,0

26,1 30,6

48 28.20 3282

25 2 36,0

(8.8)

32,4

48,2

36,8

27 3835

not seen

DM

1355 14

5247

~~13 58 44~~ DM 82° 51

~~+54 4~~

13 59 5

+56 59

134329
+54 ~~58~~
58

1347 34
+52 40
11 ~~λ~~ Bootis
13 ~~55~~ ~~58~~
~~+27~~ 56

135256
+52 36

A.R

Clouded up

α Bootis
14 5 9
+25 38

λ Bootis
14 12 1
+46 37

θ Bootis
14 21 17
+52 23

Jan 3 ✓

Polaris

45 3 18,7 22,7
16,3 20,4
32,5 36,1
18,6 22,6
48 21,52 25,45

DM 13D5° 422

13 25 30
+79 14

50 2 11,1
10,0
22,0
10,7
52 13,52

6,2 to 3,1

~~DM~~
G 2063
13 45 40
+83 20

45 1 13,1
11,6
25,2
12,6
46 15,62

DM 75° 431
13 50 9
+75 34

30 2 3,6
3,0
14,5
3,8
32 6,22

~~DM 85°~~
~~G 426~~ 23°
13 52 34
+85 4

0 1 2,3
1,0
14,3
9,0
1 4,90

A 60 to 80

DM
13 28 v
+52 8

~~[illegible] 8.4~~

DM
13 28 40
+54 0

DM 80° 58
13 41 56
99 41

251 50.7
47.7
5.2
49.1
26 53.05

Gr 424
13 56 3
+99 15

DM 75° 63
13 55 0
+100 51

~~4 [illegible]~~
~~14 8 15~~
~~+78 5~~

50 1 56.3
52.6
8.4
55.1
51 58.10

15 0 53.8
50.2
7.9
52.0
15 55.98

50 to 10

Mar 3 ✓ ✓ ✓

Ct Bootis
14 5 9
+25 38

25 1 31.6
23.9
38.5
^{2}83.4
26 ~~31.85~~
29.35

4 Ursae Min
14 9 18
+78 6

0 1 20.7 0 36.3
17.7 33.6
31.0 45.2
18.7 34.8
1 22.02 0 37.98

-44.0"

λ Bootis
14 12 1
+46 37

25 2 55.2
48.6
41
55.1
27 55.75

A 5 2 e

θ Boots ✓ Q Boots ✓

14 21 17 14 26 5

+5 22 13 +30 52

40 3 12.1 10 2 38.3
6.0 30.9
22.6 46.0
11.2 38.2
43 12.98 12 38.35

h m
14 30
Set at 37.5 for June 3

21 80.9 21 6.8
82.8 6.2
81.3 6.0
82.1 6.6
80.9 6.7
80 31.8

21 81.60 5.30
81.60
86.50
43.4 set at 43.4 after 14 30 h m

Jan 8 1885

43 B Com
12 13 1 14 9 4.2

D.M. 45° +29
12 58 56 1.0 3.4

450 36
5.6
1.0
2.2
45 5.85

30 0 5.21 1 20.7
4.8 16.8
8.3 36.4
5.06 19.6
30 54.92 31 23.38

Δ 70 to 30

R 00 to 30
Rain & fall

δ Bootis
1421 17
+52 24

[illegible]

A_{+1} 1234

June 9 1885

Polaris

45 2 5 20 18 12.8
50.7 0.2 11.5
12.8 16.0 27.2
58.8 2.0 13.6
48 2.08 5.00 16.28

A₇₀ to 5.0

DM
13 12 22
+52 1

20 1 1.0
(8.8) 5.2
11.6
0.0
21 4.45

A₇ ~~A A₋₁~~
#?
✓

DM
13 25 13
52 12

55 12.36
(8.9) 18.8
34.1
23.6
56 25.02

A₊₁ A A₋₁

DM 5.4
13 4 7 34
+52 46

20 1 44.3
39.7
(5.6) 55.8
44.3
21 46.02

A₋₁ 1 2 3-5
δ? paradd 5.5 to δ
too soon

5.8
13 52 56
+52 36

(8.3) 30 2 25.1
20.5
36.4
25.8
32 26.95

8.9
13 55 14
+52 47
2

~~8.8~~ 20 2 26.8
(8.9) 21.2
37.2
26.3
22 27.88

8.9 on A₊₁ ~~A~~ not δ
8.5 on A₋₁

DM
13 28 1
+50 8

0 0 24.0
(8.8) 18.4
35.4
~~23.6~~

A +1

DM
13 28 40
+54 0

5 1 46.2
(8.4) 42.2
56.8
46.6
6 47.95

A

DM
13 43 29
+54 58

Too ft. to observe

Very faint; Prob not the double star.
no other star in field

DM +82° 51
1 35 9 5
~~13 58 44~~
~~+57 54~~ +96 59

5 3 8.1
4.2
21.6
7.2
8 10.28

7.0 to 30
Reg 135 ✓

d Boötis ✓
14 15 8
+25 38

25 2 21.6
15.7
30.4
25.1
27. 23.20

4 Ursae Min ✓
14 8 18
+78 15

0 0 30.5
27.7
41.3
28.6
0 32.10

Jun #9

DM 89° 3
14 13 22
+90 21 —

40 3 55.8 57.8
55.7 57.9
5.6 11.6
57.8 59.1
43 59.68 44 16.0

B 2.344
14 31 17
10 1 2
45 4 25.2
25.0
42.2
28.3
49 30.18

14 38 02
+81 29
45 1 50.8
51.2
3.6
17.2
46 54.20

1st δ Wfree — —

A_{90} 8_2 8. 8_0 7_2 7.1 7.0

8 0 5 1.0 3_2 5 7.0

comes later than Ephemeris

✓ ✓ ✓

Lu 2164
14 48 29
+59 46

B Boötis
14 57 36
+40 51

ψ Boötis
14 59 30
+27 28

20 0 32.3
25.8
42.2
31.6
20 32.98

15 0 14.1
12.2
23.2
14.6
15 16.02

40 1 7.2
0.6
15.1
10.6
41 8.38

A_{40} ©

14 37 6
+80 10
55 1 7.5
6.6
19.3
7.6
56 10.35

DM 75° 86
14 38 34
+102 21
40 0 45 26
51.8
8.8
53.7
44 56.72

30 w 7.0

June 10 1885

Dm 75° 24	Dm 83° 20	Dm 75° 29
12 49 58	12 50 58	12 58 56
+102 6	+56 1	+102 37

30 0 5.8 1 0.7
8.4 5.27
3.6 160
1.40 583
30 14.95 31 1.92

Dm 75° 422	Dm 88 77	Dm 80° 58
13 25 30	13 28 57	13 41 58
+79 14	88 8	+55 41

50 2 18.7 10.0
10.0 8.5
32.2 21.3
17.7 8.4
52 19.65 10.88

55 2 52.8 41.2
45.8 34.0
6.1 54.6
51.2 35.7
57 53.98 42.38

4, ω 5₂

✓ ✓

~~R~~ 43 Comae Polaris Gr 2027

13 6 30 13 6 36 13 9 18

~~+28~~ 28 +51 18 ~~+5~~5 2 1

35 3 87 45 2 07 18 106 40 4 40.5

55.8 13.2 54.7 3.6 33.9

166 15.2 16.2 25.0 54.9

11.6 59.2 0.6 9.8 44.3

38 818 47 208 332 ~~332~~ 44 42.40

1225

5.0 to 5.0 5.0 to 5.0

Dm Dm Dm Dm

13 43 29 13 47 34 13 52 56 13 55 14

+54 58 +52 46 +52 56 +52 44 ✓

10 0 26.6

13.8

8.7) 36.1

34.8

10 27.82

Star seen in field
Too ft to obs.
Not in right place.

Not seen
Sure

20 0 27.7

16.2

9.1) 33.2

25.8

20 26.72

A +1, 1m late

No other star Sure

Foll #

June 10

BDM ~~88°~~ 80
13 ~~36~~ 24
~~87~~ 52

Clouds

DM 82° 51
13 59 5
+56 59

~~30 0 5.8~~

Clouds,

d Boötis ✓
14 5 9
+25 38

25 2 36.2
22.8
54.4
38.7
27 35.52

θ Boötis ✓
14 26 52
+30 52

10 2 3.8
51.8
12.8
3.7
12 3.02

A_{-1} 345

DM ~~88~~ 13
14 30 46
+56 29

π Boötis m ✓
14 35 19
+16 54

85 4 47.3
31.8
53.6
49.7
39 45.60

A -1

4 Ursae Min ✓	λ Bootis ✓	θ Bootis ✓
14 9 19	14 11 59	14 21 15
~~+78~~ 5	+46 37	+52 2 3
0 1 17,7	25 3 59,8	40 8 8,4
10,9	45,8	57,8
30,3	11,3	19,6
18,6,2	0,1	7,3
1 ~~21,28~~ 18.78	29 0,28	43 8,28

Dec 11 1885

43 Comae
13 6 30
+28 27

35 2 13.8
39.9
59.9
51.1
37 51.92

Polaris

45 2 59.3
52.8
15.7
0.1
48 1.98

1.6 3.6
14.7 56.3
16.8 18.4
0.8 2.8
3.48 5.28

69 76 [illegible]
13 24 12
+60 32

30 3 3.6
51.2
13.9
0.6
33 2.32

7.0 to 3.0

DM (8.9)
13 55 13
+52 47

20 0 36.8
(8.9) 24.1
46.3
34.0
20 35.30

A

Ri 15

DM (8.0)
13 55 22
+53 4

Could not find both stars
unless there were only last 3 wires
of A in the first —

A-11

DM
13 58 44
+54 56

No star
inferred

DM (7.8)
14 1 30
+50 15

50 3 43.9
(9.7) 33.1
55.6
42.8
53 43.85

A

✓

17 U Can Ven	DM 80° 58	DM (9.4)
13 25 35	13 41 56	13 47 34
+37 46	99 41	+52 46
15 4 30.7	25 1 44.7	23 57
20.0	36.6	27.1
38.7	0.8	50.8
31.0	43.2	34.2
19 30.10	26 46.32	26 36.82

A very ft ~~*~~ in field

may

A 7.0 follows 50s

✓

d Boötis	DM (8.9)	DM (8.0)
14 5 29	14 11 32	14 11 51
+25 38	+51 41	51 6
25 2 22.5	25 2 41.7	0 1 20.9
10.2	(9.0) 30.3	(8.5) 16.0
31.6	52.8	32.3
25.7	40.1	19.7
27 22.50	27 41.22	1 20.72
	A +1	A −1

June 11 1885

DM (8.5)
14 16 35
+52 9

55 4 8.1
57.7
(8.9) 19.8
7.2
59 8.20

A+1 A A-1

DM (5.1)
14 22 55
+54 32

35 0 47.0
34.9
(9.8) 57.2
45.2
35 46.08

A 4 5 6 7 8
A-1
5? (often A-1 3 stokes)

DM 5.2
14 28 33
+52 18

50 0 57.4
45.8
(9.0) 59.3
56.4
50 57.22

A+1

Lr 2164
14 48 25
+59 46

20 0 24.2
13.1
34.7
21.6
20 23.40

DM (7.5)
14 55 47
+49 56

10 2 26.2
14.9
38.0
25.7
12 26.20

Bootis
14 57 36
+40 51

15 0 15.7
2.8
23.8
14.0
15 14.08

DM (88)	DM (85)	DM (80)	~~DM D.5~~
14 30 26	14 40 14	14 43 50	~~14 55 47~~
+55 12	+52 24	+54 14	~~+49 56~~

55 1 20.4	40 3 48.2	50 4 19.6
9.3	(9.6)	8.8
(9.0) 31.8	0 opprop.	(9.0) 25.8
19.6		17.8
56 20.28		54 19.00
A+1	A−1 345 3' A 9.6 follows above	A+ A A−1

Jan 13 1885 — c = 21 40.6 ✓

Polaris ✓

6976 Mean Mag ✓

13 24 12
+60 32

45 3 0.5 27 3 16.3
53.2 54.8 9.1
16.0 17.1 31.2
0.0 0.4 15.0
48 25.0 27.5 17.90

30 2 59.4
47.3
11.2
57.1
32 58.75

A 7.0 to 3.0

Dm
13 47 34
+52 46

No star in field same

Dm
13 50 9
+79 34

30 2 3.6
16.6
16.3
26
32 47.8

Dm
13 55 224
+53 04

8.7 0 4 26.1
15.0
38.4
26.3
4 26.45

A +1

17 Can Ven. ✓
13 29 39
+33 46

15 4 37.1
26.6
47.3
38.2
19 37 30

DM 81° 61
13 41 20
+~~2~~58 36

~~8~~5 4 33.1 ~~30 0 21~~
25.3 30 21.6
48.9 11.5
32.2 35.7
29 34 88 17.8
30 21.50

[illegible] 63
1~~3 45~~ 40
+~~18~~ 20

DM
13 58 44
+54 46

Not seen
Same

DM 7.8
14 1 30
+50 25

50 3 13.2
75 1.0
24.8
11.8
53 12 70

A A A -1

d Bootis ✓
14 5 9
+25 38

Dun (8.9)

14 11 32
57 41

25 2 52.8
(8.8) 41.5
47
51.6
27 52.72

A +1

Dun 8.9

14 11 51
51 6
01 20.3
~~20~~ 3 9.1
(7.8)
32.6
19.3
1 20.32

A 1 2 3 4 5

Dun 8.9

14 16 35
+5 29
8.7 50 24.88
8.8 35.2
1.8
50.1
52 50.22

A
2nd f pm

Same setting for
both stars

π Bootis pr ✓

14 35 19
+16 17

10 0 24.7
7.7
31.0
27.0
10 22.60

Dun 8.5

14 40 14
+50 24

40 4 9.6
(8.5) 0.1
22.6
8.0
44 10.08

A+1 A 1 2 3

Dun 8.0

14 43 50
+53 14

52 3 24.8
(8.1) 15.1
37.-
26.7
53 25.20

A+1 A 1 - 10 9

DM ~~88~~ 85
14 22 55
+57 32

35 1 30.8
56.8
(9.6) 19.0
5.6
36 7.30

DM 92
14 28 33
+50 18

50 0 52.8
3.8
(93) 4.6
50.6
50 51.95

DM 88
14 30 26
+51 12

55 0 32.8
(87) 20.9
45.1
32.1
55 32.72

A 12–45?
A–1 3rd wire?

G 2164 ✓
14 48 29
+59 46

20 0 24.6
13.6
37.2
33.8
20 27.30

DM 125
14 55 47
+49 56

10 2 13.8
3.3
22.8
14.4
12 14.82

~~DM~~ B Boss ✓
~~13~~ 22 14 57 36
~~+53 4~~ +40 51

10 4 7.8
56.8
19.8
8.2
A–1 14 4 8.15 (4?)

June 13 1885

48 Ho Capri ✓ δ Boötis

15 – 5 46 15 – 21 18

10 2 41 ~~55~~

~~+ 46 27~~ +52 23

304 1.0 25 0 50.8

53.0 42.8

17.2 84

57.6 49.0

34 22.0 25 52.75

δ^{1} Bootis ✓ Gr 2275

15 26 46 15 35 54
+41 13 +80 49

50 2 2.13 15 1 50.1
8.7
3.16
2.16

5 2 20.80

✓

Aug 14 1885

Polaris ✓

69 Ursae Maj ✓
13 24 12
+60 32

17 U Can Min ✓
13 25 39
+57 46

45 2 ~~55~~ 50 59.3 59.3 13.7
49.7 53.1 54.1 7.0
11.7 15.4 17.1 29.8
54.0 57.4 58.2 12.4
47 57.60 48 1.30 2.18 15.60

20 43.0

30 2 59.7
49.8
12.2
56.7
32 59.60

15 4 29.4
20.2
41.6
29.6
19 30.20

~~DM 55~~
~~14 16 35~~
~~+52 9~~

~~DM 55° 235~~
~~13 52 34~~
~~+55 14~~

~~G 426~~
~~13 54 49~~
~~+99 5~~ ✓

~~DM 58° 84~~
~~13 56 24~~
~~+58 52~~

DM 88° 8
14 0 0
+91 25

4 Ursae Min
14 9 19
+78 5

DM ~~59~~ 53 891
14 16 35
+52 9

40 4 6.3 7.8
0.6 3.6
25.7 25.8
7.4 9.3
10.00 12.12

60 6 40

0 0 26.6 55 45.76
20.2 53.1
40.8 13.4
26.2 56.7
0 28.45 0 0.20

55 4 8.1
8.8 57.7
21.1
7.8
59 9.18

[illegible] Boris Dm 1891 Dm 80
134 259 134912 13 55 13 13 55 22
+49 53 +18 58 +52 47 +53 4

10 2 424 5 2 164 5 ~~2 16~~3 20 1 345 0 3 371
336 28 ~~28~~ 25,0 25,7
57,0 25,4 ~~234~~ 47,5 50,9
42,6 174 ~~174~~ 13,0 36,4
12 43.90 7 15.50 21 20.08 3 38.02

~~Dm 89° 3~~
~~14 13 22~~
~~+90 20~~

Dm 88° 88
14 31 24
+88 34

Dm 80° 448
14 37 6
+80 10

55 2 7,0 126,7
1,5 21,0
21,6 41,6
5,6 25,8
57 9.00 56 28.78

June 14

✓

Dm 80° 407	4776 Cephei	G 580
14 42 46	14 50 51	14 53 38
+80 16	+101 2	+98 57
45 4 53.3 4 29.7	6 4 51.2	5 3 25.0
50.7 27.2	46.1	18.2
5.5 45.1	10.9	43.0
53.7 25.0	50.1	23.6
49 56.90 49 32.75	4 ~~45.8~~ 54.58	8 37.45
		40 w 10

μ Boötis ✓	ι Draco ✓	δ, Boötis ✓
15 20 11	15 22 24	15 26 47
+37 47	+59 22	+41 14
15 2 53.6	40 2 56.9	50 2 27.0
42.2	47.0	14.8
4.7	10.8	38.4
54.1	55.1	26.1
17 53.65	42 57.45	52 26.58

A

G 2196
14 58 9
+82 59

5 1 5 21
47.0
8.6
51.4
6 54.78
5,45.0

G 595
15 4 21
+95 29

35 1 19.7
10.3
35.1
16.3
36 20.35

G 2283
15 14 40
+87 40

25 1 1.6 0 45.6
58.8 37.9
16.2 59.8
58.8 42.9
26 2.60 25 46.55
30 4 70

G 642
15 28 58
+73 43

G 2275
15 35 52
+80 49

June 10 1885

θ Boötis

14 21 14

+52 23

40 2 59.2

48.2

15.7

58.3

43 0.20

~~θ2 Boötis~~

~~14 26 48~~

~~+38 52~~

DM 58° 88

14 30 24

+58 34

25 1 13.8

45.8

12.8

52.8

26 56.30

h 5 50 6 10 Rej 2nd (cloudy) min

Sort 2 in 3 w clouds.

G 580

14 15 38

+58 57

5 8 23.3

15.7

42.7

22.2

8 25.85

G 7196

14 58 9

+52 59

5 1 51.2

45.2

8.7

51.7

6 54.08

48 H. Cephei

15 5 26

102 41

25 0 50.2

43.1

10.3

48.9

25 53.12

Rej 1st S

Phi 80 urs
14 37 6
+80 10

55 1 23 8
17 6
40 3
23 1
56 16 20

δ Ur
800 451
14 42 46
+80 16

45 4 13 7 4 7 3
48 8 2 4
10 2 24 0
52 8 6 8
49 56 38 49 10 12

47 H Ceph
14 50 57
+101 2

0 4 48
58 3
25 1
6 7
4 8 32

Jun 21 1885

Polaris ✓

45	3	18,6	6,3	32,9	38,6	42,3
		12,2	1,1	28,6	32,6	36,4
		36,7	25,6	52,4	57,7	2,6
		18,3	7,2	34,7	39,1	43,1
	48	21,45	10,05	37,15	42,00	46,10

A_{10}

T Bootis ✓

13 ~~48~~ ~~4~~8

+18 2

0	3	44,1
		29,1
		54,6
		46,6
	3	43,60

Dra 88° 80

13 5624

+87

~~89 Virginis~~
~~13 4 33.7~~
~~-7 34~~

η Bootis
13 48 10
+18 59

AR

✓ DM 85° 235
13 52 34
+85 4

450 47.4
44.1
54
47 8

45 51.18

50 w 1.0

June 22 1885

G 2081 135 ~~224~~ 2
+81 20

45 0 45.7
43.6
6.2
47.8

4 Mean M
14 9 14
+78 5

0 1 14.8 0 30.5
5.0 20.6
28.2 43.2
10.0 26.2

31 ω 7.0

Durchu 13
14 30 46
+91 29

35 1 33.6 1 42.8
25.0 33.8
10.8 0.7
32.3 41.2
36 35.42 36 44.62

DM 78° 86
14 38 34
100 21

40 4 2.3
54.2
21.1
0.7
44 45.8

60 ω 4.0

~~DM 89° 3~~

~~1 413 22~~
~~+90 25~~

~~40 3 53.8 53.3~~
~~47.0 46.7~~
~~9 8 10.9~~
~~5 3.4 53.2~~

DM 80° 451

14 42 46
+80 16

45 4 14.4
8.7
31.0
13.0
49 16.78

47 H Cephei

14 12 51
101 2

0 4 17.2
53.8
20.8
0.0
4 39.5

G 580

14 53 38
+98 57

5 3 21.4
13.4
39.7
19.6
8 23.52

A_{20} 4.8

Jan 22 1885

G 895
15 4 21 +95 29

35 1 25.2
14.8
40.4
21.0
36 25.35

G 2283
15 14 40
+17 40

25 0 58.3 0 49.1
57.4 40.2
15.4 4.0
56.8 46.6
26 07.2 49.98

4₀ to 6₀

μ Bootis
15 20 5~~8~~
+37 47

15 2 55.1
45.0
7.3
54.8
17 55.55

Δ -1

γ Ursae Mi
15 48 11
+78 9

G 786
15 49 38
+99 3

β Serpentis
15 ~~3~~40 49
+15 47

15 3 39.8
24.3
47.7
41.1
18 38.22

55 2 39.8
32.6
52.2
37.0
57 40.90

80 to 20

0 3 28.7
20.1
45.8
26.5
3 30.35

~~80 to 20~~

Δ 3 2 1
+1

β Cor

15 23 2
+29 30

35 0 29.8
16.1
35.7
30.4
35 29.00

G 642

15 28 58
+53 43

20 8 32.9
24.1
50.0
32.3
23 34.82

70 5 30

Rod. 3445

15 36 56
+81 9

55 2 19.6
14.3
36.1
18.2
57 22.05

χ Serpentis

15 43 31
+18 30

35 0 45.0
29.6
53.6
45.1
35 43.32

June 23 1885

Polaris ✓

45 2 224 28.2 33.2
13.6 21.6 25.4
36.4 44.2 48.8
19.0 27.1 31.6
47 2285 30.28 34.75

A_{40} w_{10}

Σ 2 71
13 52 34 +85 4
45 0 55.9
51.4
10.6
55.9
45 58.45

A 4.0 6.0

Dh 88° 13
14 30 ~~46~~ 24
88 34

Not Seen

Dh 81° 482
14 33 32
+81 29

45 2 23.4 ~~8~~ 38.6
20.2 34.1
40.2 54.7
24.8 38.8
47 27.15 46 41.55

d Boötis

14 5 6
+25 38

25 2 32.6
21.8
43.4
35.0
27 33.20

4 Ursae Min

14 9 14
+88 5

0 1 10.9 28.0
4.0 21.0
24.6 41.0
9.4 25.0
1 12.22 28.75

43.47

θ Boötis
14 2 16 14
~~Dun 8 8 80~~
~~14 20 24~~ +52 21
~~+88 2~~ 34

40 2 58.4
45.8
11.4
57.6
42 58.80

Σ2164
14 4 8 28

ω Virginis
14 8 6 56
+1 5 9

109 Virginis
14 8 0 25
+2 2 3
+5 9 46

Dun 8 217
14 5 20
+86 25

40 0 25.0
21.4
43.8
27.6
40 30.45

Rej 15ʹ

Jun 13/1885

G 2196
14 58 9
+82 59

5 1 59.8 1 41.9
54.7 38.0
15.4 58.2
59.2 42.8
7 228 6 4522

DM 5.4)
15 10 59
+51 15

~~40 35~~ 3.0

Wrong #

no other # seen

An 8.6 mag which follows

a 6.0 mag 6s

DM 8.9)
15 16 15
+52 44

25 1 40.6
8.8) 31.8
54.8
40.5
26 41.92

Δ_{-1}

Δ_{40} to 6.0

Three stars pr #
on Δ_{-1} in AR
no δ

DM
15–25 26 (6.0)
15 37 43
+5 5 2

α Serpentis
15 38 32
~~+6~~ 4 7

15 2 53.6
40.2
4.2
0.8
17 54.70

κ Serpentis
15 43 30
+18 30

35 0 40.4
26.3
49.1
42.6
35 39.60

✓

~~ω Boötis~~ ι Draco Dra (8.5) Dra 9.2
~~15 20 5~~ 15 22 19 15 28 13 15 29 26
~~+34 44~~ +59 22 +53 45 +52 46

~~40~~ 40 33.6 8.6 20 2 12.9 15 22.8
24.2 8.5 3.8 9.7 16.2
48.2 27.3 35.6
33.1 13.2 25.9
43 34.78 22 14.30 17 26.78
A ~~#~~ A₋₁ #?
no other # seen
A+1 A-1
no obs.

Dra 9.3 Dra 8.9
Dra 15 5 23 (8.0) 15 58 28 16 0 20
+54 26 +50 37 +52 36

Cloudy.

June 24 1888

θ Boötis
14 21 14
+52 23
40 1 56.1
45.0 ?
8.7
54.3
~~55.22~~
41 56.02

A A -1

π Boötis
14 35 16
+16 55
10 0 23.6
18.6
31.8
27.1
10 22.78

47 Hev Cephei
14 50 11
101 2
0 44.8.7
43.8
9.7
50.6
4 53.20

δ Boötis
14 10 49
+33 0 44
5 3 14.8
4.8
28.3
17.4
Rej
#?

ψ Boötis
15 20 6
+37 47
15 3 50.8
42.0
3.?
57.1
18 51.77

Gr 642
15 28 58
53 43
20 3 35.6
29.1
53.7
35.7
23 38.52

A4 ✓ e

Rej 1st √

Dm 81° 495	48 H Cephei	
14 55 42	15 5 46	
+ 81 13	102 41	
50 2 47.4	20 4 51.0	25 0 47.2
44.2	57.5	41.7
4.6	15.6	7.7
48.8	55.0	46.9
52 51.25	24 ~~17.8~~ 58.02	25 50.88

G 2275	18 Ursae Min	ζ Ursae Min
15 35 54	15 45 19	15 48 11
+80 49	80 22	+78 9
15 0 58.7	2 15 1 0.0	55 2 52.6
56.2	56.2	46.1
14.4	16.1	7.4
0.0	0.8	51.2
16 2.32	46 3.27	57 54.32

1st # on A
2nd on A-1
18 turns for each δ
2nd δ Mi.
Face stops before rattle
receding A-1

June 24 1885

Dm 80 127	L 758	L 774
15 57 37	16 0 48	16 4 57
+59 45	+54 45	+56 06

20 0 17.0	20 1 34.1	10 0 16.6
9.8	25.6	8.7
34.9	49.5	33.8
15.1	32.8	15.0
20 19.20	21 35.60	10 18.52

6.0 ϖ 4.0 6.0 ϖ 4.0

✓	✓
σ Herculis	π Herculis
16 30 20	16 38 54
~~+42~~ 40	~~+3~~9 8
20 4 31.2	55 2 12.1
25.2	1.8
48.7	24.6
35.8	16.2
−4 3648	57 1368

A6 < e

June 25 1888

Dm. 81° 495
14 55 42
+81 23

Not seen

4876 Cephei ✓
15 54.6
+102 41

20 24 55.8
50.7
17.4
55.4
24 59.82

Dm (6.0) 5.2
~~15 32 43~~
~~+55 2~~
15 29 26
+52 46

20 0 18.7
6.7
9.0) 32.2
16.1
20 18.42

A-1

Dm
15 32 43
+55 2

0 4 20.3
6.3) 10.3
36.0
19.2
4 21.45

A-1

α Serpentis ✓
15 38 52
+6 48

15 1 55.1
35.7
4.8
0.7
16 55.08

A A-1

Dm 9.4
15 10 59
+51 15

Dm 8.9
15 16 15
+52 44

Dm 8.5
15 28 13
+53 45

5 0 ~~#~~ 2 3.6
(9.5) 52.8
19.2
4.0
52 49.0

8.5 hi 20 33 6.9
8.7 26.1
51.8
36.0
23 37.70

20 2 23.4
11.6
(8.4 8.5) 38.2
22.0
22 23.80

* A−1
Sos lots
The only star seen sure

No other stars seen sure
8.5 on A+1
6.7 on A−1 No. 5

Rig order
1st on A+1
2nd on A3 & A9
One setting

x Serpentis
15 43 30
+18 30
35 0 34.5
18.7
43.0
35.4
35 32.78

ε Serpentis
15 45
~~+4 50~~
z Mean hi
1 15 2 56
+7 8 9
A2
20
HR

Dm 8.0
15 52 39
+54 26
9.2 40 0 20.0
9.5 8.0
33.8
17.8
40 19.90
A−1
9.5 on A−1 & only
One setting

Aug 25 1885

Dun 9.3)
15 58 28
+50 37

Dun 8.9)
16 0 20
+52 35

~~Dun 8.8)~~
~~16 0 22~~
~~53 [illegible]5~~

30 0 6.2
56.1
21.2
5.8
30 7.32

9.0 35 2 57.0
8.7
45.2
11.9
55.8
37 57.48

9.0 on A no. 5
8.7 on A
9.0 correct

✓			✓		
δ Ophi			ε Ophi		
16 8 16			16 12 11		
−3 24			−4 24		
25	3	53,3	25	4	40,2
		35.8			24,2
		3.0			504
		57.4			45,1
	28	5238		29	3998

Jan 27 1885

DM 81 455

14 55 42 +11 13

50 1 47.9

45.9

6.4

49.4

51 52.40

4876 Cephei

15 5 46

+102 41

25 0 50.2

44.9

11.1

50.7

25 54.10

A +1
Rej 5-strokes preceding
wrong star.

16 Ursae Min

15 45 59

~~+80~~ 20

45 0 51.8

53.0

12.3

56.7

45 59.45

η Ursae Min

15 48 1

+78 9

55 1 45.7

44.9

6.7

41.4

56 52.42

Lu 746

15 45 38

+99 3

25 4 39.3

34.6

6.3

40.4

29 44.90

A_{30} to 10

✓

β Coronae	G 642	Rod 344 5
15 23 2	15 28 58	15 36 56
+29 30	+53 43	+41 9
35 0 301	20 3 347	55 2 155 1 356
188	280	164 328
436	528	386 537
347	353	219 077
35 3180	23 3770	57 2420 56 399 1.5

✓

~~ε Coronae~~	Du +40° 127	G 710
~~15 52 46~~	15 57 37	16 0 48 –
~~+27 12~~	+39 45	+34 45
	20 0 145	25 2 186
	90	109
	341	346
	136	178
	20 1788	27 2048

June 27 1885

Gr 774
16 4 57
+56 56

5 4 410
35.3
1.4
42.0
9 44.92

Gr 719
16 7 5
+59 27

35 4 41.5
41.4
6.2
46.6
39 50.02

A 30 4 10

σ Herculis
16 30 20
+42 41

25 0 18.8
9.5
33.8
20.0
25 20.62

G 2373
16 35 36
+77 40

30 1 0.2
55.0
17.6
55.5
31 31.8

Rej 2nd

50 H Cephei
16 38 51
58 59

10 1 54.7
45.0
14.2
54.9
11 57.95

✓	✓	✓
ε Ophiuchi	τ Herculis	α Scorpii
16 12 11	16 16 14	16 22 0
−4 24	+46 35	−26 10
25 4 41.7	30 0 37.7	10 3 9.4
26.9	28.4	53.7
54.2	51.6	22.2
47.9	35.6	17.6
29 42.67	30 39.32	13 10.72

~~[illegible]~~ Aug 2 1885

~~δ Herculis~~ DM 86° 217

~~16 30 20~~

~~44 41~~

14 52 0

+86 25

40 76 Cephei

(15) (14) 54 6

102 41

40 1 20.0 0 27.3

58.0

20.8

3.7

41 61.2

20.2

42.4

25.6

40 28.87

20 4

Clouds.

β Cor Bor

15 23 2

+29 30

35 0 5.4

55.0

17.3

8.3

35 65.0

α Cor Bor

15 29 46

+27 6

55 4 29.5

20.4

42.9

33.1

59 31.55

γ Ursae Min

15 48 6

+77 8 9

15 1

Rej S

Lot-2w?

ζ Bootis	1.26 Ursae Mi	γ Ursae Mi
15 10 88	15 13 15	15 20 41
+33 45	+67 47	+72 15
5 8 133	15 3 23.2	50 0 588
3.2	17.2	51.5
25.9	393	13.5
16.0	24.6	56.7
8 14.60	18 26.10	51 0.12

$A5_0 \times e$

July 4 1885) Dm

Time in

15 48 7

+17 8 9

16 02 2 δ Ophiuchi

~~[illegible]~~ +53 45

~~7 766~~

16 8 16

~~16 1 39~~

−3 23

~~196 28~~

5 2 33.2 1 4.56

29.2 43.3

50.7 4.3

33.2 47.2

7 3658 6 5085

8.6 15 44.1 20 3 14.8

8.0 34.7 59.2

58.6 24.8

45.0 21.4

19 4560 23 1505

8.6 mant +1 Rej 15 δ

8.0 an A no δ

Dm 6.5 Dm 9.5 Dm 8.0) P

16 2 1 20 16 24 58 16 28 57

+52 34 +49 56 +53 15

30 1 43.2 50 1 55.8

6.9) 34.8 9.5) A₋₁ 345 8.4) 47.1

57.6 10.1

43.5 56.7

31 4478 50 57.42

A₋₁ A

70 faint fr δ

~~17~~

ε ~~Ophiuchi~~

~~16 12 10~~

~~4 2 4~~

25 5 33.2
18.8
43.2
35.2
28 33.60

A
6 < C

τ Herculis

~~16~~ 16 14

+~~46~~ 35

Dun 8.9)

16 16 29

+51 52

8.9
8.4

10 4 33.6
26.8
50.8
35.1
14 36.58

A+1

8.40 on A * No. 5
−1

Dun 9.5)

16 25 27

+52 19

50 2 9.0
0.7
24.2
9.7
52 10.90

9.4)

A₋₁ 5

Dun 9.4)

16 36 49

+50 57

5
~~55~~ 3 27.4
19.1
43.6
28.0
~~58~~ 29.52
8

9.3)

A

Dun 8.8)

16 39 48

+49 48

15 2 32.8
23.8
48.2
33.0
17 34.45

9.0)

A₋₁

Dun 8.7

16 40 8

+53 2

5 2 8.7
0.2
23.9
8.4
7 10.30

8.8
8.4)

8.8 on A
8.4 on A₋₁
No. 5

Rej previous wires

Aug 14 1885 ✓ ✓

χ Ophiuchi	ε Herculis
16 52 10	16 55 50
+9 33	+31 6
30 1 50.2	55 4 42.3
36.3	34.1
0.0	56.0
56.3	46.1
31 50.70	59 44.62

June 6 1885 ✓

48 H Cephei

15 5 46 +102 41

25 0 43.6

40.0

38

43.6

25 47.75

δ Bootis ✓

15 10 48 +33 45

20 1 22

52.6

13.2

38

21 29.5

Az ∪ ☉

β Serpentis ✓

15 40 45

+15 47

15 3 39.9

28.2

49.1

44.2

18 40.35

κ Serpentis ✓

15 43 34

- 3 4

5 3 27.7

13.2

36.8

30.7

8 27.10

η Ursae Min ✓

15 48 11

+78 9

55 2 29.6

26.0

46.3

29.1

57 32.80

δ₁ Bootis

15 26 45
+11 14

50 2 9.0
59.8
21.6
10.0
52 10.10

Dun 60

15 32 43
+35 2

59) 50 15.1
6.4
29.1
15.8
5 16.68

δ Serpentis

15 38 33
+6 47

15 2 57.6
45.8
5.7
4.9
17 59.25

Mg

Dun 90

15 52 39
+54 26

9.0 35 43.26
9.4 25.8
47.8
34.1
39 35.08

A −1

9.0 A −1 12.34

9.4 A −1 123.5 no δ

Dun 93

14 58 28
+50 38

Cloudy.

Dun

16 6 20
+52 35

30 2 2.4
4.2
16.8

Mg.

July 6 1885

β 779	ε Ophiuchi
16 7 5	16 12 11
+9 52 7	−4 24

35 0	43.2	25	3280
	39.2		14.2
	2.1		38.4
	43.8		34.0
35	47.08	28	28.65

July 8 1885

δ Bootis
15 10 48
+33 45

μ Bootis
15 20 6
+37 44

ν, Bootis
15 26 4x
+41 14

20 1 23
522
16.0
4.8
21 382

15 3 56.3
488
12.2
59.1
18 59.10

50 2 101
08
96.4
12.2
52 123.8

Dm (9.3)
15 58 28
+50 3.6

Dm
16 0 20 (8.9)
+52 35

Dm
16 0 22
+53 45

30 0 17.7
8.2
(9.1) 34.2
18.8
30 1972

A + 1

30 2 128
(90) 55.0
31.1
18.8
32 1692

A + 1

~~35~~ 1

~~3 Ursae Min~~
~~15 48 11~~
~~+78 9~~

DM 6,0)
15 32 43
+55 2

ζ Ursae Min
15 48 11
+78 9

DM 8,0)
15 52 39
+54 26

5 0 13,7
6,1
31,2
15,1
5 16.52

55 2 32,2
28,7
57,0
32,8
5.4 36.18

1 44,1
40,2
3,6
44,7
56 48.15

9,0)
9,5)

40 0 19,2
9,6
34,2
19,7
40 20.68

Δ_{+1} 2.341 } both
Δ_{-1} } Regardin

~~DM~~ Z 766
16 1 39
+96 28

Z 779
16 7 5
+99 27

DM 8,9)
16 16 29
+51 52

DM 8,5)
16 21 20
+52 34

35 3 57,6
1,3
28,2
8,2
38 10.82

35 4 38,2
34,8
0,7
40,0
39 43.42

0 59,8
57,0
19,9
57,7
~~40~~ 3.35

10 4 51,3
8,8) 44,1
9,7
55,0
14 55.02

30 2 8,6
6,8) 0.4
26,1
10,1
32 11.30

Δ_{+1}

Δ_{30} 5 10

July 8 1885

DM 8.5 (.22)

16 24 58
+49 56

6 0 8.7
0.8
27.1
11.0
10 11.90

DM 8.8

16 25 1
+54 30

DM 8.0

16 28 57
+53 15

50 1 26.6
8.2 17.8
9.1 43.2
28.2

Too late! 50 1 28.95
no gradations in field
8.2 on A+1 Regarded
9.2 on A-1

DM 8.9

16 39 47
+53 49

5 4 17.0
9.0
(9.4) 34.2
15.7
9 19.72
#2.
A-1

DM 8.5

16 43 8
+53 2

0 0 7.1
(9.2) 57.8
23.7
8.5
0 9.28
#2.
A-1

49 Herculis

16 46 47
+15 10

55 0 6.6
52.4
17.3
10.7
55 6.75

Dm 95 Dm 84 Dm 88

16 29 27 16 8 6 49 16 39 48

+72 19 +70 57 +69 48

15 3 5.0

(55) 4 0,0 (87) 57,4

52,5 24,2

(90) 18,2 8,0

2,0 18 8,72

59 31 8

9

α + 1

ε Hercules Dm 90 Dm 95 ζ Draco

16 55 50 17 15 4 17 33 2 17 8 20

+31 5 +49 49 +51 37 +65 57

55 4 8,4 15 1 13,2 Rij δ 10 4 45,0

0,2 5,2 40,2

24,7 31,4 4,2

13,0 14,7 46,1

59 11,57 16 16,12 14 48,88

July 8 1885

δ Herculis ✓

17 10 15

+24 59

Aug 11 1885

Du 16 0 20
+52 35
30 2 19.7
13.0
88) 37.8
20.8
32 22.70

A +1

Du 16 0 22
+53 45
15 4 37.8
32.2
88) 58.7
41.6
19 42.58

A_{-1} 345

δ Ophi
16 8 16
−3 24
25 2 35.1
29.0
41.0
43.1
27 37.05

A_3 20

Du
16 27 01
+54 30
8.8)
A
No δ

Du 9.5
16 29 26
+52 19
9.4
9.1) 45 4 30.1
25.7
50.8
34.5
49 35.12

B 23 D 3
16 37 36
+77 40

Rej δ

9.4 or A_{+1} 2345 No δ
9.1 or A_{-1} 5

19 Ursae Min
16 14 2
+76 10
50 4 45.8
45.5
8.6
57.6
54 53.88

τ Herculis
16 16 13
+46 35
25 4 21.6
15.2
40.0
25.8
29 25.65

λ Draco
16 22 23
+61 47
15 4 28.7
~~44~~
45.7
—

A₋, 345

~~Dra 79 5111~~

50 0 14.1
10.1
34.6
17.7
50 19.12

50 4 55.4
49.6
16.8
59.7
55 0.38

A₋,1

Aug 11 1885

ε Ursa Mi

16 17 47 +8 2 13

50 2 86
77
30 5
12 8
5 2 1478

10 2 11.8
8.4
35.2
15.2
12 17.65

X

17 9 3
-7 4

5 2 51.6
36.7
15.4
57.7
~~37.85~~
2114
5285

A-1

X

17 26 26
-6 11

10 4 35.1
21.8
48.6
42.0
14 36.88

A-1

X

17 29 32
-6 3

5 2 26.6
~~26.6~~ 12.6
40.8
33.2
7 28.30

A+1 A

rej. the two wires obs'd of A-1

X Comet Comp star

X

17 13 48
−6 18

20 2 67.7
52.8
20.6
713.0

22 ~~53.52~~ 8.5^{2}
~~2741~~
~~6.5~~^{2}

A

Mags ~~8.9 & 8.~~
9.0 & 8.7

Obsd middle point
between comps

X

17 16 31
−6 13

15 1 30.6
16.1
44.2
37.1

16 32.00

~~A+1 2~~ A+1 A−1

✓

X

17 15 49
−6 28

30 3 19.8
5.3
32.9
26.8

33 21.20

A+1 A A−1

✓

~~7~~ ω Draconis

17 37 34
+68 48

15 2 34.6 15.1. 41.9
30.3 37.2
53.9 1.7
38.3 45.2

17 3928 16 4650

μ Herculis

17 41 54
+27 47

15 3 15.2
8.7
32.5
21.6

18 19.50

Aug 11 ✓

ψ Draconis

17 43 55

+72 12

50	3	12.1	2	52.2
		7.8		47.0
		32.0		11.2
		14.1		53.6
	53	16.50	52	56.00

Aug 12 1885

G 766

16 13.9

+56 28

35 2 26.0 3 8.3
20.9 3.0
46.7 30.0
28.1 11.2
37 3 05.7 38 1 31.2

T Hercules

16 16.4

+46 36

25 4 50.1
42.3
7.1
52.1
29 5 29.0

Az 2 c

G 2373

16 35 36

+77 40

25 0 7.7
2.2
24.6
9.0
25 10.88

50 H Ceph

16 38 51

+58 58

5 14.8.8
43.1
8.8
51.2
6 52.98

DM 79 511

16.44 10

79 8

55 3 21.3 2 17.3
17.8 13.8
40.2 36.1
25.0 20.6
58 26.08 57 21.95

η Draco
1622 22
+61 47
A. R.

DM 79 150
16 25 20
+100 34

30 1 47.3
41.8
8.7
49.7
31 51.88

σ Herculis
16 30 20
+42 41

25 0 16.8
6.1
31.2
18.7
25 18.20

Rod 1311
16 50 48
+94 11

50 4 23.2
17.0
43.7
25.6
54 27.38

ε Ursae Mi
16 57 47
+82 13

50 2 57.9 1 56.1 ~~50 1 56.1~~
57.3 53.2
18.6 15.8
1.8 55.6
53 3.40 1.18

~~DM #2448~~
~~16 57 48~~
~~+82 13~~

A_{+1} A_{-1}, 2345
[illegible]

July 12 1885

~~19 H Camel~~ δ Herculis

~~17 337~~ +100 54 17 10 15

Rod 13 77 +24 58

17 454

+54 26

40 0 46.1 5 1 36.7

38.2 25.2

4.8 50.6

46.6 43.1

40 48.92 6 38.90

✓

θ Ophiuchi

17 14 52

−24 52

A. R

For Aug 15 see next page

Aug ~~16~~

δ Ophiuchi	ε Ophiuchi	τ Herculis
16 8 16	16 12 11	16 16 14
− 3 23	−4 24	+46 35
25 3 51.6	25 4 32.1	30 0 24.6
37.7	17.8	16.2
3.6	45.0	35.8
57.6	38.1	26.1
28 52.62	29 33.32	30 26.68

DM 85	DM 85	DM 89° 28
16 39 47	16 4 3.8	16 46 38
+13 50	+50 2	+89 14
15 0 8.4	8.4	50 0 10.8 8.7
9.2	8.5	5.2 36
8.8) 24.2		28.7 27.8
8.5) 8.7		11.0 9.7
		50 13.92 Δ 12.45

Δ-1 Δ Δ-1

Δ-1 Both no √

Δ-1 1 2 3

Reg Δ-1 3 4 for good #

8.5 on Δ-1 no √

✓

η Draco	DM	DM
16 22 23	16 25 1	16 29 27
+61 46	+54 30	+52 19
154 30.7	353 21.6	50 3 10
~~8.5~~ 23.7	9.3 14.0	not observed
45.1	9.0 35.2	#?
32.0	23.4	
19 33.88	38 24.55	

A_{H} A 9.0 = A +1 Red ∫ ✓

DM 75° 518	9.3 m* on A-1 no ∫ Σ [illegible]	DM 17 03 32 +51 38
16 55 40	16 57 47	
+79 40	+97 47	
20 4 7.3	~~15~~ 50 2 15.9	20 2 9.2
3.8	13.2	86 0.1
24.7	36.2	25.9
8.6	18.2	9.8
24 11.10	12 20.88	22 11.25
	A 60 6 9.0	A -1
		#?

Aug 15 1885

θ Draconis	δ Ophiuchi	ε Ophiuchi	ζ Herculis
15 59 41	16 8 16	16 12 11	
+58 52	−3 24	−4 24	16 16 14
~~15~~ 2 29,0	25 3 41,5	25 4 36,4	+46 ~~11~~ 35
20 20,0	26,0	23,8	30 0 32,5
45,9	52,5	48,8	24,2
29,8	48,8	44,1	46,8
~~17~~ 22 31.18	28 42.28	29 38.28	34,6
			30 34.52

Dm. 79° 571	Dm. 89° 28	Rod 1311	ε Ursae Min
16 44 10	16 48 38	16 50 48	16 54 47
+798	+89 14	+54 11	+97 47
5 5 5 20,7	50 0 11,8	50 4 57,3	52 2 11,9
16,3	7,0	50,8	8,9
37,3	25,0	15,9	31,3
22,2	12,7	59,1	14,8
0 24.12	50 15.12	55 0.78	
	A −1		52 16.72

Ch. Stoppel

✓

DM 79°150
16 25 20
+100 34
30 1 53.4
58.4
15.7
55.1
32 0.50

2 56.9
57.5
18.4
57.8
33 09.2

G 2373
16 35 36
+77 40
25 0 7.0
1.3
22.0
6.8
25 9.30

50 H H Cephei
16 38 51
+58 19
5 1 48.2
41.8
7.4
48.6
6 5 1.50

✓

19 H Ursae Min
17 3 37
+100 54
10 15 7.8
52.6
18.8
59.6
12 2.20

2 37.3
32.4
58.7
38.8
12 41.80

L, Herculis
17 8 21
+14 3
30 2 52.4
37.1
0.6
55.8
32 50.98

Aug 16 1885 —

DM 8 24 (9.0)
+52 06

55 3 47.8
(8.9) 39.4
3.6
49.2
58 50.00

~~DM (9.0)~~
~~17 57 8~~
~~+54 17~~

DM (9.0)
17 17 20
52 13

50 2 42.2
8.7 34.1
58.8
43.8
52 44.72

DM 17 46 20+ (9.3)
+49 57

DM (9.0)
17 47 20
+54 42

25 3 35.4
(9.3) 26.2
50.2
35.6
28 36.85

A—1

35 Draco
17 54 32
+76 59

5 1 56.7
50.5
11.8
55.3
6 58.58

Rej precedy
stars

Dra (9.2)
~~17 25 57~~
~~+50 32~~

Dra (8.9)
17 28 28
53 10

Dra (8.9)
17 36 35
53 21

Dra (9.0)
17 39 47
+51 40

Nat. Alm 9.5
9.3
Sum 9.0

50 4 33.0
25.3
50.2
35.1
54 85.90

(88) 40 4 5.4
15.8
21.6
6.0
44 7.45

(9.3
9.0) 20 4 30.0
22.0
46.3
31.0
24 32.32

9.5 on A+1 no. δ

~~93 on~~ A −1

9.0 on A −1 34.5 (δ?)

A −1 ?

9.0 on A+1

(9.3 on A −1 no δ)

~~Dra~~

δ Hercules
18 25 9
+28 45

40 Draco
18 83 7
+79 58

~~Dra 8.8~~
δ Ursae Min
18 9 25
+86 37

20 1 37.7
26.5
51.1
41.3
21 39.15

5 2 13.2
10.3
31.2
14.6
7 17.32

25 4 14.1
9.8
3.3 0.9
15.3
7 1 2
29 17.80

A 60 4 20

July 16

Dec 75° 28 b Draconis

18 1425 5 18 22 11

+58-44

20 1 54.8

45.½

9.7

55.1

21 56.20

July ~~17~~ 18 1885

DM 35° 150

16 25 20 +40 34

30 2 33.6

28.9

57.5

36.2

32 39.05

G 2373

16 35 36

+77 40

25 0 1.3

5.8

19.7

2.1

25 7.22

~~Rod 13 111~~ DM 79 578

~~16 2~~

16 55 40

+79 40

20 4 2.2

59.8

23.2

4.3

24 7.38

Σ [illegible]

16 57 47

+82 13

50 2 13.0

10.3

34.9

15.6

52 18.45

A 70 590

Ch f? Stoppered

when?

Sch 986

16 38 45
~~+82~~ 1

0 4 71
47
273
100
4 12,28

Δ 5₀ 4 t₀

Dm 85° 28

16 46 38
~~+189~~ 49

50 0 139 118 28
96 6,2 573
346 318 227
16,4 13,1 3,3
50 18,62 15,72 6,52

Long Ai 1 1
Long rattle before
3 strokes for each min
Short rattle after

α Herculis

17 8 21
+14 31

30 3 34,2
21,3
47,1
45,6
33 ~~33.30~~
35.80

δ Herculis

~~17 10 45~~
~~+21 59~~

ω Ophiuchi

17 14 52
−24 53

55 1 35,1
19,8
48,4
43,1
56 36,60

July 8 1885

B ~~Draco~~ 2456	i Herculis	B Ophiuchi
17 28 21	17 36 10	17 37 44
+80 13	+46.4	+4 37
50 1 24.0	0 1 30.6	25 2 35.8
20.6	22.7	20.8
44.6	48.7	53.6
76.6	32.3	48.0
51 28.95	1 33.45	27 42.30

A_{+1} A_{10} 650

u Herculis	Sch. 1059
17 41 54	17 51 17
+27 45	+82 18
15 3 11.6	45 2 11.0
3.6	9.1
28.7	32.1
17.1	13.8
18 15.25	47 16.50

July 19 1885

DM
16 38 47 8.9
+53 50
8.7
8.3 15 1 47.8
40.2
39
50.2
~~[illegible]~~

(16) DM
17 4 38
~~+53 02 07~~
~~54.0~~
8.3
8.0
50 07
54.0
17.8
41

DM (9.0)
17 1 54
+49 49
150 45.9
38.6
41
48.8
8.9

$A_{8.3}$ on A_{-1}, no ✓
8.3 on A_{+1} & A_{-1}
8.7 on A_{+1} & A_{-1}
8.0 on A_{-1} no ✓

DM (9.0)
17 17 20
+52 13
50 2 47.8
41.6
52
51.6
8.9

DM (9.2)
17 25 51
+50 33
not seen
sure

DM (9.1)
17 29 35
+50 37
20 4 31.6
25.6
49.5
36?
9.1
A
Rej 15 ✓

Dra 9.5)	Dra 8.0)	Dra 7.0)	~~π Herculis~~
17 3 32	17 8 24	17 9 28	~~17 10 55~~
51 37	+52 6	+54 17	~~+36 57~~

10 0 5.8
88 59.1
(8.3?) 24.5
9.1

8.9 A+1 & A-1
A±1 no δ

τ Herculis	γ Herculis	ψ Draconis	ξ Draco
17 36 10	17 41 54	17 43 55	17 51 30
+46 4	+27 47	+72 12	+56 53
0 1 41.5	15 3 9.4	50 3 1.4	10 2 11.7
34.2	1.1	57.1	4.6
2.9	24.2	19.1	28.7
43.0	15.2	2.3	14.2
181.6	49.9	19.9	99.2
1 45.40	18 ~~9.98~~	53 4.98	12 24.80
	12.48		1

July 10 1885

Sch 896 Σ 2377
163r 45 16 43 5
+80 1 +56 59

0 3 46.3 0 0 34.7
45.4 25.7
7.6 52.2
51.0 87.0
21 0.3 149.1
3 52.58 0 37.28

Δ 5
-1

Δ 7 0 ∠ e

~~49 Herculis~~
~~16 46 50~~
~~+15 10~~
~~5 0 9.4~~

ε Ursae Min
16 57 47
+82 13

50 2 46.8 2 6.7
44.7 4.0
9.4 28.6
57.2 9.7
212.1 49.0
52 53.02 52 12.25

DM (52)
17 25 51
+50 33

No such star in field seen

Σ 2456
17 28 41
+80 73

50 1 23.3
19.8
42.6
25.1

ι Herculis
17 36 11
+46 4

0 1 36.8
28.7
53.2
38.8
157.5
1 39.38

Rod. 1377
17 45 14
+96 26
40 135.8
28.7
05.8
36.7

DM
17 52 7
+54 17
8.2 45 4 1.5
7.9 8.2) 54.0
8.0) 19.0
3.3

9.0 on A_{+1} & A
8.2 on A_{-1} 2005

DM (9.0 / 8.4)
17 39 41
47
+51 41
8.8 20 4 50.7
8.4 43.3
9.4
53.6
2nd M.
M # on A_{+1} & A
foll # on A_{-1}

DM
1746 w
+49 57
5 3 49.0
9.2) 41.1
7.9
51.3
A_{+1} A_{-1}

SDM, 10179
17 51 17
+60 18
45 124.6
21.8
43.7
26.0

Aug 27 1885

35 Draconis G 1004

17 54 26 +76 59 18 1 23

+53 14

5 1 52.8 5 50 2 9.4

46.8 3.6

9.2 29.7

51.9 11.3

220.7

6 55.18

Lost the last 4 or 5 mins except H_{70}

G 2655 110 Herculis β Lyrae

18 35 18 18 40 42 18 45 49

+77 27 +20 26 +33 13

25 3 9.8 35 25 7.8 50 13.9.2

3.6 46.1 29.6

26.6 10.3 53.8

10.2 1.7 41.6

50.2 235.9 164.2

28 12.55 37 58.98 51 41.05

A -1

δ [illegible] 24 [illegible] ~~Dm 202~~ α Lyrae

86 9 25 18 ~~443~~ 1320 18 33 1

+86 37 ~~+100 55~~ ~~+86 59~~ +38 41

25 4 9,9 7 4,3 ~~[illegible] 62 5 50~~ 20 4

5,6

8,1

29,3 23,7 No δ 35,8

11,7 13,6 59,8

56.5 47,2

29 14.12

o Droc Rod4208 Dm 84)

18 45 28 18 52 46 19 0 17

+59 15 +86 33 +51 20

50 0 56,7 30 2 14,3 40 4 14,9

47,7 8,0 6,4

13,7 33,8 33,2

56,6 15,2 ~~[illegible]~~

~~57~~ 4.7 δ 40 4 60

50 58.68

July 21 1885

Dra (8.9)	Dra	θ Lyrae
19 02 08	19 5 34	19 12 21
+53 10	+51 56	+37 56

50 4 11.6
3.2
292.
13.2

(9.0
9.2)

5 3 37.8
30.0
55.4
39.6

9.1
8.7

$9_1 = A_{+1} 345 - A_{-1}$

A_{+1} A_{-1}

5 4 43.0
34.8
59.2
40.7

182.7
9 45.68

A_3 to 9

(Rigorous?)

X Cygni

IX 14 2 +

+5 8 X

Wolden (7.0)

19 19 58

+36 13

50 1 48,7 48,8

35,2 39,2

3,3 3,3

50,2 50,0

2014 2013

5035 5032

+1 50,33

Aug 22 1885

n Procin	Dun 8.9	G 23 77 ~~Dun 9.1~~ ~~16 ... 04~~
16 22 2 13	16 39 48	17 3 32
+61 46	+53 50	~~+57 38~~ +56 59
15 3 24.6	86) 15 2 11.3	
16.9	39	
44.6	31.2	
26.2	14.1	
11 2.3 1.8 11 28.08		
A₋₁	A₊₁ A A₋₁ foll #	

Maine 17 4 58 7.0 ~~17 3 32~~	Weimin	Dun 8(8.9
17 6 20	17 5 20	17 27 28
−9° 8.9	−9 8.3	+53 10
10 3 22.0 ~~22.5~~	10 4 22.5	50 4 27.0
5.9	7.6	9.0 21.2
35.1	35.8	8.8 48.2
~~23.0~~ 29.1	27.9	31.6
A₊₁ A	A₋₁	~~1st # (9.2) on A~~ 8.8 on A₋₁ no δ A₋₁ A δ no 2nd # (*) = New Star

G 2377	49 Herculis	ζ Herculis	[illegible]
16 43 4	16 46 50	16 55 52	16 57 48
+56 59	+15 10	+31 6	+82 13
5 1 22.4	55 0 51	55 44.6	50 32 8.9
14.3	52.3	34.8	6.8
41.3	18.1	0.1	32.6
25.1	11.2	47.5	14.0
103.1	26.7	185.0	62.3
6 25.78	55 6.68	59 46.25	52 15.58

A
50 60 90

DM (91)	DM (8.9)	DM	
17 25 35	17 36 35	17 39 41	17 35 47
+50 57	+53 21	+51 40	+51 41
5 3 11.8	45 0 5.6		25 0 41.6
9.2 5.0	57.8	9.0	37.6
8.8 33.0	24.7	8.9	43
15.0	7.9		47.3

1st # (9.2) on A
8.8 on A-, no S

Foll # on A, to 8
First # on A-, no S

July 22 1885

Dm
17 48 20 +54 42   G 1004

20 2 23.1
15.0
42.0
9.0
8.6   25.1

18 1 23
+93 14

50 2 12.0
6.9
34.9
15.8

~~Not Seen~~

& Rigorden
A −1
No δ for 8.6 (foll)

$A_{50 \text{ to } 10}$

α Lyrae   110 Herculis
18 30 1   18 40 41
+38 40   +20 26

20 4 50.2   35 4 57
42.3   56.2
7.1   4.4
54.1   10.6

21 3.7   33.9
24 53.42   39 8.48

A 89 A_{-1}

δ Ursae Min

18 9 25
+86 37

25 4 38.7
34.1
0.1
42.7
175.6
29 43.90

Dm 88 104

18 10 57
+88 15

50 0 33.3
28.7
52.2
37.0

Dm 79 202

18 17 59
102 18

45 2 17.0
11.3
40.6
19.4

A -1 23 Comes of the δ Ursae min

β Lyrae

18 45 15
+33 14

50 14 31
34.8
00
47.2
185.1
51 46.28

51 H Cephei

18 46 17
+92 47

20 0 3.0
57.2
24.4
6.1
30.7
20 7.68
A +1

Dm 79° 602
~~Rod 4 ...~~

18 54 ~~42 23~~
~~+16 37~~
~~+79 46~~

15 2 11.9
8.6
32.6
14.9
A -1

Aug 22 1885

Dm (8.4)
19 0 17
+51 20

Dm ~~8.9~~ 9.5
1 90208 +53 10
19 2 5 +53 8

Dm (9.2)
19 5 48
+53 36

40 4 5 7.4
8.5) 5.18
18.0
1.2

9.1
9.3) 50 1 2.6
5.58
2.26
6.9

25 3 52.4
9.3) 44.7
11.2
55.8

Bright A 7'
no ~~org~~ for Pr #

A_{+1} & A_{-1}

no other ##
Ian

~~Dr~~ 90 θ Lyrae   x Cygni Holden

~~19 10 13~~   19 12 ~~28~~   19 14 25   19 15 58
~~+55 10~~   +37 56   +53 09   +36 43

54 4 31   55 1 17.9   50 20.1   53
383   10.1   57.6   57.7
1.1   36.0   22.1   22.2
48.4   26.5   5.2   9.2
20.99   91.3   23.40   27.4
9 ~~52~~.48   56 22.82   ~~3.40~~   68.60
47   ~~8.50~~
68.50
5.2   8.55

Aug 23 1885

8 Oph 896	49 Herculis	ε Herculis
16 38 45	16 46 50	16 55 52
+8 0	+15 20	+31 5
~~0 4 5 2.0~~		
0 4 54	50 4 26.8	55 4 38.7
3.2	12.1	31.8
2 58	37.8	56.6
5.9	30.7	44.6
	10 44	17 2.7
	54 26.10	59 43.18

DM (9.2)	ε Serpentis	DM
17 25 51	17 30 59	17 36 35
+10 32	−15 20	+13 21
	20 2 42.6	30 4 34.3
	26.4	26.7
	54.8	8.5) 52.6
	53.0	37.6
	18 9.1	
	22 47.28	

Certainly not in the field ~ Examined DM place — found it O.K.

Not on sheet -

Σ Urs. Mi

16 57 47
+82 23

10 2 56
57
30.9
13.0
58.2
52 ~~29.10~~
14.55

A 5.2 @ ± 1.

W 17h 58 (10 3 22)

17 6 20
−9 9

10 3 25.0 24.8
8.6 8.9
38.2 38.0
31.2 30.5
1.3 25.75 25.55
−1.3 28.65
+33 35
~~13 24.3~~
~~12 54.32~~
13 59.08

W 17h 83

17 7 20
−9 8

10 4 35.6
8.9
37.0
30.6
14 28.02
+57.2
~~13 30.8~~
Lost 3 strokes fwd.
Rej preceding ones
15 25.22

Du

17 35 41
+51 40

9.0 25 0 51.6
8.6 44.0
9.9
54.6

~~Du~~

Du 8.3

18 46 20
+49 57

not seen
dim

Drch

10 59
17 +117
+10 4f

45 1 28.1
24.8
41.4
31.2

9.0 m A+1 A-1
12.0 on A Nos

July 23 1885

35 Draconis ✓
17 54 26 +76 59

51 45 8
44.7
7.3
51.2
213.0
6 53.25

o Herculis ✓
18 3 2
+28 45

15 4 32.4
23.2
48.8
39.1
143.5
19 35.88

~~Dra~~ 86
~~18 9 2~~
~~+5 08~~

2 Lyrae ✓
18 33 1
+38 41

15 4 51.9
43.2
8.2
56.9
220.2
19 55.05

110 Herculis ✓
18 40 42
+20 28

35 3 45.1
38.1
24
54.8
204.4
38 51.10

24 H Camel ✓
18 43 17
102 53

10 4 18.3
15.0
42.2
22.2
97.7
14 24.42

24 Urs. Min	Dm 77 208	2376 Camelop
18 13 20	18 17 59	18 26 35
+86 59	+80 18	+80 19

0 1 29.1
25.0
49.6
33.6
137.3
1 34.32

45 2 14.1 2 53.3
8.2 51.0
37.0 15.7
17.7 55.7

45 2 2.9
58.2
25.4
5.9
~~21 2.4~~
47 ~~53~~.10
48 8.10

A_{10} E 80

Dm 79 604	G 1255	Rod 42 53
18 54 25	19 3 31	19 6 11
+79 46	+58 32	+83 44

15 3 5.0 2 29.4
2.0 25.1
23.7 47.9
8.0 32.3

30 3 51.0
44.8
11.0
53.7

20 0 58.3
53.6
16.3
0.9

Aug 23 1885

~~DM 48° 5772~~	θ Lyrae	χ Cygni
~~19 8 44~~	19 12 21	19 44 25
~~+48~~ 7	+37 56	+139

5 4 298 55 1 138

θ Lyrae	χ Cygni
5 4 298	55 1 13.8
22.2	4.8
46 5	31.6
33.9	16.6
132.4	66.8
9 3310	56 1670

Holden

50 02 25

19 19 50

+36 13

50 15 58.2 0 54.1 54.1

48.0 45.5 45.9

14.4 10.2 9.5

2.4 5.8.1 5.8.2

245.0 288 227.7

50 15 ~~2~~1.25 ~~59.50~~ 57.00 56.92

52 06.96

52 1.25 50 56.96

64.29

Aug 25 1880

110 Herculis
18 40 46
+20 26

51 Hev Cephei
18 46 17
+92 47

θ Serpentis
18 50 34
+4 3

15 – 1

35 57.2
~~35~~ 48.2
8.6
2.6
236.6
37 59.15

A +1 A −1

15 4 54.3
50.2
13.1
56.8
234.4
19 58.60

G 1215
19 3 31
+28 32

2 Hev Camel
19 6 58
+57 22

Dra
+82 0 32
19 8 44
+82 7

50 3 27.3
26.1
46.5
30.8

R Lyrae γ Lyrae ζ Aquilae

18 51 12
+43 48

18 54 42
+32 32

19 0 11
+13 41

15 1
53.0
43.8
55
54.3
216.6
16 54.15

30 2 27.0
19.6
40.3
32.0
118.9
32 29.72

20 3 24.5
12.1
33.6
29.8
100.0
23 25.00

A4L©

θ Lyrae
19 12 28
+37 56

~~9 12 78~~
~~19 13 35~~
~~+58 12~~

55 4 7 8
1.3
2.18
11.8
42.7
59 10.68

19 19 58
+36 15

50 2 14.13 0 58.0 57.5
53.6 53.2 50.5 52.3
14.6 15.0 11.3 11.6
4.5 4.9 1.2 1.0
25.41 25.44 24.10 24.08
63.52 63.60 60.25 60.20
63.56 60.23
63.33

Aug 27 1885

η Herculis
16 3 +59
+39 8

55 2 34
55.8
20.3
8.6
268.1
57 7.02

Dm 79° 578
16 55 40
+79 40

20 4 49.1
47.7 4 3.2
10.3 1.2
55.4 24.0
8.7

~~19 H Camel~~
~~17 33~~
~~+100 52~~
~~20 4 3.2~~

~~56 Ophiuchi~~
~~17 15 2~~
~~−24 53~~

G 2456
17 28 21
+10 13

50 2 11.9
9.2
3.6
16.6

ε Serpentis
15 31 5
+15 20

20 3 50.0
37.6
3.1
2.8
213.6
23 53.38

1885phe.proj.1420R

17h W 58

17 6 20 0
-9 9

10 3 22 1 21 8
6 4 6 1
34 7 34 0
29 4 29 3

17h W 83

17 7 20
-9 9

10 4 20 0
4 7
31 8
25 6

~~δ Hercules~~

~~17 10 22~~
~~+24 58~~

Comes lote?

i Hercules

17 36 14
+46 4

8 1 37 4
30 9
54 6
42

16 4 9
1 41 23

u Hercules

17 4 20
+27 47

15 3 3 6
56 9
20 2
12 2

27 2 9
18 8 22

~~S Oe 1059~~
35 Pl 10c

17 ~~3 11~~ 7
52 26
+76 59

8 3 9 3
6 0
28 3
13 9
57 5
1 488
30 3 6 10
1

2 24 6
20 8
42 6
28 4
116 6
2 29 5
~~49 7~~
45 3

July 29 1885

40 Draco
18 8 59
+79 58

5 2 9.4
7.2
28.2
14.6

41 Draco
18 8 45
+79 58

2 9.4
7.2
28.2
14.6

2nd S fu.

DM 79° 202
18 11 63
+80 55

5 3 54.9
51.6
18.3
0.0

DM 79 577
18 32 12
+79 6

55 2 40.0
37.5
19.6
46.3

Br. 2412
18 35 28
+83 4

0 106.9
4.7
26.0
11.7

A_{10} 4 50

51 Hev Cephei
18 46 17
+92 47

15 4 25.2
20.2
45.6
31.2

122.2
19 30.55

1885phte.proj.1420R

b Draco
18 22 12

DM 79° 208
18 17 59
+80 18
4.52 9.0
4.2
30.8
14.0

DM 80° 569
+58 44
~~18 22 16~~
~~9 7 47~~
20 0 45.1
37.4
2.1
49.6
194.2
20 48.55

23 H Camel
18 26 35
+80 19
~~20 0~~ 45 23 2.9
27.9
53.9
36.6
151.3
47 37.82

Rad 4208 γ Lyra G 1255
18 52 46 18 54.1 19 03 31
γ Lyra ~~+46~~ 33 +32 31 +98 32

25 H Camelop
19 6 58
+77 2

18 54 41
+32 31
30 31.6
4.8
27.2
19.3
62.9
33 15.72

ζ Aquila
19 0 11
+13 41
20 3 5.9
53.9
17.9
13.6
31.3
23 7.82

30 43 2.9
29.2
54.2
38.4

July 27 1885

DM 8 205-72 ω Aquarii

Noedm

50 214

19 8 44   19 12 29   19 19 08

+11 23   +36 23

+82 7

50 3 28.6   40 14 4.8   50 2 15.3 14.6   0 56.5 56.3

27.4   35.1   6.6 6.4   41.8 49.0

48.6   56.9   29.9 30.0   11.4 11.6

35.0   53.2   19.7 19.6   2.0 2.0

A 50 to 80   19 00   71.6⁵ 70.6   23.87⁸ 23.89

41 47.50   17.90⁸⁸ 1.85 17.65   59.65 59.72

59.68 .70

52 17.77⁶   50 59.68 .70

+78.09⁶

July 28 1885 ✓ ✓ ✓

η Draconis

16 22 25
+61 46

15 4 26.8
19.1
43.6
28.8
118.3
19 29.58

β Herculis

16 25 20
+21 44

15 4 41.4
33.3
54.1
46.9
175.7
19 43.92

Rej bt. δ.

σ Herculis

16 30 26
+42 40

25 0 14.7
5.6
18.0
16.6
54.9
25 13.72

W 58
17 6 20
−9 9

10 3 22.4
4.8
31.3
28.0

W B3
17 7 20
−9 −9

No δ

Some of the wires of t and t -, 45

✓

35 Draco
17 54 26
+86 59

5 2 43 31 54.2
39.2 48.8
59.1 9.2
44.6 54.2
186.2 226.4
7 46.55 6 56.60
49.95

1885phte.proj.1420R

✓

κ Herculis 19 H Camelop

16 38 59/0 17 3 37

+23 8' +100 52

55 2 6.6 10 1 49.0

58.2 43.2

21.3 9.3

9.4 50.3

35.5 211.8

57 8.88 11 52.95

✓

g Sagittarii Dum 51 Dum 52 9.7

17 58 31 18 2 5 +18 53 4 18 54 9

-30 25 +53 8 +51 56 51 56

25 3 10.4 15 34.7 Too ft: ~~9.1~~ 10 43.8

56.3 40.2 to obs. 9.1 32.0

22 3.6 55.1

21.3 49.7 42.1

50.2

28 12.55 7 A -1 2345

Aug 28 1885

Dm 88° 104
50 18 10 57 +88 15
0 28.2
23.7
45.6
30.6

Dm 50° 369
18 20 10
+97 47
15 4 19.6
13.6
37.8
21.8

A – 12345

Rij 15 S

Br 2412
18 35 18
+13 4
0 0 36.9
34.1
53.1
39.6

51 H Cephei
18 46 17
+92 47
15 4 56.1
51.8
13.9
59.6
241.4
19 60.35

13 R Lyrae
1.8 51 51
+43 48
15 2 59.7
50.1
12.0
~~2~~1.6
253.4
17 ~~63.35~~
60.85

A_1 to 5?

23 Ub

45 2 19,8
14,2
39,2
22,3

DM 5°5 577
18 32 12 +7 9 6
55 2 45,6
41,9
2,0
49,0

~~B 2 24 12~~
~~18 38 78~~
~~178 4~~
~~+AD 2D~~

✓ ✓

γ Lyræ
~~DM 33 4~~
~~18 54 52~~
18 54 41 +3 2 3 2
30 3 29,8
21,2
42,6
35,0
128.6
33 32,15

ζ Aquilæ
19 0 11
+13 4
20 3 34,3
21,3
42,8
39,2
137.6
23 34.40

Aug 28

Rosa 42 50 | Dung 4 5 2 | ω Cygni
19 6 11 | 19 44 4 | 19 12 30
+83 44 | +82 7 | +11 24

20 1 30.8
27.2
46.9
32.8

40 1 2.8
50.9
12.1
9.6

15.4
41 3.85

Noda

191518

+36 13

50 2 19.1 19.0 0 578 57.6

10.4 10.3 49.1 49.0

31.8 31.8 10.7 10.2

23.0 22.7 1.2 0.6

84.3 83.8 238.8 237.4

21.08 20.95 59.70 59.35

52 21.01 105

50 59.52

2 31.49

8 91.49

Aug 20 1885 ✓

δ Urs Min

18 9 25 + 16 37

25 4 11.2
9.2
27.2
14.7

62.3
29 15.58

b Draconis ✓

18 22 12

~~Dra 80 36~~ +58 44

~~182010~~

~~9747~~

20 133.8
8.0
27.3
16.6

85.7
21 21.42

24 H Camelop

18 43 17

102 53

~~Dun 79 5722~~ G 2615 110 Herculis

~~18 32 12~~ 18 35 18 18 40 46

~~+29 6~~ ~~+22 27~~ +20 26

α Lyrae

18 33 35 +38 41

20 4 52 8

48.2

5.0

57.4

Ag 5 1885

α Oph.

17 29 40
+12 38

25 0 22,9
12,8
29,8
28,3
93.8
25 23.45

ι Herc.

17 36 14
+46 4

0 1 32,0
25,0
43,6
33,1
133.7
1 33.42

μ Herc.

17 42 0
+27 47

15 3 6,9
59,6
17,0
11,6
35.1
18 8.78

35 Drac

17 54 23
+76 59

52 36,3
32,6
48,0
36,6
154.5
7 38.62

53,8
49,7
6,0
52,8
216.3
54.08
.58

44.54

D m (9.2)

18 20 43
+53 43

25 4 31,0
24,8
43,2
33,4

(9.0)

A?

~~D m~~ (8.0)

18 22 54
~~+50 15~~

~~18 27 12~~
~~+35 4~~

~~D m~~ α Lyrae

18 33 5
+38 41

20 4 30,4
23,9
41,0
33,3
128.9
24 32.23

Du 80) Du 93) Du 93) h Serpentis

18 3 13 18 8 26 18 11 6 18 15 26

+13 55 +13 28 +2 30 -2 56

10 0 28 35 1 46.6

9.1) 56.1 9.8) 35.7

14.0 58.1

4.1 48.2

A. foll#

A+1

A-1 (Reilant m.

Am 8.3 m. ah 9.0 following.

110 Herculis B Serp Du 85) (m.)

18 44 46 18 45 52 18 49 8

+20 26 +33 13 +81 11

35 4 5.6 50 0 38.0 8.7) 55 2 23.7

55.1 31.3 16.7

13.0 49.4 36.7

9.0 41.5 25.1

22.7 161.2 A

39 5.68 50 40.30

Aug 24 1885 foll.

Dun (88) Dun 9.1 Dun 9.1 M.

18 53 27 18 55 58 19 2 5

+55 8 +52 57 +53 8

0 1 81 55 2 34.6 89 55 1 9.6

115 89 26.8 9.0 2.2

19.9 9.1 46.3 21.6

9.1 8.9 35.7 9.1 10.8

89

89 on A+1

9.1 on A−1

~~same~~ setting

reg order.

M. # on A−1

foll # on A+1

Madler

19 19 58

+36 13

50 2 14.4 14.3 0 51.6 51.0

6.1 6.0 43.0 43.2

24.8 24.1 0.6 0.8

16.2 15.8 53.0 53.1

615 602 2082 2081

15.38 15.05 52.05 52.02

52 15.21 50 52.03

1 23.18 = 83.18

Du 9.2

19 5 34
+ 51 56

89. 5 3 388
87 326
51.1
40.7

9.1

19 5 49
+ 51 56

338
326
51.1
40.2

Du 54

19
5 10 53
55 10

8.6 5 5 2 52.3
44.8
3.8
52.3

Mi # an A+1
free # an A−1
Freq order

no other # seen

Aug 6 1885

~~85.9~~
~~87.8~~
~~88.6~~
~~90.8~~
~~88.8~~
~~469~~
~~8938~~

~~98.8~~
~~98.7~~
~~98.7~~
~~99.9~~
~~99.3~~
~~413~~
~~99.06~~
~~88.38~~
8844
44.2 set off

DM
17 46 20
+14 57
(9.4)

4 6 2 c
Δ -1
No δ

DM
17 47 20
+14 42

25 3 18.6
9.2 10.7
32.6
21.6

Δ -1

DM (9.3)
18 11 6
+12 29

η Serpentis
18 15 23
-2 56

DM (9.2)
18 20 40
+13 43

3 stars in field

0 0 29
48.9
12.1
10.3
134.2
0 33.55

25 1 43.1
9.3 35.5
56.5
41.3

Δ +1

γ Draco
17 53 5 +51 30
35 0 32.9
25.6
45.8
35.4
14 1.7
35 35.42

Dm
18 05 13
+53 55
5 4 35.6
29.2
(9.1)
50.6
40.0

Dm 8.6
18 9 2
~~+51~~ 8
55 1 6.6
57.9
(9.2
9.0)
22.1
10.1

Pr # on A_{+1} 345 & A_{123}
Foc # on A_{-1} 205

Dm 8.9
18 22 54
+40 15
55 4 22.8
(9.0)
16.6
55.2
27.2

Dm.
18 27 12
+55 4
0 0 39.6
(9.4)
32.6
53.6
41.8

A_{+1} A_{123}

α Lyrae
18 33 3
+38 41
20 4 45.0
38.2
58.7
49.9
19 1.8
24 47.95

Aug 6 1885

Dun (9.2)

18 40 8 +54 34

9.2
9.3

30 21 0 6
53.0
13.6
3.1

Pr#
A+1 A-1
Pr# A-1 345 no

B Lyrae Dun (8.5)

18 45 51
+33 14

50 2 57.3
Aq 43.2
3.6
55.1

213.2
52 53.30

18 48 8
+51 11

8.4
9.1

50 3 59.7
53.1
15.0
3.9

Pr# and A
(Pr# A-1 no)

Dun (9.0)

19 10 13
+55 10

50 4 53.0
46.8
9.1
8.2
57.2

A+1 & A-1

Holden

19 19 58
+36 13

50 2 10.4 10.2
2.7 3.1
23.2 23.2
13.8 14.1

501
1252
506
1265
52 1258

0 55.1 55.3
48.0 47.0
8.1 7.6
59.4 59.6

2306 2305
57.65 57.62
50 57.63
14.95
74.95

Dun 8.8 Dun. mi Dun Dun 9.1

18 53 27 19 2 5 19 5 $\overset{3}{2}$4 19 5 50

+55 8 +53 8 +51 56 +51 56

8.6) 55 2 15.0
7.2
28.8
16.4

9.1
8.9 55 1 19.7
11.6
33.2
21.8

9.2)

53 40.6
8.8) 34.8
54.7
43.7

A_{+1} A. A_{-1} A_{+1} Rigardu A_{-1}
not for 2nd ★

A_{-1} 234
20 δ

A_{+1}

Pr★ on A_{-1}, Foll★ on A_{+1}

Dun 8.9
19 24 20
+50 10

β Cygni
(19) 4 26 6
+27 4.3

8.8 55 1 30.0
22.6
9.0 45.0
32.7

A_{+1}
9.0 on A_{+1} no δ

20 1 12.4
3.9
24.7
18.4

5 9.4
21 14.85

Aug 6 1885

DM +9 (8.8)
19 34 33
+57 28

350 55.2
48.7
(8.7) 10.1
58.2

DM (8.8)
19 36 13
+50 51

(8.1) 104 59.6
52.4
15.3
4.3

A-1

DM (5.4)
19 38 32
+52 14

6.2 45.4 48.0
6.4
41.8
41
52.1

Rijadu
6.2
Overshine for
each

✓

Dec 8.6   2 D Long

24430   184830

+50 29   +69 19

50 4 30.8   5 02 22.6

24.0   19.6

8.8) 46.0   37.4

84.6   24.0

103.6

25.90

[illegible]   7

Aug 8 1885 ✓ ✓ ✓

μ Herculis	ψ Draco	ξ Draco
17 41 58	17 43 52	17 51 31
+27 47	+72 12	+56 53
15 2 58.4	45 3 5.7	10 2 18.6
51.4	2.2	14.3
11.1	22.1	35.3
3.7	7.0	22.8
244.6	36.4	92.0
18 1.15	48 9.10	12 23.00
	A40 < e	
Dun 20	Dun 9.3	Dun 83
18 3 13	18 8 26	18 11 6
+53 55	+55 28	+52 30

8.6 m. 10 0 34.6
8.8 fore 29.2
49.7
38.3

9.5
9.?

35 2 18.6
12.7
34.3
22.3

8.5
9.3

35 0 29.8
22.1
43.6
31.9

~~A~~ 8.8 on A+1

8.6 on A−1 no δ

9.2 on A+1

9.5 on A−1 no δ

8.5 on A+1, 34.5 < A−1

9.3 on A−1

2nd 5 m.

~~[illegible]~~ fore

γ Draco   DM (9.3)   DM (9.0)

17 53 55   17 46 20   18 3 13

+51 30   +49 57   +13 55

~~[illegible]~~   5 3 10.8   ~~35 0 37.2~~

35 0 35.2   (9.4)   6.2   ~~31.8~~

31.8   27.6   ~~53.1~~

53.1   15.3   ~~40.1~~

40.1

16 2.2

35 4 0.55

A A -1   A -1 345   ~~A A -1~~ ✓

DM (9.2)   DM (8.9) ,   DM (9.0)   & Lyrae

18 20 43   18 22 54   18 2? 12   18 33 3

+43 43   +50 15   +55 4   +38 41

0 2   (9.5 8.9)   45 2 12.8   (8.8)   55 4 30   20 4 44.6

do ✓   7.3   57.6   39.7

29.3   18.0   58.7

16.7   6.3   50.1

19 3.1

A ?   Bonner

+11   ~~Bonn~~ A -1   A A A -1   24 48.28

89 no ✓

Aug 8 1885

Dm (9.2)
18 40 8
+54 34

9.3
9.1
25 4 14.5
9.1
29.7
18.0

9.1 on A+1
9.3 on A-1 Mod

·51 H Cephei
18 46 17
+52 47

15 4 42.8 50.8
40.6 48.8
2.0 9.7
47.6 54.3
19 3.0 223.6
19 48.25 45.90

A w 9.0

Dm (8.8)
18 53 27
+55 08

88 55 2 15.2
9.5 8.2
29.2
18.7

A+1.?

x Cygni
19 14 26
+53 10

55 1 18.9
12.9
33.5
21.6
87.3
56 21.82

Nol Dm 10 20
19 19 58
+36 13

50 1 48.8 0 57.6
40.6 49.9
0.4 9.3
52.0 1.0
20.18 23.78
51 50.45 50 59.45
+51.00

Dm (91)

18 55 58
+52 ~~8~~

~~8~~ 5 2 24.1
~~8~~ 17.8
~~9.2~~ 39.1
27.0

9.1
9.0

Dm (80)

19 5 33
+55 11

50 2 56.4
49.8
11.4
59.8

Dm 80° 601

19 7 52
+10 14

45 4 7.8
7.8
21.3
11.6

A+1
Foll # on A+1 no ✓

A+1

Dm

52 2 13

no ✓

Middle #

8.8
8.9

Dm

19 ~~29 58~~ 27 40
~~+55 10~~
50 4 43.8
38.1
0.2
48.7

Pr. # A+1 A-1
Foll A-1 no ✓

Dm

18 ~~34~~ 28 ~~53~~ 1
~~+50 2~~
0 2 0.0
52.8
15.1
2.9

Aug 8

Dm
19 25 58
+52 3 28
35 2 3 1.0
25.8
9.5) 46.8
35.1

A-1

Dm
19 35 41
+52, 2 3

35 2 24 1
17.2
9.1) 35.0
27.4

Dm
19 38 32
+52 14

50 0 10.1
3.8
25.2
13.6

1st A+1 A 7+9
good A+1 A-1
Reyarden

Dm
19 54 23
+52 30

30 2 44.0
37.8
9.0) 59.1
48.7

A ~~+1~~

Dm
19 56 54
+50 27

35 2 11.2
5.8
9.2 26.8
14.8

A+1 A-1

Du

0^{17} 41 10
+52 53
0 45 54
8.2 50.8
11.6
55.8

A 345.6

Du
0^{19} 43 31
+48 54
5 1 46.4
40.9
9.4 2.2
48.5

A-1

~~Du~~ ✓
ψ Cyg 92u
19 52 35
+52 6

55 2 35.-
33.2
54.0
43.0

169.4
57 42.35

Aug 9 1885

Dun 18 11 6
+52 30

8.7
9.1

35 2 33
56.1
16.3
6.1

Dun 5.2
18 20 4 3
+53 43

20 2 35.0
28.7
48.8
37.1

Dun foll 9.1
18 22 54
+52 15

45 3 15.1
9.0 5.8
9.2 29.4
18.0

8.7 on A_{-1}
9.1 A_{-1} 345 no. S

A+1

8.5 H on A_{20} S
2nd on A_2 ie 9 ~~B~~
and A_{-1} ~~2nd~~

β Lyrae
18 45 41
+33 14

Dun (8.5 pr)
18 49 8
+51 11

Dun (8.8 ~~foll~~ 9.5)
18 53 27
+55 8

50 1 32.5
24.4
43.4
35.7
13 5.5
51 33.88

50 4 7.2
1.6
22.5
10.9
8.6

8.8
9.4

55 14 2.6

A+1

9.4 on $\overset{A-1}{A}$ 2345

Dun (90) 8ole
18 27 42
+35 4

8.8 00 50.0
43.7
9.5
2.9
57.8

Bottom A-1
Rizardi

α Lyrae
18 33 3
+38 41

204 26.7
20.0
38.2
30.6
11 5.5
24 28.88

110 Herculis
18 40 44
+20 26

35 8 49.1
40.2
18.3
52.7
20 2.3
38 50.58

Dun 91 8ole 23 5
18 55 58
+52 57

9.2 5 2 22.4
15.2
9.5
35.2
24.8

9.2 A-1
9.5 A-1 45
Rizardi

Dun 80 p Holden
19 5 33
+35 11

50 2 49.4
43.1
8.2
3.6
51.9

19 19 58
+36 23

50 02 33 23 0 56.1 56.6
54.8 54.8 48.5 48.0
13.2 13.7 7.3 7.0
5.9 5.8 59.3 57.3
97.2 96.6 23.1 23.05
6 84.30 6 84.15
5.2 84.22 5 57.80 57.62
50 57.71
6
+86.51

Aug 9

9.0 free
19 27 40
55 10

50 4 54 7
9.1
47.7
8.3
57.7

A —

Dm 9.4
19 29 58
+51 28

94) 35 0 45.3
42.7
2.1
57.1

A 2 ce

Dm 8.8
19 34 33
+51 28

8.9) 35 0 45.7
39.0
59.7
48.0

A +1 34 5

Dm 8.6 m
19 43 0
+50 39

200 4 30.0
9.7) 23.6
44.0

A 5.0 9.0

8.9
19 44 43
53 36

25 1 34.5
90 32.6
52.2
41.0

A A -1

2 Dm ✓
19 48 30
+50 19

5 1 41.6
37.0
54.7
42.0

1753
43.82

A 80 49.0 A -1

Dm 9,0 m, ~~Dm~~ Dm, m 7,4 9,1 fell 38'

19 36 31 19 ~~38~~ 32 19 40 41 19 41 10

~~11~~ 139 ~~11 0 19~~ 5 2 19 ~~11~~ 0 53

25 0 8,2 45 32 1,6 10 4 7,0

1,3 14.7 0.8

9.1) 21,6 7.8) 33,3 9.2) 21.0

9,7

A+1 A+1 A-1

~~A~~ b Cyg mi ✓

85 + 23 + 5 2 8

55 24.67

39.6

59.1

49.3

194.7

57 48.68

Aug 11 1885

~~Dun 86~~ Dun foll

~~18 58 2~~ 18 11 6

~~+15 7 8~~ +52 30

9.3 35 2 24.7
18.8
9.1 38.1
28.7

9.3 on ✱ 34.5 ...-1
9.1 on ...-1 ...

Dun 77 5 77 G 26 15 B 24 12

55 2 29.8
45.6
34.7

35 3 45.0
43.5
0.0
47.6
196.1
38 49.02

0 0 55.2
52.5
10.1
52.3

δ Urs Min Durch 865

18 9 25
+16 37

21 3 45.3
48.7
50
53.3
21 8.3
28 54.58

t, 45

18 20 10 +8 51.5

15 4 5.0
28
24.0
8.6

23 H Camel

18 26 55
+10 15

45 2 5.0
3.2
23.7
8.2

40.1
47 8.02
10.

2 51.5
45.3
10.6
54.2
225.6
47 56.40

24 H Cameol 51 H Cephei Rod 4208

18 3 25.7
23.0
45.0
29.0
12 2.2
21 30.55

15 4 45.0
47.2
6.8
53.4
21 6.4
19 54.10

30 2 20.8
18.3
36.6
23.6

4.1 Ɛ 5.2

Aug 11

(.95 – 8.2)

Dra
19 28 Bottom
+53 9

550 59.7
8.6 53.6
8.9 13.3
8.1 3.0

Dra
19 5 48
+53 36
+53 36

88) 25 3 20.7
4.3
3.2
24.0

8.6 no. 5 Reg order
Bottom on A3 & A9 & A-1
Rej 5 mins preceding

A+1 & A-1

Dra
~~54 15.9~~
19 22 13
+12 18

51 2.2
9.1) 55.3
14.7
3.9

A+ A-1
free

Dra
19 24 20
+50 10

50 3 54.3
87) 48.8
9.4
58.0

A-1

Dra
19 28 20
+58 2

0 2 1.8
6.3 56.0
16.4
5.0

θ Lyrae κ Cygni Holden

θ Lyrae	κ Cygni	Holden
19 12 23	19 14 26	19 19 58 36
+37 55	+53 10	+38 ~~01~~ 53
54 15.9	55 0 5.4	50 1 57.5
9.4	0.1	50.8
8.2	19.6	8.6
19.7	8.7	1.1
73.2	33.8	228 4
9 ~~23.30~~ 18.30	55 8.45	81 50.60

01
19.6
~~8.7~~

Dm 8.0 fore m Dm fore Dm

Dm 8.0 fore	m	Dm fore 8.5	Dm 8.8
19 ~~34 53~~ 35 40	19 36 32	19 40 43	19 43 32
+54 23	+51 39	+52 17	+49 54
40 3 38.2	15 3 27.8	45 3 29.0	52 16.6
32.6	8.6 23.0	23.6	8.7
8.8 50.9	A 42.6	88 43.0	3 1.5
40.5	30.8	32.5	19.7
A+1		A+1	

R Aqll

~~1844 30 9.3~~

~~+5 57~~

β Aquilae

1845 41

+6 7

55 2 27.4
17.0
37.7
37.5

119.6
57 29.90

X Cygni

1952 39

+52 8

Y Sagittae

1953 46

+18 11

20 δ

θ Aquilae
20 5 24
−1 9

10 5 208
83
300
286

87.7
13 21.92

o¹ Cygni δ Cygni
20 10 1 20 14 D
+46 24 +39 54

10 20.7
55.1
13.2
4.0

13.0
12 3.25

Aug 15 1885

β Draconis
17 27 51
+52 23
40 2 33.0
26.4
48.8
36.0
144.2
42 36.05

i Herculis
17 36 15
+46 4
0 1 28.2
21.3
41.7
29.8
121.0
1 30.25

u Herculis
17 42 00
~~1792 00~~
+27 47
15 3 4.0
57.1
16.6
9.5
27.2
18 6.80

25 [illegible]
19 6 58
+97 22
40 3 5 5.8
50.7
13.7
58.7

Dm (9.0)
19 10 13
+55 10
9.5
9.0
~~9.~~
34 2 33.2
27.8
49.3
57.7

Dm 7.9 foll
19 15 30
+13 10
50 0 53.4
47.3
~~5.2~~ 57.9
57.0

A-1
~~Rg 15 [illegible]~~
Rig 2 + 5 for 9.5

A 11

γ Draconis Dun (8.6) 51 Ucephei Dun 75° Cay

17 53 37 189 2 18 46 17 18 54 22 2

+51 30 +51 8 29 13 +79 46

350 28.7 55 18.78 30 4 21.6 45.08 15 33.2 2 14.7

23.2 9.0 31.7 18.6 48.3 18 17.0

44.7 53.9 40.2 9.1 19.3 34.3

31.9 41.3 25.9 55.1 6.7 21.6

128.5 106.3 223.3 41.0 91.6

35 32.12 A_{+1} A_{-1} 23 5 34 26.58 34 55.82 19.25 22.90

47.35

~~H~~olden Dun 5.3 free Dun (6.0)

19 19 58 1922 13 19 28 1

+36 13 +52 58 +50 2

50 1 59.1 55.6 0 50.4 91 5 2 47.1 0 1 53.6

52.1 53.0 43.6 91 41.5 47.4

11.6 12.2 2.8 91 1.4 5.0

3.4 2.8 53.8 50.6 57.4

246.2 247.6 210.6

52 61.55 61.90 50 52.65

.45

61.72

+69.07

First # on A_{-1} no ✓

2nd on A_{-1} ✓

3rd on A_{-1} 45

Aug 15 1883

Dm (9.4)
19 29 58
+51 28
(9.3) 35 0 42.1
36.1
[illegible]
57.1
44.5
A+1 A−1

Dm (8.8)
19 35 13
50 51
10 30 1.3
55.6
(8.7) 17.1
5.8
A+1 /

Dm foll 6.2
19 38 32
50 14
50 0 35.7
28.4
(6.0) 49.5
32.8
foll A+1

Dm (9.0)
19 51 57
+52 29
9.2 30 4 54.8
49.7
(8.7) 9.8
59.1

Dm
19 54 42
+52 ~~32~~ 23
40 1 19.6
11.7
(8.9) 32.2
21.0

~~Dm~~
~~19 54 4.4~~

8.7 on A+1
9.2 on A−1 [illegible]

8.0
Du ~~7.7~~ ~~fa~~ fall
19 40 58
+52 ~~9~~ 31

30 2 43.2
36.8
8.9) 57.6
46.2

A +1 fall

Du (8.9)
19 43 31
49 54

5 1 59.9
54.3
9.0) 16.1
4.1

A +1

Du 9.3 fall
19 44 33
51 7

9.3
7.8
~~4.2~~

0 15 1.6
46.1
6.9
56.1

Both in A.
7.8 10.5

Du (9.0)
19 56 54
+50 27
9.4)
35 2 20.2
(14.0
35.2
23.5

A +1 A A -1

Aug 15 1885

~~O Cygni~~ ~~κ Cygni~~ ✓ γ Cygni

20 ~~10 25~~ 24 Vulpecula 20 18 8

~~+37 56~~ ✓ 20 11 54 +39 53

o' Cyg fore +24 19

20 10 2

+46 23

35 2 23.9 45 0 38.7 10 2 9.8

16.1 31.2 3.4

36.6 49.8 20

25.6 45.1 13.1

102.2 164.8 48.3

37 25.55 45 41.20 12 12.08

(b) (e) (d)

20 42 58 20 44 23 20 45 11

+52 34 +51 59 +5~~1~~ 29

R P	R R	R P	R P
30 1 0.8	0 28.9	51 ~~1.6~~ 130	35 0 57.7
54.2	22.9	7.3	50.8
15.1	42.6	26.3	11.6
2.3	31.0	17.8	59.0
252.4	125.4	64.4	239.1
31 3.10	31.35	6 16.10	35 59.78
A +1	A	A	A −1

θ Cephei   73 Draconis   δ Delphini

20 27 40   20 33 0   20 38 32
+62 36   +74 34   +14 53

25 4 29.4   30 23.6 24.5   10 3 25.7

23.7	31.6	45.9	20.0
43.9	51.2	3.2	38.2
32.0	37.8	51.4	29.3
129.0	157.6	210.0	113.2
29 32.25	32 39.40	~~5.25~~	13 28.30
		~~62.50~~	
		52.50	
		46.90	

@/
20 46 1
+50 53

	RP	RR
10 1	25.8	10 14.4
	20.1	8.1
	40.2	28.9
	30.2	18.4
	116.3	69.8
11	29.08	11 17.45

Aug 16 1885

5176 Cephei	R Lyrae	γ Lyrae
18 46 17	18 51 50	18 54 39
+52 47	+43 48	+32 32
15 4 45.7	15 1 43.9	30 3 16.8
46.8	36.6	10.1
7.6	55.6	29.7
54.6	46.8	22.6
218.7	182.9	79.2
19 54.68	16 45.72	33 19.80

K Cygni
19 14 26
+53 10

Norden
19 19 58
+36 13

B Cygni
19 26 6
+27 43

50 1	30.0	30.4	0	51.0	50.5	AR
	22.3	22.4		43.6	43.2	
	42.3	42.5		3.8	8.2	
	34.7	34.1		51.2	55.0	
	129.3	129.0		213.6	211.9	
51	32.~~2~~32	32.~~25~~	50	53.40	52.95	A_{+1} A_{1605}
51		32.2~~3~~8	50		53.1~~8~~9	

39.~~06~~09

25 H Camel [illegible]
18 6 58
+57 22

40 4 21,2
16,4
35,2
24,8

[illegible] s 5572
18 8 44
+18 2 4

ι Cygni
19 26 48
+51 30

35 1 2,4
55,9
18,6
6,8
23,7
36 5.92
A A - 1

θ Cygni
19 33 21
+49 58

5 2 54,9
48,7
10,3
59.6
23 3.5
7 58.38

Dra [illegible]
19 36 32
51 39

19 40 41
+52 19

7.? 45 2 6,8
0,1
7.2 2,3
10,7

Δδ = 3'
7.7 on A

7.2 on A - 1208

Aug 16 ✓

Dm (9.3) free [illegible] Dm 8.9

18 4 33 18 52 39 19 54 20

+51 7 +52 2 +52 30

9.1) 50 3 22.0 55 2 18.4

16.1 11.8

38.9 34.3

27.0 22.8

87.3

A₋₁ 345 57 21.82

north #

Dm 9.4 Dm (9.3 Dm 9.4)

20 1 24 20 ~~13~~ 44 20 17 31

+51 24 +57 ~~38~~ +52 42

9.6 | 35 43 8.1 20 0 25.6

9.1) 33.4 9.1 18.7

51.0 9.1 38.6

43.5 9.1) 28.4

9.1 = A

9.6 A₋₁ 1 2 – – –

Reg order

First on A

Reg order same setting finally

2nd & 3rd on A₋₁

DM 9.2
18 57 ~~59~~
+50 38

~~DM~~
~~19 58 14~~
~~+52 43~~

DM 9.2
2 2 35
+49 54

O' Cygni
20 10 1
+46 24

9.0 20 4 27
9.3 58.6
18.4
8.0

0 4 23.8
18.5
9.3) 40.4
29.6

35 1 39.1
32.1
52.0
41.9
38 41.28 A-1

2nd S pr
9.0 on A+1 A-1
9.3 on A-1

face #
A-1

DM 9.3
20 19 20
+54 32

DM 9.0
~~20 19 20~~ 21 3
+50 38

DM 9.3
20 22 15
+52 37

DM 9.4 ~~9.4~~
20 26 46
+53 41

30 1 12.2
5.8
9.0 25.5
16.0

9.1 20 4 11.4
9.5 3.7
24.1
14.0

20 1 37.4
9.3 31.2
9.3 51.2
9.0 41.3

A-1

9.1 A-1 no V
9.5 on A-1
9.4 may be between

9.3 9.3 A-1
9.0 A-1 no S
Rev order

Aug 16 1885

~~DM 9.4~~
~~202 8 12~~
~~+52 48~~

DM 9.5
20 31 20
51 57

DM ~~8.8~~ 9.6
20 34 20
+50 40

9.5 5 0 40.7
33.8
9.6 53.8
44.0

20 2 58.8
9.0
53.0
14.6
3.7

9.5 on A-1
9.6 on A-1 2nd

A-1

a DM 30 1
20 45 55
+50 21

40 3 53.9
48.9
5.4
57.7
229.9
43 57.48

[illegible] 80) b c

2 36 20 20 42 58 20 44 20

+52 57 +52 34 +51 59

88 5 3 3.3 30 0 38.2 330 57.8 5 1 54.3

57.7 81.2 51.3 51.3 45.2

17.8 51.4 57.7 11.1 8.0

8.7 41.8 41.8 1.7 57.7

241.9 229.2

30 60.48 6 57.30

A-1

Aug. 18 1885

λ Ursae Min β Aquilae

19 37 52 +88 57 19 45 23

+6 7

5 3 35.4 55 1 29.1

34.3 19.3

53.9 40.3

39.9 38.3

163.5 127.3

8 40.88 56 31.82 75

A 40 to 60

D.M. 50 D.M. 25 D.M. 10

20 13 10 20 ~~17 46~~ 20 15 40

+52 31 χ Cygni +54 3

~~+52~~ 0

20 18 8

+39 54

Clouds 10 14.1

42.8

2.1

53.1

207.1

11 51.78

χ Cygni
19 52 41
+ 52 8

55 1 27.2
20.8
41.8
29.6
11 9.4
56 29.85

~~Σ 2691~~
20 24 ~~16~~ 13
~~+ 90~~
Du
19 58 14 8.4
+ 52 43

9.2
8.3

20 1 24.0
17.4
38.7
26.1

~~238 5~~
Dun ~~60~~
~~+ 52 26~~
61 Seq Cygni
20 10 3
+ 46 23

A + 1 A - 1 Bootis
2nd 5 pm

Du
20 21 12
+ 50 54

θ Cephei
20 27 40
+ 62 36

25 4 25.7
20.2
41.8
28.4
11 6.1
29 29.02

Du ε¹ ~~Du ε²~~
~~20 31 20~~
~~+ 51 57~~
~~20 33 6~~
~~+ 12 53~~

Aug 17/1885 ?

73 Draco
20 33 0
+74 34

α Cygni
20 37 82
+44 52

30 2 33.6 1 57.8 10.3 13.3
29.7 53.2 6.1
47.8 11.9 26.3
34.1 58.6 15.7

145.2 274.5 61.4
36.30 60.38 13 15.35
35.82

(Cat)	e	c
20 42 58	20 44 23	20 46 1
+52 34	+51 59	+50 53

30.0 38.1
29.2
50.1
38.9

Aug 15 1885

73 Draconis
20 32
74 33

R P
30 2 30.7
27.7
46.1
32.1
136.6
32 34.15

α Cygni
20 37
+44 52

R P
10 3 22.9
17.9
36.3
26.2
103.3
13 25.82

R R
20 2 55.5
48.8
3[illegible]
52.1
209.9
22 52.48

b
20 42 58
+52 34

R P
30 1 20.2 00.0
23.8 52.4
44.5 13.8
33.2 1.6

32 Vulpec
20 49 35 +27 38
20 49
+27 38

R P
25 3 6.8 2 12.1
0.2 4.8
16.8 22.8
11.2 16.9
35.0 56.6
28 8.75 27 14.15
+0 46 0

ν Cygni 20 52 52 +40 43
20 52
+40 43

R P
20 2 4.1 1 53.7
56.1 46.0
17.2 5.8
6.1 55.7
23.5 221.2
22 5.88 21 55.30
[illegible]

l	d	a
20 44 23	20 45 11	20 45 56
+51 59	+51 29	+49 41
R P	R P	R P

30
~~17~~.0 36.8 15.1 8.0
39.1 1.3
51.1 20.9
41.
~~14~~.2 10.3
30 7 39.80 10.12
A +1 A, 05

35.1 27.0
20.6
41.1
29.3
1 80
29.50
A +1 A, 05

2
20,2 56.7
50.3
10.9
59.4
237.3
22 59.82

1
20 3 20.8
15.9
36.7
25.0
9 84
23 ~~22.104~~ 24.60
(24)

A +1 A A -1

61 Cygni
21 0 40
+38 11
R P
50 4 20.3 320.0
14.4 13.9
32.5 31.8
23.9 23.6
91 1 893
54 22.75 53 22.32
60.43

Br 2777
21 7 43
+77 40
25 1 37.5
33.2
49.8
37.4
157.9
26 39.48
A +1 43 to 2,

β Cygni
21 8 2
+29 46
15 4 11.2
3.3
25.0
17.0
56.5
3 19 14.12
A 40 &c.

Aug 20 1885 —

51 H Cephei

o Draco
184928
+59 15

R Lyrae
185149
+43 47

No. V

9.0 to 7.0 R Pr.

15.0 37.1 | 50.0 11.3
28.0 4.2
43.3 26.8
34.4 14.3
137.8 56.6
15 34.45 14.15

R P

15.2 49.3 | 15.1 46.8
41.9 38.8
2.4 0.8
52.6 50.5
206.2 196.9
17 51.55 16 49.22
62.33

B Cygni
19264
+27 43
R P

202 17.0
8.9
V 28.5
22.8
77.2
A+1 A 22 19.30

ι Cygni
192647
+51 29

35 0 48.8 0 26.0
41.0 19.2
3.1 41.3
57.2 25.9
A + A -1
204.1 116.4
35 51.02 35 29.10
21.92

θ Cygni
193320
+49 58

5 3 18.5 20.8
12.5 55.2
35.1 17.8
23.6 7.0
89.7 101.8
8 22.42 ~~50.45~~
65.45
16.97

γ. Lyrae
18 54 37
+32 32

δ Draco
19 12 29
+67 27

κ Cygni
19 14 25
+53 9

Holden ~~50 1 50~~ 50 1 50
19 19 38
+36 13

R P

R	P
30 30 29.8	2 27.0
22.5	20.0
42.6	40.3
36.0	33.1
130.9	120.4
33 32.72	32 30.10

R P

R	P
35 3 27.1	243.7
22.9	40.7
43.8	1.8
31.9	49.0
125.7	195.2
38 31.42	37 48.80

R P

R	P
55 0 57.0	0 15.2
43.4	7.8
5.9	29.9
54.1	19.1
214.4	72.0
55 53.60	55 18.00

R	P	P
50 1 55.0	148.8	0 5.48
47.8	32.2	4.43
18.5	53.0	5.4
0.4	44.1	5.7.2
241.7	178.1	~~19~~ 20.87
60.42	51 44.52	50 ~~52.18~~ 54.92
		~~68.24~~ 65.50

Dun 7.4 m.
19 40 41
+52 18

Dun
19 41 10! free
+50 53 8.6

Dun 86 m.
19 43 1
+50 39 8.4

Dun 85
19 44 43
+53 36 8.6

R P

45 2 38.4	10 3 40.1
31.4	33.5
54.4	58.5
43.1	45.0

A₋₁

A₋₁ 2345

20 4 15.0	25.2 9.4
18.2	1.4
31.2	23.4
19.8	12.9

A₋₁

A₊₁

Aug 20

Dm 9.0
19 51 57
+52 29
9.0) 30 4 18.9
11.4
34.3
23.5
A_{-1} 2345

Dm 8.9
19 53 42
+52 22
9.1) 40 0 16.0
7.4
29.0
18.7
A_{-1} 2345

Dm 9.2
19 57 19
+52 08

Dm 8.4
19 58 14
+52 43
8.7
20 0 48.2
40.3
2.0
50.9
A_{+1} + A_{-1}

Dm 7.5
20 17 46
+52 0
0 2 58.0
50.9
7.5) 13.0
1.4
A_{+1} A A_{-1}

Dm 8.0
20 19 20
+54 32
30 1 21.0
13.2
7.0 34.4
23.4
A(?) A_{-1}

Dm 9.0
20 21 8
+53 38
20 4 12.9
0.0
21.5
10.4
foll A
2dd pr.

Dm 9.3
20 22 15
+52 37
25 1 47.0
38.8
-0.1
49.9
pr A
A-1

Dm 9.2
20 2 36
+49 54
(9.0)
53 50.0
44.1
7.2
55.9
A_{+1} A_{-1}
foll ✱. 9.2 pr 2Sa above

Dm 8.6
20 4 43
+51 21
(8.8)
40.1 13.4
6.0
28.2
10.9

Dm 9.0
20 13 10
50 31
RP 9
303/7.0
0.4
22.6
10.5
A_{+1}

Dm 9.3
20 13 44
+51 38
20 3 26.4
9.0) 20.3
42.4
30.5
A_{-1}

Dm 9.4
20 26 46
+53 40
20 2 33.1
9.5) 27.2
47.0
36.9

Dm 8.1
20 27 4 5
+54 6
20 1 0.1
9.0) 54.2
15.0
4.6

foll ✱ A_{+1}
pr ✱ A_{-1}

Dm 9.5
20 31 20
+51 57
50 26.0
9.5 8.8) 17.2
38.0
27.6

Dm 9.3
20 33 6
+53 13

pr ✱✱
reg. or. foll ✱ A_{-1}
ht ✱ A_{+1}

Aug 30

Dm 8.0	Dm 8.5	Dm 8.5	Dm 8.0
20 34 27	20 35 29	20 39 17	20 39 2?
+51 8	+50 52	+51 54	+51 55
50 3 50.8	50 14 9.0	54 5.8	53 22.8
8.0 44.3 8.7	42.8	58.9	16.4
5.9	5.0	8.5) 20.4	9.2) 37.2
55.0	53.4	9.1	26.9
A-1 345	A-1	A+1	A-1 45(?)

✓ ✓

32 Vulpec
20 49 42
+27 37

V Cygni
20 5 2 36
+40 43

R P

25 2 43.7 | 53.5
36.0 14.5
55.4 3.4
50.2 59.2
1853 ~~2506~~
4632 ~~7515~~
27 ~~1515~~
6265
4367

2
20 1 52.0 0 50.2
44.3 42.1
5.2 2.8
55.5 53.2
2170 2083
54.25 5208
21 20
12.17

b				e		d		a			
204218				204423		204511		204556			
+5234				+5159		+5129		+4941			
	R		P								
30.1	6.8	30.0	41.3	5.1	20.2	35.1	29.8	20.3	25.0		~~19.3~~
	0.0		35.0		12.8		23.0		18.8	20.2	36.7
	21.4		55.7		33.9		44.0		40.4		30.3
	11.2		45.2		23.6		32.6		29.0		52.0
31	9.85	30	44.30		905	36	3235		1132		40.4
				6	2262			23	2830		1594
										22	3985

Vacation

Sep 30 ✓ Returned from vacation

~~δ~~ Cygni   θ Cygni   Dun (9.0) m.

δ Draconis   19 26 48   19 33 21   19 36 32

19 12 29

+67 28   ~~+27 43~~   +49 58   +51 39

+57 30

25 3 10.0

6.6

18.9

11.2

46.7

28 11.68

35 1 23.3   5 3 10.7

15.8   3.6

30.7   19.0

23.4   11.6

93.2   44.9

36 23.30   8 11.23

Dun (8.9)   Dun   Dun (8.2)   Dun (9.0)

1954 23   19 57 20   20 10 5   2 13 28

+52 30   +50 38   +54 48   +51 51

9.1) 30 2 7.0   8.3)   15 0 48.0   9.2)   10 2 29.7

59.7   40.2   22.2

13.6   54.4   36.2

8.0   46.8   29.3

A_9 A_{-1} 345

A_{+1} A_{-1} A_{+1} A

7.8 mag or A_{-1} 100

Dm

19 40 44 8.9
+52 17 fade.

8.7 45 3 5.7
5.8.7
13.6
5.7

fade

Dm

19 44 43 8.9
+53 36

9.0 25 12.7.4
19.7
33.9
26.7

χ Cygni
19 52 35
+52 8

55 2 14.3
7.0
21.3
15.1

57.7
57 14.42

A 3 4 5 6 7 ext -1
Prv. comparing dias

γ Cygni
20 18 7
+39 52

20 1 20
53.2
6.4
2.1

3.7
21 0.92

Dm (9.4)
20 21 12
+50 54

Seen

M.²

Dm (8.1)
20 27 45
+54 6

50 2 38.0
(8.0) 31.0
43.7
38.0

A -1

Dm (8.8)
20 34 30
+50 40

8.9) 20 2 16.1
9.2
24.6
17.3

A -1

✯ #?

no gr. many in
field except this
Av. gr. about 35 meas same

Sep 30

30 1 6

Dun

2059 d (7.9)

~~8~~6 e

20 ~~45 56~~ 20 44 23

42 58

+52 11 +52 34 +51 59

30 0	58.9	=	58.9	30.0	35.0	5.0	0.7
	51.0		51.2		27.0		52.7
	5.2		6.3		41.9		7.0
	58.7		58.6		35.1		0.4

C
2046 1

+50 13
1011 11.8
3.7
19.7
12.3

ν Cygni
20 52 54
+40 44

61, 1 Cygni
21 01 46
+38 11

Oct 1 1885

G. 2900 Dm 8.9 foll G 2900

19 28 38 19 24 20 19 28 38

+79 2 2 +50 10 +79 2 2

90 50 3 1.7 40 2 33.8

54.6 31.6

8.8 42.1

2.6 33.8

14.13

35.32

A +1 42 ∠ +34.5 ∠

G B 59 Dm (9.2) Dm

19 49 16 19 57 20 20 4 43

+49 53 7 +50 38 +51 21

90) 20 4 33.6 40 0 22.4

26.8 ~~14.6~~

25 3 51.0 40.4 84) 28.3

46.0 35.6 22.2

59.6

51.7

A +1 A +1 ∠ ∠ −1

P₂ ~~9.1~~

A 70 c 20

Foll # = 9.5 Δα = 2ˢ

Δδ = 2′

Dun 88 42 ζ Ursae Min Σ 1368

15 34 8 15 38 56 19 46 39

−88 06 +88 57 +100 23

5 2 1.7
5.91
10.3
1.7
12.8
3.20
7

A_{40} w $_{60}$

50 4 8.8
6.4
20.2
10.1
54 46.5
11.62

~~A~~ $_{20}$ w 2_{0}

O₁ Cygni

20 10 1

+46 24

35 1 58.7
49.8
3.4
58.0
229.9
36 57.48

A 60 α C

Dun

20 13 10

+50 31

(9.6)

30 2 32.4
25.6
38.9
33.6

The only # seen

A_{-1}

1235 very faint comp.

ζ Cygni

20 18 7

+39 54

10 1 46.4
37.8
49.1
46.8
180.1
11 45.02

5017

Du 20 21 12
+52 54

5 1 32.2
24.4
8.9 38.2
9.6 31.5

8.9 on A+1
(9.6 on A-1 no ✓
middle #

✓

θ Cephei
20 27 38
+62 36

25 2 49.7
41.8
55.8
49.0
196.3
27 49.08

Dra (M 36 5)
20 33 6
+52 53

8.6 5 3 58.0
9.0 52.3
47
59.2

8.6 on A-1 no ✓
9.0 on A+1

30 1 6

f

20 42 58
+52 34

~~30.0~~ ~~54.6~~
~~46.6~~
25 4 28.9
22.2
35.0
29.7
28.95

A+1 A

e

20 44 23
+51 59

5.0 41.3
33.6
47.8
41.6
164.3
5 41.08

A 6 α ⊙

Dm OR. 1 Dm 55 (foc. 8^s /

20 ~~35 29~~ 20 39 45

~~+50 52~~ +54 7

86 55.0) 26.7

18.1

A-1 No ∫ 9.6) 30.0

25.1

A +1 2 3 4 5

Q

Dm Dm

20 46 1 20 51 25 20 53 57

+50 53 +54 2 +55 53

102 3.4 0 0 43.6 55 4 17.3

53.6 91 35.2 89) 10.3

8.7 47.8 22.8

42.? 18.0

3.0

8.7

2.18

A 12 2 C A 1)

Oct 1

Dun
20 57 4
+50 52

5 4 49.7
43.0
(8.6) 55.8
49.6

A +1

93 foll AD = 0.3

61 Cygni
21 1 46 11
+38

50 3 10.4
3.7
14.6
11.7
40.4
53 10.10

~~A +1~~

Dun
21 04 42
+53 17

4 50 0 34.1
25.7
(8.6) 35.0
33.6

A +1

Dun. (53) (foll'g)
21 22 20
+49 58

B Cephei
21 27 20
+70 4

0 2 0.7
54.4
4.8
58.1
238.0
2 59.50

74 Cygni
21 32 22
+35 54

10 0 46.1
36.8
44.7
45.0
175.6
10 43.90

✓

η Cygni

21 8 4
+29 46

15 3 30.6
26.7
38.6
38.1
139.0
18 34.75

Dun (8.8)

21 15 15
+13 4

55 4 48.0
43.1
54.9
49.6

(8.8)

Dun (9.5)

21 15 44
+55 13

45 2 32.9
25.2
38.4
32.4

9.6 pr
9.2 foll

9.2 on A+1
9.6 on A−1, not S

✓

π² Cygni

21 42 04
+48 17

15 3 33.7
26.7
35.2
33.3
132.9
18 33.22

Oct 5 1885

Sch 1172

19 25 48
+83 13

50 0 83.6
31.0
39.6
33.6

28 Hc Camel Illumin

15 37 23
+79 26

35 4 42.7
40.7
51.6
44.0

15 38 56
+78 57

5 3 17.7
15.1
23.6
17.7
74.1
8 18.52

+50 to 60

G 1359 1 2 16
20
+57 13

30 2 47.4
41.4
33.0
45.7
~~32.0~~
~~43.3~~

o. Leg
20 10 1
+46 24

40 1 42.7
34.8
45.1
42.3
164.9
~~40~~ 41.22
41

Du 9.0
20 13 28
+51 51

9.0
9.2
10 38.4
1.6
12.3
9.2

Du 7.5
20 17 46
+52 0

0 1 29.4
22.0
32.2
29.0

9.0 on A+1
9.2 on A-1 to 5

A+1

ψ Cygni Dm Dm

19 52 39 19 57 31 19 58 14

+52 6 +51 31 +52 43

55 2 14.8

74

18.6

15.7

56.5

57 14.12

20 0 47.7

8.8) 38.7

49.6

46.7

⊙ Cephei Dm (9.0 ll) Dm (11.92 Dm 9.0 ll)

20 27 38 20 27 45 20 33 6 20 34 27

+62 37 +54 6 +52 53 +51 8

0 0 40.7 8.2 5.4 27.4

9.1) 32.7 30.1

43.4 90 42.0

40.3 37.7

A -1 8.2 in A+1

#. 90 in A+1

Rigorden

Oct 5

254 20

Dun (Mi 28) (80)

20 39 31
+50 36

25 1 26.8
20.4
31.2
~~27~~.1

9.3

8.2

9.3 on A-1
8.2 on A-1 two

20 42 58
+52 34

30.4 25.4
27.0
32.1
33.7

30.80

A +1 A

20 44 23
+17 09

5.0 18.8
10.3
21.1
18.2

5 17.10

A

✓

Dun
19 56 12
+55 2

55 4 38.8
33.0
43.0
40.0

9.3
9.0

9.3 on A-1
9.0 on A
Reg order

ki, leyning

21 14 6
+38 11

50 2 57.7
50.3
59.3
58.6

22 5 9

52 56.48

9.3
9.1

Dun (fall 21 5) 93

21 4 12
+5 30 6

55 1 51.3
44.0
54.7
51.3

9.3 on A 1 2 3 4 5 7 8 9
9.1 on A -1
Reg order

20 46 1
+50 53
10 1 13.3
5.1
17.1
13.7
49.2
2.30

88
85

A″ A A −1

20 49 2
50 9
50 3 8.7
2.1
13.4
10.0

Brünnow −1
Rejordin

Du
20 53 57
+55 3
9.0
55 4 25.6
19.2
28.8
26.3

A +1

Du
21 12 30 (8.7 fale)
+52 1
7.7
8.5
0 4 22.0
15.7
26.7
23.2

7.7 on A +1
8.5 on A
Rejorden

Lleupin
21 15 50
+62 0
55 3 25.0
18.7
24.7
25.1
97.5
24.88
58

Du 21 19 44
+55 13
50 0 22.9
13.9
24.1
21.8
9.3

A +1

~~D~~ Oct 5 ✓

β Cephei ✓	74 Cygni ✓	π² Cygni ✓
21 27 10	21 32 22	21 42 54
+70 4	+35 54	+48 47
0 1 6.3	10 0 9.7	45 2 26.3
0.3	1.2	19.0
7.7	10.2	30.2
4.3	9.9	26.2
18.6	31.0	101.7
1 4.65	10 7.75	47 25.42

Du (71) Du (54) Du (89) ~~Du~~

21 37 13
+50 17

21 50 30
+52 32

21 53 23
+50 17

11

~~21 5~~

30 1 18.0
11.3
22.0
19.3

9.3)

84)
84)

45 2 19.0
10.3
21.3
17.8

A_{+1}

First star on A_{+1} Rij 1st
second star on A_{+1} & A.
Rijorden
1 long stroke for 2nd

Oct 10/18

Dra (90 mi.) Dra (9.0 prec 15^s) λ Ursae Mi

19 36 32 19 40 56 19 08 56

+51 39 52 32 +88 57

~~Too ft to ob.~~ 9.0 30 2 26.1 5 3 23.1

Very fi. star follows. 8.7

18.3

28.8

26.0

20.8

28.7

20.0

95.6

8 23.90

8.7 on A

9.0 on A - 1000

A 8.40 8.9

Dra Gr 1391 o, Cygni

19 57 31 20 2 46 20 10 0

+51 31 +57 13 +46 24

25 1 52.4 50 2 40.7 35 2 4.8

44.3 34.8 55.0

54.1 46.3 40

8.6 51.0 39.4 3.3

7.1

37 1.78

G 1368)
19 46 59
1 42 13

G 1359
19 49 16
+95 37

25 3 50.7
45.7
56.0
50.7

Dr
15 54 23
+52 30 8.9

30 2 0.7
8.7) 54.8
53
2.7

A_{70} ū 3_0

A_{+1}

κ Cephei
20 1247
+77 13

γ Cygni
20 18 7
+39 54

Dr 5.4 (m 4.8)
20 21 12 1
50 54

5 2 6.1
57.3
57
56

35 1 31.7
25.8
31.7
28.5

A_{30} ū 7,0 $_{36}$ 11 77 29.42

9.2
9.6

fall 9.2 on A_{-1}
m 9.6 an A_{-1} 5 sec

Oct 10

20 – 4 40

θ Cygni
20 27 38
+62 37

25 2 7 8
59.7
10.9
6.3
24.7
27 6.18

ζ Cygni
20 37 31
+44 53

10 1 58.2
48.7
58.0
56.0
220.9
11 55.22

e
20 42 58
+52 34

25.4 32.2
24.3
35.8
31.9
29 31.05

A + A, a5

Dm
20 56 12
+15 2

9.0 m. 55 4 35.0
88
27.4
37.4
34.6

9.0 m A+1
88 on A
[illegible]

61 Cygni
21 01 46
+38 12

50 2 23.8
15.7
23.6
24.0
87.1
52 21.78

Dm 8.5
21 4 42
+13 17

50 3 44.4
8.5
35.6
45.2
45.2

20 44 23
+51 59

5 0 16.1
7.4
18.2
14.8
5 12.88

A +1, [illegible]

20 46 1
+50 53

10.1 14.3
5.3
15.8
13.4
11 12.20

λ Cygni
20 52 54
+44

20 1 39.0
29.9
39.2
38.4
147.2
21 36.80

ζ Cygni
21 8 4
+29 46

15 3 34.6
25.0
35.6
36.1
131.3
18 32.82

Dun (Vol. 9)
21 15 27
+52 57

5.90 2.2
8.0 53.3
26
59.9

Dun.
21 18 44
+44 13

50 0 29.8
9.3 21.6
8.4 0 31.7
28.4

9.3m A +1
8.4m A -1 No 2

Oct 10

Dm
21 25 43
+52 24

8.9 ~~?~~ 25 3 37.9
9.1
30.1
40.0
36.2

74 Cygni
21 32 22
+39 54

10 1 5 3
56.4
5.0
4.2
10.9
11 2.72

Dm
21 40 58
+53 56

8.4
5 0 37.0
28.7
37.6
35.2

8.9 on A+1
9.1 on A-1 2nd ✓

A+1

Du

21 50 30
+52 32

30 1 18,4
10,2
20,0
17,6

8,9 m
9,6

8,9 av A+1
9,6 av A5 to E A-1

Oct 11 85

α Cygni
20 37 31
+44 53

10 2 2.3
5 2.9
2.7
59.2
23 7
11 59.28

e
20 42 58
+52 34

25 4 58.2 58.7
50.0 50.2
0.7 1.0
57.7 57.6
29 56.65 56.88

A_+ & A_{-1}

20 44 23
+51 59

50 11.0
1.2
11.9
8.7
8.20

A_+ A, 10 s

Bz 2777
21 7 43 40
+77

20 4 57.7
57.7
55.6
54.6
2226
24 55.65

α Cephei
21 15 50
+61 26

55 3 36.8
27.7
38.0
34.2
1367
58 34.18

Dm (9.3 foll 21 s)
21 22 30
+49 58

8 4 42.9
9.2 34.7
44.2
42.6

A_{-1} 34 s

20 46 1
+50 53

δ Cygni

61 Cygni
20 1 46
+38 12

10 0 58 8
58.4
2.1
59.4
10 57.92

20 52 34
+40 44

20 0 33.0
21.7
32.7
30.0
117.4
20 29.35

50 2 52.3
43.2
51.6
51.8
20 0.9
52 50.25

$\Delta\vartheta$ +1 ∡ Δ −1

Du (page 25)
2 125 43
+52 25

Du 87
20 27 30
+54 27

Du 83
21 30 49
+54 8

Du 57
20 32 18
+52 48

9 5 2 21.4
11.6
22.3
15.8
9.1
9.1
8.6

3 5 1 28.8
19.6
30.0
25.7
85

50 4 27.0
17.2
28.2
25.3
(83)

10 4 46.0
37.6
48.0
45.0
93

Δ +1

86 and 4+.
9.1 on 4 −1 Nov

9.6 = 1 obs nearly at

Oct 11

Du 17.1 Du 8.6 Du (9.1 free)

2h 37 53
+50 17

2h 40 58
+53 56

2h 45 12
+53 48

7.7 40 4 19.6
10.3
21.6
18.0

5 4 21.6
8.8
23.2
33.8
31.3

25
m. 8.8
9.3

10 4 21.6
13.4
23.8
21.0

#? !
Am 8.4 alone?

8.8 on A+1
9.3 on A−1
Reg order

20 Cephei
22 1 32
+62 14

50 0 53.0
44.3
55.1
49.2
20 1.6
50 50.40

π Pegasi
22 4 54
+32 38

no S
Reg 7.5
A+1 − α C

ζ Cephei
22 6 53
+57 39

25 1 14.6
5.6
15.8
13.2
49.2
26 12.30

n 158

Du 94 Du 83 Du 84 Lost of 3#s

21 45 20 21 51 ~~25~~ 21 53 23

+53 13 +52 15 +50 17

83	45 1 12.6	86	40 4 35	8.4	45 2 0.0
	1.6		54.3	8.4	50.6
	1.8		4.8		2.0
	10.0		2.6		59.7

Anyway 2' alone foll 40s

Bonn A—1

Reg 1st ∫

Reg order one star each ∫

Oct. 12, 1885

✓
θ Cephei
20 27 38
+63 37

25 4 3.7
55.3
5.3
2.0
6.3
1.58
29
A -1 3.45.

✓
73 Draco-
20 32 57
+74 34

30 0 57.8
45.2
52.7
48.2
197.9
30 49.28

✓
α Cygni
20 37 31
+44 53

✓
G 1480
20 54 0
98 43

20 2 49.1
43.2
53.3
47.1

A +1

✓
61, Cygni
21 1 46
+38 12

50 3 19.7
11.4
20.7
20.3
72.1
53 18.02

A +1 34c -

✓
Br. 2777
21 7 48
+77 40

20 4 1.8 25 0 55.9
57.3 49.4
3.4 56.4
0.9 52.6
24 ~~58.60~~ 25 53.58
0.85
~~54.98~~
52.73

f
20 42 58
+52 34

25 4 57.8
44.0
53.6
57.4
29 50.20

c
20 45 55
+50 21

40 3 57.8
45.2
54.8
52.6
20 4.4
43 51.10

A -1

✓
δ Cygni
20 52 54
+40 44

20 1 0.6
50.0
0 6
58.7
22 9 9
20 57.48

Lch 1260
21 11 40
+80 33

30 2 35.0
32.3
38.2
35.2

~~α Cephei~~
~~21 15 50~~
~~+62 6~~

Rad. 5228
21 18 4
+80 45

20 0 32.0
28.0
34.2
30.9

A 4₀ to 7₀

1885

Oct 12

✓ 1 H Draco	G 3571	✓ 74 Cygni
21 20 36	21 28 11	21 32 22
+98 10	+80 1	+39 54
55 0 35.4	0 4 4.2	10 1 19.9
28.1	1.1	9.8
39.2	6.2	18.6
34.2	3.8	18.8
137.2		67.1
55 34.30		11 16.78

DM 79° 721	20 Cephei	~~DM 88° 130~~
21 55 50	22 1 32	~~22 4 16~~
+79 44	+62 14	~~+88 16~~
15 4 52.3		
50.3		
53.9		
53.5		

✓
π^2 Cygni
21 42 34
+48 47

15 2 29.1
20.3
30.8
27.8
1080
17 27.00

✓
16 Pegasi
21 47 52
+25 23

40 1 9.8
59.3
7.6
10.4
27.1
41 6.78

Rad 2404
21 50 1
+95 32

30 4 38
56.9
7.7
2.3

A 6_0 to 1_0

✓
π Pegasi
22 4 54
+32 37

25 2 24.0
14.3
22.0
23.9
842
27 21.05

✓
ζ ~~ζ~~ Cephei
22 6 53
+57 39

25 1 16.3
7.2
16.4
14.7
546
26 13.65

DM. 83° 287
22 9 46
+96 37

25 3 38.7
32.6
43.0
38.6

A 6_0 to 4_0

Oct 12 1885

29 H Camel	30 H Camel.	DM 83°630
55 0 46.1	40 4 30.3	10 0 8.3
32.6	23.4	8.0
43.7	34.4	9.4
37.6	29.2	6.4
	A6$_0$ ω4$_0$	A$_2$ 4e-

1895hbc..proj..142OR

Holdens star

$19^h\ 19^m\ 58^s + 36^\circ\ 13'$

1885phac.proj.1420R