

KG
11366
v. 637

1871
General
Chromograph Record
From 1871, Sept. 9th. 1871, Nov. 27 A 2

Sever, Francis & Co., University Booksellers, Cambridge.

57
40

~~Isabella Montfort~~

Sept. 9 1871

a Lyrae 18 32 54

51 Cephei 18 37 42

B, Ab. 6409 52 51

B Lyrae 18 45 12

1, Lyrae 18 48 09

a Cephei 21 15 30

B Argem 21 24 45

B Cephei 21 26 59

ε Argem 21 30 50

A.B. obs.

6300

1 m b = 2 y

$$\begin{array}{r} 40 \quad 3 \quad 55.0 \\ \quad \quad 57.0 \end{array}$$

$$\begin{array}{r} 3 \quad 42.3 \\ \quad 42.5 \end{array}$$

$$\begin{array}{r} 35 \quad 4 \quad 18.7 \\ \quad \quad 12.2 \end{array}$$

$$\frac{1}{1} \text{ @ } \text{above}$$

$$\begin{array}{r} 30 \quad 2 \quad 12.8 \\ \quad \quad 11.5 \end{array}$$

$$\begin{array}{r} 2 \quad 58.3 \\ \quad 58.0 \end{array}$$

$$\begin{array}{r} 5 = 4 \quad 50.0 \\ \quad \quad 51.2 \\ \quad \quad 1. \end{array}$$

$$10 \quad 0 \quad 46.5 \quad 46.2$$

$$30 \quad 4 \quad 5.0 \quad 7.0$$

$$35 \quad 0 \quad 2.0 \quad 3.2$$

$$\begin{array}{r} 20 \quad 0 \quad 51.5 \\ \quad \quad 50.1 \end{array}$$

$$1 \quad 43.8 \quad 42.9$$

R.A. only

$$\begin{array}{r} 20 \quad 3 \quad 51.7 \quad 57.7 \\ \quad \quad \text{Reg 1st str bnd} \end{array}$$

$$20 \quad 4 \quad 34.7 \quad 30.3$$

$$45 \quad 22 \quad 36.4 \quad 41.1$$

$$3 \quad 20.2 \quad 28.0$$

1871 9 1871
 13 n Caprin 21 04 56
 2 Peyani, 07 57 + 50 17

+ Peyani 21 08 45 + 25 03

~~11 Caprin. 21 40 01 + 20 43~~

~~17² Caprin 21 42 02 48 42~~

~~20 Pey 21 54 45 + 12 30~~

$w_1 = 225$

$w_2 = 276$

25 3 57.7

4 36.5

5 0 13.3 18.6

15-04 23.9 26.8 20 0 17.2 19.2

~~Spec obede 40 1 1.1 - 3.8~~~~40 0 11.3 11.3 1 2.3 1.7~~

63.0 N.P.
 55.2 X6
 50.5 4
 30.27
 62.0

Apr 10 ~~at~~ m obs 1851
 a. Hercules 17 h 8^m
 s. his min at 14.55

B.A. 6318 at 25.52

a. Lyrae 18 32 34

51. 63pm. - at 37.42 ~~at 11.11~~

C. M. L., 1856

$$1 \text{ m } 6 \times = 171100$$

$$45-2 \quad 340 \quad 26.1 \quad 45-34,9-26$$

$$55 \quad 0 \quad 21.6 \quad 180 \quad 1 \quad 9.3 \quad 5.2$$

$$40 \quad 3 \quad 0.3 \quad 0.9 \quad 3 \quad 45.8 \quad 46.6$$

$$\text{H} 35-4 \quad 15.7 \quad 9.1 \quad 35-4 \quad 32 \quad 2 \quad 56.2$$

Collimation

$$\begin{array}{r} 46.270 \quad 46.458 \\ 260 \quad 460 \\ 258 \quad 466 \\ 262 \quad 466 \\ 254 \quad 470 \\ \hline 304 \quad 320 \\ 46.261 \end{array}$$

$$\begin{array}{r} 46.464 \\ 46.261 \\ \hline 46.362 \end{array}$$

$$\begin{array}{r} \text{MD} \quad 64.2 \\ \text{MB} \quad 62.9 \\ 41 \quad 60.8 \\ 30 \quad 18 \\ 65.0 \end{array}$$

$$\begin{array}{r} \text{d} \quad \text{b} \\ 15.0 \quad 14.1 \quad 19.5 \quad 20.9 \\ 14.3 \quad 13.9 \quad 19.1 \quad 20.9 \\ 14.0 \quad 14.1 \quad 19.3 \quad 20.7 \\ 14.5 \quad 13.5 \quad 19.3 \quad 20.9 \\ 14.5 \quad 14.4 \quad 18.8 \quad 20.8 \end{array}$$

Wol-277

Sept 11 1871

Revised

Reading of North Collimator
 before reversal

 $\odot$ $\overset{A}{0.0}$ $\odot$ $\overset{B}{0.0}$

For circle Σ measurements
 Σ & $\mathcal{G}$ are to be used. Σ =
 the lower south and $\mathcal{G}$ = upper north

Mer - Pival

Note

~~1871~~ When the East end of
the axis was raised the one head
read less

Investigation of Pivots Sep. 12/87

A. M. Obs 8 P. M. W. P.
E. P.

790 P.M.

270	33.8 33.5 33.7 33.7 33.4	M. B. Obs 310	28.5 28.1 29.0 29.2 29.3	360	28.1 28.1 27.8 27.8 27.6
280	33.0 32.7 32.2 32.0 32.1	320	27.4 27.9 28.0 28.2 28.1	10	28.5 27.2 27.7 27.3 26.9
290	31.2 31.2 31.3 31.4 30.9	330	28.0 26.0 28.1 28.2 27.9	20	28.0 28.4 28.0 27.9 28.1
300	30.8 30.6 30.5 30.1 29.8	340	27.1 28.0 27.1 26.9 27.2	30	29.7 28.6 29.1 27.8 29.2
		350	27.5 26.8 26.8 27.1 27.1	40	29.4 29.2 29.1 30.0 29.0

50

30.1
30.2
30.2
30.8
30.0

100

37.6
36.2
37.5
38.0
36.9

150

43.5
43.3
43.2
44.0
44.1

60

32.2
32.8
31.7
32.5
31.4

110

37.0
39.1
38.3
39.9
39.1

160

46.0
45.1
45.8
44.8
45.3

70

32.2
32.0
32.8
33.0
32.7

120

40.6
40.9
40.3
40.4
41.0

170

45.6
46.1
45.5
47.0
45.3

80

35.1
35.4
34.8
34.7
35.2

130

41.7
41.7
42.1
42.0
41.4

180

45.0
46.0
47.1
47.0
46.9

90

36.1
35.9
35.0
35.8
35.6

140

43.0
43.0
44.0
43.2
43.3

190

46.2
45.8
46.3
46.7
47.0

20V

45.2
45.7
46.0
45.0
45.6

21V

37.2
37.1
37.3
36.8
38.2

21U

45.6
44.8
45.0
45.0
44.7

26U

36.6
36.9
36.4
35.3
36.0

22U

43.0
42.9
43.2
43.3
43.0

27U

34.0
34.6
34.5
34.3
34.3

23U

42.6
41.0
40.2
42.0
40.5

24U

40.5
39.3
39.0
39.4
40.0

From 90° to 270 nearly due West

W.A.R

790 P.M. Screen h. below

270

34.8
34.0
33.8
33.5
34.0

310

29.7
29.2
29.7
29.1
30.3

350

28.2
28.0
28.1
28.0
27.2

201

148.4
29.68

400
28.00

280

34.02
32.8
33.0
34.0
34.5
34.4

320

30.0
28.8
28.1
28.9
28.9

360

26.8
26.9
27.8
27.0
27.8

290

15.9
33.18
31.9
31.0
31.1
30.9
31.3

330

144.7
28.94
28.5
27.2
28.2
28.2
28.2

10

30.3
37.26
27.8
26.4
28.1
27.0
27.1

300

6.2
31.24
30.3
30.3
31.1
31.1
31.2

340

40.3
28.06
27.7
27.7
27.0
27.0
27.3

20

36.4
27.28
26.9
28.0
27.9
27.8
28.9

4.2
30.84

1.7
27.34

37.5
27.90

30

28.5
29.5
28.2
28.2
28.2

42.6
28.52

40

28.0
29.0
29.5
28.9
29.4

44.8
28.96

50

30.6
30.5
30.2
31.1
31.4

34.3
30.86

60

31.6
31.0
34.4
31.9
32.0

49
31.58

70

32.1
33.1
33.3
33.2
33.1

14.8
32.92

80

34.8
33.1
34.4
34.2
33.2

19.7
33.94

90

35.0 35.0
35.3 35.3
34.7 34.7
34.7 36.1
34.9 36.3
34.0

23.9 27.4
34.78 35.48

100

39.2
38.4
38.4
38.0
37.3
41.3
38.26

110

39.3
40.3
39.2
39.3
39.0
19.71
39.42

120

42.3
41.0
41.0
42.0
42.0
48.3
41.66

130

43.1
43.6
42.9
43.0
43.0
15.6
43.12

140

44.1
44.1
43.8
44.8
43.3
20.1
44.02

150

44.4
44.8
44.7
44.7
44.9
3.5
44.70

160

46.1
46.0
45.2
45.7
45.7
28.7
45.74

170

46.2
46.9
46.0
47.2
46.1
32.9
46.48

180	45.7	1	230	41.9
	46.9			41.8
	46.0			41.5
	46.1			41.0
	46.2			41.1
	<u>9</u>			<u>23</u>
	46.18			41.46

190	45.4	1	240	39.5
	46.2			39.4
	45.5			40.2
	45.6			40.0
	46.2			39.3
	<u>279</u>			<u>284</u>
	45.58			35.68

200	45.5	1	250	38.0
	45.4			37.8
	45.7			38.0
	45.7			38.0
	46.2			37.9
	<u>285</u>			<u>39.7</u>
	45.70			37.94

210	44.5	1	260	37.1
	43.5			36.1
	43.3			36.9
	43.2			36.3
	44.1			37.1
	<u>186</u>			<u>235</u>
	43.72			36.70

220	43.2	1	270	35.5
	42.4			35.2
	43.2			35.7
	42.5			35.5
	42.5			35.5
	<u>138</u>			<u>24</u>
	42.76			35.48

Screwhead South

A.M. Dr.

 $P = 1.650$

270	603 641 628 637 634 <u>173</u> 6346	320	580 587 583 584 550 <u>424</u> 5848	10	517 510 508 503 518 <u>156</u> 5312
280	634 635 628 636 630 <u>163</u> 6326	330	597 590 580 583 583 <u>433</u> 5866	20	509 570 500 503 502 <u>14</u> 5028
~~290~~					
290	629 613 629 610 625 <u>97</u> 6194	340	565 568 580 567 573 <u>813</u> 5706	30	492 486 490 487 500 <u>2455</u> 4910
300	620 628 630 610 620 <u>98</u> 6196	350	548 558 553 540 543 <u>242</u> 5484	40	487 484 480 480 490 <u>481</u> 4842
310	613 611 613 600 603 40 6080	0	537 535 534 527 520 <u>5306</u>	50	475 483 482 478 478 <u>396</u> 4792

60

462
468
470
464
453

317

70

4634

460

464

458

467

461

310

4620

80

455

464

470

460

471

320

4640

90

473

456

468

450

463

310

4620

100

463

457

454

460

462

256

4592

110

445

457

448

452

461

263

4526

120

461

470

471

460

464

326

4652

130

466

462

452

462

470

312

4624

~~120~~

140

478

477

476

482

471

384

4768

492

487

480

486

480

480

160

509

515

518

502

509

53

5106

170

532

541

533

530

529

165

5330

551

568

561

550

559

255

5550

572

564

563

572

574

335

5670

590

583

592

589

588

442

580

190

478

477

476

482

471

384

4768

492

487

480

486

480

480

200

280

210

606
610
.607
.603
608

220

34
6068

645
622
621
626
621

105
6210

230

635
628
631
634
628

176
6320

240

640
637
628
641
630

176
6352

250

652
640
640
632
634
34
208
6416

260

643
630
641
642
630

186
6372

270

635
632
634
635
640

176
6352

Reading of count.
of 271 = 00

WRA2 Screen read from P = 169

270	4.	49.8	320	47.0	10	40.7
		50.5		46.7		40.4
		50.8		46.5		40.0
		50.6		46.2		40.3
		50.9		46.9		40.0
		2127		33.3		40.28
		2052		46.66		
280	4	51.5	330	45.7	20	39.1
	1	51.6		46.6		39.0
		51.6		46.1		38.7
		51.6		45.4		40.3
		51.0		46.0		39.1
		23		29.8		36.2
		51.46		45.96		37.24
290		51.3	340	45.0	30	38.2
		51.0		44.0		37.2
		51.3		45.7		38.2
		51.6		45.4		38.1
		51.0		45.3		38.0
		12		45.08		39.7
		51.24				37.94
300		49.8	350	43.3	40	37.5
		49.5		44.1		37.0
		50.0		44.1		37.0
		49.0		44.2		36.7
		49.5		43.8		37.5
		247.8		19.5		35.7
		49.56		43.90		37.14
310		49.8	360	43.0	50	35.6
		49.8		42.0		35.3
		49.9		42.7		36.1
		49.3		43.1		35.0
		48.3		43.0		36.9
		471		13.8		28.9
		49.42		42.76		35.78

60	35.2 35.4 35.9 35.5 35.6 2.6 35.52	110	31.0 32.5 32.8 33.2 31.8 11.3 32.26	160	36.9 36.8 35.8 35.6 36.4 31.5 36.30
70	34.0 34.2 33.8 33.8 34.6 20.4 34.08	120	33.4 32.0 32.8 32.6 32.8 13.6 32.72	170	37.6 37.4 37.8 36.5 37.8 37.4 37.48
80	33.7 33.3 34.1 34.9 34.1 1 34.02	130	33.9 33.3 32.9 32.5 34.0 16.6 33.32	180	39.9 39.8 39.2 40.2 39.2 38.2 37.66
90	32.8 33.0 32.8 32.6 33.6 4.8 30.96	140	34.6 33.6 34.8 33.2 34.6 20.8 30.16	190	41.0 39.8 41.8 42.1 41.2 20.59 41.18
100	33.2 33.8 33.3 33.6 33.6 2.5 33.50	150	35.7 35.7 35.3 35.8 35.8 3.3 35.66	200	42.8 42.9 42.6 43.2 42.7 14.2 42.84

210

45.8
44.9
44.5
45.2
45.5
239
44.78

220

45.4
45.2
45.2
45.2
45.0
10
45.20

230

46.2
46.2
47.4
46.8
46.7
333
46.66

240

46.2
46.5
46.6
46.1
46.8
22
46.44

250

47.2
46.9
48.0
48.2
48.1
394
47.88

260

47.8
48.5
48.0
48.7
48.6
416
78.32

270

47.4
48.8
48.7
48.9
49.0
428
48.56

Sep 15 1871

N 6

46408

1352

408

355

410

2017

46404

46,230

200

200

215

215

50

46,210

404

614

46,307

General

$b = +0.5^{\circ}$

1871 Sept 17

46.913

Sept 14/51 224R

13 Lyrae
18 51 18

3 Aquilae
18 59 28

3 Cygni 21 7 29

7 Cygni 21 9 41

0 Cygni
21 12 24

1st 42 = 1 m 6,

35- 1 23.4
30.7

35 2 9.2
15.6

40 2 2.7
15.3

40 2 58.2
9.1

7.5
Mid

40 1 26.0 Mid 82
36.7

50 2 57.2
64.9

3 53.1
62.1

30 1 27.8
36.5

2 29.4
38.1

1871 Sept 14th
 $\propto$ Capricorn 21 15 36

 1 Drac H L. 6 mid gr
 21 18 06

 6 Capricorn 21 21 24

 Selling hormid⁵

20 0 49.7 1 26.0
56.8 33.2

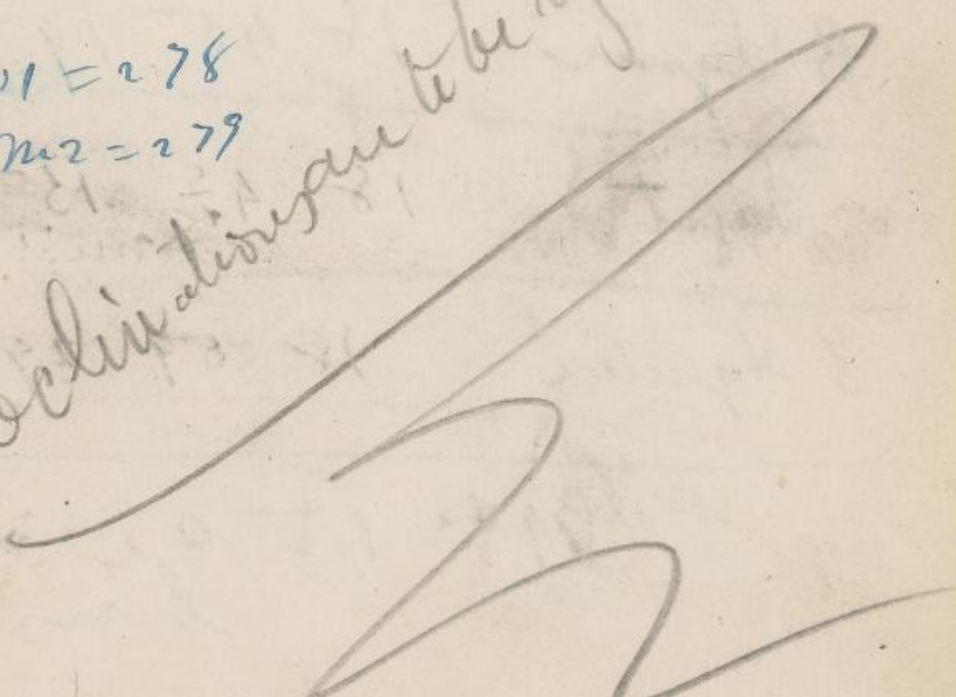
15 3 24.7
37.3

21 23 —

$$m_1 = 2.78$$

$$m_2 = 2.79$$

The declination is to be neglected



(X - T) - in July 5

1871 Sept 17th

A.M. Obs

18 11 0 7 m

5 m min Three wires mid
low power - changed to day

1 Aquilae ? - 18 28 11 List

2 Lyrae 18 32 34

57 Cephei H

3 Lyrae 18 45 19

or Sagit. 18 47 15
mid gr

3 Aquilae 18 59 29

19 1 0
lim $\mu = 2.8$

Note C read 46.913 C=
Sept 14 46.307

Sept 18 1871

J. W. R. D. S.

Collimation

N. B.	S. B.	<u>After Adjustment</u>	
46.557	45.613	46.280	46.304
930	616	291	287
931	600	289	293
948	596	280	284
942	598	291	283
248	3023	431	1477
46.9496	45.6046	46.2862	46.2954
	46.9496	12954	
	125542	5816	
	46.277	46.2908	

a, Mercuris 17 8 46 A. R. only.

a. Op. 17 28

S. B. 1 m. C. = 18 03

2 Lyrae 18 32 34

57 Lyrae H

40 0B 55.3
48.2

40 3 41.9
49.3

40 0 -3.1 35-4 26.2
35 4 10.3 39.8

1871 Sept 18th

19 16

9 Leysni 21 24 41

Blaphui 21 26 59

marked 21 30

74 Leysni

Seung bad

25 0 19.7
31.8

1 15.0
24.8

20 4 31.8
41.4

25 0 15.3
23.2

30 3 24.2
35.2

30 4 16.1
26.1

Nb 52.5

WP 58.9

No 4 46.4

30.10

61.0

W. 1 = 281

2 = 282

3 = 283

Sept. 21

WASP Obs. Gb

WASP Obs. 30m

in Serpens. AB only

5 hrs. Min. ABC
2

BAB. 6018

Seeing bad first part of the
night - good after

γ Cygni 21^h 24^m 41^s

β Cygni 21^h 26^m 57^s

74 Cygni 21 31 42.

13 Cygni H 21 34 58.

1 mb - 18 08

 $\Sigma \times 9 \times E = \text{dos.}$ ~~55~~ 0 15.7
27.6 Ry ✓56.2 8P
46.3

20	4	37.2	~~25~~	0	22.8
		35.7			19.5

20	3	46.2	4	33.0
		48.2		35.3

30	2	52.2	30	3	44.3
		48.9			41.0

25	3	46.1	4	31.5
		46.1		32.7

Sur 21
AP 562
nb 463
no 411.5
Bar 3032
55.2

no. 1 = 285
2 286
3 287

111

Sept 23 1971
 at A R Das to N Ceph

α Cygni

13 Lyrae 14 51

γ Draco 19 12

χ Cygni 19 14

β Cygni 19 26

ϵ Cygni 20 40 59 $2p+6120$

η Ceph 20 42 40 57 07

lsb.

(nick)

(Microscopic
 Containing
 Fe
 Fe
 Fe)

15 1 49.8 9.9 15 2 31.7 52.9

sem 22 ¹⁸⁷¹ Am Obs from this

22 bygn 20 52 25

11 bygn 21 01 06

3 bygn 21 72 9

7 bygn 21 9 41

a bygn 21 15 36

5 bygn 22 24 23 + 57 45 Sp

7 Lacertae 22 25 58 49 37

31 bygn 22 32 35 + 72 18

~~10 Lacertae 22 34 05 + 76 55~~

30 bygn

790 - waving 21 51 16 + 73 04

point-

15 3 42.7 2.9 15 4 31.5 3 57.3

(R.D. 577 Sept 23
 n.b. 577
 nvy 67.1
 Bar 29.76
 WH 62

No 1-290
 2-291

Sept 22 1871 A M 7.

3 bygn 21 726 + 2542

Gr. 3415- 21 831 + 5927

Set - Runa & C

g bygn 21 2441 + 4558

P bygn 21 2659 + 7000

bygn
74 bygn 21 2147 + 3950

Obs Rec.

Runs

40 49.3 43.8

20 4' ^{41.5}
35.1

circuit failed

Sept 22 A.M.

13/6 Cygnus 21 34 58 + 56 54

11 Cygnus 21 42 02 + 48 43

16 Pegasus 21 47 13 + 25 19

79 Draco 21 51 16 + 73 04

a Aquarius 21 59 11 = 0 56

11 Pegasus 22 03 33 + 32 33

40 0 21.8
16.3

0 3 34.3 27.3

15 3 10.0 8.2

15 4 2.3 3 50.0

50 0 240 21.0

12 h 5 m OS
nl 51.0
20 55.0
42.8 No 4

50.0 At
30.20 Bar

16.8	16.5	}	7.2	7.3
16.7	16.8		6.9	6.5
17.2	16.3		7.0	7.1
17.1	16.4		6.8	7.2
17.0	16.3		7.4	7.1

$W_{01} = 288$

$W_{02} = 289$

Apr 24 1871 YARR

a Lyra 18 32 34

51 Capricorn Rong.

13 Apr 18 51 18

Σ Argem

Runs

G F

85	70	371	370
78	71	371	380
81	71	376	374
93	71	376	382
82	76	376	382
			37.8

Σ P 62.5

n l 65.0

W 4 67.1

Ban 79.77

HYM 67.1

2212 1mbx = 1826

40347,3 15.0

~~303215 25.0~~

35- 158,9 26.0

25- 427,8 58,6

lmb = 2059

m1 = 272

Collimation

46.305 46.258

255

251

258

241

309

241

307

261

46.303

46.250

46.277

Sept. 25 1871

From this date the
 strokes are read for in
 crossing readings of the
 screw head and in cross
 in North 2. distance

Note. Instead of the above rule
 the following rule takes place
 as more convenient.

The stroke will be counted in the
 same direction as in the previous
 position of the instrument; e. e.
 in the opposite direction of the motion
 of the thread for an increasing
 motion of the screw head. By the
 degrees are desired, the reading
 in degrees must be subtracted
 from 360. This will give South 2. D.

Setting for runs + 2° 18' 5

Sept-25-86.

Level

E

W

492

499

500

492

500

491

480

503

503

491

458

540

449

551

445

551

462

532

400

541

4859

5191

4857

5191

4857

13.34

11.67

167

1.8

141.6

109

Sept 25

Runst

429 418

430 420

430 421

431 422

429 426

H

150 151

152 148

154 148

155 156

153 151

90630

nb 570

204520

bar 2986

att. 64.0

2.93
no1 -

1871 Sept 27th

19 44 -

1 hrs Min

Mid + 2 fol

21 40 -

Rms

34.1	33.1	4.0	4.6
33.3	33.3	3.7	3.7
34.5-	33.8	3.9	3.9
33.8	33.8	4.0	4.1
34.2	33.6	3.9	3.8

60.1 E.P.

53.5- N.B.

48.2 No 4

29.75-

61 A+

No 1 = 294

46. 278

Look stopped at 1st w Sept 27
no camera assigned. Set it about
6th foot.

1871 Sept 28

h Cephei 20 42 40.

~~h Aquarii~~ 20 40-44

32 Vulpec 20 45 05

L. Cygni 20 52 25-
20 54 0

W. R. observes title

Am. obs. from 20^h 58^m

on this morn.

2 Aquarii 21 04 04

Am. here stopped observing
to fix the E. Chronograph. W. R.
goes on with h.c.

15 2 13.3
35.8

2 41.5
1.5

2054

3- 1 21.5 34.8 52.4 9.9
2.8 45.1 16.5 45.3 2 8.1 34.9

$m_1 = 295$
 $2 = 296$
 $3 = 297$

Jan 28 1871 4 PM Dr.

~~5 Baph~~ 22 24 20
~~5 Baph~~

7 Locustae 22 25 58

~~5 Pegasi~~ 22 34 04
~~30 Baph~~

~~11 Pegasi~~ 22 36 57

13 Lacertae 22 38 20

11 Pegasi 22 40 19

11 Pegasi 22 43 46

~~11 Baph~~ 22 45 05

11 Androm 22 55 59

11 Pegasi 22 58 31

~~11 Pegasi~~ 22 58 20

11 Baph 23 03 48

11 30 77 23 07 25

l.m.b. = 23 09

b = 48

2434

2194

4 1290

60

E W
57.0 57.5

55.9 57.9

64.0 52.7

66.5 49.0

2434 2194

35- 3 350 545 460

45- 1 393 587 2 272

25- 4 126 368 4 628 224

10 4 612 244 15- 0 574 208

30 0 117 433.4 3,2 26.2

25- 2 13 25.7 4 00 23.6

45- 0 396 20

0 0 188 429 1 132 860

- 40 2 564 139 3 510 9.7

- 55- 350 537 2 263 45.0

ED = 582

Nb, 500

Nb, 461

Ban 2952

Att 558

6 count
with N. 37
23

Aug

adjusted measures

1871 Sept 29

 α AquariiNorth Clock
in CircumII " "
226 Cephei B λ Aquarii α Pisc Austr.

B Pegasi

 α Pegasi lost 1st wire

o Cephei

+ Perseus

x Cephei

55.2 E.P.

47.0 NC

No 228
No 229 Σ

W

~~73.1~~

45.0

65.4

53.1

61.1

56.9

53.8

64.8

54.7

63.6

235.0238.4

235.0

3.4

0.8

5875

5960

5875

2105

42

b = 1.33

1871 Sept 30

$$C = 46.258$$

$$b = 1$$

E	W
53.0	68.0
53.2	67.7
68.1 R	52.0
67.4	53.0

$$\begin{array}{r} 241.7 \\ 240.7 \\ \hline 1.0 \\ 0.2 \end{array}$$

~~Sept 22 1871~~
~~22 1871~~
Nov 1871

$$60425 - 60.175$$

$$\begin{array}{r} 60425 \\ 125 \\ \hline 2 \overline{) 250} \\ 12 \\ \hline \end{array}$$
$$b = -.10''$$

$$\begin{array}{r} 106 \\ 53 \\ \hline 3093 \end{array}$$

S.E. 0 53 0 sec
N.E. 53 53 29.07

1871 Sept 30

20h 59m 0 N.B.

20h 0 m20h 2m 0s 1m S.B.S.B. ^h 22 ^m 46 ~~10.0~~ 22 46 00N.B. 22 46 31.0 22 46 29.06

Am. obs. by b.

20 44 0 } S.C.

20 45 0 }

22 48 0 1 m N.B.

SEP 30 1871 ZMR

~~Androm~~ ~~|||||~~

comb = 23 46 full.

a Cassiopeia 2 3 47 57

u Perseus 23 52

B bars 0 2 18

γ Reg + 006 35

l beta + 0 1250 - 9 35

level

9	4W		
592	634	5736	5092
621	610	5920	6365
610	620		59.20
642	597		445
570	650		22
577	651		11.2
562	664		+ 18
567	663		

β Cent
 & Androm

B 82 04255

2 bars 04856

~~u Androm 04936~~

ml $\neq$ = 0.52

2 Piscum 056 14

β Androm 1 02 30

T Piscum

Pulvis

001-3 187 1

N b. Lb.

46.354	46.130	46.358
360	139	46.139
361	138	<u>490</u>
350	140	46.248
<u>364</u>	<u>146</u>	
284	193	
35780	1386	

35
 Gb. obs. with S. b. n m
 AM recorded till 23 2

MAR descended throughout.

Level		Level		Level	
E	W	E	W	E	W
557	502	520	500	530	522
561	49.3	536	521	528	528
481	57.3	48.0	526	512	542
<u>445.0</u>	<u>57.3</u>	<u>48.1</u>	<u>568</u>	<u>515</u>	<u>504</u>
2073	2141	50.78	5470	5790	5305
5182	5352		<u>5078</u>		<u>5150</u>
	5182		7092		<u>7115</u>
	<u>2170</u>		196		<u>58</u>
	85	85			
	196	196			
	339	339			
	113	113			
b = +18		b = +15.1		b = +4.6	

adjusted level between each set

001-31871

$$M_4 = 57.6$$

$$B_{\text{arr}} = 29.752$$

$$\text{MTH} = 600$$

$$M_1 = 301$$

$$M_2 = 302$$

42
151
265
88
106

Oct 4 1871

WSPR obs. reads Gb.

WSPR attempts a run
but fails on account of
the circuit

S.M. begins to obs. Gb.

at $244^{\text{h}^{\text{m}}}$ And ends at $22,0$ WSPR obs. Gb from
comb for No. 2 = 22 13

1st m to 22 16

oct 4 1871
level mark

am.

e w

50.8 54.1

51.7 53.1

53.7 51.1

52.9 51.6

91 99

51.82 51.98

51.82

2 1.6
0.08

6 1.06

e w

52.0 52.9

53.2 51.3

~~53.0~~ 54.2

53.0 51.2

112 66

52.24 51.32

51.32

4 92

46

6 -35

nb 58.6

ep 55.1

mw 53.8

Bar 29.80

am 62.0

$L = -0.2$

No 1 = 303

No 2 = 304

23 = 305

July 12

E	W
52.1	51.9
57.1	53.6
56.0	48.2
56.2	47.7

154	2014
53.08	50.38
52.35	

$\sqrt{2.73}$
 $\sqrt{1.36}$

$b = -1.36$
 -1.08

$+0.6$
 -5.5
 -1.04

$+0.6$	$+1.0$
-1.08	-3.5
$\frac{1.02}{1.02}$	$\frac{2.5}{2.5}$
-5.7	-1.2
$\frac{1.2}{1.2}$	
$\frac{6.3}{6.3}$	

$b = -3.1$

Aug

E	W
50.0	54.1
50.5	54.0
55.0	49.2
53.9	50.2

$\frac{94}{94}$ $\frac{2085}{2085}$

51.85 52.72
51.85
 $\frac{4.024}{4.024}$
.12

$b = +1.0$

136
-12
-148
-74

01 23 20

Oct-5-1871

Observations for level

~~46.327~~
~~325~~
~~32~~
~~31~~
 Σ Σ Σ Σ Σ Σ

487	469	438	508	521	447
488	468	437	510	499	450
451	456	500	450	480	517
437	510	458	451	431	510

260

1943

46.68

47.98

46.62

48.10

46.68

48.58

 $b = +54$ $b = +59$
 $b = +80$
 1.90
 1.30
 1.48
 95
 65
 74
 234
 -78
mean $b = +64 = +04$

Before taking these level readings I discovered that - the level frame was unstable in its bearings. This will undoubtedly account in part for the discrepancies in the readings of previous nights. The deficiency is now remedied.

Collimation Dec-5-

N.Ce Blo-

46827	46.146
~~4~~ 328	142
318	145
325	142
320	143
46.325	46.144

C8el 01-46.235-

no 1 = 306

2 = 307

Oct 5 1871 WMR obs.

1 mb = 18.47

Obs. of zone
obs of sb. tier

Level

<u>R</u>		<u>AM</u>	
E	W	E	W
~~52.1~~	~~47.6~~	44.5	55.1
52.6	43.0	43.4	56.1
55.0	44.6	54.4	45.1
44.1	54.9	55.0	44.5
44.1	55.0		
199.8	197.5	197.9	200.8
499.6	498.8	494.8	502.1
5--31	3'35	29	2"9
	58		736

Jul 1948

Procc II

Vol 2 = 306
307

$$\Sigma P = 59.1$$

$$N.b. \quad 59.8$$

$$N.L. \quad 59.8$$

$$29.94$$

$$64.2$$

$$b = 0$$

$$\begin{array}{r} 4948 \\ 4986 \\ 49.38 \\ + 58 \\ \hline 5020 \\ - 072 \\ \hline \end{array}$$

Σ R W

$$53.9 \quad 45.5$$

$$54.0 \quad 44.9$$

$$43.2 \quad 55.9$$

$$43.0 \quad 55.7$$

$$\hline 194.1 \quad 202.0$$

$$48.52 \quad 50.05$$

$$+ 1.53 \quad 48.52$$

$$+ .76 \quad 7.9$$

$$b = +32$$

oct 8 1871

n b

46 348

340

219

340

344

221

46.344

46,174

46.259

46,172

183

172

173

171

371

174

1 mbx- ~~18~~ 5-3=19 03

WARR des glo. lée
 am des glo. fm 20 54
 tie 22 10
 WARR des fm

Runs

18.5 17.9
 18.1 17.5
 18.1 18.4
 17.7 18.0
 17.7 18.6

20.9 20.3
 21.2 20.2
 21.2 21.1
 21.1 20.5
 20.1 20.8

MAR

E W
 72.5 39.1
 70.4 40.2
 41.6 69.8
 43.5 68.2

22 8.0 2178

217.8
 5-700
 5-445
 21255
 127
 10.2
 1.28

MAR

E W
 54.0 56.4
 53.8 56.7
 58.7 51.8
 57.5 52.9
 240 178
 56.0 52.45
 54.45
 155
 77

MAY R

E W
 55.0 56.1
 55.1 56.1
 57.2 53.6
 57.3 53.2

2246 2190

56155-5445
 5445
 2140
 127
 70

M 6 53.2
 20 55.0
 M 4 48.5
 Ban 30.07
 M 58.5

M 1 = 308
 M 2 = 309

-70
 -73
 -73
 6-60

set 9 1821

WRR obs lib tree

AM. obs lib. for

emb = 21 21

1 mb = 21 24

AM. obs. 3000

AM. obs. lib. for 22^h 22

WRR obs lib. for 22 45

n b
2 p

Nov 4 56.1

Bar 322

AM. 673

m1 = 310

m2 = 311

20 37

20 41

400

W.M.

tail 22 45-

E

W

52.3

51.0

53.1

49.6

48.0

53.1

49.1

53.7

Σ 02.5

2094

202.5

6.9

0.86

6 + .69

6 = -0.3"

E

W

488

529

490

551

568

459

570

460

2096

2019

201.9

9.7

-1.96

- .77

Oct 9 1871
Level

AM.

E W

588 432

589 449

47.0 56.1

46.5 55.8

2119 2000

2000

113

1.41

-1.13

AM.

E W

48.8 54.6

49.0 53.2

54.1 47.8

53.3 48.8

20.5.2 2044

204.4

8

1

-0.6

-1.13

-77

+69

1.98

69

4 1.29
-32

Oct 7 1871

MR Obs. l.b. from 21^h 35^m to 21 46
 AM Obs. l.b. from 21 48^m to 22 26^m
 A.M. Obs. from
 AM Obs. l.b. from 23 16 to 23 31

1871phae.proj.1641M

1871phae.proj.1641M

Oct 12 1971

Level of
~~Mr. R.~~ Σ

W

$$\begin{array}{r} \{ 48.9 \\ 49.2 \\ 45.9 \\ \hline 46.4 \\ 30.0 \\ \hline 47.50 \end{array}$$

$$\begin{array}{r} \{ 49.1 \\ 49.0 \\ 52.9 \\ \hline 52.3 \\ 2033 \\ \hline 5082 \\ 4950 \\ \hline 113.22 \\ \hline 1.66 \end{array}$$

$$b = +1.32 \\ = +0.9$$

 Σ

W

$$\begin{array}{r} 45.7 \\ 45.0 \\ 53.0 \\ \hline 52.1 \\ \hline 1958 \\ 48.95 \end{array}$$

W

$$\begin{array}{r} 52.9 \\ 53.8 \\ 45.9 \\ \hline 49.0 \\ \hline 1996 \\ 4990 \\ 4895 \\ \hline 2155 \\ \hline 4.7 \\ + 3.8 \\ \hline +0.8 \end{array}$$
 Σ

W

$$\begin{array}{r} 52.0 \\ 52.1 \\ 43.2 \\ 43.1 \\ \hline 1904 \\ 47.60 \end{array}$$

$$\begin{array}{r} 47.0 \\ 47.0 \\ 55.9 \\ 56.0 \\ \hline 2059 \\ 57.48 \\ 47.60 \\ \hline 2388 \\ \hline 1.94 \end{array}$$

156

$$\begin{array}{r} +1.32 \\ +1.38 \\ \hline +1.56 \\ \hline 21306 \\ \hline 1.02 \end{array}$$

$$+80.8 \\ b = +0.53$$

$$\begin{array}{r} 16.6 \\ 47 \\ 213 \\ 1.01 \end{array}$$

~~Oct 12 WAR Ds~~
~~Σ Dec Min 20 27 + 10 54~~
~~Q Cygn 20 27 28 + 62° 34~~
~~B Dec Min. 20 31 32 + 14 09~~
~~a 11 20 33 40 + 15 28~~
~~a Cygn 20 37 04 + 44 49~~
~~γ Dec Min 20 40 41 + 15 39~~
~~ε Cygn 20 44 02 + 33 29~~
~~γ 6~~

1871 Oct 12th
 A.M., Ds., I.R. only.

Σ Cephei	21 ²	15 [~]	29. ⁸
B "	21 ²	26 [~]	59.
γ 1 Cygni	21	31	46
ε Pegasus	21	37	50
κ " "	21	38	48
	mid	fr	clouds
11 Cephei	21	40	1.
16 Pegasus	21	47	1.

~~3 er 45~~

i Pysasi

22 1 0

24 "

22 3 31

3 Cephei

22 6 22

y Aquarii

22 14 59

E W

45.0 68.2

45.0 68.3

67.8 45.0

69.0 43.2

22 68 22 47

56 70 56 18

d Pysasi

22 40 19

w Pegasi

22 43 42

v Cephei

22 45 5

22

22 53 -

O Androm

22 55 59

B Pysasi

22 57 31

TT Cephei

23 3 48

Br 3072

23 7 4

x Perseum

T Pegasi

23 14 15

1871 Oct 12th

4 Cass 23 19 7

70 Pegasus 23 22 38

72 Pegasus 23 27 33.

γ Capricorn 23 34 4

23 43 —

It is evident that
the level changes
in descending.

E	W
34.8	78.1
34.6	77.5
78.0	34.1
79.2	32.5

2266	2222
------	------

5665	5555
------	------

5555

7110

68

-44"

1

No 1 = 312

No 2 = 313

E	W
79.5	32.0
79.5	32.0
25.0	85.0
26.2	84.9

2112233.9

5280 5842

5880

+560

-110

450

+225

1871 Oct 13

20^h 50^m.

A.R. only.

North Clock

61	Cygni	21	1	7	
4	"	21	7	27	
2	Cygni	21	9	22	
2	Cephei	21	15	30	
B	Aquarii	21	24	46	
B	Cephei	21	26	59	
74	Cygni	21	31	47	
2	Pegasi	21	37	50	
11	Cephei	21	40	1	Midgr
11	2 Cygni	21	42	1	
16	Pegasi	21	47	11	
20	Pegasi	21	54	48	
L	Pegase	22	1	0	
3	Cephei	22	6	22	

North Clock

7841 Oct 13

E	W
~~58.7~~	~~57.5~~
~~58.0~~	~~58.0~~
61.2	47.0
60.3	48.5
48.0	60.8
<u>48.0</u>	<u>61.0</u>
217.5	217.3
54.32	54.32
$b = 0$	

E	W
49.0	60.0
48.0	60.8
63.0	45.8
63.0	45.8
<u>223.0</u>	<u>212.4</u>
212.4	55.5
<u>10.6</u>	53.10
	<u>2.61</u>
	30

22

56

$$\begin{array}{r} 682 \\ .0 \\ - .65 \end{array}$$

$$\begin{array}{r} b = +100 \\ +104 \end{array}$$

$$\begin{array}{r} b = +55.2 \\ = +103 \end{array}$$

B Pegasi

π Cephei	23	3	48
--------------	----	---	----

Bz 3072	23	7	4
---------	----	---	---

χ Pismum	23	10	28
---------------	----	----	----

4 Cass	23	19	7
--------	----	----	---

70 Pegasi	23	22	38
-----------	----	----	----

72 Pegasi

γ Cephei	23	39	—
-----------------	----	----	---

7871 Oct 13

E	W	E	W
68.0	43.2	43.0	68.4
68.3	43.0	42.8	68.8
43.0	68.2	69.0	42.1
42.3	69.0	69.8	41.0
<u>221.6</u>	<u>223.4</u>	<u>224.6</u>	<u>220.3</u>
	<u>221.6</u>	<u>220.3</u>	
	1.8	4.1	
	+ .22	- .52	

$$\text{Nov 1} = 314$$

$$2 = 315$$

$$b = +18$$

$$- 42$$

$$= -24$$

$$b = -12$$

$$= -01$$

$$5-290$$

$$55.85$$

$$\underline{2.95}$$

$$+1.47$$

$$56.15$$

$$55.01$$

$$\underline{-1.14}$$

$$- .57$$

$$+1.47$$

$$\underline{.90}$$

$$+.45$$

7871 Oct 14th

Sl

61 Cygni 21 1 7 mid gr

3 Cygni 21 7 29

T " 21 9 38

2 Cygni 21 13 29

B Aquarii 21 24 46

B Leporis 21 26 59

74 Cygni 21 31 47

39 50

11 Leporis 21 40 1 mid gr

112 Cygni 21 42 2

16 Pegasi 21 47 11

20 " 21 54 48

2 Aquarii 21 59 9

L Pegasi 22 1 0

3 Leporis 22 6 0

North Clock

y Aquarii 22 14 59

~~22 16 0~~

1871 Oct 14th

E	W	E	W	
71.2	38.1	33.5	73.3	at 9 ^h 15 ^m MTT 53.50 53.12 53.18 2.09 6.707
72.9	34.0	32.2	74.1	
32.8	74.0	72.7	33.8	
32.0	74.8	74.1	32.0	
<u>2087</u>	<u>2179</u>	<u>2125</u>	<u>2132</u>	
5218	5448	5312	5830	
1	22	46		

5218
1445
7/200
115

no obs from this point

$b = +92$
 $\frac{99}{99}$

$b = +50$	50.1	57.6
$= +03$	51.1	56.5
	54.1	53.5
<u>533</u>	<u>539</u>	
86	215	

5438
5215
2/323
1.61

at 10^h 30^m MTT

$b = 12.9 = +0.8$

1 mb = 0.20

$b = +0.4$

no. 1 = 316

no. 2 = 317

12 beti $\frac{00174}{02326} - 439$

x bars 0 25 40 + 62 13

Hy Ande 0 29 58 + 33 01

2 Ande 0 31 44 + 28 37

S Ande 0 32 25 + 30 09

a bars 0 33 11 + 55 50

a bars 0 37 02 + 47 34

z .. 0 40 29 + 23 29

z .. 0 41 17 + 57 08

j Pisc. 0 41 58 + 6 53

B AB 820 ~~42 54 + 63 32~~

8 bars 46 56 + 60 01

u Ande 0 49 35 + 37 48

9 Pisc 0 56 15 + 7 12

B And. 1 230 + 34 56

P. Psc 1 433 + 25 24

Palano.

core

myr.

Good

clouded up
 June 21 - 11h, 15^m

E	W
490	584
487	576
570	489
576	488
<u>2133</u>	<u>2133</u>
5332	5332

W1 = 3 lb

2 = 31)

b. sum = 64

b = 00 }
 mean value = 4.04

Oct 15 Gene

E W E V E W

490	411
471	407
380	520
390	486

4535	4287
------	------

 $b = +140$

400	410	428	413
351	381	438	430
450	324	427	445
455	413	434	405

4250	4485	4318	4410
------	------	------	------

 $b = +98$ $b = +37$ $mumb = +.78 = +.05$

WAD obs.

Broken observations on
account of clouds. Bod.

No. 1 = 318

No 2 = 319

Comparison of Clocks Oct-14-15-16

4 ~ S.B. N.B. Ch.
 12 11 0.00 - .0067 + 0.00
 14 11 0.00 - .058 + .240
 14 16 0.00 - .064 + .240
 15-16 0.00 - .044 + .310
 16 16 0.00 - .034 + .410
 16 28 0.00 - .008 + .462
 17 28 0.00 + .018 + .566
 18 18 0.00 + .016 + .618
 18 20 0.00 + .018 + .626
 19 20 0.00 + 0.00 —

20 07 0.00 + .014

23 13 0.00 + .157

30 35 0.00 + .338

10 44 0.00 + .326

11 44 0.00 + .337

13 50 0.00 + .366

14 28 0.00 + .375

Oct-14

Oct-15

Oct-16

oct-16 1871

WAR obs. b.b. from 19.11

WAR obs b.b. from 20.13

WAR obs ~~from~~ ^{zone} 21^h 50^mWAR obs b.b. till 21^h 50^m

AM obs b.b. from 21.59

AM obs zone from 22.29

AM obs b.b. from 23.14

Lenee

WAR

AM

2

W

57.9

58.0

58.0

58.0

58.4

57.1

59.4

55.4

37

5285

57.92

55.70

55.70

112.22

1.10

1.10

b = -89

2

W

610

542

620

534

563

59.5

562

57.4

2355

265

5888

5530

5530

2355

1755

1755

1755

1755

1755

1755

1755

at 23 56

b = -14.4

main N.C.
with S.C.

59.0 E P

58.8 W P

58.0 X C

460 No 4

30.08 Bar

61.4 an th

No 1 = 320

2 = 321

3 ~~2~~ 322

4 = 323

-140
-85

203

6 = 116
= -08

Oct 16 Morning

~~50 Camel 7 50 41 160 40~~
~~6 Cancer 7 55 36 +28 09~~
 27 Lynx 7 58 44 +57.52
 15 Arvis 8 1 56 -23 56
 13 Cancer 8 9 31 +53 5-
~~31 Lynx 8 14 00 +43 25~~
~~30 Monocent 8 19 13 -329~~
~~0 W. Mag 8 19 31 161 09~~
 being bad

Level

Σ	W	
560	591	5805
570	581	5695
580	580	<u>110</u>
569	570	63-
<u>569</u>	<u>570</u>	$b = +44$
279	322	$= +03$
5695	5805	

U R O S

Oct 17 (1871)

W.R. Das with Gen # 0

2 bygn 20 41 00 +33 29

~~6 bygn 20 42 25 +36~~

N bygn 20 42 42 +61 20

32 bygn 20 45 05 +29 34

T. bygn 20 52 24 +40 40

13 N bygn 21 34 55

X bygn 21 37 52

T. 2 bygn 21 42 04 +45 43

16 bygn 21 47 10 +25 19

W.R. Das with S.B.

20 bygn 21 54 50 +12 30

a bygn 21 59 11 - 0 56

c bygn 22 1 2 +24 42

~~11 bygn 22 3 32 +32 32~~~~3 bygn 22 6 25 +57 33~~

min-16.

50 3 45.4 46.3

0 3 24.1 20.3 Cont A

45- 4 0.7 1.0

40 2 46.2 48.0

— 25 4 35.7 32.3

— 15 4 37.7 39.2

40 0 52.8 49.3 C D = C

0 3 32.5 34.7

— 50 2 42.4 48.6

— 15- 4 6.8 14.0 4 5-2.4 58.9

— 35 4 22.0 44.3 40 0 45.6 48.8

Oct-17 1871

~~W H Robs win-88~~~~0 Aquain~~

A.M. Obs. 3erw #18

36erw 22 06

0 Aquain 22 10

2 " 22 15

3 Lacertae 22 18 31

New shut
~~46erw 22 24~~

5 Lacertae 22 26 or

A.M. Obs. 3erw 22 28

A.M. Obs. new #18

70 Pegasi 23 14 vig D

4 Cars 23 19

70 Pegasi 23 22 36

72 Pegasi 23 27

45 4 23,8 20,7 15 0 15,2 12,

45-2 28,5 34,9 3 28,8 30,1

20 4 15,3 22,3 66,0 72,0

15 8 10,3 7,5 4 0,0 57,3

45 0 58,2 55,5 149,3 86,5

20 0 42,2 41,0 133,7 332

45-3 52,4 49,1 4 4 3,8 350

15 4 30,8 64,2 20 0 28,9 33,0

45 0 59,0 58,7 1 53,5 52,6

1001-17 (H)

Andr. 2331

W. A. R. obs from 23 33 17

c Piscum 23 33 17

H/11 Cars 23 41

q Peg 23 45

q Cass 23 47

WAR. Line of 23 54

Σ	W	AM	Q	W
60.0	52.1		538	582
61.5	50.8		528	591
52.3	59.0		610	507
53.0	57.8		610	503
<u>2268</u>	<u>2187</u>		<u>2286</u>	<u>2183</u>
218.7	5670	5715	2187	
<u>818.7</u>	54.68	54.58	8799	
1.01			<u>1.24</u>	
6-50			6--99	

55-2 29.4 29.1 3 19.6 17.5

55-2 41.8 — 2 27.2 30.3

15-3 10.2 4.1 3 53.9 49.5

55-3 23.4 28.7 4 19.2 23.2

35-1 25.4 23.2 2 16.7 14.3

Q P 56.1

W P 56.5

N. B. 52.1

No 4 45.0

Ban. 300

Sum. 64.3

QW = 324

2 = 325

OCT-21

W.R. obs. lib. from 20 29

W.R. obs. zone from 21^h 32^m

W.R. obs. new #s

A.M. obs. new #s 22^h 33~~A.M. obs. zone from~~~~A.M. obs. zone from~~

Septim 22 24 26 + 57 45

Lacertae 22 26 01 + 49 37

A.M. obs

10 Lacertae 22 33 30 + 38 23

Regani 22 36 59 + 29 33 2

13 Lacertae 22 38 22 + 41 08

Regani 22 40 21 + 22 53

Septim 22 45 08 + 65 31

~~W.R. obs. 23 52 00 + 6 29~~

tilt 21 25-
 air 22^h 2^m

3 5 3 12.0
 4.2

3 41.8
 33.3

45 1 4.3
 57.8

1 48.8
 41.3

— 0 0 8.9 45 3.4 - 1.0

— 45 4 53.5 47.7 50 0 59.1 45.9

— 10 4 45.7 42.2 15-0 24.5 20.9

— 25 4 25.8 22.0 30 0 23.2 18.1

— 50 2 9.5 -0.2 2 59.1 49.6

oct 21 sm ds.

~~a Andromeda 0 42 + 28 23~~~~Bears 0~~~~22 Andromeda 0 36 + 45 - 21~~~~7 Pegasi 0 6.35 + 14.28~~

Polaris.

Chromosphere broke down
emitted failed

E.P. 49.2

W.P. 45.3

M.L. 47.0

Bar 30.20

M 63.9

No. 4 = 46.6

No 1 = 32.6

2 = 02.7

Oct 22 1871

Level at 5 P.M. M.T.

Σ	W	Σ	W
51.9	55.1	52.0	53.1
51.4	55.0	52.8	52.1
54.6	51.8	51.1	53.1
52.0	52.0	51.0	53.2
<u>119</u>	<u>139</u>	<u>69</u>	<u>115</u>
5297	5248	5772	5287
	5257		5772
	<u>7.51</u>		<u>51.15</u>
	<u>25</u>		<u>57</u>
	$b = +20'' = +0.1''$		$b = +46'' = +0.3''$
			mean $b = +0.2$

Wt R obs. h.b. from 1910 to
 Wt obs. h.b. from 20 24
 Wt. obs. from 11 22 48
 Wt obs. from 23 52
 to Pison 23 52 40 + 6 09
 a And. 0 1 42 + 28 23
 22 And. 0 3 37 + 45 21

2021

5.22 48

-10	3	22.1	270	419.6	24.9
-0	0	75	73	59.9	59.4
-0	1	491	480	0	246.1 450

2 Pegasi 0 6 35 +1428

lmb = 0^h 8^m

WAS

Σ W

490 51.5

489 53.0

519 49.5

520 49.0

2018 2030

5045 50.75

1045

200

15

12

b = +01

W.M.

Σ W

63.0 E P

58.0 W b

581 W. 4

2997 Ban

62.0 W.M.

No 1 = 328

2 = 329

3 = 330

SV 4 32,4 370 550 30,1 355

Oct 23 1871

W.R. Das, Gb, from 20/9/4

W.R. attends a non-fair
A.M. Das Pulkona. List for
but - W.A. Das a few Gb. # among

Q Peyari 21 37 51 + 917

a Aquari 21 59 09 - 0 56

i Peyari 22 1 00 + 24 43

π₁ Peyari 22 3 31 + 32 38π₂ Peyari 22 4 16 + 32 33γ β₁ 22 6 22 + 57 34

γ Aquari 22 14 59 - 2 2

δ β₁ 22 24 23 + 57 45~~γ Lacerta 22 25 59 + 49 37~~

η Aquari 22 28 44 - 0 47

μ₁ Peyari 22 35 2 + 10 10η₂ Peyari 22 36 58 + 29 33

U 2124

Wony
2124 R.A. only
his observation

Runs

q g

43.5	43.5	49.6	49.4
43.4	43.3	49.9	49.0
43.0	43.3	49.3	49.4
42.9	43.9	49.8	49.0
42.8	43.3	49.3	49.3

no. 4 = 618

Bar. 29.86

W 680

c

W1 = 331

2 = 332

and very good but a
Oct 23 took out the large prism tube
and cleaned the glass (lens)
Adjusted every thing carefully
then replaced.

Oct 23, 1871

Summary of Observations
to date

Known stars	5492
h.b. stars	1275
New stars &c	1263
	8030

1871 Oct 27 AM Obs

7 Lacertae	22 25 58	magn
7 Aquarii	22 28 43	
3 Pegasus	22 35 1	cloudy
1 "	22 40 19	
1 "	22 43 42	
1 Cephei	22 45 5	
2 Perseus	22 50 31	
2 Pegasus	22 58 20	
11 Cephei	23 3 48	

Clouded over
 C Reads 46.295 did not get c NW1 = 333

1871 Oct 29th AM Obs

S	N	1	6
46.160	46.405	40.8	41.3
46.172	.420	40.8	41.1
46.172	.421	41.0	40.6
46.160	.416	41.2	40.3
46.165	.407	40.9	40.4
329	72	41.2	41.2
46.166	46.414	50.65 D	
46.414		42.7 Jc	
580		39.9 NW4	
46.290		30.23	
Set		630 A	

1871 Oct 29th

19 40 0 At m obs

Gen Cat
21 18 0

21 51 0

Gen Cat
23 46 -No 1 = 334
No 2 = 335

OCT 30 1871 1 mb
 WSR obs b6 from 1948

Bar. 30.84
 atm . 69.5

W24 43.0

W1-336

= 24 37

i

Oct 31 1871

W. S. R. Dr. L. b. for 21th 27th

Runs

Q L

90	87	112	108
92	87	111	108
88	93	115	111
90	90	113	112
90	98	107	106

N. b. 54.0

Q. P. 53.0

W. b. 52.7

Bar 30.13

Atm. 63.0

W. 1-357

Nov 2 1871 /
~~WRR das l.b. for~~

~~1 m.b. = 20 35~~

level at 4^h 30^m P.M. M.T.

E	W
530	542
534	539
528	545
525	550
<u>119</u>	<u>176</u>
	<u>119</u>
	8) 5.9

5-292
 5440

$b = +60$
 $= +04$

WRR das l.b. for 19^h 12^m

a bathin

1 Draco Lb.

l.m.b. = 21 22

W R Sh 300 fm 2, ⁴32^m

1871 Nov 2

a Laurent

22 26 03

a m. ds. b. b. ^{h.m.} for 22 28

a m. ds. zone lmb

(new sheet) 1 mb = 2249

a m. ds. b. b. for 23 50

30 Pisces 5-5-22 -6 45

2 Ceti 5-7-12 -15 04

33 P. scia 5-8-47 - 6 24

a Andromeda 1 31 + 28 22

22 Andromeda 3 36 + 45 21

8 Pegasus 6 34 + 14 28

35 P. scia 8 22 + 8 06

8 Andromeda 10 18 37 58

i Ceti - 0 32 50 - 9 30

tile 22 45-

= 22 47

5	0	52.9	52.8	1	45.1	45.5
20	4	45.0	47.2	25	0	34.1
45	2	48.8	48.7	46	0	45.3
0	0	10.9	4.5	1	6.80	58.0
0	1	52.5	45.2	2	45.1	37.9
50	4	38.8	36.8	55	0	80.7
15	1	10.0	7.0	15	2	11.1
25	0	8.9	2.7	0	55.0	52.1
50	4	17.1	18.1	55	0	18.2

~~you~~ ~~not~~ Nov 2
 MSR obs b.b. for 60

Bab 100 . 0 21 38 - 30 44

12 beti 0 23 30 - 44 44

K Cas 0 25 43 + 62 13

K Deneb 0 28 52 + 109 29

E Androm 0 31 44 + 28 36

α Cass 0 33 11 + 55 49

o Cass 0 37 31 + 47 35

3 And 0 40 29 + 23 33

n Cass 0 41 17 + 57 7

Palmer's

Mo 4 = 383
 Bar 29.93

Ann 64.0

21¹23^m

add a th for 1158

0	2	35.0	3	30.3
		33.9		30.4

0	2	19.2	3	13.9
		19.4		12.1

10	0	28.3	1	11.9
		17.5		1.8

55-	1	8.0	0	41.2
		52.6		27.2

45	1	11.9	2	3.8
		4.7		42.9

30	3	56.2	4	28.8
		45.7		18.3

45	3	36.3	4	18.4	12 down
		28.0		10.9	

45	3	50.2	4	12.9
		44.0		6.9

15	0	57.2	1	29.2	lost A
		46.8		19.8	

M1 = 338

2 = 339

3 = 340

4 = 341

5 = 342

Nov 5/87 1

UAPRs

2 New Men ABC

2 ^{Cosmic} 2-2

a bapm. 21.15

1 Pucc 21.18

Rms.

t		b	
15.5	14.7	10.4	9.3
16.7	14.3	9.7	10.1
15.6	14.8	9.9	9.5
15.6	14.7	9.6	10.1
15.6	15.3	10.1	9.8

— 50 3 23.0 15.4
 — 20 0 0.95 — 49.9
 15 3 44.8 30.1

Mag +26°

Bar 29.92

A 630

(M 1 = 343

~~Oct~~ Nov. 6 1871

W.R. Dr.

a Squain ~~21 59 11~~

20 Cephei ~~22 1 8 + 62 09~~

π_1 Pegasi 22 3 20 + 32 33

π_2 Peg 22 04 17 + 32 33

γ Bern. 22 06

δ Squain 22 15 - 20 2

31 Pegasi 21 18 31 + 51 34

ζ Cephei 21 24 25 + 57 45

~~New Dr. zone~~
~~7 Lacertae 22 26 0 + 49 37~~

γ_2 Pegasi 23 27 31 + 30 36

λ Androm 23 31 14 + 45 45

50 0 50.8 42.0

50 0 50.8 42.0

50 0 -2.2 -24.7

57.8
45.3

20 4 24.1 20.9 25.0 31.2 26.9

45 3 16.3 4.7 4 1.2 50.2

36 3 8.3 55.3 4 59.0 46.2

45 1 3.4 54.0 1 57.9 48.1

35 2 37.7 25.0 3 32.4 21.1

Nov 6 1871

x Androm 23 34 02 ~~+43.37~~
~~41 N Cars 22 41 42 +67 05~~

A.M. Obs.

41 N Cars. 22 41 42 +67 05

l m b 23 44 00

1 m b 23 46 00

P Pegasi 23 45 54

Q Cars 23 47 55

W Piscis 23 52 40 +60 8

Z Pegasi 06 34 +14 25

~~G 29 0 8 56 1 14~~
 0 14 30 — 3 47

M A 2 Obs.

2 Piscis 0 56 14

3 Androm 1 2 30 +34 56

Polaris

45- 1 0.0 48.1

46.3 34.3

15- 3 10.0 52.7 4 0.0 42.2

55- 3 25.3 17.8 4 17.8 18.2

35- 1 28.8 14.3 2 17.3 ^{sum} 2.5

10 3 36.5 28.8

50 4 34.0 27.7

55 4 41.8 42.3 0 0 35.5 32.8

45 2 17.8 8.76

45 2 34.6 14.2

No. 6 187 /

No 4 = 480

Bar = 2997

Attn. = 650

No 1 = 344

No 2 = 341

The collimation ^{micrometer reading} determined on the morning of Nov 7 is ~~46.200~~

The value used has been 46.280

This change can only be accounted for on the ~~ground~~ ^{supposition} that the southern collimator has been moved and during the interval has been adjusted. At any event it is now certainly 46.220

Nov 7 / 1947
 WSR ds. b. b. for 29 5-3
 2 hrs Min $\frac{60}{22}$ 2

WDR ds. zone for 21 32

WSR ds. b. b. from 23 47 52 352
 at M. ds. zone #8

a window 01 42 + 28 23

22 11 03 35 + 45 21

2 Pizarro 06 38 + 14 28
 82 29 0 8 55 + 06 14 extra
 0 14 30 - 3 47 same

A.M. ds. zone

A.M. ds. zone #5

2 Pizarro 05 56 14

0 0 10.1 - 1.7 1 8.1 55.1

0 2 5.6 5.13 2 4.6 55.1

50 4 42.6 38.1 550 38.9 32.0

10 0 8.4 -12.0 0 37.1 19.4

5 4 13.6 7.8 10 0 11.8 84

10 0 50.8 44.0 1 37.0 28.9

Nov 7

B Andromeda 1 230 +34 56

Polaris my short-bk before ✓

✓ Cass 1 17 23 +59 34

✓ Piscis 1 24 24 +14 41

✓ Perse 1 30 04 +47 58

 $\Sigma P = 39.4$

Nov 4 50.9

Bon 2' 8.7

411111 64.0

Nov 1 = 346

2 = 347

3 = 348

25- 1 478 35,0 2 44,5 34,0

45 2 17,2 5-3.3 45-243,1 24,0

45- 4 400 2 25- my 15' opt. East W

410 1 505-440 2 45-3 380

20 4 508 36,5 250 46,3 30,0

Nov 8 1871
Callimati

46.196	228
196	227
194	221
187	220
201	218
<u>974</u>	<u>114</u>
46.195	223
	155
	<u>418</u>

46.209

Level

E	W
58.1	59.5
58.9	58.5 at 4 ^h 30 ^m P.M. M.T.
58.9	58.7
59.8	59.7
<u>357</u>	<u>344</u>
58.92	58.60
<u>160</u>	
2132	
.16	

$b = -12'' = -0.1''$

Nov. 8 Morning

Polaris 0.257, 5 38.4 0.240, 193

Nov 9 1871

Collimation

~~Kepler~~

46,202

196

196

197

202

193

170

192

181

180

1909

46,191

46,280

296

300

294

300

297

302

301

299

301

2970

46,297

191

488

46,244

249

13

46,246

Adjusted

46,336

316

316

328

326

315

328

316

311

325

224

46,322

46,177

499

46,249

46,194

186

174

170

176

177

179

164

176

171

767

Level moving

E

55.6

55.0

62.1

62.5

236.2

212.5

8123.5

.299

55.05

W

56.8

56.9

49.1

49.8

212.5

6-2.40

5-3.12

5-90.5
5-3.124^h 30^m PM

E

55.0

60.9

56.1

55.0

231.0

219.7

113

1.42

2.95

4.41

-2.21

W

53.3

51.9

56.6

58.7

219.7

5-79.5

5-4.92

E

54.8

56.0

61.1

55.3

231.2

220.9

103

1.29

1.42

1.35

1.106

W

54.0

52.0

52.2

53.7

220.7

5-78.0

5-5.02

Nov. 9 1871

W.R. Das

from 20^h 13^m

B Delphin 20 31 02

a " 20 00 42

a Cygn 20 37 06

~~20 41 07~~

h Cygn 20 52

a Cephei

1 Draco Lb.

W.R. Das zone from 22 32

W.R. Das Lb. from 23 26

~~a Androm~~

am. Das. zone stars from 01 31

a Androm 01 31

35 4 1.6 3 5-2.3

40 2 50.7 43.3

20 1 60 52.4

0 0 11.3 1.2 1 7.3 570

Nov 9 1871

22 Andromeda 0 337

2 Pegasi 0 638

~~43 Canis 1 3246 67 23~~

0 1430 - 347

Am. Johnson

Am. Johnson H 5

2 Piscium 0 56 14

2 Andromeda 2 30 + 34 56

Polaris.

2 Piscium 1 24 34

2 Perseus 1 30 04 + 47 58

43 Canis 1 3246 67 23

~~2 Piscium 1 34 44~~

4 Perseus 1 35 35 + 50 02

0 1 53,2 41,2 0 246,0 34,5

50 4 37,2 31,5 55 0 27,6 21,2

10 0 4,3 50,0 0 21,8 5,7

5 4 27,5 24,8 10 0 21,9 18,7

10 0 44,6 41,0 1 41,8 36,6

25 1 51,2 41,2 2 44,3 35,3

45 2 15,0 -2,7 45 2 33,9 15,9

40 1 49,5 43,0 40 2 46,2 40,9

20 4 49,1 35,7 25 0 40,0 26,0

0 0 21,2 5,4 1 7,8 -9,0

20 1 10,0 -5,0 2 1,0 -13,5

Nov 9

O Piscum 1 38 04 + 8 30

~~2 Cas 1 45 - 8 + 63 02~~

Seeing bad

G.P. = 424

Nov 4 = 30.0

Ban 2982

ADH 682

Nov 1 = 349

2 = 350

3 = 351

50 2 3.4-3.8 2 5-7 + 503
1

7871 Nov 12

$$C = \frac{46.246}{46.213} \text{ det}$$

0
5 N

46.110	46.310
46.110	46.315
46.112	46.317
46.112	46.318
46.110	46.316
<u>4</u>	<u>.26</u>

46.111	46.315
	46.111
	426
	46.213

Δ M obs

γ Delphinus	20	40	40
η Cepheus	20	42	40

12 y 6 7879	20	53	—
Bz 2749			

778000 Pen failed

put down 21 40

See Gen Cat List
seeing very bad

$$\text{No 1} = 351$$

1671phae.proj.1021M

	Runs			
	A	B	C	D
EP 40:0				
NoL 28:0	37.0	38.0	29.7	28.4
	37.8	37.3	29.9	28.8
Bar 30.34	37.5	37.2	30.0	28.9
A 71.0	38.0	37.1	29.4	29.0
	<u>38.1</u>	<u>37.4</u>	<u>29.8</u>	<u>29.1</u>

Nov 13 1871

W R. Sun. Lb. ^{h m} 20 58

B Cygni 21 7 29

" " 21 8 41

a Capri 21 15 30

1 Dec. Lb. 21 18 06

B Capri 21 27 07 + 20.00

Too hazy for zone.

W₂₁ = 31.8

Ban = 30.34

W₂₁ m, 68.9

W₁ = 35.2

— 40 1 0.3 50.3

50 3 25.2 16.2

w 1 3.1486

w 4 10.0 56.0

1871 Nov 17th

103 143	La Piscine	23	21	25	+50 40'
467 442	Andromeda	23	31	15	+450 46'
3423	Lupher	23	34	0	+760 55'
4263		23	48	34	+730 42'
11 1016	Piscine	23	52	41	+60 9'
54 164	Andreevsky beds	1	43		+28 23'
	B. Cass	0	2	18	+58 26'
26 183	Peyari	0	6	36	+14 28'
42 29		0	8	55	+760 14'
17 157	Citr	0	12	51	-90 32'
190 214	Caso	0	25	41	+620 13'
65 119	And	0	29	59	+330 1'
55 114	"	0	31	45	+280 37'
145 177	Cass	0	33	12	+550 50'
44 107	And	0	40	30	+230 34'
155 184	Cass (mid gr)	0	41	18	+570 8'
	Cass (Pen farley)	48	56		+600 1'
13 1018	Piscine	0	56	15	+70 12'
70 124	And	1	2	31	+340 56'
8 115	Piscine	1	4	34	+290 24'
	2 hrs Min	1	19	37	+880 37'
	mid wire				

1871 Nov 17

~~4 Persimmon 1 2 24 34 + 14 41~~

111 149	Persim	1	30	55 + 49	058
121 1570	"	1	35	35 + 50	21
15 1010	Pisc	1	38	35 + 8	30
196 220	E Cass	1	45	8 + 63	2
				+ 2	33
124 100	E Pisc	1	46	53 + 2	33
37 106	B Arctus	1	47	31 + 20	11
204 3250	Cass	1	52	28 + 71	47
89 134	And	1	55	59 + 41	43
42 109	2 Arctus	1	59	54 + 22	51
				+ 34	23
68 121	B Triang	2	1	52 - 3	34
06 100	0 Cete 8.3	2	12	50 - 3	34
	1 Cass	2	18	28 + 66	49
234 254	2 Cete	2	21	18 + 7	53
14 101	36 H Cass	2	25	49 + 72	15
213 328	5 Cete	2	32	52 - 0	14
114 151	N Persim	2	35	24 + 48	40
03 100	Y Cete	2	36	37 + 20	41
17 101	u Cete	2	37	58 + 90	34
145 176	N Pers	2	41	18 + 55	21
50 112	41 Arctus	2	42	23 + 26	46
20					

1871 Nov 17

63²⁷ Persi 2 45 7 + 52° 14'
 117¹⁰¹ Eridani 2 50 7 - 9° 25'
 706¹⁰³ Ceti 2 55 34 + 3 35-
 79¹²⁶ Persi 2 56 55 + 38 20
 85¹³⁷ " 2 59 46 + 40. 27

116¹⁵² Persi 3 15 7 + 49 24
 15¹⁰⁰ Tauri 3 17 52 + 8 34
 17¹⁰¹ " 3 20 10 + 9° 17'
 22¹⁰⁷ " 3 23 45 + 12 29

17¹⁰⁷ E Eridani 3 26 51 - 9 52
 108¹⁴⁸ Persi 3 33 45 + 47 22
~~3 36 14 + 31 53~~
~~3 37 13 + 33 42~~

44¹⁰⁹ " Tauri 3 39 49 + 23 42
 44¹⁰⁹ 27 Persi 3 41 29 + 23 39
 61¹¹⁷ E Persi 3 46 12 + 31 29
 71¹²³ 8 " 3 50 36 + 35 25

22¹⁰² " Tauri 3 53 32 + 12 7
 119⁵ 119² 750^{mid} 3 56 56 + 85 13)
 108¹⁴⁷ C Persi 3 59 18 + 47° 12

1871 Nov 17

γ Tauri

4^h 12^m 29^s (28,109) 15° 19'

δ "

4 15-29 31,105 17° 14'

Partly cloudy

Not = 354

2 = 355

3 = 356

Writ 171 W R Dns

N. B. d. b.

46. 28.1
 29.2
 28.3
 28.1
 29.3
 28.7
~~27.4~~
 29.3
 29.1
 29.2
 28.8

 288.1
 28.79

46,288
 46,173

 460
 46.230

46 17.8
 16.4
 17.4
 17.6
 16.7
 17.5
 17.5
 17.2
 17.9
 17.4

 734

46,294
 279
 284
 289
 291

 437
 46,287
 168

 45.8
 228

46,162
 171
 169
 172
 164

 338
 168

by 416.0 23 48 34 + 73 42
 10 Piscem 23 52 41 + 6 09
 a Androm 01 43 + 28 23
~~B Cass 02 18 + 58 26~~
 7 Reg 06 36 + 14 28
 by 2290 8 52 + 76 14
~~i Cass 02 51 + 32~~
 * Cass 02 54 + 62 13
~~3 Cass 02 58 + 53 11~~
 7 Androm 02 59 + 33 01
 9 11 03 14 + 28 37
 A Cass 03 31 2 + 55 50
 21 Cass 03 37 05 + 74 17
 3 Androm 04 03 07 23 34
 2 Cass 04 18 + 57 08
 7 Cass 04 56 + 60 01
~~4 Androm 04 36 + 87 48~~
 9 Piscem 05 15 + 7 12
 B Androm 12 31 + 84 56

2

14

T Piscini 1 4 34 +29 24

~~Q Piscini 1 1228 +26 35~~

Polaris 1 1137 +88 57 ~~Dec 58~~
~~cont. d_1 & d_2~~ ~~tent d_2~~

X Cars 1 1723 +59 34

n Piscini 1 2435 +14 41

2 Permil 30 05 +47 58

4 Permil 1 35-35 +50 02

0 " 1 3835 +8 30

2 Cars 1 4508 +63 02 *L*

Q Arietis 1 4628 +18 40

B " 1 4731 +20 11

50 Cars 1 5228 +71 47

~~I Androm 1 5559 +41 42~~

a " 1 5954 +22 51

ϵ , β Trianguli 2 1 52 +39 22

2 613 +8 14

0 Ceti 2 1250 -333 ~~cont. arch~~

~~4 Cars 2 1828 +66 49~~

ϵ Ceti 2 2118 +7 53

16

36 η Can 2 25-49 +72 15-

5 Ceti 2 3252 - 0 14

o Persei 3 24 +48 41

7 Ceti 2 3637 +2 41

4 11 2 3758 +9 34

n Persei 2 41 8 +55 2/

41 Ariels 2 42 24 +26 44

T Persei 2 4508 +52 14

n Eridani 2 50 7 - 92 5

a Ceti 2 5532 +3 35

Q Persei 2 56 55 +38 20

B Persei 2 5947 40 24

⁴⁵ 6 Eri. 3 4 9 +77 16

~~L Persei 2 5947~~

~~3 944 3 582 +20 34~~

~~a Persei 3 1507 +19 24~~

o Tauri 3 1752 +8 34

ε Tauri 3 2010 +9 17

δ 11 3 2345 +12 30

ϵ Eridani 3 26 51 - 9 54

δ Persei 3 33 45 + 47 22

0 11 3 36 13 + 31 52

17 Tauri 3 37 13 23 42

κ 11 3 38 48 + 23 42

27 Tauri 3 41 30 + 23 39

3 Persei 3 46 1 + 31 30

ϵ Persei 3 45 12 + 39 38

γ 11 3 50 36 + 35 25

τ Tauri 3 53 32 + 12 07

η .700 3 56 51 + 85 13

Not = 357

2 = 358

3 = 359

Nov. 16 Morning

Palais

Σ Bootis

B. M. M. M.

Nov 19 1871

W.R. Dis. h.c. from 21 24

W.R. Dis. none . 22 45

W.R. Dis. h.c. from 23 . 58

No 4 = 337

Bar 3043

wt. 67.0

Nov 22 1871
 WRR des h.b. Jan 22 06
 WRR des 300 Jan 22 45
 WRR des h.b. Jan 23 07

$M.4 = 54.3$

Ban 2966

~~WRR~~ 652

$Wol = 364$

2 = 365

Mr 23471

NRds 26 for

22 15-4 23 26

NRds 20

nPisc 40 1540 48.9 = (1 24 37)

v Persei 1 30 04 25-040 448.0

43 Cars 1 32 49 0 0 156 -0.6

~~1. Pisan 134 42~~ 20 02.2 46.0

4 Persei 135 34

0 Pisan 1 38 33 50 204.2 55.5

9 Cars 1 45-06 20 1 38.1 20.8

M1 = 366

M4 = 25.6

2 = 387

Bair 80.30

SW, 64.3

Nov 25

NC 8C

46312	46,168
316	167
304	175
322	177
822	171
<u>66</u>	<u>58</u>
46,317	171
171	
<u>488</u>	

46.244

MRDs. 6.6. from 22^h 24^m
 Polars none

η Psc 12424 + 1440

α Psc 13004 + 4759

γ Cas 13249 + 6724

γ Psc 13535 + 5002

ο Psc 13804 + 830

~~α Cas 14508 + 6301~~

$\mu = 53.4$
 $\sigma = 30.24$
 $\gamma = 640$

$\mu = 368$
 $\sigma = 369$

45 2 9.2 52.4 2 25.7 8.2

40 1 49.3 45.2

20 9 52.0 40.1

0 1 6.2 49.5

20 1 44.6 31.1

50 2 04.8 - 0.8

best fit

Nov 27 1871

B2.30 77 23 7 6 +56 27

8 Piccin 23 10 27 +2 34

11 Pegasi 23 14. 13 +23 01

4 Cass 23 19 10 +61 34

1 Andromeda 23 01 14 +45 46

8 Cass 23 34 09 +76 55-

41 11 Cass 23 41 44 +67 06

8 Cass 23 47

Sum = 070

5 1 500 37.4

45 2 41.2 35.3

20 0 38.7 29.3

Feeling horrible

