KG
11366
v.627

ERROR OF FRODSHAM 1327.

SEP. 15. 1905 TO May 25, 1906.

Switches 1, 2, 3, 8 & A.

1905phae.proj.163IM

Fri Sep 15, 1905

Mer Cir — 20.20.20. Obs.

−.93
−.07
+1.02

Rattle at 18h 59m

[ι Lyrae] +35° 57' (missed 2nd wire & another later)
δ Aquilae +2° 55' (missed 1st 6 wires.)
Rattle at 19h 25m discard 1st tap.

Try Again · Rattle at 20h 01m
ϑ Aquilae −1° 6'
[β Capric] −15° 4' (Obs. by Mr. Bowie, missed a few of 1st wires)
γ Cygni +39° 57'
ϑ Cephei +62° 40'

+1.935 + 7.38
−0.017 + 7.21
+1.952 + .17
.097
+1.95)+.17000
1560
1400
1365
35

−1° 6' +39° 57' +62° 40' −15° 4'

56.0	42.7	8.7	13.7	14.8	8.5	4.0	45.8	9.8	15m ---	50.0
58.5	40.3	8.8	16.9	11.7	8.6	9.4	40.7	0.1	28.3	51.8
0.8	37.8	8.6	20.1	8.4	8.5	14.6	35.3	9.9	35.4	54.7
3.3	35.4	8.7	23.4	5.2	8.6	20.0	29.9	9.9	39.4	57.3
5.7	32.9	8.6	26.6	2.0	8.6	25.2	24.3	9.5		59.9
12.0	26.7	8.7	34.6	~~59.4~~ wire didn't mark		39.0	11.2	0.2		
15.7	23.1	8.8	39.4	49.1	8.5	46.8	3.0	9.8		
6m		19.3	18m		44.4	27m		55.1		
		15)5.25			19)3.7			15)14.3		
		19.35			44.28			54.95		

20 6 19.35 20 18 44.28 20 27 54.95

20 6 26.56 20 18 51.62 20 27 62.33

Δα = +.09

+ 7.21
+ .08
7.29

+ 7.34
− .01
7.35

+ 7.38
+ .09
+ 7.29

7.31
34
6.97

.29
35
29
3)93
.31

Frod 1327 is slow
0m 6.97s
at 20h 15m Sid. Time

Sat. Sep 16, 1905

Level

W. W. W. obs.

Time of beginning 9:25 AM E.T.

Telescope South.

	W	E		
Zero W	5 – 22.8	64.2 – ~~65.0~~		
	21.9	63.0		
	–44.4	–127.2	–171.6	
				+27.7
Zero E	+ 72.0	31.8		
	63.5	32.0		
	+ 135.5	+ 63.8	199.3	

Telescope North.

	W	E		
Zero W	–27.7 – ~~20.0~~	– 69.2		
	28.0	69.4		
	– 55.7	–138.6	–194.3	
				+ 38.9
Zero E	+ 79.0	38.0		
	79.2	37.0		
	+ 158.2	75.0	233.2	

Time of ending 9:45 A M. E.T.

16) 66.6 (4.16
64
26
16
100
96

4.16
.06
.24.96
1.35
12480
7488
2496
336960

bubble = .34 west end high.

Wed Sep 20, 1905

Mer Cir — 20.20.20. obs.

γ Sagittae +19°14' (missed otherwise)

Rattle at 20h02m

+19°14'

54m 4.2	53.8	8.0
6.9	51.3	8.2
9.5	48.7	8.2
12.1	46.1	8.2
14.7	43.4	8.1
21.3	—	
25.2	33.0	8.2

29.1

13) 1.0

.077

assumed n = +.1

19h 54m 29s.08
19h 54 34.11
5.03
.06
5.09
.34
4.75

Trod 1327 is slow
0m ~~5.09~~ 4s.75 at
20h 0m S.T.

Rattle at 22h32m

ξ Pegasi +10°20'

η Pegasi +29°43'

λ Pegasi +23°3'

ι Cephei +65°42'

10°20'

36m 17.7	5.1	2.8
20.1	2.7	2.7
22.5	0.1	2.6
25.0	57.6	2.6
27.5	55.0	2.5
33.7	48.9	2.6
37.6	45.1	2.7

41.3
15) 48
36m 41.32

29°43'

38m 4.1	58.0	2.1
7.0	55.4	2.4
9.7	52.4	2.1
12.5	49.4	1.9
15.4	46.7	2.1
22.6	39.6	2.2
26.7	35.3	2.0

31.0
15) .8
38m 31.05

23°3'

41m 29.8	20.8	0.6
32.6	18.2	0.8
35.3	15.5	0.8
38.0	12.9	0.9
40.6	10.2	0.8
47.3	3.5	0.8
51.3	59.4	0.7

55.4
15) .58
41m 55.39

65°42'

45m 21.2	14.8	6.0
27.2	9.0	6.2
33.3	3.1	6.4
39.2	57.2	6.4
45.3	51.0	6.3
0.0	36.0	6.0
9.2	27.3	6.5

18.2
15) 2.0
46m 18.13

2.215
.182
2.033

4.71
4.96
-.25
n = -.12

22h ~~19~~ 36m 41.32	22 38 31.05	22 41 55.39	22 46 18.13
22 36 46.28	22 38 35.98	22 41 60.28	22 46 22.84
4.96	4.93	4.89	4.71
.09	.64	.06	.16
4.87	4.89	4.83	4.87

4.86
.34
4.52

Trod. 1327 is slow 0m 4s.52
at 22h 40m S.T.

Thurs Sep 21, 1905

Mer Cir 20-20-20 obs. and M.F.M.

Rattle at 19h 49m(?)

α Aquilae +8°37′ (missed 1st 5 wires)

β Aquilae +6°10′

4 Cygni +52°11′

Rattle again after 19h 56m

I aquilae −1 6 M.F.M. last 7 wires

o′29 Cygni + 46 27

α Aquilae +8°37′ β Aquilae +6°10′ 4 Cygni +52°11′ o′29 Cygni +46 27

20h

45 58.8 50m 12.8 59.8 52m 28.7 45.2 3.9 9m 42.6 50.8 3.4

2.7 15.2 57.5 2.6 32.8 41.2 4.0 46.1 47.2 3.3

6.4 55.0 2.7 36.6 37.1 3.7 49.8 43.5 3.3

10.3 17.9 ~~59.8~~ 2.9 40.9 33.1 4.0 53.3 40.0 3.4

14.0 20.2 ~~57.5~~ 52.6 ~~57.6~~ 2.8 44.9 29.1 4.0 57.0 36.4 3.4

20.1 22.8 ~~55.0~~ 50.1 2.9 ~~2.8~~ 55.0? 19.0 4.0 58 27.6 3.3

22.6 29.0 ~~52.6~~ ~~52.5~~ 43.6 2.8 12 12.9 4.1 11.3 22.0 16.8

32.7 ~~50.1~~ ~~50.1~~ ~~43.8~~ 40.1 7.2 19.2

~~36.4~~ 43.8 ~~36~~ ~~40.1~~

36.4 34.9 16.69

6.40 55.9 7.33

36.39

5.24 19 46 6.40? 19h 50m 36.39 19h 53m 7.33 20 ~~19~~ 10 16.69

+1.29 4.61 53 19 46 11.07 19h 50m 41.00 19 53 12.57 20 10 40.72

+ 11 .63 ~~4.69~~ ~~4.69~~ 5.24 24.03

1.18 .590 4.67 4.61 .20 19.47

4 00 .40 .43 5.04 ~~5.03~~

3 54 .08 5.07 .08 5.04 4.56

46 4.59 4.53 .01

4.57

λ = +.53? 5.05 19h 55m

4.59 .34

4.53 4.56 4.71

assum 4.57 .34 20h 0m

Fri. Sept 22, 1905

Mer Cir.

M.F. Michael's obs.

+37 38
+62 ~~10~~ 11
− 22 49

Rattle before 21h 25m

+37	38	
10m 29.0	~~58.6~~ 28.2	57.2
32.1	25.0	57.1
35.2	21.9	57.1
38.3	18.9	57.2
41.4	15.8	57.2
49.2	7.8	57.0
53.9	3.3	57.2
	~~58.6~~	58.5

15) 4585
.57

+62	11	
15m 28.0	8.4	36.4
33.4	3.2	36.6
38.7	58.0	36.7
44.0	52.8	36.8
49.2	47.3	36.5
2.3	33.8	36.1 36.4
10.4	26.0	18.2

15) 2737
18.25

−22	49	
20m 47.8	38.5	26.3
50.3	36.0	26.3
53.0	33.2	26.2
55.8	30.5	26.3
58.6	27.8	26.4
51	21.0	26.1
8.9	17.1	26.0
		13.1

1967
15) 17
.11

21 10 58.57
21 11 2.66
4.09
01
4.08

21 16 18.25
21 16 22.27
4.02
12
4.14

21 21 13.11
21 21 17.41
4.30
16
4.14

4.02
+1.90 4.30
−.42
2.32 .28 (.12
232
480
464
16

n = −.12

4.14
4.08
4.11
34
3.77

Frod 1327 is slow
0m 3s.77
at 21h 15m
S.d. Time

Sat Sept. 23, 1905

M. F. Mob

η Serpen. − 2 55
χ Draco + 72 42
α Lyrae + 38 42

3 rattles before
18 27

− 2 55

18 15 58.1 ~~24~~ 45 2 43.3
08 ~~45~~ 42 56 2 43.6
3.1 ~~42.8~~ 40.1 43.2
58 ~~40.1~~ 37.7 43.5
8.1 ~~37.7~~ —
14.1 29.1 43.2
17.9 25.4 43.3
21.7
9.8
21.65

+ 72 42

21m 23.8 1.3 85.1
32.3 53.4 85.7
40.9 45.0 85.9
49.2 ~~75~~ 36.9 86.1
57.2 ~~65.2~~ 28.2 85.4
18.3 ~~45.1~~ 7.5 85.8
30.7 55.2 85.9 ~~30.7~~
43.1
43.0
42.87

+ 38 42

33 11.0 11.1 82.1
14.3 8.0 82.3
17.3 4.8 82.1
20.6 ~~5~~ 0.7 82.3
23.8 ~~46.0~~ 58.5 82.3
31.6 ~~41.1~~ 50.6 82.4
36.2 46.0 ~~36.2~~ 82.2
41.1
1.8
41.12

474
20
494
78
416

18 16 21.65
18 16 25.33
3.68
12
3.56

18 22 42.87
18 22 ~~32.19~~ 46.16
3.29
28
3.57

18 33 41.12
18 33 44.65
3.53
1
3.54

+ 3.19
− 05
3.24

3.29
3.68
.39
324
660
648
120

(.12

354
356
3.55
34
3.21

n = −.12

Frod 1327 is slow
0m 3.21s
at 18h 25m
Sid Time

Sun Sept 24, 1905

m, F, m obs

+6 10
+19 14
−
+

3 rattles before $20^h 3^m$

clouds

+6 10

$19^h 50^m$	14.1	~~37~~1.2	75.3
	16.7	58.9	75.6
	19.2	56.2	75.4
	21.6	53.8	75.4
	24.1	51.2	75.3
	30.2	45.1	75.3
	34.0	41.4	75.4
			37.8
			105
			37.70

+ 19 14

$19^h 54^m$	5.9	55.6	61.5
	8.6	53.1	61.7
	11.1	50.5	61.6
	13.8	47.8	61.6
	16.3	45.0	61.3
	23.0	38.6	61.6
	26.9	34.~~8~~8	61.7
			30.9
			119
			30.79

19	50	37.70
19	50	40.95
		3.25
		8
		3.17

19	54	30.79
19	54	34.04
		3.25
		6
		3.19

3.17
3.19
3.18
34
2.84

n assumed = .1

Frod 1327 is slow 0^m $2.^s84$ at $19^h 50^m$ Sid. time

Mon, Sept 25, 1905

mit Ards

3 rattles before
20h 46m

+27 42
+40 48
+38 17

+27 42				+40 48				+38 17			
20h 50m	3.8	56.8	60.6	20h 53m	6.8	8.8	75.6	21h 2m	8.8	8.1	76.9
	6.8	54.2	61.0		10.2	5.6	75.8		11.8	5.2	77.0
	9.4	51.3	60.7		13.2	2.2	75.4		14.9	1.9	76.8
	12.3	48.5	60.8		16.5	59.0	75.5		18.2	59.0	77.2
	15.0	45.8	60.8		19.8	55.6	75.4		21.0	55.9	76.9
	22.0	38.9	60.9		28.0	47.4	75.4		29.1	48.0	77.1
	26.2	34.8	61.0		33.0	42.6	75.6		33.8	43.1	76.9
			30.5				37.8				38.5
			6.3				11.5				7.3
			30.42				37.77				38.49

20	50	30.42	20	53	37.77	21	2	38.49
20	50	33.10	20	53	40.~~38~~44	21	2	41.13
		2.68			2.67			2.64
		4			.00			1
		2.64			2.67			2.63

2.67
2.63
2.64
14

n assumed ≃ -.1

2.65
f sec φ 34
2.31

Frod 1327 is slow
0m 2s.31
at 20h 55m
Sid Time

Tues Sept 26, 1905

Mer Cir

M & M obs

+52 22 last T
+12 38
+46 3 last T
+4 36
+27 47

Rather after 17 45

	+52 22	+12 38			+46 3	+4 36			+27 47		
17	28m 37.5	30m 6.8	54.6	1.4	37m 5.0	38m 22.5	9.5	2.0	42m 16.9	9.8	.7
	41.5	9.0	52.1	1.1	8.5	25.0	7.1	2.1	19.7	7.0	.7
	45.5	11.7	49.6 ~~53.7~~	1.3 1.1	12.1	27.4	4.6	2.0	22.4	4.2	.6
	49.9	14.1	~~47.8~~ ~~49.8~~	1.[illegible]	15.8	29.9	2.1	2.0	25.2	1.3	.5
	53.7	16.8	44.4	1.2	19.0	32.3	59.7	2.0	27.9	58.8	.7
	228.1	23.0	38.2	1.2	60.4	38.8	53.4	2.2	35.1	51.8	.9
	45.62	26.8	34.4	1.2	12.08	42.2	49.8	2.0	39.2	47.5	.7
	1.2662		30.8		1.2662		46.0				43.4
	0.2143		9.3		0.1586		.3				5.2
	1.4805		30.62		1.4248		46.02				43.35
	30.24				26.60						
	15.38				45.48						

17 28 15.38 | 17 30 30.62 | 17 36 45.48 | 17 38 46.02 | 17 42 43.35
17 28 17.39 | 17 30 32.67 | 17 36 47.53 | 17 38 48.13 | 17 42 45.43
2.01 | 2.05 | 2.05 | 2.11 | 2.08
4 | 7 | 1 4 | 8 | 3 4
3 2.04 2.05 | 6 1.99 1.98 | 2.06 2.06 | 7 2.04 2.03 | 205 2.04

2.00
34
1.66

n assumed = -.1

+4	2.03
+12	1.98
+27	2.04
+46	2.06
+52	2.05
	16
	2.03

n assumed = -.08

+4	2.04
+12	1.99
+27	2.05
+46	2.06
+52	2.04
	.18
	2.04
	.34
	1.70

Frod 1327 is slow
0m 1.70
at 17h 35m
Sid Time.

Wed Sept 27, 1905

(Page 165)

α Aquarii −0 47
E [ι Pegasi] +24 53 faint rej tap 15
π Pegasi +32 43 last 4 wires

−0 47			+24 53			+32 43
32.1			~~10.9~~	~~2.4~~	~~73.3~~	21.5
34.8	19.0	111.1	13.8	59.8	73.6	24.6
37.1	16.4	111.2	16.2	57.0	73.2	27.8
39.4	14.0	111.1	18.9	54.2	73.1	30.4
420	11.6	111.0	21.7	51.6	73.3	1043
48.0	9.1	111.1	28.4	45.0	73.4	26.08
51.8	$\overset{3.0}{59}$.1	111 0	32.7	40.8	73.5	
		110.9			36.8	
		55.7				
		8.1			89	
		55.54			36.59	

55.54 | 36.59
22 0 56.98 | 38.16
1.44 | 1.57
9 | 5
1.35 | 1.52

1.35 × 2 = 70
1.52 × 1 = 52
122
1.41
34
1.07

Thurs Sept 28, 1905

M, F.M. obs

(Page 161)

ε Herculis	+31	4	last 3 w H
β Draco	+52	22	
α Ophi.	+12	38	
ι Herculis	+46	3	
β Ophi	+4	36	first ~~tap~~ less good,

+52 22			+12 38			+46 3			+4 36		
38.0	54.8	32.8	7.8	55.8	63.6	12.8	20.4	93.2	23.8	10.8	34.6
42.1	50.8	32.9	10.4	53.3	63.7	16.4	17.0	93.4	26.1	8.3	34.4
46.1	46.8	32.9	12.8	50.8	63.6	19.9	13.3	93.2	28.6	5.8	33.4
50.3	42.8	33.1	15.5	48.2	63.7	23.5	9.8	93.3	31.1	3.2	34.3
54.2	38.8	33.0	17.9	45.8	63.7	27.0	6.1	93.1	33.6	0.8	34.4
45	28.6	33.1	24.1	39.2	63.3	35.9	57.2	93.1	39.8	54.7	34.6
10.5	22.6	33.1	28.0	35.7	63.7	41.2	52.0	93.2	43.6	51.0	34.6
		16.6			31.8			46.7			47.2
		75			121			9.2			3.5
		16.50			31.81			46.61			47.23

16.50	31.81	46.61	47.23
17 28 17.32	17 30 32.63	17 36 47.47	17 38 48.09
0.82	0.81	0.86	0.76
2	3	1	4
0.80	0.84	0.85	0.80

assumed

n = +.05

0.80
0.84
0.85
0.80
9
0.82
34
0.48

Frod 1327 is slow
0^m $0.^s48$
at $17^h 35^m$
Sid. Time

Fri Sept 29, 1905

M. F. Moh

− 5 59
+70 8 last 7
− 9 26 first 2, last 5

rattle before
$21^h 22^m$

102
55
510
5~~1~~0
5610

108
55
540
540
5940

~~110~~

185
55
925
925
10175

− 5 59

26^m 118 59.0 08
145 56.6 ~~0~~.1
168 54.0 8
19.4 51.7 1.1
21.8 49.0 .8
28.0 42.9 .9
31.7 39.2 0.9
35.3
67
35.45

21 26 35.45
21 26 36.06
+0.61
10 ~~.56~~
~~+0.05~~

+0.71

+70 8

~~40.3~~
28^m ~~51.0~~
9.5
16.6
23.8
31.3
38.2
119.54
23.88
1.2662
0.4687
1.7349
~~54.31~~
54.31
~~31.58~~
29.57

29.57
21 27 ~~31.54~~
21 27 30.31
~~+0.54~~
~~1.18~~
~~1.02~~
~~0.16~~

+ 0.74
.18
0.56

− 9 26

39^m 47.0
49.6
52.0
54.6
57.1
2603
52.06
1.2662
0.0059
1.2721
18.71
33.35

21 39 33.35
21 38 33.80
+0.45
.59
− ~~0.14~~
11
+0.56

+ 0.74
+ 0.45
0.29
.2646
2540
1.098
2.77
+ .17
2.94

− 1.18
+ 0.45
− 1.63
1470
1600
1470
130
(~~1.55~~

2.77
+ .17
2.94

n = − 0.55

n = + .1

+ 0.05
.34
− 0.29

0.63
.34
0.29

+0.71 × 2 = 1.42
+0.56 × 1 = .56
+0.56 × 1 = .56
2.54
.63

Frod 1327 is probably slow
$0^m\ 0.^s29$
at $21^h\ 30^m$
Sid Time

Sun Oct 1, 1905

M. T. M. obs
rattle ~~before~~ through
20 37

1

+33° 37′
+36 8

+27 42
+40 48

+33 37	+36 8	+27 42	+40 48
41m 56.1 52.3 48.8 4	43m 35.6	50m 6.8 59.5 66.3	53m 9.2 11.0 0.2
59.2 49.5 48.7	40.3	9.2 56.9 66.1	12.6 8.0 0.6
2.1 46.7 48.8	44.9	12.1 53.9 66.0	15.8 4.8 0.6
5.1 43.5 48.6	49.5	14.9 51.0 65.9	19.0 1.4 0.4
7.9 40.8 48.7	54.0	17.6 48.2 65.8	22.2 58.2 0.4
15.4 33.2 48.6	18 13.8	24.7 41.2 65.9	30.6 50.0 0.6
19.9 28.8 48.7	48 10.9	28.8 37.0 65.8	35.4 45.1 0.5
24.2	7.7	33.0	40.4
4.7		44.8	3.7
24.31		33.00	40.25

20 42 24.31	20 50 33.00	20 53 40.25
20 42 24.36	20 50 33.00	20 53 40.31
0.05	0.00	0.06
2	4	00
0.07	0.04	0.06

assumed
n = +.1

0.06
34
− 0.28

Frod 1327 is fast
0m 0.28s

at 20h 50m
Sid Time

Tues Oct 3 1905

M.F. M obs

* [11 [illegible]] +70 5:2 last six wires
+48 5 2
[illegible] +25 48 T' less good

+70 52

18.8
26.1
33.8
41.3
49.0
169.0
33.80
1.2662
.4845
1.7507
56.32
37.48
21 40 36.2~~5~~4
1.24
.07
1.17

+48 52

45.5 56.8 .3
49.4 53.0 .4
53.0 49.3 .3
56.8 45.7 .5
6.5 41.7 .2
10.0 32.2 .2
15.5 26.8 .3
21.2
24
21.16

21.16
21 43 19.98
1.18
.01
1.17

+25 48

22.2 14.2 .4
25.0 11.4 .4
27.8 8.7 .5
30.5 6.0 .5
— 3.1
40.0 56.4 4
44.1 52.3 .4
48.2
2.8
48.20

48.20
21 48 47.03
1.17
.01
1.18

n assumed
= + .03⅓

1.17
.34
1.51

I rod 1327 is fast
$0^m\ 1^s.51$
at $21^h 45^m$

Wed Oct 4, 1905

van Bis [illegible]

- 22 49

- 5 59

+ 70 ~~59~~ 9 last 8

+ 39 59

3 rattles after

~~21 50m~~

21h 30m

-22 49		-5 59		+70 9	+39 59	
21h 20 53.3	44.2 37.5	26m 14.0	1.0 75.0	27m 31.8	11.8	32m 42.1	43.1 25.2
56.1	41.8 37.9	16.5	58.7 75.1 (42.5)		19.0	45.2	40.2 25.4
58.8	38.8 37.6	18.9	51.0 74.9 (53.5)		26.0	48.6	37.0 25.6
15	36.2 37.7	21.5	53.6 75.1		33.4	51.9	33.7 25.6
4.1	33.7 37.8	23.8	51.1 74.9		40.3	55.0	30.2 25.2
10.8	26.9 37.7	30.1	44.9 75.0		1305	3.0	22.5 25.5
14.8	22.9 37.7	33.9	41.2 75.1		26.10	8.0	17.8 25.8
	18.9	~~3~~	37.6		1.2662		12.8
	128		77	80×1	0.4690		11.1
	18.85		37.51	370×5	1.7352		12.74
				450	54.36		
				.75	31.74		

21 21 18.85
21 21 17.26
1.59
.04
1.63

21 26 37.51
21 26 36.00
1.51
3
1.54

21 27 31.75
27 30.07
1.68
.06
1.62

21 33 12.74
21 33 11.14
1.60
00
1.60

n assumed = + .03 1/3

163
154
160
162
239
1.5975 = 1.60
34
1.94

Frod 1327 is fast
0m 1s.94
at 21h 25m
Sid Time.

Thurs Oct 5, 1905

M. F. M. obs

γ Draco + 51 30 missed tap 2
+ 9 33 wire 15
η Serpens – 2 55
109 Herc. + 21 44

–2 55
~~+21 44~~
~~+51 30~~

3.8 50.8 54.6
6.2 48.4 .6
8.8 45.8 .6
11.2 43.2 .4
13.7 40.8 .5
19.8 34.8 .6
23.6 31.0 .6
27.2
4.1
27.27

27.27
18 16 25.12
2.15
5
2.20
~~2.48~~

~~–2 55~~
+21 44
17.0 7.7 .7
19.8 5.0 .8
22.3 2.4 .7
25.1 59.6 .7
27.8 57.0 .8
34.2 50.3 .5
38.4 46.3 .7
42.3
52
42.35

42.35
18 19 40.21
2.14
3
2.17
7
~~2.16~~

+51 30
~~+21 44~~
48.8 4.1 .9
0.2
56.8 56.1 .9
0.9 52.3 1.2
4.8 48.1 .9
14.8 38.2 1.0
20.5 32.4 0.9
26.6
6.4
~~26.43~~
26.46

26.46
17 54 24.24
2.22
2
2.20
1
~~2.21~~

n assumed +.05

~~2.20~~
2.20
2.17
2.18
.34
2.52

Frod 1327 is fast
0m 2s52
at 18h 10m
Sid Time

Fri Oct 6, 1905

Mer lei
+9 26
+48 52
+25 29

M. F. W.

rather after
21 46

	+9 26			+48 52			+25 29		
39	12.2	59.8	72.02	468	57.8	446 48	23.6 4	15.2	988
	148	57.2	720	505	54.1	446	265	12.5	989
	172	548	72.0	54.0	50.2	442	29.0	10.0	990
	19.8	52.2	720	578	46.5	44.3	31.7?	7.1	988
	222	49.8	72.0	15	43.0	44.5	342	4.2	984
	286	43.5	72.1	109	33.5	444	41.0	57.8	988
	325	39.8	723	168	27.8	446	452	53.7	989

35.9
203
~~35.9~~
36.37

22.2
34
22.23

49.2
5.8
49.39

21 39 36.37
21 39 33.72
2.65
~~8~~
15
2.50

21 43 22.23
21 43 19.92
2.31
5
2.36

21 ~~48~~ ~~49.39~~
21 48 4699
2.40
9
2.49

assumed
n = .2

2.49
2.36
85
2.43
.34
2.77

Frod 1327 is fast
0m 2.77
at 27h 45m

18

Sat Oct 7, 1905

Mer Cir.

W.M.W.

Rattle at $18^{h}34^{m}$

110 Herculis +20°27'

Key broken. Signals stopped.

ζ Aquilae + 13°43'

[ι Lyrae] +35°57' (?)

Rattle after $19^{h}05^{m}$

20°27'			13°43'			35°57'		
4^{m} 13.5	—		01^{m} 42.7	30.8	3.5	03^{m} 29.7	27.7	7.4
16.1	—		45.3	28.5	3.8	32.9	24.6	7.5
18.7	58.3	7.0	48.0	26.0	4.0	35.7	21.5	7.2
21.3	55.8	7.1	50.4	23.4	3.8	39.0	18.5	7.5
23.9	52.8	6.7	52.9	20.7	3.6	41.8	15.4	7.2
30.4	46.4	6.8	59.3	14.4	3.7	49.6	7.9	7.5
34.5	42.4	6.9	3.0	10.7	3.7	54.0	3.3	7.3

38.5
11) 5.0
38.45

6.9
15) 13.0
6.87

58.8
1 ~~1.4~~
15) 1.4
58.76

$18^{h}41^{m}$ 38.45
18 41 35.71
2.74
.05
2.69

$19^{h}02^{m}$ 6.87
19 02 4.15
2.72
.07
2.65

$19^{h}03^{m}$ 58.76
19 03 56.05 (Comer. Calc.)
2.71
.02
2.69

assumed
n = +0.1

.09
.05
.09
23
.08

2.68
.34 brack.
~~2.34~~
3.02

Trod. 1327 is __fast__

~~3.02~~ 3

0m. ~~2.34~~ s

at. $19^{h}0^{m}$ S.T.

Sun. Oct. 8, 1905

K. C. M. Obs.

η Sagittarii − 26° 5' Ratter at 19h 38m

γ Aquilae + 10° 22'

ε Draconis + 70° 1'

+2.566) −.30000 (−.116
2566
4340
2566
17740

− 25° 5'			+ 10° 22'			+ 70° 1'		
54.6	46.4	1.0	25.3	13.0	8.3	25.6	42.6	8.2
57.1	48.7	0.8	28.0	10.5	8.5	32.7	36.0	8.7
0.2	40.8	1.0	30.3	7.9	8.2	39.7	28.3	8.0
3.0	38.2	1.2	32.8	5.5	8.3	47.1	21.0	8.1
5.8	35.4	1.2	35.5	3.0	8.5	54.0	13.8	7.8
12.5	28.9	1.4	47.7	56.8	8.5	12.5	55.9	8.4
16.4	24.7	1.1	43.4	53.0	8.4	23.5	~~38.0~~ 44.6	8.1
	30m	20.4		41m	49.2		48m	34.0
		15) 8.1			15) 2.9			15) 17.3
		20.54			49.19			34.15

+2.749
+0.1829
+2.5661

−3.07
−2.77
− .30

T = 19h 30m 20.54s 19 41 49.19 19 48 34.15

α = 19 30 57.72 19 41 46.42 19 48 31.08

α − T = − 2.77 − 3.07

+ .11 − .27

− 2.88 − 2.80

− 2.84
.34
− 3.18

n = −.12

Frod. 1327 is fast

0m 3.18s

at 19h 45m Sid. Time.

~~Oct~~

Mon Oct. 9 1905

K.Q.M. Obs.

λ Aquilae −5° 1′
δ Draconis +67° 29′ Rattle at 19h 28m
τ Draconis +73° 10′
β Cygni +27° 43′

− 1.00
× 1.50
× 2.40
− .39

×2.5) −.320 (−.12
250
70
50
200

×2.412 −3.37
−0.0278 −3.05
×2.4998 −.32

−5° 1′			+67° 29′			+73° 10′			+27° 45′		
53.6	40.7	4.3	34.7	37.0	1.7	5.9	47.1	3.0	31.6	24.4	6.0
56.0	38.3	4.3	41.0	30.6	1.6	13.9	39.8	3.7	34.4	21.9	6.3
58.7	35.7	4.4	47.3	24.0	1.3	21.9	30.3	2.2	37.3	19.0	6.3
0.9	33.2	4.1	54.0	17.7	1.7	31.2	21.9	3.1	40.0	16.2	6.2
3.5	30.8	4.3	0.3	10.8	1.1	40.0	13.2	3.2	42.8	13.4	6.2
9.9	24.8	4.7	17.0	55.5	2.5	1.2	51.8	3.0	49.8	6.4	6.2
13.6	21.0	4.6	26.2	45.8	2.0	13.5	39.2	2.7	53.9	2.2	6.1
1m	17.5		12m	36.2		17m	26.4		26m	58.0	
15)	3.2		15)	13.1		15)	7.3		15)	1.3	
	17.21			35.87			26.49			58.09	

19 1 17.21	19 12 35.87	19 17 26.49	19 26 58.09
19 1 14.16	19 12 32.50	19 17 23.06	19 26 54.90
− 3.05	− 3.37	− 3.43	− 3.19
+ .12	− .18	− .29	+ .05
− 3.17	− 3.19	− 3.14	− 3.24

n = −.12

− 3.17
.19
14
24
4) .74
3.18½

− 3.18
.34
− 3.52

Frod 1327 is fast
0m 3.52s
at 19h 15m Sid. Time.

Tues Oct 10, 1905

Mer. Cir. — No. 20. 20. Obs

Reebble at 22h 09m

π Pegasi. (Observed a faint star preceding at 1st. Then missed ~~1st~~ 1st 5 wires on π) +32°42'

ζ Cephei. +57°43' (missed 1st 5 wires)

γ Aquari. −1°51'

3 Lacertae +51°45'

+49° 47' K. Q. M. Obs.

~~+73° 8'~~

~~+14° 5'~~

−.27
+.67
−.91
+.36
+.27

+32° 42'	+57° 43'	−1° 51'	+51° 45'	+49° 47'	+73° 8'
6m	8m				
43.6 8.7	26.6 5.9	28.1 14.7 2.8	18.4 33.9 2.3	53.3 5.7 9.0	13.8 55.7 9.5
48.1 11.5	33.4 10.2	30.2 12.4 2.6	22.4 30.3 2.7	57.2 2.2 9.4	22.3 47.2 9.5
52.4 × 14.4	40.5 × 15.0	32.9 10.0 2.9	26.2 26.1 2.3	1.0 58.3 9.3	30.6 38.5 9.1
56.9 17.4	47.4 20.0	35.2 7.3 2.5	30.4 22.1 2.5	4.8 54.6 9.4	39.0 29.9 8.9
1.2 20.2	54.2 24.3	37.7 4.8 2.5	34.2 18.2 2.4	8.7 50.5 9.2	47.5 21.5 9.0
5)262.2 5)72.2	5)202.1 5)75.4	43.9 58.8 2.7	44.4 8.2 2.6	18.3 41.0 9.3	9.3 0.6 9.9
52.44 14.44	15.08	47.4 58.8 2.4	50.3 2.2 2.5	23.8 35.7 9.5	21.8 47.2 9.0
.04 21.94	40.42 34.56	16m 51.4	19m 56.2	27m 29.6	33 34.7
52.48 52.50	.07 40.52	15)4.8	15)3.5	15)9.7	15)9.6
	40.49	57.32	56.23	29.65	34.64

22h 6m 52.49	8m 40.50	16m 57.32	19m 56.23	27m 29.65	~~33m 34.64~~
22 5 48.83	7 36.88	16 47.60	19 52.71	27 25.91	
−3.66	−3.72	−3.72	−3.52	−3.74	
+.03	−.08	+.11	−.04	−.03	
−3.69	−3.64	−3.83	−3.48	−3.71	

assumed
m = −.12

.69
.64
.83
.48
4)2.64
.66

−3.66
.34
4.00

Frod 1327 is fast
0m 4.00
at 22h 15m Sid. Time.

-.07
+1.03
-.66
-.93
+3.57

Thurs. Oct. 12, 1905

K. C. M. Obs.

~~+70° 7'~~

~~+52° 4' (missed 1st 5~~

20 6 − 1° 6'

12 ~~+77° 25'~~ (missed 1st 2 wires 2nd set) ~~Rattle before 20h 14m~~

18 + 39° 57' ~~Rattle before 20h 20m~~

+ 62° 40' ~~Rattle before 20h 30m~~

+ 14° 15' (missed first 2 wires) ~~Rattle before 20h 36m~~

1.9622)−.360000(−.18
19622
163780
156976
68040

+1.943
−0.0192
+1.9622

− 4.76
− 4.40
− .36

39° 57' ~~+14° 75'~~	+62° 40'	+ 14° 15' ~~+39° 57'~~	(−1° 6'	+77° 25')
25.0 26.0 1.0	15.0 56.9 1.9	— 36.3	7.1 54.0 1.1	24.0 59.4 3.4
28.0 29.0 1.0	20.3 51.6 1.9	— 34.2	9.6 51.4 1.0	36.0 48.8 4.8
31.3 19.7 1.0	26.2 46.2 2.4	58.0 31.0 4.0	12.1 49.0 1.1	46.6 36.8 3.4
34.5 16.4 0.9	31.0 40.8 1.8	56.0 28.8 4.8	14.5 46.6 1.1	58.3 25.4 3.7
37.6 13.2 0.8	36.0 35.6 1.6	58.1 26.1 4.2	17.0 44.4 1.4	10.6 14.0 4.6
45.9 5.2 1.1	49.8 22.8 2.6	4.5 20.1 4.6	23.1 38.0 1.1	— 46.0
50.4 0.2 0.6	57.7 14.1 1.8	8.3 15.9 4.2	26.4 34.1 1.0	— 28.9
55.3	6.0	12.2	30.9	11.9
15)6.7	15)15.0	11)2.0	15)8.7	11)10.8
55.45	6.00	12.18	30.58	11.98

20h 18 55.45	28 : 6.00	33 12.98	20h 6m 30.58	12 11.98
20 18 50.96	27 61.24	33 7.71	20 6 26.185	11 67.30
− 4.49	− 4.76	− 5.47	− 4.40	− 4.68
+ .03	− .18	+ .11	+ .17	− .64
− 4.52	− 4.58	− .58	− 4.57	4.04

.52
.58
.58
.57
4)225
.565

− 4.56
.34
− 4.90

n = .18

Frod. 1327 is fast
0m 4.90s
at 20h 15m Sid. Time.

Fri. Oct 13, 1905.

M. F. M. obs.

? Cygni +50 0 5-4 latest 8 wire & not so good
+44
+18 18 latest 7 wires
+8 37
+70 2 missed first 3 wires

+50 0

59.9
5.3
11.1
20.6
24.6
28.7
32.3
35.9
1421
2842
1.2662
0.1919
1.4581
28.72
59.70

16.4
8.20
0.7416
0.1919
0.9335
858
59.62

+44 54

33.2
36.8
40.2
43.8
47.1
55.9
1.3

39.8 730
36.0 728
32.6 728
29.1 729
25.5 726
16.9 728
11.6 730
66
65
6.43

643
19 42 1.74
4.69
1
4.70

59.68
19 33 54.84
4.84
.04
480

+18 18

19.4
23.2
29.8
32.1
34.9
37.6
40.2
1746
3492
12662
0.0225
1.2887
19.44
15.48

426
21.30
~~13453~~
07416
0.0225
0.7641
5.81
15.49

15.48
19 43 10.78
4.70
8
478

+8 37

51.7 39.0 90.7
54.2 36.8 91.0
56.9 34.1 91.0
59.2 31.5 90.7
1.8 29.1 90.9
7.9 22.8 90.7
11.6 19.0 90.6
15.4
6.0
15.40
15.40
19 46 10.70
~~469~~
4.70
10
4.80

136
242
352
458
570
1758
35.16
8.5563
0.4666
9.0229
0.11
3505
35.55
60
3530

+70 2

435
~~458~~
36.7
~~35.2~~
29.5
~~24.2~~
—
—
—
48.5 22.1 70.6
55.4 15.2 70.6
11039
13 65.1 57.0 70.6
1.1713
0.4666
24.2 45.8 70.0
1.6379
43.44
35.39
35.2
2.0
35.13
35.13

1480
29.60
7
~~1425~~
~~28.50~~
12662
0.4666
1.7328
54.05
~~34.45~~
35.55

35.31
19 48 36.75
4.56

124
350
474
68

25 5
275 2
78 5
378
31

+1.19 4.84
+.15 4.70
1.04 .14 , .13
.104
360
312
480

h = -.13

4.70
4.78
474
.34
5.08

Frod 1327 is fast
0m 5.08s
at 19h 40m
Sid Time

Sat Oct 14, 1905

M.F.M. ok

+73 11 latest 9 written through

+2 55

+27 46

19 23

1905phaa.proj.1631M

Sun Oct 15, 1905

rattle after
18 54

+20 27 latest 5
+33 15
+59 16
+43 49

+20 27

18 41m 55.4
58.1
0.8
3.4
6.0

3.7
0.74
12662
0.0282

1.2944
19.70
41.04

+33 15

46m 12.8 8.8 81.6
15.8 6.0 81.8
18.8 2.9 81.7
21.6 59.9 81.5
24.6 57.0 81.6
31.9 49.7 81.6
36.4 45.2 81.6
40.8

12.2
40.81

+59 16

49m 7.9 39.6 7.5
12.8 35.3 8.1
17.8 30.2 8.0
22.6 25.2 7.8
27.2 20.4 7.6
39.3 8.3 7.6
46.8 1.2 8.0
53.9

58.5
53.90

+43 49

52m 0.4 55 65.9
4.0 2.2 66.2
7.2 58.6 65.8
10.8 55.1 65.9
14.2 51.8 66.0
22.8 43.1 65.9
28.0 58.1 66.1
33.0

44.8
32.99

18 41 41.04
18 41 35.57

5.47
~~8~~
9

~~5.55~~
5.56

assumed
n = .17

18 46 40.81
18 46 35.36

5.45
4

~~5.48~~
5.49

18 49 53.90
18 49 48.20

5.70
13

~~5.60~~
5.57

18 52 32.99
18 52 27.49

5.50
1

5.49

5.49
5.49

5.49
34

5.83

Frod 1327 is fast

0m 5.83s
at 18h 45m
Sid. time

Mon Oct 16, 1905

α Cephei + 62 40
β Delphini + 14 16
α " " + 15 35
α Cygni + 44 56

+62 40	+14 16	+15 35	+44 56
55 57.7 73.2	48.7 36.9 85.6	56.2 45.0 41.2	45.8 52.0 $\overset{3}{4}7.8$
21.0 52.2 73.2	51.1 34.5 85.6	59.0 42.6 41.6	49.2 48.8 $\overset{3}{4}8.0$
26.2 46.8 73.0	53.7 31.9 85.6	1.4 40.0 41.4	52.8 44.9 37.7
31.8 41.4 73.2	56.2 29.2 85.4	4.1 37.4 41.5	56.2 41.4 37.6
37.0 36.1 73.1	58.8 26.8 85.6	6.6 34.8 41.4	59.7 38.0 37.7
50.2 22.8 73.0	50 20.4 85.4	13.0 28.4 41.4	8.4 29.4 37.8
58.5 14.6 73.1	8.8 16.6 85.4	16.9 24.6 41.5	13.6 24.1 37.7
68	12.8	208	18.9
8.6	11.4	108	132
6.57	12.76	20.72	18.88

6.57	12.76	20.72	18.88
20 28 1.06	20 33 7.63	20 35 15.52	20 38 13.53
5.51	5.13	5.20	5.35
.19 5.32 ~~23~~ 5.28	12 5.25 ~~14~~ 5.27	12 5.32 ~~14~~ 5.34	2 5.33

551
5.20
+1.94
.28
1.66
.31 (.187
166
1440
1328
1120
1162
~~222~~

n = .19

551
513
38
338
+ 1.94
25
+ 1.69
420
338
820
676
154

(.224

5.33
6 sec 0.34
5.67

Frod 1327 is fast
on $5.6\overset{s}{7}$
at $20^h 35^m$
sid Time

~~k = .22~~

Tues Oct 17, 1905

Mr F.W. obs

+44 54 tw
+18 18 missed 1st 5 rattle after
+8 37 19h 37m
+70 2 missed first wires

20.35
40.70
26.18
6.88

341
682
0.05
6.57

41m
1647
3294
2606
688

565

+275
33
+2.42

518
47
242
228
2178
1020
968

.194

565
516

+275
+15
+260

~~4~~9
26
230
208
220

.188

~~n = .2~~
n = .19

+44 54

33.8 | 39.9 ~~35.7~~ | 13.7
37.2 | 36.6 ~~32.8~~ | 13.8
40.6 | 32.9 ~~30.2~~ | 13.5
44.1 | 29.4 ~~23.7~~ | 13.5
47.8 | 25.9 ~~4.8~~ | 13.7
56.3 | 17.2 | 13.5
1.6 | 12.0 | 13.6

7.0
1023 8

19 40 6.87
19 42 1.63
5.19 25
2
~~5.17~~
5.27

+18 18

43 8.0 | 30.2
12.0 | 32.8
15.8 | 35.2
19.8 | 38.0
23.7 | 40.3
793 | 1765
1586 | 35.30
8.5563 | 1.2662
0.0225 | 0.0225
8.5788 | 1.2887
0.04 | 19.44
15.90 | 15.86

19 43 15.86
19 43 10.70
5.18
11
5.29

+8 37

45m 52.0 | 39.4 | 31.4
54.7 | 37.0 | 31.7
57.0 | 34.6 | 31.6
59.7 | 32.0 | 31.7
20 | 29.5 | 31.5
8.4 | 23.2 | 31.6
12.1 | 19.4 | 31.5
159
119
15.79

19 46 15.79
19 46 10.63
5.16
15
5.31

+70 2

47 41.8 | 14.6 | 15.4
49.1 | 25.2 | 22.8
56.2 | 36.1 | 30.2
1471 | 47.0 | 37.5
49.03 | 57.8 | 44.6
1.2060 | 1807 | 1505
0.4666 | 36.14 | 30.10
1.6726 | 8.5563 | 1.2662
47.06 | 0.4666 | 0.4666
36.09 | 9.0229 | 1.7328
| 0.11 | 54.05
| 36.25 | 36.05

19 48 36.13
19 48 30.48
5.65
35
5.30

5.27
5.29

5.27
5.29
528
34
5.62

Frod 1327 is fast
0m 5s.62
at 19h 45m
Sid. Time.

Wed Oct 18, 1905

W.W. W.Cb.

o Cassiop +47°45' (last 4 wires)
[η Cassiop] + 57°18'
Rattle at 0h 47m
γ Cassiop +60°12'

+47 45

39m 59.0
2.7
65.
10.0

1.82
4.55
12944
0.17241
1.4668
29.29
35.26

0 39 35.26
0 39 29.~~85~~ 90
~~5.41~~
5.36
~~17~~
4
5.32

28.66 1577 294
57.32 31.74 588
34.34 .07 ~~31.70~~ 34.48
31.66 31.8 31.70

~~40m~~ 42
~~37~~ 48.1
52.8
57.2
.19
6.6
17.9
24.8

+57 18

150 631
632
10.4 631
59 633
1.4 633
56.7 633
45.2 631
38 463 32
315

238
31.79

0 ~~38~~ 48 31.7~~7~~ 2
0 43 ~~3~~6.04 2
5.~~75~~ 68
.12
~~5.63~~
5.56

+60 12

~~45m~~ 9
50 21.8 55.9 177
26.9 51.2 181
31.6 ~~46~~.1 177
36.7 41.1 178
41.6 36.2 178
54.0 ~~28~~ 23.8 178
16 16.2 178
89

13.36
8.91

136
41

0 ~~46~~ ~~50~~ 51 8.91
0 5~~0~~ 1 3.48
5.43
16
5.27

65
19
585
65

83
19
747
83

19
19
171
~~17~~
19
361

n assumed = .19

5.32 × 1 5.32
5.27 × 2 10.54
5.56 × 1 5.56
115 21.42
38 5.36

5.37
34

Frod 1327 is past
on 5.71 5
at 0h45m
Sid time

Sat Oct 21, 1905

M.T. in obs

Mer Cir.

(6th tap doubtful settle before 20h 3m

−1 6

+46 27 ~~6th~~

+24 23 middle T tap 11 not so good

EF [−15 5]

+39 5

+39.57

−1°6′ +46 27 20 +24 23 −15 5 ~~+39 57~~

20 6 | 20 10 | 18 26.0 27.0 11 3.0

8.2 55.0 3.2 11.7 19.7 1.4 ~~20h 10m~~ 29.1 23.8 11 2.9

10.8 53.0 3.8 15.1 16.2 1.3 32.4 20.8 11 3.2

13.1 50.0 3.1 18.8 12.3 1.1 35.8 17.2 11 3.0

15.6 47.7 3.3 22.4 9.0 1.4 38.8 14.1 11 2.9

17.9 45.3 3.2 25.8 5.2 1.0 46.8 6.2 11 3.0

24.0 38.8 2.8 35.0 56.2 1.2 51.8 ~~6.7~~ 11 3.4

27.8 35.2 3.0 40.2 50.8 1.0 ~~56.0~~ 16 56.4

31.6 45.7 ~~56~~

90 91 78

31.60 45.61 56.52

20 6 31.60 20 10 45.61 20 18 56.52

20 6 26.03 20 10 39.89 20 18 50.73

5.57 5.72 5.79

19 3 1

5.76 5.69 5.80

assumed

n = .2

5.69

5.80

149

5.74

572

579

5.76

575

74

6.09

Frod 1327 is fast

0m 6s.09

at 20h 10m

Sid Time

Sun Oct ~~2~~2 1905

M. F. Mob.

+ 25 29 missed latest, very faint
− 0 47
+ 24 53
+ 32 43
{Cepheus + 57 44 latest T

+ 25 29	− 0 47	+ 24 53	+ 32 43	+ 57 44
	38.9 26.0 4.9	18.0 9.5 7.5	26.9 22.2 9.1	8.0
	41.5 23.7 5.2	20.8 6.8 7.6	29.8 19.6 9.4	12.6
	43.9 21.2 5.1	23.3 4.1 7.4	32.5 16.5 9.0	17.7
	46.2 18.6 4.8	26.1 ~~1.27~~ 7.3	35.5 13.4 8.9	22.0
	48.8 16.0 4.8	28.8 58.8 7.6	38.2 10.7 8.9	26.5
	55.2 9.8 5.0	35.9 57.9 7.8	45.8 3.2 9.0	86.8
	58.9 6.1 5.0	39.8 47.7 7.5	50.0 59.0 ~~54~~ 9.0	17.36
	2.7	43.8	54.6	1.2662
	7.5	11 5	7.9	0.2726
	2.50	43.77	54.53	1.5388
				34.57
				42.79

+1.58 6.25
+.46 5.81
1.12 44
n = 39 336
.39
1040
1008
32

2.50	43.77	54.53	42.74
22 0 56.70	22 2 37.96	22 5 48.64	22 7 36.54
5.80	5.81	5.89	6.25
36 26	18 13	11 08	36 26 19
6.16 6.06	5.99 5.94	6.00 5.97	5.99 6.06

6.25
+1.58 5.80
− .01 45
1.59 31 8 .28
1,3 2 0 2
1 1 1 3
0 7
4 8 0

n = 28

5.99
+ 34
6.33

Frod 1327 is fast

0m 6s.33

at 22h 5m Sid Time

Mon Oct 23 1905

m. F. Ku
obs

+38 33 first (3 or 4 indistinct but not very poor) rattle through
+10 20
22 3 1
+29 4.3
+23 4

+38 33				+10 20				+29 43				+23 4			
34	39.2	38.8	18.0	36m	28.2	15.8	4.0	38	14.8	8.8	3.6	41	40.8	31.4	12.2
	42.3	36.0	18.9		30.9	13.3	4.2		17.7	5.8	3.5		43.2	28.8	12.0
	46.0	32.2	18.2		33.1	10.7	3.8		20.4	3.1	3.5		46.0	26.1	12.1
	48.8	29.4	18.2		35.8	8.1	3.9		23.6	0.0	3.6		48.4	23.5	11.9
	51.7	26.1	17.8		38.2	5.8	4.0		26.1	57.3	3.4		51.2	20.8	12.0
	59.6	18.3	17.9		44.7	59.7	4.4		33.2	50.2	3.4		56.0	13.9	11.9
	4.1	13.6	17.7		48.2	56.0	4.2		37.5	45.9	3.4		2.0	10.0 ~~10.0~~	12.0
			8.8				52.1				41.8				6.0
			149				.6				11.2				.1
			8.99				52.04				41.75				6.01

~~22~~ ~~35~~ 5

22	35	8.99	22	36	52.04	22	38	41.75	22	42	6.01
22	34	62.75	22	36	46.03 ~~45.9~~	22	38	35.66	22	41	60.01
		6.24			6.01			6.09			6.00
		4			24			11			16
		6.28			6.25			6.20			6.16

assume
n = 33 1/3

6.20
6.16
6.18
34
6.52

F rod 1327 6 fast
0m 6.52s
at 22h 40m. Sid Time

Tues Oct 24, 1905

M.F. Mroh

+44 56
+33 37 first 6 (prob bttr)
little meas
20 29

+44 56 +33 37

37m 46.2 52.5 8.7 42m 1.8
50.0 49.0 8.0 48
53.3 45.5 8.8 7.6
56.9 42.0 8.9 10.8
0.3 38.7 9.0 2277 13.8
2667 8.9 30.0 8.9 4554 21.00 388
53.34 14.2 248 9.0 2607 776
2619 19.6 19.47 0.8733 1.2682
19.53 0.0795 0.0795
.55 59 0.9528 1.3477
47 19.39
155 8.97 ~~8971~~
1952 29 22.27
~~3~~497 ~~549~~
30.03

84
14.2
19.6
248
30.0
97 5
19.50
05
19.55
~~29.97~~
~~4009~~
97
515
612
102

20 38 19.~~34~~ 52 20 42 30.02
20 38 13.31 20 42 23.87
6.21 6.15
02 5
~~03~~ ~~86~~
6.18 ~~6.23~~
6.19 6.20

h assumed
= .20
~~= .33⅓~~

~~h = .25~~

6.20
34
6.54

Frod 1327 is fast
0m 6.54s
at 20h 40m
Sid Time.

Wed Oct. 25, 1905

Mer Cir. 9.20-10.20. Obs.

ι Cephei. +65°42' (Missed 1st wires) (Images bad)
o Androm + 41°48' Rattle at 22h 54m
α Pegasi. +14°41' } Ink not flowing freely in pen
o² Aquarii -21°41' }

+65 42		
		59.9?
45m 37.5	10.6	7.3
43.0	18.8	12.9
49.0	28.4	19.5
54.5	36.9	— ?
—	46.2	39.6
184.0	140.9	9.90
46.00	35.22	1.2366
1.2962	8.5563	0.3856
0.3856	0.3856	1.6222
1.6818	8.9419	41.90
48.06	0.09	28.00
34.06	35.31	

90
12.4
25
239
17

+41	48	
57m 10.8	— ? 36.8	0.2
14.1	42.1	3.7
17.6	47.1	6.6
20.2	52.0	10.1
23.8	179.0	13.5
86.5	44.75	34.1
17.30	0.2608	6.82
1.2682	0.1276	1.2662
0.1276	0.3884	0.1276
1.3958	24.45	1.3938
24.88	42.31	24.77
42.18		42.05

TI +14	41 TIII
59m 46.2	24.2
48.6	26.8
51.0	29.4
53.5 ?	31.8
56.3	—
255.6	112.2
51.12	28.05
1.2682	1.2366
0.0145	0.0145
1.2827	1.2511
19.17	17.82
10.29	10.23

-21	41	
4m 5.9	23.3	45.8
8.4	27.2	48.4
11.0	31.4	51.0
13.7	35.2	53.7
16.2	39.0	56.2
55.2	156.1	255.1
11.04	31.22	51.02
1.2682	8.5563	1.2662
0.0319	0.0318	0.0318
1.3000	8.5881	1.2980
19.95	0.04	19.86
30.99	31.26	31.16

22	57	42.15	23	0	10.26	23	4	31.17
22	57	36.05	23	0	4.42	23	4	25.56
		6.10			5.84			5.61
		00			~~13~~			~~28~~
					22			44
		6.10			6.06			6.05

n assumed
= .33 1/3
~~= .20~~
= .33 1/3

6.10
6.06
6.05
18.21
6.07
f sec φ 34
6.41

Fwd 1327 is fast
0m 6.41s
at 23h 0m
Sid. Time

Thurs Oct. 26 1905

rather after
19 38
and
19 39

+50 0
+ 44 54
+ 8 37
+ 70 2

+50 0 7 + 44 54 +8 37 +70 2

33m 23.8 48.9 21.5 41 34.1 56.9 26.3 45m 52.1 8.3 29.5 47 27.6 14.1 15.8
27.~~1~~7 54.6 25.4 37.8 2.1 29.8 54.8 12.0 31.9 34.8 25.2 22.8
31.6 0.9 29.5 41.0 6.9 33.4 57.1 15.8 34.2 42.1 36.2 30.0
35.8 6.0 33.6 44.4 12.4 37.4 59.6 19.8 36.9 49.4 46.8 37.8
39.0 11.9 37.0 47.8 17.8 40.2 2.0 23.4 39.6 55.8 58.2 44.8
157.9 2.3 147.0 205.1 36.1 167.1 285.6 79.3 172.1 209.7 180.5 151.2
31.58 0.46 29.40 41.02 7.22 33.42 57.12 15.86 34.42 41.94 36.10 30.24
28.85 .05 28.72 26.18 .05 26.06 18.75 0.04 18.66 12.682 10 12.662
0.43 0.51 0.68 7.20 7.27 7.36 15.87 15.90 15.76 0.4666 36.20 0.4666
17.348 17.328
54.30 54.05
36.24 36.19

6.33
+2.75 5.37
+.15 .96
2.68 .78
1.80
1.56
2.40
2.08
(~~.36~~ .368
.37

19 34 0.54
19 33 54.41
6.13
~~09~~
10
~~6.04~~
8
6.05 6.03

19 42 7.28
19 42 1.40
5.88
.03
5.85

19 46 15.84
19 46 10.47
5.37
21 28
5.58 5.65

19 48 36.21
19 48 29.88
6.33
68
51
5.82 5.65

6.33
5.37
+ 2.75
− .15
2.90
.96
.87
90
87
3
(.33

~~n = .33~~

n = .37

605
558
582

5.85 × 2 1170
6.03 × 1 103
273
5.91
34
6.25

585
34
6.19

Frod 1327 is fast
0m ~~6.25~~ prob 5.19
at 19h 40m
Sid Time

585
34
19

Fri Oct 27, 1905

Mer Cir - 10.10.10.

Rattle after 19^{m}3d

δ Cygni +44°54' (Images very poor)
α Aquilae +8°37'
ε Draconis +70°1'

δ Cygni	+44 54		α Aquilae	+8 37		ε Draconis	+70 1	
41 ~~37~~m 33.6	56.1	26.1	45 ~~41~~ 57.9	8.0	29.2	47 ~~43~~ 26.9	13.3	15.2
37.2	1.6	29.9	54.6	12.0	32.0	34.3	24.7	22.4
40.6	6.9	33.1	56.9	15.4	34.3	41.9	35.9	30.2
43.8	11.6	36.2	59.7	19.3	36.7	48.5	46.5	37.5
47.5	17.2	39.3	21	23.1	38.9	56.1	57.2	43.6
2027	334	1646	2852	778	1711	2077	1776	1489
4054	668	3292	57.04	15.56	3422	41.54	35.52	29.78
2618	5	26.06	18.75	4	18.66	54.30	10	54.05
6.72	6.73	6.86	15.79	15.60	15.56	35.84	35.62	35.73

19	42 ~~38~~	6.77	19	46 ~~45~~ ~~42~~	15.65	19	48 ~~44~~	35.73
19	42	1.34	19	46	10.45	19	48	29.81
		5.43			5.20			5.92
		03			21			51
		5.40			5.41			5.41

5.92
5.20
+2.75
+.15
2.60) 72 (.27
52
200
182
180

k = 2.8

5.40
aecll 34
5.74

Frod 1327 is fast
0m 5.^{s}74
at 19^{h} 45^{m}
Sid. Time

Sat Oct 28, 1905

Mer Cir. 20·20·20·Obs.

Rattle before 23h 30m

41 H. Cephei +67°16' (wires 9,10, 13,14 & 15)

α Pegasi +18°35'

ω Piscium +6°20' (Clds. missed last 2 wires.)

+67 16		+18 35		~~+6 20~~	+6 20		
		I	II	III	5		
40m 41.0	~~51.4~~	4~~4~~8m 22.2	39.1	1.2	5~~4~~5m 9.9	25.9	47.0
51.4	41m 19.6	24.9	43.0	3.9	12.2	29.6	49.5
92.4	27.1	27.4	47.0	6.4	14.8	33.4	52.2
46.20	33.0	30.0	50.7	9.1	17.4	36.~~8~~9	148.7
	79.7	32.7	54.7	11.5	19.7	40.9	49.57
	26.57	137.2	234.5	3~~8~~21	74.0	166.6	
		27.44	46.90	6~~8~~42	14.80	33.32	
		19.56	4	19.47	18.65	04	
		47.00	46.94	46.95	33.45	33.36	

23	4~~4~~8 ?	46.96	23	5~~4~~5	33.40
23	47	42.23	23	54	28.83
		4.73			4.57
		17			24
		4.90			4.81

assumed

n = .3

4.90
4.81

4.86
h sec φ .34

5.20

Frod 1327 is fast
= 0m 5s.20
at 23h 50m
Sid Time

Sun Oct 29, 1905

M.F.M. obs

o' 27 Cygni +46 27
F [33 Cygni] +56 17 latest form
24 Vulp. +24 23 latest aux
EF [β Capric.] −15 5
γ Cygni +39 57

' +46 27 +56 17 +24 23 −15 5 +39 57

98 33.2 32
13.2 38.4 68
169 43.8 109
204 49.1 140
241 54.2 179
844 2187 528
16.88 43.74 1056
26.92 05 2679
4380 43.79 80 43.77

24.0 44.9 12.1
27.3 50.1 155
30.3 548 188
33.7 59.6 218
368 4.2 253
1521 2736 935
3042 5472 18.70
24.18 '04 24.18
5460 5477 5452

43.79
20 10 39.65
4.14

54.63
20 18 50.53
4.10

4.14
4.10
4.12
34
4.46

Frod 1327 is fast
$0^m\ 4^s.46$
at $20^h\ 15^m$
Sid Time

Mon, Oct 30, 1905

M. T. M. obs

−1 6
+46 27
+24 23
−18 8

EFS. I

lost latest wires some of +I

rattle after 20 26

−1 6 +46 27 −18 8

6 5.7 21.9 42.8 10 9.1 32.5 3.0 23m 7.0 23.9 46.1
8.4 25.6 45.2 12.9 38.0 9.9 27.8 48.8
11.0 29.2 47.9 16.2 43.5 12.2 31.8 51.2
13.2 33.1 50.2 20.0 48.6 14.9 35.8 53.8
15.8 36.7 52.5 23.4 54.0 17.5 38.8 56.5
54.1 146.5 238.6 81.6 216.6 61.5 158.1 256.4
10.82 29.30 47.72 16.32 43.32 12.30 31.62 51.28
18.55 04 18.46 26.93 05 19.51 04 19.92
29.37 29.34 29.26 43.24 43.37 31.81 31.66 31.86

20 6 29.32 20 10 43.30 20 23 31.84
20 6 25.88 20 10 39.63 20 23 28.50
3.44 3.67 3.34
~~28~~ 23 ~~4~~ 3 31
assumed ~~h = 3~~ ~~3.72~~ ~~3.63~~ 3.65
h = .25 3.67 3.64

3.67 × 1 = 67
3.64 × 2 = 128
3.65 × 1 = 65
4) 260
65

3.65
t sec φ .34
3.99

Frod 1327 is fast $0^m\ 3.99$ at $20^h\ 15^m$ Sid Time mer bi   Tues Oct 31, 1905

+38 17 T II latest 5 of T III   M. F. K., O. S.

−11 45 T II and T III

+29 50

AF [T by [illegible]] +37 38   rather after

+62 11   21 14

+38 17

2m 33.8 38
38.4 69
43.2 10.1
48.0 13.1
52.8 33.9
2162 8.44
43.24
04
43.28

−11 45

4m 22.6 43.9
26.0 46.5
29.9 48.9
33.8 51.6
37.8 53.8
1501 2447
30.02 48.94
.04 18.86
30.06 30.08

+29 50

8m 31.2 49.8 13.8
34.1 54.0 16.8
36.9 58.3 19.9
39.9 2.5 22.5
42.8 6.8 25.3
1849 2914 983
36.98 58.28 19.66
21.38 04 21.28
58.36 58.32 58.38

+37 38

10m 35.0 55.2 22.0
38.4 0.0 24.9
41.3 4.8 28.0
44.4 9.5 31.3
47.6 14.1 34.2
2067 236 1404
41.34 4.72 28.08
2342 04 23.31
4.76 4.76 4.77

+62 11

15m 33.7 8.0 53.0
39.0 15.9 58.1
44.0 24.0 3.8
49.8 32.0 8.8
54.8 39.8 14.2
2213 1197 179
44.26 23.94 3.58
1.2682 08 12662
0.3311 24.02 0.3311
1.5993 15973
39.75 39.57
24.01 24.01

21	2	43.28	21	4	30.07	21	8	58.35	21	11	4.76	21	16	24.01
21	2	40.38	21	4	27.25	21	8	55.48	21	11	1.88	21	16	20.77
		3.00			2.82			2.87			2.88			3.24
		3			23			7			3			20
		~~2.87~~			3.05			2.94			2.91			3.04
		3.03												

3.24
2.82
42 .2
422

+1.90
−.21
2.11

2.94 × 2 188
2.91 × 3 273
3.03 × 1 103
564
2.94
[illegible] 34
3.28

n = 2

Frod 1327 is fast
0m 3s.28
at 21h 10m
Sid. Time

Wed Nov. 1, 1905

M. F. M. obs

χ Pegasi +23 4
S [T Aquarii] −14 6 wire 9 bad
ι Cephei +65 42
δ Aquarii −16 20

+23 4

368
395
421
448
474
2106
~~3~~42.12
20.16
2.28

54.2
58.3
2.2
6.2
10.2
111
222
04
2.26

16.9
19.8
22.4
25.0
27.8
1119
22.38
20.06
2.32

2.29

22 4~~2~~1 59.88
2.41
16
2.57

−14 6

14.2
16.9
19.1
21.8
24.2
962
19.24
19.12
3836

30.8
34.4
38.4
42.4
45.9
1919
38.38
04
3842

52.1
54.9
57.3
0.1
2.5
2869
57.38
1903
38.35

38.3~~8~~7

22 44 3630
207
41
2.48

I +65 II 42

7.0
15.6
24.4
33.5
42.6
123~~4~~5
~~2~~4.62
08
24.70

57.6
3.7
9.5
15.5
21.4
477
954
1.2662
0.3856
1.6518
44.85
24.69

24.70

2246 21.69
3.01
4~~8~~6
~~3~~.55

−16 20

16.9
19.1
21.9
24.2
26.8
1089
21.78
19.32
41.10

33.2
37.1
41.2
45.0
48.9
2054
41.08
04
41.12

55.2
57.8
05
3.2
5.6
23
046
19.23
~~3~~41.23

41.15

22 49 39.03
2.12
42
2.54

+222 3.01
−29 2.12
2.51 89
753 (.35
1370
1255
1150

r = .35

25~~7~~6
34
2.90

257
248
255
254
214
54

Frod 1327 is fast
~~##~~ 0m 2.90s
at 22h 45m
Sid Time.

Thurs Nov 2, 1905

+15 35 lu~~ttt~~t six

α Cygni + 44 56
ε Cygni + 33 37
λ Cygni +36 8 lustest ten

+15 35 | +44 56 | | | +33 37 | | | +36 8
---|---|---|---|---|---|---|---|---
| | 41.9 | 46 | 34.2 | 57.5 | 16.8 | 42.3 | 37.1 | 29
| | 45.7 | 10.0 | 38.0 | 06 | 21.2 | 45.2 | 41.5 | 61
| | 49.0 | 15.2 | 41.6 | 38 | 25.5 | 48.0 | 46.1 | 92
| | 52.8 | 20.5 | 44.8 | 64 | 30.1 | 51.0 | 51.0 | 120
| | 56.1 | 25.6 | 48.2 | 9.5 | 34.6 | 53.8 | 55.2 | 150
| | 2455 | 759 | 2068 | 178 | 1282 | 2403 | 2309 | 452
| | 49.10 | 15.18 | 41.36 | 3.56 | 25.64 | 4806 | 4618 | 9.04
| | 26.18 | 06 | 2606 | 22.26 | 05 | 22.16 | 05 | 22.86
| | 15.28 | 15.24 | 15.30 | ~~+30~~ | 2569 | ~~1022~~ | 4623 | 46.18
| | | | | 25.82 | | 25.90 | |

15.27
20 38 13.02^6
2.21
3
2.18

25.80
20 42 23.68
2.12
9
2.21

46.20
20 43 44.09
2.11
7
2.18

n assumed = .35

2.18
2.18
2.21
57
2.19
34
2.53

Ford 1327 is fast
0m 2s.53
at 20h 40m
Sid Time

S at ~~Oct~~ Nov 4, 1905

ritte after
21 10

+40 48
+38 17 wire 6 bad
−11 45 T II T III
+29 50

+40 48			+38 17			−11 45		+29 50		
53^m 9.3	30.5 35.7	58.2	2^m 11.3	31.8	58.6	4^m 19.9 23.8	41.4 44.0	8^m 29.0	47.4	11.8
12.8	40.4	1.6	14.6	36.4	1.6	27.7	46.8	32.0	51.8	14.5
16.0	45.1	4.9	17.6	41.1	4.8	31.7	49.2	34.8	56.2	17.7
19.0 22.2	50.0	8.2	20.9	45.9	8.0	35.2	51.5	37.7	0.3	20.2
~~30.5~~	201.7	11.3	23.8	50.5	10.9	138.3	232.9	40.5	4.8	23.0
79.3	40.34	24.2	88.2	205.7	23.9	27.66	46.58	174.0	280.5	87.2
15.83	.04	48.4	17.64	41.14	47.8	.04	18.94	34.80	56.10	17.64
24.54 0	40.38	24.39	23.63	0.04	23.53	27.70	27.64	21.38	.04	21.28
40.33		40.45	41.27	41.18	41.25			56.18	56.14	56.36

27×2 54
25×2 50
18×1 18
122
24

20	53	40.39	21	2	41.2~~5~~4	21	4	27.67	21	8	56.23
20	53	39.51	21	2	40.30	21	4	27.19	21	8	55.41
		0.88			0.94			0.48			0.82
		1			4			.37			11
		0.89			0.98			0.85			0.93

assumed
λ = 1.33 1/3

89
98
85
93
365
0.91
34
1.25

Frod 1327 is fast
0^m 1^s.25
at 21^h 0^m,
S'd time

Wed, nov 8, 1905

rather after
23h 8m

+2° 48′
+23 13
+22 53
+12 ~~15~~ 14
+42 45

25.25
+05 25.14

23 33 31.77 ✓ Andcom

+42 45
32m 59s.4 21.1 49.7
1.4 26.1 53.0
2.6 31.1 56.2
6.0 36.0 59.9
9.2 41.3 ~~3~~0
12.8
300 155.6 281.8
600 31.12 56.36
25.25 .05 25.14
31.25 31.17 31.22
+12 14 ~~+42 45~~

+2 48

23 11 52.6
55.1 39.6 32.2
57.7 36.9 32.0
32.5
0.0 34.8 32.0
2.4 32.0 31.9
8.5 29.5 31.9
12.3 23.4 32.1
19.8 16.0
240.6
16.04

+23 13

23h 15m 32s.6 23.8 11 6.4
35.1 21.0 11.61
37.9 18.1 11 6.0
40.8 15.5 11 6.3
43.2 12.8 11 6.0
50.0 6.0 11 56.0
54.0 1.9 11 55.9
58.0
120.7
58.05

+22 53

20m 14.9 5.5 0.4
17.6 3.0 0.6
20.1 0.2 0.3
22.9 57.4 0.3
25.5 54.9 0.4
32.4 48.0 0.4
36.2 44.1 0.3
40.2
2.9
40.19

+12 14

23m 58.8 46.8 45.6
1.1 44.3 45.4
3.8 41.8 45.6
6.4 39.1 45.5
8.8 36.7 45.5
15.2 30.4 45.6
18.9 26.5 ~~45~~ 45.4
.228
34.14
22.76

+42 45

16
23 33 31.~~22~~
23 33 31.77
~~0.55~~
~~00~~
0.61

23 12 16.04
23 12 17.07
1.03 2
~~39~~
36 ~~.64~~
0.67 ~~.74~~

23 15 58.05
23 15 58.79
0.74
20 ~~+6~~
0.54 ~~0.58~~

23 20 40.19
23 20 41.03
.84
20 ~~+6~~
0.64 ~~0.68~~

23 24 22.76
23 24 23.67
0.91
28 ~~23~~
0.63 ~~0.68~~

assumed
~~n = .33 1/3~~

n = .4

0.67 × 1 .67
0.54 × 1 .54
0.64 × 1 .64
0.63 × 1 .63
0.55 × 2 1.10
6) 3.58
.597

0.68 1
34
0.26

Frod 1327 is slow
0s.27
0m ~~0.26~~

at 23h 20m
Sid Time

Thurs Nov. 9, 1905

M. F. M. obs

−0 47

+62 19

+32 43

+57 ~~56~~ 44

latest tap

T I cloudy

−0 47			+32 43			+57 44		
31.8	47.9	8.9	34.2	53.3	18.2	57.7	21.1	0.3
34.2	51.5	11.2	37.5	58.0	21.3	56.1	28.8	5.7
36.8	55.2	13.8	40.4	2.1	24.3	0.1	35.1	9.8
39.0	58.8	16.2	43.1	7.0	27.1	5.1	42.2	14.6
41.7	2.6	18.3	45.9	11.0	30.0	9.9	48.8	19.1
1835	2759	684	2011	114	1208	29	1760	495
36.70	55.18	13.68	40.22	2.28	24.16	0.58	35.20	9.90
18.55?	.04	18.46?	22.04	.05	21.94	34.73	07	34.57
55.25	55.22	55.22	2.26	2.33	2.22	35.31	35.27	35.33

0.66
+158 1.22
01 .56 (.35
−1.59 477
830
795
35

22 0 55.23
56.45
1.22
32
0.90

22 5 2.27
3.31
~~48.32~~
45.01 subtract
1.04
9
0.95

22 7 35.30
35.96
~~36~~
0.66
23
0.89

n = .35

0.90
0.95
0.89
274
0.91
34
0.57

Frod 1327 is slow

0m 0s.57

at 22h 5m

Sid Time

Fri Nov 10, 1905

M. F. M.

+12 14
F [72 Pegasi] + 30 48
+42 45

3 rattler after
23^h 36 m

	+12 14			+30 48			+42 45		
	23^M 58.1	14.8	36.0	28 48.7	7.4	32.1	32 58.3	20.4	49.0
	1.0	18.8	38.8	51.8	11.8	34.7	2.2	25.1	52.3
	3.2	22.3	41.1	54.4	16.0	37.5	5.4	30.6	55.8
	6.0	25.9	43.7	57.8	20.2	40.8	9.0	35.8	58.9
	8.4	30.0	46.2	0.5	24.7	43.3	11.9	40.4	2.1
	16.7	111.8	205.8	273.2	80.1	188.4	26.8	152.3	298.1
35	3.34	22.36	41.16	54.64	16.02	37.68	5.36	30.46	55.62
	18.97	04	16.88	21.59	.05	21.49	25.25	05	25.14
	22.31	22.40	22.28	16.23	16.07	16.19	~~30.81~~ 30.61	30.51	30.48

	23	24	22.33	23	29	16.16	23	33	30.53
32 35 160 96	23	24	23.65	23	29	17.24	23	33	31.74
			1.33			1.13			1.21
			~~24~~			~~11~~			00
		17	1.09		6	1.02			
		1.16			1.05				

assumed
n = .25

~~n = .35~~

1.16
1.05
1.21
42
1.13
.34
0.79

1.09
1.02
1.21
32
1.11

Frod 1327 is slow
0^m $0^s.79$
at 23^h 30^m
Sid Time

Sat Nov 11, 1905

M F read

rather fleecy

1^h
$2\cancel{1}$ 13^m

+ 37 38 Cutest .9

+62 11

−22 49

55
~~74~~
72
203
68

94
88
112
294
98

+37 38

10 55.5 17.3
0.0 20.2
4.9 23.1
9.1 26.2
~~17~~ 29.8
9.5 116.6
~~1.70~~ 23.32
2.38 23.~~33~~
0.1013 0.01
0.2608
0.3621

+62 11

15^m 29.0 31 48.0
34.0 11.1 52.9
18.6
39.4 27.0 58.8
44.2 34.2 4.4
49.4 9.3
1960 940 2934
39.20 1880 58.68
.08
12682 18.88 12662
03310 0.3310
1.5992 1.5972
3974 39.56
18.94 19.12

−22 49

20^m 43.1 6.8 29.4
44.8 10.6 32.1
49.0 14.7 34.8
51.9 18.7 37.6
54.3 22.8 40.1
57.1 73.6 174.0
59.9 147.2 348.0
2722 .04 200.2
5444 147.6 4
20.11 18.72
14.55

2~~2~~ 11 0.01
21 1~~2~~ 1.63
1.62
4 ~~3~~
1.58 ~~1.60~~
1.59

2~~1~~ ~~16~~ 18.~~8~~8
21 16 20.29
1.~~4~~1
29 ~~29~~
~~20~~ ~~15~~
~~1.61~~ ~~1.66~~
1.60

2~~2~~ 21 14.~~76~~
~~22~~ 21 16.~~52~~
~~98~~
~~1.78~~
1.9~~33~~
~~27~~ 39 ~~20~~
~~1.63~~ 1.56
~~1.59~~
1.60

assumed
~~n = .15~~
~~n = .2~~

+190 1.31
.42198
−
+2.32 .68 1.29
.464
2160
2088
720

n = .29

1.59 1.46 1.58
1.61 1.60 1.60
1.63 1.56
1.83 1.82 1.59
1.61 1.61 .34
.34 .34
1.27 1.27 1.25

T rod 1327 is slow
0^m 1.5~~2~~ 1.525
at 21 15^m
Sid Time

Sun Nov 12, 1905

m, F, W, ds

E (ε Androm) +28 48
+56 1
−18 30 T I very faint.
+57 19 rej' wire 1 (very faint all through)

+28° 48'			+56° 1'			−18° 30'			+57 19		
66	24.8	48.9	36.4	56.2	33.8	25.0	41.9	4.0	42.0	11.0	49.5
9.6	29.0	57.8	41.0	28	38.4	27.6	45.8	6.7	46.4	17.6	54.2
12.2	33.2	54.4	45.0	9.8	42.8	30.2	49.8	9.4	50.0	24.3	59.1
15.0	37.6	57.4		16.1	47.0	32.8	53.8	12.1	54.3	30.9	30
17.9	41.8	0.1		22.5	51.8	35.8	57.5	32.2	54.0	38.4	9.1
	166.4	272.6	122.4	47.4	213.8	151.4	248.8	8.05	251.7	122.2	294.9
61.3	33.28	54.52	40.80	9.48	42.76	30.28	49.76		50.34	24.44	~~7~~
122.6	05	21.06		07	33.02	19.55	04		34.34	07	58.98
21.15	33.33	33.46		9.55	9.74	49.83	49.80		24.68	24.51	34.18
33.41											24.80

123
369
38

36
108

57
171

		33.40		9.64		49.82	24.66
163	0 33	35.47	0 35	11.27	0 38	52.02	
		2.07		1.63		2.20	
		.11		.18		.38	
		1.96		1.81		1.82	

+148
−33 220
1.81 .57 [.314
543
270
181
890
724
166

n = .31

196
.81
1.89
k sec ϕ .34
1.55

Fred 1327 is slow
0m 1.55
at 0h 35
Sid T

Tues Nov 14, 1905

M.F.M obs

rattle after
21 52

-0 47
+62 19 broken very faint
[ ] +32 42 broken reg latest 2
+32 43 T II T III
+57 44

-0 47

22h 0m
29.8 46.1 7.0
32.3 49.8 9.8
532 11.9
34.9 57.1 14.2
37.5 0.9 16.9
39.8
17 43 2671 598
34 86 5342 11.96
18 55 .04 18.46
53.41 5346 5350

If n = 3

+62 19
T II : III
2 36.5
41.2
47.0
52.8
58.6
2361
47.22
0.3329
1.2662
1.5991
39.73
7.49

+32 42

+32 43
14 T II T III
5 36.9 7.7
41.6 4.6
45.7 7.8
50.2 10.3
54.4 13.3
2288 3787
45.76 7.574
05 21.94
45.81 45.58 60

+57 44
7h 4.0s 19.4 58.9
89 25.7 39
.1
12.9 33.2 8.1
6.45 40.1 13.0
47.0 17.2
1656 410
820
33.12 34.57
06
33.18 33.23

22 0 53.46
22 0 56.38
2.92
28 .42
2.64 2.50

22 2 7.49
22 2 9.55
2.06
30 45
236 2.51

22 5 45.70
22 5 48.23
5.3
2.47
8 12
2.57 2.35
2.45 41

22 7 33.40
22 7 35.79
2.39
.30
20 2.69
259

206
+190 292
-01
191 .86 .5 [.45
55
764
960
955

n = .45

2.50
2.41
2.46
34
2.12

2.50
2.51
2.41
2.59
211
252
34
2.18

64
36
45
59
204
2.51

Frod 1327 is slow
0m 2s.18
at 22h 0m
Sid Time

Thurs Nov. 16, 1905.

Meridian. Rattles after $1^h 57^m$

W. W. M. obs

30 Cassiop +71°58′ (last 6 wires)
α Arietis +23°1′
β Triang +34°32′

+71 58

$1^h 55^m 47^s.2056^m$ 8.4
0.8675 16.0
0.5094 23.7
1.3769 31.8
23.82 39.5
23.38 ~~.74~~
119.4
23.88
1.2662
0.5094
1.7756
54.65
24.23

1 55 23.25
1 55 26.83
3.58

+23 1

$2^h 1^m$ 23.4	41.1	3.7
26.3	44.9	6.3
28.8	49.2	9.3
31.6	52.9	11.9
34.2	57.2	14.2
144.3	245.3	45.4
28.86	49.06	9.08
20.15	.04	20.06
49.01	49.10	49.02

2 1 49.04
2 1 52.59
3.55

+34 32

$2^h 3^m$ ~~22.8~~?	44.9	10.2
25.3	49.3	13.3
28.3	53.9	16.2
31.1	58.2	19.2
34.3	2.9	22.3
~~37.2~~		
156.2	269.2	81.2
31.24	53.84	16.24
22.51	.05	22.41
53.75	53.89	53.83

2 3 53.82
2 3 57.30
3.48

38
115
153
2

3.55
3.48
7.03
3.52
.34
3.18

Frod. 1327 is slow
0^m $3^s.18$
at 2^h 0^m
Sid. Time

Sat Nov 18, 1905

Vot [illegible]
rattle third
23^h 40

+42 45 Electric tap faint
−15 4
+67 17

+42 45 — −15 4 — +67 17

32 ~~36.0~~ 55.9 17.5 ~~37.5~~ 37^m 21.4 38.0 59.8 42^m 22.5 40 57.8
58.9 22.6 45.9 — 24.0 41.2 25 — 28.2 13.4 44
2.2 27.6 49.2 — 26.4 45.8 4.8 — 34.9 23.2 10.8
5.9 32.2 52.8 — 28.8 49.5 7.5 — 40.2 32.2 16.9
9.0 37.5 56.0 — 31.8 53.2 10.1 — 48.2 42.0 23.5
1.9 — 59.3

2 38 — 137.4 — 263.2 — 132.4 227.7 24.7 — 1740 1153 5468
25.25 27.48 52.64 — 26.48 45.54 49.4 — 34.80 23.06 1.068
06 — 25.14 — 19.21 4 19.12
27.63 — 27.54 — 27.50 — 45.69 45.58 45.82

1.2682 8.5563 1.2662 32
0.4150 0.4150 0.4150
32 32
~~1.6832~~ 8.7595 1.6794
1.6814 ~~8.7717~~ ~~1.6812~~
~~48.21~~ ~~0.09~~ ~~47.79~~
~~48.81~~ ~~23.15~~ ~~22.81~~
22.81 0.09 22.89
23.15

81
89
115
285
95

69
58
82
209
696

101
1.15
21
287
96

1.01
1.15
.31
2.67
89

23 33 ~~27.58~~ 27.56
23 33 31.61
4.05
.00
4.05

23 37 45.70
23 37 50.27
4.57
.50
4.07

23 43 ~~22.89~~ 22.96
23 43 26.42
3.46
.62
4.08

+2.39
−.27
+2.66

3.46
4.57
1.11
1.064
460
266
1940

(.417

~~x~~ =

x = .42

4.06
[illegible] .34
3.72

Frod 1327 is slow
0^m $3^s.72$
at $23^h 40^m$
Sid Time

Sun, Nov 19, 1905

+ 26 46

+ 59 45 wire 5 bad

+ 72 33

in Flm,

rattle before

1 12

+ 26 46			+ 59 45			+ 72 33		
1 13 47.0	5.2	28.8	18m 50.2	22.3	40	24 40.3	34.6	44.3
50.2	9.2	31.4	55.2 59.3	29.9	8.5	49.1	46.9	53.1
53.1	13.8	34.0	55	37.5	13.8	56.8	54.2	1.4
55.5	17.6	36.9	10.1	44.3	18.8	5.0	11.0	8.9
57.9	21.7	40.0		51.5	23.2	13.8	23.2	17.7
2637	675	171.1	0.3	1855	683	2850	2949	5.4
52.74	13.50	34.22	0.06	37.10	13.66	57.00	58.98	1.08
~~200~~	4	20.67	36.82	7	36.64	1.2682	8.5563	1.2662
20.79	1155	~~489~~	36.88	37.17	37.02	0.5231	0.5231	0.5231
13.53	13.54	13.55				1.7913	9.0794	1.7893
						61.84	0.12	61.56
						58.84	59.10	59.52

88
117
102
307

84
110
152
346
1.15

1	14	13.54	1	19	37.02	1	30 ~~29~~	59.15
1	14	18.06	1	19	41.06	1	31	2.71
		4.52			4.04			3.56
		.15			.29			.81
		4.37			4.33			4.37

356
4.52
3.18 .96 1.358
+50
2.68
8.04
1560
~~08~~
1340
220

4.35
Recd 4.34
4.01

n = .36

Found 1327 is slow
0m 4s.01
at 1h 20m,
sid Time

Mon. Nov 20, 1905,

M.F., 4 obs

+50 13 missed first

+8 41

+29 7

rattle after

$1^h 43^m$

+50 13

37^m 9.5 30.1 3.1
13.0 36.1 6.8
17.0 420 10.8
20.6 478 14.8
537 18.4

601 2097 539
1502 41.94 10.78
062884
42.00 41.94

+8 41

39^m 57.0 12.8 34.5
59.3 167 367
1.8 20.2 392
4.1 24.1 41.8
6.8 279 44.1

9.0 1017 1963
180 20.34 39.26
1876 04 18.66
20.56 20.38 20.60

+29 7

47 11.8 27.9 53.9
14.8 33.8 566
17.3 38.4 59.8
19.8 424 26
229 470 52

866 1915 2981
1732 38.30 59.62
21.22 05 21.12
3854 3835 38.50

29
45
145
116
13

36
45
180
144

76
45
380
304

1 37 41.97
1 37 46.76
4.79
13
4.92

1 40 20.51
1 40 25.77
5.26
311
492

1 47 38.46
1 47 43.56
5.10
16
5 4.94

479
+120 526
+15
+105 47
420
(45
500
420
800

n = 45

4.93
34
4.59

Frod (32) is slow

0^m $4^s.59$

at $1^h 40^m$

Sid Time

Tues. Nov. 21, 1905

M. F. in obs

E [ ] −0 47
[ ] + 24 53
[ ] + 32 42
+ 57 44 Cutest guess

rattle before
21 53

−0 47			+24 53			+32 42			+57 44	
22 0 26.8	42.8	3.9	22 2 5.8	23.2	46.2	4m 29.5	48.6	13.3	7m 16.0	55.2
29.2	46.8	6.5	8.5	27.5	49.0	32.4	53.2	16.2	23.4	0.0
31.7	50.4	8.8	11.2	31.5	51.8	35.0	57.1	19.1	30.3	5.0
34.2	54.0	11.5	14.0	35.6	54.8	38.2	1.8	22.4	36.8	9.4
36.7	58.0	13.8	16.6	39.8	57.2	41.1	6.1	25.1	44.1	13.8
158.6	252.0	44.5	56.1	157.6	259.0	176.2	286.8	96.1	150.6	23.4
31.72	50.40	8.90	11.22	31.52	51.80	35.24	57.36	19.22	30.12	4.68
18.55	4	18.46	20.45		4 20.35	22.04	05	21.94	07	34.57
50.27	50.44	50.44	31.67	31.54	31.45	57.28	57.41	57.28	30.19	30.11

22 0 50.38	22 2 31.55	22 4 57.32	22 7 30.15
22 0 56.29	22 2 37.34	22 5 ~~48.10~~ 3.09 −45.01	22 7 35.54
5.91	5.79	5.773	5.39
31	15	97	22
5.60	5.64	5.68	5.61

158 5.39
−01 5.91
159 .52 | .327
477
430
318
1120
1113

n = .33

5.60
5.64
5.68
12
5.64
.34
5.30

Frod 1327 is slow
0m ~~5.64~~ 5.530s
at 22h 5m
Sid Time.

Wed Nov 22, 1905

Mer Cir.

Rattle after 3h 03m

47 H Cephei +79°9' Wires 7-14 inclusive
α Ceti +3°43' last 5 wires
ρ Persei + 38°28' " 8 "
β Persei + 40°35'.

+79 9

53m 34.6 46.2
52.6 59.2
13.3 11.0
23.7
1605 20.1
5.02
3.50
0.5654
0.7253 1.2366
0.7253
1.2907
19.53 19619
~~5 20~~
5 33.97 91.60
~~33 30~~ 33.42
~~53 30~~

+3 43

57m 29.0
31.4
33.9
36.5
39.0
1698
33.96
18.49
15.47

+38 28

59m 3.2s 20.8
8.1 23.8
12.8 26.9
~~20.8~~ 30.1
33.0
241 1346
8.03
0.5654 2692
0.1063 2.57
2366
0.6717
4.70 ~~3.24~~
~~0.117~~ 3.35
~~7.56~~
3.33

+40 35

1m 26.4 47.5 15.1
29.8 52.5 18.1
33.0 57.3 21.6
25.0
36.2 2.1 28.1
39.7 7.0
1651 2864 1079
33.02 57.28 21.58
2442 05 24.31
57.44 57.33 57.27

2 53 33.66
2 53 39.38
5.727
.64
~~6.36~~
6.39

2 57 15.47
2 57 22.02
6.55
.14
6.41

2 59 3.34
2 59 9.51
6.17
2
6.15

3 1 57.35
3 2 3.54
6.19
01
6.18
02
~~6.17~~

168
241
459
655

5.72
655
+5.22
+ 06
+5.16
~~.77~~
.83
516
3140
3096
44
(.16

n = .16

6.15
6.18
6.17
34
5.83

Frod 1327 is slow
0m 5.83s
at 2h 55m
Sid Time.

Thurs Nov. 23, 1905

M. F. H. obs

+32 43
+57 44
−8 15

rattle after
.22 13

105
45
525
420

~~67~~ 67
45
335
268
3015

27
45
135
108

+32	43
5m 32.3	57.2
36.7	0.2
41.2	30
45.7	6.2
50.2	9.0
2061	15.6
41.22	3.12
05	21.94
41.27	41.18

+57	44
7 15.2	54.5
22.0	59.0
29.1	3.8
36.0	8.5
42.9	12.8
1452	186
29.04	3.72
07	34.57
29.11	29.15

11 −8	15	
20.4	~~30.4~~	57.9
23.0	36.7	0.2
25.5	40.3	2.9
27.9	44.0	5.4
~~30.4~~	48.0	7.9
	51.7	
1272	2207	14.3
25.44	44.14	2.86
18.74	04	18.65
44.18	44.18	44.21

22 5 41.22
22 5 48.06
6.84
12
6.72

22 7 29.13
22 7 35.47
6.34
30
6.64

22 11 44.19
22 11 51.31
7.12
47
6.65

6.34
+158 7.12
−147 .78
+1.82 688 (.45
920
860
.600

n = .45

6.72
34
6.38

6.72 × 2 144
6.64 × 1 64
208
69
34
6.35

Frod 1327 is slow
0m 6.3~~8~~5s

at ~~25~~ 22h 10m
Sid Time

Fri. Nov. 24, 1904

M. t. M. obs

[ ] + 43 3 3
− 11 45
+ 29 50
A P [τ Cygni] + 37 38

−11 45			+29 50			+37 38		
55.4	11.9	33.2	20.8	39.5	3.6	24.8	44.8	11.2
58.1	15.7	35.8	23.8	43.6	6.2	28.0	49.6	14.5
0.4	19.4	38.2	26.8	48.0	9.2	30.9	54.2	17.6
3.0	23.1	41.0	29.6	52.1	12.0	34.0	58.9	20.8
5.6	27.0	43.2	32.2	56.3	14.8	37.1	3.4	23.9
25	97.1	191.4	133.2	239.5	45.8	154.8	270.9	88.0
0.50	19.42	38.28	26.64	47.90	9.16	30.96	54.18	17.60
18.94	4	18.86	21.38	5	21.28	23.42	05	23.31
19.44	19.46	19.42	~~45.27~~ 48.02	47.95	47.88	54.38	54.23	54.29

assume
n = .45

11.2
45
560
448
5040

34
45
170
136
45
14
630

~~2~~ = 4

19.44
21 4 26.90
7.46
.50
6.96

45
7.01

47.95
21 8 55.04
7.09
14
15
6.95
6.94

54.30
21 10 61.35
7.05
6
6.99

6.96
6.94
6.99
19
6.96

6.95
6.99
6.97
.34
~~6~~
~~6~~7.63

Frod 1327 is ~~F~~ slow
0m 6s.63
at 21h 5m
Sid Time

Sat Nov 25, 1905

M. F. M.

+7° 23'
+35 7
+26 46
+59 45

rattle before
0h 55m

+7 23 +35 7 +26 46 +59 45

0h 57m 32.0 48.3 9.9 | 1h 3m 52.2 11.6 37.2 | 13 44.1 2.4 25.7 | 18 47.2 19.2 1.1
34.9 52.0 12.2 | 55.0 16.1 40.2 | 47.0 6.3 28.2 | 52.4 27.1 6.1
37.3 56.0 14.4 | 58.5 20.6 43.3 | 49.9 10.6 31.2 | 57.2 34.0 10.8
39.8 59.7 17.0 | 4.1 24.9 46.2 | 52.4 14.6 33.9 | 2.1 41.2 15.8
42.1 3.2 19.5 | 29.9 49.3 | 55.2 18.8 36.6 | 6.9 48.7 20.6

1861 2792 730 | 2910 1031 2164 | 2486 527 1556 | 2858 1702 544
~~38~~ 37.22 5584 1460 18.61 | 5820 2062 43.24 | 49.72 1054 31.12 | 57.16 3404 10.88
18.69 .04 | 22.67 .05 22.56 | 20.77 .05 20.67 | 36.82 .08 36.64
55.91 5588 5599 | 2087 20.67 20.68 | 1049 1059 1045 | 33.98 34.12 34.24

assumed n = ~~.4~~ .5
~~.4~~ .5

0 57 55.93 | 1 4 20.74 | 1 14 10.51 | 1 19 34.11
0 57 63.67 | 1 4 28.27 | 1 14 18.02 | 1 19 40.98
7.74 | 7.53 | 7.51 | 6.87

6.87
7.23

39 7.35 | 7.31 7.43 | 10 7.43 | 7.8 7.45 | 20 7.31 | 7.16 7.35 | 40 7.27 | 37 7.19

7.35
7.43
7.31
727

136
7.34
34
7.00

Frod 1327 is slow
0m 7.00s
at 1h 30m
Sid Time

Mon Nov 27, 1905

M i t M.

40 Cassiop + 72 33

AEFS [v Piscium] + 5 0

+ 50 13 missed first taps

+ 8 41

+72° 33′

36.4	29.5	40.8
48.5	42.7	48.9
53.0	55.1	57.2
1.8	7.8	50
9.8	20.1	13.0
2665	2752	2849
5330	5504	5698
1.2682	8.5563	1.2662
0.5231	0.5231	0.5231
1.7913	9.0794	1.7893
61.84	0.12	61.56
55.14	55.16	55.42

55.24

1 30 62.47

7.23

1.13 ~~1.08~~

~~8.31~~

8.36

+50° 0′

0.0	16.1	3.71
2.4	19.8	39.8
4.8	23.8	42.2
7.4	27.2	44.8
9.9	30.9	47.0
245	1178	2109
490	23.56	42.18
1862	+04	18.54
~~32.52~~ 23.52	23.60	23.64

23.59

1 36 32.35

8.76

~~34~~

~~8.37~~

8.35

+8 41

~~+50 13~~

53.6	9.4	30.8
55.9	13.1	33.2
58.2	17.2	35.8
0.9	20.8	38.2
3.2	24.4	40.8
2918	849	1788
5836	1698	35.76
1876	.04	18.66
17.12	17.02	17.10

17.08

1 40 28.75

8.67

38

8.29

+50 13

~~+8 41~~

27.0	59.7
32.8	3.6
38.6	7.2
44.4	11.2
50.2	15.0
1930	367
38.60	7.34
06	
3866	2885
	38.49

3858

1h 37m 46.71

8.13

14

8.27

7.23

+3.18 8.76

+ 0.9E

+3.09

1.535

~~[illegible]~~

2620

~~2336~~

~~840~~

.5 ~~.48~~ .495

1530

1236

2940

2781

159

~~n = .48~~

n = .5

8.29

34

7.95

Frod 1327 is slow

0m 7.95s

at 1h 35m

Sid. time

Wed Nov. 29. 05

20-20-20.

Rattle at $3^h 34^m$

δ Persei + 47°29'
ν Persei + 42°16'

	+ 47	29			+ 42	16	
35^m	30.9	54.9	25.6	38^m	8.3	30.0	58.4
	34.9	0.0	29.4		11.8	35.1	1.5
	38.4	5.6	33.1		15.0	39.9	5.0 8.2
	42.0	11.2	36.8		18.2	44.9	11.4
	45.6	16.6	40.2		21.6	50.0	
	1918	283	1651		749	1999	245
		566	33.02				4.90
	38.36	06			14.98	39.98	24.95
	27.44	5.72	27.31		25.06	05	
	5.80		5.71		40.04	40.03	39.95

3	36	$5.7\overset{4}{8}$	3	38	40.01
3	36	$14.5\overset{9}{8}$	3	38	49.02
		8.85			9.01
		7			00
		8.92			9.01

assumed
n = .4

8.91
9.01
8.96
34
8.62

Frod 1327 is slow
0^m $8^s.62$
at $3^h 35^m$
Sid. time

Thurs, Nov 30, 1905

M. F. M. o. b.

+ 71 58 (changed angle) T II T III rather before 1^h 57^m
+ 41 52
+ 23 1. T II T III
+ 34 32

	+71 58	
54^m	53.3	1.8
	5.5	10.2
	17.9	17.8
	30.1	26.1
	41.7(?)	33.5
	8 85	8 9 4
	17.70	17.88
	12	59.65
	17.82	18.23

	+41 52		
57^m	~~13.1~~	~~42.0~~	17.0
	27.4	48.9	20.1
	30.9	54.0	23.4
	33.9	58.8	27.1
	37.2	3.9	30.2
	40.7	9 0	
	17 01	29 46	11 78
	34.02	58.92	23.56
	24.90	05	24.78
	58.42	58.97	58.78

	+23 1	
27^m	34.9	57.5
	39.0	0.2
	43.2	3.0
	47.1	5.8
	51.0	8.4
	215 2	14.9
	43.04	2.98
	04	20.06
	43.08	42.92

	+34 32		
3^m	19.1	39.0	4.2
	22.2	43.5	7.0
	25.1	48.0	10.2
	28.2	52.4	13.8
	31.1	56.9	16.2
	125 7	239 8	50 7
	25.14	47.96	10.14
	22.51	.05	22.41
	47.65	48.01	47.73

~~n = 5~~

1 55 18.02
1 55 26.55
8.53
84
9.37

1 57 58.89
1 58 8.13
9.24
.01 00
9.23 9.24

2 1 43.00
2 1 52.56
9.56
24 19
9.32 9.37

2 3 47.80
2 3 57.27
9.47
11 .09
9.36 9.38

8.53
+3.07 9.56
+042 1.03
2.65 7.95
2350
2385

(.39

n = .39

9.24
9.38
9.31
34
8.97

Frod 1327 is slow
0^m 8.^s97
at 2^h 0^m
Sid Time

Fri Dec 1, 1905

M F. Wols

rattle before $21^h\ 46^m$

+48 52
+25 29
−0 47

	+48	52		+25	29		−0	47	
	42^m 33.0	57.1	29.8	48^m 10.1	28.4	51.3	22 0 22.8	38.8	59.8
	36.4	28	33.2	13.0	32.4	54.1	25 0	42.3	21
	40.6	9.0	36.9	15.8	36.1	56.6	27.6	46.0	4.6
	44.2	14.4	40.6	18.6	40.~~7~~2	59.8	30.1	49.8	6.9
	47.8	19.6	44.1	21.6	43.8	22	32.3	53.2	9.7
	2020	429	1846	791	1809	2840	1378	2301	231
59	40.40	8.58	36.92	15.82	36.18	56.80	27.56	46.02	4.62
64	28.19	06	28.06	20.55	04	20.45	18.55	04	18.46
86									
209	8.59	8.64	8.86	36.37	36.22	36.35	46.11	46.08	46.16
6966									

	21	43	8.70	21	48	36.31	22	0	46.12
assumed	21	43	18.46	21	48	46.08	22	0	56.16
~~n = 4~~			9.76			9.77			10.04
		6	~~09~~		11	~~+8~~		23	~~37~~
n = .25		9.82	~~9.85~~		9.88	~~9.59~~		9.81	~~9.67~~

9.82
9.88
9.81
251
~~44~~
9.84

9.82
9.88
985
34
9.51

Frod 1327 is slow
$0^m\ 9^s.51$
at $21^h\ 50^m$.
Sid Time

Tues Dec 5, 1905

Mer Cir.

MFM obs

rattle after

22 9

−0 47
E [ ] +24 53
+32 43
+57 44 T II T III

−0 47			+24 53			+32 43			+57' 44''	
$22^h 0^m$ 20.1	35.9	56.9	1^m 58.6	16.5	39.6	5^m 7.4	26.8	51.5	7^m 9.2	48.2
22.5	39.6	59.4	1.3	20.5	42.4	11.0	31.3	54.2	15.8	52.7
25.0	43.5	1.8	3.9	24.8	45.0	13.8	35.5	57.2	22.8	57.6
27.5	47.0	4.7	6.8	28.7	47.3	16.4	39.8	0.0	29.8	2.6
29.8	50.5	6.8	9.4	32.6	50.3	19.7	44.0	3.0	37.2	6.8
1249	2165	9.6	20.0	1231	2246	683	1774	2859	1148	287.9
2498	4330	1.92	4.00	24.62	44.92	13.66	35.48	57.18	22.96	57.58
18.55	04	18.46	20.45	4	20.35	22.04	05	21.94	07	34.57
43.53	43.34	43.46	24.45	24.66	24.57	35.70	35.53	35.24	23.03	23.01

22	0	43.44	22	2	24.56	22	5	35.49	22	7 23.02
22	0	56.11	22	2	37.13	22	5	47.84	22	7 35.06
		12.67			12.57			12.35		12.04
		37			18			11		± 27
		12.30			12.39			12.24		12.31

+158 12.04
−.01 12.67
+1.59 .63 (.396
477
1530
1431
990
954

n = 4

12.30
12.39
12.24
12.31
124
12.31
δ sec φ .34
11.97

Fund 1327 is slow
0m 11.s97
at 22h 5m
Sid. Time

Thurs. Dec 7 1905

rattle after
23 49

+67 17
+18 36
+6 20

148
34
592
444
5032

58
58 174
34
232
174
80 248
148
37
148
444
4588
34
80
2720

+67 17			+18 36			+6 20		
42m	54.2	47.4	47m 3.2	20.6	42.2	53 50.9	7.2	28.1
12.0	32	533	60	241	448	535	109	307
18.2	120	03	86	27.9	476	559	146	330
24.2	220	68	109	319	502	584	182	358
309	31.8	131	134	358	526	1.0	21.9	38.1
367								
1220	632	0.89	421	1403	2374	2797	728	1657
2440	12.64	0.18	842	28.05	47.48	53.94	1456	33.14
~~48.21~~ ~~0.41~~ ~~46.01~~	.09	~~23.15~~ 74 ~~47.77~~	19.56	4	19.47	18.65	4	18.57
~~12.61~~ 12.49	12.73	37.01 ~~12.19~~ ~~21~~ ~~2.77~~ 12.39	27.98	28.09	28.01	12.59	14.60	14.57

12662
0.4132
1.6794
47.79

41
73
39
153
51

23	43	12.51	23	47	28.03	23	54	14.59
23	43	25.60	23	47	41.75	23	54	28.46
		13.09			13.73			13.87
		~~46~~			~~18~~			~~25~~
		50			20			27
		~~13.55~~			~~13.55~~			~~13.62~~
		13.59			13.53			13.60

13.09
13.87
+2.39
+11
~~2.50~~
2.28
.78
.59
30
25
50
n = .31
n = .34

22.8)78(342
684
960
912
(.3) 12 480

13.59
13.53
13.56
34
13.22

Frod 1327 is slow
0m 13s.22
at 23h 50m
Sid. time

Fri. Dec. 8, 1905

M + M,

(rattle before
22 13)

B rattle after
22 24

− 1 52
+ 51 45
+ 49 48 missed wire,

−1 52

16m 8.8	24.7	45.9
11.2	28.2	48.1
13.6	32.0	50.9
	36.0	53.2
16.1	39.7	55.5
18.5		
682	1606	2536
13.64	32.12	50.72
18.56	4	18.47
32.20	32.16	32.25

+51 45

18 59.0	25.0	58.9
2.8	30.9	2.8
6.8	36.8	6.9
11.0	42.8	10.8
14.8	48.8	14.8
344	1843	342
6.88	3686	6.84
29.95	06	29.82
36.93	36.92	36.66

+49 48

26s 37.7	58.8	31.2
41.6	4.2	34.8
45.3	10.1	38.8
49.2	16.1	42.8
	21.8	46.6
1738	510	1942
43.45	10.20	38.84
	06	28.60
	10.26	10.24

22 16 32.20
22 16 46.86
14.66
32
14.34

22 19 36.84
22 19 51.17
14.33
12
~~14.2~~
14.45

22 27 10.25
22 27 24.52
14.27
9
14.36

assumed
r = 13 1/3

14.34
14.45
14.36
115
14.38
34
14.04

Frod 1327 is slow
0m 14.s04
at 22h 20m
Sid Time

~~Sat~~ Sun Dec, 10 1905

M, F, M. obs

+59 45 rather through

+14 pre 51 last T less good , 1^h 23^m
sf or +48 9
+48 9

+59 45
51.6
1^h 19^m 31.7 56.1
39.4 1.2
~~51.6~~ 6.0
10.8
711
3555 57
1.14
36.64
24.50

1 19 24.50
1 19 40.67
16.17
27
16.44

+14 51
25^m 46.0 2.7 24.4
48.8 6.7 26.6
51.2 10.4 29.9
53.8 14.0 32.0
56.2 18.1 34.5
2560 519 1474
51.20 10.38 29.48
19.19 04 19.10
10.39 10.42 10.38

1 26 10.40
1 26 27.06
16.66
22
16.44

+48 9
29^m ~~51.1 15.0 46.9~~
~~55.2 20.8~~
~~58.8 26.4~~
~~2.2 32.3~~
~~6.4 37.5~~
31^m
22.0 46.2 17.3
25.9 51.8 21.1
29.5 57.2 24.9
33.2 3.0 28.5
36.9 8.2 32.0
1475 2864 1238
29.50 57.28 24.76
27.80 06 27.67
57.30 57.34 57.09

1 31 57.24
1 32 13.68
16.44
7
16.51

assumed
$n = .33\frac{1}{3}$

16.44
16.44
16.51
139
46
16.46
34
16.12

Frod 1327 is slow
0^m $16^s.12$
at 1^h 25^m
Sid Time.

Wed Dec 13, 1905

M. F. M. obs

-0.054 (5) [ ] +62 24 [illegible] wire 2 T III rattle before 0h 17m
+33 12
+30 20 T II T III
+56 1 visible 10 T III
-18 30
+23 45 first 7 wires (others?)

+33 12 +30 20 +56 1 -18 30 +23 45

31^m 5.0 24.2 49.0 33^m 51.0 15.2 35 16.6 38^m (5.0) 25.2 47.2 41^m 37.0
8.0 28.6 52.1 55.1 18.1 20.9 8.4 29.0 50.0 39.9
10.8 33.0 55.3 59.7 21.0 25.8 11.0 33.0 52.5 42.8
13.8 37.4 58.3 3.9 23.8 30.1 13.6 36.9 55.0 45.5
16.9 41.8 1.0 8.1 26.7 34.2 16.4 41.0 57.8 47.9
127.6 18.8
545 1652 2757 2978 1048 25.52 682 1651 2625 2131
10.90 33.04 55.14 59.56 20.96 33.02 13.64 33.02 52.50 42.62
22.16 05 22.06 05 21.39 52.50 19.55 04 19.46 20.16
33.06 33.09 33.08 59.61 59.57 33.19 33.06 33.04 2.88

18.60
18.12
.48

0 31 33.08 0 33 59.59 0 34 52.50 0 38 33.10 0 42 28.8
0 31 ~~44.19~~ 51.38 0 34 17.82 0 35 10.62 0 38 51.70 0 42 21.07
~~11.11~~ 18.23 18.12 18.60 18.19
18.30 9 15 34 13
7 ~~18.34~~ 18.27 18.26 18.06
18.23 18.14

+1.48 18.12
33 18.60
− 1.81 .48
362
1.1806
19.85
75
.269
~~2.89~~

n = 27 940

23
14
27
26
06
96
19

18.23 × 3 69
18.14 × 2 28
18.06 × 1 6
103
18.17.

~~18.17~~
18.19
34
17.85

Fred 1327 is slow
0m 17.85s
at 0h 35m
Sid Time

Thurs Dec 14, 1905

hy, F M,

rattle before 4h, m

+35 7

(17) -0.021] +29 35

+35	7		+29	35	
3m 40.2	59.9	25.4	5 43.1	1.1	25.8
43.5	4.4	28.6	45.5	5.7	28.6
46.6	9.0	31.6	49.0	10.0	31.2
49.4	13.2	34.6	51.5	13.9	34.0
52.5	17.8	37.5	54.2	18.8	36.8
2322	443	1577	2433	4959	1564
46.44	8.86	31.54	48.66	9.10	31.28
22.67	05	22.56	21.33	05	21.23
9.11	8.91	8.98	9.99	9.95	10.05

1	4	9.00	1	6	10.00
1	4	28.06	1	6	29.13
		19.06			19.13
		5			9
		19.01			19.04

assumed

n = .25

19.03
34
18.69

~~Fod~~ 1327 is slow
0m 18.s69
at 1h 5.m
Sid time

Sun Dec 17, 1905

quar Cir

[illegible]
Rattleart 23h 52m

α Androm. + 28° 34'
β Cass + 58° 38' (last 4 wires)
γ Peg. + 14° 39'

+28°34'				+58°38'	+14°39'		
02m	42.7	36.3	9.0	03m 19.4	07m 37.0	25.8	2.8
	45.8	33.4	9.2	24.1	39.8	23.0	2 8
	48.3	30.6	8.9	28.5	42.1	20.5	2 6
	51.3	27.7	9.0	33.7	45.0	18.2	3.2
	54.3	25.4	9.7	105 7	47.7	15.8	3.5
	1.3	18.0	9.3	26.42	53.6	9.2	2.8
	5.6	14.0	9.6		58.0	5.7	3.7
			9.6				1.7
			93				81
			9.62				1.54

0h 03m 9.62
0h 03 31.23
21.61
.11
21.72

0h 08m 1.54
0 08m 23.03
21.49
.20
21.69

assumed
n = .23

21.70
.34
21.36

Frod. 1327 is
slow
21s.36
at 0h 5m S.T.

Mon Dec. 18, 1905

Mer Cir — 20.20.20. Obs.

υ Piscium +26°46' (missed 1st 3 wires)
δ Cassiop +59°45'
η Piscium +14°51'. Rattle 1h22m

	+26 46			+59 45				+14 51		
1 13m	47.2	10.6	1 18	31.8	$\overset{4.0?}{11.2}$	45.3	25	40.2	56.7	18.8
	51.2	13.5		37.2	18.4	50.6		43.1	0.7	21.2
	55.3	16.2		41.9	25.9	55.4		45.3	4.3	~~25.9~~ 23.9
	59.7	19.0		46.2	33.2	0.4		48.1	8.5	26.4
	3.9	21.8		51.2		5.3		50.2	12.2	28.9
	2773	811		2083	927	2770		2269	224	1192
	55.46	16.22		41.66	18.54	55.40		45.38	4.48	23.84
	05	20.67		36.82	08	36.64		19.19	~~04~~ 04	19.10
	55.51	55.55		~~4.84~~ 18.48	18.62	18.76		~~.77~~ 4.57	4.52	4.74

1	13	55.53	1	19	18.62	1	26	4.61
1	~~18~~ 14	~~18~~ 17.81	1	19	40.46	1	26	26.99
		~~7.72~~			21.84			22.38
		22.28			30			24
		16			22.14			22.14
		22.12						

21.84
+1.72 22.38
+27 ~~.16~~
1.45 .54
435
105
915
1350
1305

(.379

22.13
34
21.79

n = .38

Frod 1327 is slow
0m 21.s79
at 1h20m
Sid Time.

Tues Dec 19, 1905

M. F. M.

$1^h 4^m$ β Androm + 35 7

δ Cassio, + 59 45

$1^h 19^m$

+35 7			+59 45		
36.6	56.2	21.9	31.2	34	44.9
39.7	0.8	25.0	36.2	10.8	49.8
42.5	5.2	27.9	41.0	18.0	54.7
45.8	9.9	31.0	46.4	25.6	59.6
46.4	14.2	33.9	51.1	32.8	4.4
2130	263	1397	2059	906	2734
42.60	5.26	27.94	41.18	18.12	54.68
22.67	05	22.56	36.82	08	36.64
5.27	5.31	5.38	18.00	18.20	18.04

35
70
35
280

	5.32		18.08
1 4	28.00	1 19	40.43
	22.68		22.35
7	8	28	32
22.61	22.60	22 63	22.67

assumed

~~n = 4~~

n = .35

22.62
34
22.28

Frod 1327 is slow

0^m $22^s.28$

at $1^h 10^m$

Sid. Time.

Wed Dec 20, 1905

M. F. M. obs

+30 20 T II T III first 3 bad last 2 not good
+ 56 1 T III ~~prote~~ wire bad
~~+ 30~~ bad reject scattering taps
+ 23 45 faint
Er Andr + 40 34 faint
+ 60 12

rattle after 0h 54m

assumed
n = .33 1/3

+60 12
549
41m 522 24.0 6.5
57.1 31.2 11.2
1.8 39.0 16.2
7.2 46.7 21.3
11.5 54.0 26.2
9.8 1949 814
1.96 38.98 16.28
1.2682 85563 12662
3037 3037 3037
(5719 88600 15699
38.~~19~~ 32 0.07 37.15
~~40.28~~ 39.28 39.05 39.13

+30 20
33 45.0 9.1
49.1 12.6
53.8 15.1
58.4 18.4
2.8 20.9
2791 761
~~4582~~ 1522
5382 21.39
05 53.83
5387

+56 1
11.9
35 15.8
20.1
24.7
28.9
1014
20.28
33.02
47.26

+23 45
41 38.5 .49.2 12.1
34.8 53.2 15.0
36.9 57.2 17.8
39.9 1.5 20.0
42.1 50 23.0
1852 2861 879
37.04 57.22 17.58
20.26 .04 20.16
57.30 57.26 57.42

+40 34 ~~+60 12~~
43m 42.9 4.0 31.8
46.4 9.2 35.1
50.0 14.2 38.9
52.8 18.8
55.8 24.0
2479 702
4958 14.04
2441 .05
1399 14.09

D ~~42~~ 50 39.15	0 33 53.85	0 34 47.26
0 51 2.37	0 34 17.72	0 35 10.44
23.22	23.87	23.18
28	11	19
23.50	23.66	23.37

0 41 57.34	0 44 14.04
0 42 20.98	0 44 37.62
23.64	23.58
16	2
23.48	23.56

23.50
23.66
23.37
23.48
23.56
257

23.50
23.48
23.49

23.50
34
23.16

Frod 1327 is slow
0m 23.16s at 0h 40m sid Time

Friday Dec. 22, 1905

20.20-20 lbs.

ε Cassiop + 63°12' Rattle before $1^{h}45^{m}$

β Arietis + 20°20' (last 4 wires)

γ Androm + 41°52'

α Arietis + 23°0'

+63°12'

	~~17.5~~		
46^{m}	21.3	5.7	7.0
	26.7	0.8	7.5
	32.9	54.9	7.8
	38.3	49.4	7.7
	43.6	43.9	7.5
	57.8	30.4	8.2
	5.5	22.0	7.5
			13.9
			1121
			13.81

41°52'

57^{m}	11.3	14.3	5.6
	14.4	10.7	5.1
	17.7	7.5	5.2
	21.3	4.3	5.6
	24.5	1.0	5.5
	32.7	52.7	5.4
	37.8	47.8	5.6
			42.8
			15 | 108
			42.72

23°0'

1^{m}	1.3	52.3	3.6
	4.1	49.8	3.9
	6.8	47.0	3.8
	9.7	44.4	4.1
	12.3	41.7	4.0
	19.0	35.0	4.0
	23.0	31.0	4.0
			27.0
			15 | 144
			26.96

$12^{h}\ 47^{m}\ 13^{s}.81$
$1\ \ 47\ \ 38.6\overset{6}{4}$
24.85
.43
25.28

$12^{h}\ 57^{m}\ 42^{s}.72$
$1^{h}\ 58^{m}\ 7.\overset{92}{89}$
$25.\overset{20}{17}$
00
25.20

$2^{h}\ 01^{m}\ 26^{s}.96$
2 01 52.443
25.478
20
25.28

.42
1.98
1.56

25.47
24.85
) 620(.4
624

n = .4

25.25
.34
24.91

Frod. 1327 is slow.

$0^{m}\ 24^{s}.91$

at $2^{h}\ 00^{m}$ Sid. Time.

Sat Dec. 23, 1905

20.20.20. Obs

Rattle at $2^h 16^m$

[ι Cass] + 66°58' missed 1 at 2 wires
ξ Ceti +8° 2' Last 4 or 5 wires only
δ Ceti −0° 4'
ϑ Persei + 48°49'

66° 58'

20^m	7.3	36.1	29.0
	13.4	45.4	36.2
	19.1	54.0	41.3
		64.4	47.7
		73.3	54.3
	398	273 2	208 5
	13.27	54.64	41.70
	41.07	~~.09~~	47.18
	54.34	~~54.55~~	54.52

$2^h\ 20^m\ 54^s.50$
$2^h\ 21^m\ 20.43$

25.93
.48
26.41

26.70
25.93
2.35) .770 (.33
705
650

n = .33

− 0° 4'

33^m	49.9	36.5	6.4
	52.3	34.3	6.6
	54.6	31.9	6.5
	57.0	29.3	6.3
	59.4	26.7	6.1
	5.7	20.7	6 4
	9.6	17.0	6.6
			13.3
			15 | 32
			13.21

$2^h\ 34^m\ 13^s.21$
2 34 39.91

26.70
.30
26.40

+48°49'

36^m	45.4	56.1	1.5
	49.0	52.8	1.8
	52.5	49.0	1.5
	56.6	45.3	1.9
	0.4	48.7	2 1
	9.5	32.6	2.1
	15.4	26.4	1.8
			21.3
			15 | 140
			20.93

$2^h\ 37^m\ 20^s.93$
2 37 47.25

26.32
.08
26.40

26.40
.34
26.06

Frod. 1327 is

slow

$0^m\ 26^s.06$

at $2^h\ 30^m$ S.T.

Sun Dec. 29, '05

20.20.20 Obs

ω Pisc. +6°20'
β Cassiop +58°37'
γ Pegasi +14°39'

Rattle after $23^h 58^m$

.80×43=.344

43
.64
172
258
.2752

.43
.23
129
291
.3039

1.64
~~1.577~~
.111
~~1.466~~
1.53 ~~1.47~~

26.60
27.25
).65 (.43
602
480

m = .43

+6° 20'

53m 37.4
42.4
47.4
53.4
57.3

37.4	24.3	1.7
40.0	22.3	2.3
42.4	19.7	2.1
45.0	17.0	2.0
47.4	14.5	1.9
53.5	8.3	1.8
57.4	5.0	2.4
		0.8
		150
		1.0

$23^h 54^m 1^s.00$

23 54 28.25

27.25
.34
26.91

68°32'

2m 57.8	27.4	5.2
2.6	23.2	5.8
7.2	18.3	5.5
12.1	14.0 ~~18.3~~	6.1
16.7	9.0	5.7
28.4	57.4	5.8
35.7	50.4	6.1
		42.6
		128
		42.85

$0^h 03^m 42^s.85$

$0^h 04^m$ 9.45

26.60
.30
26.90

14°39'

2m 31.5	20.1	1.6
34.0	17.6	1.6
36.7	14.7	1.4
39.4	12.6	2.0
41.9	10.0	1.9
48.1	3.0	1.1
52.0	59.8	1.8
		56.0
		124
		55.83

$0^h 07^m$ 55.83

$0^h 08^m$ 23.06

27.23
.28
26.95

91
95
90
26.92
.34
26.58

Frod 1327 is

slow
$0^m 26^s.58$
at $0^h 0^m$ S.T.

Monday Dec. 25 '05

Mer Cir — 90. 20. 20. clos

γ Piscium +0°44'
70 Pegasi +12°14'
F [72 Pegasi] +30°48'
ι Andron +42°44'

Rattle at 23h 27m

+0 44 | +12 14 | +30 48 | +42 ~~44~~ 45

21m 14.2 30.4 51.0 | 23 30.6 47.3 9.1 | 28 21.6 ~~44.8~~ 39.42 4.4 | 32m 31.2 53.2 21.6
16.5 34.0 53.7 | 33.3 51.2 11.5 | 24.3? 48.8 7.9 | 34.5 58.2 25.0
19.0 37.7 56.0 | 35.4 55.1 14.2 | 27.6 53.0 10.2 | 37.9 30 28.4
21.6 58.1 | 38.~~7~~3 ~~51.2~~ 16.5 | ~~30.0~~ 32.6 57.6 13.2 | 41.6 8.2 32.0
24.1 41.0 | 58.7 | ~~39.4~~ 16.0 | 44.8 13.1 35.2
45.1 0.2 | ~~40.9~~ 41.0 2.8 19.0

954 1882 2790 | 178~~4~~6 2751 703 | 136.1 2430 51.7 | 1900 157 1422
19.08 37.64 55.80 | 35.~~68~~72 55.02 14.06 | 27.22 48.60 10.34 | 38.00 3.14 28.44
18.55 .04 18.46 | 18.97 .04 18.88 | 21.59 .05 21.49 | 25.25 .06 25.14
37.63 37.68 37.34 | 54.6~~5~~9 55.06 55.18 | 48.81 48.65 48.85 | 3.25 3.20 3.30

69
106
118
293
98

23 21 37.55 | 23 23 54.98 | 23 28 48.77 | 23 33 3.25
23 22 5.~~74~~81 | 23 24 23.~~08~~11 | 23 29 16.~~57~~60 | 23 33 30.88

~~28.24~~ | ~~28.10~~ | ~~27.80~~ | 27.63
28.26 | 28.13 | 27.83 | 1
39 ~~36~~ | 30 ~~.28~~ | 14 ~~.13~~ | 27.62

assumed
n = .43

27.87 ~~27.90~~ | 27.83 ~~27.85~~ | 27.69 ~~27.70~~

27.70 | 27.~~64~~69
27.62 | 27.62
27.66 | 27.66
34 | 34
27.32 | 27.32

Frod 1327 is about
0m 27.s32
at 23h 25m
Sid Time

Tues, Dec 26, 1905

mer, 6 in, M. F. M. obs

ι Aurigae + 33 1
ε Aurigae + 43 41
ι Tauri + 21 27
η Aurig. + 41 6

rattle after
5^h 5^m

+ 33 1 +43 41 +41 6

49 55.8 15.1 39.9 54 12.8 35.0 4.0 58 55.9 17.2 45.1
58.9 19.4 ~~43.2~~ 16.3 40.3 7.2 59.2 22.2 48.2
18 24.0 43.2 19.8 45.2 10.9 2.6 27.2 51.9
5.0 28.2 46.0 23.1 50.5 14.2 5.9 32.0 55.1
7.8 32.8 49.0 26.4 55.6 17.7 9.1 37.0 58.2
57.8

98.4 226.6 54.0 13.7 135.6 258.5

9.3 119.5 229.9 19.68 45.32 10.80 2.52 27.12 51.70
1.86 23.90 45.98 25.64 05 25.53 24.61 05 24.50
22.12 05 22.02 45.32 45.37 45.27 27.13 27.17 27.20
23.98 23.95 23.98

4
10 4

26
43
78
104

4 4 4 59
~~5~~ 50 23.97 5 54 45.32 5 ~~58~~ 27.17
4
~~5~~ 50 52.99 4 55 14.23 4 59 56.15

assumed
2 = .43

29.02 28.91 28.98
11 1 1

28.91 28.90 28.99

28.91
28.90
28.99

28.93
34

Frod 1327 is slow
0^m 28.^s59
at 4^h 55^m
Sid Time

+
−

Wed Dec 27 1905

m. F. Me.

~~ε Piscium~~ γ Cassio +60 12
ε Piscium +7 23
F. S. λ Ceti −10 41

	+60	12		+7	23		−10	41	
	45.4	17.8	59.8	9.8	26.0	47.0	57.0	13.5	35.0
	50.8	24.9	48	12.1	29.8	49.6	59.8	17.4	37.2
	55.4	32.8	9.8	14.7	33.4	52.0	2.5	21.1	40.0
1	0.2	40.2	14.9	17.1	37.0	54.7	4.9	25.0	42.3
83 32	5.6	47.8	19.6	19.7	40.8	57.0	7.1	28.7	45.0
166	277.4	163.5	48.9	73.4	167.0	260.3	11.3	105.7	199.5
249	55.48	32.70	9.78	14.68	33.40	52.06	2.26	21.14	39.90
	1.2682	8.5563	1.2662	18.69	04	18.61	18.87	04	18.78
78	0.3037	0.3037	0.3037	33.37	33.44	33.45	21.13	21.18	21.12
32 156	1.5719	8.8600	1.5699						
234	37.32	0.07	37.15			33.42			21.14
	32.80	32.77	32.63	0	58	3.38	1	3	57.19
						29.96			30.05
						25			35
						29.71			29.70

29.42
30.05
+ 1.75
− 1.94 (19)

.63
.582
480
388
920

(32.40 51

32.73
~~6~~2.15
29.42
27
29.69

n = 32

29.69
29.71
29.70
29.70
34

Frod 1327 is slower
0m 29s.36
at 1m 0s
Sid. Time.

Thurs, Dec 28, 1905

M. F. Mohs

Mer Cir

☆

+ 33 12
+ 30 20
+ 56 1

rattle after
$0^h\ 36^m$

	+33 12				+30 20		+56 1
30^m	52.6	11.9	36.9	34^m	2.6	35^m	4.1
	55.5	16.1	39.8		5.7		8.8
	58.3	20.8	42.6		8.2		13.0
	1.5	24.9	45.7		11.2		17.6
	4.3	29.2	48.6		14.0		21.8
	2922	102.9	2136		41.7		653
	58.44	20.58	42.72		8.34		13.06
	22.16	.05	22.06		21.39		33.02
	20.60	20.63	20.66		46.95		40.04

assumed
$n = .33\frac{1}{3}$

0 31 20.63	0 33 46.95	0 34 40.04
0 31 51.15	0 34 17.60	0 35 10.21
30.52	30.65	30.17
8	11	19
30.44	30.54	30.36

30.44
30.54
30.36
134
30.45

30.45
.34
30.11

Frod 1327 is slow
0^m 30.~~45~~ 5 11
at $0^h 30^m$
Sid Time

Fri Dec. 29, 1905

Mer Cir. — 20.20.20 Obs.

α Arietis +23°0'
β Triang +34°52' Rattle at $2^h 08^m$

23°0'			34°52'		
0^m 56.0	46.6	2.6	02^m 57.3	54.3	1.6
58.6	44.0	2.6	0.4	51.4	1.8
1.2	41.3	2.5	3.5	48.3	1.8
3.7	38.4	2.1	6.3	45.3	1.6
6.6	35.8	2.4	9.4	42.3	1.7
13.1	29.2	2.3	17.0	35.1	2.1
17.3	25.3	2.6	21.5	30.3	1.8
		21.3			26.0
		15 .134			134
		21.23			25.89

$2^h\ 0\overset{1}{7}^m\ 21\overset{s}{.}23$
$2^h\ 01\ \ 52.36$
31.13
.15
30.98

$2^h\ 03^m\ 25.89$
2 03 57.07
31.17
.06
31.11

Ass.
μ = .3

31.04
.34
30.70

Frod. 1327 is slow

$0^m\ 30^s.70$

at $2^h 0^m$ S.T.

Sat Dec 30, 1905

Mer Cir. 20-2020-Obs.

Rattle at $3^h 13^m$

α Persei +49°31' (missed number of wires)

~~o Tauri +8°41' " " " "~~

2 H Camel +59°36' (missed several wires)

f Tauri +12°36' (missed several wires)

All Cloudy $3^h 35^m$

(γ Tauri) +15°23' missed 1st wire

δ Tauri +17°19' " 1st 5 wires

ε Tauri +18°58' " 1st wire Rattle at $4^h 20^m$

1.2381
.0159
1.2540
17.95

1.2381
.0245
1.2626
18.30

	A [15°23']			17°19'		18°58'		
+3m	33.5	47.2	9.2	16^m 51.5	13.4	22^m	28.2	50.5
	3630)	51.2	11.6	55.3	16.0	13.7	31.9	55.6
	38.3	55.0	14.2	59.1	18.6	16.4	36.2	53.0
	407	58.7	16.8	2.9	21.0	19.0	40.0	58.2
		2.6	19.3	6.8	23.5	21.5	43.8	60.7
	1488	2747	711	2956	925	706	~~1981~~ 1801	2780
	47.20	54.94	14.22	59.12	18.50	17.65	36.02	55.60
	17.95	.04	19.14	.04	19.33	18.30		19.52
	55.15	54.98	55.08	59.16	59.17	35.95		36.08

$4^h 03^m 55.^s10$	$4^h 16^m 59.^s16$	$4^h 22^m 36.^s02$
$4^h 14^m$ 27.08	4^h 17 31.26	$4^h 23^m$ 8.13
31.98	32.10	32.11
.21	.20	.19
31.77	31.90	31.92

Assumed
a = 1/3

77
90
92
259
3)259
86

31.98
32.10
32.11
19
32.06
.34
31.72

31.86
.34
31.52

Frod. 1327 is
slow $0^m 31^s.$~~7~~52
at $4^h 20^m$ S.T.

Mon Jun 1, 1906

A [y Virg] +33 24
~~+19 28~~
+19 28 rej lat
−3 25

+ 33 24			+19 28	−3 25		
42.1	1.0	26.2		39.0	54.7	15.2
44.9	5.7	29.2		40.9	58.2	18.1
47.8	10.0	32.0		43.2	2.0	20.5
50.8	14.2	35.1		45.5	6.5	23.1
53.8	18.9	38.2		48.2	9.2	25.3
2394	498	1607		2168	9.6	1022
47.88	9.96	32.14		43.36	1.92	20.44
22.21	5	22.11		18.58	4	18.49
10.09	10.01	10.03		1.94	1.96	1.95

10.04
2 11 43.59
33.55
8
33.47

1.95
2 14 35.69
33.74
32
33.42

assumed
r = .33 1/3

33.47
33.42
33.45
h sec φ 34
33.11

Frodl 1327 is slow
0m 33.s11
at 2h 10m.
Sid Time.

Thurs. Jan 4, 1905 → 6

M. F. M., obs

o' [Eridani] −7 5 (not very good) latest 2 of T II, T III

rattle after ~~2h 4m~~ 4h 2m

AFS [γ Tauri] +15 24

+7 19

+18 58

−7 5	+15 24			+17 19		+18 58		
6m 54.0	13m 26.3	43.0	4.7	16 47.0	9.1	22h 6.9	24.0	46.2
56.8	29.0	46.9	7.2	50.9	11.7	9.6	27.8	48.8
59.2	31.4	50.7	9.8	54.9	14.2	12.0	32.0	51.4
1.8	34.0	54.7	12.5	58.7	17.0	14.8	35.8	54.1
4.0	36.4	58.3	15.0	2.6	19.6	17.4	39.8	56.4
2958	1571	2536	492	2741	716	607	1594	2564
59.16	31.42	50.72	9.84	54.82	14.32	12.16	31.88	51.38
18.60	19.23	.04	19.05	.04	~~04~~	19.61	.04	19.52
40.56	50.65	50.76	50.79	54.86	19.33	31.77	31.92	31.86
					54.99			

assumed

n = .33 1/3

4 6 40.56	4 13 50.73	4 16 54.92	4 22 31.85
4 7 17.02	4 14 27.06	4 17 31.26	4 23 8.13
36.46	36.33	36.34	36.28
35	.21	20	19
36.11	36.12	36.14	36.09

36.11
36.12
36.14
36.09
46
36.12
~~36.15~~

36.12
34
35.78

Frod 1327 is slow
0m 35.78s
at 4h 15m
Sid. Time

Fri Jan 5, 1906

Lo-lo-lo-clo

δ Ceti −0°4′
ν Persei +48°49′
μ Ceti +9°42 (missed 1st 5)
[η Persei] +55° 30′
τ Persei +52°22′ (missed 1st 5)
Least min. 2h48m

2548

−0 4
33m 39.2 55.2 16.3
42.0 59.1 16.9
44.5 2.9 21.4
46.9 6.7 24.0
49.1 10.2 21.2
2217 141 1088
44.34 282 21.56
1855 04 1846
2.89 2.86 3.10

+48 49
36m 34.5 59.3 30.8
38.3 50 34.4
42.3 10.6 38.5
46.2 16.0 42.2
50.1 21.9 46.1
2114 528 1920
42.28 1056 38.40
28.16 06 28.03
10.44 10.62 10.37

+9 42
39m 7.2 28.5
10.9 31.1
15.0 33.5
36.0
38.2
18.8
22.2
741 1673
14.82 33.46
04 18.73
1486 14.73

+52 22
46m 47.4 21.7
53.3 25.6
59.3 29.4
.59 33.8
11.5 37.4
2974 1484
59.48 29.68
06 30.24
59.54 59.44

39
28
25 2
8 11
28
23
8 11
56
75

2 34 29.5	2 37 10.48	2 39 14.80	2 46 59.49
2 34 39.79	2 37 47.03	2 39 51.61	2 47 35.97
36.84	36.55	36.81	36.48
25	6	21	11
36.59	36.61	36.60	~~36.37~~
			36.59

36.48
+1.30 36.84
.00
−1.30 .36
.277

− n = .28

36.59
36.61
36.60
36.59
239

36.60
f sec φ 34
36.26

Frod 1327 is slow
0m 36.s26
at 2h40m
Sid. Time

Sat Jan 6, 1906

W. 20-20-Obs.

ρ Persei +38°28' (last 7 wires)
β Persei + 40 35'
δ Arietis +19° 22'   Rattle at 3h 04m

+38°28'			40°35'			19°22'		
2^h58^m 37.0	49.5	3^h0^m 55.3	57.0	2.3	5^m 13.2	2.7	5.9
41.3	52.6	58.4	53.7	2.1	15.7	0.1	5.8
	55.7	1.5	50.5	2.0	18.3	57.6	5.9
	59.0	4.9	47.2	2.1	21.0	54.8	5.8
	62.0	8.2	43.9	2.1	23.5	52.2	5.7
78.3	278.8	16.3	36.0	2.2	29.8	45.7	5.5
39.15	55.76	21.3	31.0	2.3	34.0	41.5	5.5
7.05	23.57			26.2			38.0
32.10	32.19			14			131
				26.09			37.87

0.7416
0.1063
0.8479
7.06
95
20
115
17

2^h58^m 32.17
259 9.38
37.~~19~~ 21
.04
37.17.

3^h1^m 26.09
3^h2^m 3.~~37~~ 41
37.32
.02
37.30

3^h05^m 37.87
3^h06^m 15.33
37.46
.17
37.29

Assumed
n = .3

37.17
.30
.29
.76
37.25
.34
36.91

Frod. 1327

is slow

0^m $36.^s91$

at 3^h0^m S.T.

Sun Jan 7, 1906

M. F. M.

+17 19
+18 58
+16 19
−14 29

T III

raffle after
4 13

+17 19			+18 58			+16 19	−14 29		
16m 28.8	45.1	7.2	22 4.9	21.8	44.2	30m 7.8	32m 50.1	6.9	28.5
31.1	49.0	9.8	7.5	25.9	46.8	10.4	52.8	10.8	31.0
33.5	53.0	12.5	10.2	30.0	49.2	13.0	55.2	14.6	33.8
36.2	57.0	14.9	12.6	33.7	51.9	15.8	57.9	18.3	36.4
38.8	06	17.2	15.1	37.4	54.3	17.8	03	22.2	38.8
1684	2647	616	503	1488	2464	648	2761	728	1685
33.68	52.94	12.32	10.06	29.76	49.28	12.96	55.22	14.56	33.70
19.43	04	19.33	19.61	04	19.52	19.23	19.15	04	19.06
53.11	52.98	52.99	29.67	29.80	29.76	53.73	14.37	14.60	14.64

4 16 53.03	4 22 29.74	4 29 53.73	4 33 14.54
4 17 31.25	4 23 8.12	4 30 32.08	4 33 53.05
38.22	38.38	38.35	38.51
19	17	19	35
38.03	38.21	38.16	38.16

assumed
n = .3

38.21
38.03
38.16
38.16
56
38.14
~~35~~
mean 34

Frod 1327 is slow
0m 37s.80
at 4h 25m
Sid. Time.

Tues Jun 9, 1906

rather after

A [[illegible]] +66 59 3 wires of TII TIII 2h 18m
+8 2 TII TIII
+72 24 double tap rej 1st
+21 33

+66° 59'

21m 15.2
22.1
28.3
35.0
40.8
1414
28.28
12662
0.4078
1.6740
47.21
41.07

154
154
288
288
104
104
448
448

~~+3.31~~ 38.70
39.35
+3.15 .65 (2.15
+0.14 602
3.01 480
301
1790
1505
265

2 20 41.07
2 21 19.84
38.77
32
39.09

+8° 2'

22m 22.9 43.8
26.8 46.1
30.2 48.8
33.8 51.2
37.2 53.8
1509 2437
30.18 48.74
04 1864
30.22 30.10

2 22 30.16
2 23 9.51
39.35
.17
39.18

+72° 24'

28 3.0 12.2
15.0 20.7
27.7 28.3
40.3 38.0
52.4 45.0
1384 1442
27.68 2884
8.5563 12662
0.5195 0.5195
9.0758 1.7857
.12 61.05
27.80 27.79

2 28 27.80
2 29 6.50
38.70
.49
39.19

+21° 33'

32 24.1 41.3 3.8
27.0 45.4 6.8
29.2 49.5 9.1
32.2 53.8 11.8
35.0 57.3 14.2
147.5 247.3 45.7
29.50 49.46 9.14
9.94 .04 19.84
49.44 49.50 49.34

2 32 49.43
2 33 28.65
39.22
.11
39.11

n = 22

39.11
39.09 39.10
+ sec φ 34
38.76

Frod 1327 is slow
0m 38.s76
at 2h 25m
Sid. Time

Wed Jan ~~9~~ 10. 1906

M F K

rattle before 1h 51m

+2 43

+20 21 T III

atm pre − 21 32

~~−2~~ − 21 32

+41 52

17.4
17.4
19

+2 43 | +20 21 | − 21 32 | + 41 52

47m 37.9 53.5 14.8 49m 1.0
39.8 57.3 17.2 3.8
42.5 1.2 19.5 6.2
45.0 4.6 22.0 9.0
47.4 8.7 24.5 11.8
212.6 53 98.0 31.8
42.52 1.06 19.60 6.36
18.57 04 18.48 19.68
1.09 1.10 1.12 46.68

54 29.0 46.0 8.6
31.3 50.0 11.2
34.0 53.9 14.0
36.8 57.9 16.7 ?
39.4 2.1 19.1
170.5 269.9 69.6
34.10 53.98 13.92
19.93 04 19.84
54.03 54.04 54.08

51m 56.7 17.9 46.0
59.6 22.6 49.2
3.0 27.8 52.4
6.2 33.0 55.9
9.2 38.5 59.0
14.7 139.1 262.5
2.94 27.82 52.50
24.90 05 24.78
27.84 27.87 27.72

39.81
+0.90 40.13
− .39 .32 (2.48
1.29 2.58
6.20
5.16
10.40
~~9.03~~
+.37

1 48 1.10 | 1 48 46.68 | 1 54 54.04 | 1 57 27.81
1 48 40.98 | 1 49 26.51 | 1 55 34.17 | 1 58 7.62
39.88 | 39.83 | 40.13 | 39.81
22 | 14 | 33 | 00
39.66 | 39.69 | 39.80 | 39.81

λ = .25

39.66 x 3 198
39.69 + 1 69
39.80 x 3 240
39.81 x 3 243
39.75
34
39.41

(perhaps .06 higher)

Fund 1327 is slow
0m 39s.41
at 1h 50m
Sid Time

Thurs Jan 11, 1906

Mer Cir   20.20.20 obs.

α Aurigae · +45°54'

β Tauri +28°32'   Rattle at 5h 15m

45°54'				+28°32'		
08m 31.4	39.0	10.4		19m 14.4	7.6	2.0
34.9	35.2	10.1		17.2	5.0	2.2
38.3	31.7	10.0		19.9	2.2	2.1
42.0	28.0	10.0		22.7	59.3	2.0
45.4	24.5	9.9		25.5	56.5	2.0
54.2	15.5	9.7		32.8	49.5	2.3
59.7	10.0	9.7		37.0	45.3	2.3
		5.1				41:2
		15)149				)11
		4.99				41.07

5h ~~09m~~ $4^s.99$

5 09 45.6~~8~~2

40.6~~4~~3

.03

40.66

5h 19m $41^s.07$

5 20 21.~~68~~70

40.63

.09

40.54

ass.

n = .25.

40.60

.34

40.26

Frod 1327 is slow

0m $40^s.26$

at 5h 15m S.T.

Fri Jan 12, 1906

M.F., M., ob

ζ Ceti −10 48
α Trian. +29 7 latest 3 of T II, T III
β Arietis +20 21

−10 48 +29 7 +20 21

43.8 59.9 21.2 20 17.4 20.4 37.4 59.8
46.1 38 23.8 6.1 20.3 23.0 41.4 2.3
48.4 7.3 26.5 10.5 23.1 25.7 45.3 5.0
51.0 11.1 28.8 18.6 25.9 28.2 49.4 7.8
53.87 15.2 31.2 6.20 28.8 30.8 53.1 10.0
2431 373 1315 05654 1155 1281
4862 7.46 2630 0.0586 23.10 2562 2266 249
18.88 04 18.79 0.6240 1.2662 19.78 45.32 4.98
4.21 0.0586 04 19.68
7.50 7.50 7.51 1.99 1.3248 45.40 45.36 45.30
21.13
1.97

7.50 1.98 45.35
1 46 48.78 1 47 43.07 1 49 26.48
~~8.72~~ ~~8.97~~ 41.13
41.28 41.09 15
assumed m = 25 28 9 40.98
41.00 41.00

41.00
b accl 34
40.66

Frod 1327 is slow
0^m 40^s66
at 1^h 50^m
sid time.

Mon Jan 15, 1906

MFM obs

rattle after 2h 19m

+72 24

+21 33

−0 5

+48 50

+72 24

27m 59 59.3 9.2
14.0 11.4 17.0
22.2 23.9 24.9
30.8 35.5 33.8
38.2 48.2 41.4

1111 1183 1263
22.22 23.66 25.26
1,2682 8.5563 1.2662
0.5195 0.5195 0.5195

1.7877 9.0758 1.7857
61.34 0.12 ~~59.67~~ 61.05
23.56 23.78 ~~25.59~~
24.21

2 28 23.85
2 29 6.15

42.30 8
34

~~42.64~~
42.68

+21 33

32m 20.6 ~~35.8~~ 37.8 0.2m
23.5 42.0 3.0
26.0 46.0 56
28.8 49.9 8.4
31.5 53.8 10.9

1304 2295 281
26.08 45.50 5.62
19.94 04 19.84

46.02 ~~45.54~~ 45.78
45.94

2 32 45.91
2 33 28.57

42.66
8
9

~~42.58~~
42.57

−0 5

33 49.2 10.5
53.2 12.9
56.8 15.2
0.5 17.8
4.2 20.2

2839 766
56.78 1.532
04 18.46

56.82 56.86

2 33 56.84
2 34 39.67

42.83 5
1~~8~~5

~~42.69~~
42.68

+48 50

36m 28.2 530 246
32.2 585 286
35.8 42 32.3
39.8 99 36.0
43.4 152 39.8

1794 208 1613
35.88 4.16 32.26
28.17 06 28.04

7.05 4.22 4.22

2 37 4.16
2 37 46.83

42.67
04

42.71

56
78
121

255
85

~~567~~

42.30
42.83

+ 315
~~140~~
~~34~~
− ~~3.55~~ ~~3.54~~
− .01
3.16

(~~.14~~
.16

.53.16
~~.3~~
~~355~~
214
~~1750~~ 1896
1420 2440
~~3300~~

x = .17
~~x = .15~~
~~x = .15~~

42,66
[illegible] 34
42.32

.57
.71
128
.64

~~Frod~~ 1327 is slow
0m 42s.32
at 2h 30m
Sid Time

Tues Jan 16, 1906

M. F. M., obs

	β Triang	+34	32
~~ALE~~ S [ ]		+ 8	24
☆	· [γ Triang]	+33	24
		+19	28

Latest of T II T III

+34		32	+8		24	+33	24		+19 28
45.0	4.8	30.6	53.6	10.1	31.3	32.1	57.4	16.4	~~24.8~~
48.4	9.1	33.0	56.1	13.8	33.7	35.1	55.8	19.6	24.8
51.7	13.6	~~35.9~~ 39.0	58.9	17.6	36.2	38.1	0.1	22.5	27.5
54.2	18.0	42.0	1.2	21.2	38.8	41.6	4.8	25.2	30.0
57.6	22.6		3.8	25.0	41.2	44.0	9.1	28.2	32.7
									35.1
2557	681	1799	2936	877	1812	1903	12	1119	1501
51.14	13.62	35.98	58.72	17.54	36.24	38.06	0.24	22.38	30.02
22.51	5	22.41	18.75	04	18.65	22.21	05	22.11	18.58
13.65	13.67	13.57	17.47	17.58	17.59	0.27	0.24	~~0.47~~ 0.27	11.44

	13.63	17.55	0.28	11.44
2 3	56.73	2 8 0.74	2 11 43.35
	43.10	43.19	43.07
	4	11	4
assumed n = .15	43.06	43.08	43.03

43.06
43.08
43.03
17
43.04
34
42.70

Frod 1327 is slow
0m 42s.70
at 2h 5m
Sid Time

Wed Jan 17, 1906

M F M,

rattle after
4h 8m

A F S

ο¹ Eri. −7 5

[γ Tauri) +15 24

δ Tauri +17 19

	−7		5		+15		24		+17		19
6m	9.2	25.7	47.0	13	18.9	35.5	57.0	16	22.7	39.7	1.6
	11.8	29.2	49.5		21.3	39.2	59.8		25.5	43.~~5~~4	4.1
	14.3	33.0	51.8		23.9	43.0	2.2		27.9	47.5	6.8
	17.0	36.8	54.~~4~~3		26.5	46.9	5.1		30.8	51.4	9.4
	19.3	40.4	56.8		29.0	50.8	7.3		33.0	55.1	12.1
	716	1651	259~~8~~4		1196	2154	114		1399	237~~6~~1	340
	14.3~~1~~2	33.02	51.~~90~~88		23.92	43.08	2.28		27.98	47.42	6.80
	18.68	04	18.60		19.23	04	19.14		19.43	64	19.33
	~~32.98~~ 33.00	33.06	~~33.30~~ 33.28		43.15	43.12	43.14		47.41	47.46	47.47

assumed x = .15	4	6	33.11	4	13	43.14	4	16	47.45
	4	7	16.92	4	14	26.98	4	17	31.18
			43.81			43.84			43.73
			16			10			9
			43.65			43.74			43.64

43.65
43.74
43.64
203

43.68
b sec φ .34
43.34

Ford 1327 is slow
0m 43.34
at 4h 10m
Sid Time.

Thurs Jan 18, 1905 m F. h ob

4 Camel. + 56 35
9 Camel + 66 11
~~[illegible]~~ 5 Orion. + 2 17
ι Auri. + 33 1

+56° 35′
52.1
566
08
56
99
4.0
~~0.08~~
080
33.52
27.28

88
11
1.47
3 46
1.15

4 40
27.28
11.36
44.08
~~1.9~~
~~20~~
~~44.17~~
44.58
44 23

assumed
r = ~~.15~~ .33/3
r = 25

4423
4404
44.14

4423
4398
4404
4397
22
4405

4423
4398
4404
1225
44.08

+66° 11′
18 | 41.9 50.9 | 34.2
80 | 0.1 | 40.2
139 | 90 | 460
199 | 182 | 52.5
26.2 | | 58.0
698 | 0.1 | 2309
13.96 | 0.02 (.09?) | 46.18
12682 | 85563 | 12662
0.3938 | 0.3938 | 03938
1.6620 | 8.9501 | 1.6600
4592 | 0.09 | 45.71
59.88 | 0.11 | 0.47
0.15
4 44 43.78
43.63
~~20~~
45
~~43.83~~
.35
~~44.08~~
43.98

4408
[illegible] 34
43.74

+2° 17′
58.4 | 40.8
08 | 440
32 | 46.7
58 | 49.5
82 | 52.2
16.4
328
1848
44.80
~~52.02~~
~~4480~~
4 49 21.76
36.96
52.78 diff
~~29.74~~
44.18
21
43.97

+33° 1′
0.8 | 24.8
42 | 277
88 | 304
130 | 338
17.3 | 367
2332 | 441 | 1534
4664 | 882 | 3068
2212 | 05 | 2202
8.76 | 8.97 | 8.66
8.80
4 4 50 52.92
44.12
~~4~~
4
44.08
8
~~4403~~
44.04

Frod 1327 is slow
0m 43.74s
at 4h 45m
Sid. Time

Fri Jun 19, 1906

M, F, Mob

+41 52 latest 3
+23 1 missed first wire
+34 32

rattle after
2h 5m

A E S [ ] + 8 24

+41 52

1h 57m 47.6
51.0
54.2
152.8
50.93
132.06
0.1280
1.4486
28.09
22.84

120
140
216
476
34

+23 1

2h 0m 45.0 59.2 21.9
47.3 3.3 24.6
50.2 7.0 27.2
11.2 30.1
52.5 15.3 32.8
195.0 36.0 136.6
48.75 7.20 27.32
12381 20.3~~0~~ .04 20.06
0.0360 ~~15~~
1.2741 ~~8.90~~ 7.24 7.28
18.79 7.54

+34 32

2h 2m 43.5 3.0 28.3
~~46.3~~ 7.8 31.4
49.2 12.1 34.4
52.7 16.3 37.2
55.5 20.9 40.2
247.2 60.1 171.5
49.44 12.02 34.30
22.51 .05 22.41
11.95 12.07 ~~12~~ 11.89

+8 24

2h 6m 52.1 8.2 29.4
55.0 12.2 31.9
57.3
59.7 15.7 34.8
2.0 19.5 37.1
23.0 39.4
286.1 78.9 172.6
57.22 15.78 34.52
18.75 +5.71 18.65
.04
15.97 15.78 15.97

E 1h 57m 22.84s
1 58 7.44
44.60
00
44.60

2 1 7.34
2 1 52.09
44.75
12
44.63

2 3 11.97
2 3 56.68
44.71
6
44.65

2 7 15.91
2 7 60.70
44.79
20
44.59

h = .25

44.60
44.63
44.65
44.59
247
44.62
b sec φ .34
44.28

Frod 1327 is slow
0m 44.28s
at 2h 5m
Sid. Time

Sun Jun 21. 1906

~~Sat Jun 20, 1906~~

M F. M

+43 41 ~~42~~

+21 27
+41 6
−22 30

−5 13

first not good   rattle after
4h 52m

+43 41

54 46.1
49.5
53.1
56.7
59.8
26 52

53.04
25.53
28.51

4 54 28.51
4 55 14.13

45.62
01
46.63

1
46.63

+21 27
~~+27 37~~

56 17.0 34.4 57.0
20.0 38.4 39.8
22.4 42.4 2.2
25.1 46.5 5.0
27.8 50.5 7.5
11 23 21 22 11.5

2246 42.44 2.30
19.92 04 19.84
42.38 42.52 42.46

4 56 42.45
~~5~~ 4 57 29.15

46.70
17
46.53

12
46.58

+41 6
− ~~22 30~~

58 38.2 59.6 27.4
41.6 45 30.7
44.8 9.4 33.8
48.0 14.2 37.0
51.6 19.2 40.4
22 42 46 9 16 8 9

4484 9.38 33.76
24.11 05 24.50
9.45 9.43 9.26

4 59 9.38
4 59 56.08

46.70
1
46.69

1
46.69

−5 13

2m
19.8 40.8
23.6 43.4
27.1 45.8
31.0 48.2
34.7 50.8
136 2 22 9 0

27.24 45 80
04 18.54
27.28 27.26

~~4~~ 5h 2m 27.27
5 3 14.25

46.98
33
46.65

25
46.73

46.62
+.46 4698
−.09 .36
10.5 .315
45
420
30

l.34

~~66~~

~~x = .34~~

assumed
~~x = .33 1/3~~
n = 25

64
53
69
186
62

63
53
69
65
250
62

63
.58
69
73
263
66
[illegible] 34
46.32

Frod 1327 is slow
0m 46s.32
at 5h 0m
Sid Time.

Mon Jun 22, 1906

EFS [ ) −3 26
+66 11
+33 1

26
48
208
104

135
48
1080
540
6480

48
97
336
432

−3	26		+66	11		+33	1	
36.9	52.8	13.8	58.4	37.9	30.0	37.0	56.0	21.0
39.2	56.6	16.2	4.6	47.2	36.3	40.0	0.5	24.0
41.8	0.1	18.9	10.5	56.6	42.2	42.8	4.8	27.0
44.1	4.0	21.2	16.5	5.5	48.2	45.8	9.4	29.8
46.8	7.6	23.8	22.9	14.8	54.8	48.8	13.8	32.8
2088	11	939	529	2820	2115	2144	245	1346
41.76	0.22	18.78	10.58	56.40	42.30	42.88	4.90	26.92
18.58	.04	18.49	45.92	0.09	45.71	22.12	05	22.02
0.34	0.26	.29	56.50	56.49	56.59	5.00	~~5.~~4.95	4.90

0.30
4 40 48.57
48.27
47
~~45~~
47.80

56.53
4 44 43.67
47.14
65
47.81

4.95
4 50 52.88
47.93
12
47.81

47.14
+2.27 48.27
−06
2.33 1.13 (484
932
1980
1864
1160
932
228

x = .48

47.80
47.81
47.81

47.81
34
47.47

Frod 1327 is slow
0^m $47.^s47$
at $4^h 45^m$
Sid Time

~~Tues Jan 23.~~
Wed Jun 24, 1906

[illegible] ok

~~−0.002~~
~~+0.013~~
~~+0.009~~
~~+0.043~~

+18 58
+16 19
−3 33
−14 29
+75 46
+56 35

rej 1st wire T III not very good

57 62
54 54
228 248
285 310
3078

11.7
54
468
585
6318

97
54
388
485
52

+18 58			+16 19			−14 29 ~~−3 33~~			−3 33 ~~14~~ 29		+75 46	+56 35	
52.4	9.8	32.2	18.1	33.8	55.8	(388)	54.7	16.2	47.1	0.9		8.2	46.2
55.6	13.8	34.8	19.8	37.8	58.9	41.0	58.8	19.2	51.6	3.7		15.0	51.0
58.1	17.8	37.2	22.5	41.7	1.0 3.6	43.0	2.3	21.3	54.8	5.8		22.0	55.1
1.0	21.5	40.0	24.9	45.4	5.8	46.1	6.2	24.1		8.3		28.0	59.9
3.2	25.5	42.5	27.2	49.2	8.1	48.4	10.6	26.6		11.0		35.2	4.2
29 10	88.4	186.7	110.5	207.9	14.5	~~21~~ 7.3	12.0	107.4		29.7		108.4	276.4
58.20	17.68	37.34	22.10	41.58	9.44 ~~2.9~~ 88 .10	17.85 ~~43.46~~ 44.62	2.40	21.48		5.92 18.49		21.68	55.28
19.61	4	19.52	19.32	04	19.23		04	19.06		47.43		07	33.52
17.81	17.72	17.82	41.42	41.62	~~43.67~~ 41.65		2.44	2.42				21.75	21.76

49.49
+152 50.46
−26
1.78 .97
890
800
712
880

(54

17.78	41.63	2.43	47.43	21.76
4 23 7.98	4 30 31.97	4 33 52.89	4 21 37.68	4 40 11.25
50.20	50.34	50.46	50.25	49.49
28 31	31 33	58 63	48 52	30 32
49.92 49.89	50.03 50.01	49.88 49.83	49.77 49.73	49.79 49.81

n = .54

49.83
49.73
50.01
49.92
49.81
430
49.86

49.92
50.03
49.88
49.77
49.74
439
49.88

49.87
[illegible] 34
49.53

Frod 1327 is slow
0m 49.s53
at 4h30m
Sid Time.

Thurs Jun 25, 1906

M. F. M. ob.
rather before
2 41

+21 33 ~~latest~~ 3
+48 50
+9 43
+26 52

+48 50			+9 437			+26 52	
36m 20.3	44.2	16.3	38 36.3	52.6	13.8	43m 27.2	51.0
24.0	49.8	20.0	38.8	56.4	16.2	31.4	53.8
27.8	55.3	23.8	41.2	59.9	18.7	35.7	56.6
31.2	1.8	27.2	43.8	3.8	21.2	40.0	59.4
35.0	7.2	31.3	46.3	7.7	23.9	44.0	2.0
1383	2783	1186	2064	0.4	938	1783	2828
27.66	55.66	23.72	41.28	0.08	18.76	35.66	56.56
28.17	.06	28.04	18.81	.05	18.73	05	20.69
~~55.49~~ 55.83	55.72	55.68	0.09	0.11	0.03	35.71	35.87

2	36	55.74	2	39	0.08	2	43	35.79
2	37	46.60	2	39	51.37	2	44	26.83
		50.86			51.29			51.04
		10			33			.18
		50.96			50.96			50.86

23
44
92
92
1012

50.86
+1.14 51.29
+ .17 .43
+.97 .388
420
388
32

(.44

L = .44

50.96
50.86
50.91
b. secl 34
50.57

Fred 1327 is slow
0m 50.57s
at 2h 40m
Sid. Time

Fri Jan 26, 1906

M.F.M. obs
settle after
2h 10m

+66 59 latest
+8 2 "
+72 24
+21 33
−0 4
+48 50

384
1.6
400
16
56

52
14
728

91
14
1274

23
14
322

228
14
912
228
319

52.11
52.56
.45 (.14
.319
1310
1276
340

+3.19
−0.00

+48 50
~~+72°24'~~

36 28		
18.6	43.1	14.9
22.0	48.6	18.5
25.8	54.1	22.4
29.8	59.9	26.2
33.	5.4	29.7
129.9	271.1	111.7
25.98	54.22	22.34
28.17	06	28.04
54.15	54.28	54.30

+21° 33'

32		
10.8	27.8	50.4
13.4	31.9	53.3
16.0	35.8	55.8
18.7	39.8	58.2
21.2	43.8	0.9
80.1	179.1	268.5
16.02	35.82	53.70
19.94	04	19.84
35.96	35.86	35.86

−0° 4'

34
0.4
2.8
5.5
7.9
10.5
27.1
5.42
18.46
46.96

+72 24
~~+48° 50'~~

26		
55.8	48.1	57.6
4.1	1.5	5.8
11.2	13.1	14.2
20.2	25.8	23.0
28.1	38.0	31.8
59.4	66.5	72.4
11.88	13.30	14.48
61.34	0.12	61.05
13.22	13.42	13.43

2 36 54.24	2 32 35.89	2 33 46.96	2 28 13.36
2 37 46.57	2 33 28.41	2 34 39.52	2 29 5.47
52.33	52.52	52.56	52.11
3	7	13	32
52.36	52.45	52.43	52.43

r = .14

52.36
52.45
52.43
124
52.41
Lac φ 34
52.07

Frod 1327 is slow
0m 52.s07
at 2h 30m
Sid Time

Fri. Jan 26, 1906

Add 1 gram to Frodsham 1327
at 3h 34m Sid time wad 3 grams.

Sat Jan 27, 1906

rattle after
2 45

+ 21 33
− 0 5   T II less good
+ 48 50
+ 26 52

315
23
945
630 315
42
630
1260

315
91
315
2835

315
52
630
1575

+21 33

32m 10.0 27.1 49.8
12.8 31.0 52.3
15.2 35.2 55.0
17.8 38.8 57.8
20.4 43.1 0.3
76.2 175.2 275.2
15.24 35.04 55.04
19.94 04 19.84
35.18 35.08 35.20

−0 5

33 II III
38.8 59.7
42.2 1.9
45.9 4.3
49.8 7.1
53.2 9.2
229.9 22.2
45.98 4.44
04 18.46
46.02 45.98

+48 50

36m 17.5 42.0 18.0 (14.1)
21.2 47.8 21.4
25.1 53.5 25.2
28.8 59.2 28.8
32.8 5.0
125.4 267.5 108.75
25.08 53.50 21.80
28.17 06 28.44
53.25 53.56 5~~3.66~~
53.56 (4)

+26 52

43m 7.1 25.2 48.8
10.0 29.2 51.2
12.7 33.2 54.1
15.2 37.6 56.4
18.2 41.5 59.8
63.2 166.7 270.8
12.64 33.34 54.16
20.74 05 20.69
33.43 33.39 33.47

2 32 35.15
2 33 28.39
53.24
16
53.16 (8)
53.08

2 33 46.00
2 34 39.51
53.51
.29
53.37 (14)
53.22

2 36 53.42
2 37 46.57
53.15
7
53.18 (3)
53.22

2 43 33.43
2 44 26.82
53.39
13
53.33 (6)
53.26

53.15
+1.14 53.51
−.01 .36 (.31
+1.14 342
180
114
560

n = .315
n = .15

53.08
53.26
53.22
.56
53.19
34
52.85

Frod 1327 is slow
0m 52s85
at 2h 40m
S. d. Time

Sun Jan 28, 1906

M F B obs

4^h α Tauri +16 19
+22 47 T I T II ~~T~~ very faint
~~-3 26~~
~~+66~~ +1

+16	19		+22	47
13.4	30.0	52.1	16.9	34.0
16.2	33.8	54.7	19.6	38.8
18.7	37.9	57.0	22.5	42.5
20.9	41.8	59.8	25.0	46.5
23.8	45.6	2.1	28.0	50.8
930	1891	2857	1120	2126
18.60	37.82	57.14	22.40	42.52
19.32	04	19.23	20.~~04~~ 20.11	~~20.07~~ 04
			~~22.44~~	2~~2~~.5~~0~~
37.92	~~37.86~~	37.91	42.51	42.56

315
63
630
1890
50
15750

37.90 45.54
~~22.47~~

.315 4 30 31.91 4 36 36.54

54.01 ~~14.07~~
9 54.00
~~50.1~~ 8
54.10 54.08

20
54.20
16
54.16

assumed
x = .15

54.10
54.08
54.09
34
53.75

1
28
16
37
5418
34
53.84

Frod 1327 is slow
0^m 53.75 (84)
at 4^h 35^m
sid Time

+5
+
+

8.60
~~9.00~~
5040
2.97
54.37

14.55
~~3.0~~
~~2.77~~
~~48.42~~
9.00
54.45

Mon Jan 29, 1906

Mr F Mols

+ 79 3
+ 3 43
+ 38 28
+ 40 35

double tips rej 1st

54.41
34
5407
at 3h 0m

85
29
765
170

103
2.6
7.7

111

29
29
29
03219

450
~~630~~
92
~~722~~
542
78

+ 79	3
0.0	52.3
21.0	6.8
	18.7
	32.4
	45.2
	954
210	19.08
1050	126.63
0.7416	
0.7214	0.7214
1.4630	1.9876
29.04	97.18
~~41.06~~	41.90
41.46	

+ 3	43	
32	19.2	40.1
58	23.2	42.9
8.2	27.0	45.2
105	308	48.0
13.2	34.4	50.2
409	1346	2264
8.18	26.92	45.28
18.58	.04	18.49
26.76	26.96	26.79

+ 38	28	
44.8	54	31.8
47.8	10.2	35.2
50.7	14.6	38.0
54.0	18.9	41.2
57.2	23.8	44.2
2545	729	1904
50.90	14.58	38.08
23.68	.05	23.57
14.58	14.63	14.51

+ 40	35	
37.2	5.88	26.2
40.5	8.6	29.2
43.8	13.5	32.4
47.0	18.0	36.1
50.1	~~26.2~~	39.2
2186	427	16.31
		32.62
43.72	8.54	24.30
24.42	.05	
~~+ 9.30~~		
8.14	8.59	~~8.26~~
		8.32

422
29
3798
844
12238

41.78
2 53 35.15
53.37
1.22
54.59

(.29

26.84
2 57 21.70
54.86
25
54.61

14.57
2 59 8.01
54.44
.03
54.41

8.35
3 2 3.02
54.67
.01
54.66

53.37
5486
+5.17
+ 06
+ 5.11
1.49
1022
468
4599
81

n = .29

54.41
54.66
5454
.34
5420

Frod 1327 is slow
0m 54.20s?
at 3h 0m
Sid Time

5441
~~34~~
54.07

Tues Jan 30, 1906

rattle through

3 11

latest 2 were'

+ 19 22
+ 77 23
+ 49 31
+ 8 41

+ 19 22
5 41.8
445
863
43.15
1.3453
00253
1.3700
23.44
19.71

54.28
55.34
+4.47 1.06 (257 (.27
+.35 .824
4.12 2360
~~2 84~~
2060
3004 2884
116

+ 77 23.
6 54.8 31.6
12.1 42.2
29.1 53.9
45.9 5.2
30 16.2
14 49 26.91
28.98 53.82
8.5563 1.2662
0.6607 a.6607
9.2170 1.9264
0.16 84.50
29.14 29.32

+ 49 31 | + 8 41
16 5.2 30.1 25 18 28.5 25.9 42.2 33
9.2 35.9 6.2 30.8 46.0 5.9
13.1 41.8 10.1 33.4 49.8 8.2
16.8 47.4 14.0 35.8 53.5 10.2
20.8 53.0 17.4 57.1 13.2
6 51 20.82 5.02 15.44 24.86 4.08
13.02 41.64 10.04 30.88 49.72 8.16
28.57 06 28.43 18.76 04 18.66
41.59 41.70 41.61 49.64 49.76 49.50

3 16 41.63
3 17 36.70
55.07
8
55.15
55.14

3 18 49.63
3 19 45.16
55.53
22
55.31
20
55.33

+2
+

54.28
55.53
+4.47 1.25 (.28
15 .864
+4.32 3860
3456
4040

3 5 19.71
3 6 15.05
55.34
76
55.18
47
55.19

3 7 29.23
3 8 23.51
~~4.41~~
~~55.18~~
54.28
1.03
55.39
.93
55.21

n = .29

55.18
55.15
55.16
f sec φ 34
54.82

Frod 1327 is slow
0m 54.s82
at 3h 10m
Sid. Time.

Wed Jun 31, 1906

m + ku

rattle after
3 45

+2060
-0712
.1348

5.7
1.42+
812

√ Persei +42 17
+71 2
~~+23~~ +23° 49'
+31 36

latest 3

+42 17
37 20.9 42.6 11.1
24.4 47.9 14.4
28.1 52.9 17.8
31.4 57.8 21.2 .5
34.8 28 24.6
1396 2640 890
27.92 52.80 17.80
25.09 05 24.95
52.98 52.85 52.85

+71 2
39 20.2 13.4
31.2 20.8
42.8 29.0
54.0 37.0
~~13.4~~ 43.8
1482 1440
37.05 28.80
0.2608 1.2662
0.4881 0.4881
0.7489 1.7543
5.61 56.84
31.44 31.96

+23 49

+31 36
46 53.0 8.9 33.4
55.9 13.2 36.3
58.6 17.7 39.3
1.8 21.9 42.1
26.2 45.0
229 3 87.9 196.1
57.32 17.58 39.22
05 21.68
1.2381
0.0697
1.3078 17.63 17.54
20.32
17.64

54.58
+291 55.86
+ 62 1.28 .55
2.29 1145
1350
1145
205
~~126~~
n = .56

176
480
656
74

3 37 52.89
3 38 48.54
55.65
00

3 39 31.74
3 40 26.32
54.58
1.62
55.18
55.70

3 47 17.60
3 48 13.46
55.86
17
55.77
55.69

assumed
n = 3

55.65
55.69
55.66
34
55.32

Frod 1327 is ~~fast~~ slow

0m 55.32s
at $3^h 40^m$
Sid Time.

Thurs Feb 15 1906

+49 32
+8 42
+59 37
~~+25~~
3 25 +12 37

+49 32 +8 42 +59 37 +12 37

Fri Feb. 2, 1906

20.10.20.Obs.
Rattle after 4h 20m

α Tauri +16°19′
τ Tauri +22°46′
4 Camel +56°35′

+16 19
24m
~~15~~m 10.0 26.9 48.9
12.2 31.2 51.9
15.4
18.3 35.0 54.1
62 20.6 38.7 56.8
42.7 59.6
60 765 1745 2713
15.30 34.90 54.26
19.32 ✓ 64 19.23
34.62 34.94 ~~44.97~~ 34.97

+22 46
35m ~~24m~~ 14.2 31.6 54.2
16.9 35.6 57.0
19.1 39.4 59.9
21.6 43.4 23
24.8 47.4 48
966 1974 2982
59.64
19.32 39.48 20.02 ✓
20.11 ✓ 04
39.43 39.52 39.62

+56 35
38 ~~24m~~ 31.9 10 39.8
36.2 7.5 43.9
40.8 14.4 48.0
46.2 21.3 52.6
49.9 28.1 ~~35.6~~ 57.1
2050 723 2414
41.00 1.446 48.28
33.67 .07 33.52
14.67 14.53 14.76

assumed 4 24m ~~15~~ 34.84
30 31.84
λ = .5 4 ~~17~~ ~~32.99~~
~~85~~
~~56.15~~
57.00
31
56.69

4 35 ~~21~~ 39.52
4 36 36.47
56.95
25
56.70

4 39 ~~27~~ 14.65
4 40 ~~27~~ 11.04
56.39
30
56.69

56.70
h accy 34
56.36

Ford 1327 is slow
0m 56s.36
at 4h 35m
Sid Time

Sat Feb 3, 1906

M. F. M. R.

~~Frod~~ 1327

+21 5
-2 39
+49 47 faint

Bartlett 103

-14 51

A [ ) +39)

Bolton 103
scatters at
8 38

Frod 1327

+7 23
+44 56

Fro 1327 rattle
2 after 5 53

+21 5 -2 39 +49 47 +44 56

39.3 56.5 19.2 40.9 57.1 18.0 52 0.9
42.0 0.8 21.8 43.7 1.0 20.9 4.2
44.8 4.9 24.2 46.0 4.8 23.0 7.4
47.5 8.7 27.0 48.4 8.5 25.7 11.2
50.0 12.8 29.5 51.0 12.5 26.0 14.8

22.36 23.7 121.7 23.00 23.4 115.6 38.5
44.72 4.74 24.34 46.00 4.68 23.12 7.70
19.87 04 19.78 18.56 04 18.48 26.07

4.59 4.78 4.56 4.56 4.72 4.64 41.63

assumed
n = .5

4.64
5 32 2.17
57.53
26
57.27
57.25
57.26
34

4.64
~~5 38 38.01~~
~~3.37~~

5 58 41.63
5 52 38.92
57.29
4
57.25

Frod 1327 is slow
0m 56s92
at 5h 40m Sid'l Time

Mon Feb 5, 1906

Frodsham 1327 — mFmod 3 rattle through
5h 1m

+38° 22′
+45 54
5 21

Ballou 103 (+28 32
+62 59)

Ballou 103
3 rattles after
5 14

Frod 1327

−0 22

+38 22	+45 54	−0 22	+28 32	+62 59
5 31.9 52.5 19.1	8 13.0 35.9 6.2	50.4 6.4 27.4	21.9 15.3 37.2	
35.1 57.5 22.1	16.5 41.2 10.0	52.8 10.1 30.0	25.0 12.6 37.6	
38.2 1.8 25.2	20.0 47.0 13.8	55.7 13.8 32.2	27.8 9.8 37.6	
41.6 6.4 28.5	23.8 52.1 17.0	57.9 17.7 35.0	30.6 7.0 37.6	
44.4 11.0 31.5	27.1 57.4 20.4	0.1 21.2 37.1	33.3 4.2 37.5	
			40.1 57.0 37.1	
			44.6 52.3 36.9	
1912 9.2 1264	1004 2336 674	2769 692 1617	487	
38.24 184 25.28	2008 46.72 13.48	55.38 13.84 32.34	102	
2366 05 23.55	26.65 05 2653	~~2~~ 1855 04 18.46	8 4 3 squares 48.68	
~~1458~~ 1.89 1.73	4673 46.77 46.95	13.93 13.88 13.88	5 2~~0~~1 20.~~42~~58	
1.90			5 20.21.50	
Clock 5 6 1.84	5 8 46.82	(5 26) 13.90	~~1.08~~ error?	
Book 5 7 0.25	5 9 45.32	5 27 12.73	59.08	
58.41 5	58.50 5	58.83 37		
58.46	58.45	58.46		

assumed
n = .4

58.46
k sec φ 34
58.12

Frod 1327 is spin,
Δm 58.s12
at 5h 15m
Sid Time

Tues Feb 1, 1906

m, 7 M
rattle after
5 36

Fred chron 1327
+ 49 47
− 14 57 rattle in middle
− 9 42 T III
A [✓ Armagnac) + 39 7
Ballou 103

first run
8h 30m ?

~~+ 7 23~~
+ 44 5 6
+ 37 12 last 4 of T III

latest run
8h 35m

+49 47
5h 37m
27.6 0.2
33.6 3.7
39.2 7.2
44.4 11.4
50.6 15.4
1954 379
39.08 7.58
06 285 9
39.14 38.99

2435

−14 51
41 18.8 35.2 57.1
21.2 39.2 59.8
23.8 43.0 2.2
26.2 46.9 4.8
28.9 50.5 7.1
1189 2148 110
23.78 42.96 2.20
1919 04 19.10
42.97 43.00 43.10

−9 42
32.9 43 30.0 43
35.2 83.0
37.9 36.0
40.2 39.4
42.8 42.5
1890 1809
37.80 36.18
18.73 23.90
19.07

+39 7
50.4 17.7
55.2 20.9
0.1 24.0
4.9 27.2
10.0 30.2
~~7.7~~ 1200
~~2.9~~ 2400
0.6 1 2 23.80
~~5.58~~
05
0.08 0.17 0.20

+44 56
8h 31m
32.1 38.0 10.1
35.4 34.8 10.2
38.7 31.2 9.9
42.2 27.6 9.8
45.3 24.0 9.3
54.2 15.1 9.3
59.7 10.0 9.7
4.75
~~7~~ 64 3 05
~~4.27~~
4.87
8 32 4.87
equals

5 37 39.14
5 38 37.96
58.82

5 41 43.02
5 42 42.36
59.34

5 43 19.07
5 43 18.47
59.40

5 44 0.15
5 44 59.22
59.07

5 52 37.81
5 52 38.88
1.07
3
1.10
34
0.76

~~assumed~~
n = .4
n = .45
n = .40
assumed = n = .35

(.45) 12 58.94
(.40) 11 58.93
(.35) 10 58.9?
(.45) 52 58.82
(.40) 47 58.87
(.35) 43 58.91
(.45) 49 58.91
(.40) 43 58.97
.35 40 59.00
.45 = .40 = .35 4 59.03

used
assumed
n = .35

58.94 58.93 58.92
58.82 58.87 58.91
58.91 58.97 59.00
59.03 59.03 59.03

5903
b sec 34
58.69

Ballou 103 0.76
is 0m 0.76s slow
at 5h 52m

Fred 1327 is slow
0m 58.569
at 5h 40m
Sid Time

Feb 7, 1906 Wednesday

~~afternoon~~ J.A.D. observer

Rattle after ~~1^h 2^m~~

~~β Androm. +35 7~~

~~14^m 28^s 655~~
12 17,165

Rattle after 3^h 10

α Persei +49°31 } Seeing horrible; probably
ε Tauri +8°42 } cold outside, warm inside
2 H Cam +59 36 II fair III 214; reject
σ ~~α~~ Persei +47 40/29 acl: fair obs.

+49 31

0.7	25.3	58.0
43	31.0	18
84	36.7	47
12.0		
15 6	42.2	88
	48.0	128
41 0	183 2	26 1
8 20	36.64	5.22
28.62	06	28.48
36.82	36.70	36.74

+8 42

21.1	37.7	58.8
23 5	41.0	1.2
26 2	45.1	3.7
28.8	48.9	6.4
31.3	52.5	8.7
130 9	225 2	18 8
26.18	45.04	3.76
18.76	04	18.66
44 94	45.08	45.10

[ ]

E +47 40

21.6	45.8	16.9
25 8	51.5	20.6
29.2	57.0	24.1
33 0	2 4	27.9
36.1	7.7	31.2
145 7	284 4	120 7
29.14	56.88	24.14
27.53	06	27.41
56.67	56.94	56.73

59.74
60.00
.26 .25
+ 1.17
+ 15
102
2 04
56
5 10
50

n = .25

36.75
3 17 36.49
59.74
7
59.81

45.04
3 19 45.04
60.0 0
19
59.81

56.78
3 23 56.71
59.93
5
59.98

59.81
59.98
17 9
59.90

59.90
h sec 4 34
59.56

Frod 1327 is slow
0^m 59.56^s
at 3^h 20^m
Sid Time.

Thurs. Feb 8, 1906

M. F. M. obs

ξ Persei +35 31
λ Tauri + 12 13
ν Tauri + 5 44
c Persei + 47 28

+35	31	
22.6?	42.4	8.2
25.8	47.1	11.2
28.9	51.6	14.3
31.9	56.0	17.2
34.9	05	20.1
1441	2576	710
28.82	51.52	14.20
22.81	.05	22.71
51.63	51.57	51.49

+ 12	13
20.2	41.8
23.9	44.2
27.9	46.8
31.8	49.2
35.2	51.8
1390	2338
27.80	46.76
04	18.88
27.84	27.88

+5	44	
45.2	14	22.2
47.8	5.1	25.0
50.2	8.8	27.2
52.8	12.5	30.0
55.0	16.2	32.2
251.0	44.0	136.6
50.20	8.80	27.32
18.64	.04	18.56
8.84	8.84	8.76

+47	28	
15.1	39.0	10.0
18.9	44.7	13.5
22.9	49.9	17.4
26.0	55.2	21.1
29.9	0.9	24.7
112.8	249.7	86.7
22.56	49.94	17.34
27.43	.06	27.30
49.99	50.00	50.04

	51.56		27.86		8.81		50.01
3 52	51.93	3 55	28.28	3 58	9.31	4 1	50.33
	60.37		60.42		60.50		60.32

3	7	10	17	12	20	3	4
60.34	60.32	60.32	60.25	60.38	60.30	60.35	60.36

assumed

~~x = .35~~

n = .15

60.34
60.32
60.38
60.35
19

60.35
R sid 34
60 01

Frod 1327 is slow
$1^m\ 0^s.01$
at $3^h 55^m$
Sid Time,

Sat Feb 10, 1906

m F M ob
settle, before
6h 10m ?

Chronometer wrong rej. Star
~~+16 43 T I reject tape~~
~~+8 29~~
~~+32 6~~
~~+5 28~~
+9 54
+25 14
A [ ) +43 40
+2 31

3 rattles
through 6h 31m

~~+25~~

+9 54	+25 14	+43 40	+2 31
35 0.8	36 42.2 59.8 23.1	38 24.9 47.1 16.0	41 33.1 49.1 10.2
3.4	450 40 25.8	28.2 520 19.5	35.6 528 12.2
5.9	47.8 8.2 28.7	31.8 57.1 22.8	380 565 14.9
8.2	50.2 12.2 31.4	350 24 26.2	40.4 6.2 17.6
10.8	53.0 16.2 340	38.6 75 29.7	430 40 20.0
29.1	2383 404 1430	1585 2861 1142	1901 2826 749
5.82 74	47.66 8.08 28.60	31.70 57.22 22.84	38.02 56.52 14.98
18.83	20.50 05 04 20.41	25.64 05 25.52	18.56 04 18.48
47.08	8.16 8.12 8.19	57.34 57.27 57.32	56.58 56.56 56.50
6 34 47.08	6 37 8.16	6 38 57.31	6 41 56.55
6 35 48.83	6 38 9.74	6 39 58.94	6 42 58.36
61.75 11	61.58	61.63	61.81
25	15 78		13
~~61.50~~	~~61.43~~	61.64	~~61.5~~
61.64	61.51		6.168

~~assumed~~
~~n = 33⅓~~

assumed
n = .15

61.64
h sec φ 34
61.30

Frod 1327 is slow
~~s~~, m 1.30s
at 6h 35m
Sid Time

114

Sun Feb 11, 1906

Mr. F. Mole

+22 34
+4 38
+61 34 T III
+39 29
+9 59

+9 59

21.7 38.5 59.8
24.2 42.8 2.6
27.0 46.2 4.6
29.8 49.9 7.0
31.8 53.4 10.0
1345 2308 240
2690 46.16 480
04 18.74
1863
4573 46.20 46.06
46.00
6 35 48.82
6 2.82
.19
~~62~~.67
25
62.57

+22 34

48.9 6.3 29.0
51.8 10.6 31.4
54.1 14.4 33.9
57.1 18.2 37.2
59.7 22.8 39.8
271672 3171 3
5432 1446 34.26
2008 04 19.99
14.40 14.50 14.27
14.39
6 17 17.12
62.73
17 10
62.56 62.63

+4 38

37.2 58.3
41.2 1.0
45.0 3.5
48.7 6.0
52.2 8.5
2243 173
4486 3.46
04 18.52
44.90 4 4.94
44.92
6 18 47.88
62.96
28 17
62.68 62.79

+61 34

33.2
38.8
44.3
49.2
54.1
2196
43.92
12662
03222
1.5684
38.77
5.15
5.15
6 29 7.55
62.40
31 19
62.71 62.59

+39 29

37.9 56.9 24.6
39.8 3.6 28.0
42.9 7.5 30.9
46.0 11.8 33.2
49.3 16.1 37.4
2159 359 1541
43.18 7.18 30.82
24.02 .05 23.91
7.20 7.23 6.91
7.11
6 32 9.64
62.53
3 2
62.50 62.51

~~n assumed~~
→ ~~= 2~~
assumed
~~n = 4~~
n = 33⅓

51
63
67
181
62.60

62.51
34
62.17

62.57
62.56
62.50
163
62.54

62.63
62.51
62.57
n each 34
~~62.23~~

62.54
34
62.20

62.59
62.51
62.63
62.67
62.74
~~319~~
~~62.64~~

62.77
62.49
62.53
62.53
62.63
295
~~62.59~~

49
53
53
155
~~62.77~~
62.52

Ch rod 1327 ~~is slow~~
~~F~~ 1m 2.s20
at 6h 25m
Sid Time

Mon Feb 12, 1906

W. F. M. [illegible]

D. Gemin +34 5

+34 5

45	23.8	488
78	28.2	522
10.2	32.8	55.2
13.0	37.2	57.8
16.6	41.8	1.0
52 1	1638	27.50
10.42	32.76	55.00
22.40	05	22.28
3282	32.81	32.72

32.78

6 46 36.51

63.73

8

63.65

63.65

34

63.31

Isod 1327 is above

rm $3^s.31$

at $6^h 45^m$

s.d time

Tues Feb. 13, 1906

Mer. Cir. [illegible]

η Gemin +22°32′
[2 Lyncis] + 59°2′ (missed 1st 2 wires)
μ Gemin +22°34′
Rattle ~~before~~ $6^h 18^m$

+22	32		+59	2		+22	34	
						15^m		
7^m42.7	0.3	23.1	=	24	43.6	47.0 ? (50.0) ?	4.5 ?	27.2
45.5	~~4.0~~ 4.2 ?	25.8	9^m40.8	9.8	47.9	52.6	8.6	30.0
48.2	8.2	28.3	45.5	17.0	52.9	55.1	12.7	32.6
51.0	12.2	31.2	50.3	24.1	57.4	57.9	16.8	35.5
53.6	16.3	33.8		31.3	2.3		20.6	38.1
2410	412	1422	1366	846	2141	2625	632	1634
48.20	8.24	28.44	45.53	16.92	52.82	5250	12.64	32.68
20.08	04	19.99		07	35.86	20.08	04	~~20~~ 19.99
8.28	8.28	8.45		~~17~~ 16.99	16.96	12.58	12.68	12.69

6 8 8.34
6 9 12.84
64.50

6 10 16.98
6 11 21.15
64.17

6 16 12.65
6 17 17.09
64.44

assumed
n = ~~.33⅓~~
n = .2
n = .25

12 ~~10~~ 17
64.38 ~~64.40~~ 62.23

19 ~~15~~ 25
64.36 ~~64.32~~ 64.42

12 ~~10~~ 17
64.32 ~~64.34~~ 64.27

64.38
64.36
64.32
16
64.35
3.4
64.01

Frod 1327 is slow
1^m $4^s.01$
at $6^h 10^m$
Sid time

Thurs Feb 15, 1906

per F. Wells

Settle after
4 10

49 0
34 4
83 4
9 1

+47 28
st pre −7 5
* −7 5
+15 24
+17 19

4h 0m 45s.10
4 1 50.15
65.05 AE
4 16 25.50
4 17 30.79
65.29

65.17
34
~~65~~
64.83
at 4h 10m

+47 28
0m 10.2 34.1 5.1
13.9 39.3 8.6
17.6 45.1 12.5
21.0 50.5 16.0
25.0 55.9 19.9
87.7 224.9 62.1
17.54 44.98 12.42
27.43 .06 27.30
44.97 45.04 45.12

−7 5
6m 7.0 24.7
10.9 27.1
14.7 29.4
32.0
18.2 34.7
50.8 147.9
12.70 29.58
0.2608 18.60
0.0033
0.2641 10.98
18.37
10.86

+15 24
12m 59.6 13.5 35.2
2.1 17.2 37.7
4.4 21.2 40.2
7.0 25.1 43.1
29.1 45.6
13.1 106.1 201.8
3.28 21.22 40.36
1.2381 .04 19.14
0.0159
1.2540
17.95 21.26 21.22
21.23

+17 19
16m 1.0 17.5 39.8
3.6 21.8 42.2
6.0 25.5 45.0
8.9 29.2 47.6
11.0 33.2 50.0
30.5 127.2 224.6
6.10 25.44 44.92
19.43 04 19.33
25.53 25.48 25.59

4 0 45.04
4 1 50.15
65.11
04
65.15

4 6 10.92
4 7 16.51
65.59
26
65.33

4 13 21.24
4 14 26.59
65.35
16
65.19

4 16 25.53
4 17 30.79
65.26
15
65.11

assumed
n = .25

65.19
65.15
65.11
65.15
34
64.81

Frod 1327 is slow
1m 4s.81
at 4h 10m
Sid Time.

Fri Feb ~~15~~ 16, 1906

Frodsham 1327

M F B
rather before?
6h (57)m
27?

−4 42
slow pu +9 59 some uncertainty? in 9 read
+9 59 latter part
+25 14
H E ⟩ +43 40

Balloon 103
T 2° ~~3~~31′
+34 5
+58 33 latest

latest min
8h 54m

+34 5
846
8.0 4.2 12.2
10.9 1.5 12.4
14.1 58.5 12.6
16.7 55.2 11.9
19.8 52.2 12.0
27.1 44.8 11.9
31.5 40.6 12.1
36.0
91.1
8 46 36.05
6 46″ 36.90
6 46 36.47
.35
6
77
108
89
274
91
41
.55
.48
34
0.82

Balloon 103 is fast
0m 0.82s at 8h 45m E.M.T.
assumed
n = .25

6h 21m (6 51)
−4 42
50.2 6.8 27.5
52.8 10.0 29.9
54.8 13.9 32.2
57.8 17.8 35.0
0.9 21.7 37.5
27 58 7 02 16.21
55.17 14.04 32.42
18.61 04 18.53
13.73 14.08 13.89

6 34 +9 59
7h 4m = 42.9
46.8
50.2
13 99
4663
05654
0.0066
05720
.37.32
4290
56.4
59.2
18
46
66
8.6
1.72
18.74
42.98

+25 14
38.0 55.9 18.9
40.8 59.9 21.6
43.4 4 0 24.2
46.0 7.9 27.1
48.9 11.9 29.8
2171 196 1216
4342 3 24.32
20.50 3.92 20.41
04
3.92 3.96 3.91

6 38 +43 40
~~7h 8m~~
20.9 42.9 11.8
24.0 48.0 15.2
27.9 53.2 18.8
31.0 58.2 22.2
34.6 3.3 25.4
138 4 2756 934
27.68 ~~54.42~~ 53.12 18.68
25.64 05 25.52
53.32 ~~54.57~~ 53.16
53.17

+2 31
8h 42m
34.8
37.7 22.0
39.9 19.4
42.7 16.9
44.9 14.4
51.0 11.9
54.8
~~58.5~~ 5.58
20
56.8
57.1
56.8
57.1
56.8
56.8
56.8
~~20~~
58.5
126.7
8h 42m 58.45
6 42 58.63
6 42 58.30
.33
.22

6 (52)22 13.91
6 23 19.70
65.79
25
65.54

6 34 42.98
6 35 48.77
65.83
18
65.65

6 38 ~~5.68~~ 3.93
65.75
11
65.64

6 38 53.22
6 39 58.86
65.64
00

65.54
65.65
65.64
65.64
247
65.62
34
65.28

Frod 1327 is slow
1m 5s.28
at 6h 30m
Sid. Time

Sat Feb. 17, 1906

Mer Cir. W. W. W. Obs

[66 Aurigae]	+ 40°51'	(missed 1st 3 wires)
ι Gem	+ 27°59'	
β Canis Min	+ 8°28'	(missed 1st 4 wires)
α Gemin	+ 32°5	Rattle before $7^{h}25^{m}$

Sun Feb 18, 1906

Frod 1327

M F M. obs

rattle before 6h 25m

A [v Geminorum + 20 16
+61 ~~25~~ 34
+ 39 28

Baller 103
+9 59
+25 13
→ [ ] +43 40 missed wire 1

last min 8h 35m

+20 16   +61 34   +39 28

II	III				
22m 8.6	30.9		30 32.6	53.0	20.1
12.7	33.6		35.5	58.1	23.2
16.8	36.2		38.8	2.8	26.4
20.5	39.0		41.9	7.2	30.0
24.2	41.6		45.3	12.2	33.2
82.8	181.3		194.1	133	132.9
16.56	36.26		38.82	2.66	26.58
.04	19.68		24.02	.05	23.91
16.60	16.58		2.84	2.71	2.67

6 22 16.59
6 23 23.51
66.92
14
66.78

assumed
n = .25

6 31 2.74
6 32 9.54
66.80
.2
66.78

66.78
[illegible] 34
66.44

Frod 1327 is slow
1m 6.44s
at 6h 25m
Sid time

Mon Feb 19, 1906

Frod 1327

m F. the obs

rattle after

5 37

-9 42

# [v. Curv.] +39 7 (after lux.)

TII less good

-A F F +55 41

+7 23

Ballou 103

+44 56

E F ? +23 16

rattle after 7h 53m

+14 47

Frod 1327

+22 32

-7 47

+49 20

+55 41

~~+7 23~~

+39 7

I +22 32

-7 47

-9 42 43 21.8 44.2 9.4 45m 39.0 15.8 40 ~~2~~.0 51 ~~19~~.2

II III II III II

42m 3.3 24.4 25.1 47.2 12.4 45.2 20.0 42 ~~4~~8.1 ~~23~~.35

7.1 27.1 28.2 52.0 15.6 52.1 24.4 45.7 35 ~~27~~

10.8 29.4 31.2 56.7 18.8 58.4 29.1 48 ~~4~~0.0 9 31.5

14.7 32.1 34.2 1.4 21.9 5.2 33.2 50.7 13 ~~35~~.2

18.4 34.6 140.5 259.5 78.1 259.9 122.5 228.68 ~~126~~.7

54.3 147.6 28.10 51.90 15.62 51.98 24.50 5.36 4 ~~7.36~~ 5.34 ~~27.34~~

10.86 29.52 23.90 05 23.80 ~~04~~ ~~18.61~~ 20.08 04

.04 18.73 4 ~~52.02~~ ~~5.89~~ 27.44 ~~27.34~~ 5.38

10.90 10.79 52.00 51.95 51.82 .07 32.74 5.44

51.76

52.05 ~~33.15~~

5.41

~~27.39~~

r assumed 5 42 10.85 5 43 51.92 5 45 51.90

= .25 5 43 18.30 5 44 59.01 5 46 58.45 6 9 12.76

67.45 67.09 67.05 ~~65.37~~

27 2 .14 67.35

67.18 67.07 67.19 12

67.23

67.18

67.14

67.23

60

67.30

67.30

34

66.96

Frod 1327 is slow

1m 6s.96

at 5h 55m

sid time

Tues Feb 20, 1906

M J-M

Frod 1327

+ 44 56 latest

+ 23 16

+ 14 47

+ 69 21

2.

(B) rattles before 5h 55m

174 485
205 205
870 2425
348 970
.35670 .099425

E I Gemma E?

174
139 2
348 72
655
52 40
131 0
.1834 0

505
205
25 25
1010
.103525

655
.205
3275
1310
.134275

+44 56	+23 16			+14 47			+69 21		
57m 50.2	56m 51.6	9.0	31.8	6h 0m 40.5	57.2	18.9	6h 6m 17.1	2.8	2.1
34.0	54.3	13.1	34.5	43.2	0.9	21.6	24.4	13.1	8.8
57.2	56.8	17.2	37.4	45.9	5.0	24.1	31.2	23.2	15.8
0.7	59.7	.21.6	39.9	48.5			38.0	34.0	22.9
4.0	2.2	25.1		50.8	8.8	26.4	45.1	44.3	~~3~~29.2
			42.7		12.7	29.0			
2861	2846	854	1863	2289	25.6 4.92	1200	1558	1174	788
57.~~52~~ 22	56.92	17.08	37.26	45.78	~~5.12~~	24.00	31.16	23.48	15.76
26.07	20.18	05	20.08	19.19	04	19.10	1.2682	~~04~~ 8.5563	1.2662
~~31.35~~							0.4526	0.4526	04526
31.15	17.10	17.13	17.18	4.97	~~5.16~~ 4.96	~~4~~.90	1.7208	9.0089	1.7188
							52.58	0.10	52.34
							23.74	23.58	23.42

67.33
67.82
.49
~~.245~~ = n
.346
1.44
1.384
.56

~~1.9~~ 1.99
~~+2.00~~
.6
+
1.73

(.~~28~~

n = .28

5 51 31.~~35~~ 15
5 52 38.63
67.~~R~~48
~~.03~~ .02
~~67.31~~
~~67.30~~
67.50

5 57 17.14
5 58 24.87
67.73
10v
67.63

6 1 4.94
6 2 12.76
67.82
~~16~~
~~18~~ 8
~~1 11 61~~
~~13~~
~~20~~
~~67.69~~

6 7 23.58
6 8 30.8~~1~~ 91
67.33
~~49~~
36
67.69

67.33
67.82
.49
.478
1.200
1.195
5

(.205

+ 2.65
± .26
2.39

n = .205

67.69
67.56
67.63
8
67.63
34
67.29

Frod 1327 is slow 1m 7.29s at 6h 0m S. d Time

Tues Feb 20, 1906

M F K,
break abt the
last min 8h 17m

Ballou 103

6 15 11.71 F 7 Monocer −7 47

+49 20

~~A~~E v Gemin +20 16

+61 34

−7 47

7h 39m
84 555
108 52.9
13.2 50.4
158 478
18.2 455
242 39.2
28.2 356

7h 59m
3.9
3.7
3.6
3.6
3.7
3.4
3.8
320
277
31.85

8.4 55.5 63.7
10.8
13.2 52.9
15.8 18.2 50.4
24.2 47.8
48.2 45.5
32.0 39.2
35.6

7 59 31.85
16 18.23
21 58 2.34
1 18.69
09
6 15 11.20
6 15 11.71
0.50
26
0.24

n = .25

+1.85 0 00
−.14 0.50
1.49 .50 .25
.398
1 020
995
25

+49 20

8h 1m
24.6 36.4 1.0
28.5 32.7 1.2
32.2 28.9 1.1
35.9 25.0 0.9
39.7 21.4 1.3
49.2 12.0 1.2
54.8 6.2 1.0
0.7
84
0.56

8 2 0.56
16 18.23
21 58 2.34
1 19.18
00
6 17 40.31
6 17 40.39
.08
06
0.14

0.14
0.16
0.15
~~03~~
~~[illegible]~~ 34
0.19

+20 16

8h 7m
17.7 7.2 24.9
20.2 4.9 25.1
22.8 2.2 25.0
25.5 59.6 25.1
28.1 56.8 25.9 4
34.7 50.5 25.2
38.5 46.4 24.9
424
375
42.50

8 7 42.50
16 18.23
21 58 2.34
1 20.00
0.12
6 23 23.19
6 23 23.49
0.30
.14
0.16

+61 34

8 12 36.6 14.9 51.5
42.0 9.8 51.8
47.0 46 51.6
52.1 59.2 51.3
57.1 54.0 51.1
10.0 40.9 50.9
17.8 33.5 51.3
2575
1025
25.68

8 13 25.68
16 18.23
21 58 2.34
1 20.99
0.07
6 29 7.31
6 29 7.31
0.00
23
0.23

Ballou 103 is fast
0m 0.19s at 6h 20m Sid Time

Thurs Feb 22, 1906

M F Moot

Frod 1327
+ 39 28
+ 16 43
+ 55 28

rattle before
7^h 8^m (?)

+ 39 28		
3^m 33.8	54.7	21.7
37.5	59.2	24.9
40.3	4.2	28.1
43.2	8.8	31.4
46.6	13.7	34.1
2014	206	1402
40.28	41.2	28.04
24.02	05	~~22.67~~ 23.91
4.20	4.17	~~5.37~~ 4.13

+ 16 43		
11^m 9.2	26.2	48.0
12.0	30.1	50.8
14.6	34.0	53.1
17.0	37.9	56.0
19.8	41.7	58.2
726	1699	2661
14.52	33.98	53.22
19.36	04	19.28
33.88	34.02	33.94

+ 55 28		
13^{hm} 23.7	52.2	29.2
27.7	58.5	35.6
32.9	5.8	38.1
36.8	11.6	42.2
40.9	18.9	46.5
1620	270	1916
32.40	5.40	38.32
~~33.16~~ 32.72	07	32.57
5.12	5.47	5.75

7	4	4.17
7	5	12.31
		68.14
		2
		68.12

7	11	33.95
7	12	42.23
		68.28
		15
		68.13

7	14	5.45
7	15	13.21
		67.76
		14
		67.90

68.12
68.13
68.12
34
67.78

Frod 1327 is slow
1^m $7^s.78$
at 7^h 10^m
Sid Time

Thurs Feb 22, 1906

Ballou 103

+27 59 missed first 4, latest 3
+31 58
+32 6 ∓ double star hard to get mean*
last min 9 1/2 m
+5 28

+27 59
55m 57.1 27.3 24.4
3.7 20.4 24.1
7.9 16.2 24.1
12.1
7
12.05

22 5 55.45

+31 58
58m 54.7 49.8 44.5
57.9 47.0 44.9
6.7 44.0 44.7
3.6 41.0 44.6
6.4 38.0 44.4
13.5 31.0 44.5
17.9 26.7 44.6
22.35
455
22.30

*
+32 6
4m 26.0 21.4 47.4
28.9 18.3 47.2
31.8 15.2 47.0
34.7 12.5 47.2
37.7 9.4 47.1
44.9 2.2 47.1
49.2 58.0 47.2
53.7
8.9
53.79

+5 28
10m 15.6 2.5 18.1
18.1 0.3 18.4
20.5 57.7 18.2
23.0 55.2 18.2
25.3 52.7 18.0
31.8 46.5 18.3
35.5 42.8 18.3
39.2
1.7
39.11

16 18.23
8 56 12.05
22 5 55.45
1 28.05
0.3
7 19 53.81
7 19 54.18
~~0.35~~
0.37
7
0.30

n assumed = .2

16 18.23
8 59 22.30
22 5 55.45
1 28.54
.06
7 23 4.58
7 23 4.83
0.25
5
0.20

16 18.23
9 4 53.79
22 5 55.45
1 29.36
0.05
7 28 36.98
7 28 36.92

16 18.23
9 10 39.11 7.45
22 5 55.~~45~~
1 30 35
.11
7 34 23.25
7 34 23.71
0.46
16
0.30

0.30
0.20
0.25
.34
0.09

~~Frod 1327~~

Ballou 103 is fast
0m 0s.09
at 7h 25m
Sid Time

should be .20 fast
out .11

Fri Feb 23, 1906

Fred 1327

+58 33 latest 4

−28 51

+20 43

−15 30 ~~53~~ latest

2 Rutles after

7 1

68.24
+1.64 69.06
.55 .374
−2.19 .82
.657
1.630
1.533
970

−15 30

58m 35.8
38.5
41.2
43.9
46.2
20 5 6
41.12
19.15
21.97

+58 33

48 31.8
36.8
41.2
46.3
15 6 1
39.02
12944
0.2826
0.5770
37.76
1.26

−28 51

53m 20.9 39.1 30
23.8 43.3 6.0
26.6 47.8 8.8
~~31.4~~ 51.8 11.6
29.4 56.0 14.1
32.0
1327 2380 435
26.54 47.60 8.70
21.16 05 21.08
47.70 47.65 47.62

+20 43

56 58.9 16.1 38.2
1.7 20.2 41.0
4.2 24.1 44.0
6.8 28.1 46.5
9.4 31.8 49.0
21 0 1203 2187
420 # 43.74
19.83 24.06 19.73
64
24.03 24.10 24.01

6 58 21.97
6 59 31.14
~~77~~
69.17
44
69.73

6 48 12.6
6 49 9.50
6824
.27
68.51

6 53 47.66
6 54 56.73
~~54.61~~
~~66.95~~
69.06
54
68.52

6 57 ~~20~~. 24.05
6 58 32.75
~~66.70~~
68.75
20
68.55

n = .37

68.55
34
68.21

Fred 1327 is slow
1m 8.21s
at 6h 55m
Sid Time

Fri Feb 23, 1906

Ballou 103

first min
8 37

~~+33 29~~
+16 43
~~+41 3~~
+55 28
~~+22 9~~

7h 17m ~~34~~ 38s 9.7 F   66 Aurigae +40 51
+27 59

+16 43
44 40.8 29.2 10.0
43.2 27.0 10.2
45.8 24.2 10.0
48.3 21.8 10.1
50.8 19.2 10.0
57.5 12.8 10.3
12 8.8 10.0
50
.6
5.04
16 18.23
8 45 5.04
~~8~~
22 9 52.00
~~1 20.17~~
1 26.24
02
7 12 41.53
7 12 42.22
0,69
21
0.48

0.33
34
0s.01

assumed
h =

+55 28
46 54.6 17.5? 12.1
58.8 13.1 11.9
38 8.7 12.5
78 4.2 12.0
12.0 0.0 12.0
22.8 49.5 12.3
24.6 42.4 12.0
~~36.5~~
36.3
1.1
36.07
16 18.23
8 ~~46~~ 47 36.07
22 9 52.00
1 26.~~41~~ 57
10
~~7 14 12.84~~
7 ~~14~~ 15 12.97
7 15 13.19
0.22
18
0.40

+40 51
49m 30.5 32.0 2.5
33.8 24.0 2.8
36.7 25.8 2.5
40.3 22.6 2.9
43.5 19.0 2.5
52.0 11.0 3.0
56.3 6.4 2.7
12
2.01
~~1.41~~
1.34
16 18.23
8 ~~49~~ 50 1.34
22 9 52.00
1 27.07
00
7 17 38.64
7. 17 3~~9~~8.97
0.33
0.32½

+27 59
51m 49.5 42.5 32.0
52.6 39.8 32.4
55.2 36.9 32.1
57.9 34.2 32.1
08 31.2 32.0
78 24.4 32.2
11.9 20.2 32.1
16.2
11
16.07
8h 5 2m 16.07
16 18.23
22 9 52.00
~~1 27~~
1 27.39
04
7 19 53.73
7 19 54.17
0.46
13
0.33

Ballou 103 is ~~first~~
0m 0s.01

at 7 15
Sid Tm

Sat Feb 24, 1906

Frod 1327

+25 13 T III
+34 5
+58 33
−28 51

rattle through
6 55

+58 33
?
47 24.6 45.8 26.4
29.6 53.2 30.8
34.3 0.1 35.6
7.0 40.5
14.2 45.2
885 300 317 85
29.50 60.06 35.70
~~35.64~~ 07 35.38
0.13 0.32

+25 13
37m 15.1
18.0
20.7
23.4
26.0
103 2
20.64
20.40
0.24

(+43 40?)
~~+34 5~~
38m
17.1 39.2 8.1
20.5 44.2 11.9
24.0 49.2 15.1
27.2 55.0 18.2
30.8 59.8 21.7
119 6 245 47 50
23.92 ~~49.08~~ ~~8.48~~ 49.05 15.00
25.64 25.52
49.56 ~~49.13~~ 49.48
49.53

?
+34 5
~~+58 33~~
44m 58.8 17.9 43.4
1.8 22.5 46.4
4.8 27.0 49.2
7.6 31.3 52.3
10.8 35.9 55.3
238 134 6 246 6
4.76 26.92 49.32
22.40 05 22.30
27.16 26.97 27.02

−28 51
6h 53m 20.4 38.5 2.4
22.8 42.7 5.2
25.8 47.0 8.0
28.8 51.2 10.9
31.4 55.2 13.8
129 2 234 6 40 3
25.84 46.92 8.06
21.19 05 21.10
47.03 46.97 46.96

6 48 0.22
6 49 9.48
69.26
.15
69.41

69.26
+1.64 69.73
0.55
2.19 .47 .214
438
320
219
1010
876
134

n = .215

6 ~~35~~ 37 0.24
6 38 9.57
69.33
10
69.23

69.2~~4~~3
f sec 434
~~68.90~~
68.89

6 38 49.52
6 39 58.72
69.20
1
69.21

6 45 27.05
6 46 36.36
69.31
05
69.25

6h 53m 46.99
6 54 56.72
69.73
31
69.42

+1.4
+3
1.1

Frod 1327 is slow
1m 8.~~90~~89s
at 6h 45m
Sid Time

Sat Feb 24, 1906

Ballou 103

first min
8 26

+39 28
~~+41 3~~
+16 43
+55 28
[+40 51]

F

+39 28
33m 10.4 10.8 21.2
13.8 7.7 21.5
17.0 4.2 21.2
19.9 1.0 20.9
22.9 58.0 20.9
30.9 50.0 20.9
36.0 45.1 21.1
40.6
83
40.55
16 18.23
8 33 40.55
22 13 48.56
1 24.27
0.11
7 5 11.72
7 5 12.28
0.56
04
0.52

+16 43
40 44.6 33.5 18.1
47.2 30.9 18.1
49.9 28.3 18.2
52.5 25.7 18.2
55.0 23.0 18.0
1.3 16.9 18.2
5.2 13.0 18.2
9.0
10
9.07
16 18.23
8 41 9.07
22 13 48.56
1 25.59
.03
7 12 41.48
7 12 42.20
0.72
29
0.43

+55 28
42m 59.1 21.5 20.6
3.2 16.9 20.1
7.6 12.7 20.3
12.0 8.3 20.3
16.2 4.0 20.2
27.2 53.2 20.4
33.8 46.4 20.2
40.25
~~23~~
235
~~40.15~~
40.16
8 43 40.16
22 13 48.56
16 18.23
1 25.92
0.11
7 15 12.98
7 15 13.17
0.19
24
0.44

+40 51
45m 34.2 36.0 10.2
37.7 38.2 10.5 ~~34.2~~ ~~11.6~~
40.7 29.6 10.3
43.9 26.2 10.1
47.2 23.0 10.2
55.4 14.9 10.3
0.2 10.0 10.2
5.1
19
5.13
16 18.23
8 46 5.13
22 13 48.56
1 26.41
01
7 17 38.34
7 17 38.95
0.59
02
0.57

+1.45 0.19
+30 0.72
1.15 0.53 .46
460
700
690
100

0.52
0.57
0.55
~~03~~
[illegible] .34
0.21

Ballou 103
~~Fund 1327~~ is slow
0m 0.21s
at 7h 10m
Sid Tm

√

Mon Feb 26, 1906

.005
.3
.010

.05
.2
.010
.001
.009

4.005
.01
4.005
4.010

AE γ Cancri +21 48

+18 30 TII TIII

AEF [ ] +6 46

+42 9 latest wire

+47 32 TII TIII

+21 48

16.2 .331 55.8
18.8 37.3 58.4
21.3 41.3 1.1
23.9 45.3 4.0
26.2 49.2 6.2
~~33.1~~
106.4 206.2 5.5
21.28 41.24 1.10
19.97 04 19.88
41.25 41.28 41.22

+18 30

11.2 3.2 25.2
18. 7.2 27.8
— 30.6
15.0 33.8
18.7 35.9
22.2 152.7
21.9 30.54
44.1 19.46
2.9 11.08
11.02

+6 46

14.6 30.7 51.7
17.0 34.4 54.3
19.7 38.2 56.8
22.0 41.6 59.2
24.4 45.6 1.7
97.7 190.5 ~~24.7~~
19.54 38.10 283.7
18.67 04 56.74
18.59
38.21 38.14 38.15

+42° 6′

54.5

+47° 32′

52.6 23.8
58.2 27.2
3.6 31.0
9.2 34.7
14.2 38.1
17.8 154.8
35.6 30.96
05 27.34
3.61 3.62

41.25
8 37 57.83
70.58
23
70.35

11.05
8 39 21.62
70.57
25
70.32

38.17
~~8 50 26.52~~
8 41 48.92
70.75
35
70.40

3.62
8 57 13.94
70.32
8
70.40

70.32
+1.09 70.75
+12
.97 43 (.44
388
420
388
320

n = .44

35
32
40
40
147
70.39

70.39
34
1m 10.05

Frod 1327 is slow
1m 10s.05
at 8h 45m
Sid. Time.

Mon Feb 26, 1906

AF 14 Hydre -3 5
A E J +30 ~~5~~ 56
+6 18
+48 24

least min
prob 10 15
(or just before

-3 5
$10^h 4^m$
36.3 23.0 59.3
39.0 20.7 59.7
41.1 18.0 59.1
43.9 15.6 59.5
46.4 13.1 59.5
52.4 7.2 59.6
55.8 3.5 59.3
60.0
8960
59.73

22 16 18.23
10 21 41.66
4 59.73
1 39.22
16
clock 8 44 39.00
Almanac 8 44 39.39
slow 0.39
.48
-0.09

+30 56
$10^h 8^m$
24.5 19.0 43.5
27.8 16.3 43.5
30.2 13.6 43.8
33.1 10.5 43.6
35.9 7.5 43.4
43.4 0.5 43.9
47.5 56.2 43.7
51.8
272
51.81

22 16 18.23
10 21 41.66
8 51.81
1 39.88
.14
8 48 31.72
8 48 31.72
even 0.00
16
-0.16

+6 18
10^m 22.5 42.3 31.7
25.0 70.3 32.0
27.4 47.3 32.1
29.9 20 31.9
32.4 59.5 31.9
38.6 53.3 31.9
42.2 49.8 32.0
45.9
6894
45.96

16 18.23
22 21 41.66
10 10 45.96
1 40.21
13
8 50 26.19
8 50 26.53
slow 0.34
.40
0.06

+48 24
12 31.9 42.7 14.6
35.5 39.0 14.5
39.5 35.2 14.7
43.6 31.4 15.0
46.9 27.8 14.7
56.0 18.8 14.8
22.1 29 15.1
7.5
59
7.39

16 18.23
22 21 41.66
10 13 7.39
1 40.70
1.02
8 5~~3~~2 ~~5~~4 8.00
8 52 47.78
fast 0.22
11
-0.11

0.22
0.39
0.61 ✓ (.51
590
200

+1.13
-05
1.18

fast 0.09
0.06
0.06
0.11
0.42
0.10 fast
f seq 0.34
0.44

fast 0.44
at $8^h 50^m$

✓

~~Thu~~ Wed Feb 28, 1906

M Fleming

E I Bemmor

(+23 16)
+14 47
+6~~8~~9 21

Tallies after
6 h

+23 16

5h 57m ~~43~~

5.3 28.2
9.9 31.0
13.7 33.4
17.8 36.4
21.8 39.0

685 1680

13.70 33.60
04 20.08

13.74 13.52

~~#4~~ +14 47

6h 0m

37.1 53.8 15.4
39.8 57.5 18.1
42.2 16 20.7
44.8 5.3 23.2
47.6 9.2 25.8

2115 7.4 1032
4230 1.48 20.64
19.19 .04 19.10

1.49 1.52 1.54

+6~~8~~9 21

6m ~~+63~~

13.6 58.0 58.0
20.2 9.1 4.8
27.2 19.9 12.2
34.1 29.5 19.2
41.2 40.9 27.0

1363 974 612

2726 19.48 12.24
1.2682 .10 12662
~~04330~~ 19.58 ~~04330~~
0.4526 04526
~~17012~~ ~~16992~~
1.7208 1.7188
~~50.25~~ ~~50.02~~
17.51 ~~22.22~~
52.58 52.34
19.84 19.90

5 57 13.63
5 58 24.73

1 11.10
6

1 11.04

6 1 1.52
6 2 12.64

1 11.12
10

1 11.02

6 7 19.77
6 8 30.53

1 10.76
25

1 11.01

+265 10.76
+26 11.12
+ .36 .15
2.39 239
1210
1195

n = 15

11.04
11.02
1103
t sec 4.34
1 10.69

F rod 1327 is slow

1m 10.s69
at 6h 0m
Sid time

+18
+ 2
1

Wed Feb 28, 1906

M F W

+49 20
~~+22 34~~
~~+4 38~~
A E v Gem + 20 16
+61 33
+16 29

first min
> 25

last min > 4 47

+49 20

> 29m 58.3 9.9 8.2
18 6.5 8.3
59 2.5 8.4
9.7 58.7 8.4
13.2 55.0 8.2
22.8 45.2 8.0
28.4 40.1 8.5
34.2
22
34.15

+20 16

35m 51.1 41.0 32.1
54.1 38.8 32.9
56.6 35.9 32.5
59.2 33.1 32.3
1.9 30.5 32.4
8.4 24.2 32.6
12.7 20.2 32.9
16.6
43
16.29

+61 33

41 59.5
9.6
14.6

+16 29

44m 44.4 33.1 17.5
47.0 30.7 17.7
49.7 28.0 17.7
51.9 25.4 17.3
54.7 22.9 17.6
08 16.2 17.0
4.9 12.8 17.7
8.7
11 2
8.75

assumed 22 16 18.23
29 34.77
> 30 34.15
λ = 2
1 13.92
.09
6 17 41.16
0
6 17 40.28
0.96
5 ~~.10~~
0.91 ~~0.86~~

1.38
0.75
+185 .63 (.406
+30 .620
155 1000
930
n = .4

22 16 18.23
29 34.77
> 36 16.29
1 14.91
0.04
6 23 24.24
6 23 23.36
0.88
11 22
0.99 ~~1.00~~

22 16 18.23
29 34.77
> 41 59.50
1 15.73
16
6 29 8.39
6 29 7.01
1.38
37
~~1.01~~

22 16 18.23
29 34.77
> 45 8.75
1 16.39
02
6 32 18.16
6 32 17.41
0.75
25
13 ~~0.~~
0.88 ~~1.00~~

0.91
0.99
0.81
2.71
0.90

0.90
Balloon 9 34
1.24

Ballou 103 is fast
0m 1.24s
at 6h 25m Sid Time

Thurs Mar 1, 1906

Time Cir

W.W.Rollo
Rattle at $6^h 14^m$

AE [ν Gemin.] +20°16′
8 Lyncis +61°33
γ Gemin +16°28′
Ballon signals on
S ~~ε Gemin~~ Monoc. +9°58′
ε Gemin. +25°13′ (last 5 wires) Rattle before $7^h 51^m$ E.T.
ξ Gemin +12°59′

93
18
744
93
17

62
18
496
62

+20 16
47.0 4.0 26.4
49.5 8.0 29.1
52.2 12.0 31.6
54.9 16.0 34.4
57.7 19.9 37.0
2633 599 1585
52~~66~~26 11.98 31.70
19.77 04 19.68
~~1243~~ 12.02 ~~138~~
12.03 12.02

+61 33
6.1 40.4 24.4
11.9 48.2 29.9
16.9 55.9 34.2
21.7 3.5 39.9
27.5 11.2 44.9
46.2 2792 17.33
51.9 55.84 34.66
08 ~~51.5~~
55.92 ~~38.77~~
~~24.51~~
55.89

+16 28
41.4 58.2
44.1 2.2
46.7 ~~9.9~~ 6.8
49.4 13.5
51.9 29.8
2335 5.96
46.70 04
19.34 6.00
6.04

20.0
22.7
25.2
27.8
30.3
12.60
~~4~~5.20
19.25
~~7~~5.95
~~6.00~~

1
12.12
184 11.40
.30 28
1.54 154
1260
1232
280

(18

1202
6 23 23.35
(1) 11 33
10
11.23

55.90
6 29 7.02
1 12.12
17
(1) 11.29

6.00
6 32 17.40
1 11.40
11
(1) 11.29

x = 18

1 11.23
1 11 29
1 11 26
34
1 10.92

Frod 132 } is slow 1^m 10.92 at $6^h 25^m$ Sid Tm

1905phae.proj.163IM

Sunday ~~Jan~~ Mar. 4, 1906

MFMcd

F rod 1327

~~ptv~~

+48 2~~4~~5 ~~wires~~ wires 9 (not good 10) but interrupted by clouds

+42 9₂ last 2 wires

+47 3~~1~~2
st here +38 50

+38 50 T II T III

+47 3~~1~~2 +38 50

260 44.5 20.8 11.2 38.2
29.7 55.2 24.6 16.2 41.4
06 28.2 20.9 44.8
33.2 61 31.9 25.8 47.9
36.9 11.8 35.1 30.5 50.9
408

1666 3.2 1406 1046 2232
3332 064 28.12 2092 44.64
27.47 06 27.34 05 2370

0.79 0.70 0.78 20.97 20.94

0.76 20.96

8 57 13.90 9 0 34.25

1 13.14 1 13.29
3 2

1 13.17 1 13.27

assumed n = 3

1 13.17
1 13.27

1 13.22
34

1 12.88

F rod 1327 is slow
1m 12.88s
at 9h 0m
Sid Time.

Sunday Mar. 4, 1906

M. Fleming

Ballou 103

+67 31
+18 6
~~+34 47~~
−8 15
~~+63 28~~
+52 6

wire 8 rattle before and after

~~Ao~~ best min
10 25

+67 31
16 18.23
9 58 54.60
22 45 20.98
1 38.24
015
9h 2m 12.20s
9 2 9.96
2.24
38
1,8~~8~~6

assumed
n = .25

+18 6
10m 2.8 51.9 547
5.2 49.4 546
7.8 46.8 546
10.4 43.9 543
13.0 41.3 543
19.4 34.7 541
23.4 31.1 545
27.3
34
27.23
16 18.23
22 45 20.98
10 10 27.23
1 40.21
07
9 13 46.72
9 13 45.16
1.54
15
1.69

−8 15
19m 15.8 32 190
18.3 06 189
20.8 58.2 190
23.3 55.8 191
25.8 53.0 188
32.0 46.8 188
35.8 43.1 189
39.7
72
39.48
16 18.23
22 45 20.98
10 19 39.48
1 41.69
0.11
9 23 049
9 22 59.24
1.25
26
1.51

+52 6
22 38.0 54.0 320
41.9 50.1 320
46.0 46.2 322
50.1 42.0 321
53.8 38.0 318
40 28.0 320
10.1 22.1 322
16.1
4
16.03
16 18.23
22 45 20.98
10 23 16.03
1 42.34
04
9 26 37.62
9 26 35.86
1.76
9
1.67

169
1.51
1.60
.34
+1.26

1.60
34
1.94

Ballou 103 is fast
0m 1.94s
at 9 29 Sid Time

Mon Mar 5, 1906

Frod 1327

+21 5 ?

+49 47 . interrupted

2nd

+ 7 23 latest 2

+ 44 56

first min of second part prob. $5^h 49^m$

+ 44 56

~~+21~~ 5

50^m 51.8 14.0 43.4
54.9 19.1 47.0
58.3 24.6 58.8
1.8 29.8 54.2
5.2 34.8 57.6

2920 1223 2530
~~781~~ 24.46 50.60
58.40 06 26.07
26.19

assmed n = 4

24.59 24.52 24.53

assumed n = 1, 2

5 51 24.55
5 52 38.33

1 13.78
02

4

1 13.82

1 ~~13.80~~
1 13.82
1 13.82
[illegible] 34
1 13.48

+49 47

+7 23

+21 5
~~+44~~ 56

22.6 39.8 2.1
24.9 43.8 4.8
27.9 47.8 7.4
30.5 51.5 10.0
33.1 55.5 12.6

1390 2384 369
27.80 47.68 7.38
19.87 04 / 9.78

47.67 47.72 47.60

47.66

5 32 1.69

(1) 14.03
+1

21

1 13.82
~~14.82~~ (1) ~~14.~~
~~13.92~~

Frod 1327 is slow
1^m $13^s,48$
at $5^h 40^m$ sid time

Mon Mar 5, 1906

Ballou 103

Last min
6 43

A
F

ξ Leporis −14 51
[ν Aurigae] +39 7
β Aurigae + 55 41

−14 51

35^m
38.2 26.6 48
40.7 24.0 47
43.3 21.5 48
45.7 18.9 46
48.7 16.4 51
54.8 10.0 48
58.6 6.2 48
25

361
2.41

	16	18.23
22	49	17.53
6	36	2.41
	1	5.05
		~~0.05~~
		0.01
5	42	43.23
4	42	41.92
		1.31
		29
		1.60

assumed
n
= .25

+39 7

37^m
49.0 49.1 38.1
52.2 46.2 38.4
55.5 43.0 38.5
58.7 39.8 38.5
2.0 36.5 38.5
9.8 28.8 38.6
14.4 23.8 38.2
19.3

31
19.21

	16	18.23
22	49	17.53
6	38	19.21
	1	5.38
		0.05
5	45	0.40
5	44	58.71
		1.69
		2
		1.71

+55 41.

39^m 37.2 41 38.3
41.6 35.9 37.5
46.1 31.9 38.0
49.9 27.2 37.1
54.8 22.8 37.6
57.4 18.3 38.2
12.3 25.2 37.5
18.9

28.11
18.73

	16	18.23
22	49	17.53
6	40	18.73
	1	5.71
		0.05
		0.25
5	47	~~18.81~~
5	46	58.52
		~~20.46~~
		1.73
		14
		1.59

1.71
34
2.05

Ballou 103 is fast
0 2.05
at 5^h 45^m
Sid Time

Tues Mar 6, 1906

M F-M

Frod 1327

F + 16 3
F + 60 35
A + 25 39 T LII
+ 28 3

+16 3
21.3
25.3
29.0
32.9
39.3
42.0
44.4
46.9
49.6
2222
44.44
19.30
25.14

+60 35
13.0
20.0
27.8
35.0
43.0
~~43.0~~
55.4
0.4
5.0
10.7
13.0
1388 245
27.76 4.90
08
27.84

+25 39
15.6
18.1
21.0
23.8
26.4
1049
2098
2045
0.53

+28 3
38
68
95
12.5
15.0
476
9.52
21.02
22.4
26.2
30.6
34.8
38.9
1529
3058
05
46.0
48.9
51.6
54.7
57.1
2583
57.66
20.92
3054 30.63 30.74

25.14
7 51 40.02
1 14.88
~~13~~ 25
16
63
1 ~~15.13~~
1.14.72 ~~1 14.75~~ 1 14.70

27.84
7 53 42.33
1 14.49
~~17~~ 32
21 1 ~~14~~.81
~~1 14.66~~

0.53
7 55 15.45
1 14.92
11 9
~~1 14.83~~
1 14.82

30.64
7 57 45.58
1 14.94
~~8~~
10
~~1 14.86~~
1 14.84

assumed
~~n = 4~~
n = .25

1 14.82
1 14.84
1 14.83
34
1 14.49

Frod 1327 is slow
1m 14.s49
at 7h 55m
Sid Time

Tues Mar 6, 1906

m7M

Ballou 103

first min
$8^h 49^m$
if immediate
otherwise $8^h 50^m$

+51 47

A +68 45 T II

A +17 56

str. poll −15 30

+43 29

+51 47

49.1 47 53.8
535 08 54.3
57.4 56.9 54.3
12 529 54.1
56 48.7 54.3
150 39.1 54.1
21.2 329 54.1
~~270~~
270
1.0
27.07

$8^h 49^m$
49.1 150 48.7
535 212 529
574 270 569
1.2 329 08
56 39.1 47

16 18.23
22 53 14.08
8 50 27.07
1 27.07
07
8 1 26.52
8 1 24.48
~~7.96~~
first 2.04
10
~~14~~ 140
2
1.94

208
+257 1.43
+32
2.25 .65 .288
450
200
1800
206

n = .29

1.94
1.81
last 1.88
34
2.22

+68 45

127 522 4
52 ~~137~~ ~~532~~ ~~6~~.9
2 228 4~~85~~ 43
~~3~~ ~~33~~.03~~8~~0
1.2
32.08

16 18.23
22 53 14.08
8 5~~8~~ 3~~1~~.08
1 27.~~56~~ 39
09
8 ~~4~~ 3 3~~1~~.~~84~~ 1.87
8 3 29.79
~~2.25~~
2.08
51
1.57

+17 56

8 55 29.6 135 431
32.2 109 431
347 82 424
37.2 57 429
438 59.2 430
47.8 55 432
57.6
198
51.32

16 18.23
22 53 14.08
8 55 57.32
1 27.84
04
8 6 51.56
8 6 50.13
1.43
17
1.60

+43 29

$9^h 4^m$
527 57.2 49.9
564 53.9 50.3
596 50.4 50.0
30 47.2 50.2
66 43.8 50.4
150 35.2 50.2
202 30.2 50.4
250
1.2
25.08

9 5 25.08
22 53 14.08
16 18.23
1 29.53
~~07~~
8 16 26.99
8 16 25.17
1.82
1
1.87

Ballou 103 is fast
$0^m\ 2^s.22$
at $8^h 10^m$
Sid Time

Thurs Mar 8, 1906

Frod 1327

M F M
rattle after
7h 10m

+16 43 wire 11 not good

+22 9

+40 51

+27 59

F 66 Aurigae

+16 43		+22 9			+40 51			+27 59		
11m 22.7	41.0	12m 50.0	7.3	29.9	15 51.8	13.2	4.10	18m 11.6	29.4	53.2
26.2	43.2	52.8	11.2	32.6	55.0	17.8	43.9	14.5	34.0	56.2
29.9	45.6	55.2	15.0	35.0	58.5	22.9	47.1	17.1	38.0	58.8
34.2	48.9	58.0	19.6	37.6	18	27.6	50.5	20.5	42.1	17
~~41.6~~	50.6	0.8	23.1	40.6	4.9	32.6	53.8	23.0	46.4	4.4
	22.93	2768	762	1757	2920	1141	2363	867	1899	2443
	45.86	55.36	15.24	35.12	58.40	22.82	47.26	17.34	37.98	58.86
	19.28	20.02	04	19.93	24.52	05	24.40	21.70	05	20.90
	26.58	15.38	15.28	15.19	22.92	22.87	22.86	38.34	38.03	37.96

7	11	26.58	7	13	15.28	7	16	22.88	7	18	38.11
7	12	42.04	7	14	31.17	7	17	38.74	7	19	53.98
											~~4.13~~
	1	15.46		1	15.89		1	15.86		1	15.87
		15			13			01			09
	1			1	15.76		1	15.85		1	15.78

1 15.86
34
1 15.52

Frod 1327 is slow
1m 15s.52
at 7h 15m
Sid Time

Thurs May 8, 1906

M F L

Ballou 103

+8 29
+32 6
+5 28
+28 15

first recorded were not good

~~at~~ last min
8h 23m

+8 29

3m
5.2 37.7 429
7.8 35.0 428
14.0 28.7 427
~~21.8~~
18.0 25.7 437
21.82
3.92
21.26

437
21.82
65.52
21.84

+32 6

9m 26.2 21.1 473
28.7 18.2 469
31.9 15.3 472
34.7 12.6 473
37.5 9.6 471
44.8 2.3 471
49.0 57.7 467
53.4
80
53.53

+5 28

15m 15.7 2.7 184
18.0 0.4 184
20.5 57.6 181
23.0 55.1 181
25.4 52.7 181
31.8 46.7 185
35.3 42.8 181
39.1
1.8
39.12

+28 15

20m
22.8 16.0 388
25.6 13.3 389
28.5 10.6 391
31.3 7.7 390
34.1 4.8 389
41.2 57.9 391
45.4 53.9 393
49.8
7.9
49.52

16 18.23
23 1 7.19
8 3 21.84

16 18.23
23 1 7.19
8 9 53.53

16 18.23
23 1 7.19
8 15 39.12

16 18.23
23 1 7.19
8 20 49.52

assumed n = .3

1 19.34
.06
22 6.08

1 20.33
0.15
28 39.43

1 21.32
0.11
34 25.97

1 22.14
0.14
39 37.22

assumed n = .25

22 3.81
28 36.74
34 23.55
39 34.59

~~2.85~~
2.27
23
2.50
2.46 19

2.69
9
2.60
2.62 7

2.42
24
2.66
2.62 20

2.63
11
2.52
2.54 9

254
262
262
178

2.59
34

259
34

Ballou is fast
0m 1s.93 35m Sid Time

Sat Mar 10, 1906
~~[illegible]~~ In Flu

Frod B27

+16 29 last min
+25 13 ~~latest 4~~ 2nd sheet — 6h 50m 2nd Sheet
+34 5
+58 33 missed first

+16 29			+34 5			+58 33	
363	530	14.9	44m 51.5	10.9	36.1	47m 39.0	18.8
39.0	57.0	17.4	54.4	15.3	39.0	45.8	24.0
41.4	08	20.1	57.4	20.0	42.1	52.9	28.6
44.0	4.6	22.8	0.2	24.2	45.1	59.9	33.2
46.8	8.5	25.2	3.2	28.7	47.9	6.8	37.9
2075	3.9	100.4	2867	99.1	216.2	2644	142.5
41.50	0.78	20.08	57.32	19.82	42.04	52.88	28.50
19.34	04	19.25	22.40	05	22.28	07	35.38
0.84	0.82	0.83	19.72	19.87	19.76	52.95	53.12

38
23

0.83
6 32 17.24
(1) 16.41
16
16.25

assumed
n = .25

6 45 19.78
6 46 36.11
1 ~~17.33~~
16.33
8
16.25

6 $\overset{47}{\cancel{45}}$ 53.0$\overset{4}{5}$
6 49 9.06
1 6.02
18
16.20

16.25
16.25
16.20
10
16.$\overset{2}{2}$3

16.$\overset{2}{0}$3
34
~~1 15.69~~
1 15.89

Frod 1327 is ~~fa~~ slow
1m 15s.89
at 6h ~~4~~45m
Sid Time

Sat Mar 10, 1906

M F M

Ballou 103

F 7 Monoc -7 47 missed Urse 1
+49 20

A E ν Gemin +20 16
+61 34

later 7^h 4^m
?

-7 47 +49 20 +20 16 +61 34

6 48 28.0 10.~~4~~3 38.3 50 41.9 53.5 35.4 56^m 34.8 24.7 59.5
30.7 7.8 38.5 45.8 49.8 35.6 37.3 22.1 59.4
32.9 5.2 38.1 49.3 45.9 35.2 40.0 19.4 59.4
35.4 2.7 38.1 53.1 42.2 35.3 42.8 16.8 59.6
41.8 56.6 38.4 56.7 38.5 35.2 45.3 14.1 59.4
45.5 52.8 38.3 6.5 28.9 35.4 52.0 7.7 59.7
49.2 12.0 23.4 35.4 55.9 3.7 59.6
17.8 59.8

31 8 16 1.9 10.3 11.4

49.1~~7~~5 17.69 59.76

69 3.76 3.74

16 18.23 16 18.23 16 18.23
35 do. 18 23 9 0.29 23 9 0.29 23 9 0.29
73 7 6 48 49.1~~8~~5 6 51 17.69 6 56 59.76

assumed 1 7.02 1 7.52 1 8.34

~~n = .25~~ 0.13 .05 16

6 1~~6~~5 14.8~~0~~2 6 17 43.78 6 24 26.78

n = .33⅓ 6 ~~5~~ 15 11.42 6 17 ~~40.02~~ 39.94 6 23 23.2~~8~~0

3.~~38~~40 ~~4.24~~ ~~33.56~~

~~.26~~ 3.84 3.58

35 ~~.6~~ ~~.14~~

3.7~~8~~5 ~~3.64~~ 8 3.76 ~~3.78~~ 18 3.76 ~~3.72~~

Ballou 103 is fast
0^m 4.~~09~~10
at 6^h 20^m Sid Ti

3.76 5
3.7~~8~~5
3.76
15
3.75

3.7~~6~~
34
4.~~09~~10

Mon Mar 12, 1906

~~Frod 1327~~

~~+46 2~~9
Frd 1327 ~~+25 13 latest~~ 4
~~[illegible] sheet~~

+5 28 (T I not so good)
+24 37 T II T III
+28 15 T III
EF − 24 37
A + 27 1

latest star

+27 1			+5 28			+24 37		+28 15	−24 37		~~+27 1~~
19	19.8	43.8	42~~4~~6	58.7	19.9	21.6	44.8	32.8	22.2	40.0	3.1
48	245	46.8	454	2.2	224	258	47.4	358	250	440	58
78	28.7	49.4	47.7	6.4	25.2	24.9	50.3	38.2	27.5	48.1	8.6
10.2	321	520	50.0	9.8	27.6	34.0	53.1	41.2	30.8	52.2	11.2
130	36.8	54.5	52.6	13.8	29.8	38.0	55.8	43.9	33.0	56.1	13.8
377	1419	2465	2383	309	1249	1493	2514	1919	1385	2404	425
	28.38	49.30	47.66	6.18	24.98	29.86	50.28	38.38	27.70	48.08	8.50
7.54	05	20.72	18.63	04	18.55	04	20.30	20.45	20.40	04	20.30
20.81											
28.35	28.43	28.58	6.29	6.22	6.43	29.90	29.98	17.43	48.10	48.12	48.20

28.45
7 47 45.42
(1) 16.97
10
assumed 16.87
n ≈ 25

6.31
7 34 23.49
(1) 17.18
.20
16.88.

29.94
7 38 47.20
(1) 17.26
11
~~17.37~~
17.15

17.43
7 39 34.67
(1) 17.24
9
~~17.33~~
17.15

48.14
7 45 21.29
23.15

17.15
16.88
34.03
17.02

17.02
34
16.68

Frod 1327 is slow 1^m $16^s.68$ at 7^h 40^m Sid Time

Mon Mar 12, 1906

M. F. M.

Ballou 103

~~+20 43~~
~~-15 30~~
+16 43
+55 28

+40 51
+27 59
+31 58

first min 7 18

T II very faint rather bad

last min 7h 52m
breaks and comparison after

5

+16 43

37 54.9 11.7 33.3
57.5 15.4 35.9
0.0 19.0 38.2
2.8 23.2 41.5
5.2 27.2

~~57.5~~
~~0.0~~
~~2.8~~
~~5.2~~
~~27.2 15.4~~
~~23.2 15.4~~
117 190

37 57.5 41.5 39.0
0.0 38.2 38.2
2.8 35.9
5.2 33.3 38.7
11.7 27.2 38.9
15.4 23.2 38.6
190
24
19.19

16 18.23
23 16 53.40
7 38 19.19
1 15.24
05
7 12 46.11
7 12 41.98
4.13
20
433

assumed
n = .33 1/3

31

444
447
459
467
217
4.54

433
446
459
467
205
4.51

4.51
34
485

+55 28

40 36.5 24 38.9
42.6 54.7 37.3
48.5
47
48.94

16 18.23
23 16 53.40
7 40 48.94
1 15.57
.13
7 15 16.27
7 15 12.77
3.50

+40 51

42m 44.9 46.2 31.1
~~48.0~~
50.8 39.8 30.6
54.1 36.7 30.8
57.7 33.1 30.8
58 25.2 31.0
10 4 20.1 30.5
15.2
5.0
15.39

16 18 23
23 16 53.40
7 43 15.39
1 16.06
.04
7 17 43.12
7 17 38.67
4.45
01
4.46

02
447

+27 59

45 3.8 56.7 0.5
6.4 53.9 0.3
9.4 51.1 0.5
12.0 48.1 0.1
15.1 45.4 0.5
21.8 38.8 0.6
26.0 34.4 0.4
30.4
3.3
30.22

16 18 23
23 16 53.40
7 45 30.22
1 16.39
.08
7 19 58.32
7 19 53.92
4.40
.13
4.53

19
454

+31 58

48m 13.0 8.0 21.0
15.9 5.1 21.0
18.5 2.0 20.5
21.5 59.2 20.7
24.2 56.7 20.9
31.7 49.0 20.7
36.0 45.3 21.3
40.7
6.8
40.47

16 18.23
23 16 53.40
7 48 40.47
1 16.88
.11
7 23 9.09
7 23 4.56
4.53
.10
4.63

14
467

Ballou 103 is fast
0m 4s.85
at 7h 15m
Sid Time

Tues Mar 13, 1906

J 1347(?). M. W. W. obs

Rattle at 7h 43m.

Cloudy.

ε Scorpii +~~24 12~~ 24 12' (missed 1st wire) Rattle 9h 48m

υ Urs. Maj +59° 29'

HEF [~~M~~ Scorpii] +26° 27'

+24 12

9h 38m
51.4 6.2 29.2
54.1 10.3 31.6
56.8 14.0 18.6 34.8
59.3 22.5 37.5
40.0

716 1731
1432 34.62
04 20.24

14.36 14.38

+ 24 12

57.6 ~~8.4~~
~~0.2~~ ~~14.2~~
~~3.2~~
~~8.3~~

+59 29

42m 16.4 48.7 29.3
21.6 55.9 34.3
26.6 3.4 39.0
31.1 10.4 44.2
35.8 17.4 49.2

1315 158 1960
26.30 3.16 39.20
36.51 08 36.34

2.81 3.24 2.86

+26 27

45m 02 23.4
42.7 4.1 26.1
44.9 8.1 29.1
47.8 12.4 31.9
50.4 16.8 34.3
53.4 ~~39.0~~

2387 416 ~~151.9~~ 144.8
47.74 8.32 ~~30.38~~ 28.96
20.71 05 20.62

8.45 8.37 ~~9.76~~ 8.34

9 39 14.37
9 ~~39~~ 40 32.06
1 17.69
12
1 17.57

9 43 ~~29.07~~ 2.97
9 44 20.30
1 17.33
19
1 17.52

9 46 8.39
9 47 26.17
1 17.78
.11
1 17.67

assumed 1 17.57
n = 25 1 17.52
1 17.67
176
1 17.59
34
25

Fwd 1327 is slow
1m 17s.25
at 9h 40m
Sid. Time

Tues Mar 13 1906 W. W. b. ob

Ballou Clock.

+5 28

+28 15

Sashrun $8^{h}\,02^{m}$

+5 28

7 55 38.0 25.1 3.1
40.7 22.7 3.4
43.1 20.0 3.1
45.6 17.7 3.3
48.0 15.4 3.4
54.2 9.1 3.3
57.3 5.3 3.0
1.7

9.3
1.62

23 16 18.23
20 49.95
7 56 1.62

1 18.20
00

7 34 28.00
7 34 23.48

4.52
27

4.79

assumed
$n = .33\frac{1}{3}$

+28 15

$8^{h}\,0^{m}$ 45.3 38.7 24.0
48.3 35.4 23.7
51.0 32.8 23.8
53.9 30.2 24.1
56.9 27.3 24.2
3.5 20.1 23.6
7.7 16.1 23.8
12.0

179.2
11.95

23 16 18.23
20 49.95
8 1 11.95

1 19.02
05

7 39 39.20
7 39 34.51

4.69
13

4.82

4.79
4.82

16
4.80
34

5.14

Ballou 103 is fast
$0^{m}\,5^{s}.14$
at $7^{h}\,35^{m}$
Sid time

Wed Mar 14, 1906. MFlw

Frod 1327

5 31 26.52

− 1 16 miss first wire

~~− 9 42~~

+ 7 23

+ 44 56

rather at

5 53

5
5
5

−1 16

47.2 29.2 16.4
50.0 26.8 16.8
52.1 24.2 16.3
54.6 21.9 16.5
09 15.6 16.5
48 12.2 17.0
8.2

3.7
8.28

+7 23

23.0 10.5 33.5
25.3 8.0 33.3
28.0 5.2 33.2
30.4 2.8 33.2
32.8 0.2 33.0
39.2 54.2 33.4
43.0 50.5 33.5
46.8

9.9
46.66

+44 56

46.7 53.4 40.1
50.4 50.0 40.4
53.8 46.0 39.8
57.7 42.8 40.5
08 39.2 40.0
96 30.8 40.4
149 25.5 40.4
20.1

1.7
20.11

8.28
5 31 26.52
(1) 18.24
24

18.00

46.66
5 50 4.98
(1) 18.32
20
18.11

20.11
5 52 38.10
(1) 17.99
2
18.01

assumed

n = 25

18.00
18.11
18.01
12
18.04

1 18.04
34
1 17.70

Frod 1327 is slow

1m 17.70s

at 5h 40m

Sid Time

Wed Mar 14, 1906 M F L

Ballou 103

5 9 44.42
5 20 20.83
5 27 12.13

+45 54
+28 32
−0 22

wire 13 not in good

last min of first div 5 32

last min 5 47

+45 54

27m 17.2 24.6 41.8
20.9 20.9 41.8
24.4 17.3 41.7
28.0 14.0 42.0
31.3 10.1 41.4
40.2 1.2 41.4
45.9 56.1 42.0
50.9

130
50.87

16 18.23
23 24 46.50
5 27 50.87
0 53.72
.14

5 9 49.46
5 9 44.42

5.04
4
5.00

+28 32

37 58.8 51.8 50.6
1.6 48.9 50.5
4.7
7.3 43.8 51.1
10.1 40.7 50.8
17.0 33.9 50.9
21.2 29.7 50.9
25.3

51
~~25.34~~
25.37

16 18.23
23 24 46.50
5 38 25.37
0 55.~~36~~ 52
.07

5 19 25.~~53~~ 69
5 20 20.83

4.86
12
4.98

−0 22

44m 51.8 38.7 30.5
54.3 36.1 30.4
57.0 33.8 30.8
59.2 31.2 30.4
1.8 28.9 30.7
8.1 22.6 30.7
11.8 19.0 30.8
15.2

45
15.30

16 18.23
23 24 46.50
5 45 15.30
0 56.68
04

5 27 16.75
5 27 12.13

4.67
30
4.92

assumed n = .33⅓

assumed n = .4

50.1
499
499
1499
4997

5 499
15 501
37 499

5.00
.34

Ballou 103 is ~~slow~~ fast 0m 5.34s at 5h 20m sid t

Wed. Mar. 14, 1906.

EMST
2

Frod. 1327 taken down by Mr Board at about $22^h\ 30^m$.

Ballou 103 is standard reference clock for the present.

Fri Mar 16, 1906

M. F. M.

Ballou 103
mer lin:

first min $7^h 30^m$

F

+ 5. 28
− 9 20 very faint
+ ~~24. 37~~
+ ~~28 15~~
~~A + 27 1~~

(Bond ^{394} 6.19)
at 7^{30}
sid time

509 379 288
− (35.4)
55.9 329 288
58.4 308 292
0.8 28.2 29.0
6.9 21.6 285
10.8 17.9 287
145
1875
14.43

+ 5 28
43 50.9 37.9
55.9 ~~37.9~~ 35.4
58.4 ~~35.~~
0.8 32.9
6.9 30.8
10.8 28.2
14.5 21.6
17.9

− 9 20
46^m 12.8 0.7 135
15.3 58.0 13.3
17.9 55.4 13.3
20.5 53.4 13.9
23.4 50.8 14.2
29.2 44.2 13.4
33.2 40.5 13.7
37.0
1023
36.82

16 18.23
23 32 39.60
7 44 14.43
1 16.22
04
7 34 28.52
assumed 7 34 23.43
5.09
~~4~~1
33
5.22

n = 4

5.22
back ~~4~~5.34
5.56

16 18.23
23 32 39.60
7 46 36.82
1 16.55
.10
7 36 51.30
7 36 45.94
5.36

(5.18)

Ballou 103 is fast
$0^m 5^s.56$ at $7^h 35^m$ Sid Time

Sat Mar 17, 1906

Ballou 103

m F m

first min
(if zero after beginning)
8h 11m

+ 9 29 latest

− 3 36 broken T I and T II (?) later

+ 61 2
+ 20 46 } one of these
wire 13 bad, 14 satisfied

last min
8h 48m

Bond error
~~slow 5.05~~
~~slow 3.05~~
slow 5.0$\overset{3}{5}$

17m 28.9
31.4
33.8
36.2
38.8
1691
33.82
19.54
14.28

19.59
05
19.54

16 18.23
23 36 36.16
8 17 14.28
1 21.64
04
8 11 30.35
8 11 25.78 Assumed
~~n = .4~~
4.57 ~~n = .25~~
n = .1

+ 9 27

25
22.0 27.1
49.1
24.8
73.9
24.63

16 18.23
23 36 36.16
8 25 24.63
1 22.96
07
8 19 42.05
8

5.60
.34
5.94 at 8h 25m Sid Time

− 3 36

25
(35.2 48.9 24.1)
39.0 46.2 25.2
42.5
127.7
42.57

16 18.23
23 36 36.16
8 25 42.57
1 22.96
.12
8 20 0.04
8 20 58.61

see next page

+ 6 1 2

27 28.3 5.2 33.5
34.0 0.2 34.2
38.7 55.0 33.7
43.8 49.5 33.3
48.7 44.2 32.9
1.3 32.2 33.5
9.1 24.7 32.8
16.8
82.8
16.62

16 18.23
23 36 36.16
8 28 16.62
1 23.45
.04
8 22 34.50
8 22 28.80
5.70
22
.09
5.61

+ 20 46

32 39.0 29.1 8.1
41.8 26.6 8.4
44.3 23.4 7.7
47.0 21.1 8.1
49.9 18.7 8.6
56.2 11.8 8.0
0.0 8.3 8.3
40
61.2
4.08

16 18.23
23 36 36.16
8 33 4.08
1 24.27
01
8 27 22.75
8 27 17.20
5.55
13
5
5.60

Ballou 103 is fast
0m 5.83 at 9h 0m Sid Time

Sat Mar 17 1906
continued

AEF [o Leonis] + ~~9~~ 10 19
+ 24 12
+ 59 29

first min
9 37

last min
9 52

+10 19

41.m
20.7 8.2 28.9
23.2 5.8 29.0
25.8 3.3 29.1
28.2 0.7 28.9
30.7 58.0 28.7
~~36.9~~
37.0 51.8 28.8
40.7 48.1 28.8
44.7

6.9
44.46

549
548
550

549
34
~~n~~ = 583

(n = .1)

16 18.23
~~23 40 32.71~~
23 36 36.16
n = .15
9 41 = 44.46
1 35.44
~~assumed~~
12
~~n = .25~~
14.41
assumed
n = .2
9 36
9 36 9.07
5.34
18
5.52

+24 12

45 41.2 32.2 13.4
43.8 29.8 13.6
46.5 27.0 13.5
49.2 24.3 13.5
51.8 21.6 13.4
58.6 14.9 13.5
28 10.8 13.6
6.7
11 2
6.75

16 18.23
23 36 36.16
9 46 6.75
36.26
~~1 35.44~~
02
9 40 ~~36.60~~ 37.42
9 40 32.03
~~4.57~~
5.39
2
5.51

+59 29

49 8.7 40.7 49.4
13.2 36.0 49.2
18.3 31.0 49.3
23.1 25.9 49.0
28.0 21.1 49.1
40.1 9.1 49.2
47.3 1.9 49.2
54.5
89
54.59

16 18.23
23 36 36.16
9 49 ~~54.59~~
36.76
~~1 35.44~~
15
4
9 ~~43~~ ~~31.30~~
~~24.57~~
25.89
9 44 20.23
5.66
20
5.46

15
5.49 5.45 11 7 ~~5.41~~ 9 5.48 5.46 7 ~~5.44~~ 5 16 ~~5.40~~ 5.54 12 ~~5.58~~ 8 5.50

Sun Mar 18, 1906

M F W

Ballou 103

first min
9 14

+34 47
−8 15
~~+63 28~~ Wire 10
+70 15 T///
+36 47

Last min
9 36

Bond 394
chron 5.65

17
14
68
17
238

22
14
88
22

187
14
748
187
2618

1055
14
4220
1055

+34 47

16m 35.7 4
38.8 32.8
41.6 29.2
447 47.1 26.5
55.0 23.5
59.4 20.2
4.5 12.8
8.35

35.7 32.4 81
38.8 29.2 80
41.6 26.5 81
44.6 23.5 81
47.1 20.2 7.3
55.0 12.8 7.8
59.4 8.3 7.7
45
596
3.97

6
23 18 18.23
40 32.71
9 17 3.97
1 31.50
01
5
9 18 26.42
9 15 20.80
5.62
3
5.65

−8 15

24 17.2 42 21.4
19.7 1.9 21.6
22.2 59.5 21.7
24.8 57.0 21.8
27.3 54.7 22.0
33.3 48.2 21.5
37.2 44.8 22.0
41.2
13 2
40.88

23 16 18.23
40 32.71
9 24 40.88
1 32.65
.11
9 23 4.58
9 22 59.14
5.44
15
5.59

~~+5~~ +70 15

27m
32.8 16.0 48.8
43.9 5.4 49.3
55.3
23 4
54.68

16 18.23
23 40 32.71
9 27 54.68
1 33.14
15
9 26 18.91
9 26 13.06
5.85
26
5.59

+36 47

29m 40.8 39.2 20.0
44.0 36.2 20.2
47.0 33.0 20.0
49.9 29.8 19.7
53.1 27.0 20.1
08 19.1 19.9
55.7 14.8 20.3
20.0
2
10.01

16 18.23
23 40 32.71
9 30 10.01
1 33.64
03
9 28 34.62
9 28 29.07
5.55
02
5.57

5.85
+2.78 5.44
−0.14 .41
+2.92 2.92
1,180
~~1,1876~~
~~304~~
120

+3
14

n = 14

565 × 65
557 × 14

565
559
557
179 181
557 5.60

56

5.60
34
5.94

~~Frod 1327~~

Ballou 103 is fast 0m 5.94s at 9h 20m Sid. Time

Tues Mar 20, 1906

Ballou 103

β Cancri +9°28'
Chron. stopped for 4 or 5 seconds at most.
" " a 2nd time
31 Lyncis +43°29' (last 9 wires)
Br. 1197 −3°35
Last min. 8h 16m
Signals turned on again with Fred 1327
Last min. 8h 29m

+9 28
40 51.3 55.3
6.2 48.9 55.1
9.0 46.3 55.3
11.6 44.0 55.6
14.0 41.2 55.2
20.4 35.2 55.6
24.0 31.4 55.4
27.6
10 ~~8~~1
27.67

16 18.23
23 48 25.81
8 (5?) 27.67
+ assumed ~~16~~ 1 19.57
08
n = .15
8 11 31.36
8 11 25.74
5.62
.11
5.73

5.76
.34
6.10

+43 ~~28~~ 29
10
~~23~~m 21.1 26.4 52.6
31.5
1.0
~~52~~ 26.33
16 18.23
23 48 25.81
8 ~~23~~ 10
26.33
1 20.50
07
8 16 30.94
8 16 24.93
6.01
0
6.01 × 1 1.01
5.73 × 5 36.5
5.74 × 5 37.0
83.6
76

−3 35
~~27~~m 14 35.4 22.2 57.6
38.0 19.9 57.9
40.6 17.1 57.7
42.8 14.8 57.6
45.2 12.2 57.4
51.3 6.4 57.7
54.9 2.4 57.3
58.8
12.0
58.80
16 18.23
23 48 25.81
8 ~~27~~ 14 58.80
1 21.15
16
8 21 4.15
8 20 58.56
5.59
15
5.74

~~Fwd~~ Ballou 103 is ~~slow~~ fast
0m ~~5.76~~ 6.10 [illegible] Sid Tm

Tues Mar 20, 1906

Frod. 1327

Gr. 1450 + (38) 38° 20′   mag 6.4

~~Rattle~~ ~~East~~ min 8^h 3~~9~~4^m

8
+ 3~~8~~ 20

25 41.2   20   28.5
44 6   66   31.9
add 1 sec to each   47.9   11.2   34 6
51.0   16.1   38.1
54 0   20.8   41 1

~~6~~5   ~~6~~5 7   5 174.2
23 8.7   56.7   ~~183~~ 36.~~6~~ 36.04
24 4.7   62.7   12.54
48.74   05   ~~22.0~~
~~22.40~~   ~~11.39~~   ~~12.74~~
~~9.94~~   12.59   23.54
23.64   ~~11.30~~
~~11.38~~   12.50
12.58

238.7   56.7   17.42
5   5   5
243.7   61.7   179.2
48.74   12.34   35.84
23.64   ± 05   23.54
12.38   12.39   12.30

8 26   12.56
~~11.36~~
8 26   49.24
0   36.68
~~37.88~~
2
0   ~~37.86~~
36.66

8 26 12.36
8 26 49.24
36.88
02
36.86

~~36.88~~

~~0 37.86~~
~~34~~
~~0 37.52~~

0. 36.66
34
0 36.

6
0 36.8~~8~~
34
0 36.5~~4~~2

Frod 1327 is slow
0^m ~~37~~ 36^s.52
at 8^h 26^m
Sid Time

Wed Mar. 21, 1906

~~Ba~~

83 Cancri. +18°6′ (missed 1st wire)
40 Lyncis. +34°47′ (" 1st 5 ")
Last wire. 9h08m.

+18 6

9 3 ~~21~~m 19.0 31 221
21.9 0.3 222
24.1 57.8 21.9
26.7 55.2 21.9
33.3 49.0 22.3
37.1 44.7 21.8
1 41.2

134
41.03

+34 47

9 5
~~23~~
7.6 25.7 33.5
12.0 24.1 33.1
16.6

3.2
16.64

16 18.23
23 52 22.36 23
9 3 41.03 ~~8~~
1 29.20 .11 9

9 13 50.93

16 18.23
52 22.36
~~21~~ 3 41.03
~~8.37~~
1 ~~21.50~~
29.20
.11

~~31 44.03~~
~~8~~ 9 13 51.23
50.93
9 13 45.05

5.88
12 4
6.00 ~~5.97~~

16 18.23
23 52 22.36
9 ~~8~~ 5 ~~23~~ 16.64
29.53
1 ~~22.63~~
04

~~8 33 19.90~~
9 15 26.80
9 15 20.77

6.03
4 3
6.07 ~~60.6~~

assumed
~~n = .15~~
n = .20

6.03
.34
6.37

Bullon 103 is fast
0m 6.37s
at 9h 15m
Sid Time

Wed Mar. 21, 1906

Frod. 1327

β Cancri +9°29

31 Lyncis +43°29'

&

o Ursa Maj +60°2'

η Cancri. +20°46'

Rattle at 8h 14m

Armature off tracks.

Rattle 8h 29m.

Ballon signals on.

Eastman. Ballon 103 8h 26m.

61
+~~60~~ 2
~~+9 29~~ 20.0

+ 43 29

+60 2

+20 46

3.6 36.7 25.1
8.5 44.3 30.3
13.6 52.0 35.2
18.9 59.3 40.4
23.3 7.0

67.9 259.3 151.0
302.0
13.58 51.86 38.12
~~1.58~~ ~~36.95~~
38.29
12682 ~~37.12~~ ~~.08~~ 12662
3144 13549
1.58 11
~~38.70~~ 51.94 ✓ 5~~4.25~~
15831 ~~50.70~~ 52.08
51.87

15.0 32.2 54.4
17.5 36.3 57.1
20.2 40.2 59.8
23.0 44.2 2.6
25.6 48.0 5.2

101.3 200.9 299.1
20.26 40.18 59.82
19.84 .04 19.74

40.10 40.22 40.08

40.13
8 27 17.15
37.02
.8
36.94

16
36.88

11
36.91

51.96
8 22 28.68
36.72
13
36.85

18
36.90

assumed
~~n = .15~~
n = .2

36.90
36.91

36.85
3~~7~~.94
1.79
36.895

36.90
34
36.56

Frod 1327 is slow
0m 36.56
at 8h 25m
Sid Time

Thurs Mar 22, 1906

Ballon 103
Rattle at 9h 05m S.T. just preceding
? (8h 49)m Stand Time
θ Hydrae + 2°43'
83 Cancri + 18°6' (missed 1st wire)
40 Lyncis + 34°47' (missed 1st wire, 1st tap not a wire. discard)

Last min 9h 04m E.S.T.

+2 43
8 55 ? 6.6 54.1 0.7
9.2 51.0 0.2
11.4 48.5 59.9
14.0 46.1 0.1
16.6 43.5 0.1
22.0 37.5 59.5
26.6 34.1 30.1
.6
30.04
23 16 18.23
56 18.92
8 55 30.04
1 27.89
~~08~~
9 9 35.16
9 9 29.34
5.82
17

+18 6
59m 23.2 ~~49~~ 7.2 30.4 9 0
~~26.1~~
25.9 ~~7.2~~ 4.5 30.4
28.4 ~~4.5~~ 2.0 30.4
31.1 ~~2.0~~ 59.3 30.4
37.3 ~~54.~~ 53.2 30.5
41.4 ~~53.2~~ 49.2 30.6
~~49.15~~
45.2
29
45.22
23 16 18.23
56 18.92
8 59 45.22
1 28.54
.12
9 13 51.03
9 13 45.04
5.99
12
6.11

+34 47
55.1 46.2 41.3
58.3 43.1 41.4
1.2 40.2 41.4
4.3 37.3 41.6
12.1 29.9 42.0
16.3 25.2 41.5
20.9
101
20.67
23 16 18.23
56 18.92
9 1 20.67
1 28.87
06
9 15 26.75
9 ~~25~~ 15 20.76
5.99
4
6.03

assumed
n = .2
5.99

5.99
6.11
6.03
13
6.04

604
34
638

Ballon 103 is fast 0m ~~6.04~~ 6.38 5 at 9 10 sid time

Thurs Mar 22d 1906

Frod 1327 — W. W. W. Obs.

ζ Hydrae +6°18'
10 Ursae Maj +42°09'
ψ Ursae Maj +47°32' (last 7 wires)
o² Urs. Maj. +67°31' (missed 1st 3 wires.
Ballon signals added
Rattle at 9h05m S.T.

+6 18

49 25.2 41.8 2.7
28.0 45.2 5.4
30.5 49.3 7.8
32.8 53.1 10.2
35.5 56.6 12.8

152.0 246.0 38.9
30.40 49.20 7.78
18.65 04 18.57

49.05 49.24 49.21

+42 9

53 24.8 46.5 14.2
28.1 51.4 18.3
31.4 56.5 21.5
34.9 1.0 24.6
38.0 6.0 27.9

157.2 281.4 106.5
31.44 56.28 21.30
25.01 05 24.90

56.45 56.33 56.40

+47 32

8 56 56.8
0.8
4.0
7.9
11.6

21.1
4.22
27.34

36.88

.10

+67 31

51.4 13.5 8.7
56.6 23.4 14.6
33.1 21.3
42.6 27.8
51.7 34.0

164.3 106.4
32.86 21.28
8.5563 1.2662
0.4175 0.4175

8.9738 1.6837
0.09 38.27

1.0

32.95 33.01

+2.41 36.49
+11 37.15 286
2.30 .66 (28
.46 .79
20
~~172~~
~~18.80~~
18.47
160
144

(8 49) 49.17
8 50 26.32

37.15
23

36.92

(8 53) 56.39
8 54 33.34

36.95

(8 56) 36.88
8 57 13.64

36.76
5

36.81

(9 1) 32.98
9 2 9.47

36.49
44

36.93

36.95×3 285
36.81×1 81

366
92

36.92
34

36.58

n = .29

Frod 1327 is slow
0m 36.58s
at 8h 55m
Sid Time

~~Fri Mar 23, 1906~~

Mer Cir   Frod. 1327.   R.W.W. Obs.

Chronograph working badly

o Ursa Maj. + 59° 29′ (missed 1st 5 wires)

A [μ Leonis] + 26° 27′

[19 Leon. Min.] + 41° 30′ (missed 1st 5 wires.)

π Leonis + 8° 30′

Rattled at 9h 56m

287
361
442
51.0
576
2176
43.52
08
43.60

+59 29

43m 287 576 263
361 510 271
44.2
176
43.52

9 43 43.60
9 44 20.12
36.52
16
36.68

+26 27

46 230 1 380
257 150 383
282 126 380
310 98 380
~~33.8~~ 7.0 ~~380~~
448 42 381
~~48~~ 571 380
.5 532 ~~53.2~~
489
153
49.02

+41 30

51 100
149
201
247
299
~~385~~
996
19.92
05
19.97

+8 30

54 149 25 174
175 00 175
200 575 175
22 6546 172
25 1523 174
312 460 172
351 423 174
384
100
38.67

9 46 49.02
9 47 26.09
37.07
8
36.99

9 51 19.97
9 51 56.87
36.90
01
36.91

9 54 38.67
9 55 15.75
37.08
15
36.93

36.99
36.91
36.93
36.94
[illegible] 34
36.60

Frod 1327 is slow
0h 36s.60
at 9h 50m
Sid Time

Sat Mar 24, 1906

Mer Cir — W. W. W. Obs

Rattle at 7h 54m.

27 Lyncis +51°47'

(A) ξ' Cancri +17°56'

β Cancri +9°29'

Amer Ephem.

+51° 47'			+17°56'			9°29'		
0m 8.9	24.9	3.8	5m 48.2	37.3	5.5	10m 25.4	11.9	6.9
12.3	20.8	3.1	50.7	34.7	5.4	27.2	9.3	6.5
16.7	16.8	3.5	53.6	32.2	5.8	29.3	7.0	6.3
20.7	13.4	4.1	56.6	29.2	5.8	32.3	4.4	6.7
25.0	9.4	4.4	58.7	26.4	5.1	34.4	1.7	6.1
35.1	59.0	4.1	5.0	20.2	5.2	40.5	55.7	6.2
40.3	53.0	3.3	8.6	16.5	5.1	44.4	52.3	6.5
		47.6			12.0			48.4
		1139			199			136
		46.93			12.66			48.24

1.27 37.14
.17 37.44
1.1) 30(1.27

8h 0m 46s.93
07
8 1 24.~~23~~

37.30
.03
37.33

37.14
.09
37.23

Ciss.
u = ~~0.1~~ 0.25

7

37.24
37.06
37.15

8h 06m 12s.66
49.87
~~25~~

37.21
~~.06~~
20

15 ~~15~~

37.01

37.06

37.23
37.01
37.19
3) .43
37.14

Error .34
36.80

8h 10m 48s.24
8h 11 25.68

37.44
25
~~.08~~
37.~~36~~
19

19

37.25

7
67
25
8
5
3

Chron 1327 is SLOW

0m 36s.80

at 8h 10m S.T.

Sunday Nov 25 1906

M F M

* +3 40

* γ Cancri +21 48

+18 30

+29 6

Rattle after 8 29

missed first and latest wire

56.6 50.2 46.8
59.8 47.8 47.6
44.8 47.1
23 41.9 47.1
52 39.0 47.0
80 39.0 47.1
15.2 31.9 47.1
19.2 27.8 47.0
23.7
83
23.55

+3 40

49.9 36.8 26.7
52.6 34.5 27.1
54.9 32.0 26.9
57.5 29.6 27.1
59.8 26.9 26.7
60 20.9 26.9
9.9 17.2 27.1
13.4
69
13.46

+21 48

48.4 39.0 27.4
51.2 36.4 27.6
53.9 33.8 27.7
56.7 31.2 27.9
59.1 28.2 27.3
58 21.8 27.6
9.8 17.8 27.6
13.9
12.0
13.80

+18 30

24.1 3.0 27.1
26.5 0.5 27.0
29.2 57.8 27.0
35.8 51.2 27.0
39.7 47.4 27.1
~~43.~~
43.65
5.85
~~43.39~~
43.53

+29 6

56.6
59.8
23
52
80 39.0
15.2 ~~13.9~~ 36.5
11.2 33.8
~~21.8~~ ~~31.2~~
23.7 28.2

see margin

~~23~~

assumed
k = .25

13.46
8 33 51.38
37.92
21
37.71

13.80
8 37 51.55
37.75
13
37.62

~~43.39~~
43.53
8 39 21.34
37.81
15
37.66

23.55
8 41 1.35
37.80
9
37.71

37.71
37.66
37.62
37.71
270
37.68

37.68
[illegible] 34
37.34

Frod 1327 is slow
0m 37.34s
at 8h 35m
Sid time

Tues Mar 27, 1906

Clear Cir. — 20.20.20. Clds

Rattle at 10h 30m(?)

F [37.? +32°28'

[35 H Urs. Maj.] +69°34' (Missed 1st 3 wires)

42 Leon. Min. +31°11' (Missed 1st wire)

ζ Leonis +11°3'

α Ursae Maj +62°16' missed odd wires clds.

Rattle at 10h 53m

32°28'

32m 21.4	17.1	
24.6	14.3	8.5
27.5	11.5	8.9
30.5	8.3	9.0
33.5	5.5	8.8
40.6	58.2	9.0
45.0	53.8	8.8
		8.8
		49.3
		15)61
		49.41

+31°11'

39m —	29.1	
37.5	26.5	4.0
40.1	23.4	3.5
43.1	20.5	3.6
46.0	17.9	3.9
52.3	10.7	4.0
57.8	6.6	4.4
		2.0
		13)124
		1.95

+11°3'

43m 18.4	6.0	4.4
20.8	3.7	4.5
23.5	1.2	4.7
26.0	58.6	4.6
28.4	56.1	4.5
34.5	49.8	4.3
38.5	46.2	4.7
		42.5
		15)42
		42.28

+62°16'

56m 30.3		
35.7	6.7	2.4
40.8	~~0.3~~	~~1.1~~
46.3	56.4	2.7
51.7	~~56.0~~	2.3
	49.6	~~61.4~~
		21.23

1.903 36.50
0.127 37.83
1.826 1.23

10h 32m 49.41
27.03
10 33 ~~26.21~~
37.62
.07
37.55

10h 40m 1.95s
51
10 40 39.~~44~~
56
37.~~49~~
.08
37.48

10h 43m 42.28s
10 44m 20.11
37.83
.18
37.63

10h 57m 21.23
57 57.73
36.50

Ass.
w = .25

37.55
.48
.63
3)1.66
37.55
brace .34
37.21

Frod. 1327 is slow.

0m 37.21s

at 10h 40m S.T.

Wed Mar 28, 1906

Ann Cir

W.W.W. Ellis

Rattle at 8h 44m

o² Cancri +30°56'

ζ Hydrae +6°18'

10 Ursae Maj. +42°9

χ Ursae Maj +47°32' (missed 1st wire)

o² Urs Maj +67°31'

+6°18'			+42°9'			+47°32'			+67°31'		
49m 24.6	11.8	6.4	53m 24.0	27.4	1.4	56m —	10.7		9h 0m 30.4	33.7	4.1
27.3	9.4	6.7	27.6	24.3	1.9	5.3	7.2	2.5	37.6	27.0	4.6
29.9	6.9	6.8	30.9	20.5	1.4	8.6	3.5	2.1	43.5	20.4	3.9
32.3	4.3	6.6	34.0	17.4	1.4	12.6	0.0	2.6	50.4	13.9	4.3
34.4	2.0	6.4	37.7	13.8	1.5	15.9	55.9	1.8	57.0	7.6	4.6
41.1	56.0	7.1	45.8	5.4	1.2	25.3	47.1	2.4	12.8	51.7	4.5
44.6	52.3	6.9	50.6	0.8	1.4	30.7	40.6	1.3	22.7	42.3	5.0
		48.4			55.3			36.2			32.4
		4			15)105			13)9			15)34
		15)53			55.70			36.07			32.23
		48.35									

2.916 37.03

.470 37.89

2.3±) 86(.37

69

170

8h 49m 48.35	8h 53m ~~53.70~~ 55s.70	8h 56m 36s.07	9h 1m 32s.23
8 50 26.24	8h 54m 33.23	8h 57 13.53	9h 2m 9.26
0m 37.89	0m 37.53	0m 37.46	37.03
.31	.00	.07	.56
37.58	37.53	37.53	37.59

m = .37

.18
.37
126
54
.0666

1.5
.37
105
45
.555

.58
.53
.53
.59
4)223
37.56
b sec α. .34
37.22

Frod. 1327 is slow.

0m 37s.22 at

9h 0m S.T.

Glenns Mar 29, 1906

Level. - 20-20-20-lbs

Time of beginning 2:25 ~~P.M.~~ E.T.

Telescope South.

Zero		W.	E	
W.	-	37.0	94.0	
		3~~5~~6.0	93.0	
		- 73.0	-187.0	= -260.0
				-10.0
E	+	92.0	35.0	
		90.0	33.0	
		182.0	68.0	+ 250.0

Telescope North.

Zero	W	E	
W	- 40.0	96.0	
	39.0	96.0	
	79.0	192.0	- 271.0
			-26.0
E	+ 32.0	88.0	
	34.0	91.0	
	66.0	179.0	+ 245.0

Time of ending 2:45 E.T

$$16 \overline{)\,-36.0}\,(2.\overset{25}{\cancel{50}}$$

32
40
32
80
80

2.25
.06
.1350
1.35
675
405
135
0.18225

b sec φ = 0.18 east end high ~~0.14 East end high~~

Thurs Mar. 29, 1906

Level.

20-20-20 [illegible]

Telescope South

Began at 3h 55m E.T

Zero	W	E		
W	- 39.2	-96.8		
	-39.0	-96.2		
	78.2	-193.0	-271.2	
E	93.2 + ~~35.8~~	+ 35.8		-20.1
	~~3~~89.3	32.8		
	182.5	68.6	251.1	

Telescope North

Zero	W	E		
W	- 36.1	-92.7		
	- 41.0	-96.0		
	- 77.1	- 188 7	- 265.8	
				- 18.1
E	+ 89.0 ~~88.2~~	32.5		
	~~90.5~~ 91.2	35.0		
	180.2	67.5	247.7	

16) - 38.2 (2.32
32
52
48
40

2.32(5)
.06
.139~~50~~
1.35
695
417
139
.18765

b sec a = .19 ~~high~~ East end high.

Thurs Mar 29, 1906

Collimation — 20.20.20. obs.

S. Coll. on N. Coll. (diurnal aberration)

+.012

51.5

55.5

518 130

521 Set at 52.6

521

Tel on S Coll.

Tel. R. A. micrometer found at X 33-713

34 20.5

18.2

20.8

24.2

21.6

)1053

34 21.06.

Tel. on N. Coll.

33 - 25.2

29.8

2)~~7~~ 6 747.30

33 73.65

25.2

23.8

27.2

5)1312

33 26.24

Mean 33 73.65

.012

33 73.662

Tel. R. A. micrometer set at 33 73.~~66~~ 7

Thurs Mar 29, 1806.

Level. W.B.G. Obs.
W.W.W. Reader

Telescope South:

Zero	W	E		
W	-50.4	-87.2	-137.6	
				-8.5
E	83.1 +~~83.8~~	46.0 ~~46.3~~	+129.1 ~~130.1~~	

Telescope ~~South~~ North.

Zero	W			
W	-47.9	-85.2	-133.1	
				-8.6
E	+82.3	42.2	124.5	

8)-17.1
2.14

2.14
.06
.1288
135
6440
3864
1128
.157880

b sec α = $0^s.16$ East end high.

Sat. Mar 31, 1906

Level.

W. P. G. Obs.
W. W. W. Recorder

Telescope South

Zero ~~W~~	W	E	
W	- 39.0	-91.0	-130.0
			+ 1.9
E	+ 92.0	+ 39.9	+131.9

Telescope North.

Zero	W.	E.	
W	- 42.8 (?)	-94.6	-137.4 (?)
			- 8.1
E	+ ~~33.6~~ 95.7	~~95.7~~ 33.6	+ 129.3

8) - 6.2 (.775
56
60
56
40

.775
.06
.046~~50~~
1.35
230
138
46
.06~~210~~

Again.

Telescope South.

Zero	W end	E end.	
W	- 45.9	81.7	-127.6
			+ 2.4
E	+ 83.0	+ 47.0	+130.0

- 32.1
*

Telescope North.

~~Zero~~			
W	- 53.8	-89.4	-143.2
			- 34.5
E	+ 72.1	+ 36.6	108.7

16) 32.1 (2.00
3.~~06~~
.1

2.00
06
.12
1.35
270
135
~~20~~

b sec φ = $0^s.16$ east end high.

Sat Mar 31, 1906

Mer Cir

20-20.20 Cl.

δ Cancri ~~+29°6~~ +18°30′
[ε Hydrae] +6°46′
A & E (ι a Hydrae −3°6)
ζ Hydrae +6°18′

Rattle at $9^h 30^m$

ε Leonis +24°12′
υ Urs. Maj. +59°29′

	+18°30′		
$8^h 38^m$	19.0	8.1	7.1
	21.4	5.7	7.1
	24.0	3.1	7.1
	26.5	0.7	7.2
	29.2	57.8	7.0
	35.9	51.4	7.3
	40.0	47.6	7.6
			43.8
			15)92
			43.61

	+6°18′		
49^m	24.7	12.0	6.7
	27.3	9.9	7.2
	29.7	7.1	6.8
	32.4	4.5	6.9
	34.4	2.2	6.6
	40.9	56.0	6.9
	44.7	52.5	7.2
			48.4
			15)67
			48.45

	+24°12′		
$9^h 39^m$	28.4	20.0	8.4
	31.2	17.1	8.3
	34.0	14.5	8.5
	36.8	12.2	9.0
	39.5	9.7	8.7
	46.3	2.5	8.8
	50.5	58.3	8.8
			54.5
			15)50
			54.33

	+59°29′		
42^m	56.8	28.9	5.7
	1.6	23.8	5.4
	6.4	19.5	5.9
	11.1	14.5	5.6
	15.8	9.9	5.7
	27.8	57.1	5.9
	35.6	49.9	5.5
			42.6
			15)123
			42.82

1.70
.45
1.25

37.07
37.57
).50 (4
49

$8^h 38^m$ 43.61	$8^h 49^m$ 48.45	$9^h 39^m$ 54.33	$9^h 43^m$ 42.82
$8^h 39$ 21.26	$8^h 50^m$ 26.21	$9^h 40^m$ 31.90	$9^h 44^m$ 19.95
37.65	37.76	37.578	37.07
.23	.32	.19	.31
37.42	37.44	37.38	37.38

n = 4

.58
.232

37.42
.44
.38
.38
4)1.62
37.40
brecc. .16 east end high
37.56

Frod 1327 is slow

0^m $37.^s56$

at $9^h 10^m$ S.T.

Sunday April 1, 1906

Mer Cir 20.10.20. Clos

β Cancri +9°29′ (Chronograph stopped after 10 wires)
31 Lyncis +43°29′ Rattle at 8h 19m
o Urs Maj +61°2′
η Cancri +20°46′

+43°29′

15m 18.1	19.4	
18.6	16.5	4.5
21.6	13.3	5.1
25.3	9.5	4.9
28.4	6.2	4.8
37.3	57.6	4.6
42.2	52.5	4.9
		4.7
		47.4
		15) 59
		47.39

+61°2′

21m 2.9	39.5	
7.9	34.7	2.4
12.9	29.7	2.6
18.4	24.6	2.6
23.5	19.3	3.0
36.0	6.8	2.8
43.8	59.0	2.8
		2.8
		51.4
		15) 54
		51.36

20°46′

26m 14.2	4.4	8.6
16.8	1.8	8.6
19.7	59.2	8.9
22.1	56.5	8.6
24.9	53.9	8.8
31.3	47.5	8.8
35.2	43.5	8.7
		39.3
		15) 53
		39.35

8h 15m 47.39s	8h 21m 51.36s	8h 26m 39.35
8 16 24.69	8 22 28.32	8 27 16.98
37.39	36.96	37.63
.02	.~~37~~ 41	.24
37.37	3~~7~~.~~33~~ 37	37.39

1.81
.38
1.43

36.96
37.63
.66 (46

m = .436

0.72

.53
.413
.159
212
.2279

.89
.43
267
356
.3727

.53
.46
318
212
.2438

.89
.46
534
356
4094

37.37
.37
.39
3) 1.13
37.38
.1~~4~~6 b sec a.
37.52~~4~~4

Frod. 1327 is SLOW

0m 37.52s 4

at 8h 20m S.T.

Monday April 2, 1906

Mer Cir W. W. Wills.

A [46 Leo Min] 34° 43'
α Ursa Maj. +62° 16' Rattle at $10^h 52^m$
ψ Leonis +7° 51' (1 star prec. 1st wire)
ψ Ursa Maj +45° 1'

34° 43'		
46^m 58.6	55.7	4.3
1.7	52.3	4.0
4.3	49.5	3.8
7.5	46.5	4.0
10.6	43.7	4.3
18.1	35.6	3.7
22.9	31.4	4.3

27.1
15)15
27.10

62° 16'		
56^m 29.9	10.9	1.8
35.7	5.9	1.6
40.9	0.6	1.5
46.3	54.7	1.0
51.7	49.7	1.4
4.7	36.7	1.4
12.5	28.6	1.1

20.6
15)104
20.69

+7° 51'		
10.0	57.0	7.0
12.5	54.8	7.3
59 15.0	52.1	7.1
17.3	49.8	7.1
19.9	47.3	7.2
26.1	40.9	7.0
29.7	37.2	6.9

33.6
15)82
33.61

+45° 1'		
03^m 13.4	20.0	3.4
17.0	16.3	3.3
20.8	12.7	3.5
23.9	9.7	3.6
29.7	5.9	3.6
36.4	57.3	3.7
41.7	52.2	3.9

46.9
15)119
46.79

(A)			
$10^h 47^m 27^s.10$	$10^h 57^m 20^s.69$	$10^h 59^m 33^s.61$	$11^h 03^m 46^s.79$
10 48 4.53	10 57 57.66	$11^h 0^m$ 11.24	11 04 24.17
37.43	36.97	37.63	37.38
.09	.38	.29	.03
37.34	37.35	37.34	37.41

1.89
.14
1.75

36.97
37.63
1.75) .660(.38
525
1350
1225
125

m = .38

.34
.35
.34
.41
4)1.44
.36
37
.16 b sec δ
37 .52

.23
.38
184
69
.0874

.99
.38
342
342
.3762

.77
.38
616
231
.2916

.38
.09
.0342

Frod. 1327 is SLOW.

$0^m 37^s.52$

at $10^h 55^m$ S.T.

Tues April 3, 1906

Mer Cir — 20.20 W. Obs.

Rattle at 8h 07m

β Cancri +9°29'
31 Lyncis +43°29'
o Ursa Maj +61°2'

+9°29'			+43°29'			+61°2'		
10m 24.3	11.6	5.9	15m 14.7	19.7	4.4	21m 3.0	39.4	2.4
26.7	8.9	5.6	17.7	16.2	3.9	7.9	34.3	2.2
29.0	6.6	5.6	21.2	12.5	3.7	13.1	29.0	2.1
31.3	4.0	5.3	24.7	9.0	3.7	18.3	24.1	2.4
33.7	1.4	5.1	28.5	5.8	4.3	23.4	19.4	2.8
40.1	55.3	5.4	36.9	57.4	4.3	35.5	6.3	1.8
43.8	51.4	5.2	42.3	52.0	4.3	43.7	58.7	2.4
		47.7			47.3			51.2
		15)108			15)109			15)123
		47.72			47.06			51.15

8h 10m 47.72s	8h 15m 47.06s	8h 21m 51.15s
8 11 25.55 ✓	8h 16m 24.67	8 22 28.39
37.83	37.61	37.24
.27 ~~.34~~		.32 ~~.36~~
37.56		37.56
37.83	37.61	37.14
.32	.01	.38
37.51	37.62	37.52

1.81 37.24
.28 37.83
1.43
590 (.41
572
180
m 7.41

.75 .89
.41 .41
75 89
300 356
.3075 .3649

1.81 37.14
.17 37.83
1.64 .69 (.36

1.81 37.14
.17 37.88
1.64) .69 (.43
66

a = .36   m = .43

.75 .89
.36 .36
450 534
225 267
.2700 .3204

.75 .89
3 3
225 .267

.75 .89 .43
.43 .43 .03
225 267 .0129
300 356
32 .327

37.51
37.62
37.52
3)165
37.55
.16
37.71

Grod. 1327 is SLOW

0m 37.71s at

8h 15m S.T.

Wed April 4, 1906

Mer Cir W.W.W. Obs.

Rattle at 11h 51m

π Virginis +7° 8'
o Virginis +9°15'
δ Ursae Maj. +57°33'

+7° 8'				+9°15'				+57°33'			
55m	3.2	50.3	3.5	59m	24.8	12.3	7.1	9m	27.6	54.7	2.3
	5.7	47.9	3.6		27.4	9.9	7.3		32.4	50.3	2.7
	8.0	45.3	3.3		29.9	7.4	7.3		36.7	45.3	2.0
	10.6	42.8	3.4		32.3	5.0	7.3		41.1	40.7	1.8
	13.1	40.3	3.4		34.8	2.3	7.1		45.7	36.3	2.0
	19.2	34.0	3.2		41.2	56.0	7.2		57.5	24.8	2.3
	22.8	30.4	3.2		44.8	52.5	7.3		4.2	17.8	2.0
			26.7				48.6				11.2
			15 | 103				15 | 92				15 | 813
			26.69				48.61				11.09

11h 55m 26.69s	11h 59m 48.61s	12h 10m 11.09s
11 56 4.57	12 0 26.46	12 10 48.34
37.88	37.85	37.25
~~.26~~	~~.25~~	.28
~~37.62~~	~~37.60~~	37.53
.34	.32	
37.54	37.53	

1.57 37.25
.16 37.85
1.41) 60

m = .43

37.53
.16 b sec. δ
37.69

Frod. 1327 is SLOW

0m 37.69s

at 12h 0m S.T.

Fri Apr. 6, 1906

Mer Cir 20. W. W. Obs.

o Hydrae +3° 40' (last 7 wires)
δ Cancri +18° 30'
ι Cancri +29° 6' (missed 1st 2 wire) [6.08 & S]
A [o² Cancri m] +30° 56' (stars not separated in telescope) Rattle at $8^h 44^m$
ι Urs maj +48° 25'

+18° 30' ~~+3° 40'~~		
38^m 18.8	8.3	7.1
21.6	5.9	7.5
24.0	3.3	
26.7	0.7	7.3
29.4	58.0	7.4
35.9	51.5	7.4
		7.4
39.7	47.6	7.3
	A 43.6	
	15 | 100	
	43.67	

+29° 6'		
40^m ~~2.1~~	50.5	
—	48.0	
2.6	45.0	7.6
5.4	42.4	7.8
8.1	39.4	7.5
15.4	32.2	7.6
19.3	28.2	7.5
		23.7
		(11) | 87
		23.79

+30° 56'		
47^m 26.6	21.2	7.8
29.4	18.5	7.9
32.5	15.6	8.1
35.3	12.7	8.0
38.2	9.9	8.1
45.4	2.7	8.1
49.8	58.3	8.1
		54.1
		15 | .62
		54.01

+48° 25		
51^m 34.8	45.2	10.0
38.4	41.7	10.1
42.1	37.7	9.8
45.4	34.0	9.4
49.5	30.4	9.9
59.0	21.2	10.2
4.5	15.6	10.1
		9.7
		15 | 142
		9.95

$8^h 38^m 43^s.67$	$8^h 40^m 23.79$	$8^h 47^m 54^s.01$	$8^h 52^m 9^s.95$
8 39 21.16	8 41 1.15	31.23	8 52 47.15
37.49	37.36	37.228	37.20
.23	.14	.12	.09
37.26	37.22	37.10	37.29

ass. m = .4

.58 × .4 = .232
.36 × .4 = .144
.31 × .4 = .124
.22 × .4 = .88

37.26
.22
.10
.29
4 | .87
37.22
.16
37.38

Frod. 1327 is SLOW

$0^m\ 37^s.38$

at $8^h\ 45^m$ S. T.

Sat April 7, 1906

Mer Cir 20.20.10.Obs.

31 Lyncis +43°29' (last 7 wires)
δ¹ Cancri +18°38'
o Ursa Maj +61°2'
η Cancri. +20°46'
~~Rattle at 8h 29m~~

+43°29'
15m – 6.3
– 9.4
52.2 12.7
567 16.5
19.8
1089 647
54.45 12.94
2.60 25.45
46.85 47.49

0.7416
0.1393
0.8809

+18°38'
16m 57.6 46.4 4.0
0.3 44.1 4.4
2.1 44.6 3.7
4.8 29.0 3.8
7.3 37.0 4.3
13.8 29.5 4.3
17.6 25.6 3.2
21.7
15)144
21.96

61°2'
21m 3.0 39.7 2.7
7.6 34.7 2.3
12.9 29.1 3.0
18.6 24.3 2.9
22.7 18.9 1.6
35.7 6.8 2.5
43.8 59.2 3.0
50.7
15)187
51.25

+20°46'
26m 14.4 5.0 9.4
17.0 1.7 8.7
19.6 59.2 8.8
22.4 56.6 9.0
24.7 54.0 8.7
32.0 47.4 9.4
35.6 43.6 9.2
39.6
15)78
39.52

15m 46.67
15 24.55
37.88

8h 17m 21.96
8 17 59.33
37.37
.21
~~37.58~~
37.16

~~37.58~~
3

8h 21m 51.s25
28.11
36.86
.32
~~36.54~~
36.18

8h 26m 39.s52
16.88
37.36
.19
~~37.54~~
37.17

1.81 36.86
.38 37.36
1.43
1.43) .50(.36
.42
80

37.16
.18
.17
37.17
.16 brace
37.33

n = .36

.58 .89 .53
.36 .36 .36
344 534 318
174 267 159
.2084 .3204 .1908

J rod 1327 is SLOW

0m 37.s33 at

8h 20m S.T.

Sunday April 8, 1906

Amer Cir — W. W. W. Obs

Rattle at 13h 06m

Amer. [20 Can Ven] + 41° 4'
ζ Urs Maj. + 55° 25'
French [70 Virginis] + 14° 17'
ζ Virginis − 0° 7'

+41° 4'		
12m 12.7	15.4	8.1
16.0	12.0	8.0
19.3	8.7	8.0
22.7	4.7	7.4
26.0	2.1	8.1
34.2	53.5	7.7
38.7	49.3	8.0
		43.5
		15)138
		43.92

+55° 25'		
52.0	14.1	6.1
18m 56.3	10.3	6.6
0.5	5.7	6.2
4.7	1.6	6.3
9.5	57.0	6.5
20.0	45.7	5.7
26.4	39.6	6.0
		33.4
		15)118
		33.12

+14° 17'		
22m 49.2	37.7	6.9
51.6	34.7	6.3
54.4	32.4	6.8
56.9	30.3	7.2
59.0	27.4	6.4
5.2	21.2	6.4
9.6	12.4	7.0
		13.7
		15)57
		13.38

−0° 7'		
29m 54.0	41.1	5.1
56.5	38.1	4.6
59.2	36.0	5.2
~~3.8~~		
1.7	33.7	5.4
3.8	31.2	5.0
10.2	24.6	4.8
13.8	21.2	5.0
		17.7
		15)78
		~~17.051~~
		17.52

37.96
145 37.13
83

~~... = .5~~

u = .57

13h 12m 43.92	13h 19m 33.12	13h 23m 13.38	13h 29m 17.52
13 13 21.17	13 20 10.25	13 23 51.21	13 29 55.47
37.25	37.1$\overset{3}{5}_{8}$	37.83	37.9$\overset{5}{6}$
.02	.28	.38	~~.45~~ .52
37.27	37. ~~39~~ .41	37.45	37.43

37.27
37.41
37.45
37.43
4)29.56
37.39
.16 b sec c
37.55

Frod 1327 is SLOW

0m 37s.55

at 13h 20m.

Wed. April 11, 1906

Mer Cir Lo. W. Jacobs.

[ε Hydrae] +6°46' (~~1st~~ last 9 wires)

14 Hydrae ~~+~~ −3°6' (missed last wire)

ζ Hydrae +6° 18'

ι Ursae Maj + 48°25'

10 Ursae Maj +42°9' (missed 1st 2 wires)

κ Ursae Maj + 47°32' (missed 1st 2 wires)

+6°18'
24.5 11.4 5.9
27.2 9.3 6.5
29.4 6.7 6.1
32.1 4.3 6.4
34.4 1.7 6.1
40.5 55.3 5.8
44.3 51.8 6.1
48.1
15)10
48.07

+ 48°25'
34.1 44.6 8.7
38.0 41.2 9.2
41.7 37.4 9.1
45.5 33.7 9.2
49.1 30.0 9.1
58.3 20.7 9.0
3.9 15.2 9.1
9.7
15)81
9.54

+ 42°9'
— 26.9
— 23.7
30.7 20.3 1.0
33.7 16.7 0.4
37.3 13.6 0.9
45.4 5.4 0.8
50.5 0.4 0.9
55 4
11)44
55.40

+ 47°32'
— 10.5
— 6.6
8.3 3.3 1.6
11.8 59.6 1.4
15.5 56.0 1.5
24.7 46.7 1.4
30.3 41.4 1.7
35.7
11)83
35.75

8h 49 48.07	8 52m 9.54	8 53 55.40	8 56 35.75
8 50 26.04	8 52m 47.03	8h 54m 32.96	8 57 13.22
37.97	37.49	37.56	37.47
.36	.10	.00	.08
37.61	37.59	37.56	37.55

add μ = .45

37.61
37.59
37.56
37.55
4)30.31
37.58
·16 b sec c
37.74

Chrod. 1327 is SLOW

0m 37.74s at

8h 55m S.T.

Times Apr. 12, 1906

Meri Cir.

20. 20. 20. clear

[o Leonis] +10°19' last 5 wires

ε Leonis +24°12'

υ Ursa Maj. +59°29' (1st 2 & 4th wires)

Rattle at 9h 46m

+10°19'

35m 44.5
47.6
49.9
52.4
54.7
5)249.1
49.82
18.76
31.06

9 35 31.06
~~49.82~~
8.78

37.72
.33

+24°12'

39m 28.4 20.1 8.5
30.7 17.1 7.8
33.7 14.6 8.3
36.5 11.8 8.3
39.0 8.7 7.7
45.6 2.0 7.6
50.0 57.7 7.7
53.8
15)148
53.98

9 39 53.98
31.795
~~37.819~~
37.77
.21
37.56

Cos. u = .45

.72 × 1 = .72
.56 × 3 = 1.68
4)2.40
37.60
.16 brace
37.76

Frod. 1327 is SLOW

0m 37.76s at

9h 40m S.T.

13
Fri Apr. 14 1906

Morlin. Lo. W. W. Clk.

Rattle between 8h41 & 42m
14 Hydrae −3°6'
[θ² Cancri] +30°56' (last 10 wires)
10 Ursae Maj. +42°9'
κ Urs Maj. +47°32'
o² Urs Maj + 62°31'
Rattle before 9h 04m

−3° 06'
43m 37.3 24.3 1.6
39.7 21.9 1.6
42.2 19.3 1.5
45.1 16.7 1.8
47.1 14.3 1.4
53.6 8.2 1.8
57.2 4.6 1.8
~~0.8~~ 0.8
15 | 123
0s.82

+42°09'
53m 23.9 26.7 0.6
27.1 23.8 0.9
30.3 20.3 0.6
33.4 16.7 0.1
36.7 13.7 0.4
45.3 5.2 0.5
50.2 0.2 0.4
55.0
15 | 35
55.23

+47°32'
56m 1.0 10.6 1.6
4.5 7.0 1.5
8.1 3.3 1.4
11.9 59.3 1.2
15.3 55.7 1.0
24.7 46.7 1.4
30.4 41.0 1.4
35.7
15 | 102
35.68

+67°31'
00 31.1 32.5 3.6
36.7 26.4 3.1
43.2 19.5 2.7
49.8 13.6 3.4
56.3 7.0 3.3
11.9 51.0 2.9
21.7 41.6 3.3
31.5
15 | 88
31.59

.064
2.416
2.47

38.01
37.09
) .92 (.37

8h 44m 0s.82	8h 53m 55s.23	8h 56m 35s.68	9h 01m 31s.59
8 44 38.83	8 54 32.91	8 57 13.17	9 02 08.68
38.01	37.68	37.49	37.09
.36	.00	.07	.56
37.65	37.68	37.56	37.65

m. = .37

37.65
.68
.56
.65
4 | 254
37.64
.16 b sec. a
37.80

Frod. 1327 is SLOW

0m 37s.80 at

9h 0m. S.T.

Sunday April 15, 1906

Mean Air W. ~~[illegible]~~ Obs

Cattle after 12h 40m.

ε Ursa Maj + ~~58'~~ 56°28'

12 Can. Ven. sq. +38°50' (missed 1st 3 wires)

ε Virginis +11°28'

θ Virg −5°2'

43 Comae +28°21'

+56°28'	+38°20' (5)	+11°28'	−5°2'	+28°21
48m 36.0 0.5 6.5	50m — 31.7	56m 29.3 17.0 6.3	4m 4.6 51.7 6.3	0~~7~~ 6m 26.2 19.4 5.6
40.6 56.5 7.1	— 28.5	31.9 14.7 6.6	7.2 49.3 6.5	29.0 16.7 5.7
45.0 51.7 6.7	— 25.4	34.3 12.3 6.6	9.8 46.3 6.1	31.7 13.8 5.5
49.3 47.3 6.6	41.3 22.8 3.5	37.0 9.8 6.8	12.4 44.2 6.6	34.6 11.1 5.7
53.6 42.8 6.4	44.3 19.0 3.4	39.3 7.0 6.3	14.7 41.8 6.5	37.3 8.3 5.6
5.0 31.8 6.8	52.4 11.6 4.0	45.7 0.7 6.4	20.7 34.3 6.0	44.3 1.3 5.6
11.7 24.7 6.4	57.2 6.6 3.8	49.6 57.0 6.6	24.3 32.1 6.4	48.6 57.1 5.7
18.3	1.7	53.4	28.3	52.7
15⌊48	9⌊174	15⌊40	15⌊27	15⌊121
18.32	1.82	53.27	28.18	52.81
12 49 18.32	12 51 1.82	12 56 53.27	13 04 28.18	13 0~~7~~6 52.81
12 49 55.48	12 51 39.26	12 57 31.04	13 05 6.25	13 07 30.50
37.16	37.44	37.77	38.07	37.69
.33	.06	.40	.57	.21
37.49	37.38	37.37	38.50	37.48

.09 38.07
1.51 37.16
1.6).91

u = .57

37.49
.38
.37
.50
.48
222
37.44
.16
37.60

Frod. 1327 is SLOW

0m 37.60s at

13h 0m. S.T.

Moon April 16, 1906

Mer Cir
Ea Obs.

π Leonis + 8° 30'
Rattle $9^h 59^m$.

η Leonis + 17° 13'

χ Ursae Maj + 43° 23'

30 16. Ursa Maj + 66° 3' (Missed 2nd wire)

90 - α = 23° 57'
tan 23° 57' = .444.
tan 66° 3' = $\frac{1}{.444}$ = 2.23

.15 38.18
2.23 36.83
2.08 1.35

n = .65

+8° 30'
$9^h 54^m$ 13.5 1.0 4.5
16.3 58.7 5.0
18.7 56.0 4.7
21.1 53.2 4.3
23.7 50.8 4.5
30.3 44.7 5.0
33.9 41.3 5.2
37.3
15|55
37.37

$9^h 54^m$ 37.37
$9^h 55$ 15.55
38.18
.49
37.69

+17° 13'
0^m 10.7 0.3 1.0
13.4 57.4 0.8
16.0 55.2 1.2
18.6 52.0 0.6
21.0 49.7 0.7
27.5 43.3 0.8
31.3 39.2 0.5
35.3
15|59
35.39

$10^h 1^m$ 35.39
13.50
38.11
.40
37.71

+43° 23'
10^m 17.0 21.3 8.3
20.0 17.3 7.3
23.0 14.0 7.0
26.8 11.0 7.8
30.1 7.6 8.7
39.2 59.3 8.5
44.2 54.3 8.5
48.8
15|139
48.93

$10^h 10^m$ 48.93
10 11 26.67
37.74
.03
37.71

+66° 3'
15^m 48.7 43.4 2.1
— 37.7
0.7 31.3 2.0
6.7 25.4 2.1
12.6 19.3 1.9
26.6 4.3 0.9
36.5 55.1 1.6
46.4
13|10
46.08

10 16 46.08
10 17 22.91
36.83
.86
37.69

37.70
.16 brecc
37.86

Frod. 1327 is SLOW

0^m $37.^s86$

at $10^h 0^m$ S.T.

Tues April ~~18~~ 17, 1906

Mer. Cir. 20h. Obs

η Ursa Maj +63°28' Rattle at 9h 17m

10 Leo Min. +36°49'

A [o Leon] +10°19'

ε Leonis +24°12'

+63°28'

22m 38.9	23.4	2.3
44.5	18.1	2.6
49.8	12.5	2.3
55.6	6.6	2.2
1.1	1.4	2.5
14.6	48.0	2.6
23.1	39.3	2.4
		31.2
		15|31
		31.21

+36°49'

27m 21.7	20.0	1.7
24.7	17.2	1.9
27.7	14.0	1.7
30.7	11.2	1.9
33.8	7.9	1.7
41.7	0.3	2.0
46.2	55.5	1.7
		50.9
		15|135
		50.90

+10°19'

35m 6.9	54.4	1.3
9.6	52.2	1.8
11.7	49.6	1.3
14.6	46.7	1.3
17.1	44.5	1.6
23.3	38.2	1.5
27.0	34.6	1.6
		30.7
		15|111
		30.74

+24°12'

39m 28.4	19.3	7.7
31.2	16.7	7.9
33.7	14.4	8.1
36.2	11.4	7.6
39.2	8.8	8.0
~~49.8~~		
~~54.0~~	~~1.6~~	
46.0	1.6 ~~57.7~~	7.6
49.8	57.7	7.5
		53.9
		15|133
		53.89

.18 37.85
2.00 37.07
1.82 .78

m = .43

9h 23m 31s.21	9h 27m 50s.90	9h 35m 30s.74	(A) 9h 39m 53.89.
9 24 08.28	9 28 28.6~~0~~3	9 36 08.59	9 40 31.67
37.07	37.7~~0~~3	37.85	37.78
.47	.08	.31	.20
37.54	37.65	37.54	37.58

37.54
.65
.54
.58
4|2.31
37.58
.16 b rec'e.
37.74

Frod. 1327 is SLOW

0m 37s.74 at

9h 30m.

Tues April 17. (1906)

mer cir A.S.L. Obs.

(~~o Virginis + 9° 15'~~) Rattle at 12 s)
δ Ursa Maj + 57° 33'
~~δ~~ 8 Can Ven + 41° 52'

[τ Virgin m] − 0° 56' obs F.S.
ε Urs Maj + 56° 28' Cast 5 wires " "
ε Virginis + 11° 28' " "

Ass. u = .43

+57°33'
9^m ~~[illegible]~~
26.3 54.1 0.4
31.5 49.7 1.2
35.2 44.9 0.1
40.0 46.3 0.3
45.2 35.7 0.9
56.1 23.9 0.0
[illegible]8 17.4 0.2
10.4
15)35
10.23

+41°52'
28^m 8.1 11.8 9.9
12.1 9.2 1.2
15.2 5.2 0.4
18.6 1.9 0.5
22.1 58.7 0.8
30.3 50.3 0.6
$3\overset{5}{4}$.3 45.2 0.5
40.3
15)43
40.29

−0°56'
35^m 52.8 39.7 2.5
55.7 38.0 3.7
57.8 35.4 3.2
0.5 32.0 2.5
3.4 30.3 3.7
9.0 23.7 2.7
12.7 19.9 2.6
17.0
15)[illegible]9
16.~~4~~6
53

+11°28'
56^m 29.0 16.9 5.9
31.7 14.4 6.1
34.0 11.9 5.9
36.7 ~~11.9~~ 9.5 6.2
39.3 6.7 6.0
45.8 0.4 6.2
49.3 56.7 6.0
53.1
15)04
~~15~~
53.03

$12^h\,10^m\,10^s.23$
48.25
38.02
.28
$3\overset{7}{8}$.74

$12^h\,28^m\,40.29$
12 29 18.16
37.87
.01
37.88

$12^h\,3\overset{6}{\cancel{5}}^m\,16.\overset{53}{\cancel{46}}$
55.06
38.~~60~~
53
40
38.13

$12^h\,56^m\,53.03$
12 57 31.14
38.11
.31
37.80

37.81
.16
37.97 [A.S.L.]

38.13
37.80
2)15.93
37.96
.16 b sec φ.
38.12 [F.S.]

Wed April 18, 1906

Mer Cir — W-W-W. Obs.

η Ursae Maj +63°28'
10 Leon. Min +36°49'
[o Leonis] +10°19'
ε Leonis +24°12'

Rattle at 9h 31m

+63°28'
22m 38.9 23.7 2.6
44.3 18.0 2.3
49.6 12.3 1.9
55.3 7.2 2.5
1.0 1.7 2.7
14.9 48.3 3.2
23.2 39.6 2.8
32.0
15 | 40
31.27

+36°49'
27m 21.4 20.4 1.8
24.3 17.3 1.6
27.2 14.0 1.2
29.7 11.2 0.9
34.0 7.5 1.5
41.7 0.4 2.1
46.6 55.7 2.3
50.9
15 | 123
50.82

+10°19'
35m 7.0 54.3
9.5 52.2 1.3
11.8 49.3 1.7
14.4 47.4 1.1
16.8 44.7 1.8
23.0 38.1 1.5
26.7 34.2 1.1
0.9
30.8
15 | 102
30.68

+24°12'
39m 28.1 19.7 7.8
30.9 16.9 ~~19.7~~ 7.8
33.5 14.0 ~~16.9~~ 7.5
36.3 11.4 7.7
39.2 8.7 7.9
45.8 1.7 7.5
50.1 57.9 8.0
53.8
15 | 130
53.87

.18 38.02
2.00 36.93
1.82 | 1.09

m = .60

9h 23m 31.27s
9 24 08.20
36.93
.66
37.59

9h 27m 50.82s
9 28 28.60
37.78
.12
37.66

9h 35m 30.68s
9 36 8.70 (A)
38.02
.44
38.58

9h 39m 53.87s
9 40 31.79
37.92
.28
37.64

37.59
.66
.58
.64
4 | 247
37.62
.16 sec ce.
37.78

Frod. 1327 is SLOW

0m 37.78s at

9h 30m S.T.

Thurs April 19, 1906

Mean Ti Wh.-Obs.

ν Ursae Maj. +59°29'

A [μ Leonis] +26° 27' (A) $9^h 47^m 25\overset{s}{.}74$

A [19 Leon. Minor] +41°30' (A) $9^h 51^m 56\overset{s}{.}45$

π Leonis +8°30' Rattle at $9^h 56^m$

+5~~8~~9°29'			+26°27'			+41°30'			+8°30'		
$4\overset{}{1}^m$ 56.3	28.3	4.6	46^m 21.7	13.9	5.6	50^m 47.4	50.2	7.6	54^m 14.3	1.3	5.6
2 1.3	23.3	4.6	24.4	11.4	5.8	51.2	47.0	8.2	16.5	58.9	5.4
6.0	18.7	4.7	27.4	8.7	6.1	54.2	43.6	7.8	18.8	56.9	5.7
10.7	14.3	5.0	30.0	6.0	6.0	57.6	40.2	7.8	21.3	53.7	5.0
15.7	9.2	4.9	32.5	3.3	5.8	0.7	37.4	8.1	23.8	51.3	5.1
27.5	56.7	4.2	39.7	56.4	6.1	9.2	28.3	7.5	30.1	45.0	5.1
35.3	49.4	4.7	43.9	52.3	6.2	14.2	23.9	8.1	34.3	41.3	5.6
		42.4			48.2			18.7			37.6
		15)51			15)148			15)138			15)101
		42.34			47.99			18.92			37.67

$9^h 4\overset{3}{2}^m 42\overset{s}{.}34$ $9^h 46^m 47\overset{s}{.}99$ $9^h 51^m. 18\overset{s}{.}92$ $9^h 54^m 37.67$

9 44 19.39 9 47 25.74 9 51 56.45 9 55 15.51

.05 37.84
1.69 37.05
1.64 .79

n = .48

37.05
.35
~~37.40~~
.38
37.43

37.75
.20
37.55

37.53
.01
37.52

37.84
.37
37.47

37.43
.55
.52
.47
4)197
37.49
.16 b sec. u
37.65

Frod 1327 is SLOW

$0^m 37\overset{s}{.}65$ at

$9^h 50^m$ S.T.

Friday April 20. 1906

Meridian — A. S. L. obs

β Leonis + 15°. 6′

γ Ursa Majoris + 54° 13

π Virginis + 7°. 8′

Rattle at 12h 05m

+15°6′			+54°13′			+7°8′		
43m 14.1	2.9	7.0	47m 35.8	57.1	2.9	55m 2.2	50.1	2.3
16.7	0.2	6.9	41.2	52.9	4.1	5.0	47.6	2.6
19.8	57.9	7.7	45.2	48.6	3.8	7.3	44.7	2.0
22.4	55.4	7.8	49.3	44.6	3.9	10.1	42.7	2.8
24.7	52.5	7.2	53.6	39.9	3.5	12.6	39.6	2.2
30.9	46.5	7.4	3.7	29.8	3.5	18.1	37.9	1.0
34.7	42.6	7.3	10.8	23.2	4.0	22.2	29.7	1.9
		38.7			17.0			26.3
		15 | 100			15 | 127			15 | 11
		38.67			16.85			26.07

1.39 37.92
.12 38.55
1.27).63(5
.635

n = .5

11h 43m 38.67	11h 48m 16.85	11h 55m 26.07
11 44 17.04	11 48 54.77	11 56 4.52
38.37	37.92	38.55
.32	.26	.39
38.05	38.18	38.16

38.05
.18
.16
3) .39
38.13
.16 brace
38.29

Frod. 1327 is SLOW

0m 38s.29 at

11h 50m S.T.

Sat April 21, 1906

Level Wh. obs.

Started
5h 05m E.T.

Telescope South

Zero	W	E		
W	-50.8	-77.3		
W	-48.3	-75.3		
	-99.1	-152.6	-251.7	
E	+77.0	+51.0		+15.1
E	+83.0	+55.8		
	+160.0	106.8	+266.8	

Telescope North - 74.5

W	-61.8	87.8		
W	-61.0	87.0		
	-122.8	-174.8	-297.6	
E	+64.0	+38.0		- 89.6
E	+66.0	+40.0		
	+130.0	+78.0	+208.0	

Finished
5h 22m E.T.

89.8
-9~~0.8~~

Again Telescope North.

W	-61.8	87.7	-149.5	-307.5	
W	-66.0	92.0	-158.0		
					- 83.4
E	+68.0	42.0	+110.0	+224.1	
E	+70.1	44.0	+114.1		

Telescope South. $-2\overset{5}{6}.3$

W	-43.0	69.1	- 112.1	-227.8	
W	-44.8	70.9	- 115.7		
					+ 58.1
E	+81.1	55.2	+ 136.3	$+28\overset{5}{4}.9$	
E	+87.8	6~~8~~1.8	$+14\overset{9}{8}.6$		

32)90.8(2.84
64
268
256
120

32)89.8(2.81
64
258
256

2.84
.06
.1704
1.35
945
135
.2295

2.81
.06
1646
1.35
810
135
2160

b sec le = .22 ~~.23~~
~~west~~ east end high.

Sat April 21, 1906

Mer Cir, Wh. obs

10 Leon Min + 36°49' (last 6 wires)

A [o Leonis] + 10°19' Rattle at 9^h 32^m

a Leonis + 24°12'

ν Ursae Maj + 59°29'] (1st ~~7~~ 5 wires, later wires uncertain.

A [M Leonis] + 26°27'

~~+36°49'~~
~~28^m 8.2~~
~~11.3~~
~~14.2~~
~~0.2 17.6~~
~~19.9~~
~~5 | 71 2~~
~~14.24~~
~~23.05~~
~~51.19~~

+10°19'
35^m 7.0 54.4 1.4
9.5 52.3 1.8
11.7 49.7 1.4
14.3 47.0 1.3
17.0 44.6 1.6
23.3 38.3 1.6
27.2 34.6 1.8
31.0
15 | 119
30.79

+24°12'
39^m 28.3 20.0 8.3
30.8 17.3 8.1
33.4 14.5 7.9
36.2 11.5 7.7
39.0 8.9 7.9
46.0 2.3 8.3
49.7 57.8 7.5
53.8
15 | 145
53.97

~~+59°29'~~
~~42^m 55.5 27.2~~
~~0.7 35.1~~
~~5.4 42.9~~
~~10.0 48.5~~
~~15.3 56.7~~
~~269 210 4~~
~~5.38 42.08~~
~~36.36~~
~~41.74~~

+ 26°27'
46^m 22.1 14.6 6.7
24.7 11.8 6.5
27.4 8.9 6.3
30.3 6.2 6.6
32.8 3.4 6.2
40.0 56.2 6.2
43.7 52.4 6.1
48.3
15 | 28
48.19

Arr w -.5

~~9^h 27^m 51.^{s}19~~
~~9 28 28.64~~
~~37.35~~

9^h 35^m 30.^{s}79
8.66
37.87
.37
37.50

9^h 39^m 53.^{s}97
9 40 31.60
37.63
.23
37.40

~~9^h 43^m 41.^{s}~~~~86~~ 91
~~19.35~~
~~37.44~~
.39

9^h 46^m 48.^{s}19
9 47 25.71
37.52
.21
37.31

37.40
b sec d .22
~~Azz b sec d~~ ~~.00~~
37.~~40~~ 64

Frod 1327 is SLOW

0^m 37.^{s}~~40~~ 64 at

9^h 40^m S.T.

Sat April 21, 1906.

Mer Cir Yale Obs.

l Leonis +11°3'
[46 Leon Min] 1st 10 wires uncertain.
α Ursa Maj +62° 15'   Rattle at 10h 5.3m
Cloudy again.

Tues April 24, 1906

start 2:55

Level

~~w. R. G. Obs.~~
w. e. Obs.

~~Zero~~

	Telescope ~~North~~ South			
~~W~~	W end	E. end		
W	−34.9	−75.2	−110.1	
E	+71.2	+31.0	+102.2	−7.9
				−12.4
W	−33.6	−74.0	−107.6	
E	+71.8	+31.3	+103.1	−4.5

	Telescope North			
	W	E		
W	−35.0	−75.5	−110.5	
E	+66.3	+26.4	+92.7	−17.8
				−35.4
W	−35.5	−75.8	−111.3	
E	+66.4	+26.3	+92.7	−18.6

ended 3:15

− 47.8

16) 47.8 (2.99
32
158
144
140
144

2.99
.06
.1794
1.35
8970
5382
1794
.24219

b sec φ = .24 ~~west~~ east end high.

Wednesday April 25, 1906

Mer Cir 20-20-20 Ills

ε Leonis +24°12'.

Trouble with chronograph.

3 attempts for a star chronograph stopped each time while star was in field

[46 Leon Min] +34°43'

α Ursa Maj +62°16' miss 1st 2 wires. Rattle at 10h 51m

ψ Leonis +7°51'

ψ Ursa Maj +45°01' Rattle at 11h 01m

.54
.81
54
432
.4374

.54
.09
.0488

.54
.99
489
489
.5379

23
.54
92
115
.1242

.14 37.04
1.190 36.09
1.76) 95 (.54
88
70

+34°31'

46m 59.8	56.1	5.9
2.0	52.8	4.8
5.0	49.9	4.9
8.0	47.3	5.3
11.1	44.3	5.4
17.8	36.5	4.3
23.1	31.7	4.8
		27.3
		15 | 77
		27.51

+62°16'

56m —	11.0	
—	6.2	
41.2	0.6	
46.3	55.6	1.8
51.5	50.3	1.9
5.5	37.0	1.8
13.0	29.0	2.6
		2.0
		21.3
		11 | 03
		21.03

+7°51'

59m 10.4	57.4	7.8
13.0	55.3	8.3
15.5	52.6	8.1
17.7	50.3	8.0
20.3	47.6	7.9
26.4	41.8	8.2
30.2	37.7	7.9
		34.0
		15 | 02
		34.01

+45°01'

03m ~~33~~		
14.3	20.3	4.6
17.7	17.0	4.7
21.2	13.4	4.6
24.6	10.2	4.8
27.8	6.7	4.5
36.7	57.7	4.4
42.3	52.5	4.8
		47.5
		15 | 49
		47.33

	10h 47m 27.51	10h 57m 21.03	10h 59m 34.01	11h 03m 47.33
	10 48 4.26	10 57 57.12	11 00 11.05	11 04 23.88
u = .54.	36.75	36.09	37.04	36.55
	.12	.54	.44	.05
	36.63	36.63	37.60	36.60

36.63
.63
.60
.60
4 | 2.46
36.62
.24
36.86

Frod. 1327 is SLOW

0m 36s.86 at

11h 0m.

Times April 26, 1906

Mer Cir W. h. Obs.

2nd Rattle at 12h 06m

δ Ursa Maj + 57° 33′
η Virginis − 0°9′
[6 Can. Ven] +39°32′
20 Comae + 21°25′

8 Can Ven +41°52′ Colson obs.; rattle precedes & follows
Obs on last two sets of wires are better than the first tally.

+57°33′			−0°9′			+39°32′			+21°25′			+41°52′		
09m 28.4	56.0	4.4	14m 6.7	53.9	0.6	20m 7.8	8.2	6.0	23m 59.3	49.7	9.0	28m 9.4	13.2	2.6
32.5	50.7	4.2	9.3	51.3	0.6	10.7	4.9	5.6	1.7	47.4	9.1	13.4	9.7	3.1
37.8	46.7	4.5	11.6	48.7	0.3	13.9	2.1	6.0	4.7	44.3	9.0	16.0	6.3	2.3
42.6	41.3	3.9	14.2	46.3	0.5	17.5	58.7	6.2	7.3	41.7	9.0	19.1	3.7	2.8
47.2	37.3	4.5	16.7	43.9	0.6	20.6	55.6	6.2	10.2	39.3	9.5	22.7	59.8	2.5
58.1	25.7	3.8	22.7	37.6	0.3	28.2	47.5	5.7	16.5	32.4	8.9	31.6	51.0	2.6
5.7	18.8	4.5	26.5	34.0	0.5	33.2	42.8	6.0	20.6	28.6	9.2	36.3	46.3	2.6
		12.2			30.3			37.8			24.4			40.3
		15)20			15)37			15)145			15)81			15)48
		12.13			30.25			37.97			24.54			41.32

8.7573
0.4729
9.2302 +0.17
0.8170
8.7388m
9.5558 −0.36
~~1.1268~~
~~1.1806m~~
8.9349m
~~0.1155~~ 1.30
1.0735m
7.9027m
8.9762 +0.09
1.56
.36
1.20

12h 10m 12s.13 — 48.12 — 35.99 — .33 — 36.32

12h 14m 30s.25 — 12 15 7.02 — 36.77 — .46 — 36.31

12h 20m 37.97 — ~~12 21 14.54~~ — ~~36.57~~ — ~~.04~~ — ~~36.53~~

12h 24m 24.54 — 12 24 61.16 — 36.62 — .26 — 36.36

12h 28m 41s.32 — 18.10 — 36.78 — .01 — 36.77 — Colson Obs.

1.57 35.99
0 36.77
1.57) 78(5

μ = .5

36.32
.36
.31
3)1.09
36.53
.24
36.57

Trod. 1327 is SLOW

0m 36s.57

at 12h 15m

Fri April 27, 1906

Mer Cir

Wolca Obs

ν² Hydrae −12° 37′ (missed 1st wire

η Leonis +17° 13′ (" " ")

α " +12° 26′ (" 115 wires)

λ Hydrae −11° 53′

χ Ursa Maj +43° 23′

Rattle 10h 13m

5
−12° 37′
59m — 20.7
35.4 18.2
37.7 15.5 3.6
40.3 13.3 3.2
43.2 10.7 3.6
49.2 4.3 3.9
53.0 0.8 3.5
3.8
67.0
13)106
56.82

01 +17° 13′
59m — 1.1
14.6 58.7
17.3 56.0 3.4
19.9 53.5 3.3
22.4 50.9 3.4
3.3
29.0 44.2 3.2
32.8 41.0 3.8
367
13)91
36.70

2 +12° 26′
00m = 38.6 0.0
= 42.3 2.4
− 46.0 5.0
7.5
49.7 9.9
53.7
5)230.3 5)248
46.06 4.96
.03 18.87
46.09 46.09

−11° 53′
05m 0.2 48.2 8.4
3.0 45.6 8.6
5.3 42.9 8.2
7.7 40.7 8.4
10.3 38.3 8.6
16.7 31.7 8.4
20.3 28.0 8.3
24.3
15)32
24.21

+43° 23′
10m 18.0 22.3 0.3
21.4 19.2 0.6
24.7 15.7 0.4
28.3 12.3 0.6
31.6 8.8 0.4
40.1 0.4 0.5
45.3 55.4 0.7
50.3
15)38
50.27

9h 59m 56.82	10h 01m ~~9h 59m~~ 36.70	10h 2m 46.09s	10h 05m 24.21s	10h 10m 50.27s
33.59				46
10 0 ~~13.15~~	10 0 2 43.15	10 3 22.64	10 06 1.09	10 11 26.~~66~~
				19
36.77	36.45	36.55	36.88	36.~~38~~
.57	.30	.35	.56	.01
36.20	36.15	36.20	36.~~26~~ 32	36.20

ave. m = .5

36.20
36.20
36.20
36.15
36.32
5)181.07
36.21
.24
36.45

Frod. 1327 is SLOW

0m 36.45s

at 10h 0m S.T.

Sat April 28, 1906

Mean Cir — Wheeler

Rattle of h5 20m

4 [19 Leon Min] +41°30m (missed 1st & 2 wires)

π Leon +8°30'

υ² Hydrae −12°37'

η Leonis +17°13'

α Leonis +12°26' (Last 10 wires)

+41°30m

~~51m~~ 50 ~~55.7~~ 51.3
~~5~~ 48.3
55.7 45.0
58.7 41.5
2.3 38.3
10.6 29.6
15.3 25.0

0.7
0.2
0.3
0.2
0.3
20.3
17|120
20.17

+8°30'

4 56m 15.3 2.7
17.7 0.6
20.3 57.8
22.9 55.3
25.4 52.7
31.7 46.5
35.3 42.8

8.0
8.3
8.1
8.2
8.1
8.2
8.1
39.3
15|13
39.09

−12°37'

59m 33.0 20.7
35.3 18.6
37.7 15.8
40.4 13.4
43.2 11.0
49.3 4.4
53.1 0.4

3.7
3.9
3.5
3.8
4.2
3.7
3.5
56.8
15|131
56.87

+17°13'

01m 12.4 1.4
14.7 58.7
17.4 56.3
20.3 53.7
22.7 51.0
29.1 44.7
33.1 41.0

3.8
3.4
3.7
4.0
3.7
3.8
4.1
37.0
15|135
36.90

+12°26'

2 08m 38.7 0.4
42.6 2.7
46.3 5.3
50.1 7.8
53.9 10.3
5|231.6 5|26.5
46.32 5.30
.04 18.90
46.36 46.40

9h 51m 20.17s — 9h 54m 39.09s — 9 59 ~~10h 0m~~ 56.87s — 10h 01m 36.90s — 10h 02m 46.38

Assumed
n = .5

9 51 56.07 — 9h 55m 15.39 — 33.57 — 10 02 13.~~28~~ 12 — 10h 03 22.62

35.90 — 36.30 — 36.70 — 36.~~38~~ 22 — 36.24

.01 — .38 — .57 — .30 — .34

35.91 — 35.92 — 36.13 — ~~36.08~~ 35.92 — 35.90

35.91
35.92
36.13
35.92
35.90
5|488
35.98
.24 b sec ε
36.22

Frod. 1327 is SLOW

0m 36.22s

at 10h 0m.

Sunday April 29, 1906

Mer. Cir

Wh. Obs

Rattle at $10^h 07^m$

χ Hydrae −11° 5.3' (last 6 wires)

λ Ursae Maj +43° 23'

μ " " +41°58'

+43°23'		
10^m 18.3	22.7	
21.7	19.4	1.0
25.1	15.7	1.1
28.5	12.5	0.8
31.7	9.3	1.0
40.4	0.6	1.0
45.7	55.6	1.0
		1.3
		50.5
		15 | 77
		50.51

+41°58'		
15^m ~~37~~.2	39.9	
40.4	37.0	7.1
43.6	33.5	7.4
47.0	30.2	7.1
50.3	26.7	7.2
58.7	18.6	7.0
3.4	13.6	7.3
		7.0
		8.7
		~~148~~
		15 | 88
		8.59

$10^h\ 10^m\ 50^s.51$
10 11 26.42
35.91
.02
35.93

$10^h\ 16^m\ 8^s.59$
10 16 44.54
35.95
.01
~~43~~ 35.94

aso-u = .5

35.94
24 b sec c
36.18

Frod. 1327 is SLOW

$0^m\ 36^s.18$ at

$10^h\ 15^m$ S.T.

Mon April 30, 1906

Mer. Cir — [illegible]

β Ursa Maj +56°53' (last given)
α " " +62°16' (" 10 ")
χ [illegible] +7°51'
ψ Urs Maj +45°01'

Rattle before 11h 02m

0.2608
0.2625
.52233

1.2662
.12625
1.5287

1.2662
.3322
1.5984

.14 35.22
1.90 36.02
1.76) .80 (46
.70
100

n = .46

+56°53'
10h 55m — 0.8
29.3 5.1
36.3 9.5
42.7 14.3
49.6 18.7
4)1579 5)484
39.48 9.68
3.34 33.78
36.14 35.90

+62°16'
57m 6.1 49.9
13.9 56.1
21.7 1.7
29.8 6.7
37.9 12.0
5)1094 5)064
21.88 1.28
39.67
.95
21.61

+7°51'
59m 11.4 58.4 9.8
13.8 56.0 9.8
16.4 53.5 9.9
18.8 51.2 0.0
21.3 48.7 0.0
27.7 42.4 0.1
31.3 38.8 0.1
35.0
15)147
34.98

+45°01'
03m 15.0 21.3 6.3
18.4 17.9 6.3
21.8 14.2 6.0
25.3 10.7 6.0
28.9 7.3 6.2
37.7 58.6 6.3
42.9 53.4 6.3
48.2
15)16
48.11

10h 55m 36.s02
10 56 11.36
35.34
.29
35.63

10h 57m 21.74
10 57 56.96
35.22
.45
35.67

10h 59m 34.98
11h 0m 11.00
36.02
.35
35.67

11h 03m 48.s11
11 04 23.80
35.69
.04
35.65

35.63
.67
.67
.65
4)262
35.66
.24 [illegible]
35.90

Frod. 1327 is SLOW
0m 35.s90 at
11h 0m S.T.

Tuesday May 1, 1906

Mer Cir Wh. Obs.

Rattle before 10^h 14^m

μ Ursa Maj. +41°58'

31 Leon Min + 37°11'

36 Ursa Maj +56°28'

+41°58'

15^m 38.0 40.7
41.4 37.7 8.7
44.7 34.3 9.1
48.0 31.0 9.0
51.3 27.8 9.0
59.7 19.4 9.1
4.5 14.4 9.1
8.9
9.5

15 | 174
9.49

10^h 16^m 9.49
10 16 44.50

35.01
.00
35.01

+ 37°11'

21^m 23.3 22.0 5.3
26.4 18.9 5.3
29.4 15.9 5.3
32.5 12.7 5.2
35.6 9.7 5.3
43.3 1.7 5.0
47.8 57.4 5.2
52.6

15 | 92
52.61

10 21 52.61
10 22 27.64

35.03
.07
34.96

+56°28'

23^m 20.6 45.3 5.9
25.0 41.0 6.0
29.5 36.3 5.8
34.0 32.0 6.0
38.4 27.6 6.0
49.5 16.3 5.8
56.3 9.6 5.9
3.0

15 | ~~144~~
2.96

10 24 2.96
10 24 37.61

34.65
.28
34.93

.46
.15
230
46
.0690

.46
.60
.276

azi. u = .46

35.01
34.96
34.93
3 | 290
34.97
.24
35.21

Frod. 1327 is SLOW

0^m 35.21^s

at 10^h 20^m S.T.

Wednesday May 2, 1906

Mer Cir W. L. Obs.

Rattle at $13^h 26^m$

ξ Virginis $-0° 7'$
[Gr 2029] $+71° 43'$
η Ursa Maj $+49° 47'$

$-0° 7'$

28^m 57.4	44.3	1.7
59.8	42.0	1.8
2.4	39.3	1.7
4.7	37.0	1.7
7.3	34.3	1.6
13.6	28.3	1.9
17.4	24.7	2.1
		21.0
		15 | 135
		20.90

$+49° 47'$

42^m 41.7	54.2	5.9
45.6	50.4	6.0
49.5	46.8	6.3
53.4	42.9	6.3
56.8	39.1	5.9
6.7	29.5	6.2
12.2	23.7	5.9
		18.0
		15 | 105
		18.03

34 .67
1.18 33.88
(1.16) .79 .68
.696

n = .68
~~n = .5~~

$13^h 29^m 20^s.90$
55.57
34.67
61
~~.46~~
06
34. ~~21~~

$13^h 43^m 18^s.03$
51.91
33.88
.19
34.07

.91
.67
637
546
.6097

28
.67
196
168
.1876

34.06
.24 b sec ω
34.30

Frod. 1327 is SLOW

$0^m 34^s.30$

at 13^h ~~40~~ 30^m S. T.

Thurs May 3, 1906

Mer Cir [illegible]

42 Leon Min + 31°11'
ζ Leonis + 11° 03'
[46 Leon Min] + 34°43' Rattle at 10h 50m
β Ursae Maj + 56°53'
α Urs " + 62°16' (last 10 wires)

0.3332
1.2662
1.599~~4~~

.20 33.89
1.90 32.76
1.7) 1.13 (.67
1.02
110
119

+31°11'
39m 38.0 32.7
41.0 29.8 0.7
43.8 26.8 ~~29.9~~ 0.8
46.7 [illegible] 0.6
49.5 21.0 0.7
0.5
56.7 14.0 0.7
1.2 9.7 0.9
5.3
15)52
5.35

+11°03'
43m 22.1 9.7 1.8
24.5 7.3 1.8
27.0 4.8 1.8
29.6 2.3 1.9
31.9 59.7 1.6
38.3 53.4 1.7
42.0 49.8 1.8
46.0
15)134
45.89

+34°43'
47m 2.0 58.8
5.0 55.9 0.8
8.0 53.0 0.9
11.0 50.0 1.0
13.8 47.0 1.0
0.8
21.5 39.4 0.9
26.0 35.0 1.0
30.4
15)68
30.45

+56°53'
54m 55.4 21.0 6.4
59.6 16.7 6.3
4.2 11.7 5.9
8.7 7.1 5.8
13.4 3.0 6.4
25.0 51.7 6.7
31.7 45.0 6.7
38.4
15)126
38.17

+62°16'
57m 8.3 53.4
16.3 58.7
24.3 3.9
31.7 9.4
39.0 14.5
5)119.6 5)19.9
23.92 3.98
.08 39.76
24.00 24.22

10h 40m 05s.35	10h 43m 45s.89	10h 47m 30s.45	10h 55m 38s.17	10h 57m 24s.11
10 40 39.08	10 44 19.78	10 48 4.14	10 56 11.28	10 57 56.87
33.73	33.89	33.69	33.11	32.76
.21	.48	.15	.42	.66
33.52	33.41	33.54	33.53	33.42

m = .67

67
31
67
201
.2077

.67
.72
134
469
.4824

67
.22
134
134
.474

67
.62
134
402
.4154

.67
.99
603
603
.66

33.52
.41
.54
.53
.42
5)1242
33.48
.24 lin. rec. corr.
33.72

Frod. 1327 is SLOW

0m 33s.~~48~~72 at

10h 50m S. T.

Fri May 4, 1906

Mer Cir. Wheeler

36 Ursa Maj. + 56° 28' (last 10 wires)

[ρ Bootis] + 9° 47' Rattle after 10h 30m (?)

33 Sext. ~~+~~ −1° ~~45'~~ 15' Prob. 10h 29m

37 ? + 32° 28'

42 Leon Min + ~~32°~~ 31° 11'

9° 47' ~~+56° 28'~~ ~~+56° 28'~~
26m 55.3 42.7 8.0
58.0 40.4 8.4
0 4 37.9 8.3
2.8 35.3 8.1
5.4 32.7 8.1
11.7 26.6 8.3
15.4 22.8 8.2
19.0
15 | 114
19.09

+56° 28'
23m 51.6 29.3
58.3 33.9
4.9 38.4
11.7 42.7
18.3 47.4
5 | 24.8 5 | 191.7
4.96 38.34
33.41
4.93

+32° 28'
32m 25.8 21.3 7.1
28.8 18.5 7.3
31.6 15.4 7.0
34.6 12.5 7.1
37.3 9.7 7.0
45.0 2.3 7.3
49.2 57.8 7.0
53.4
15 | 82
53.55

−1° 15'
41.5 28.2 9.7
35m 43.7 25.7 9.4
46.2 23.2 9.4
48.7 20.7 9.4
51.3 18.2 9.5
57.0 12.0 9.0
1.0 8.4 9.4
4.7
15 | 10.5
4.70

+31° 11'
39m 38.6 33.3
41.3 30.5 1.9
1.8
44.3 27.5 1.8
47.2 24.8 2.0
50.0 21.8 1.8
57.3 14.6 1.9
1.6 10.4 2.0
6.0
15 | 14.2
5.95

1.51 32.58
−.02 33.34
1.53) .76 (.5

m = .5

10h 24m 4.94s	10h ~~28m~~ 27m 19.09s	10h ~~32m~~ 33m 53.55s	10h 36m 4.70s	10h 40m 5.95s
10 24 37.52	10 27 52.42	10 33 26.56	10 36 38.04	39.08
32.58	33.33	33.01	33.34	33.13
.30	.37	.13	.46	.15
32.88	32.96	32.88	32.88	32.98

32.88
.96
.88
.98
.88
5 | 458
32.92
.24 brec w
33.16

Frod. 1327 is SLOW

0m 33.16s

at 10h 30m S. T.

Tues May 8, 1906

Mer Cir

Zoll. Obs.

33 Sext. ~~α~~ $-1° 15'$

[41 Leon. Min] $+23° 41'$

Rattle $11^h 27^m$

o Leonis $-0° 18'$

3 Drac $+67° 15'$

χ Ursa Maj $+48° 18'$

β Leonis $+15° 06'$

$-0° 18'$		$+67° 15'$		$+48° 18'$		$+15° 06'$	
31^m 14.4 1.2	5.6	35^m 44.7 45.8	0.5	40^m 1.0 10.4	1.4	43^m 21.4 9.7	1.1
16.9 59.0	5.9	51.6 39.4	1.0	4.0 7.0	1.0	24.0 7.2	1.2
19.35 6.4	5.7	57.5 33.5	1.0	7.8 3.2	1.0	26.6 4.7	1.3
21.55 3.9	5.4	3.4 26.8	0.8	11.3 59.4	0.7	29.2 2.3	1.5
24.0 50.4	5.8	9.7 20.0	9.7	14.8 55.7	0.6	31.5 59.7	1.2
30.3 45.2	5.2	26.3 4.7	1.0	24.2 46.4	0.6	38.3 53.4	1.7
34.0 41.3	5.3	35.7 54.7	0.4	29.8 40.7	0.5	42.4 49.6	2.0
	37.8		44.7		35.6		45.9
	15)117		15)191		15)63		15)109
	37.78		45.27		35.42		45.73

∞ 31.35
2.38 30.11
2.38) 1.240 (.52
1 190
500

$11^h 31^m 37.78$	$11^h 36^m 45.27$	$11^h 40^m 35.42$	$11^h 43^m 45.73$
$11^h 32^m 9.13$	$11^h 37^m 15.36$	11 41 6.33	11 44 16.89
31.35	30.11	30.91	31.16
.48	.76	.11	.33
30.87	30.87	30.80	30.83

u = .52

1.47
.52
294
735
.7644

.92
.52
184
460
.4784

.52
.22
104
104
.1144

.64
.52
128
320
.3328

30.87
80
83
87
4)337
30.84
.24
31.08

Frod. 1327 is SLOW

$0^m 31.08^s$

at $11^h 40^m$

Times May 10, 1906

Mer Cir 20 L-Obs.

μ Virginis −5° 15′ last 8 wires

109 Virginis +2° 17′

α Lib − −15° 39′

Gr. 2164 +59° 41′

Rattle at 14h 53m

+2° 17′

40m 37.6	24.4	2.0
40.1	22.0	2.1
42.4	19.4	1.8
45.0	16.8	1.8
47.2	14.7	1.9
53.6	8.4	2.0
57.4	4.6	2.0
		1.0
		15)14.6
		0.97

−15° 39′

44m 47.5	36.4	3.9
50.3	33.7	4.0
52.9	31.3	4.2
55.6	28.7	4.3
58.0	26.0	4.0
4.4	19.6	4.0
8.0	15.7	3.7
		12.0
		15)18.1
		12.01

+59° 41′

47m 48.8	22.4	1.2
54.7	17.4	2.1
59.3	12.7	
4.1	7.7	2.0
9.1	2.7	1.8
		1.8
21.4	50.4	1.8
28.6	43.3	1.9
		36.0
		15)14.36
		35.91

1.71 29.39
.28 30.29
1.99)0.90
.45

14h 41m 0s.97
14 41 31.28
30.31
.40
29.91

14h 45m 12s.01
14 45 42.30
30.29
.54
29.75

14h 48m 35.91
14 49 5.30
29.39
.36
29.75

m = .45

.88
.45
440
352
.3960

1.19
.45
595
476
.5355

.99
.45
395
316
.3555

~~29.75~~
~~29.99~~
~~29.75~~
~~3)2.49~~
~~29.83~~
~~.24~~ Knee

29.75
.75
.91
3)2.41
29.80
.24
30.04

Frod. 1327 is SLOW

0m 30s.04

at 14h 40m S.T.

Fri May 11, 1906

quer Cii   Edw. Olds.

+2°28'
~~+11°2'~~

4 Urs. Min + 45°01'   Rattle at 11h 06m

8 Leonis +21°2'   (last 10 wires)

+2°28'

1m 13.5	1.0	
16.6	58.4	4.5
19.1	56.3	5.0
21.5	53.8	5.4
24.4	51.0	5.3
		5.4
30.1	45.2	5.3
34.0	41.2	5.2
		37.6
		15)87
		37.58

+45°01'

03m 21.3	27.2	8.5
24.6	23.7	8.3
28.0	20.3	8.3
31.7	16.7	8.4
35.2	13.2	8.4
43.9	4.4	8.3
49.1	59.7	8.8
		54.0
		15)3.0
		54.20

+21°2'

08m 30.0	52.1
34.0	55.0
37.8	57.7
41.8	0.3
45.7	2.8
5)189.3	5)287.9
37.86	57.58
.04	19.78
37.90	37.80

11h 1m 37.58
11 02 7.34
29.76
.35
29.~~37~~ 41

11h 03m 54.20.
11 04 23.58
29.38
.04
29.42

11h 08m 37.s85
11 09 07.37
29.52
.21
29.~~26~~ 31

ass. u = 4

29.41
.42
.31
3)114
29.38
.24 b sec ω
29.62

Frod. 1327 is SLOW

0m 29.s62 at

11h 0m S. T.

Sat May 12, 1906

Mer Cir   Tele. Obs.

Rattle at 13h 01m

ϑ Virginis −5° 2′
43 Comae +28° 21′
[20 Can. Ven] +41° 4′
ζ Urs. Maj. +55° 25′

−5° 2′	+28° 21′	+41° 4′	+55° 25′
04m 13.3 0.2 3.5	06m 34.8 28.0 2.8	12m 21.1 23.3 4.4	19m 0.3 22.3 2.6
15.7 57.7 3.4	38.0 25.4 3.4	24.3 20.0 4.3	4.4 18.3 2.7
18.2 55.4 3.6	40.6 22.7 3.3	27.4 16.6 4.0	8.6 13.8 2.4
20.7 53.0 3.7	43.2 19.7 2.9	30.7 13.4 4.1	13.0 9.7 2.7
23.3 50.4 3.7	46.0 16.7 2.7	34.0 10.3 4.3	17.4 5.3 2.7
29.5 44.3 3.8	52.7 9.7 2.4	42.4 2.0 4.4	28.3 54.4 2.7
33.1 40.6 3.7	57.0 5.7 2.7	47.1 57.0 4.1	34.6 47.7 2.3
36.8	1.6	52.0	41.6
15)122	15)68	15)16	15)47
36.81	1.45	52.11	41.31

13h 04m 36.81s	13h 07m 1.45s	13h 12m 52.11	13h 19m 41.31
13 05 6.30	13 07 30.51	13 13 21.11	13 20 10.12
29.49	29.06	29.00	28.81
.43	.16	.02	.23
29.06	28.90	28.98	29.04

1.45 28.81
.09 29.49
1.54 2.67
.43

u = .43

43
04
37.0172
+5
111
148
.159 1
.54
.43
162
216
.2322

29.06
28.90
28.98
29.04
4)398
~~289~~
29.00
.24 brace
29.24

Frod 1327 is SLOW
0m 29.24s at
13h 15m S.T.

Monday May 14, 1906

Mer Cir Wells Obs.

β Ursa Maj +56° 53'
α " " +62° 16' (last 10 wires)
χ Leonis +7° 51'
ψ Ursae Maj +45° 01'
~~Rattle at~~ 11h 06m

+.026
-.116
-.086
-.090

-.016
.136
-.152

1.2662
0.3323
1.5985
39.68

+56° 53'
5
56m 0.0 25.0 5.0
4.3 21.0 5.3
8.9 17.0 5.9
14.0 12.7 6.7
17.9 7.9 5.8
29.5 55.2 4.7
36.2 50.0 6.2
42.9
15 | 125
42.83

+ 62° 16'
58m 13.0 57.3
20.6 3.2
28.8 8.9
36.7 14.3
45.3 19.5
5 | 144 4 5 | 43 2
28.88 8.64
.08 39.68
28.96 28.96

+7° 51'
59m 18.5 5.9 4.4
21.1 3.5 4.6
23.4 0.9 4.3
26.0 58.5 4.5
28.4 56.0 4.4
34.7 49.7 4.4
38.3 45.9 4.2
42.0
15 | 128
42.19

+45° 01'
04m 22.1 27.7 9.8
25.7 24.5 0.2
28.9 21.0 9.9
32.5 17.4 9.9
35.7 14.4 0.1
44.4 5.5 9.9
50.2 0.6 0.8
55.3
15 | 09
55.01

.62
.32
124
186
1984

1.90 27.55
.14 28.59
1.76 1.04 (.6
.66

10 56 5 42.83
~~70~~
10 56 10.98
~~27.81~~
~~28.15~~
.37
~~27.78~~
~~28.52~~

~~10h 57 28.96~~
~~10 59 56.51~~
~~27.55~~
~~.60~~
~~28.15~~

10h 59m 42.19
11 00 10.78
28.59
46
~~.18~~
~~28.41~~
28.13

11h 03m 55.01
11 04 23.52
28.51
.05
28.56

.27
.32
154
.231
.2464

~~n = .6.~~

.14 28.59
1.53 28.15
1.39 .45 (.32
417
330

28.15
.20
28.35

~~27.55~~
~~.32~~
~~27.87~~

28.59
.25
28.34

28.51
.03
28.54

n = .32
09
.0288

28.35
.34
.54
3 | 1.33
28.44
.246 sec b
28.65

1.9

Frod. 1327 is SLOW

0m 28.s65 at

11h 0m S.T.

Tues May 15, 1906

Tran Cir   Zoh. Obs.

α Urs. Maj + 62°16′ (last 3 wires)

4 Urs. Maj + 45°01′   Rattle at 11^h01^m

β Crat − 22°19′

δ Leonis + 21°2′

+62°16′

57^m — 58.2
21.2 3.4
28.6 8.7
36.7 14.0
45.0 19.3
4 | 131 5   5 | 43 6
32.88   8.72
3.92   39.68
28.96   29.04
.08
29.04

0.2608
0.3323
0.5931

+45°01′

03^m 22.2 28.6   0.8
25.7 25.3   1.0
29.3 21.8   1.1
32.7 18.4   1.1
36.3 14.7   1.0
45.2 6.0   1.2
50.3 1.0   1.3
55.5
15 | 8 0
55.53

~~$11^h 03^m$~~

−22°19′

06^m 9.0 59.6   8.6
11.7 57.1   8.8
14.4 54.3   8.7
17.0 51.7   8.7
19.6 49.1   8.7
26.3 42.3   8.6
30.3 38.4   8.7
34.3
15 | 51
34.34

+21°2′

08^m 14.0 4.0   8.0
16.5 1.5   8.0
19.2 58.9   8.1
21.7 56.3   8.0
24.3 53.7   8.0
31.0 46.8   7.8
35.2 43.0   8.2
39.0
15 | .1
39.01

$10^h 57^m$ 29.04
56.47
27.43
.66
28.09

$11^h 03^m 55^s.53$
23.50
27.97
.06
28.03

$11^h 06^m 34^s.04$
11 07 2.99
28.95
.88
28.07

$11^h 08^m 39^s.01$
11 09 7.32
28.31
.35
27.96

+.059
−.065
6

1.90 27.43
.41 28.95
2.31 | 1.52 | .66
.986
.1340

n = .61

28.09
.03
.07
27.96
4 | 15
28.04
24 δ sec δ
28.28

~~.798~~

.53
.66
318
318
.3498

1.33
.61
133
798
.8113

1.33
.66
798
798
.8778

Frod. 1327 is SLOW

0^m $28^s.28$ at

11^h05^m.

Wed May 16, 1906

Mer Cir Wh. Obs.

Rattle at $14^h 25^m$

ρ Bootis +30°47′

[33 Bootis] +44°49′

π Boot π +16°49′ (last 4 wires)

μ Virg −5°15′

109 Virg +2°17′

30°47′			+44°49′			−5°15′			+2°17′		
26^m 53.3	48.7	1.0	34^m 21.7	27.7	9.4	37^m 16.4	3.3	9.7	40^m 39.8	26.7	6.5
56.2	45.1	1.3	25.2	24.2	9.4	19.0	0.9	9.9	42.4	24.3	6.7
59.0	42.1	1.1	28.6	20.6	9.2	21.4	58.5	9.9	44.9	21.7	6.6
2.0	39.1	1.1	32.0	17.3	9.3	23.7	56.0	9.7	47.4	19.3	6.7
4.7	36.3	1.0	35.3	13.5	8.8	26.1	53.5	9.6	49.8	16.7	6.5
12.0	29.0	1.0	44.0	5.2	9.2	32.4	47.4	9.8	55.9	10.8	6.7
16.4	24.8	1.2	49.4	59.8	9.2	36.3	43.6	9.9	59.8	7.2	7.0
		20.7			54.5			40.0			3.5
	15	84		15	90		15	135		15	52
		20.56			54.60			39.90			3.35

$14^h 27^m 20.^s56$	$14^h 34^m 54.^s60$	$14^h 37^m 39.^s90$	$14^h 41^m 3.^s35$
14 27 48.25 (A)	14 35 22.04	14 38 7.92	14 41 31.31
27.69	27.44	28.02	27.96
.16	.04	.50	.44
27.43	27.48	27.52	27.52

ass. u = .5

27.43
.48
.52
.52
4)1.95
27.49
.24 brock
27.73

Frod 1327 is SLOW
$0^m 27.^s73$
at $14^h 30^m$

Fri May 18, 1906

Meri Cir — Yale Obs.

Rattle at 11h 18m

τ Serp +3°22'
χ Drac. +69°51'
υ Scoris −0°18'
ψ Ursae Maj +48°18'

+3°22'			+69°51'			−0°18'			+48°18'	
22m 16.7	3.6	0.3	24m 16.7	33.1	9.8	31m 18.7	5.4	4.1	40m 4.7	14.8	9.5
19.2	1.2	0.4	24.0	26.3	0.3	21.2	3.2	4.4	8.3	11.3	9.6
21.4	58.8	0.2	31.5	18.9	0.4	23.5	0.8	4.3	12.0	7.3	9.3
24.0	56.3	0.3	38.5	11.8	0.3	26.2	58.2	4.4	15.6	3.5	9.1
26.3	53.7	0.0	45.4	4.6	0.0	28.5	55.5	4.0	19.3	59.9	9.2
32.7	48.4	9.1	3.6	46.3	9.9	34.7	49.7	4.4	28.7	51.0	9.7
36.4	43.8	9.2	14.5	35.6	0.1	38.4	45.7	4.1	34.3	45.5	9.8
		40.2			2.5.4			42.2 ~~39.4~~			39.7
		15)11			15)12			15)19			15)109
		40.11			25.08			42.13			39.73

−0.076
+.094
~~−.470~~
.018

0 26.90
2.73 25.54
2.73 1.36 (5
.13 65

11h 22m 40.11s	11h 25m 25.08s	11h 31m 42.13s	11h 40m 39.73s
7.02	11 25 50.62	11 32 9.03	11 41 6.15
26.91	25.54	26.90	26.42
.42	.91	.46	.10
26.49	26.45	26.44	26.52

u = .5

26.49
.45
.44
.52
4)1.90
26.48
.24 b sec. a
26.72

Frod. 1327 is SLOW

0m 26.72s

at 11h 30m

Sat May 19, 1906

Trans Cir Wh. Obs.

Ratile at 11h 35m

3 Drac. +67°16′ (missed 1st 3 wires)

4 Urs Maj +48°18′

β Leonis +15°06′

β Virg. +2°17′ (missed 1st wire)

1.2662
0.4129
1.6791

1.1713
0.4129
1.5842

.04
-.0155
~~.026~~
-.115

+67°16′			+48°18′		+15°06′		+2°17′	
11h36m =	31.0	25.0	40m 5.3 15.7		43m 26.5 15.0		45m — 46.0	—
—	40.4	31.6	9.0 12.2	1.0	29.0 12.4	1.5	1.8 43.7	
8.3	50.0	38.2	12.7 8.4	1.2	31.7 9.8	1.4	4.2 41.1	5.5
14.7	59.6	44.4	16.6 4.6	1.1	34.0 7.2	1.5	6.7 38.7	5.3
2|23.0	9.3	50.4	20.1 0.8	1.2	36.7 4.7	1.2	9.1 36.3	5.4
11.50	5|250.3	5|189.6	29.4 51.7	0.9	43.1 58.4	1.4	15.3 30.0	5.4
38.39	50.06	37.92	35.0 46.0	1.1	46.9 54.5	1.4	19.0 26.4	5.3
49.89	.09	47.76		1.0		1.4		5.4
	50.15	50.16		40.6		50.7		22.7
				15|81		15|105		13|90
				40.54		50.70		22.67

✓ 11h 36m 50.15s	11h 40m 40.54s	11h 43m 50.70	11h 45m 22.67s
11 37 ~~15.06~~ 14.92	11 41 6.13	11 44 16.78	11 45 48.88
24.77s	25.59	26.08	26.21
.86	.13	.139	.54
25.63	25.72	25.67	25.67

2.39 24.77
.04 26.21
2.35) 1.44 (.61
1410
30

m = .61

1.47 88
.61 .61
147 88
842 528
8567 5368

.22 .64
.61 .61
22 64
132 384
.1342 .3904

25.63
25.72
25.67
.67
4|269
25.67
.24 b sec δ
25.91

Inod. 1327 is SLOW

0m 25.91s at

11h 40m S.T.

Sun May 20, 1906

Mer Cir — Whe Obs

2nd Rattle $13^h 17^m$

ζ Urs. Maj + 55°25'

69 H " " + 60°26' (1st wire uncertain)

ζ Virginis − 0°07'

.91
.42
182
364
.38252
.42
170
.54 340
42 .2570
108
216
.2268

+55°25'

19^m 4.0	26.3	
8.0	21.9	0.3
12.5	17.7	9.9
16.7	13.4	0.2
21.3	9.1	0.1
32.2	58.3	0.4
38.4	51.8	0.5
		0.2

45.0
15) 17
45.11

$13^h 19^m 45^s.11$
13 20 10.00
24.89
.23
25.12

+60°26'

23^m —	24.9	
54.8	19.5	4.3
59.4	14.5	3.9
4.7	9.8	4.5
9.7	4.8	4.5
22.3	51.7	4.0
29.3	44.4	3.7

37.0
13) 9
37.07

$13^h 24^m 37^s.07$
13 24 61.77
24.70
.36
25.06

−0°07'

29^m 6.7	53.3	
9.3	51.0	0.0
11.7	48.7	0.3
14.0	46.2	0.4
16.5	43.7	0.2
22.7	37.6	0.2
26.5	33.7	0.3
		0.2

30.1
15) 17
30.11

$13^h 29^m 30^s.11$
13 29 55.55
25.44
.38
25.06

1.76 | 24.70
0 25.44
1.76) .74 (.42
704
360

u = .42

25.12
.06
.06
3) 24
25.08
.24 6 sec 6
25.32

Frod. 1327 is SLOW

$0^m 25^s.32$ at

$13^h 25^m$ S.T.

Mon May 21, 1906

Mer. Cir. Rob. Obs.

Rattle at $11^h 29^m$

ν Leonis −0°18′ (missed 1st 2 wires)

3 Draconis +67°16′

4 Ursa Maj +48°18′

β Leonis +15°06′

−0°18′

32^m — 5.3

26.0 3.0 9.0

28.7 0.4 9.1

31.0 57.9 8.9

37.0 51.7 8.7

40.7 48.2 8.9

44.4

15 | 50

~~44.50~~

44.45

5 +67°16′

32^m 49.7 50.9 0.6

56.7 44.8 1.5

2.7 38.0 0.7

9.6 32.4 2.0

16.0 25.9 1.8

31.3 10.1 1.4

41.3 1.4 2.7

50.8

15 | 115

50.77

+48°18′

40^m 6.4 17.0 3.4

10.3 13.3 3.6

13.8 9.7 3.5

17.7 5.9 3.6

21.5 2.0 3.5

30.7 52.7 3.4

36.3 47.3 3.6

42.0

15 | 106

.41.71

8 +15°06′

44^m 28.0 16.3 4.3

30.5 13.7 4.2

33.0 11.3 4.3

35.5 8.7 4.2

38.1 6.2 4.3

44.6 59.8 4.4

48.3 55.9 4.2

52.2

15 | 21

52.14

$11^h 32^m 44^s.45$ $11^h 36^m 50^s.77$ $11^h 40^m 41^s.71$ $11^h 43^m 52^s.14$

11 32^m 9.00 4 15.80 11 41 6.09 16.76

24.55
~~.23~~
~~24.32~~
.25
24.80

4
25.03
.37
~~24.40~~
.41
24.44

24.38
~~.05~~
~~24.43~~
.06
24.44

24.62
.18
24.44

4 | 1.47
.37

2.39 24.03
.27 24.62 .28
~~2.39~~) .59 (~~.25~~
2.12
~~478~~
~~1120~~
424
1660

n = ~~.25~~
.28

28
.91
28
252
.2548

1.47
.28
1178
294
.4116

28
.21
28
56
.588

.64
.28
512
128
.1792

24.44
.44
.44
.30
4 | 1.62
24.41
.24 6 sec δ.
24.65

Frod. 1327 is SLOW

$0^m 24^s.65$ at

$11^h 40^m$ S.T.

Tues May 22, 1906

Mer Cir

Wh. Obs

β Virginis +2°18'

γ Urs. Maj +54°13'

π Virginis +7° 8' (1st 4 & last 2 wires)

Rattle at $11^h 57^m$

~~0.72~~
0.2760
.0033
0.2793

1.3453
.0033
1.3486

24.95
23|57
.48

ass. n = .3

+2°18'
46^m 1.4 48.2 9.6
3.7 45.8 9.5
6.2 43.3 9.5
8.5 40.8 9.3
11.1 38.3 9.4
17.2 32.2 9.4
21.0 28.4 9.4
247
15|108
24.72

$11^h 45^m 24.^s72$
11 45 48.77
24.05
.26
23.79

+54°13'
47^m 50.3 10.4 0.7
54.5 6.4 0.9
58.7 2.3 1.0
3.0 58.3 1.3
7.5 64.0 1.5
17.8 43.3 1.1
24.2 37.0 1.2
~~20.7~~
15|84
30.56

$11^h 48^m 30.^s56$
11 48 54.13
23.57
.14
23.71

+7°8'
54^m 16.7 33.0 —
19.4 36.7 —
21.7 40.5 —
24.3 44.2 1.7
26.7 4.2
5|108.8 4|154.4 2|5.9
21.76 38.60 2.95
18.68 1.90 22.31
40.44 40.50 40.64

$11^h 55^m 40.^s52$
11 56 4.28
23.76
.24
23.52

23.79
.71
.52
3|2.02
23.67
.24 b sec δ.
23.~~85~~
.91

Frod. 1327 is SLOW

$0^m 23.^s$~~85~~ 91 at

$11^h 50^m$.

Wednesday May 23, 1906

Mer. Cir.

Level Observation

Wh. Obs.

Started 3:28 E.T.

Telescope South.

Zero	W end	E end.		
W	-32.0	-67.1	-99.1	
E	~~75.0~~ B? +74.0	+39.3		+113.3
W	-30.5	-65.8	-96.3	
E	+73.2	+38.0		+111.0
			-195.4	+224.3
				+28.9

Telescope North

Zero.	W. end	E. End.		
W	37.0 ~~-32.8~~	-70.2 ~~66.0~~	-107.2	
E	70.2 +~~37.0~~	+37.0 ~~70.2~~		+107.2
W	-39.0	-72.1	-111.1	
E	+71.0	+38.0		+109.0
			-218.3	+216.2
				-2.1

+26.8

Finished 3h45m

Wednesday May 23, 1906

Level Again.

Telescope North

Zero	W. End.	E End.		
W.	−37.0	−70.2	−107.2	
E	+71.2	+38.1		+109.3
			+2.1	

Telescope South

~~W~~	W End	E. End.		
W	−38.5	−77.0	−115.5	
E	+84.0	+45.5		+129.5
			+14.0	
				+16.1

+16.1
+ 26.8
24) 42.9 (1.79
24
189
168
210
216

1.79
.06
.1044
1.35
5220
3132
1044
.140940

b sec φ = .14 west end high

Friday May 25, 1906

Floor of room raised this morning

Level — Wol. obs.

Began 5: 25 P.M

Telescope S.

Zero	W. End	E. End		
W.	-35.6	80.2	-115.8	
E	+85.8	41.0		+126.8
W	-34.6	79.0	-113.6	
E	+84.0	39.3		+123.3
			-229.4	+250.1
				+20.7

Telescope North

W.	-34.1	79.9	-115.0	
E	+85.0	40.3		+125.3
W.	-37.0	81.6	-118.6	
E	+84.8	40.2		+125.0
			-233.6	+250.3
				+16.7
				+37.4

Ended 5: 40 P.M.

16) 37.4 (2.34
32
54
48
60

$\underline{106}$
.1404 = b
$\underline{1.35 \text{ sec } a}$
7020
4212
$\underline{1404}$
.189540

b sec a = 0.19 west end high

1905phde.proj.163M