KG
11366
v.630

ERROR OF FRODSHAM 1327

Mar. 11, 1908. to Dec. 30, 1908.

1238 A

Wed Mar 11, 1908

Mer Cir   Wh. Obs.

Rattle at 6h 32m

δ Monoc + 9°59′

ε Gemin + 25°13′

A [ψ⁵ Aurigae] + 43°40′

	+9°59′				+25°13′				+43°40′		
6h 35m	35.9	23.1	9.0	37m	55.2	46.9	2.1	39m	38.7	43.7	2.4
	38.2	20.9	9.1		58.0	44.2	2.2		42.4	40.4	2.8
	40.8	18.3	9.1		0.8	41.7	2.5		45.7	36.8	2.5
	43.3	15.9	9.2		3.5	38.9	2.4		49.0	33.3	2.3
	45.8	13.4	9.2		6.1	36.2	2.3		52.3	30.3	2.6
	52.2	7.0	9.2		13.0	29.3	2.3		1.2	21.7	2.9
	55.9	3.3	9.2		17.0	25.2	2.2		6.4	16.6	3.0
			59.7				21.1				11.5
			15|87				15|21				15|50
			59.58				21.14				11.33

6h 35m 59s.58	6h 38m 21s.14	6 40m 11s.33
6 35 54.67	6 38 16.32	6h 40 6s.64
4.91	4.82	4.69
.07	.05	
4.84	4.77	

ass n = .1

4.84
.77
.69
3|230
4.77
.47
5.24

Frod. 1327 is FAST

0m 5s.24

at 6h 40m S.T.

Times Mar 12, 1908

Mer. Cir. H.C. Obs.

Rattle at $5^h 06^m$.

α Aurigae +45°54'

β Tauri +28°32'

+45° 54'

9^m 23.4 30.7 4.1
27.0 27.5 4.5
30.7 24.0 4.7
34.1 20.3 4.4
37.9 16.8 4.7
46.7 7.9 4.6
52.0 2.7 4.7
57.5
15⌊42
57.28

+28°32'

20^m 5.7 59.1 4.8
8.6 56.6 5.~~2~~
11.3 53.7 5.0
14.2 50.7 4.9
16.9 48.0 4.9
24.0 41.0 5.0
28.2 36.7 4.9
32.7
15⌊74
32.49

azo n=!

$5^h\ 9^m\ 57\overset{s}{.}28$
$5\ \ 9\ \ 52.76$
4.52
.01
4.51

$5^h\ 20^m\ 32\overset{s}{.}49$
$5\ \ 20\ \ 28.00$
4.49
.04
4.53

4.52
.47 b sec c
4.99

Trod. 1327 is FAST

$0^m\ 4\overset{s}{.}99$

at $5^h\ 15^m$ S.T.

Fri Mar 13, 1908

Mer Cir Wol. Obs..

Rattle at $7^h 19^m$.
β Can Min +8°28'
α Gemini +32°5'

+8°28'

21^m 50.3 37.8 8.1
53.0 35.4 8.4
55.1 32.9 8.0
57.8 30.2 8.0
0.2 27.9 8.1
6.4 21.6 8.0
10.2 17.9 8.1
14.0
15 | 10.7
14.05

$7^h\ 22^m\ 14^s.05$
7 22 9.91
-4.14
.08
4.22

+32°5'

28^m 20.3 15.7 6.0
23.3 13.0 6.3
26.2 10.0 6.2
29.1 7.1 6.2
32.0 4.2 6.2
39.5 56.9 6.4
43.7 52.7 6.4
48.2
15 | 1.9
48.13

$7^h\ 28^m\ 48^s.13$
7 28 43.98
4.15
.03
4.18

ass. n=.1

4.20
.47 breck
4.67

Frod. 1327 is FAST

$0^m\ 4^s.67$

at $7^h\ 25^m$ S.T.

Saturday Mar 14 1908

Mm Cu W. C. Wells

Rattle at $8^h 07^m$

β Cancri +9°28'
31 Cygni +43°29'
o Ursa Maj +61°02'

+9°28'		+43°29'		+61°02'	
11^m 12.459.6	2.0	16^m 4.49.1	3.5	19^m 54.531.6	6.1
14.857.0	1.8	7.75.8	3.5	21 59.526.0	5.5
17.154.6	1.7	11.22.4	3.6	4.521.2	5.7
19.452.0	1.4	14.859.0	3.8	9.615.9	5.5
22.049.5	1.5	18.255.6	3.8	14.510.5	5.0
28.543.6	2.1	26.647.0	3.6	27.458.0	5.4
32.339.8	2.1	31.741.9	3.6	35.050.4	5.4
	35.7		36.9		42.6
	15 | 133		15 | 123		15 | 112
	35.89		36.82		42.75

1.89 4.01
.75 3.89
1.64 .12

$8^h 11^m 35^s.89$ | $8^h 16^m 36^s.82$ | $8^h 22^m 42.75$
8 11 32.00 | 8 16 33.02 | 8 22 38.74
3.89 | $3.\overset{80}{\cancel{79}}$ | 4.01
.05 | | .06
3.94 | | $\cancel{4}$ 3.95

ass wt $\frac{1}{15}$

3.94
.80
.95
3 | 2.69
3.90
.47
4.37

Frod. 1327 is FAST

$0^m 4^s.37$

at $8^h 15^m$ S.T.

Mon. Mar. 16, 1908

Collimation . Wolc Obs.

S Coll on N Coll. ~~10.7~~ 5.7
4.7.
6.8
4.2
4.7
5)26.1
5.22

Set at 5.22

Telescope on N. Coll.

Micr~~oscope~~ometer found
at 33.534

26.651
26.560
.650
.662
.573
5)3096
26.6192 26.6192

Telescope on S. Coll.

40.617
.632
.618
.664
.612
5)93 (40.6186
5
43

2)67.2378
33.6189
.012
33.6309

Micrometer set at 33.631

Mon Mar 16, 1908

Mer Ci Wh. Obs.

χ Gemini $+28°3'$.
Rattle at $8^h 0^m$
27 Lyncis $+51°46'$

$+28°3'$		$+51°46'$	
57^m 29.122.3	1.4	$8^h 0^m$ 58.614.2	2.8
32.019.8	1.8	2.310.4	2.7
34.616.8	1.4	6.46.3	2.7
37.618.9	1.5	10.52.3	2.8
40.511.3	1.8	14.558.2	2.7
47.64.0	1.7	24.548.3	2.8
51.50.0	1.5	30.342.3	2.6
	55.7		36.3
	15 | 118		15 | 54
	55.79		36.36

$$\begin{array}{r} 7^h\ 57^m\ 55^s.79 \\ \underline{7\ \ 57\ \ 52.50} \\ 3.29 \\ \underline{.04} \\ 3.25 \end{array} \qquad \begin{array}{r} 8^h\ 01^m\ 36^s.36 \\ \underline{8\ \ 01\ \ 33.25} \\ 3.11 \\ \underline{.04} \\ 3.15 \end{array}$$

~~ass m =~~

$$\begin{array}{r} -.38 \\ \underline{+.36} \\ .74 \end{array} \qquad \begin{array}{r} 3.29 \\ \underline{3.18} \\ .18 \end{array}$$

ass m = .1 ?

$$\begin{array}{r} 3.20 \\ \underline{.47} \\ 3.67 \end{array}$$

Frod. 1327 is FAST

$0^m\ 3^s.67$

at $8^h 0^m$ S. T.

Thurs Mar 19, 1908

Mer Cir Tele Obs

Rattle at 7^h04^m

63 Aurigae +39°28' (last 10 wires)

λ Gemini +16°42'

19 Lyncis-seq. +55°27' (middle 5; 1st group scal.)

+39°28'		+16°42'		+55°27'
7^h05^m 12.3	39.1	12^m 26.0 14.9	0.9	15^m 10.7
17.2	42.7	28.7 12.5	1.2	17.6
21.9	45.8	31.2 9.8	1.0	24.2
26.6	49.0	33.9 7.3	1.2	30.4
31.5	52.0	36.3 4.7	1.0	36.9
5 | 109 5	5 | 228 6	42.8 58.2	1.0	5 | 119 8
21.90	45.72	46.7 54.3	1.0	23.86
	23.91		50.7	
	21.81		15 | 8 0	
			50.53	

$7^h05^m21.86$ $7^h12^m50^s.53$ $7^h15^m23^s.86$

7 05 19.73 7 12 48.40 7 15 22.01

2.13 2.13 1.85

.02 .15 .14

2.11 ~~2.01~~ 1.99

1.98

+.54 1.85

-.61 2.13

1.15 .28

ass

m=.25

1.99

1.98

2.11

3 | 18

2.03

.47 l. sec δ

2.50

Frod. 1327 is FAST

$0^m 2^s.50$

at 7^h10^m S.T.

Friday Mar 20, 1908

Mer Cir

W. L. Ells.

Rattle at 8h 02m

β Cancri +9°28' (10 wires clds)
31 Lyncis +43°29' (missed 1st wire)
o Urs. Maj +61°2' (missed 1st 3 wires)

+9°28'
8h 11m – 26.6 47.8
– 30.2 50.2
– 33.8 52.7
– 37.5 55.5
– 41.4 57.7
5 | 169.5 5 | 263.9
33.90 52.78
18.72
34.06

+43°29'
16m –6.9 —
5.9 3.8 9.7
9.0 0.2 9.2
12.4 56.8 9.2
15.7 53.4 9.1
24.2 45.0 9.2
29.7 39.8 9.5
34.5
13 | 8 4
34.65

+61°2'
22m ~~1.7~~ 28.0 —
~~6.4~~ 23.5 —
1.7 18.5 0.2
6.4 13.5 9.9
12.0 8.2 0.2
25.0 55.6 0.6
32.8 47.7 0.5
40.1
10 | 4.5
40.15

tan δ - tan φ
-.75 2.06
+.89 1.58
1.64 .48

n = .3

8h 11m 33.98
8 11 31.92
2.06
.22
1.84

8h 16m 34.65
8 16 32.91
1.74
.01
1.73

8h 22m 40.15s
8 22 38.57
1.58
.27
1.85

1.84
.73
.85
3 | 2 4 2
1.81
.47 6 secell
2.28

Frod. 1327 is FAST

0m 2.28s

at 8h 15m S.T.

Sat Mar 21, 1908

Level Obs. Col. Obs

Telescope South.

Zero	W. End	E End			
E	+ 81.8	+ 49.5	+ 131.3		
W	− 39.0	−70.3	−109.3	+ 22.0	
E	+ 82.4	50.0	+ 132.4		43.9
W	− 39.5	− 71.0	−110.5	+ 21.9	

Telescope North

E	+ 81.0	+ 49.2	+130.2		
W	− 38.0	−70.0	−108.0	+ 22.2	
E	+ 81.0	+ ~~48.8~~ 49.0	+130.0		434
W	− 38.0	− 70.8	−108.8	+ 21.2	
					87.3

16) 87.3 (5.457
80
73
64
90
80
100

5.457
.06
.3274~~2~~
1.35
1635
981
327
0.44145

b sec ω = $\overset{s}{0}.44$ West end high.

Sat Mar 21, 1908

Mer Cir.   Wh. Obs.

Rattle at $5^h 47^m$.

Tues Mar 24, 1907

Mer Cir Eoh Obs.

Rattle at $7^h 14^m$.

ι Gemin +27°59'

ρ Gemin +31°58'

+27°59'				+31°58'		
19^m 34.7	27.8	2.5		22^m 44.6	39.8	4.4
37.5	25.2	2.7		47.4	36.9	4.3
40.3	22.2	2.5		50.2	34.1	4.3
43.0	19.4	2.4		53.3	30.9	4.2
45.9	16.6	2.5		56.2	28.2	4.4
53.0	9.6	2.6		3.3	20.9	4.2
57.1	5.4	2.5		7.8	16.6	4.4
		1.2				12.1
		15)39				15)23
		1.26				12.15

$7^h\ 20^m\ 1^s.26$	$7^h\ 23^m\ 12^s.15$
$7\ \ 20\ \ 0.82$	$7\ \ 22\ \ 11.80$
0 0.44	0.35
.14	.09
0.30	.26

aso n=3

$0^m\ 0^s.28$
.44 b sec u
0.72

Frod. 1327 is FAST

$0^m\ 0^s.72$

at $7^h\ 20^m$ S.T.

Wed Mar 25, 1908

Mer Cir.

Wells.

Rattle at 9h 40m

o Ursa Maj +59°28'

A [μ Leonis] +26°26' (missed 1st wire)

A [19 Leon. Min] +41°30'

π Leonis +8°29'

+59°28'	+26°26'	+41°30'	+8°29'
43m 42.4 14.9 7.3	47m — 58.8	51m 33.2 35.4 8.6	54m 58.4 45.8 4.2
47.3 10.3 7.6	9.6 56.6 6.2	36.3 33.2 8.5	0.7 43.6 4.3
52.5 5.4 7.9	12.2 53.7 5.9	39.5 29.0 8.5	3.3 41.0 4.3
57.1 59.6 6.7	14.0 51.7 5.7	42.7 25.3 8.0	6.1 38.6 4.7
1.9 55.6 7.5	17.7 48.0 5.7	46.0 22.3 8.3	8.3 35.8 4.1
14.6 43.1 7.7	24.7 41.1 5.8	53.9 14.3 8.0	14.7 29.7 4.4
21.5 36.8 8.3	28.7 37.0 5.7	59.4 9.0 8.4	18.6 26.0 4.6
29.2	32.9	4.5	22.1
15 | 122	13 | 119	15 | 128	15 | 27
28.81	32.92	4.19	22.18

9h 44m 28.81s	9h 47m 32.92s	9h 52m 4.19s	9h 55m 22.18s
9 44 28.71	9 47 32.68	9 52 4.09	9 55 21.84
0.10	0.24	0.10	0.34
.11	.06	.00	.11
0.21	0.18	0.10	0.23

.75 .34
+78 .10
1.53 24
153 (157
870
765
105

~~[illegible]~~ n = ~~.16~~ $\frac{1}{7}$

0.21
.18
.10
.23
4 | .72
0.18
.44 brecle
0.62

Frod. 1327 is FAST

0m 0.62s

at 9h 50m S.T.

Sat Mar 2~~6~~8, 1908

Mer Cir — Tol. Obs

Rattle after 7h 55m

γ Gemini +28°3'
27 Lyncis + 51°46' (missed ~~1st~~ 2 or 3 wires)
β Cancri +9°28'
31 Lyncis +43°29'

+28°3'		+51°46'		+9°28'		+43°29'	
7h 57m 24.6 17.5	2.1	01m 1.7 1.6	3.3	11m 6.7 54.2	0.9	15m 59.3 3.8	3.1
27.5 15.0	2.5	5.7 57.5	3.2	9.3 51.8	1.1	2.7 0.6	3.3
30.2 12.0	2.2	10.0 53.3	3.3	12.0 49.5	1.5	5.9 57.2	3.1
33.0 9.3	2.3	19.6 43.5	3.1	14.4 47.0	1.4	9.2 53.6	2.8
35.8 6.4	2.2	25.6 37.6	3.2	17.0 44.4	1.4	12.5 50.2	2.7
42.6 59.5	2.1		31.8	23.2 38.2	1.4	21.2 41.8	3.0
47.0 55.4	2.4		11 | 69	26.9 34.5	1.4	26.4 36.9	3.3
	51.2		31.63		30.8		31.7
	15 | 20				15 | 99		15 | 80
	51.13				30.66		31.53

7h 57m 51s.13	8h 01m 31s.63	8h 11m 30s.66	8h 16m 31s.53
30	75	80	.74
7 57 52.~~34~~	8 01 32.~~80~~	8 11 31.~~84~~	8 16 32.~~79~~
~~1.21~~	~~1.17~~	~~1.18~~	~~1.26~~
1.17	1.12	1.14	1.21
.04	.04	.07	.00
1.21	1.08	1.21	1.21

ass n = .1

1.21
.21
.21
.08
4 | 71
1.18
.44 b sec c
0s.74

Frod. 1327 is SLOW

0m 0s.74

at 8h 10m S.T.

Monday Mar 30, 1908

Mer Cir Tole Obs.

Rattle at $7^{h}\,41^{m}$.

A [26 Lazucis] +47°48'

ψ Gemini +28°3'

+47°48'		+28°3'	
47^{m} 24.0 33.5	7.5	57^{m} 23.3 16.8	0.1
27.7 30.3	8.0	26.6 14.0	0.6
31.1 26.4	7.5	29.1 11.3	0.4
35.0 23.0	8.0	31.9 8.5	0.4
38.7 19.0	7.7	34.7 5.4	0.1
48.2 10.2	8.4	41.7 58.5	0.2
53.7 4.6	8.3	46.0 54.6	0.6
	59.1		50.2
	15)145		15)26
	58.97		50.17

$7^{h}\,47^{m}\,58^{s}.97$	$7^{h}\,57^{m}\,50^{s}.17$
7 47 61.14	7 57 52.27
2.17	2.10
.02	.04
2.15	2.14

azm -.1

$0^{m}\,2^{s}.15$
.44 b sec δ
1.71

~~FAST~~ SLOW

Frod. 1327 is SLOW

$0^{m}\,1^{s}.71$

at $7^{h}\,52^{m}$ S.T.

Wed April 1, 1908

Mer Cir — Wh Obs.

Results at $10^h 43^m$

A [46 Leo Min.] +34°43

β Urs. maj +56°53'

χ Leonis +7°50'

ψ Urs. maj +45°0'

+34°43'	+56°53'	+7°50'	+45°0'
47^m 39.4 36.3 5.7	55^m 33.2 59.2 2.4	59^m 50.4 37.9 8.3	3^m 54.7 0.9 5.6
42.6 33.7 6.3	37.7 54.9 2.6	53.2 35.4 8.6	58.2 57.7 5.9
45.5 30.5 6.0	42.7 50.3 3.0	55.6 33.0 8.6	1.7 54.2 5.9
48.7 27.7 6.4	46.9 45.7 2.6	57.7 30.6 8.3	5.4 50.6 6.0
51.4 24.4 5.8	51.4 41.4 2.8	0.4 27.9 8.3	8.5 47.3 5.8
59.0 16.9 5.9	2.5 30.0 2.5	6.6 21.7 8.3	17.4 38.2 5.6
3.4 12.7 6.1	9.3 23.0 2.3	10.6 17.9 8.5	22.3 33.2 5.5
8.3	16.4	14.1	~~27.8~~ 27.8
15 | 105	15 | 46	15 | 30	15 | 131
8.03	16.31	14.20	27.87

$10^h 48^m 8^s.03$	$10^h 56^m 16^s.31$	$11^h 0^m 14^s.20$	$11^h 04^m 27.87$
10 48 11.13	10 56 19.36	11 0 17.14	11 04 30.93
3.10	3.05	2.94	3.06
.02	.05	.06	.01
3.12	3.00	3.00	3.05

+.62 3.05
-.79 2.94
1.41 .11

u = .08

3.12
.00
.00
.05
4 | 17
3.04
.44
2.60

Frod. 1327 is ~~FAST~~ SLOW

$0^m 2^s.60$

at $11^h 0^m$ S.T.

Times Apr 7, 1908

Mer Cir

Wells

Rattle at 11h 23m

υ Leonis −0° 19'

3 Drac. +67° 15

ψ Urs. Maj +48° 17'

−0° 19'		+67° 15'		+48° 17'	
31m 48.235.1	3.3	36m 18.720.2	8.9	40m 34.444.5	8.9
50.732.7	3.4	25.914.3	0.2	38.041.0	9.0
53.030.0	3.0	32.178	9.9	41.737.3	9.0
55.627.6	3.2	38.71.3	0.0	45.433.6	9.0
58.225.1	3.3	44.855.0	9.8	49.330.0	9.3
4.318.9	3.2	0.638.8	9.4	58.320.6	8.9
7.815.2	3.0	10.429.5	99	3.815.0	8.8
	11.6		20.0		9.7
	15⌊90		15⌊131		15⌊76
	11.60		19.87		9.51

$11^h\ 32^m\ 11^s.60$	$11^h\ 37^m\ 19^s.87$	$11^h\ 41^m\ 9^s.51$
11 32 15.17	11 37 23.55	11 41 13.19
3.57	3.68	3.68
.04	.06	.01
3.61	3.62	3.67

1.57
.91
2.48

3.68
3.57
.11

m = .04

3.61
.62
.67
3⌊190
3.64
.44 break
3.20

Frod. 1327 is SLOW

$0^m\ 3^s.20$

at 11h 35m S.T.

Fri Apr 3, 1908

Saxer Cu — Wale Clls

Rattle before $8^{h}21^{m}$

η Cancri +20°45′

A [o Hydrae] +3°39′

A [γ Cancri] +21°47′

+20°45′	+3°39′	+21°47′
$8^{h}26^{m}$ 54.7 44.4 9.1	33^{m} 29.7 16.8 6.5	37^{m} 28.8 19.4 8.2
57.2 42.1 9.3	32.3 14.4 6.7	31.5 16.9 8.4
59.9 39.3 9.2	34.7 11.5 6.2	34.1 14.0 8.1
2.6 36.8 9.4	37.0 9.2 6.2	36.7 11.4 8.1
5.2 34.2 9.4	39.6 6.8 6.4	39.6 8.7 8.3
11.8 27.5 9.3	45.7 0.7 6.4	46.1 2.0 8.1
15.7 23.6 9.3	49.4 56.9 6.3	50.2 58.0 8.2
19.7	53.3	54.0
15 | 97	15 | 30	15 | 14
19,65	53.20	54.09

$8^{h}27^{m}19^{s}.65$	× $8^{h}33^{m}53^{s}.20$	$18^{h}27^{m}54^{s}.09$
8 27 23.60	8 33 57.26	18 27 58.09
3.95	4.06	4.00
.02	.03	.02
3.97	4.09	4.02

ass n = $\frac{1}{25}$

4.09
3.97
4.02
3 | .08
4.03
.44 bscale.
3.59

Frod. 1327 is SLOW

$0^{m}\ 3^{s}.59$

at $8^{h}33^{m}$ S. T.

Sat Apr 4, 1908

Clear Ci Wells Obs.

γ Urs. Maj + 54°12' (missed 1st 4 wires)
Rattled at 11h 52m.
A [π Virginis] + 7°7' (missed 1st 4 wires)
o Virgin +9°15' ~~+0~~

+54°12'			+7°7'			+9°15'	
48m	44.5	20.2	55m	58.7	19.7	0m 4.0 51.6	5.6
	50.8	24.4		2.6	22.3	6.7 49.0	5.7
	57.0	28.9		6.0	24.7	9.0 46.7	5.7
33.4	3.6	32.9	52.3	9.7	27.3	11.7 44.1	5.8
	9.5	37.0		13.4	29.6	14.0 41.6	5.6
5	285.4	5 | 143.4	5	30.4	4 | 123.6	20.4 35.4	5.8
	57.08	28.68		6.08	24.72	24.2 31.7	5.9
		31.56			18.60		27.8
		57.12			6.12	15 | 129	
							27.86

11h 48m 57s.10	11h 56m 6.10	12h 0m 27s.86
11 48 61.44	11 56 10.43	12 0 32.31
4.34	4.33	4.45
.02	.03	.03
4.32	4.36	4.48

assm = 1/25

4.32
.36
.48
3 | 11.6
4.39
.44 6 secs.
3.95

Frod. 1327 is SLOW

0m 3s.95

at 11h 56m S.T.

Mon Apr 6, 1908

Mer Cir — Wells

Rattle at $11^h 12^m$.

Gr. 1771 +64°50'

A τ Leonis last ~~8~~ 7 wires. +3°21' ← Chron. stopped

Rattles at $11^h 25^m$.

υ Leonis −0°19'

+64°50'

~~15~~16m 25.0 15.1 0.1
31.1 9.3 0.4
36.6 4.0 0.6
42.1 58.3 0.4
48.3 52.2 0.5
3.3 37.6 0.9
11.7 29.4 1.1
20.3
15 | 4.3
20.29

~~+3°21'~~
~~23m — — 21.0~~
~~— — 24.2~~
~~— ? 26.3~~
~~— ? 28.7~~
~~31.0~~
~~5 | 131.2~~
~~26.24~~
~~18.58~~
~~7.66~~

−0°19'

31m 46.0 32.7 8.7
48.4 30.4 8.8
51.0 28.0 9.0
53.4 25.3 8.7
55.7 22.9 8.6
2.0 16.8 8.8
5.7 13.0 8.7
9.5
15 | 5.8
9.39

$11^h 1\cancel{6}7^m 20^s.29$
11 17 25.94
54.65
.07
5.72

~~$11^h 23^m 7^s.66$~~
~~11 23 13.23~~
~~5.57~~
~~.05~~
~~5.52~~

$11^h 32^m 9^s.39$
11 32 15.16
5.77
.05
5.72

~~ass~~ n=0

1.21 5.65
.91 5.77
2.12 12

5.72
.44 b sec α
5.28

n = .06

Frod. 1327 is SLOW

$0^m 5^s.28$

at $11^h 25^m$ S. T.

Tues Apr. 7, 1908

Mer Cir. W. C. Obs.

Rattle at 8h 37m

δ Cancri +18° 30′
i Cancri +29° 6′

+18° 30′

38m 56.8 46.2 3.0
59.3 43.8 3.1
2.0 41.0 3.0
4.7 38.4 3.1
7.2 35.8 3.0
13.8 29.3 3.1
17.6 25.5 3.1
21.6
15 | 80
21.53

+29° 6′

40m 35.2 28.8 4.0
38.0 26.1 4.1
40.9 23.2 4.1
43.7 20.4 4.1
46.5 17.6 4.1
53.5 10.6 4.1
57.8 6.2 4.0
2.0
15 | 5
2.03

8h 39m 21.53
8 39 27.68
6.15
.02
6.17

8h 41m 2s.03
8 41 8.22
6.19
.01
6.20

ass m = .~~06~~
1/25

6.19
.44 B sec ce
5.75

Frod. 1327 is SLOW

0m 5s.75

at 8h 40m S. T.

~~See~~ Times Apr. 9, 1908

Mer. Cir. W. L. Obs.

α Urs. Maj +62°15′
χ Leonis +7°50′ (last 6 wires)
Rattheart 7 11h 03m. ψ Urs. Maj 45°0′
β Crateris −22°19′ E. B. Allen Obs.
ϑ Leonis +15°16′ H. A. Richardson Obs.
ν Urs. Maj. +33°36′ E. B. Smith Obs.

+62°15′			+7°50′	+45°0′	
57m 8.0 48.0	6.0	+01m	24.0	63m 50.3 57.2	7.5
13.3 43.2	6.5		26.4	54.0 54.0	8.0
18.3 37.6	5.9		28.7	57.4 49.9	7.3
24.0 32.0	6.0		31.2	1.0 46.4	7.4
28.7 27.1	5.8		33.7	4.6 42.8	7.4
42.0 15.4	7.4		5 | 144.0	+3.1 34.3	7.4
49.7 6.3	6.0		28.80	18.4 29.0	7.4
	58.2		18.63		23.9
	15 | 1.8		10.17		15 | 1.13
	58.12				23.75

10h 58m 58.12	11h 01m 10s.17	11h 04m 23s.75
10 58 5.25	11 01 17.10	11 04 30.86
7.13	6.93	7.11
.10	.08	.01
7.03	7.01	7.10

.99 7.13
.77 6.93
1.76 20

ass
m = $\frac{1}{10}$

7.02
7.10
2)12
7.06
.44
6.62

Frod. 1327 is FAST

0m 6s.62

at 11h 0m S.T.

Sat Apr. 11, 1908

Mer Cir Wells

~~Rattle at 11h 38m~~
χ Urs Maj. +48°17′ (missed 1st 3 wires)
β Leonis +15°5′
β Virginis +2°17′
γ Urs Maj +54°12′

+48°17′		+15°5′		+2°17′		+54°12′	
40m 41.0 29.3	—	43m 50.7 39.2	9.9	45m 23.6 10.3	3.9	48m 13.2 33.4	6.6
44.8 25.5	0.3	53.3 36.7	0.0	26.1 8.1	4.2	17.7 29.4	7.1
54.0 16.2	0.3	55.9 34.1	0.0	28.6 5.6	4.2	21.7 25.0	6.7
59.7 10.7	0.7	58.5 31.6	0.1	31.0 3.0	4.0	26.0 20.8	6.8
	0.4	1.0 29.1	0.1	33.4 0.7	4.1	30.3 16.6	6.9
	5.2	7.3 22.7	0.0	39.9 54.7	4.6	40.7 6.0	6.7
	9⌊14	11.2 18.9	0.1	43.7 50.8	4.5	47.1 59.8	6.9
	5.16		15.0		47.1		53.6
			15⌊12		15⌊16		15⌊63
			15.01		47.11		53.42

$11^h 41^m 5^s.16$	$11^h 44^m 15^s.01$	$11^h 45^m 47^s.11$	$11^h 48^m 53^s.42$
11 41 13.14	11 44 22.98	11 45 55.09	11 48 1.39
7.98	7.97	7.98	7.97

m = 0

7.98
·44 brecle
7.54

Frod. 1327 is FAST

$0^m 7^s.54$

at $11^h 45^m$ S.T.

Mon Apr 13, 1908

Mer Cir

Wells

Rattle at 11^h 52^m

π Virginis +7°7' (last 9 wires)

o Virginis +9°15'

+7°7'
15.3
57.8 17.8
1.6 20.2
5.3 22.7
9.0 25.0
4 | 137 5 | 101.0
3.42 20.20
1.84 18.60
1.58 1.60

0.2608
.0033
.2641

+9°15'
59^s 59.647.2 6.8
2.344.7 7.0
4.742.0 6.7
7.439.7 7.1
9.737.2 6.9
16.030.9 6.9
19.527.3 6.8
23.4
15 | 66
23.44

11^h 56^m 1^s.59
56 10.42
8.83

12^h 0^m 23^s.44
12 0 32.31
8.87

asom = 0

8.85
.44
8.41

Frod. 1327 is SLOW

0^m 8^s.41

at 12^h 0^m S.T.

Tues Apr 14, 1908

Amer Cir   Wo. le. Ulls.

Rattle at 9h 06m.

ν Hydrae +2°42'

83 Cancri + 18°6'

40 Lyncis +34°47' (missed 1st wire)

+2°42'		+18°6'		+34°47'	
				14m — 46.7	
09m 2.048.9	0.9	13m 17.16.7	3.8	52.743.7	6.4
4.646.6	1.2	19.44.1	3.5	55.440.4	5.8
7.044.1	1.1	22.41.3	3.7	58.437.5	5.9
9.641.6	1.2	24.858.7	3.5	1.434.7	6.1
12.039.2	1.2	27.555.9	3.4	9.027.1	6.1
18.233.0	1.2	34.249.7	3.9	13.622.8	6.4
21.729.3	1.0	38.045.7	3.7		18.1
	25.7		42.0		
	15⟌8.5		15⟌12.5		13⟌0.8
	25.57		41.83		18.06

9h 09m 25s.57	9h 13m 41s.83	9h 15m 18s.06
9 09 34.96	9 13 51.16	9 15 27.51
9.39	9.33 ~~.27~~	9.45

assum = 0

9.39
.44 b sec u
8.95

Frod. 1327 is SLOW

0m 8s.95

at 9h 10m S.T.

Thurs Apr 16, 1908

Trans Cir W. L. Obs.

Rattle at 12h 04m.

δ Ursae Maj +57°33′ (missed 1st $\overset{2}{\text{B}}$ wires)

Rattle at 12h 23m.

δ Corvi −16°0′

β Can Ven +41°51′

+57°33′		−16°0′		+41°51′	
16m = 27.4	–	24m 32.221.0	3.2	28m 42.145.0	7.1
= 23.0	–	34.7184	3.1	45.441.5	6.9
9.718.4	8.1	37.2159	3.1	48.738.4	7.1
14.214.0	8.2	40.013.3	3.3	51.934.9	6.8
18.59.4	7.9	42.510.7	3.2	55.231.5	6.7
30.357.7	8.0	48.94.3	3.2	3.323.6	6.9
36.751.0	7.7	52.70.3	3.0	8.218.2	6.4
	44.0		56.5		13.7
	11⌊109		15⌊86		15⌊66
	43.98		56.57		13.44

.66
1.20
1.86

10.51
10.60
.09

n = 1/20

12h 10m 43.98s	12h 24m 56.57s	12h 29m 13.44s
12 10 54.49	12 25 7.17	12 29 23.89
10.51	10.60	10.45
.03	.06	.00
10.54	10.54	10.45

10.54
.54
.45
3⌊03
10.51
.44
10.07

Frod. 1327 is ~~FAST~~ SLOW

0m 10.07s

at 12h 20m S.T.

Fri Apr. 17, 1908

Mer Cir

Wells

8 Can. Ven. +41°51'

Rattle at $12^h 33^m$

76 Urs Maj +63°13'

E 35 Virg +4°4'

E 31 Comae +28°2'

+41°51'		+63°13		+4°4'		+28°2'	
28^m 41.044.2	5.2	36^m 32.016.1	8.1	42^m 37.023.4	0.4	46^m 36.329.7	6.0
44.540.9	5.4	37.110.7	7.8	39.221.1	0.3	39.327.0	6.3
47.737.6	5.3	42.95.7	8.6	42.018.7	0.7	42.024.1	6.1
51.334.0	5.3	48.300.0	8.3	44.216.5	0.7	44.921.1	6.0
54.430.7	5.1	53.654.0	7.6	47.014.0	1.0	47.818.4	6.2
2.922.7	5.6	7.640.8	8.4	52.97.7	0.6	54.711.4	6.1
7.817.8	5.6	15.932.3	8.2	56.74.0	0.7	59.07.2	6.2
	13.0		24.2		0.4		3.0
15	105	15	12	15	48	15	9
	12.70		24.08		0.32		3.06

84
~~1.07~~
1.07
1.91

11.03
11.25
.220(.115
~~191~~
290
191
990

$12^h 29^m 12^s.70$	$12^h 37^m 24^s.08$	$12^h 43^m 0^s.32$	$12^h 47^m 3^s.06$
12 29 23.89	12 37 35.33	12 43 11.35	12 47 14.24
11.19	11.25	11.03	11.18
.00	.12	.10	.04
11.19	11.13	11.13	11.22

u = .12

11.19
.13
.13
.22
4 | 67
11.17
.44 back.
10.73

Frod. 1327 is SLOW

$0^m 10^s.73$

at $12^h 40^m$ S.T.

Tuesday Apr. 21, 1908

Mer Cir W. L. Obs

Rattle at $9^h 20^m$

η Urs. Maj +63°28'

υ Urs. Maj +52°6' (last 5 wires)

10 Leon min. +36°48' (last 8 wires)

A [O Leonis] +10°19'

ε Leonis +24°12' (H. Blackett obs)

+63°28'

23^m 12.357.2 9.5
18.151.9 0.0
23.445.8 9.2
29.040.6 9.6
34.335.0 9.3
48.221.4 9.6
56.513.3 9.8
5.0
15)12 0
4.80

+52°06'

– -27^m 52.3
– – 56.3
– – 0.1
– – 4.4
8.2
5)1.3
0.26
30.05
30.21

+36°48'

28^m – – 40.0
– 23.2 43.3
– 27.7 46.2
– 32.4 49.1
52.2
5)23 08
28^s 46.16
23.05
23.11

+10°19'

35^m 38.325.9 4.2
40.923.4 4.3
43.221.0 4.2
45.618.5 4.1
48.415.9 4.3
54.49.7 4.1
58.45.9 4.3
2.1
15)16
2.11

$9^h 24^m 4^s.80$	$9^h 26^m 30^s.21$	$9^h 28^m 23^s.11$	$9^h 36^m 2^s.11$
9 24 17.70	9 26 42.93	9 28 35.76	9 36 14.78
12.90	12.72	12.65	12.67
.13	.04	.02	.09
12.77	12.68	12.67	12.76

1.09 12.90
.74 12.67
1.83
1.83
.23 (12
183
47

n(tan φ - tan δ)

n = .12

12.77
.68
.67
.76
4)288
12.72
.44 B sec δ
12.28

Frod. 1327 is ~~FAST~~ SLOW

$0^m 12^s.28$

at $9^h 30^m$ S. T.

Wed. April 22, 1908

Collimation

Wells

S. Coll. on N. Coll.

43.6
41.6
44.1
41.0
43.2
5 | 13.5
42.87

Set at 42.7

micrometer found
at 33.61

~~N. C~~
Tel. on S. Coll.

40 .258
.261
.271
.273
.262
5 | 325 (40.265

Tel. on N. Coll.

27.010
26.999
27.034
26.983
27.024
5) 040 (27.008
2 | 67.273
33.6365
.012
33.648

Micrometer set at
33.648

20 + d Apr 22, 1908

Level 20 & obs.

Telescope South.

Zero	~~E~~ W-End	E-End		
W	-33.0	-77.0	- 110.0	
E	+90.0	+46.5	+ 136.5	+ 26.5
W	-32.0	-76.0	- 108.0	
E	+91.0	+47.0	+ 138.0	+ 20.0

Telescope North

Zero	W End	E End		
W	-31.2	-74.8	- 106.0	
E	+91.8	+48.2	+130.0	+24.0
W	-31.0	-74.0	-105.0	
E	+90.8	+47.7	138.5	+33.5

16 (104.0 (6.5
~~9~~ 96
80
80

6.5
.06
.390 = b
1.35 = sec ce
1215
405
5265

Y bsecce = $0^s.53$ West end high.

Wed Apr 22 1908
Mer Cir   Wells.

20 Comae +21°24′ (missed 1st 3 wires)
8 Can. Ven. +41°51′
Rattle at $12^h 31^m$.

+21°24′

≡

24^m 37.0 11.1 8.1
39.3 8.3 7.6
46.0 1.9 7.9
50.0 57.9 7.9
53.9
9) 84
53.93

+41°51′

28^m 39.2 42.0 1.2
42.3 38.7 1.0
45.7 35.6 1.3
49.1 32.2 1.3
52.4 29.0 1.4
0.7 20.6 1.3
5.7 15.6 1.3
10.7
15) 9 5
10.63

$12^h 24^m 53^s.93$
12 25 7.04
13.11
.05
13.16

$12^h 2\overset{9}{8}^m 10^s.63$
12 29 23.87
13.24
.00
13.24

aso m = .1

13.20
.53
12.67

Frod. 1327 is SLOW
$0^m 12^s.67$
at $12^h 30^m$ S.T.

Fri Apr 24, 1908

Amer Cir — Tele Obs.

Rattle at $10^h 0^m$

α Leonis + 12°25' (11 wires).

λ Urs. Maj + 43°22'

μ Urs Maj + 41°58'

+12°25'		+43°22'		+41°58'	
02^m =	=	10^m 47.451.8	9.2	16^m 6.39.1	5.4
55.733.7	9.4	50.748.2	8.9	9.76.3	6.0
58.031.3	9.3.	54.245.0	9.2	12.92.3	5.2
0.728.7	9.4	57.742.0	9.7	16.359.0	5.3
7.322.4	9.7	1.138.4	9.5	19.656.0	5.6
11.018.7	9.7	9.429.8	9.2	28.047.8	5.8
	14.9	15.225.0	0.2	33.043.0	6.0
	11⟌84		20.2		38.0
	14.76		15⟌111		15⟌123
			19.74		37.82

$10^h 3^m 14^s.76$	$10^h 11^m 19^s.74$	$10^h 16^m 37^s.82$
10 3 28.80	10 11 33.70	10 16 51.70
14.04	13.96	13.88 = α−T
.07	.00	.00
14.11	13.96	13.88

ass u=.1

14.11
13.96
13.88
3⟌295
13.98
.53 b sec φ
13.45

Frod. 1327 is SLOW

$0^m 13^s.45$

at $10^h 10^m$ S.T.

Mon Apr 27, 1908

Mer Cir Wh Obs.

Rattle at $9^h 52^m$
π Leonis +8°29'
α Leonis +12°25'

+8° 29'

54^m 42.3 30.0 2.3
45.0 27.4 2.4
47.4 25.0 2.4
50.0 22.3 2.3
52.3 20.0 2.3
59.0 13.4 2.4
2.4 9.7 2.1
5.9
15)92.1
6.14

$9^h 55^m 6^s.14$
9 55 21.47
15.33
.08
15.41

+12°25'

02^m 49.4 37.5 6.9
51.7 35.0 6.7
54.3 32.4 6.7
57.0 30.0 7.0
59.5 27.2 6.7
5.7 21.0 6.7
9.5 17.0 6.5
13.4
15)46
13.31

~~9~~ $10^h\ 03^m\ 13^s.31$
10 03 28.76
15.45
.07
15.52

ass u=1

15.46
.53 b sec u
$14^s.93$

Frod. 1327 is SLOW

$0^m\ 14^s 93$

at $10^h 0^m$ S.T.

Wed. Apr. 29, 1908

Anex Ein - Tolelles

Rattle at 9h 54m.
π Leonis +8°29'. (last 10 wires)
η Leonis +17°13' (missed 1st wire)
Rattle again at 10h 13m
30 H. Urs. Maj +66° 2'
31 Leon. min +37° 11'

+8°29'
54m 57.8 19.0
1.7 21.3
5.3 24.1
9.0 26.7
12.7 29.1
5) 26.5 120.2
5.30 24.04
18.66
5.38

+17°13'
1m — 26.5
41.2 25.5 6.7
44.0 22.7 6.7
46.6 20.0 6.6
49.0 17.3 6.3
55.3 10.9 6.2
59.6 7.0 6.6
3.2
13) 33
3.25

+66° 2'
16m 17.7 12.9 0.6
23.7 7.1 0.8
30.3 2.0 2.5
36.2 55.0 1.2
42.0 48.9 0.9
57.1 34.4 1.5
~~7.2~~0 24.8 1.8
~~16.0~~ 16.0
15) 10.3
15.69

+37°11'
21m 49.0 47.9 6.9
52.6 44.5 7.1
55.3 41.5 6.8
58.2 38.4 6.6
1.4 35.3 6.7
9.3 27.9 7.2
13.9 23.3 7.2
18.7
15) 7.2
18.48

133 15.75
.69 16.14
202) 39(.2

9h 56m 5.34s
9 55 21.44
16.10
.15
15.95

10h 02m 3.25s
10 02 19.42
16.17
.12
16.05

10h 17m 15.69s
10 17 31.44
15.75
.27
16.02

10h 22m 18.48
10 22 34.52
16.04
.03
16.01

77 16.10
.61 16.17
138 32.27
.69 16.14

n = .2

15.95
16.05
16.02
.01
16.01
.53 b sec a
15.48

Frod. 1327 is ~~FAST~~ SLOW

0m 15.48s

at 10h 10m S. T.

Friday ~~At~~ May 1, 1908

H. Blackell, Obs

Rattle d1014

~~33 Sextantis +1°15'~~
β Ursae Maj. +56°52'
δ Leonis +21°1'
ν Ursae Maj +33°36'

+56°52'			
10 55	18.9	44.5	3.4
	23.2	40.6	3.8
	27.9	35.9	3.8
	32.5	31.1	3.6
	37.1	26.4	3.5
	48.4	15.3	3.7
	55.0	8.4	3.4
	~~1.6~~	1.6	1.6
	~~8.4~~		26.8
			1.79

+21°1'			
11 8	31.5	21.7	53.2
	34.1	19.1	53.2
	36.6	16.4	53.0
	39.3	13.7	53.0
	42.0	11.0	53.0
	48.7	4.5	53.2
	52.9	0.4	53.3
		56.5	56.5
			848.4
			56.56

+33° 36			
11 12			
	45.9	42.5	28.4
	49.1	39.5	28.6
	52.2	36.6	28.8
	55.0	33.6	28.6
	58.1	30.7	28.8
	5.4	23.0	28.4
	(10.0)	18.6	28.6
		14.3	14.3
			45
			14.30

10 56 1.79
10 56 18.78
16.99
.12
~~16.87~~
17.11

ass n = ·2

11 8 56.56
11 9 13.69
17.13
− .10
17.03

11 13 14.30
11 13 31.49
17.19
− .05
17.14

17.11
.03
.14
17.09
.53 = b sec φ
16.56

Frod 1327 is SLOW
$0^m\ 16^s.56$
at $11^h\ 6^m$ S.T

Saturday May 2, 1908
Rattle at 10 52

α Ursae Maj +62° 15′
ψ Ursae Maj +45° 0′ star hardly visible
only first [illegible] ~~taken~~
δ Leonis +21° 2′ star too faint; obs not worth anything

Tuesday May 5. 08

Collimation   HB Obs

S Coll on N Coll.   20.2
22.7
19.2
21.5
19.7
17.5
20.0
19.5
16.0 3
20.0

set at 20.0

telescope on S coll   micr found at 33.648

~~40.331~~
~~·[illegible]7~~
~~·[illegible]7~~
~~·[illegible]0~~
~~·380~~

40.337	.438
·318	.391
·342	.396
·388	.418
185	1643
40.346	.411

40.378

telescope on N coll

26 971	26 757
27 000	780
26 993	·830
·994	·834
26·990	3201
26.800	·800

26.895
40.378
33.636   127.3
·012
33.648

micr set at 33.648

Tuesday May 5 1908

HB Obs

Level Telescope South

Zero	W	E
E	910	48.0
W	545	975
E	900	47 0
W	295	720

Telescope N

Zero	W	E
W	−2.0	60.0
E	(126.0)	650
W	(−2.0)	58.0
E		68.5

Tuesday May 5

H.B. Obs

ψ Ursae Maj +45°0 (signals after transit)
δ Leonis +21°1' before
ν Ursae Maj +33°36' (3$^{\text{D}}$ wire missed)

signals given at $11^h 18^m$

β Leonis +15°5'
β Virginis +2°17' (last 10 wires only)

rattle at 12.2

4 H Draco +78°7.5

+45°			+21°1'			+15°5'		
$11^h 3^m$			$11^h 8^m$			11 43		
38.5	44.5	23.0	29.8	20.1	49.9	39.6	28.5	8.1
42.0	41.7	23.7	32.3	17.4	49.7	42.3	26.0	8.3
45.4	38.0	23.4	35.0	14.6	49.6	45.0	23.3	8.3
49.1	34.2	23.3	37.6	12.2	49.8	47.6	20.7	8.3
52.7	30.6	23.3	40.2	9.5	49.7	50.1	18.2	8.3
1.3	22.1	23.4	46.9	2.8	49.7	56.6	11.7	8.3
6.8	16.6	23.4	50.8	58.9	49.7	0.2	8.1	8.3
	11.9	11.9	~~55.1~~	55.1	55.1		4.1	4.1
		175.4			823.2			62.0
		11.69			54.88			4.13

11	4	11.69	11	8	54.88	11	44	4.13
α 11	4	30.47	11	9	13.65	11	44	22.83
		18.78			18.77			18.70
		.01			.08			.10
		18.77			18.85			18.80

n = .15

18.77
.85
.80
18.81
brec φ .53
18.28

Frod 1327 is SLOW
$18^s.28$
at 11^h 19^m S.T.

May 5, 1908

ν Ursae Maj sec δ = 1.201

11	12	44.4	28.23		12.63
		47.5	25.21		12.71
		–	–		–
		53.3	19.29		12.59
		56.6	16.34		12.94
		4.0			
		8.4			
		12.8	64.1	=	12.82
		17.1			
		21.8			
		29.1			
		32.0			
		35.2	175.5	=	12.94
		38.3	35.10		
		40.9	-22.16		

weighted mean 12.83

11 13 12.83
11 13 31.43
18.60 (not used)

β Virginis

11	45	28.9		
		32.6		
		36.4	181.6	36.32
		40.0		
		43.7		
		50.0		
		52.4	248	36.48
		54.9	54.96	
		57.6	-18.48	
		59.9		
				36.40

11 45 36.40
11 45 54.96
18.56 (not used)

4 H Draco sec δ = 4.860

12	5	45.7	+	1	54.26	12	7.	39.96
		59.2	+	1	42.00			41.20
	6	9.0	+	1	30.16			39.16
		21.1	+	1	18.06			39.16
		32.5	+	1	6.13			38.63
	7	4.1	+		36.30			40.40
		22.0	+		18.18			40.18
		40.0						40.00
		58.1	–		17.79			40.31
		14.8	–		35.82			38.98
		46.6	–	1	5.70			40.90
		57.9	–	1	17.75			40.15
	8	9.3	–	1	29.81			39.49
		22.0	–	1	41.91			40.09
		34.4	–	1	53.34			41.06
								599.67
								39.98

12 7 39.98
12 7 57.97
17.99

17.99
18.70
0.71

tan δ = 4.755
tan δ = .270
4.485

$n = \frac{0.71}{4.485} = .15$

Saturday May 9th 1908

H-Be Obs

Rattle at 12 55

ϑ Virginis −5° 3'
γ Hydrae −22° 41'
α Virginis −10° 41'

Level

Zero	E	W
E	+255	62.5
W	−2.0	+250
E	37	79

−5° 3'			−22° 41			−10° 41'		
13 4 ~~28.2~~			13 13			13 19 ~~10° 41'~~		
28.2	15.1	103.3	10.3	61.0	71.3	37.4	25.0	2.4
30.7	12.5	103.2	12.8	58.5	71.3	40.0	22.6	2.6
33.1	10.2	103.3	15.5	55.9	71.4	42.3	20.0	2.3
35.7	7.8	103.5	18.3	53.1	71.4	45.0	17.7	2.7
38.1	5.4	103.5	21.0	50.4	71.4	47.3	15.0	2.3
44.0	59.1	103.1	27.6	43.5	71.1	53.8	8.7	2.5
47.9	55.3	103.2	31.6	39.3	70.9	57.5	5.1	2.6
~~51.7~~	51.7	51.7	~~35~~	35.6	35.6		1.1	1.1
		7748			5344			18.5
		51.65			35.63			1.23

ass v = .15

13	4	51.65	13	13	35.63	13	20	1.23
13	5	12.17	13	13	56.25	13	20	21.79
		20.52			20.62			20.56
		.15			.20			.16
		20.67			20.82			20.72

20.67
.82
.72

20.74
.53

20.21

Frod 1327 is SLOW
$20^s.21$
at $13^h 13^m$ S.T.

Sunday May 10th 1908

H.Bl Obs

~~ζ Bootis~~ +14° 7'
~~u Virginis~~

Balle at $14^h 31^m$

P XIV 221 +14° 49'
ψ Bootis +27° 18' (? 9th signal a little previous)

~~chrono stopped a few minutes~~

~~β Librae~~

P XIV 221

14 57′	8.9	57.6	66.5
	11.2	55.1	66.3
	14.0	52.4	66.4
	16.5	49.8	66.3
	18.5	47.4	65.9
	25.6	41.0	66.6
	29.4	37.1	66.5
		32.7	32.7
			497.2
			33.15

14 52′ 33.15
14 51 53.96
20.81
.10
20.91
.75
20.83
.53
20.30

ass u = .15

ψ Bootis

14 59			
~~15 0~~	44.5	37.4	21.9
	47.5	34.5	22.0
	50.2	31.7	21.9
	52.9	29.1	22.0
	55.4	26.2	21.6
	2.6	19.1	21.7
	6.8	14.9	21.7
		11.1	11.1
			163.9
			10.93

15 0 10.93
15 0 31.62
20.69
.06
20.75

Frod 1327 is SLOW
$20^s.30$
at $14^h 55^m$

Monday May 11th 1908

υ Leonis −0° 19′

1st wire = 11^{h} ~~28~~ 29^{m}

χ Ursae May +48° 17′.

β Leonis +15° 4′ (no signal) 1st 2 wires missed

H Blackett, Obs.

υ Leonis

11 31

30.4	17.3	47.7
33.0	14.8	47.8
35.3	12.3	47.6
37.9	9.8	47.7
40.4	7.3	47.7
46.5	1.3	47.8
50.1	57.5	107.6
	53.9	53.9

5.3
·353

11 31 53.85~~0~~
11 32 14.93

21.08
·14
20.94
.82
20.88
·53 = b sec φ
20.35

ass. n = .15

χ Ursae May

11 40

16.6	27.1	43.7
20.5	23.5	44.0
24.1	19.7	43.8
27.9	16.1	44.0
31.4	12.3	43.7
40.8	3.1	43.9
46.5	57.5	104.0
	51.9	51.9

7790
5193

11 40 51.93
11 41 12.72

20.79
03
20.82

β Leonis

11 43

15.2	27.88	43 08	19.21	34.41
18.1	24.11	42 21	16.63	.73
20.5	20.45		14.09	.59
26.8	11.23		7.74	.54
30.2			3.87	.07
34.4				.40
38.2			3.79	.41
42.0	11.08		7.63	.37
47.9	20.61		14.00	33.90
51.0	24.04		16.57	34.43
53.5	27.77		19.14	.36
56.2			21.72	.48
58.5			24.16	34

34.34

11 43 34.34
11 44 22.77

apparently BD +15° 2381 mag 6.3 was observed instead of β Leonis. (thought faintness was due to clouds)

Frod 1327 is SLOW
$20^{s}.35$
at 11 36 S.T.

~~Tuesday May 12th 1908~~
Wednesday May 13 '08

Level error

Telescope North

Zero	W	E		
W	− 43.0	− 64.0	− 107.0	
E	73.5	52.0	+ 125.5	+ 18.5
W	− 42.0	− 64.0	− 106.0	
E	81.0 ~~80.5~~	59.0	+ 140.0	+ 34.0

Telescope South

E	66.5	45.0	+ 111.5	
W	− 16.5	− 38.5	− 55.0	+ 56.5
E	56.0	34.0	+ 90.0	
W	− 6.0	− 27.0	− 33.0	+ 57.0

16)166.0
10.4
.06

b = .624
sec φ = 1.35
b sec φ .84

.624
.187
.031
.842

Thursday May 14.08

1st mm = 15^h 6^m

β Librae −9°2'

μ Bootis +37°42'

β Coronae +29°25'

−9°2'			+37° 42'			+2[illegible]°25'		
15 11			15 20			15 23		
18.5	6.0	84.5	10.6	10.0	80.6	14.6	8.1	82.7
21.1	3.5	84.6	14.2	6.6	.8	17.3	5.5	.8
23.5	0.9	84.4	16.7	3.6	.3	20.2	2.6	.8
26.2	58.4	84.6	20.0	0.7	.7	23.1	59.9	3.0
28.8	56.0	84.8	23.0	57.3	.3	25.8	57.1	2.9
34.7	49.9	84.6	30.7	49.7	.4	32.9	49.8	.7
38.6	46.1	84.7	35.7	45.0	.7	37.2	45.6	.8
	42.2	42.2		40.4	40.4		41.5	41.5
		44			42			62
		.29			40.28			41.41
15	11	42.29	15	20	40.28	15	23	41.41
15	12	4.62	15	21	2.49	15	24	3.63
		22.33			22.21			22.22
		.16			.02			.05
		22.17			22.19			22.17
		.19						
		.17						
		22.18						
		.53						
		21.65						

ass n = .15

1.07

.107

.053

Frod 1327 is SLOW
21^s.65
at 15^h 20^m S.T.

Friday May 15.08

o Virginis +9° 15′ wire 3, 4.5 missed – use only last 10 wires

first mm = 11 57

ε Corvi -22° 6′

η Virginis -0° 9′

first mm = 12 23

o Virginis

12 0

1.8		
5.7		
9.6		9.50
13.4		
17.0	47.5	
23.3		
25.7		
28.2		9.52
30.8		
33.1	141.1	
	28.22	
	18.70	
	9.52	9.51

ε Corvi

12 4

36.5		27.0	3.5
39.0		24.3	3.3
41.6	~~16.5~~	21.6	3.2
44.4	~~11.5~~	19.1	3.5
46.9	~~9.7~~	16.5	3.4
53.6	~~8.7~~ ~~16.5~~	9.7	3.3
57.6	~~1.6~~ ~~11.5~~	5.7	3.3
1.6	~~9.7~~		1.6
~~5.7~~	~~8.1~~		25.1
			1.67

η Virg

12 14

26.5	13.4	99.9
29.1	11.2	100.3
31.7	8.4	100.1
34.1	6.1	100.2
36.3	3.7	100.0
42.6	57.5	100.1
46.5	53.8	100.3
50.0		50.0
~~53.8~~		750.9
		50.06

ass n = .15

12 0 9.51
32.12
22.61
-.11
22.50
.45
.54
22.50
.53 = b sec φ
21.97

12 5 1.67
24.32
22.65
-.20
22.45

12 14 50.06
12.74
22.68
-.14
22.54

Frod 1327 is SLOW
$21.^s97$
at ~~15~~ $12^h 5^m$

4.8
24

Sat May 16. 1908

β Virginis	+2°17′	$11^h 46^m$	
o Virginis	+9°15′	$12^h 1^m$	(last 10 wires only)
4 H Draconis	+78° 8′	12 8	
η Virginis	−0° 9′	12 15	

1st min = 11 43 disregard signals before 11 54

β Virginis

11 45

8.3	55.1	63.4
10.7	52.6	63.3
13.4	50.1	63.5
15.6	47.7	63.3
18.0	45.2	63.2
24.2	39.1	63.3
27.8	35.3	63.1
	31.6	31.6
		474.7
		31.65

o Virginis

12 0

1.4		
5.1		
8.8	44.1	8.82
12.6		
16.2		
22.6		
25.1	13.79	8.88
27.5		
30.2	27.58	
32.5	18.70	
		8.85

4 H Draconis

12 5

5	40.4	114.32	7r 34.72
	52.1	102.06	.16
6	4.1	90.20	.30
	16.3	78.09	.39
	28.1	66.18	.28
	58.6	36.32	.92
7	16.4	18.19	.59
	35.1		35.10
	52.3	17.80	34.50
8	10.0	35.84	.16
	40.7	65.74	.96
	52.7	77.80	.90
9	4.5	90.23	.27
	16.3	101.97	.33
	28.2	113.40	.80
			8.38
			34.56

η Virginis

12 14

26.0	12.7	98.7
28.5	10.6	99.1
30.8	7.8	98.6
33.5	5.4	98.9
36.0	3.0	99.0
42.0	57.0	99.0
45.7	53.2	98.9
	49.5	49.5
		6.7
		49.45

11 45 31.65
54.87
23.22
.01
23.21

12 0 8.85
32.12
23.27
.02
23.25

12 14 49.45
15 12.73
23.28
.00
23.28

12 7 34.56
7 57.20
22.64 $\delta = 78° 8'$ $\tan\delta = 4.76$
23.26 $\delta = 3° 48'$ $\tan\delta = .07$
.62 4.69

$n = \frac{.62}{4.69} = .13$

$n = .13$

23.21
.25
.28
23.25
.53 $b \sec\varphi$
22.72

Frod 1327 is SLOW
~~$23^s.25$~~ $22^s.72$
at 12 0 S.T.

Monday May 18th 1908

Level

Telescope North

Zero		W	E		
W	−	28.0	54.0	− 82.0	
E	+	68.0 ~~42.0~~	42.0 ~~68.0~~	+ 110.0	+ 28.0
W	−	29.0	56.0	− 85.0	
E	+	~~40.0~~ ~~40.0~~ 67.0	~~67.0~~ 40.0	+ 107.0	+ 22.0

Telescope South

Zero		W	E		
~~E~~	~~+~~	72.0 ~~72.0~~	42.5 ~~44.5~~	~~+ 114.5~~	
~~W~~	~~−~~	~~51.0~~	~~91.0~~	~~− 142.0~~	− 27.5
E	+	60.0	29.5	+ 89.5	
W	−	32.0	64.0	− 97.0	− 7.5
E	+	25.0	55.0	+ 80.0	+ 22.5
W	−	13.5	44.0	− 57.5	
				16	+ 65.0
					4.06

4.06
.06
2436
1.35
3240

b = .24

bsecφ = .32

Monday May 18th 1908

H.Bl Obs

o Virginis	+9°15′
ε Corvi	−22°7′
η Virginis	−0°9′

1st min = 11 56

o Virginis			ε Corvi			η Virginis		
11	59		12	4		12	14	
44.2	31.6	15.8	34.8	25.2	0.0	25.0	11.9	96.9
46.7	29.3	16.0	37.4	22.6	0.0	27.5	9.6	97.1
49.1	26.8	15.9	40.0	20.0	0.0	30.0	6.9	96.9
51.7	24.2	15.9	42.7	17.3	0.0	32.5	4.4	96.9
54.2	21.7	15.9	45.4	14.6	0.0	34.8	2.0	96.8
0.5	15.4	15.9	52.0	8.0	0.0	41.1	55.9	97.0
4.3	11.8	16.1	56.0	4.0	0.0	44.8	52.1	96.9
8	8.1	8.1		0.1	0.1		48.5	48.5
		119.6			0.1			727.0
		7.97			0.01			48.47

12	0	7.97	12	5	0.01	12	14	48.47
		32.10			24.30		15	12.71
		24.13			24.29			24.24
		.10			.27			.12
		24.03			24.02			24.12
		.02						
		.12						
		24.06						
		.53 = b sec φ						
		23.53						

ass n = .13

Frod 1327 is SLOW

23ˢ.53

at 12 5 S.T.

Tuesday May 19th 1908

δ Corvi -16° 0′

first min = 12 22

β Corvi -22° 53′ (missed)

first min = 12 46 ~~+3~~

δ Virginis +3° 54′

ε Virginis +11° 27′

δ Corvi

12 24

18.1	6.7	84.8
20.6	4.3	.9
23.2	41.7	.9
25.7	59.0	.7
28.2	56.6	.8
34.6	50.1	.7
38.5	46.3	.8
	42.6	.6
		6.2
		42.41

δ Virg

12 50

11.0		57.9	68.9
13.4		55.6	69.0
15.8	~~55.6~~	53.0	68.8
18.4	~~53.0~~	50.5	68.9
20.9	~~50.5~~	47.9	68.8
27.2	41.8		69.0
30.7	38.2		68.9
	34.5		34.5
			66.8
			34.45

ε Virg

12 56

48.3	36.0	24.3
50.8	33.6	.4
53.4	31.2	.6
55.9	28.5	.4
58.5	26.1	.6
4.7	19.[illegible]	.5
8.4	16.0	.4
	12.1	12.1
		3.3
		12.22

12 24 42.41
25 7.03
24.62
.16
24.46
.50
.49
24.48
.53 = b sec φ
23.95

ass r = .13

12 50 34.45
59.06
24.61
.11
~~24.48~~
24.50

12 57 12.22
36.80
24.58
.09
24.49

Frod 1327 is SLOW
$23^s.95$
at 12 40 S.T.

Saturday, May 23 1908

HBl Obs

first min = 11 57
" 12 12

η Virginis −0° 9′
δ Corvi −16° 0′

η Virginis

12 14

23.5	10.4	93.9
25.9	8.0	93.9
28.4	5.4	93.8
30.9	3.1	94.0
33.2	0.6	93.8
39.5	54.3	93.8
43.2	50.7	93.9
	46.8	46.8
		703.9
		46.93

12 14 46.93
15 12.67
25.74
~~25.80~~ .12
~~25.77~~
25.62
25.64
25.63
.53 = b sec φ
25.10

each reading is 1^s too small

δ Corvi

12 24

15.7	4.6	80.3
18.4	2.1	.5
20.9	0.5	.4
23.5	56.8	.3
26.1	54.2	.3
32.6	47.9	.5
36.4	43.9	.3
	40.2	40.2
		28
		~~40~~.19
		41

41
12 24 ~~40~~.19
25 6.99
26.80
.16
25.64

Frod 1327 is SLOW
$25^s.10$
at 12 20 S.T.

Sunday May 24th 1908

HBL Obs

~~α Coronae~~

γ Librae

first min = 15 28

α Serpentis

μ Serpentis

γ Librae

15 29

33.9	22.1	116.0
36.5	19.9	.4
38.8	17.5	.3
41.3	14.7	.0
43.9	12.3	.2
~~48.6~~		
50.4	5.8	.2
54.3	1.8	.1
5	58.3	58.3

15
58.10

α Serpentis

15 38

55.8	43.1	38.9
58.5	40.8	39.3
1.0	38.2	39.2
3.4	35.7	39.1
5.8	33.3	39.1
12.1	26.9	39.0
15.8	23.3	39.1
	19.5	19.5

293.2
19.55

μ Serpentis

15 44

1.1	47.9	49.0
3.4	45.3	48.7
6.0	42.9	.9
8.3	40.5	.8
10.8	38.2	49.0
16.9	31.8	48.7
20.7	28.1	.8
	24.5	24.5

6.4
24.43

15 29 58.10
30 24.15
26.05
.15
25.90
.90
.92
25.91
.53
25.38

-1.17
1521

ass n = .13

15 39 19.55
45.55
26.00
.10
25.90

15 44 24.43
50.48
26.05
.13
25.92

Frod 1327 is SLOW
$25^s.38$
at 15 40 S.T.

Monday May 25th 1908

~~Level~~ 1st min = 12 47

δ Virginis

ε Virg

θ Virg

δ Virg

12 50

9.4	56.2	65.6
11.7	54.0	.7
14.4	51.4	.8
16.7	49.0	.7
19.2	46.4	.6
25.4	40.3	.7
29.1	36.5	.6
	32.8	32.8
		50
		32.83

12 50 32.83
59.02
26.19
.11
26.08
.10
.05
26.08
.53 = b sec φ
25.55

ε Virg

12 56

46.6	34.5	21.1
49.2	32.0	.2
51.6	29.5	.1
54.3	27.0	.3
56.7	24.4	.1
3.1	18.1	.2
6.8	14.3	.1
	10.6	10.6
		12
		10.58

12 57 10.58
36.77
26.19
.09
26.10

θ Virg

13 4

22.3	9.4	91.7
25.0	7.0	92.0
27.3	4.4	91.7
29.8	2.1	91.9
32.1	59.6	91.7
38.5	53.4	91.9
42.3	49.6	91.9
	46.1	46.1
		6889
		45.93

13 4 45.93
5 12.11
26.18
.13
26.05

Frod 1327 is SLOW
$25^{s}.55$
at 13 0 S.T.

Tuesday May 26, 1908

~~Collimation~~

~~S coll on N coll~~ 1st mire = 12 48

δ Virg 12 50 +3°53'

ε Virg 12 57 +11°27' (1 missed in last tally)

θ Virg . 13 5 −5° 3'

δ Virg

12 50

9.0	56.0	65.0
11.5	53.6	65.1
13.8	51.1	64.9
16.4	48.5	64.9
18.8	46.1	64.9
25.1	40.1	65.2
28.8	36.2	65.0
	32.5	32.5
		37.5
		32.50

ε Virg

12 56

46.3		
48.9	2567	
51.4	51.34	
53.8	18.92	
56.3		10.26
2.6		
6.4	51.0	
10.2	10.20	
14.0		
17.8		

θ Virg

13 4

22.0	9.1	91.1
24.5	6.7	.2
26.9	4.2	.1
29.4	1.5	90.9
32.0	59.1	91.1
38.1	53.0	.1
41.8	49.4	.2
	45.6	45.6
		~~45~~.3
		8
		45.55

12 50 32.50
59 02
26.52
.11
26.41
.38
.43
26.41
.53 = b sec φ
25.88

ass n = .13

12 59 10.23
36.76
26.53
.15
26.38

13 4 45.55
5 12.10
26.55
.13
26.43

Frod 1327 is SLOW
25.88
at 13 0 S.T.

Wednesday May 27th 1908

δ Virg
ε Virg
θ Virg

first min = 12 48

δ Virg			ε Virg			θ Virg		
12 50			12 56			13 4		
8.8	55.8	64.6	46.1	33.9	20.0	21.8	8.9	90.7
11.3	53.4	.7	48.6	31.5	.1	24.2	6.4	.6
13.7	50.9	.4	51.1	29.0	.1	26.7	4.0	.7
16.2	48.4	.6	53.7	26.4	.1	29.2	1.4	.6
18.7	45.9	.6	56.2	23.9	.1	31.7	59.0	.7
25.0	39.7	.7	2.6	17.6	.2	38.0	52.7	.7
28.6	36.0	.6	6.3	13.7	.0	41.5	49.1	.6
	32.4	32.4		10.0	10.0		45.3	45.3
		32.31			.6			4.9
					10.04			45.33
12 50		32.31	12 59		10.04	13 4		45.33
		59.01			36.76			12.10
		26.70			26.72			26.77
		.11			.15			.13
		26.59			26.57			26.64
		.57						
		.64	180					
		26.60						
		.53 =	b sec φ					
		26.07						

Frod 1327 is SLOW
$26^{s}.07$
at 13 0 S.T

Thursday May 28th 1908

Collimation

S coll on N coll	289	313.
	267	296
	314	313
	295	310
	1165	1232
	1232	
	2397	
	300	

index set at 300

telescope on S coll. micrometer found at 33.648

40 151	40.058
110	078
141	084
176	036
144	062

40.103

telescope on N coll

27 137	27 079
176	099
174	071
184	060
168	077

27.123
40.103
67.226
33.613
-012
33.625

micrometer set at 33.625

Friday
~~Saturday~~, May 29th 1908

ζ Boötis

1st mm - 14 33

109 Virg
α Librae
β Ursae Min

ζ Boötis

14 35

55.3	43.6	38.9
57.9	41.1	39.0
0.5	38.7	39.2
2.9	36.2	39.1
5.5	33.6	39.1
11.9	27.2	39.1
15.8	23.4	39.2
~~+~~	19.6	19.6
		293.2
		19.55

109 Virg

14 40

46.5	33.4	19.9
49.1	31.1	20.2
51.6	28.6	20.2
54.0	26.0	20.0
56.5	23.7	20.2
2.5	17.3	19.8
6.3	13.7	20.0
	10.0	10.0
		150.3
		10.02

α Librae

14 44

57.1	45.8	42.9
59.6	43.2	42.8
2.2	40.6	42.8
4.9	38.1	43.0
7.5	35.5	43.0
14.0	29.1 25.4	43.1
17.7		43.1
	21.5	21.5
		222
		21.48

14 36 19.55
46.63
27.08

14 41 10.02
37.12
27.10

14 45 21.48
48.61
27.13

β Ursae Min δ = +74°32.'0

14 49	7.7	1	28.2	14 50 35.9
	17.1	1	18.7	.8
	26.0	1	9.6	.6
	35.5	1	0.2	.7
	44.7		51.1	.8
50	7.7		28.0	.7
	21.4		14.0	4
	35.7-			35.7
	49.7		13.7	36.0
51	3.4		27.6	35.8
	26.4		50.7	35.7
	35.8	1	0.0	35.8
	45.0	1	9.3	35.7
	54.8	1	18.6	36.2
52	3.3	1	27.5	35.8
				11.6
				35.77

14 50 35.77
62.10
26.33 tan δ = 3.75
27.10 mean tan δ = .01
.77 3.74

27.08 +14°7'
.10 +2°17'
.13 −15°40
27.10 0°44'

$n = \frac{.77}{3.74} = .20$

Friday May 29th 1908

ζ Boots	109 Virg	α Librae
27.08	27.10	27.13
.13	.17	.24
26.95	26.93	26.89

ν = .20

26.95
.93
.89
26.92
.53 = b sec φ
26.39

Frod 1327 is SLOW
26s.39
at 14 40 S.T.

Monday June 1, 1908

Mer. Cir. Wh. Obs.

Rattle at 15h 22m
ν' Bootis +41°9
α Coron. bor. +27°1'

+41°9'
15h 26m 41.0 43.3 43
44.4 40.2 46
47.5 37.0 4.5
50.9 33.5 4.4
54.0 30.3 4.3
2.5 21.7 4.2
7.1 17.0 4.1
12.2
15|26
12.17

+27°1'
29m 55.6 48.2 3.8
58.5 45.5 4.0
1.4 42.7 4.1
3.9 40.1 4.0
6.7 37.3 4.0
13.7 30.3 4.0
18.0 26.1 4.1
22.0
22.00

15h 27m 12.s17
15 27 39.23
06
27.~~14~~
.0~~4~~
27.05

ass n=.2

15h 30m 22.00
15 30 49.09
27.09
.08
27.01

27.03
.53
26.50

Frod. 1327 is SLOW

0m 26.s50

at 15h 30m S. T.

Tuesday June 2, 1908

ξ Bootis +14°7 HBl Obs

1st mm = 14 31

109 Virg +2°17 images not good

α Librae −15°40

ξ Bootis

14 ~~36~~ 35

54.7	43.0	37.7
57.2	40.6	37.8
59.8	38.0	37.8
2.4	35.5	37.9
5.0	32.8	37.8
11.5	26.7	38.2
15.3	22.9	38.2
	19.0	19.0
		284.4
		18.96

109 Virg

14 ~~41~~ 40

46.0	32.7	18.7
48.5	30.4	.9
50.9	27.8	.7
53.3	25.5	.8
55.7	23.1	.8
2.0	17.0	19.0
5.8	13.2	19.0
	9.4	9.4
		63
		9.42

α Librae

14 ~~45~~ 44

56.3	45.0	41.3
59.0	42.8	41.8
1.8	40.0	41.8
4.4	37.4	41.8
6.7	35.1	41.8
13.0	28.6	41.6
17.3	24.7	42.0
	21.0	21.0
		13.1
		20.87

14 37 18.96
46.63
27.67
.13
27.54
.53
.50
27.52
.53 = b sec φ
26.99

ass n = .20

14 42 9.42
37.12
27.70
.17
27.53

14 46 20.87
48.61
27.74
.24
27.50

Frod 1327 is SLOW
$26^s.99$
at 14 40 S.T.

Wednesday June 3, 1908

3 Bootis clouds — several wires missed ~~1st wire = 14 35~~
109 Virg last 6 wires only
α Librae missed
P XIV 221 clouds

3 Bootis

14 35

54.5	57.4	24.2	18.7
57.0	54.2	21.6	18.6.
59.6	45.3	19.1	18.7
2.2	39.2	16.6	18.8
~~4~~			
-			
11.0		27	18.7
15.0		3.9	18.9
-			
=			
32.6		13.9	18.7
35.1		16.5	18.6
37.8		19.1	18.7
40.3		21.6	18.7
42.8		24.0	18.8
			79
			18.72

109 Virg

14 41

16.4	7.4	9.0
22.8	13.5	.3
25.1	16.0	.1
27.8	18.5	.3
30.0	20.9	.1
32.6	23.4	.2
~~18.5~~		9.17

14 36 18.72
46.62
27.90
.13
27.77
.78
27.78
.53
27.25

14 41 9.17
37.12
27.95
.17
27.78

Frod 1327 is SLOW
27.25 s
at 14 40 S.T.

Friday June 5, 1908

κ Virginis   1st mm 14 4

α Bootis

κ Virginis			α Bootis		
14 7			14 10		
8.3	55.5	63.8	35.8	25.6	1.4
10.7	53.4	4.1	38.5	23.1	1.6
13.3	50.9	4.2	41.0	20.6	1.6
15.8	48.4	4.2	43.8	17.8	1.6
18.2	45.8	4.0	46.3	15.3	1.6
24.5	39.6	4.1	53.0	8.6	1.6
28.3	36.0	4.3	56.8	4.6	1.4
	32.2	32.2		0.7	0.7
		30.9			11.5
		32.06			0.77

ass n = .20

14 7 32.06
60.41
28.35
.22
28.13
.02
28.08
.53 = b sec φ
27.55

14 11 0.77
29.07
28.30
.28
28.02

Frod 1327 is SLOW
$27^s.55$
at 14 10 S.T

Saturday June 6. 1908

δ Aquilae

first min 19 19

β Cygni

δ Aquilae

19 20

0.7	47.7	48 4
3.3	45 3	.6
5.8	42.8	.6
8.1	40.1	.2
10.6	37.8	.4
17.0	31.5	.5
20.6	27.9	.5
	24.3	24.3
		3.5
		24.23

19 20 24.23
52.97
28.74
.17
28.57
.65
28.61
.53 = b sec φ
28.08

ass n = .20

β Cygni

19 26

6.7	59.8	66 5
9.5	57.0	.5
12.4	54.4	.8
15.3	51.6	.9
18.0	48.7	.7
25.1	41.8	.9
29.3	37.6	.9
	33.5	33. 5
		5.7
		33.38

19 26 33.38
27 2.11
28.73
.08
28.65

Frod 1327 is SLOW
$28\overset{s}{.}08$
at 19 20 ST

64

Mon June 8, 1908

Queen Cir   [illegible]

Rattle at $12^h 32^m$

δ Ursa Maj +56° 28' (missed 1st 2 wires)
12 Can. Ven. +38° 49' (" 1st ")
ε Virg +11° 27'

	+56° 28'			+38° 49'			+11° 27'	
48^m	= 13.7 9.4	– –	50^m	— 15.6	—	56^m	43.7 31.4	5.1
	58.0 5.0	3.0		48.7 42.6	1.3		46.3 29.1	5.4
	2.4 0.6	3.0		51.9 39.3	1.2		48.7 26.4	5.1
	6.8 56.0	2.8		55.0 36.2	1.2		51.3 24.0	5.3
	18.0 44.9	2.9		58.2 33.0	1.2		53.7 21.4	5.1
	24.7 38.1	28		6.0 25.0	1.2		0.0 15.2	5.2
		31.6		10.9 20.4	1.3		3.9 11.4	5.3
		11⌊51			15.6			7.6
		31.46			13⌊80			15⌊91
					15.62			7.61

$12^h 49^m 31^s.46$	$12^h 51^m 15^s.62$	$12^h 57^m 7^s.61$
12 49 60.18	12 51 44.44	12 57 36.67
28.72	28.82	29.06
.15	.03	.18
28.87	28.85	28.88

1.51 28.72
.20 29.06
1.3 34 (26
26
80

$u = .26$

28.87
.85
.88
3⌊20
28.87
.53
28.34

Frod. 1327 is ~~FAST~~ SLOW

$0^m 28^s.34$

at $13^h 0^m$

Tues
~~Mon~~ June 9, 1908

Mer Cir Wh Obs.

Rattle before $12^h 28^m$

A [γ Virg] -0°5~~8~~7'
ε Urs Maj +56°28'
12 Can +38°49' (missed 1st 2 wires)

-0°57'	+56°28'	+38°49'
36^m 7.8 54.7 2.5	~~49~~ 48^m 48.5 13.4 1.9	50^m — 45.3 42.2 —
10.4 52.2 2.6	53.3 9.1 2.4	51.4 39.0 0.4
12.7 49.7 2.4	57.8 4.7 2.5	54.7 36.0 0.7
15.2 47.3 2.5	2.1 0.2 2.3	57.8 32.7 0.5
17.7 44.9 2.6	6.6 55.7 2.3	5.8 24.9 0.7
23.7 38.7 2.4	17.8 44.7 2.5	10.7 20.0 0.7
27.6 35.0 2.6	24.5 38.0 2.5	15.3
31.4	31.3	11)33
15)40	15)27	15.30
31.27	31.18	

12^h 36^m 31.27	12^h ~~50~~ 49^m 31.18	12^h 51^m 15.30
12 36 60.64	12 49 60.16	12 51 44.43
29.37	28.98	29.13
.23	.15	.02
29.14	29.13	29.11

1.51 28.98
-.02 29.37
1.53 39)1.25
306
840
765
75

m = .25

29.13
.53 b scale
28.60

Frod. 1327 is SLOW

0^m $28^s.60$

12^h 45^m S.T.

Wed June 10, 1908

Quer Cir Wh. Obs.

η Virginis −5° 3'
43 Comae +28° 21'
Rath at 13h 09m.

−5° 3'

13h 04m	21.6 3.6	5.2
	24.0 1.1	5.1
	26.4 58.7	5.1
	28.9 56.0	4.9
	35.0 48.8	4.8
	38.7 46.2	4.9
		42.4

13) 64
42.49

+28° 21'

06m	39.7 32.9	2.6
	42 530.3	2.8
	45.3 27.3	2.6
	48.2 24.5	2.7
	50.9 21.8	2.7
	57.9 14.8	2.7
	2.2 10.5	2.7
		6.4

15) 57
6.35

$13^h 04^m 42^s.49$
$13\ 05\ \overset{12.00}{\cancel{11.99}}$
$29.5\overset{1}{0}$
.25
29.26

$13^h 07^m 6^s.35$
13 07 35.75
29.40
.09
29.31

ass n = 1/4

29.28
.153 b sec δ
28.75

Frod. 1327 is SLOW

$[0^m 28^s.75]$ $0^m 28^s.75$

$[13^h 06^m]$ at $13^h 05^m$ S.T.

Fri June 12, 1908

Clear Cir. [illegible]

Rattle at 13h 04m.
43 Comae +28°21′

Clouds

Rattle at 16h 27m.
~~η Herculis~~ +42°38′ (5 wires)
η Herculis +39°6′ (10 wires)

+42°38′
16h 30m 30.0
35.1
40.2
45.1
50.1
5 | 200.5
40.10

+39°6′
39m 6.7
11.6
16.3
21.0
25.7
5 | 81.3
16.26

obs.
$n = \frac{1}{4}$

$16^h\ 30^m\ 40^s.10$
16 31 10.15
30.05

$16^h\ 39^m\ 16^s.26$
16 39 46.38
30.12
.02
30.10

30.08
.53 k sec a
29.55

Frod. 1327 is SLOW

$0^m\ 29^s.55$

at $16^h\ 35^m$ S.T.

Sat June 13, 1908

Mer Cir Wells

43 Comae $+28° 21'$
Rattle at $13^h 11^m$
A [20 Can Ven] $+41° 3'$ (last 5 wires)
ξ Urs Maj $+55° 24'$

$+28° 21'$
6^m 38.7 31.8 0.5
41.6 29.2 0.8
44.3 26.3 0.6
47.0 23.4 0.4
49.8 20.7 0.5
57.0 13.7 0.7
1.0 9.5 0.5
5.3
15|43
5.29

$+55° 24'$
19^m 3.0 25.8 8.8
7.6 21.7 9.3
11.9 17.2 9.1
16.3 12.7 9.0
20.5 8.4 8.9
31.3 57.6 8.9
38.0 51.0 9.0
44.7
15|77.
44.51

$13^h 07^m 5.^s29$
13 07 35.72
30.43
.09
30.34

ass m = $\frac{1}{4}$

$13^h 19^m 44.^s51$
13 20 14.61
30.10
.13
30.23

30.28
.53 b sec δ
29.75

Frod 1327 is SLOW

$0^m 29.^s75$

at $13^h 15^m$ S.T.

Prion June 15, 1908

Mer Cir – Robles

Rattle at $13^h 29^m$

η Urs Maj +49°46′ 1st 5 wires
through clds doubtful

α Librae −15°40′ (last 10 wires)
Gr. 2164 +59°40′
Rattle at $14^h 54^m$
β Bootis +40°45′
4 Bootis +27°18′

−15°40′		+59°40′			+40°45′			+27°18′		
45^m 9.9	31.7	47^m 51.2	24.0	5.2	57^m 28.6	30.6	9.2	59^m 34.3	27.1	1.4
14.0	34.3	56.1	19.2	5.3	32.0	27.2	9.2	37.3	24.5	1.8
17.7	37.1	1.0	14.3	5.3	35.2	24.0	9.2	40.0	21.7	1.7
21.4	39.6	5.8	9.7	5.5	38.4	20.7	9.1	42.8	18.9	1.7
25.2	41.9	10.9	4.7	5.6	41.6	17.5	9.1	45.5	16.1	1.6
5)~~90 2~~	5)184 6	23.2	52.3	5.5	49.8	9.3	9.1	52.6	9.2	1.8
~~18.04~~	36.92	30.4	44.8	5.2	54.7	4.5	9.2	56.8	5.0	1.8
5)88 2	19.17			38.0			59.7			0.8
17.64	17.75			15)106			15)8 8			15)126
				37.71			59.59			0.82

−.28 30.89
1.71 30.51
1.99 .38

$14^h 45^m 17^s.70$	$14^h 48^m 37^s.71$	$14^h 57^m 59^s.59$	$15^h 0^m 0^s.82$
14 45 48.59	14 49 8.22	14 57 30.39	15 0 31.61
30.89	30.51	30.80	30.79
~~.24~~	.16	.01	.08
30.~~70~~ 65	30.67	30.79	30.71

u = .19

30.65
.67
.79
.71
4)282
30.70
.53 base.
30.17

Frod 1327 is SLOW

$0^m 30^s.17$

at $14^h 55^m$ S.T.

Tues June 16, 1908.

[illegible] 20 bells

Rattle at $13^h 16^m$.
ζ Urs. Maj +55°24'
ζ Virg -0°8'
17 H Can. Ven +37°39' (last 5 wires)

+55°24'
19m 2.5 25.0 7.5
7.0 20.8 7.8
11.3 16.2 7.5
15.7 11.9 7.6
19.8 7.7 7.5
30.7 56.8 7.5
37.3 50.3 7.6
43.7
15|117
43.78

-0°8'
29m 6.6 53.3 9.9
9.0 51.0 0.0
11.5 48.6 0.1
14.0 46.1 0.1
16.3 43.5 9.8
22.6 37.3 9.9
26.4 33.7 0.1
30.0
15|149
29.99

+37°39'
30m 28.7
31.7
35.0
38.0
41.0
5|174 4
34.88
23.31
11.57

~~1.45~~ ~~30.84~~
~~31.33~~
.52

30.76
31.32
1.45) .56

m = .4

$13^h 19^m 43^s.78$
13 20 14.54
30.84
76
.22
30.98

$13^h 29^m 29^s.99$
13 29 61.22
31.32
.36
30.96

$13^h 30^m 11^s.57$
13 30 42.42
30.875
.06
30.79

30.98
.96
.79
.273
30.91
.53 b sec a
30.38

Frod. 1327 is SLOW

$0^m 30^s.38$

at $13^h 30^m$ S. T.

Wednesday June 17, 1908

Quar Cu W. L. Obs.

Rattle at $13^h 59^m$.

α Draconis. +64°49' (last 10 wires)

ν Virg ~~+0~~ 9°51'

ι Virg −5°34'

λ Bootis +46°31'

1.2662
0.3710
1.6372

+64° 49'		−9° 51'		−5° 34'		+46° 31'	
01^m 7.3	56.4	7^m 5.3 52.7	8.0	10^m 17.7 4.9	2.6	11^m 49.3 57.4	6.7
15.8	2.3	7.8 30.4	8.2	20.2 2.3	2.5	53.0 54.0	7.0
24.6	7.9	10.2 47.8	8.0	22.6 0.0	2.6	56.5 50.3	6.8
33.2	13.7	12.6 45.4	8.0	25.0 57.4	2.4	0.2 46.6	6.8
41.9	19.5	15.1 42.7	7.8	27.4 54.9	2.3	3.7 43.0	6.7
5 | 122.8	5 | 39.8	21.3 36.7	8.0	33.7 48.6	2.3	12.7 34.1	6.8
24.56	7.96	25.2 32.8	8.0	37.3 45.0	2.3	18.0 28.8	6.8
	49.37		28.9		41.3		23.5
	24.59		15 | 149		15 | 33		15 | 61
			28.99		41.22		23.41

2.13 31.09
−.14 31.31
2.27 .22

$14^h 01^m 24.58$	$14^h 7^m 28^s.99$	$14^h 10^m 41^s.22$	$14^h 12^m 23^s.41$
14 01 55.67	14 7 60.36	14 11 12.47	14 12 54.58
31.09	31.37	31.25	31.17
.12	.11	.10	.01
31.21	31.26	31.15	31.18

m = .1

−.10
.17

31.21
.26
.15
.18
4 | 80
31.20
.53
30.67

Sriod. 1327 is SLOW

$0^m 30^s.67$

at $14^h 10^m$ S. T.

Thursday June 18, 1908

Collimation Wells

S. Coll on N. Coll. 78.1
76.9
76.9
76.8
77.2
77.8
6)437
77.28

Set at 77.3

micrometer
found at
33.624

Tel on S. Coll.
39.725
.734
.712
.729
.727
.732
6)159(39.7265

Tel. on N. Coll.
27.482
.446
~~.502~~
.485
.445
.486
.437
6)381(27.4635
2)67.1900
33.5950
.012
33.607

micrometer
set at 33.607

Times June 18, 1908

Seven Obs — Twelve Obs

Telescope South

Zero	W End	E End		
W	-43.8	-61.9	-105.7	
E	+71.9	+53.8	+124.7	+19.0
W	-41.0	-59.8	-100.8	
E	+71.1	+53.0	+124.1	+23.3

Telescope North

W	-45.0	-62.8	-107.8	
E	+72.2	+55.0	+127.2	+19.4
W	-44.8	-62.0	-106.8	
E	+70.9	+53.2	+124.1	+17.3

16)79.0(4.94
64
150
144
60

.4.94
.06
.2764 b sec e
1.35
13820
8292
2764
.373140

Changed length of bubble

Telescope South

	W End	E End		
W	-29.8	-477.0	-106.8	
E	+93.0	+47.0	+140.0	+33.2
W	-28.2 ~~27.6~~	-76.0 ~~75.0~~	-104.2 ~~102.6~~	
E	+92.8	+45.3	+138.1	+33.9

Telescope North

W	-28.0	-75.3	-103.3	
E	+96.0	+43.5	+134.5	+31.2
W	-29.4	-77.0	-106.4	
E	+90.2	+43.0	+133.2	+26.8

16)125.1(7.8
112
131
128
30

7.82
.06
.4692
1.35
23460
14076
[illegible]

b sec e = .63

Thurs June 18: 1908

Level Obs.

Telescope North.

Zero	$\overset{\text{WE}}{\text{W. End.}}$	E. End.		
W	-30.0	-78.0	-108.0	
E	+91.8	+43.8	+135.6	+27.6
w	-29.0	-77.0	-106.0	
E	+89.0	+41.6	130.6	+24.6

Telescope South

W	~~+27.0~~	~~-75.2~~	~~-108.2~~	
E	~~+84.2~~	~~+36.0~~	~~+120.2~~	~~+18.0~~
W	-23.6	-72.0	-95.6	
E	+83.0	+35.0	+118.0	22.4
W	-21.7	-70.0	-91.7	
E	+83.0	+34.8	+117.8	+26.1

16) 100.7 (6.29
96
47
32
150
144

6.29
.06
.3774
1.135
18870
11322
3774
.509490

$0^s.51$ b sec e. West end high

63
2) 1.14
0.57 b sec e. West end high

Thursday June 18 1908

π Sagittarii −21° 10′

ω aquilae +11° 25′ very faint

β Cygni +27° 45′

π Sagittarii

19 3

22.6	123	94.9
25.2	10.1	95.3
27.9	7.5	95.4
30.4	4.7	95.1
33.0	22	95.2
39.7	55.6	95.3
43.5	51.5	95.0
	47.5	47.5
		713.7
		47.58

ω Aquilae

19 12

35.7	23.7	119.4
38.3	21.3	.6
41.0	18.6	.6
43.1	16.2	.3
45.8	13.5	.3
52.2	7.3	.5
56.0	4.0	120.0
59.9		59.9
	120 −	3.4
		.23
		59.77

β Cygni

19 26

4.1	57.0	61.1
7.0	54.2	.2
9.8	51.5	.3
12.5	48.8	.3
15.3	46.0	.3
22.4	39.0	.4
266	34.9	.5
	30.6	30.6
		9.7
		30.65

19 3 47.58
4 19.38
31.80
ass m = .1
.13
31.67
.67
.69
31.68
b sec φ .57
31.11

19 12 59.77
13 31.53
31.76
.07
31.69

19 26 30.65
27 2.36
31.71
.04
31.67

Frod. 1327 is SLOW

0^m 31.^{s}11

at 19^h 15^m.

Friday June 19, 1908

H.B. Obs

β aquilae	+6° 11′	1st min	19 49
γ Sagittae	+19° 15′		
θ aquilae	−1° 6′	missed – clouds	

β aquilae

19 49

53.5	40.8	34.3
56.0	38.4	.4
58.6	35.9	.5
1.2	33.3	.5
3.6	30.9	.5
9.9	24.6	.5
13.6	21.0	.6
	17.2	17.2
		3.5
		.23

19 50 17.23
49.21
31.98
.08
31.90
.88
31.89
b sec φ .57
31.32

ass n = .1

γ Sagittae

19 53

44.7	34.4	19.1
47.4	31.8	.2
50.0	29.2	.2
52.7	26.5	.2
55.1	24.0	.1
1.8	17.5	.3
5.6	13.5	.1
	9.5	9.5
		1.2

19 54 9.58
41.52
31.94
.06
31.88

Frod. 1327 is SLOW

0m 31s.32

at 20h 0m S.T.

Sat June 20, 1908

Mer Cir　　　　　　W h Obs

Ratt. at $13^{h}37^{m}$.

η Urs. Maj　$+49°46'$

η Bootis　$+18°51'$

$+49°46'$

$13^{h}42$	48.1	0.7	8.8
	52.0	57.0	9.0
	55.7	53.1	8.8
	59.7	49.2	8.9
	3.5	45.3	8.8
	13.0	35.9	8.9
	18.7	30.2	8.9
			24.4
		15	65
			24.43

$+18°51'$

49^{m}	22.4	12.0	4.4
	25.0	9.5	4.5
	27.7	6.8	4.5
	30.4	4.2	4.6
	32.9	1.7	4.6
	39.4	55.0	4.4
	43.3	51.2	4.5
			47.3
		15	38
			47.25

$13^{h}43^{m}24.^{s}43$
13 43 56.17

31.74
.0~~3~~6
~~31.77~~
31.80

$13^{h}49^{m}47.^{s}25$
13 $\overset{50}{\cancel{4}}$ 19.26

32.01
~~.06~~
3~~2~~1.9~~5~~0

ars
$u = +.2$

31.77
31.95
31.8~~6~~
.57
31.29

31.85
.57
31.28

Frod 1327 is SLOW

$0^{m}31.^{s}2$~~9~~8

at $13^{h}45^{m}$ S.T.

Sat June 20, 1908.

time Ci

Wells.

Gr. 2377 +56°57'
49 Herc. +15°8'
Rattle at $16^h 50^m$
κ Ophi. +9°31'
ε Herc. +31°4'

+56°57'		+15°8'		+9°31'		+31°4'	
42m 20.7 46.7	7.4	46m 59.0 47.4	6.4	52m 24.7 12.0	6.7	55m 48.7 43.3	2.0
25.3 42.3	7.6	1.4 45.0	6.4	27.0 9.7	6.7	51.5 40.5	2.0
29.7 37.6	7.3	4.0 42.3	6.3	29.6 7.1	6.7	54.4 37.6	2.0
34.3 33.1	7.4	6.5 39.8	6.3	32.0 4.6	6.6	57.3 34.8	2.1
38.9 28.6	7.5	9.1 37.4	6.5	34.5 2.0	6.5	0.2 31.9	2.1
50.2 17.3	7.5	15.6 30.7	6.3	40.8 55.9	6.7	7.4 24.7	2.1
57.0 10.4	7.4	19.3 27.0	6.3	44.7 52.2	6.9	11.7 20.2	1.9
	3.7		23.2		48.4		16.0
	15 | 108		15 | 27		15 | 52		15 | 2
	3.72		23.18		48.35		16.01

$16^h 43^m 3^s.72$	$16^h 47^m 23^s.18$	$16^h 52^m 48^s.35$	$16^h 56^m 16^s.01$
16 43 35.51	55.19	20.44	47.96
31.79	32.01	32.09	31.95
.13	.13	.15	.06
31.92	31.88	32.94	31.89

1.6 31.79
.17 32.09
1.4 .30

u = .2

31.92
.88
.94
.89
4 | 3
31.91
.57b secle
31.34

Frod. 1327 is SLOW

$0^m 31^s.34$

at $16^h 50^m$ S.T.

Sun June 21, 1908

Mer Cir Wells.

Rattle after $14^h 34^m$.

109 Virg +2°17'
α Libræ −15°40'
Gr. 2164 +59°40'

+2°17'	−15°40'	+59°40'
40m 41.3 28.0 9.3	44m 51.9 40.5 2.4	47m 50.0 22.6 2.6
43.9 25.7 9.6	54.4 38.2 2.6	54.8 17.7 2.5
46.5 23.0 9.5	57.0 35.6 2.6	59.7 12.7 2.4
48.9 20.7 9.6	59.5 32.8 2.3	4.7 7.9 2.6
51.2 18.1 9.3	2.2 30.2 2.4	9.5 2.9 2.4
57.3 12.0 9.3	8.7 23.9 2.6	21.7 51.0 2.7
1.0 8.4 9.4	12.3 20.0 2.3	28.9 43.8 2.7
4.7	16.3	36.2
15 | 107	15 | 35	15 | 41
4.71	16.23	36.27
$14^h 41^m 4^s.71$	$14^h 45^m 16^s.23$	$14^h 48^m 36^s.27$
37.07	48.57	14 49 8.09
32.36	32.34	31.82
.26	.35	.24
32.10	31.99	32.06

+.04
−28
−12

+1.71 31.82
−.12 32.35
1.83 .53

n = .3

32.05
.57 break
31.48

Frod. 1327 is SLOW

$0^m 31^s.48$

at $14^h 45^m$ S.T.

Sun June 21 1908

Level Obs Zodi Obs

Time of beginning 22:05

Telescope South.

Zero	W End	E End		
W	+25.8	-72.9	-98.7	28.3
E	+ ~~93.0~~ 87.0	+40.0	+ ~~133~~ 127.0	+ ~~54.3~~
W	-25.8	-72.9	-98.7	
E	+85.3	+38.6	+123.9	+25.2

Telescope North.

W	-24.0	-70.0	-94.0	
E	+85.9	+39.7	+125.6	+31.6.
W	-24.9	-70.9	-95.8	
E	+85.7	+39.8	125.5	+29.7

16) 114.8 (7.175
112
28
16
120
112
80

7.175
.06
.43050
1.35
405
540
0.588 sec e

Telescope North

Zero.	W End	E End.		
W	-24.0	-70.0	-94.0	
E	+85.0	+39.0	+124.0	+30.0
W	-25.0	-71.0	-96.0	
E	+85.0	+39.0	+124.0	+28.0

Telescope South.

Zero	W. End	E End		
W	-28.0	-74.0	-102.0	
E	+84.8	+38.8	+123.6	+21.6
W	-26.2	-72.1	-98.3	
E	+84.0	+38.0	122.0	+23.7

16) 103.3 (6.46
96
73

6.46
.06
.3876
1.35
19380
11628
3876
.52~~32~~60

Mean of last 4 determinations

.51
.63
.58
.52
4 | 2.24
.56

Use $b \sec \omega = \underline{\underline{0.56}}$ west end high.

Trans June 25, 1908

Mer Cir Wells.

Rattle at 16h 30m.

η Herculis +39°6'

Gr. 2377 +56°57'

49 Her. +15° 8' (last 10 wires)

+39°36'			+56°57'			+15° 8'		
38m	43.0 43.3	6.3	42m	19.5 45.3	4.8	47m =	14.5	36.1
	46.3 40.3	6.6		24.0 41.0	5.0	=	18.4	38.7
	49.4 37.2	6.6		28.7 36.3	5.0	–	22.2	41.3
	52.7 34.0	6.7		33.1 32.0	5.1		26.0	43.4
	56.0 30.7	6.7		37.6 27.4	5.0		30.0	46.4
	3.9 23.0	6.9		49.0 16.4	5.4	5	111	20 59
	8.5 18.2	6.7		55.7 9.4	5.1		22.22	41.18
		13.3			2.7			19.12
	15	48		15	81			22.06
		13.32			2.54			

16h 47m 22.14

16 47 55.22

~~24~~16h 39m 13.s32 16h 43m 2.s54

16 39 46.37 16 43 35.46

ass m = .82

33.05	32.92	33.08
.07	.13	.13
33.04	33.05	32.96

33.04
.05
.95
33.01
.56 b. secle
32.45

Frod. 1327 is ~~FAST~~ SLOW

0m 32.s45

at 16h 40m S. T.

Friday June 26, 1908

Mer Cir E. S. K. Obs.

Ratt at $14^h 07^m$.

α Bootis +19°40'

λ Bootis +46°31' (last 10 wires)

ι Bootis +52°16'

γ Bootis +38°43'

+19°40'

10^m 30.7 20.4 1.1
33.3 17.9 1.2
36.0 15.2 1.2
38.6 12.7 1.3
41.0 10.0 1.0
47.7 3.3 1.0
51.6 59.4 1.0
55.6
15)84
55.56

+46°31'

12^m 10.7 41.0
16.0 44.7
21.3 48.2
26.3 51.6
32.1 55.1
5)106.4 5)240.6
21.28 48.12
26.82
21.30

+52°16'

20^m 53.8 10.4 4.2
57.8 6.4 4.2
2.0 2.3 4.3
5.9 58.3 4.2
9.9 54.3 4.2
20.0 44.2 4.2
26.0 38.2 4.2
32.0
15)15
32.10

+38°43'

27^m 20.3 20.4 0.7
23.6 17.3 0.9
26.7 14.1 0.8
29.8 11.0 0.8
32.9 7.9 0.8
40.8 59.9 0.7
45.6 55.0 0.6
50.3
15)56
50.37

$14^h 10^m 55^s.56$	$14^h 12^m 21^s.29$	$14^h 21^m 32^s.10$	$14^h 27^m 50^s.37$
14 11 28.91	14 12 54.43	14 22 5.26	14 28 23.67
33.35	33.14	33.16	33.30
.11	.02	.07	.02
33.24	33.16	33.23	33.28

aso
n = .2

33.24
.16
.23
.28
4)91
33 .23
.56 brecle
32.67

Frod. 1327 is SLOW

$0^m 32^s.67$

at $14^h 20^m$ S. T.

Sat June 27, 1908

Mer Cir W.L.Ells.

ζ Bootis +14°7'
109 Virg +2°17'
β Rattleat $14^h 48^m$ (?)
β Ursa Min +74°32'
β Bootis +40°45'

14°7'
35m 48.8 39.0 5.8
51.4 34.6 6.0
53.9 32.0 5.9
56.5 29.4 5.9
59.0 27.0 6.0
5.3 20.6 5.9
9.1 16.8 5.9
13.0
15 | 144
12.96

+2°17'
40m 40.0 27.0 7.0
42.9 24.6 7.5
45.0 22.1 7.1
47.4 19.4 6.8
49.6 19.0 6.6
56.1 10.7 6.8
59.8 7.7 7.0
3.6
15 | 64
3.49

+74°32'
49m 0.3 55.6 5.9
9.0 47.1 6.1
18.3 37.3 5.6
27.8 27.9 5.7
36.8 19.0 5.8
0.3 55.7 6.0
13.9 42.0 5.9
28.8
15 | 141
27.94

+40°45'
57m 25.9 27.7 3.6
29.3 24.7 4.0
32.3 21.4 3.7
36.6 17.9 3.5
38.8 14.7 3.5
47.0 6.5 3.5
52.0 1.6 3.6
56.9
15 | 123
56.82

$14^h 36^m 12^s.96$	$14^h 41^m 3^s.49$	$14^h 50^m 27^s.94$	$14^h 57^m 56^s.82$
14 36 46.51	14 41 37.03	14 50 60.69	14 58 30.25
33.55	33.54	32.75	33.43
.14	.19	.59	.01
33.41	33.35	33.34	33.42

.04
3.61
3.57

33.54
32.75
.79 (.22
714
760
2.4

u = .22

2.7
.22
54
54
.594

.88
.22
176
176
.1936

.66
.22
132
132
.1452

33.41
.42
.34
.35
4 | 152
33.38
.56
32.82

Frod. 1327 is SLOW

$0^m 32^s.82$

at $14^h 45^m$ S.T.

Mon June 29, 1908

Mer Cir W. L. Ells

Rattle at $14^h 23^m$

γ Bootis +38°43′

A [33 Bootis] +44°48′

+38°43′			+44°48′		
27^m 19.7	19.7		34^m 19.3	25.3	4.6
22.7	16.7	9.4	22.7	22.0	4.7
26.0	13.4	9.4	26.2	18.2	4.4
29.2	10.3	9.4	29.7	14.8	4.5
32.3	7.2	9.5	33.0	11.4	4.4
40.2	59.3	9.5	41.8	2.8	4.6
45.0	54.5	9.5	47.2	57.6	4.8
		9.5			52.3
		49.8			15⌊43
		15⌊11.0			52.29
		49.73			

$14^h 27^m 49^s.73$
14 28 23.63

33.90
.02
33.88

$14^h 34^m 52^s.29$
14 35 26.15

33.86
.02
33.88

ass.
m = .2

33.88
.56 Brace
33.32

Frod. 1327 is SLOW

0^m $33^s.32$

at $14^h 30^m$ S.T.

Tues June 30, 1908

Mer Cir

Wells

Rattle at $14^h 20^m$

ι Bootis +52°17' (13 wires

γ Bootis +38°43'

+52°17'

20^m 57.1 5.6 2.7
1.0 1.6 2.6
5.3 57.5 2.8
9.1 53.4 2.5
19.2 43.3 2.5
25.3 37.5 2.8
31.6

13 | 45
31.35

+38°43'

27^m 19.6 19.6 9.2
22.8 16.5 9.3
26.0 13.4 9.4
29.1 10.2 9.3
32.1 7.0 9.1
40.0 59.2 9.2
44.8 54.3 9.1
49.6

15 | 92
49.61

$14^h 21^m 31^s.35$
14 22 5.18

33.83
.08
33.91

$14^h 27^m 49^s.61$
14 28 23.61

34.00
.02
33.98

ase.
n = .2

33.94
.56 Brecc.

33.~~2~~8
3

Trod. 1327 is ~~FAS~~ SLOW

$0^m 33^s.$~~2~~8
3

at $14^h 25^m$ S. T.

Wednesday July 1, 1908

Quer Cu — Wol. Wls.

α Bootis +19° 40' (last 10 wires)
~~γ Bootis~~ Rattle at $14^h 14^m$
γ Bootis +38° 43'

+19° 40'
10^m — 46.7 8.8
— 50.6 11.5
— 54.6 14.1
— 58.4 16.8
2.4 19.4
5 | 2727 5 | 706
54.54 14.12
19.~~73~~
.~~39~~
54.51

+38° 43'
27^m 19.3 19.3 8.6
22.6 16.2 8.8
25.7 13.0 8.7
28.9 10.0 8.9
32.0 6.9 8.9
39.8 58.9 8.7
44.6 54.1 8.7
49.3
15 | 56
49.37

$14^h 10^m$ 54.53
14 11 28.86
34.33
.11
34.22

ass
u=.2

$14^h 27^m 49^s.37$
14 28 23.60
34.23
.02
34.21

34.21
.566 secδ
33.65

Frod. 1327 is SLOW

$0^m 33^s.65$

at $14^h 20^m$ S.T.

Times July 2, 1908

Mer. Cir. Wells

η Drac + 61°43' (last 9 wires)
β Herculis + 21°41'
Rattle at 16h 28m.
σ Herculis + 42°37'

0.2608
.3243
0.5851

1.2662
.3243
1.5905

+61°43'
22m —
— 4.7
— 12.6
— 20.6
28.0
4 | 65.9
16.48
3.85
12.63

41.3
46.6
51.7
57.3
62.0
5 | 258.9
51.78
38.94
12.84

+21°41'
26m 17.78.0 5.7
20.35.4 5.7
23.02.7 5.7
25.50.0 5.5
28.157.4 5.5
34.9~~49~~50.7 5.6
38.946.8 5.7
42.7
16 | 1~~2~~81
42.81

+42°37'
30m 3.59.4 0.9
7.04.0 1.0
10.60.7 1.3
13.857.2 1.0
17.054.0 1.0
25.445.6 1.0
30.639.5 1.1
35.5
15 | 78
35.52

16h 22m 12s.74
16 22 47.01
34.27
.19
34.46

16h 25m 42s.81
16 26 17.50
34.69
.10
34.59

16h 30m 35s.52
16 31 10.06
34.54
.00
34.54

asom = .2

34.46
.59
.54
3 | 159
34.53
.56
33.97

Frod. 1327 is SLOW

0m 33s.97

at 16h 30m S.T.

Sunday July 5. 1908

1st min = 19 40 H.B.L. Obs

γ Aquilae +10°23′
α Aquilae +8° 37′
β Aquilae +6° 11′

γ Aquilae			α Aquilae			β Aquilae		
19 40			19 45			19 49		
55.2	43.0	38.2	19.8	7.3	87.1	50.0	37.0	27.0
57.9	40.6	.5	22.4	4.9	.3	52.4	34.7	.1
0.3	37.8	.1	24.9	2.3	.2	55.0	32.2	.2
2.9	35.4	.3	27.4	59.7	.1	57.5	29.6	.1
5.4	32.9	.3	29.9	57.2	.1	59.8	27.2	.0
11.5	26.5	.0	36.0	51.1	.1	6.2	21.0	.2
15.3	22.8	.1	39.8	47.2	.0	9.7	17.3	.0
1	19.1	19.1		43.6	43.6		13.6	13.6
		1.6			10			.7
		19.11			43.57			13.55

19	41	19.11	19	45	43.57	19	50	13.55
	41	55.00			19.54			49.49
		35.89			35.97			35.94
		.15			.15			.16
		35.74			35.82			35.78
		.82						
		.78						
		35.78						
		.56						
		35.22						

ass m =. 2

Ass m = 4. 35.89 / .30 / 35.59   35.97 / .30 / 35.67   35.94 / .32 / 35.62

35.62 / .56 / 35.06

Frod 1327 is SLOW

35.s 22

at 19 45 S.T

Mon July 6, 1908

Mer Cir Wells.

Rattle at $14^h 40^m$.

α Librae −15°40′
β Urs. Maj +74°32′
β Bootis +40°45′
4 Bootis +27°18′ (middle 7 wires)

−15°40′			+74°32′			+40°45′			+27°18′		
44^m	47.8 36.5	4.3	48^m	55.7 53.3	9.0	57^m	23.4 25.2	8.6	59^m	=	≡
	50.5 34.0	4.5		7.0 44.7	1.7		26.6 22.1	8.7		=	≡
	53.0 31.3	4.3		16.0 34.7	0.7		29.7 18.7	8.4		−	
	55.6 28.8	4.4		25.5 25.7	1.2		33.0 15.3	8.3		40.1 10.7	0.8
	58.1 26.2	4.3		34.5 16.1	0.6		36.3 12.2	8.5		47.2 3.7	0.9
	4.4 19.8	4.2		57.7 53.1	0.8		44.4 4.0	8.4		51.3 59.7	1.0
	8.3 16.0	4.3		11.6 39.7	1.0		49.5 59.2	8.7			55.5
		12.3			25.3			54.3			7)32
		15)26			15)53			15)39			55.46
		12.17			25.35			54.26			

3.61 36.30
-28 34.76
3.89) 1.54 (4
1556

u = .4

$14^h 45^m 12^s.17$	$14^h \overset{50}{\cancel{49}}{}^m 25^s.35$	$14^h 57^m 54^s.26$	$14^h 59^m 55^s.46$
14 45 48.47	14 50 0.11	14 58 30.11	14 60 31.43
36.30	34.76	35.85	35.97
.48	1.08	.02	.16
35.82	35.84	35.83	35.81

35.82
.84
.83
.81
4)10
35.82
.56
35.26

Frod. 1327 is SLOW

$0^m 35^s.26$

at $14^h 50^m$ S. T.

Tues July 7, 1908

Meri Cir — Cole Obs.

Rattle at 16h 07m

δ Ophiuchi -3° 27' (14 wires)

ε " -4° 28'

τ Herculis +46° 32'

-3° 27'

08m 35.4 17.6 — 3.0

38.0 15.0 — 3.0

40.3 12.5 — 2.8

42.8 10.1 — 2.9

49.0 3.8 — 2.8

53 0 0.2 — 3.2

56.5

13 | 62

56.48

-4° 28'

12m 28.8 15.7 — 4.5

31.3 13.2 — 4.5

34.0 10.8 — 4.8

36.2 8.7 — 4.9

38.7 5.8 — 4.5

44.7 59.7 — 4.4

48.4 56.0 — 4.4

52.2

15 | 42

52.28

+46° 32'

15m 50.1 58.3 — 8.4

53.6 54.8 — 8.4

57.2 51.0 — 8.2

1.0 47.6 — 8.6

4.4 44.0 — 8.4

13.5 35.1 — 8.6

18.8 29.7 — 8.5

244

15 | 35

24.23

16h 08m 56.48s	16h 12m 52.28s	16h 16m 24.23s
16 09 32.98	16 13 28.74	16 16 60.29
36.50	36.46	36.06
.39	.40	.06
36.11	36-06	36-12

ass
n=.4

36.11

.06

.12

.29

36.10

.56 b sec δ

35.54

Frod-1327 is SLOW

0m 35.54s

at 16h 12m S.T.

Wed July 8, 1908

Amer Cir [illegible]

P XIV. 221 +14°49'
Rattle at 14h 54m
β Bootis +40°45'
4 Bootis +27°18'

+14°49'	+40°45'	+27°18'
50m 52.8 41.2 4.0	57m 22.5 24.2 6.7	59m 28.3 21.0 9.3
55.5 38.7 4.2	25.9 20.9 6.8	31.0 18.3 9.3
58.0 36.0 4.0	29.0 17.8 6.8	33.8 15.4 9.2
0.2 33.8 4.0	32.2 14.6 6.8	36.7 12.7 9.4
2.9 31.0 3.9	35.5 11.3 6.8	39.3 9.9 9.2
9.1 24.7 3.8	43.7 3.2 6.9	46.3 2.9 9.2
13.1 20.6 3.7	48.4 58.3 6.7	50.4 58.8 9.2
16.9	58.34	54.7
15 | 145	15 | 59	15 | 95
16.97	53.39	54.63
14h 51m 16.s97	14h 57m 53.s39	14h 59m 54.s63
14 51 53.83	14 58 30.08	15 0 31.41
36.86	36.69	36.78
.26	.02	.16
36.60	36.67	36.62

ass. n = .4

1

36.60
.67
.62
3)19
36.63
.56
36.07

Frod. 1327 is SLOW

0m 36.s07

at 15h 0m S. T.

Thursday July 9, 1908

Vmm 20 25 HB Obs.

ε Delphini +10° 59′ (? 14th sync a little previous)

β Delphini +14° 16′

α Delphini +15° 35′

	ε			β			α	
20	27		20	32		20	34	
49.7	37.4	27.1	14.4	62.9	77.3	22.1	70.7	92.8
52.2	34.7	26.9	17.0	60.3	.3	24.5	68.0	.5
54.8	32.5	27.3	19.5	57.5	.0	27.2	65.6	.8
57.2	30.0	27.2	22.0	55.2	.2	29.7	63.0	.7
59.7	27.5	27.2	24.5	52.6	.1	32.3	60.5	.8
5.9	21.0	26.9	31.1	46.1	.2	38.6	54.1	.7
9.8	17.3	27.1	34.8	42.4	.2	42.5	50.1	.6
	13.6	13.6		38.6	38.6		46.3	46.3
		203.3			14			5.2
		13.~~6~~55			38.59			46.35
20	28	13.55	20	32	38.59	20	34	46.35
		50.91		33	15.94		35	23.74
		37.36			37.35			37.39
		.29			.26			.25
		37.07			37.09			37.14
		.09						
		.14						
		37.10						
		.56						
		36.54						

assn = .4

Frod 1327 is SLOW

$36^s.54$

at 20 30 S.T

Fri July 10, 1908

Mer Cir Wells

Rattle at $15^h 08^m$

δ Bootis +33°39'

μ Bootis +37°42'

β Cor. Bor. +29°25'

+33°39'

10^m 43.5 39.7
46.4 36.7 3.2
49.3 33.6 3.1
52.2 30.6 2.9
55.2 27.7 2.8
2.6 20.4 2.9
7.0 16.0 3.0
3.0
11.5

15 |74
11.49

+37°42'

19^m 55.2 54.3 9.5
58.3 ~~49.7~~ 51.7 0.0
1.4 48.2 9.6
4.7 44.9 9.6
7.9 42.1 0.0
15.6 34.2 9.8
20.3 29.5 9.8
24.9

15 |132
24.88

+29°25'

22^m 59.1 53.1 2.2
2.0 60.6 2.6
4.9 47.6 2.5
7.7 44.7 2.4
10.6 41.7 2.3
17.7 34.8 2.5
22.1 30.8 2.9
26.7

15 |41
26.27

ass m = .4

$15^h 11^m 11^s.49$
48.91

37.42
.10

37.32

$15^h 20^m 24^s.88$
62.22

37.34
.05

37.29

$15^h 23^m$ 26.27
3.47

37.20
.14

37.06

37.32
.29
.06

3 |1.67
37.22
.56

36.66

Frod. 1327 is SLOW

$0^m 36^s.66$

at $15^h 20^m$ S.T.

Sat July 11, 1908.

Quer Cir Towells

Ratto at $17^h 22^m$.

β Lirac	+52°22'
α Ophi.	+12°37'
ξ Serp.	−15°20'
ω Drac.	+68°48'

+52°22'		+12°37'		−15°20		+68°48'	
27^m 7.7 24.3	2.0	29^m 39.8 27.7	7.5	31^m 18.8 7.4	6.2	35^m 50.6 0.3	0.9
11.7 20.4	2.1	42.4 25.3	7.7	21.4 5.0	6.4	57.7 53.7	1.4
15.7 16.3	2.0	44.8 22.7	7.5	23.9 2.3	6.2	4.3 46.8	1.1
19.8 12.3	2.1	47.4 20.2	7.6	26.5 59.7	6.2	11.2 39.9	1.1
23.7 8.2	1.9	50.0 17.8	7.8	29.0 57.1	6.1	18.0 33.0	1.0
33.9 58.2	2.1	56.3 11.3	7.6	35.4 50.8	6.2	35.3 16.0	1.3
40.0 52.2	2.2	0.1 7.7	7.8	39.2 47.0	6.2	45.3 5.9	1.2
	46.0		4.0		43.3		55.5
	15|04		15|125		15|18		15|85
	46.03		3.83		43.12		55.57

2.58 37.08
.27 37.90
285 | .82 (28
570
.2500
2566

$17^h 27^m 46^s.03$	$17^h 30^m 3^s.83$	$17^h 31^m 43^s.12$	$17^h 36^m 55^s.57$
17 28 23.45	17 30 41.60	17 32 21.02	17 37 32.65
37.42	37.77	37.90	37.08
.12	.21	.35	.50
37.54	37.56	37.55	37.58

m = .29

ass m = .3

37.54
.56
.55
.58
4|23
37.56
.566 secω
37.00

Prod. 1327 is SLOW

$0^m 37^s.00$

at $17^h 30^m$ S. T.

Mon July 13, 1908

Tran Cir Wells Obs.

ι Draconis +59°17'
ν' Boötis +41°9'
γ Librae −14°29' (10 wires)
α Serpentis +6°42' (13 wires) Rattle at 15h 32m

+59°17'
21m 31.1 12.7 3.8
36.0 58.1 4.1
40.7 53.2 3.9
45.7 48.2 3.9
50.4 43.6 4.0
2.4 31.5 3.9
9.7 24.4 4.1
17.0
15 | 147
16.98

+41°9'
26m 30.0 32.0 2.0
33.3 29.0 2.3
36.5 25.5 2.0
39.8 22.2 2.0
43.0 19.1 2.1
51.2 10.9 2.1
56.2 6.0 2.2
1.1
15 | 18
1.05

−14°29'
29m 38.3 0.0
42.0 2.5
45.8 5.0
49.6 7.6
53.5 10.2
5 | 229.2 5 | 25.3
45.84 5.06
19.06
46.06

+6°42'
38m = 30.0
= 28.6 =
48.9 26.0 4.9
51.3 23.4 4.7
53.8 21.0 4.8
0.0 14.7 4.7
3.7 11.0 4.7
7.3
11 | 41
7.37

15h 22m 16s.98	15h 27m 1s.05	15h 29m 45s.92	15h 39m 7s.37
15 22 54.47	15 27 38.83	15 30 24.12	15 39 45.52
37.49	37.78	38.20	38.15
.31	.07	.47	.32
37.80	37.76	38.73	37.83

1.68 37.49
−.07 38.18
−1.75 169
708

−.26 38.20
.12 38.15
2 | −14 .35
.07 18

m = .4

.468

37.80
.73
.76
.83
4 | 3.12
37.78
.56 secule
37.224

Frod. 1327 is SLOW

0m 37s.22

at 15h 30m S.T.

Tues July 14, 1908

Mer Cir — Tele Obs.

η Serpentis −2° 55′ (last 9 wires)
109 Herculis +21° 44′
b Drac. +58° 45′
Rattle at 18h 24m

−2° 55′
15m — 10.3
53.0 12.7
56.7 15.3
0.4 17.9
4.0 20.2
4 | 234 1 5 | 764
58.52 15.28
1.83 18.48
56.69 56.80

0.2608
.0006
.2614

+21° 44′
18m 45.6 35.7 1.3
48.1 33.2 1.3
50.7 30.6 1.3
53.3 27.8 1.1
55.9 25.2 1.1
2.7 18.4 1.1
6.7 14.6 1.3
10.6
15 | 91
10.61

+58° 45′
21m 13.9 44.2 8.1
18.9 39.6 8.5
23.6 34.9 8.5
28.3 30.3 8.6
32.9 25.4 8.3
45.1 13.4 8.5
52.2 6.4 8.6
59.3
15 | 34
59.23

18h 15m 56.74
18 16 34.86

38.12
.35
37.77

1.65 37.50
−.05 38.12
1.7 .62 | .36
51
110
102

18h 19m 10.s61
48.56

37.95
.18
37.77

18h 21m 59.s23
18 22 36.73

37.50
.26
37.76

m = .36

37.77
.56
37.21

Frod. 1327 is SLOW

0m 37.s21

at 18h 15m S. T.

Wed July 15, 1908

Mer Cir

Wells Obs

α Coron Bor. + 27° 1'
Rattle at 15h 33m
β Serp. + 15° 43'
γ Serp. + 18° 26'

+27° 1'
15h 29m 44.737.1 1.8
47.434.3 1.7
50.331.7 2.0
53.028.9 1.9
55.626.0 1.6
2.619.1 1.7
6.715.0 1.7
11.0
15 | 134
10.89

+15° 43'
40m 55.444.0 9.4
58.141.2 9.3
0.738.9 9.6
3.336.3 9.6
5.733.9 9.6
12.127.4 9.5
16.023.5 9.5
19.7
15 | 112
19.75

+18° 26'
43m 34.724.3 9.0
37.021.4 8.4
39.718.7 8.4
42.315.9 8.2
45.013.2 8.2
51.47.2 8.6
55.63.4 9.0
59.4
15 | 42
59.28

15h 30m 10.89s
15 30 48.85
37.95
.13
37.82
79

15h 41m 19.75s
15 41 57.83
38.08
.25
38.83

15h 43m 59.28s
15 44 37.26
37.98
.13
37.795.

ass m = .4 ~~/3~~
.4

37.82
.87
.79
38

37.83
.56 b sec u.
37.27

37.79
.56 b sec u
37.23.

Frod. 1327 is SLOW

0m 37.23s

at 15h 40m S. T.

Sat. July 18, 1908

Mer Cir — E. C. Ellis.

η Draconis +58°48'
A [ν Herculis] +45°10
~~Rattle~~ at $16^h 08^m$.
δ Ophi. −3°27'

+58°48'
58^m 48.6 19.0 7.6
53.4 14.6 8.0
58.0 9.8 7.8
3.0 4.9 7.9
7.7 0.1 7.8
19.7 48.2 7.9
26.8 41.1 7.9
34.0
15)139
33.93

+45°10'
4^m 42.9 49.3 2.2
46.3 46.0 2.3
49.8 42.2 2.0
53.4 38.7 2.1
56.8 35.2 2.0
5.5 26.5 2.0
11.0 21.3 2.2
16.1
15)1 0
16.07

−3°27'
8^m 31.4 18.3 9.7
33.8 15.9 9.7
36.3 13.3 9.6
38.8 10.9 9.7
41.2 8.4 9.6
47.6 2.3 9.9
51.2 58.7 9.9
55.0
15)121
54.81

1.65 37.63
.08 38.11
1.73 .48 (.28
346
1340
1384

$15^h\ 59^m\ 33^s.93$
16 0 11.56
37.63
.21
37.84

$16^h\ 05^m\ 16^s.07$
53.60
16 05 ~~54.17~~
37.53
~~38.10~~
.03
37.56

$16^h\ 08^m\ 54^s.81$
16 09 32.92
38.11
.28
37.83

u = .28

37.84
.56
.83
3)223
37.74
.56 brecle.
37.18

.74
.28
592
148
.2072

.99
.28
792
198
.2772

.28
.09
.0252

Frod. 1327 is SLOW

$0^m\ 37^s.18$

at $16^h\ 05^m$ S. T.

Monday July 20, 1908

Aver Ci Wells Obs.

α Coron. Bor. +27°1'

Rattle at $15^h\,33^m$.

α Serp. +6°42'

β " +15°43'

α " +18°26'

+27°1'		+6°42'		+15°43'		+18°26'	
29^m 44.737.2		38^m 43.931.0	4.9	40^m 55.644.2	9.8	43^m 34.524.3	8.8
47.634.6	1.9	46.328.8	5.1	58.042.0	0.0	37.021.7	8.7
50.331.8	2.2	49.026.2	5.2	0.739.2	9.9	39.718.9	8.6
53.128.9	2.1	51.423.7	5.1	3.136.8	9.9	42.416.3	8.7
55.826.1	2.0	53.821.2	5.0	5.734.1	9.8	45.013.7	8.7
2.519.3	1.9	0.215.0	5.2	12.327.7	0.0	51.37.2	8.5
7.015.0	1.8	3.911.3	5.2	16.023.7	9.7	55.43.2	8.6
	2.0		7.4		20.0		59.3
	10.7						
	15)146		15)81		15)141		15)49
	10.97		7.54		19.94		59.32

$15^h\,30^m\,10^s.97$	$15^h\,39^m\,7^s.54$	$15^h\,41^m\,19.94$	$15^h\,43^m\,59^s.$~~9~~32
			2~~1~~
15 30 48.79	15 39 45.46	15 41 57.78	37.~~08~~
			8
37.82	37.92	37.84	37.~~2~~89
.12	.24	.19	.17
37.70	37.68	37.65	37.72

ass
n = ~~½~~.3

37.70
.68
.65
.72
4)275
37.69
.56 b sec φ
37.13

Frod. 1327 is SLOW

$0^m\,37^s.13$

at $15^h\,40^m$ S.T.

Tues July 21, 1908

Mer Cir

Wh. Obs.

β Coron. bor +29°25' (9 wires)
ν¹ Bootis +41°9'
α Cor. bor +27°1'
Rattboat $15^h 32^m$

+29°25'
15^h23^m ≡ ≡
7.0 44.0 1.0
10.0 41.0 1.0
16.9 34.0 0.9
21.1 29.7 0.8
25.5
9 | 42
25.47

+41°9'
26^m 29.8 32.0 1.8
33.0 28.7 1.7
36.2 25.3 1.5
39.6 22.1 1.7
43.0 18.7 1.7
51.1 10.6 1.7
56.0 6.0 2.0
1.0
15 | 131
0.87

+27°1'
29^m 44.7 37.1 1.8
47.4 34.4 1.8
50.1 31.7 1.8
53 0 28.9 1.9
55.7 26.0 1.7
2.7 19.2 1.9
6.7 15.0 1.7
10.9
15 | 135
10.90

$15^h 23^m 25^s.47$
15 24 3.32
37.85
.10
37.75

$15^h 27^m 0^s.87$
15 27 38.69
37.82
.07
37.81

$15^h 30^m 10^s.90$
15 30 48.77
37.87
.12
37.75

add
n=3

37.75
.75
.81
3 | 21
37.77
.56
37.21

Frod. 1327 is SLOW

$0^m 37^s.21$

at $15^h 25^m$ S. T.

Wed July 22, 1908

Meri Cir Wh. Obs

Rattle at 16h 11m.

τ Herculis +46°32' (Last 3 wires) clds.
η Drac. +61°43'
β Herculis +21°41'
σ " +42°38'

+46°32'		+61°43'		+21°41'		+42°38'	
16m – –	42.0	21m 19.358.2	7.5	25m 14.34.7	9.0	30m 0.33.9	4.2
–17.1	45.7	24.653.3	7.9	16.92.2	9.1	3.7 0.7	4.4
–22.1	49.2	30.048.1	8.1	19.759.4	9.1	7.057.2	4.2
–27.6	52.8	35.242.9	8.1	22.266.7	8.9	10.353.8	4.1
33.0	56.3	40.337.4	7.7	24.954.1	9.0	13.650.4	4.0
	6⟌246.0	53.324.5	7.8	31.647.4	9.0	22.042.1	4.1
	49.20	1.216.7	7.9	35.543.5	9.0	27.137.0	4.1
	26.81		9.0		39.6		31.8
	22.39		15⟌140		15⟌77		15⟌9
	60.04		8.93		39.51		32.06
	37.65						

16h 22m 8.93s	16h 25m 39.51s	16h 30m 32.06s
46.45	26 17.36	31 9.81
37.52	37.85	37.75
.22	.12	.00
37.74	37.73	37.75

1.86 37.52
.40 37.85
1.46 .33 (226
292
380
292
880
676

m = .23

.95 .51
.23 .23
285 153
190 102
.2185 .1173

37.74
.56 b sec c.
37.28

Frod. 1327 is SLOW

0m 37.28s

at 16h 30m S.T.

Sat July 25 $\frac{9}{10}$, 1908

Coll. — Wells.

~~20~~^{h} ^{m}
22.50

S. Coll. on N. Coll. 95.0
95.3
94.9
94.9
94.7
94.8
Set at 94.9 6)296(94.93

Tel. on S. Coll.

Micrometer found at 33.6056. 40.519
.514
.528
.525
.532
.524
6)142(40.5237
12
22
18
40

Tel. on N. Coll.

26.831
~~.767~~
~~.795~~
.689
.813
.684
.821
.689
6)4527(26.7545
42
32
30
27

$23^h\ 38^m$ Micrometer set at 33.651

2)67.2782
33.6391
.012
33.651

Sunday
~~Saturday~~ ~~July 16 1908~~
1st min 21 46

H.B. Obs

16 Pegasi +25 30
1st min 21 59
α Aquarii −0° 46′
θ Pegasi +5° 45′

16 Pegasi

21 47

50.4	42.4	32.8
53.3	39.7	33.0
55.9	37.0 ~~39.7~~	32.9
58.7	34.2	32.9
1.3	31.5	32.8
8.4	24.7	33.1
12.5	20.6	33.1
	16.5	16.5
		247.1
		16.47

21 48
16.47
54.53
38.06
.10
37.96
37.96
38.02
37.98
.56 = b sec φ
37.42

ass. m = .23

α Aquarii

22 0

3.8	50.6	54.4
6.2	48.4	.6
8.7	45.7	.4
11.2	43.2	.4
13.8	40.9	.7
20.0	34.6	.6
23.5	30.8	3
	27.2	27.2
		3.6
		27.24

22 0
27.24
5.47
38.23
.21
38.02

θ Pegasi

22 4

33.7	20.8	54.5
36.2	18.6	.8
38.7	16.0	.7
41.1	13.5	.6
43.6	10.9	.5
49.9	4.6	.5
53.7	1.0	.7
	57.3	57.3
		4.6
		57.31

22 4
57.31
35.46
38.15
.19
37.96

Frod 1327 is SLOW
37.s42
at 22 0 S.T

Mon. July 27, 1908

Mer Cir Wh. Obs

ο Draco +59°17'
ν Serp. fr. +4°5' (last 5 wires)
γ Lyrae +32°34' (last 10 wires)
Rattle 18h54m

+59°17'
48m 29.7 1.7 1.4
34.9 56.8 1.7
39.7 52.0 1.7
44.4 47.2 1.6
49.1 42.3 1.4
1.2 30.3 1.5
8.6 22.9 1.5
15.9
15 | 117
15.78

+4°5'
51m 16.6
18.9
21.2
23.9
26.1
5 | 1067
21.34
18.50
02.84

+32°34'
54m 45.7 10.4
50.0 13.3
54.3 16.3
58.7 19.2
3.1 22.0
5)2718 5 | 812
54.36 16.24
21.90
54.34

1.68
.07
1.61

37.58
.92
.34 (.21
.322
180

18h 49m 15.78
18 49 53.36
37.58
.16
37.74

18h 51m 2s.84
18 51 40.76
37.92
.18
37.74

18h 54m 54s.35
18 55 32.16
37.81
.07
37.74

m = .21

37.74
.56 b sec c
37.18

.154
8
.162

.77
.21
77
154
.1617

.84
.21
84
168
.1764

.29
.21
91
58
.0671

Frod. 1327 is SLOW

0m 37s.18

at 18h 50m S.T.

Tues July 28, 1908

Meri Cir

Wh Obs

ε Herculis +31°04'
η Ophi. −15°37'
ξ Drac. +65°50'
δ Herc. +24 57'

Rattle at 17h 03m.

+31°04'		−15°37'		+65°50'		+24°57'	
55m 42.6 37.3	9.9	4m 5.5 54.1	9.6	6m 58.8 53.0	1.8	10m 13.2 4.8	8.0
45.5 34.4	9.9	8.2 51.6	9.8	5.1 47.1	2.2	15.9 2.1	8.0
48.4 31.5	9.9	10.6 49.0	9.6	10.9 41.0	1.9	18.7 59.3	8.0
51.4 28.7	0.1	13.2 46.4	9.6	16.9 35.3	2.2	21.3 56.7	8.0
54.0 25.8	9.8	15.9 43.9	9.8	23.0 29.0	2.0	24.0 53.8	7.8
1.3 18.4	9.7	22.2 37.5	9.7	38.0 14.0	2.0	30.8 47.2	8.0
5.3 14.2	9.5	26.0 33.6	9.6	47.3 5.0	2.3	35.0 43.2	8.2
	10.0		30.0		55.9		39.2
15	138	15	127	15	03	15	2
	9.92		29.85		56.02		39.01

	16h 56m 9.92s	17h 04m 29.85s	17h 07m 56.02s	17h 10m 39.01s
	47.74	7.85	33.37	16.78
	37.82	38.00	37.35	37.77
	.08	.31	.34	.12
	37.74	38.69	37.69	37.65

−.28 38.00
2.23 37.35
2.51

.650(259
502
1480
1255
2259

m = .26

.31
.26
186
62
.0806

1.19
.26
714
238
.3094

1.31
.26
786
262
.3406

.45
.26
270
90
.1170

37.74
.69
.69
.65
4|1.37
37.69
.56
37.13

Frod. 1327 is SLOW

0m 37.13s

at 17h 06m S. T.

Wed July 29, 1908

Mer Cir — Tel. Obs

Rattle at 16h 01m

A [u Herculis] +45°11′

δ Ophi −3°27′

ε Ophi. −4°28′

τ Herculis +46°32′

+45°11′		−3°27′		−4°28′		+46°32′	
4m 42.6 49.0	1.6	8m 31.4 18.3	9.7	12m 27.2 14.2	1.4	15m 48.1 56.0	4.1
46.2 45.7	1.9	33.9 16.0	9.9	29.7 11.7	1.4	51.7 52.7	4.4
49.7 42.0	1.7	36.3 13.4	9.7	32.1 9.2	1.3	55.2 49.0	4.2
53.0 38.6	1.6	38.9 11.0	9.9	34.6 6.8	1.4	58.9 45.4	4.3
56.6 35.0	1.6	41.3 8.4	9.7	37.0 4.2	1.2	2.5 41.9	4.4
5.2 26.3	1.5	47.4 2.3	9.7	43.2 58.1	1.3	11.4 33.0	4.4
10.6 21.0	1.6	51.2 58.7	9.9	47.0 54.4	1.4	17.0 27.4	4.4
	15.9		54.9		50.7		22.2
	12) 124		15) 134		15) 101		15) 24
	15.83		54.~~78~~ .89		50.67		22.16

	16h 05m 15s.83	16h 8m 54s.89	16h 12m 50s.67	16h 16m 22s.16
	~~60~~			
	53.~~95~~ .58	9 32.81	13 28.59	16 16 59.89
	37.75	37.92	37.92	37.~~7~~3
assu = 1/4	.02	.24	.25	.03
	37.77	37.68	37.67	37.76

37.77
.68
.67
.76

2) 8

37.72
.56 6 secs
37.16

Frod. 1327 is SLOW

0m 37s.16

at 16h 10m S.T.

Thursday July 30, 1908

Mer Cir Tel. Obs.

Rattle after 14h 06m
α Bootis +19°42′

+19°42′

10m 25.8	15.6	1.4
28.4	13.0	1.4
31.0	10.3	1.3
33.6	7.7	1.3
36.2	5.0	1.2
42.7	58.5	1.2
46.7	54.7	1.4

50.8
15 ⟌ 100
50.67

14h 10m 50s.67
14 11 28.49

37.82
.14

37.68
.56 b sec δ

37.12

ass u = 1/4

Frod. 1327 is SLOW

0m 37s.12

at 14h 11m.

Fri July 31, 1908

[illegible] Cir [illegible]

Rattle at 16h 28m

σ Herculis + 42°38'

η Herculis + 39°6'

+42°38'

30m	0.33.8	4.1
	3.50.6	4.1
	6.957.2	4.1
	10.353.7	4.0
	13.550.3	3.8
	22.042.0	4.0
	27.037.0	4.0
		32.0
		15 | 1
		32.01

+39°6'

38m	38.338.4	6.7
	41.435.3	6.7
	44.532.0	6.6
	47.6729.0	6.7
	50.825.8	6.6
	58.817.7	6.5
	3.6130	6.6
		8.3
		3 | 46
		8.31

16h 30m 32s.01
9.64
31 ~~10.07~~

~~38.06~~
37.63
.00
37.63

ass m = 1/4

16h 39m 8s.31
45.97

37.66
.02
37.64

37.64
.56 6 secs
37.08

Frod. 1327 is SLOW

0m 37s.08

at 16h 35m S.T.

Mon Aug 23, 1908

Mer Cir

Ro Le Obs

Rattle at $17^h 58^m$

72 Oph. +9°33' (~~last~~ first 10 wires)

o Herculis +28°45' (last 13 wires)

+9°33'

01m 59.5	15.6	—
2.0	19.5	—
4.6	23.3	—
7.1	27.0	—
9.5	30.7	—
5)227	5)1161	
4.54	23.22	
18.80		
23.34		

+28°45'

03m ~~17~~	12.9	36.8
—	17.3	39.6
—	21.5	42.3
—	25.6	45.2
	29.8	48.0
	5)1051	5)2119
	21.02	42.38
		21.05
		21.33

$18^h 02^m 23^s.28$

18 02 61.08

37.80

.19

37.61

$18^h 03^m 21^s.38$

18 03 59.02

37.64

.09

37.55

ass m = ¼

37.58

.56

37.02

Frod. 1327 is SLOW

$0^m\ 37^s.02$

$18^h 03^m$ S.T.

Tues Aug 4, 1908

Mer Cir — W. L. Obs.

ζ Drac +65°50' (middle set of wires)
α Herc. +14°30' " " " "
π Herculis +36°55'
Rattle at 17h 13m

+65°50'	+14°30'	+36°55'	
7m 37.6	9m 43.3	10m 45.0 43.7	8.7
47.0	47.2	48.3 40.7	9.0
55.8	51.0	51.3 37.6	8.9
4.7	54.7	54.5 34.5	9.0
13.8	58.7	57.5 31.4	8.8
5)278.9	5)254.9	5.1 23.7	8.7
55.78	50.98	9.7 19.0	14.4
			15)55
			14.37
17h 07m 55.78s	17h 9m 50.98s	17h 11m 14.37s	
17 08 33.08	17.10 28.69	52.11	
37.30	37.71	37.74	
.34	.16	.04	
37.64	37.55	37.70	

37.

37.70 × 3 = 2.10
.64
.55
5)3.29
37.66
.56 Breck
37.10

Frod. 1327 is SLOW
0m 37.10s
at 17h 10m S.T.

Thursday August 6 1908

λ Aquarii (last 10 wires) (signal follows transits)
o Androm 22 57 +41 50
α Pegasi 23 0 +14 40

HB Ub

λ aq
22 47
5.5
9.4
13.0
16.7
20.5
65.1
13.02

26.8
29.3
31.7
34.3
36.7
158.8
31.76
18.64
13.12

o Androm
22 56

34.2	37.1	11.3
37.6	34.0	11.6
40.9	30.6	11.5
44.1	27.2	11.3
47.5	24.0	11.5
55.9	15.6	11.5
0.9	10.7	11.6
~~6~~.	6.0	6.0
		86.3
		5.75

α Pegasi
22 59

10.4	59.1	69.5
13.0	56.5	.5
15.5	54.0	.5
18.3	51.4	.7
20.9	48.9	.8
27.1	42.5	.6
31.0	38.8	.8
34.9		34.9
		522.3
		34.82

22 47 13.07
50.94
37.87
.26
37.61
.61
.66
37.63
.56
37.07

ass. u = 1/4

22 57 5.75
43.41
37.66
.00
37.66

22 59 34.82
12.59
37.77
.16
37.61

Frod 1327 is SLOW
$37^{s}.07$
at 22 55 S.T.

Fri Aug 7, 1908

Mer Cir Wh Obs

Rattle at $18^h 14^m$.

109 Herculis +21°44'
b Draco. +58°45'
α Lyrae +38°42'

+21°44'		+58°45'		+38°42'	
18^m 45.636.0	1.6	20^m 13.7439	7.6	32^m 43.7438	7.5
48.333.3	1.6	18.639.4	8.0	46.740.7	7.4
50.930.7	1.6	23.534.6	8.1	50.037.4	7.4
53.728.1	1.8	28.030.1	8.1	53.234.4	7.6
56.225.4	1.6	33.025.0	8.0	56.331.2	7.5
2.719.0	1.7	44.613.3	7.9	4.223.3	7.5
6.715.0	1.7	51.85.8	7.6	9.118.5	7.6
	10.9		59.0		14.0
	15 | 125		15 | 143		15 | 115
	10.83		58.95		13.77

$18^h 19^m 10^s.83$	$18^h 21^m 58^s.95$	$18^h 33^m 13^s.77$
48.47	22 36.29	51.36
37.64	37.34	37.59
.13	.18	.03
37.51	37.52	37.56

ave
$n = \frac{1}{4}$

37.51
.52
.56

37.53
.56 break

36.97

Frod. 1327 is SLOW
$0^m 36^s.97$
at $18^h 25^m$ S.T.

Sat Aug 8, 1908

Quer Cir — Wo. Ch. Obs.

Rattle at $17^h 33^m$.

ι Herculis +46° 3′
β Oph. +4° 36′
μ Herculis +27° 46′
ξ Drac. +56° 53′

+46° 3′		+4° 36′		+27° 46′		+56° 53′	
35^m 42.4499	2.3	37^m 56.043.0	9.0	41^m 49.041.8	0.8	50^m 37.93.8	1.8
45.946.4	2.3	58.640.6	9.2	51.839.2	1.0	42.659.5	2.1
49.742.9	2.6	1.038.2	9.2	54.736.3	1.0	46.954.7	1.6
53.039.3	2.3	3.435.7	9.1	57.333.6	0.9	51.650.3	1.9
56.635.7	2.3	6.033.1	9.1	0.230.8	1.0	56.045.7	1.7
5.726.8	2.5	12.026.9	8.9	9.023.9	0.9	7.334.2	1.5
11.021.7	2.7	15.823.3	9.1	11.319.5	0.8	14.027.6	1.6
	16.3		19.6		15.5		20.7
	15)33		15)82		15)69		15)128
	16.22		19.55		15.46		20.85

$17^h 36^m 16^s.22$	$17^h 38^m 19^s.55$	$17^h 42^m 15^s.46$	$17^h 51^m 20^s.86$
53.75	57.34	53.07	58.25
37.53	37.79	37.61	37.40
.03	.21	.10	.16
37.56	37.58	37.51	37.56

1.53 37.40
.08 37.79
1.45) .35 (.24
290
60
58

$u = \frac{1}{4}$

37.56
.58
.51
.56
4)21
37.55
.56
36.99

Frod. 1327 is SLOW

$0^m 36^s.99$

at $17^h 40^m$ S.T.

Monday Aug 10, 1908

H.B. Obs

θ Pegasi +5° 45′ 22h 5m
θ Aquarii −8° 14′
γ Aquarii −1° 57′

θ Pegasi

22 4

34.5	34.5	21.6	56.1
37.1	37.1	19.1	.2
39.5	39.5	16.7	.2
41.8	41.8	14.2	.0
44.4	44.5	11.6	.1
50.5 58.2	50.5	5.5	.0
54.4	54.4	1.8	.2
	58.2		58.2
			1.0
			.07

θ Aquarii

22 10

59.5	46.9	46.4
2.1	44.5	.6
4.5	42.0	.5
7.1	39.5	.6
9.6	37.0	.6
16.0	30.8	.8
19.7	27.0	.7
	23.3	23.3
		45
		.30

γ Aquarii

22 15

55.4	42.2	37.6
57.9	39.8	.7
0.3	37.4	.7
2.7	34.8	.5
5.2	32.3	.5
11.3	26.2	.5
14.9	22.4	.3
	18.8	18.8
		11.6
		.77

22 4 58.07
5 35.68
37.61
.20
37.41
.40
.40
37.40
.56
$3\overset{6}{\cancel{7}}.84$

ass m = $\frac{1}{4}$

22 11 23.30
12 0.96
37.66
.26
37.40

22 16 18.77
56.44
37.64
.24
37.40

Frod 1327 is SLOW
$3\overset{6}{\cancel{7}}^{s}.84$

at 22 10 S.T.

Wed. Aug. 12, 1908

Mer Cir

Wh. Obs.

i Herculis +46° 3'
β Ophiuchi +4° 36'
μ Herculis +27° 46'
Rattle at $17^h 44^m$.

+46° 3'		+ 4° 36'		+27° 46'	
35^m 42.5 50.0	2.5	37^m 56.2 43.2	9.4	41^m 49.2 42.0	1.2
46.2 46.5	2.7	58.7 40.8	9.5	52.0 39.3	1.3
49.6 42.8	2.4	1.2 38.3	9.5	54.7 36.3	1.0
53.1 39.4	2.5	3.6 35.7	9.3	57.4 33.7	1.1
56.7 35.9	2.6	6.2 33.2	9.4	0.2 31.0	1.2
5.7 27.0	2.7	12.3 27.2	9.5	7.3 24.0	1.3
11.0 21.5	2.5	16.0 23.4	9.4	11.4 19.8	1.2
	16.3		19.7		15.7
	15 | 42		15 | 107		15 | 90
	16.28		19.71		15.60

$17^h 36^m 16^s.28$	$17^h 38^m 19^s.71$	$17^h 42^m 15^s.60$
53.66	57.29	53.01
37.38	37.58	37.41
.03	.21	.10
37.41	37.37	37.31

ass m = 1/4

37.41
.37
.31
3 | 109
37.36
.566 secs
36.80

Frod. 1327 is SLOW

$0^m 36^s.80$

at $17^h 40^m$ S. T.

Fri Aug 14, 1908

Clear Cir — Tol. Obs

Rattle at 17h 26m.

β Drac +52°22'

α Oph +12°38'

+52°22'

27m 7.2238	1.0
11.3200	1.3
15.3159	1.2
19.3119	1.2
23.38.0	1.3
33.4577	1.1
39.6517	1.3

45.6

15)90

45.60

+12°38'

29m 39.8277	7.5
42.3254	7.7
44.9229	7.8
47.4203	7.7
49.9178	7.7
56.3115	7.8
0.075	7.5

3.9

15)126

3.84

asou = 1/4

17h 27m 45s.60

28 22.76

37.16

.10

37.26

17h 30m 3s.84

41.36

37.52

.17

37.35

37.26

.35

2)61

37.30

.56 b secδ

36.74

Frod. 1327 is SLOW

0m 36s.74

at 17h 30m S.T.

Saturday Aug 15 1908

η Piscium 1 26 +14 52
υ Persei interrupted by clouds after 5th wire
ο Piscium 1 40 +8°42′
ζ Ceti 1 46 −10 47

η Piscium

1 25

34.5	22.6	117.1
36.8	20.2	.0
39.3	17.8	.1
42.0	15.2	.2
44.7	12.6	.3
50.9	6.1	.0
54.6	2.4	.0
58.6		58.6
		8.3
		58.55

all these are 1s too large

1 25 57.55
1 26 35.10

37.55
.16

ass. n = 1/4 37.39
.42
.42

37.41
.56

36.85

ο Piscium

1 39

31.9	19.5	111.4
34.8	17.2	112.0
37.2	14.8	112.0
39.5	12.5	112.0
42.1	9.8	111.9
48.4	3.3	111.7
52.2	59.6	111.8
	56.0	56.0
		838.8
		55.92

1 39 55.92
1 40 33.53

37.61
.19

37.42

ζ Ceti

1 45

55.2	42.5	37.7
57.5	40.2	.7
0.2	37.5	.7
2.5	35.1	.6
5.0	32.6	.6
11.2	26.4	.6
15.0	22.7	.7
	19.0	19.0
		282.6
		18.84

1 46 18.84
56.54

37.70
.28

37.42

Frod 1327 is SLOW
$36^s.85$
at 1 35 ST

Tues Aug 18, 1908
Mer Cir - Ten Obs.

Rattle at $16^h 48^m$.
X Ophi. $+9°31'$
ζ Herc $+31°4'$

$+9°31'$		$+31°04'$	
52^m 19.266	5.8	55^m 43 037.7	0.7
21.84.3	6.1	46.035.0	1.0
24.21.7	5.9	48.932.0	0.9
26.959.2	6.1	51.729.1	0.8
29.256.7	5.9	54.526.2	0.7
35.450.4	5.8	1.819.0	0.8
39.246.7	5.9	6.114.7	0.8
	43.0		10.4
	15 | 145		15 | 51
	42.97		10.34

$16^h 52^m$ 42.97	$16^h 56^m$ 10.34
20.09	47.40
37.12	37.06
.18	.08
36.94	36.98

aso
$n = 1/4$

36.96
.56 b sec c
36.40

Frod. 1327 is SLOW
$0^m 36^s.40$
at $16^h 55^m$ S.T.

Thursday Aug 20, 1908

Mer Cir → Wh Obs.

Rattle at 20$^{\mathrm{h}}$ 36$^{\mathrm{m}}$

ε Cygni +33°37′
λ Cygni +36°9′ (9 wires)
32 Vulpec. +27°42′
ν Cygni +40°49′

+33°37′		+36°9′		+27°42′		40°49′	
41$^{\mathrm{m}}$ 26.823.1	9.9	42$^{\mathrm{m}}$ =	=	49$^{\mathrm{m}}$ 37.530.4	7.9	52$^{\mathrm{m}}$ 39.441.4	0.8
30.020.3	0.3	55.435.3	0.7	40.327.8	8.1	43.038.3	1.3
33.017.6	0.6	58.632.3	0.9	43.225.0	8.2	46.235.0	1.2
36.014.3	0.3	6.224.6	0.8	46.122.1	8.2	49.531.7	1.2
38.711.4	0.1	10.719.8	0.5	48.719.3	8.0	52.728.4	1.1
46.24.0	0.2		15.6	56.712.3	8.0	0.820.3	1.1
50.759.7	0.4		9⌊35	0.08.3	8.3	5.815.5	1.3
	55.3		15.39		4.2		10.5
	15⌊21				15⌊09		15⌊85
	55.14				4.06		10.57

aso
u = 1/4

20$^{\mathrm{h}}$ 41$^{\mathrm{m}}$ 55$^{\mathrm{s}}$.14	20$^{\mathrm{h}}$ 43$^{\mathrm{m}}$ 15$^{\mathrm{s}}$.39	20$^{\mathrm{h}}$ 50$^{\mathrm{m}}$ 4$^{\mathrm{s}}$.06	20$^{\mathrm{h}}$ 53$^{\mathrm{m}}$ 10$^{\mathrm{s}}$.57
42 31.56	51.74	40.53	46.92
36.42	36.35	36.47	36.35
.06	.04	.10	.01
36.36	36.31	36.37	36.34

36.36
.31
.37
.34
4⌊18
36.34
.56 breck
35.78

Frod. 1327 is SLOW

0$^{\mathrm{m}}$ 35$^{\mathrm{s}}$.78

at 20$^{\mathrm{h}}$ 50$^{\mathrm{m}}$ S.T.

Fri Aug 21, 1908

Mer Cir

Toledo

67 Ophi +2°56'
Rate at 17h 59m
o Herculis +28°45'

$=+2°56'$

55m 11.343.5 4.8
13.941.0 4.9
20.0348 4.8
23.731.2 4.9
27.6
9 | 40
27.44

+28°45'

2m 55.849.2 5.0
58.746.4 5.1
1.543.6 5.1
4.240.9 5.1
7.138.0 5.1
14.131.0 5.1
18.426.7 5.1
22.6
15 | 82
22.55

$17^h 55^m 27.^s44$
63.87
36.43
.22
36.21

$18^h 03^m 22.^s55$
58.78
36.23
.09
36.14

ass
n=1/4

36.18
.56
35.62

Frod. 1327 is SLOW

$0^m 35.^s62$

at $18^h 0^m$ S.T.

Mon Aug 24, 1908
Amer Eir — Eolulls

Rattle at $17^h 42^m$

ξ Draconis +56°53' (last 10 wires)
γ Drac. +51°30' (9 wires)
67 Oph. +2°56' (last 10 wires)
o Herculis +28°45'

+56°53'
51^m 8.5 46.9
15.4 51.4
22.0 56.0
27.8 0.5
35.5 4.8
1092 2796
21.94 55.92
33.78
22.14

+51°30'
53^m = =
28.3 19.7 8.0
32.1 15.7 7.8
42.2 6.0 8.2
48.0 00.0 8.0
537
9)87
53.97

+2°56'
55^m 20.8 41.8
24.5 44.4
28.1 46.7
32.1 49.0
35.7 51.5
1412 2334
28.24 46.68
18.48
28.20

+28°45'
2^m 56.3 49.9 6.2
59.3 47.0 6.3
1.9 44.3 6.2
4.8 41.3 6.1
7.6 38.6 6.2
14.7 31.4 6.1
19.0 27.3 6.3
234
15)18
23.12

$17^h 51^m 22.^s04$ — 57.74 — 35.70 — .04 — 35.66

$17^h 53^m 53.97$ — 54^m 29.64 — 35.67 — .02 — 35.65

$17^h 55^m 28.22$ — 3.83 — 35.61 — .05 — 35.66

$18^h 03^m 23.12$ — 58.73 — 35.61 — .02 — 35.63

1.59 35.70
.05 35.61
1.55 .09.0

aso u = .06

35.66
.65
.66
.63
4)20
35.60
.56 brenc
35.04

Frod. 1327 is SLOW

$0^m 35.^s04$

at $18^h 0^m$ S. T.

Times Aug 27, 1908

Rattle at 22h 30m

10 Lacertae +38° 34'
η Pegasi +29° 44'
λ '' +23° 5'
ι Cephei +65° 43'
δ Aquarii −16° 18'
} W. W. obs

o Androm +41° 50' H.B. obs

α Pegasi +14° 43'

10 Lac.

22 34
+38° 34'

5.1	5.0	70.1
8.3	1.8	.1
11.5	58.7	.2
14.6	55.6	.2
17.6	52.4	.0
25.5	44.5	.0
30.4	39.7	.1
	35.0	35.0
		.7
		35.05

η Peg

22 37
+29° 44'

41.2	35.4	16.6
44.1	32.6	.7
47.0	29.5	.5
49.8	26.9	.7
52.6	24.1	.7
59.7	17.0	.7
	12.7	.7
4.0	8.4	8.4
		50
		8.33

λ Peg

22 41
+23° 5'

7.5	58.4 56.0	65.9
10.2	53.1	66.2
12.8	50.3	65.9
15.6	47.7	65.9
18.2	41.0	65.9
24.8		65.8
29.0	36.9	65.9
	33.0	33.0
		4945
		32.97

ι Cephei

22 44
+65° 43'

55.7	49.8	105.5
1.6	43.8	105.4
7.3	37.9	105.2
13.7	31.6	105.3
19.6	25.5	105.1
34.1	10.7	104.8
43.4	1.6	105.0
"	52.6	52.6
		7889
		52.59

δ aq

22 48
−16° 18'

48.7	37.5	26.2
51.3	35.0	.3
53.9	32.5	.4
56.5	30.0	.5
59.1	27.2	.3
5.3	21.0	.3
9.4	17.1	.5
	13.2	13.2
		27
		13.18

2.22 35.26
.29 35.31
2.51 .05

μ = 1/50

22 34 35.05
35 10.36
35.31
.00
35.31

22 38 8.33
43.65
35.32
.01
35.31

22 41 32.97
42 8.22
35.25
.01
35.24

22 45 52.59 ✓
46 27.85
35.26
.03
35.29

22 49 13.18 ✓
48.49
35.31
.02
35.29

35.31
.31
.24
.29
.29
5 | 144
35.29

35.29
.56 [illegible]
34.73

o Andr om

22 56

36.9	39.8	16.7
40.3	36.6	.9
43.5	33.2	.7
46.7	30.1	.8
50.2	26.6	.8
58.8	18.5	17.3
3.4	13.4	16.8
	8.4	8.4
		6.4
		8.43

α Pegasi

22 59

13.1	1.7	74.8
15.9	59.2	75.1
18.5	56.8	75.3
21.0	54.1	75.1
23.4	51.6	75.0
29.9	45.2	75.1
33.5	41.4	74.9
	37.5	37.5
		5628
		37.52

22 57 8.43
43.71
35.28
.00

22 59 37.52
23 0 12.89
35.37
.01
35.36

35.32

Frod 1327 is SLOW
0m 34s.73 W.W.W.
34s.76 H.B
at 23h 0m S. Y.

Fri Aug 28, 1908

Level Obs. 20-20-20.

Telescope South

Zero	E End	W End		
~~W~~E	+38.0	+74.0	+112.0	
W	-57.0	-20.0	-77.0	+35.0
E	+38.0	+74.0	+112.0	
W	-56.0	-19.0	-75.0	+37.0

Telescope North

	E End	W End		
W	-57.5	-22.0	-79.5	
E	+33.0	+68.5	+101.5	+22.0
W	-57.0	-21.5	-78.5	
E	+34.0	+69.5	+103.5	+25.0

Again

Telescope South.

	E End	W End.		
E	+ 27.0	+76.0	+103.0	
W	- 10.5	-59.5	-70.0	+33.0
E	+ 25.0	+74.0	99.0	
W	- 12.5	-61.5	74.0	+25.0

Telescope North.

E	+ 37.5	+ 85.2	+122.7	
W	- 94.0	- 26.0	-100.0	+22.7
E	+ 37.5	+ 85.5	+123.0	
W	- 71.0	- 22.8	93.8	+29.2

7.15
06
4290
1.35
2145
1287
429
579

32) 2289 (7.15
224
49
32
170
160

b sec φ = $0^s.58$ West end high.

Fri Aug 28, 1908.

Meri Cir: 90 bells

ν Cephei +62°41'
β Delphi. +14°16'
α Delphi. +15°35'
α Cygni +44°57'
Rattle at $20^h 39^m$.

+62°41'		+14°16'		+15°35'		+44°57'	
26^m 39.0 21.1	0.1	32^m 17.0 5.2	2.2	34^m 24.6 13.3	7.9	37^m 12.0 17.7	9.7
44.4 16.0	0.4	19.5 3.0	2.5	27.0 10.7	7.7	15.1 14.5	9.6
49.7 10.6	0.3	22.0 0.2	2.2	29.8 8.0	7.8	18.9 11.2	0.1
55.2 5.0	0.2	24.7 57.7	2.4	32.3 5.4	7.7	22.3 7.7	0.0
0.4 59.7	0.1	27.1 55.0	2.1	34.8 3.0	7.8	25.6 4.3	9.9
14.0 46.1	0.1	33.7 48.7	2.4	41.6 56.5	8.1	34.5 55.3	9.8
22.3 38.2	0.5	37.3 45.0	2.3	45.2 52.8	8.0	39.7 50.4	0.1
	30.3		41.3		49.2		45.2
	15 | 120		15 | 124		15 | 142		15 | 144
	30.13		41.16		48.95		44.96

	$20^h 27^m 30.^s13$	$20^h 32^m 41.^s16$	$20^h 34^m 48.^s95$	$20^h 37^m 44.^s96$
	65.18	33 16.21	24.02	20.03
m = 0	35.05	35.05	35.07	35.07

35.06
.58 breck
34.48

Frod. 1327 is SLOW

$0^m 34.^s48$

at $20^h 33^m$ S.T.

Sat Aug 29, 1908.

Trans Cir Wells.

Rattle at $20^h 35^m$.

α Cygni +44°57'

ε Cygni +33°37'

1 Cygni +36°9' (5 wires)

+44°57'

37^m 12.018.0
15.314.7 0.0
19.011.3 0.0
22.37.7 0.3
25.84.2 0.0
34.755.4 0.0
39.950.2 0.1
0.1
45.0
15⌊5
45.03

+33°37'

41^m 28.324.6 2.9
31.421.7 3.1
34.218.7 2.9
37.315.6 2.9
40.312.9 3.2
47.65.3 2.9
52.21.0 3.2
56.7
15⌊78
56.51.

+36°9'

43^m 7.6
12.2
16.8
21.5
26.0
5⌊84.12
16.82

$20^h 37^m 45^s.03$
38 20.02
44.99

$20^h 41^m 56^s.51$
42 31.51
35.00

$20^h 43^m 16^s.82$
51.68
34.86

ass. m = 0

35.00 × 3 = 3.00
.99 × 3 = 2.97
86 × 1 = .86
7⌊6.83
34.98
.58
34.40

Frod. 1327 is SLOW

$0^m 34^s.40$

at $20^h 40^m$ S. T.

Monday Aug 31, 1908

Mer Cir Rob. Obs.

Rattle at $17^h 34^m$.

β Oph. +4°36′

μ Herc. +27°46′ (no pencil)

+4°36′

37^m	58.8	45.8	4.6
	1.3	43.3	4.6
	3.7	40.9	4.6
	6.3	38.4	4.7
	8.7	35.9	4.6
	14.8	29.7	4.5
	18.6	26.0	4.6
			22.2
			15 | 44
			22.29

+27°46′

41^m	51.4	44.4	5.8
	54.3	41.9	6.2
	57.1	39.0	6.1
	59.8	36.2	6.0
	2.7	33.4	6.1
	9.6	26.4	6.0
	13.8	22.2	6.0
			18.1
			15 | 3
			18.02

$17^h 38^m 22.^s29$

57.03

34.74

$17^h 42^m 18.^s02$

52.68

~~40~~

34.66

a.s.
m = 0

34.70

.58

34.12

Frod. 1327 is SLOW

$0^m 34.^s12$

at $17^h 40^m$ S.T.

Tues Sep 1, 1908

Clear Cir

W L Ells

η Serpentis $-2°55'$
109 Herc $+21°44'$
Rattle at $18^h\ 24^m$
α Lyrae $+38°42'$

$-2°55'$

15^m 36.6236 0.2
39.021.0 0.0
41.318.6 9.9
43.916.0 9.9
46.413.6 0.0
52.57.5 0.0
56.33.7 0.0
0.2
15)1.2
0.13

$+21°44'$

18^m 48.438.7 7.1
51.236.3 7.5
53.733.4 7.1
56.431.0 7.4
59.128.3 7.4
5.721.7 7.4
9.717.7 7.4
137
15)100
13.67

$+38°42'$

32^m 46.446.4 2.8
49.7433 3.0
52.840.3 3.1
56.037.0 3.0
59.034.0 3.0
7.026.0 3.0
11.921.3 3.2
16.5
15)76
16.51

$18^h\ 16^m\ 0.^s13$
34.55
34.42

$18^h\ 19^m\ 13.^s67$
48.14
34.47

$18^h\ 33^m\ 16.^s51$
50.92
34.41

and
u = 0

34.42
.47
.41
3)10
34.43
.58 brecle
33.85

Frod. 1327 is SLOW

$0^m\ 33.^s85$

at $18^h\ 25^m$ S.T.

7

Wed Sep 2, 1908.

Mer Cir — W. L. Obs.

4 Cygni +52°11′

Rattle at $20^h 06^m$.

o' Cygni 31. +46°28′

24 Vulpec. +24°23′

+52°11′			+46°28′			+24°~~38~~ 23′		
52^m 5.0	21.4	6.4	9^m 38.1	46.1	4.2	11^m 52.9	44.7	7.6
9.0	17.5	6.5	41.7	42.6	4.3	55.8	42.0	7.8
13.2	13.3	6.5	45.2	39.0	4.2	58.5	39.4	7.9
17.0	9.3	6.3	49.0	35.3	4.3	1.1	36.4	7.5
21.3	5.3	6.6	52.5	31.7	4.2	4.0	34.0	8.0
31.3	55.3	6.6	1.4	23.0	4.4	10.7	27.1	7.8
37.3	49.3	6.6	7.0	17.6	4.6	15.0	23.3	8.3
		43.2			12.0			19.4
		15⌊37			15⌊22			15⌊143
		43.25			12.15			18.95

$19^h 52^m 43^s.25$	$20^h 10^m 12^s.15$	$20^h 13^m 18^s.95$
53 17.18	46.20	52.88
33.93	34.05	33.93

ass n = 0

33.93
34.05
33.93
3⌊291
33.97
.58 brace
33.39

Frod. 1327 is SLOW

$0^m 33^s.39$

at $20^h 05^m$ S.T.

Times Oct 3, 1908

Mer Cir Wells

Rattle ad $21^h 58^m$

γ Aquarii −1°51′ (last 8 wires)
3 Lacertae +51°46′
7 Lacertae +49°49′
η Aquarii −0°36′

+51°46′		+49°49′		−0°36′	
18^m 47.53.3	0.8	$\overset{6}{25}^m$ 22.235.3	7.5	$\overset{9}{28}^m$ 43.129.7	2.8
51.759.5	1.2	26.531.4	7.9	45.327.3	2.6
55.655.4	1.0	30.327.7	8.0	47.824.9	2.7
59.551.4	0.9	34.023.7	7.7	50.222.3	2.5
3.747.3	1.0	37.920.1	.8.0	52.719.9	2.6
13.637.4	1.0	47.410.4	7.8	59.013.8	2.9
19.731.6	1.3	53.247.7	7.9	2.810.0	2.9
	25.6		59.0		6.5
	15⌊78		15⌊138		15⌊53
	25.52		58.92		6.35

$22^h\ 19^m\ 25^s.52$
19 59.22
33.70

$22^h\ \overset{6}{25}^m\ 58^s.92$
27 32.72
33.80

$22^h\ \overset{30}{29}^m\ 6^s.35$
30 40.08
33.73

Corr = 0

33.70
.80
.73
3⌊223
33.74
.58
33.16

Frod. 1327 is SLOW

$0^m\ 33^s.16$

at $22^h\ 25^m$ S.T.

Fri Sep 4, 1908

Mer Cir — Sol. Obs.

Rattle at 21h 22m

β Aquarii −5° 59′
74 Cygni +40° 0′
ε Pegasi +9° 27′

−5° 59′		+40° 0′		+9° 27′	
25m 48.0 35.0	3.0	32m 13.7 14.9	8.6	38m 44.7 32.4	7.1
50.4 32.7	3.1	17.0 11.9	8.9	47.3 30.0	7.3
52.9 30.3	3.2	20.3 8.6	8.9	49.8 27.4	7.2
55.5 27.7	3.2	23.6 5.4	9.0	52.3 24.9	7.2
57.9 25.2	3.1	26.7 2.3	9.0	54.9 22.3	7.2
4.0 18.9	2.9	34.7 54.1	8.8	1.1 16.2	7.3
7.9 15.4	3.3	39.6 49.4	9.0	4.9 12.4	7.3
	11.6		44.4		8.7
	15|84		15|66		15|93
	11.56		44.44		8.62

	21h 26m 11s.56	21h 32m 44s.44	21h 39m 8s.62
	45.29	21 33 18.01	42.28
	33.73	33 ~~.63~~ .57	33.66
	.10	.01	.08
asa m=.1	33.63	33.56	33.58

33.63
.56
.58
3|177
33.59
.58
33.01

Frod. 1327 is SLOW

0m 33s.01

at 21h 30m S. T.

Mon Sep 7, 1908

Mer Cir

Wells,

ξ Cygni +29°51'
α Equulei +4°52'
α Cephei +62°12'

Rattle at $21^h 13^m$.

+29°51'		+4°52'		+62°12'	
8^m 3.557.5	1.0	10^m 19.06.3	5.3	15^m 2.543.3	5.8
6.554.7	1.2	21.63.8	5.4	8.438.2	6.6
9.252.0	1.2	24.1 1.3	5.4	14.233.0	7.0
12.048.9	0.9	26.658.7	5.3	19.227.6	6.8
15.046.0	1.0	29.156.4	5.5	24.322.1	6.4
22.038.9	0.9	35.350.1	5.4	37.38.9	6.2
26.334.7	1.0	39.046.5	5.5	45.40.8	6.2
	30.7		42.9		53.4
	15 | 79		15 | 107		15 | 34
	30.53		42.71		53.23

$21^h 08^m 30^s.53$	$21^h 10^m 42^s.71$	$21^h 45^m 53^s.23$
63.39	15.71	25.99
32.86	33.00	32.76
.04	.10 ~~.07~~	.12
32.82	32.90	32.88

1.90
.09
1.81

32.76
33.00
.24 (.13
181
590
543
470

$u = .13 = \frac{1}{8}$

32.82
.90
.88
7 | 20
32.87
.158 brecll.
32.29

Frod. 1327 is SLOW

$0^m 32^s.29$

at $21^h 10^m$ S.T.

Tues Sep 8, 1908

Mer Cir Yale Obs.

Rattle at $21^h 13^m$
·1 Pegasi +19° 25'
β Aquarii −5° 59'
74 Cygni +40° 0'

+19°25'		-5°59'		+40°0'	
16^m 54.7 44.2	8.9	25^m 48.9 36.1	5.0	32^m 15.0 15.4	0.7
57.2 41.7	8.9	51.4 33.7	5.1	18.1 12.5	0.6
59.8 39.1	8.9	54.0 31.2	5.2	21.3 9.3	0.6
2.5 36.5	9.0	56.6 28.6	5.2	24.4 6.3	0.7
5.1 33.8	8.9	59.0 26.3	5.3	27.7 3.2	0.9
11.7 27.3	9.0	5.0 20.2	5.2	35.7 55.0	0.7
15.6 23.3	8.9	8.7 16.4	5.1	40.5 50.3	0.8
	19.5		12.7		45.4
	15) 7 0		15) 8 8		15) 5 4
	19.47		12.59		45.36

	$21^h 17^m 19^s.47$	$21^h 26^m 12^s.59$	$21^h 32^m 45^s.36$
	52.06	45.28	33 17.98
ass m = 1/8	32.59	32.69	32.62
	.07	.13	.01
	32.52	32.56	32.61

32.52
.56
.61
3) 1 6 9
32.56
.58 b scale
31.98

Frod. 1327 is SLOW

$0^m 31^s.98$

at $21^h 25^m$ S. T.

Wed Sep 9, 1908

Mer Cir E Miller

110 Herculis + 20°27′
Rattle at 18h 43m.
σ Drac (β Lyrae) + 59°17′
γ Lyrae + 32°33′
λ Aquil − 5°1′

+20°27′	+33° 15m ~~+59°17′~~	59°17′ + ~~32°33′~~	+32°33′	−5°1′
40m 46.036.0 2.0	45m 42.038.0 0.0	48m 33.85.6 9.4	54m 31.326.8 8.1	0m 27.614.7 2.3
48.733.5 2.2	44.935.0 9.9	38.70.7 9.4	34.224.0 8.2	30.212.3 2.5
51.330.9 2.2	47.732.0 9.7	43.455.9 9.3	37.021.0 8.0	32.79.7 2.4
54.028.1 2.1	50.729.0 9.7	48.351.0 9.3	40.018.0 8.0	35.17.2 2.3
56.525.6 2.1	53.626.0 9.6	52.946.2 9.1	43.015.2 8.2	37.74.8 2.5
3.219.0 2.2	1.018.8 9.8	5.034.0 9.0	50.37.8 8.1	43.958.6 2.5
7.115.0 2.1	5.514.3 9.8	12.326.9 9.2	54.73.5 8.2	47.555.0 2.5
11.2	10.0	19.7	59.1	51.3
15)11	15)135	15)94	15)9	15)33
11.07	9.90	19.63	59.06	51.22

	18h 41m 11s.07	18h 46m 9s.90	18h 49m 19s.63	18h 54m 59s.06	19h 0m 51s.22
	43.60	42.44	52.09	31.61	23.77
n = 0	32.53	32.54	32.54	32.55	32.55

32.53
.54
.54
.55
.55
5)21
32.54
.58 Breck
31.96

Frod. 1327 is SLOW

0m 31s.96

at 18h 50m S.T.

Fri Sep 11, 1908

Mer Cir — Fole Obs

R Lyrae + 43°49′
γ Lyrae + 32°34′
Rattle at $18^h 57^m$

+43°49′
51^m 29.4 34.0 3.4
32.7 30.8 3.5
36.0 27.6 3.6
39.3 23.9 3.2
42.6 20.5 3.1
51.4 12.0 3.4
56.5 6.8 3.3
1.7
15 | 10.2
1.68

+32°34′
54^m 31.9 27.4 9.3
34.9 24.4 9.3
37.7 21.7 9.4
40.8 18.7 9.5
43.7 15.7 9.4
51.0 8.4 9.4
55.3 4.3 9.6
59.7
15 | 10.6
59.71

$18^h 52^m 1^s.68$
33.61
31.93

ass u = 0

$18^h 54^m 59^s.71$
31.57
31.86

31.90
.58
31.32

Frod. 1327 is SLOW

$0^m 31^s.32$

at $18^h 53^m$ S.T.

Sat. Sep 12, 1908

Mer Cir Wells Obs.

~~R~~ ϑ Lyrae + 37°58′
* Cygni +53°12′
Rattle at 19ʰ ~~5~~12ᵐ

+37°58′				+53°12′	
12ᵐ	10.7 10.0	0.7	13ᵐ	49.4 7.9	7.3
	13.7 6.9	0.6		54.0 4.0	8.0
	17.3 4.0	1.3		57.6 59.5	7.1
	20.4 0.7	1.1		2.0 55.4	7.4
	23.3 57.7	1.0		6.0 51.3	7.3
	31.4 50.0	1.4		16.5 41.5	8.0
	36.0 45.0	1.0		22.7 35.0	7.7
		40.7			29.1
		15)78			15)139
		40.52			28.93

19ʰ12ᵐ40ˢ.52
11.99
31.47

19ʰ14ᵐ28ˢ.93
60.16
31.23

ass u = 0

31.35
.58 b sec ψ
30.77

Frod: 1327 is SLOW

0ᵐ 30ˢ.77

at 19ʰ 13ᵐ S. T.

Mon Sep 14, 1908
Mer Cir — Tollells.

16 Pegasi +25°30'

Rattle at $21^h 52^m$.

α Aquarii −0°46'
ν Pegasi +5°45'
η ~~+57~~ Cephei +57°45'

+25°30'		−0°46'		+5°45'		+57°45'	
47^m 58.049.9	7.9	0^m 11.458.4	9.8	4^m 41.328.4	9.7	6^m 28.055.4	3.4
1.047.3	8.3	13.956.0	9.9	43.926.0	9.9	32.3510	3.3
3.544.5	8.0	16.3536	9.9	46.323.4	9.7	37.146.7	3.8
6.241.7	7.9	18.851.6	9.8	48.8~~23.4~~ 21.0	9.8	41.741.9	3.6
8.939.0	7.9	21.348.4	9.7	51.418.5	9.9	46.637.4	4.0
15.732.1	7.8	27.642.4	0.0	57.412.4	9.8	58.2259	4.1
19.828.0	7.8	31.038.6	9.6	1.38.7	0.0	5.018.9	3.9
	24.0		35.0		5.0		12.2
	15)146		15)137		15)138		15)133
	23.97		34.91		4.92		11.89

+8

1.58 30.68
−.01 30.93
1.59 | .25 (.16
.16
90

$21^h 48^m 23.^s97$	$22^h 0^m 34.^s91$	$22^h 05^m 4.^s92$	$22^h 07^m 11.^s89$
54.77	5.84	35.84	42.57
30.80	30.93	30.92	30.68
.07	.16	.15	.11
30.73	.77	.77	30.79

$u = \cancel{\ }\ .16-$
$= \frac{1}{6}$

30.73
.77
.77
.79
4)26
30.76
·58 b secle
30.21

Frod. 1327 is SLOW

$0^m\ 30.^s21$
at $22^h 0^m$.

Tues Sep 15, 1908

Mer Cir — Wells.

π² Cygni +48°53′
16 Pegasi +25°30′

Rattle after 21h 45m

+48°53′		+25°30′	
42m 19.7 31.0	0.7	47m 58.2 50.0	8.2
23.7 27.4	1 1	1.0 47.3	8.3
27.2 23.5	0.7	3.6 44.7	8.3
31.0 19.7	0.7	6.5 42.0	8.5
34.6 ~~19.7~~ 16.0	0.6	9.0 39.2	8.2
44.1 6.7	0.8	16.0 32.4	8.4
50.0 1.0	1.0	20.0 28.3	8.3
	55.5		24.1
	15 | 61		15 | 23
	55.41		24.15

21h 42m 55.41s
26.08
30.67
~~33~~

2~~7~~1h 48m 24.15s
54.76
30.61

ass m = ~~1~~ 0

30.64
.58 b sec a
30.06

Frod. 1327 is SLOW

0m 30.06s

21h 45m S.T.

Fri Sep 18, 1908

Mer Cir W. H. Obs.

Rattle at $19^h 39^m$.
δ Cygni +44°54' (last 10 wires)
α Aquil +8°37'
β Aquilæ +6°11'
4 Cygni +52°12'

+44°54'		+8°37'		+6°11'		+52°12'	
41^m 27.6	57.3	45^m 26.3 13.4	9.7	49^m 56.3 43.7	0.0	52^m 9.3 25.5	4.8
	0.7	28.7 11.0	9.7	58.9 46.1	0.0	13. 221.7	4.9
33.0	4.3	31.1 8.6	9.7	1.3 38.7	0.0	17. 217.3	4.5
38.0	7.7	33.6 6.1	9.7	3.8 36.1	9.9	21. 213.6	4.8
43.3	11.0	36.0 3.7	9.7	6.3 33.6	9.9	25.2 9.6	4.8
48.7	5 | 21.0	42.3 57.4	9.7	12.4 27.4	9.8	35.3 59.5	4.8
5 | 190.6	4.20	46.1 53.7	9.8	16.3 23.7	0.0	41.3 53.3	4.8
38.12	26.06		50.0		19.9		47.5
	38.14		15 | 130		15 | 145		15 | 59
			49.87		19.97		47.39

.13 29.51
1.29 29.37
1.16 | .14 (12
116
240

$19^h 41^m 38^s.13$	$19^h 45^m 49^s.87$	$19^h 50^m 19^s.97$	$19^h 52^m 47^s.39$
42 7.56	46 19.44	49.42	16.76
29.43	29.57	29.45	29.37
.01	.10	.10	.05
29.44	29.47	29.35	29.42

$m = \frac{1}{8}$

tan 8°37' = .151
" 6°11' = .109
.260
.13

29.44
.47
.35
.42
4 | 8

29.42
.58 b sec u
28.84

Frod. 1327 is SLOW

$0^m 28^s.84$

at $19^h 45^m$ S. T.

Sat Sep. 19, 1908

Amer Cir | Sole Obs.

Rattle at $21^h 26^m$.

74 Cygni	+40°0′
ε Pegasi	+9°27′
π^2 Cygni.	+48°53′

+40°0′		+9°27′		+48°53′	
32^m 18.3 19.5	7.8	38^m 49.3 36.9	6.2	42^m 21.6 32.5	4.1
21.7 16.6	8.3	51.9 34.6	6.5	25.0 28.8	3.8
24.9 13.0	7.9	54.4 32.0	6.4	28.7 25.4	4.1
28.2 10.0	8.2	56.9 ~~32.0~~ 29.5	6.4	32.9 21.5	4.4
31.2 6.7	7.9	59.5 ~~27.5~~ 27.0	.6.5	36.4 17.8	4.2
39.2 58.4	7.6	5.9 20.7	6.6	46.0 8.2	4.2
44.1 53.7	7.8	9.4 16.7	6.1	51.6 2.6	4.2
	49.0		13.2		57.2
	15 ⌊145		15 ⌊29		15 ⌊12
	48.97		13.19		57.08

$21^h 32^m 48^s.97$	$21^h 39^m 13^s.19$	$21^h 42^m 57^s.08$
17.86	42.22	26.03
28.89	29.03	28.95
.01	.09	.03
28.~~90~~ 88	28.94	28.98

ass $n = \frac{1}{8}$

28.93
.58 b sec c
28.35

Trod 1327 is SLOW

$0^m 28^s.35$

at $21^h 40^m$ S.T.

Mon Sep. 21, 1908

Meri Cir - Zole Obs

Rattle at 20h 12m

τ Cygni + 39° 58'
ν Cephei +62° 41'
β Delphini +14° 16'
α Delphini +15° 35'

+39° 58'		+62° 41'		+14° 16'		+15° 35'	
17m 58.2 59.3	7.5	26m ~~45.0~~ 26.9	1.9	32m 23.3 11.7	5.0	34m 31.0 19.4	0.5
1.5 56.1	7.6	50.3 21.8	2.1	25.9 9.2	5.1	33.7 17.0	0.7
4.5 52.9	7.4	55.6 16.3	1.9	28.3 6.5	4.8	36.2 14.4	0.6
8.0 49.7	7.7	1.0 11.0	2.0	31.0 4.0	5.0	38.7 12.0	0.7
11.0 46.4	7.4	6.3 5.5	1.8	33.4 1.4	4.8	41.2 9.4	0.6
19.2 38.4	7.6	19.8 52.1	1.9	40.0 55.2	5.2	47.7 3.0	0.7
23.9 33.6	7.5	28.0 44.2	2.2	43.7 51.3	5.0	51.5 59.2	0.7
	28.9		36.2		47.4		55.3
	15 | 116		00		15 | 73		15 | 48
	28.77		36.00		47.49		55.32

20h 18m 28s.77	20h 27m 36s.00	20h 32m 47s.49	20h 34m 55s.32
57.33	64.41	15.98	43.78
28.56	28.41	28.49	28.46

asec = 0

28.56
.41
.49
.46
4 | 192
28.48
.58 b secc
27.90

Frod. 1327 is SLOW

0m 27s.90

at 20h 30m S.T.

Tuesday Sept. 22, 1908.

Meri Cir Wh Obs.

Rattle at $19^h 33^m$

δ Cygni +44°54′

α Aquilae +8°37′

β Aquilae +6°11′

4 Cygni +52°12′

+44°54′		+8°37′		+6°11′		+52°12′	
41^m 6.312.3	8.6	45^m 27.714.8	2.5	49^m 57.644.8	2.4	52^m 10.426.7	7.1
9.8 9.0	8.8	30.012.5	2.5	0.142.3	2.4	14.323.0	7.3
13.15.4	8.5	32.610.0	2.6	2.539.9	2.4	18.318.9	7.2
16.7 2.0	8.7	35.07.4	2.4	5.137.3	2.4	22.414.8	7.2
20.158.3	8.4	37.45.0	2.4	7.534.8	2.3	26.610.7	7.3
28.949.7	8.6	43.758.8	2.5	13.728.7	2.4	36.50.8	7.3
34.044.5	8.5	47.454.9	2.3	17.525.0	2.5	42.754.7	7.1
	39.3		51.3		21.3		48.7
	15 | 44		15 | 35		15 | 31		15 | 92
	39.29		51.23		21.21		48.61

$19^h 41^m 39^s.29$	$19^h 45^m 51^s.23$	$19^h 50^m 21^s.21$	$19^h 52^m 48^s.61$
7.46 ~~6.62~~	19.38	49.36	53 16.64
~~27.33~~ 28.17	28.15	28.15	28.03

~~52 15~~

28.15
28.03
.12

aso n = 0

28.17
.15
.15
.03
4 | 50
28.12
.58 b secc
27.54

Frod. 1327 is SLOW

$0^m 27^s.54$

at $19^h 45^m$ S.T.

Wed Sep 23, 1908

Mer Cir Wells

Rattle at $19^h 43^m$.

α Aquilae +8°37'

β Aquila +6°11'

ψ Cygni +52°12'

+8°37'		+6°11'		+52°12'	
45^m 28.0 15.2	3.2	49^m 57.9 45.0	2.9	52^m 10.7 27.0	7.7
30.4 12.9	3.3	0.5 42.7	3.2	14.7 23.3	8.0
32.7 10.3	3.0	3.0 40.2	3.2	18.8 19.2	8.0
35.3 7.7	3.0	5.5 37.7	3.2	22.7 15.3	8.0
37.9 5.2	3.1	8.0 35.2	3.2	26.7 11.0	7.7
44.0 59.1	3.1	14.2 29.0	3.2	37.0 0.9	7.9
47.8 55.3	3.1	18.0 25.3	3.3	42.9 50.0	7.9
	51.6		21.6		49.0
	15 | 84		15 | 88		15 | 142
	51.56		21.59		48.95

$19^h 45^m 51^s.56$	$19^h 50^m 21^s.59$	$19^h 52^m 48^s.95$
46 19.36	49.35	53 16.61
27.80	27.76	27.~~74~~ 66
.08	.08	.04
27.72	27.68	27.70

.11
.15

.13 27.66
1.29 27.~~80~~ 78
1.16) .1~~4~~2

μ = .1

27.70
.58 b rece.
27.12

Frod. 1327 is SLOW

$0^m 27^s.12$

at $19^h 50^m$ S.T.

~~H~~ *

Sext Sep. 2~~7~~6, 1908

Mer Cir Wle Obs.

β Aquarii − 5° 59′ Rattle at $21^h 30^m$.
74 Cygni + 40° 0′
ε Pegasi + 9° 27′
π² Cygni + 48° 53′

−5° 59′		+40° 0′		+9° 27′		+48° 53′	
25m 55.0 42.0	7.0	32m 20.9 21.9	2.8	38m 51.7 39.2	0.9	42m 23.9 35.0	8.9
57.6 39.7	7.3	23.9 19.0	2.9	54.3 36.9	1.2	27.7 31.4	9.1
0.0 37.1	7.1	27.1 15.5	2.6	56.7 34.3	1.0	31.4 27.4	8.8
2.4 34.7	7.1	30.4 12.2	2.6	59.3 31.9	1.2	35.3 23.9	9.2
4.9 32.2	7.1	33.6 8.9	2.5	1.8 29.3	1.1	38.7 20.2	8.9
11.3 26.0	7.3	41.5 1.0	2.5	8.0 23.0	1.0	48.4 10.9	9.3
14.9 22.2	7.1	46.5 56.0	2.5	11.8 19.3	0.1	54.1 5.2	9.3
	18.5		51.3		15.5		59.7
	15)85		15)47		15)80		15)82
	18.57		51.31		15.53		59.55

$21^h 26^m 18^s.57$	$21^h 32^m 51^s.31$	$21^h 39^m 15^s.53$	~~19~~ 21 $^h 42^m 59^s.55$
45.16	17.76	42.17	25.92
26.59	26.45	26.64	26.37
.17	.01	~~.08~~ .12	.04
26.42	26.44	26.5~~6~~2	26.~~39~~ 41

~~ass m = .1~~

1.15 26.37
−.10 26.59
1.25 | .22 (.18
125
950
1000

m = .18
ass m = 1/6

26.49
.44
.56
.39
4)188
26.47
.58 b secl
25.89

26.42
.44
.52
.41
4)179
26.45
.58 b secl.
25.87

Frod. 1327 is SLOW

$0^m\ 25^s.8\cancel{9}7$

at $21^h 35^m$.

Tuesday Sep. 29, 1908

mer Cir   Tele Obs.

γ Cygni + 39°58'
Rattle at $20^h 22^m$
θ Cephei +62°41' (missed 1st 3 wires)
β Delphini +14°16'
α Delphini +15°35'

+39°58'
18^m 1.2 2.5 3.7
4.5 59.3 3.8
7.7 55.8 3.5
11.0 52.7 3.7
14.0 49.5 3.5
22.3 41.7 4.0
27.0 36.8 3.8
32.0
15 | 130
31.87

+62°41'
27^m ~~4~~
4.0 13.9 7.9
9.5 8.5 8.0
22.7 55.1 7.8
31.2 47.0 8.2
38.9
9 | 88
38.98

+14°16'
$3\overset{2}{8}^m$ 26.4 14.7 1.1
28.9 12.3 1.2
31.5 9.6 1.1
33.9 7.1 1.0
36.5 4.4 0.9
~~46.7 4.4~~
~~50.7 58.1~~
~~54.3~~
42.9 58.1 1.0
46.7 54.3 1.0
50.7
15 | 80
50.53

+15°35'
34^m 34.0 22.7 6.7
36.6 20.0 6.6
39.1 17.7 6.8
41.7 15.0 6.7
44.2 12.6 6.8
50.7 6.0 6.7
54.5 2.3 6.8
58.4
15 | 55
58.37

$20^h 18^m 31.^s87$	$20^h 27^m 38.^s98$	$20^h 32^m 50.^s53$	$20^h 34^m 58.^s37$
57.15	64.09	15.87	23.67
25.28	25.11	25.34	25.30
.01	.13	.08	.08
25.27	25.24	25.26	25.22

1.94 25.11
.27 35.32
1.67 .27 (.126
167
430
334
960

m = .126 = 1/8

.254
.278
| 532
.266

25.27
.24
.26
.22
~~101~~
4 | 99
25.25
.58 [illegible]
24.67

Frod. 1327 is SLOW

$0^m 24.^s67$

at $20^h 30^m$ S.T.

Wed. Sep. 30, 1908.

Mer Cir Wells.

Rattle at 22h 14m

γ Aquarii -1°51'
3 Lacertae +51°46'
7 Lacertae +49°48' (missed 1st wire)

-1°51'		+51°46'		+49°48'	
16m 8.4 55.2	3.6	18m 56.2 12.0	8.2	27m – 44.2	
10.8 52.9	3.7	0.3 8.3	8.6	35.3 40.3	5.6
13.1 50.4	3.5	4.3 4.2	8.5	39.2 36.7	5.9
15.7 47.9	3.6	8.3 0.2	8.5	43 0 32.8	5.8
18.2 45.4	3.6	12.2 56.2	8.4	46.7 29.0	5.4
24.5 39.1	3.6	22.2 46.3	8.5	56.3 19.4	5.7
28.2 35.4	3.6	28.3 40.4	8.7	2.0 13.7	5.7
	31.9		34.3		7.7
	15|121		15|37		13|11 1
	31.81		34.25		7.85
22h 16m 31s.81		22h 19m 34s.25		22h 28m 7s.85	
56.56		58.98		32.54	
24.75		24.73		24.69	

ass m = 0

24.75
.73
.69
3|7
24.72
.58
24.14

Frod. 1327 is SLOW

0m 24s.14

at 22h 20m S.T.

Fri Oct 2, 1908

Mer Cir W.L. Obs.

~~c² Cephei~~
Rattle at 22h 59m
c² Aquarii −21°40′ (last 9 wires)
Br. 3077 +56°40′
E [γ Pisc] +2°47′
τ Pegasi +23°14′

+56°40′		+2°47′		+23°14′	
07m 47.4 12.7	0.1	11m 38.7 25.9	4.6	15m 18.0 9.0	7.0
52.0 8.7	0.7	41.3 23.4	4.7	20.7 6.4	7.1
56.7 3.7	0.4	43.9 20.8	4 7	23.2 ~~6.4~~ 3.7	6.9
~~54~~		46.3 18.3	4.6	26.0 1.0	7.0
1.2 59.6	0.8	48.7 16.0	4.7	28.7 58.3	7.0
5.4 55.0	0.4	54.6 9.7	4.3	35.3 51.6	6.9
16.9 43.7	0.6	58.6 6.2	4.8	39.4 47.5	6.9
24.0 37.3	1.3		2.4		43.5
	30.4		15 | 48		15 | 73
	15 | 47		2.32		43.49
	30.31				

23h 08m 30s.31	23h 12m 2s.32	23h 15m 43s.49
54.16	26.16	7.34
23.85	23.84	23.85

u = 0.

23.85
58 b.recte.
23.27

Frod. 1327 is SLOW

0m 23s.27

at 23h 12m S.T.

Sat Oct 3, 1908

Mer Cir   Wells

4 Cass +61° 47'
70 Pegasi +12°15' (last 5 wires)
Rattle at 23h 27m.
ι Andron. +42°46'
ι Pisc. +5°8'. (missed 1st 3 wires)

+61°47'
23h 19m 35.0 13.9 8.9
40.3 8.8 9.1
45.2 3.7 8.9
50.8 58.3 9.1
55.8 53.3 9.1
9.0 40.4 9.4
17.0 ~~40.3~~ 32.6 9.6
~~32.6~~
24.6
15 | 87
24.58

+42°46'
32m 44.7 48.4 3.1
48.0 45.0 3.0
51.4 41.7 3.1
54.7 38.3 3.0
58.0 35.0 3.0
6.5 26.7 3.2
11.6 21.6 3.2
16.5
15 | 81
16.54

+5°8'
34m = =
35.9 8.3 4.2
38.4 5.7 4.1
44.5 59.7 4.2
48.5 55.9 4.4
52.1
9 | 10
52.11

23h 20m 24.58s
48.22
23.64
.14
23.50

23h 33m 16.54s
40.01
23.47
.00
23.47

23h 34m 52.11s
15.50
23.39
.12
23.51

1.86 23.64
.09 23.39
1.75 .25 | 14
175
75

x = .14+ = 1/7

23.50
.47
.51
3 | 148
23.49
.58 Bruce
22.91

Frod. 1327 is SLOW

0m 22.91s

at 23h 30m S.T.

Mon Oct 5, 1908.

Mer Cir　　　　Wells Obs.

Rattle at 22h 13m

γ Aquarii $-1°51'$

3 Lacertae $+51°46'$

$-1°51'$

16m 10.457.2　7.6

12.755.0　7.7

15.452.4　7.8

17.949.8　7.7

20.347.4　7.7

26.541.2　7.7

30.237.6　7.8

33.7

15|127

33.85

$+51°46'$

18m 58.013.8　1.8

2.310.0　2.3

6.1 5.9　2.0

10.2 1.7　1.9

14.1 58.0　2.1

24.048.0　2.0

30.042.0　2.2

36.4

15|7

36.05

$22^h 16^m 33^s.85$

56.51

22.66

.14

22.80

aso m = $\frac{1}{7}$

$22^h 19^m 36^s.05$

58.89

22.84

.05

22.79

22.80

.58 b sec δ

22.22

Frod. 1327 is SLOW

$0^m 22^s.22$

at $22^h 18^m$ S.T.

Tues Oct 6, 1908

Anna Cu　　　　Wells

λ Peg. $+23°5'$
i Cephei $+65°43'$
δ Aquarii $-16°19'$
Rattle at ~~2~~22^h 57^m

$+23°5'$		$+65°43'$		$-16°19'$	
$22^h 41^m$ 20.3 11.0	1.3	45^m 7.6 1.4	9.0	49^m 2.0 50.7	2.7
23.0 8.7	1.7	14.3 56.2	0.5	4.4 48.2	2.6
25.6 5.9	1.5	20.0 50.0	0.0	7.0 45.6	2.6
28.3 3.1	1.4	25.7 43.7	9.4	9.6 43.0	2.6
31.0 0.5	1.5	32.0 38.1	0.1	12.1 40.3	2.4
37.6 54.0	1.6	46.7 22.9	9.6	18.4 34.2	2.6
41.7 49.7	1.4	55.7 13.7	9.4	22.4 30.1	2.5
	45.9		4.9		26.4
	15) 113		15) 1~~4~~^{2}9		15) 44
	45.75		4.86		26.29

$22^h 41^m 45^s.75$	$22^h 46^m 4^s.86$	$22^h 49^m 26^s.29$
8.20	27.47	48.54
22.45	22.61	22.25
.07	.17	.17
22.52	22.44	22.42

2.22
.29
2.51

22.61
22.25
.36 (.14
251
1090

$m = .14 = \frac{1}{7}$

22.44
.52
.42
~~4~~^{3}) 138
22.46
.58
21.88

Frod. 1327 is SLOW

$0^m 21^s.88$

at $22^h 45^m$ S. T.

Wed Oct 7, 1908

Aner Cu Wolcotts

Rattle at 22h 04m

ξ Cephei +57°45'
γ Aquarii −1°51'
3 Lacertae +51°46'

+57°45'		−1°51'		+51°46'	
06m 35.93.4	9.3	16m 11.057.7	8.7	18m 58.614.4	3.0
40.359.0	9.3	13.355.3	8.6	2.510.4	2.9
44.854.2	9.0	15.852.8	8.6	6.36.3	2.6
49.549.9	9.4	18.250.4	8.6	10.42.3	2.7
53.945.1	9.0	20.748.0	8.7	14.558.2	2.7
5.733.6	9.3	26.941.7	8.6	24.448.4	2.8
12.926.6	9.5	30.738.0	8.7	30.442.4	2.8
	19.6		34.2		36.5
	15⌊94		15⌊47		15⌊60
	19.63		34.31		36.40

22h 07m 19s.63	22h 16m 34s.31	22h 19m 36s.40
42.14	56.51	58.86
22.51	22.20	22.46
.10	.14	.05
22.41	22.34	22.41

asso u = 1/7

22.41
.34
.41
3⌊116
22.39
.58 brecle
21.81

Frod. 1327 is SLOW

0m 21s.81

at 22h 15m S.T.

Thurs Oct 8, 1908

Collimation W. Woolls.

~~On~~ S. Coll on N. Coll. 85.0
85.7
84.1
85.6
85.1
5 | 5
Set at 85.1 85.1

Tel on S Coll. 33.673
.679
.702
.709
.693
5) 3456 (33.6912
~~33.6912~~

Tel on N. Coll. 33.717
.727
.718
.738
.721
5 | 121 (33.7242
2 | 1.4154
micrometer
Set at 33.720 33.7087~~7~~
.012
33.720.

Signals Oct 8, 1908
[illegible] Cir [illegible]

Rattle at $18^h 32^m$
α Lyrae +38°42'
110 Herculis +20°27'
β Lyrae +33°15'

	+38°42'			+20°27'			+33°15'	
32^m	58.057.7		40^m	56.046.0	2.0	45^m	51.747.6	
	1.154.7	5.7		58.743.4	2.1		54.744.8	9.3
	4.351.5	5.8		1.240.7	1.9		57.441.7	9.5
	7.348.3	5.8		4.038.0	2.0		0.338.8	9.1
	10.345.2	5.6		6.535.3	1.8		3.335.9	9.1
	18.437.2	5.5		13.028.8	1.8		10.728.5	9.2
	23.132.6	5.6		17.024.8	1.8		15.224.0	9.3
		5.7			20.9			9.2
		27.9			15⌊143			19.6
		15⌊126			20.95			15⌊93
		27.84						19.62

$18^h 33^m 27^s.84$ $18^h 41^m 20^s.95$ $18^h 46^m 19^s.62$

50.00	43.04	41.77
22.16	22.09	22.15
.01	.08	.04
22.17	22.17	22.19

aso m = 1/7

22.17
.17
.19
2⌊53
22.18
.58
21.60

Frod. 1327 is SLOW

$0^m 21^s.60$

at $18^h 40^m$ S.T.

Sunday Oct 11, 1908

Mer Cir

γ Androm +41°53'
α Arietis +23°2'
β Triang: +34°33'
Rattle at 2h05m

+41°53'			+23°2'			+34°33'		
57m 25.6	28.5	4.1	01m 15.5	6.3	1.8	3m 17.5	14.3	1.8
29.0	25.3	4.3	18.1	3.7	1.8	20.6	11.3	1.9
32.2	22.0	4.2	20.7	1.0	1.7	23.5	8.3	1.8
35.5	18.7	4.2	23.4	58.3	1.7	26.5	5.4	1.9
38.7	15.3	4.0	26.1	55.6	1.7	29.4	2.4	1.8
47.1	7.0	4.1	32.9	48.8	1.7	37.0	55.0	2.0
52.2	2.0	4.2	36.8	45.0	1.8	41.4	50.5	1.9
		57.0			40.9			46.0
		15)11			13)131			15)141
		57.07			40.87			45.95

1h 57m 57s.07	2h 01m 40s.87	2h 03m 45s.95
17.98	61.77	6.85
20.91	20.90	20.90

ass m=0

20.90
.58 [illegible].
20.32

Frod. 1327 is SLOW

0m 20s.32

at 2h 0m S.T.

Monday Oct 12, 1908.

Level Obs. Wade Obs.

Telescope South

Zero	W End	E End			
W	-18.1	-61.2	-79.3		
E	+73.8	+30.6	+104.4	+ 25.1	
W	-20.0	-63.3	- 83.3		+42.4
E	+72.0	+28.6	+100.6	+ 17.3	

Telescope North

W	-13.0	-57.0	-70.0		
E	+74.0	+30.0	+104.0	+ 34.0	
W	-14.8	-59.0	-73.8		+ 60.0
E	+72.0	+ 27.8	+99.8	+26.0	

Telescope South.

E	+ 69.8	+24.0	+ 93.8		
W	- 16.7	-60.0	- 76.7	+ 17.1	
E	+ ~~7~~63.8	+20.0	+83.8		+29.1
W	- ~~15.0~~ 14.0	- ~~58.8~~ 57.8	-71.8	-12.0	

Telescope north.

E	+67.0	+23.0	+ 90.0		
W	- ~~8.0~~ 6.5	-50.~~0~~3	-56.8	+ 33.2	
E	+ 69.5	+ 25.5	+95.0		+ 66.2
W	- 9.0	-53.0	-62.0	+ 33.0	
					197.7

32)197.7(6.18
192
57
32
250
256

.06
.37 ~~08~~ 8
1.35 secθ.
945
405
.~~4~~995

b secθ = .50 Westend high.

Mon Oct 12, 1908

Mer Cir   Wells.

ι Aquarii −8°14'
Rattle at 22h 14m
γ Aquarii −1°51'
3 Lacertae +51°46'

−8°14'		−1°51'		+51°46'	
11m 16.64.0	0.6	16m 12.359.3	1.6	19m 0.016.4	6.4
19.11.5	0.6	14.956.7	1.6	4.312.4	6.7
21.759.2	0.9	17.154.3	1.4	8.08.0	6.0
24.056.4	0.4	19.751.8	1.5	12.24.0	6.2
26.554.2	0.7	22.049.3	1.3	16.10.0	6.1
32.847.8	0.6	28.343.0	1.3	26.049.8	5.8
36.744.0	0.7	32.239.4	1.6	32.144.2	6.3
	40.3		35.7		37.9
	15 | 48		15 | 11 0		15 | 14
	40.32		35.73		38.09

22h 11m 40s.32	22h 16m 35s.73	22h 19m 38s.09
60.99	56.46	58.76
20.67	20.73	20.67

m = 0

20.67
.73
.67
3 | 6 07
20.69
.50 b sec δ
20.19

Frod. 1327 is SLOW

0m 20s.19

at 22h 15m S.T.

Tues Oct 13, 1908

Mer Cir — W. L. Obs.

Rattle at 21h 36m

ε Pegasi +9° 27′
π² Cygni +48° 53′
16 Pegasi +25° 30′

+9° 27′		+48° 53′		+25° 30′	
38m 57.7 45.1	2.8	42m 29.1 40.7	9.8	48m 8.0 59.8	7.8
0.1 42.6	2.7	33.0 36.9	9.9	10.7 57.2	7.9
2.6 40.2	2.8	36.7 33.2	9.9	13.6 54.3	7.9
5.2 37.7	2.9	40.6 29.3	9.9	16.4 51.8	8.2
7.7 35.0	2.7	44.2 25.7	9.9	19.0 49.0	8.0
14.0 28.9	2.9	53.7 16.3	0.0	25.7 42.2	7.9
17.6 25.0	2.6	59.4 10.7	0.1	29.7 38.2	7.9
	21.3		5.0		33.9
	15 | 57		15 | 14 5		15 | 05
	21.38		4.93		34.03

21h 39m 21.38s	21h 43m 4.93s	21h 48m 34.03s
41.98	25.57	54.46
20.60	20.64	20.43

ass. n = 0

20.60
.64
.43
3 | 1 6 7
20.56
.50 b sec k
20.06

Frod. 1327 is SLOW

0m 20.06s

at 21h 43m S. T.

Wed Oct 14, 1908

Mer Cir W. L. Ells.

ε Pegasi +9° 27′
π^2 Cygni + 48° 53′
Rattle at $21^h\,46^m$
16 Pegasi + 25° 30′

+9° 27′		+48° 53′		+ 25° 30′	
$\overset{39}{\cancel{38}}^m$ 57.945.3	3.2	42^m 29.4408	0.2	48^m 8.30.0	8.3
0.442.9	3.3	33.637.1	0.7	11.157.4	8.5
2.940.3	3.2	37.333.3	0.6	13.954.7	8.6
5.437.9	3.3	40.929.4	0.3	16.352.1	8.4
7.935.3	3.2	44.625.7	0.3	19.049.0	8.0
14.029.2	3.2	54.016.4	0.4	26.042.6	8.6
18.125.4	3.5	59.510.6	0.1	30.238.0	8.2
	21.9		52		34.0
	15⌊98		15⌊28		15⌊26
	21.65		5.19		34.17

$21^h\,\overset{39}{\cancel{40}}{}^m\,21^s.65$	$21^h\,43^m\,5.19$	$21^h\,48^m\,34^s.17$
41.97	25.55	54.44
20.32	20.36	20.27

azi. n = .0

20.32
.36
.27
2⌊95
20.32
50 breeze.
19.82

Frod. 1327 is SLOW

$0^m\,19^s.82$

at $21^h\,43^m$ S. T.

Time Oct 15, 1908

Amer Cir

Zollellos.

ζ Aquilae +13°44'
Rattle at 19h 04m.
θ Lyrae +37°58'
κ Cygni +53°12'

+13°44'		+37°58'		+53°12'	
0m 27.7 16.0	3.7	12m 21.5 21.0	2.5	14m 0.0 18.0	8.0
30.3 13.4	3.7	24.6 18.0	2.6	4.0 14.2	8.2
32.8 10.8	3.6	27.7 14.6	2.3	8.0 9.9	7.9
35.3 8.3	3.6	30.8 11.5	2.3	12.3 5.7	8.0
37.8 5.9	3.7	34.0 8.3	2.3	16.2 1.6	7.8
44.0 59.4	3.4	41.7 0.4	2.1	26.5 51.3	7.8
48.0 55.7	3.7	46.5 55.9	2.4	32.7 45.1	7.8
	51.9		51.3		39.0
	15|12 3		15|28		15|14 5
	51.82		51.19		38.97

19h 0m 51s.82	19h 12m 51s.19	19h 14m 38s.97
11.87	11.19	59.02
20.05	20.00	20.05

n = 0

20.05
.00
.05
3|10
20.03
.50 b secc.
19.53

Frod. 1327 is SLOW

0m 19s.53

at 19h 10m S.T.

Friday Oct 16, 1908

Mer Cir Yale Obs.

α Equulei +4° 52′
Rattle after $21^h 13^m$.
α Cephei + 62°11′
ξ Capr. −22°49′
β Aquarii −5°59′

+4°52′		+62°11′		−22°49′		−5°59′	
10^m 32.1 19.1	1.2	15^m 14.6 55.1	9.7	20^m 42.0 32.6	4.6	26^m 1.5 48.7	0.2
34.6 16.8	1.4	20.0 50.2	0.2	44.8 30.2	5.0	4.1 46.2	0.3
37.0 14.1	1.1	25.3 44.7	0.0	47.7 27.4	5.1	6.5 43.8	0.3
39.7 11.7	1.4	30.7 39.3	0.0	50.0 25.0	5.0	9.0 41.3	0.3
42.0 9.3	1.3	36.0 34.1	0.1	52.8 22.0	4.8	11.6 38.8	0.4
48.1 3.0	1.1	49.2 20.7	9.9	59.4 15.3	4.7	17.8 32.7	0.5
51.9 59.3	1.2	57.1 12.9	90.0	3.4 11.3	4.7	21.4 29.0	0.4
	55.7		5.0		7.4		25.0
	15 | 94		~~04~~		15 | 63		15 | 24
	55.63		15 | 149		7.42		25.16
			4.99				

$21^h 10^m 55^s.63$	$21^h 16^m 4^s.99$	$20^h 21^m 7^s.42$	$21^h 26^m 25^s.16$
15.29	24.74	27.07	44.92
19.66	19.75	19.65	19.76
.03	.04	.05	.04
19.69	19.71	19.70	19.80

.66
.65
.76
7

1.89 19.75
−.142 19.65
2.31 .10

m = .04

19.69
.71
.70
.80
4 | 29.0
19.72
.50 brecce.
19.22

Frod. 1327 is SLOW
$0^m 19^s.22$
at $21^h 20^m$ S.T.

Sat Oct 17, 1908

Mer Cir — Wells Obs.

16 Pegasi · +25°30'
Rattle at 21h 56m

E [ι Pegasi] +24°54'

π Pegasi · +32°44'

+25°30'		+24°54'		+32°44'	
48m 9.31.0	0.3	2m 0.452.0	2.4	05m 8.84.5	3.3
12.058.6	0.6	3.049.5	2.5	11.81.7	3.5
14.755.8	0.5	5.746.6	2.3	14.758.7	3.4
17.353.1	0.4	8.444.0	2.4	17.755.6	3.3
20.150.2	0.3	11.141.2	2.3	20.552.8	3.3
26.943.3	0.2	18.034.4	2.4	27.845.5	3.3
31.039.1	0.1	22.330.3	2.3	32.341.1	3.4
	35.2		26.5		36.7
	15)26		15)31		15)102
	35.17		26.21		36.68

21h 48m 35.17s	22h 02m 26.21s	22h 05m 36.68s
54.40	45.64	56.01
19.23	19.23	19.33
.02	.02	.01
19.25	19.25	19.34

ass $u = \frac{1}{25}$

19.25
.25
.34
3)84
19.28
.50 bucle.
18.78

Prod. 1327 is SLOW

0m 18.78s

at 22h 0m S.T.

Moon Oct 19, 1908

Mer Cir Wells.

Rattle at $21^h 27^m$

74 Cygni +40°0′

ε Pegasi +9°27′

π^2 Cygni +48°53′

+40°0′		+9°27′		+48°53′	
32^m 28.329.2	7.5	38^m 59.446.9	6.3	42^m 31.442.2	3.6
31.726.0	7.7	2.044.4	6.4	35.039.0	4.0
34.823.0	7.8	4.342.0	6.3	38.835.2	4.0
38.019.7	7.7	7.039.5	6.5	42.731.5	4.2
41.016.6	7.6	9.437.0	6.4	46.427.6	4.0
49.18.3	7.4	15.730.8	6.5	55.618.1	3.7
54.04.0	8.0	19.627.0	6.6	1.312.7	4.0
	58.8		23.3		7.0
	15 | 125		15 | 33		15 | 145
	58.83		23.22		6.97

$21^h 32^m 58^s.83$	$21^h 39^m 23^s.22$	$21^h 43^m 6^s.97$
33^m 17.35	41.90	25.43
18.52	18.68	18.46
.01	.08	.02
18.51	18.60	18.48

aso n = $\frac{1}{10}$

18.51
.60
.48
3 | 1.59
18.53
.50 back
18.03

Frod. 1327 is SLOW

$0^m 18^s.03$

at $21^h 40^m$ S.T.

Tues Oct 20, 1908

Mer Cir — Wells.

ξ Cephei +57°45'
θ Aquarii −8°14'
Rattle at 22h 14m — Images poor.
γ Aquarii −1°51'
3 Lacerta +51°46' (last 10 wires)

+57°45'

6m 39.47.3 6.7
43.82.9 6.7
48.458.1 6.5
53.053.5 6.5
58.148.7 6.8
9.637.0 6.6
16.530.4 6.9
23.1
15|48
2332

−8°14'

11m 18.8 6.1 4.9
21.5 3.9 5.4
24.0 1.3 5.3
26.2 58.6 4.8
28.8 56.0 4.8
35.1 50.0 5.1
39.0 46.4 5.4
42.6
15|83
4255

−1°51'

16m 14.7 1.3 6.0
16.9 59.0 5.9
19.7 56.7 6.4
22.1 54.0 6.1
24.7 51.4 6.1
30.6 45.4 6.0
34.3 42.0 6.3
38.0
15|8
38.05

+51°46'

19m — 28.2 2.2
— 34.3 6.0
— 40.2 10.1
— 46.1 14.2
52.3 18.0
5|2011 5|505
40.22 10.10
.28 29.82
40.25 40.28

22h 07m 23.32s	22h 11m 42.55s	22h 16m 38.05s	22h 19m 40.25s
41.89	60.91	56.48	58.59
18.57	18.36	18.43	18.34
.08	.13	.11	.04
18.49	18.49	18.54	18.30

~~57~~

1.65
.14
1.79

18.57
18.36
.21 (118
179
310
179
1310

m = .12

~~.67~~
~~.12~~4
134
67
.804

18.49
.49
.54
.30
4|183
18.46
.50 bracle
17.96

Trod. 1327 is SLOW

0m 17.96s

at 22h 15m S.T.

Tues Oct 20, 1908

ξ Cass. +53°23'
α Cass +56°2'
o Cass +47°47' Rattle at 0h 37m
~~Rattle at~~
A [δ Pisc.] +7°05'

Seeing poor.

+53°23m		+56°2'		+47°47'		+7°05'	
30m 56.1 14.7	0.8	34m 20.3 43.7	4.0	38m 45.4 55.0	0.4	43m 15.2 22.2	7.4
~~0.4~~ 11.2	~~1.6~~	~~25.2 99.7~~	—	49.2 51.3	0.5	17.7 0.0	7.7
4.3 6.3	0.6	29.0 35.0	4.0	52.7 47.8	0.5	20.1 57.5	7.6
8.5 2.2	0.7	$3\overset{3}{4}$.3 30.6	3.9	56.5 44.0	0.5	22.6 54.7	7.3
12.4 58.0	0.4	37.5 26.1	3.6	0.0 40.6	0.6	25.0 52.4	7.4
22.8 47.6	0.4	49.0 15.0	4.0	9.4 31.0	0.4	31.2 46.3	7.5
28.9 41.3	0.2	55.0 8.7	3.7	15.0 25.8	0.8	35.1 42.4	7.5
	35.7		1.9		20.7		38.7
	13)38		13)121		15)44		15)111
	35.29		1.93		20.29		38.74

0h 31m 35.29s	0h 35m 1.93s	0h 39m 20.29s	0h 43m 38.74s
53.7$\overset{6}{8}$	20.33	38.80	57.06
18.47	18.40	18.51	18.32
.05	.07	.02	.10
18.42	18.33	18.49	18.42

1.35
1.48
1.10
3.93
1.31
.12
1.19

18.47
.46
.51
1.38
18.46
18.32
.14 (.12
119
210

n = .12

18.42
.33
.49
.42
4)166
18.42
.50 b scale
17.92

Frod. 1327 is SLOW

0m 17.92s

at 0h 35m S.T.

Wed Oct 21, 1908

Mer Cir — Wol. Obs.

Rattle at 21h 50m

α Aquarii -0° 46′
E [ι Pegasi] +24°54′
ϑ Pegasi +5°45′
ζ Cephei +57°45′

−0°46′		+24°54′		+5°45′		+57°45′	
0m 24.00.8	4.8	2m 1.553.0	4.5	4m 54.040.8	4.8	6m 40.47.7	8.1
26.283	4.5	4.450.4	4.8	56.638.6	5.2	44.63.1	7.7
28.75.9	4.6	7.048.1	5.1	59.036.2	5.2	49.3580	7.3
31.13.2	4.3	9.545.0	4.5	1.733.7	5.4	53.754.0	7.7
33.6 0.8	4.4	12.642.2	4.8	3.931.0	4.9	58.648.8	7.4
40.0549	4.9	19.535.6	5.1	10.324.9	5.2	10.137.7	7.8
43.751.0	4.7	23.331.5	4.8	13.921.0	4.9	17.330.9	8.2
	47.6		27.4		17.3		23.7
	15 | 48		15 | 60		15 | 79		15 | 129
	47.32		247.40		17.53		23.86

22h 0m 47.32s	22h 2m 47.40s	22h 5m 17.53s	22h 07m 23.86
5.54	45.58	35.54	41.76
18.22	18.18	18.01	17.90
.12	.06	.10	.08
18.10	18.12	17.91	17.98

assn = $\frac{1}{8}$

17.91
18.10
18.12
17.98
4)11
18.03
.50
17.53

Frod. 1327 is SLOW

0m 17.53s

at ~~0~~22h 5m S. T.

Times Oct 22, 1908

Mer Cir [illegible]

Rates at $19^h 38^m$.

δ Cygni +44°54'
α Aquilae +8°37'
β Aquilae +6°11'
4 Cygni +52°12'

8°37'
~~+44°54~~

45^m 37.524.7 2.2
40.022.2 2.2
42.219.7 1.9
44.717.2 1.9
47.114.8 1.9
53.68.6 2.2
57.14.8 1.9
0.7
15 | 14 9
0.99

6° 11'
~~+8°37'~~

50^m 7.454.6 2.0
10.052.1 2.1
12.349.8 2.1
14.947.1 2.0
17.344.7 2.0
23.538.5 2.0
27.234.8 2.0
31.2
15 | 4
31.03

52°12'
~~+6°11'~~

52^m 19.535.9 5.4
23.932.1 6.0
27.627.9 5.5
31.624.0 5.6
35.619.9 5.5
45.710.0 5.7
51.73.7 5.4
57.9
15 | 12 0
57.80

+44°54'

41^m 15.621.7 7.3
19.318.3 7.6
22.715.0 7.7
26.011.6 7.6
29.57.9 7.4
38.459.2 7.6
43.554.0 7.5
48.9
15 | 11 6
48.77

$19^h 41^m$ 48.77
6.62
17.85

$19^h 46^m 0.99^s$
18.88
17.89

~~$19^h 52^m$ 57.8~~
19 50 31.03
48.88
17.85

$19^h 52^m$ 57.80
15.65
17.85

17.85
.85
.85
89
4 | 24
17.86
.50 b secu
17.36

Frod. 1327 is SLOW

$0^m 17.36^s$

at $19^h 45^m$ S.T.

Fri Oct 23, 1908

Mer Cir — 20h Obs.

Rattle at 22^h 40^m

λ Pegasi +23°5'

i Cephei +65°43'

δ Aquarii −16°17'

o Andron +41°50'

+23°5'		+65°43'		−16°17'		+41°50'	
41^m 25.115.9	1.0	45^m 12.060	8.0	49^m 6.655.3	1.9	56^m 54.457.0	1.4
27.713.5	1.2	18.003	8.3	9.152.9	2.0	57.854.2	2.0
30.410.7	1.1	23.954.5	8.4	11.750.0	1.7	1.250.8	2.0
33.2-8.0	1.2	30.148.1	8.2	14.247.7	1.9	4.547.3	1.8
35.9 5.3	1.2 1.2	36.042.2	8.2	16.745.0	1.7	7.944.1	2.0
42.358.7	1.0	51.427.3	8.7	23.338.7	2.0	16.0358	1.8
46.354.5	0.8	0.318.2	8.5	27.134.9	2.0	21.0307	1.7
	50.4		9.2		31.0		26.0
	15)79		15)25		15)142		15)137
	50.53		9.17		30.95		25.91

22^h 41^m 50^s.53	22^h 46^m 9^s.17	22^h 49^m 30^s.95	22^h 57^m 25^s.91
8.03	26.96	48.41	43.50
17.50	17.79	17.46	17.59
.06	.17	.16	.00
17.56	17.62	17.62	17.59

2.22
.29
2.51

17.79
17.46
.33 (.13
25
80

n = .13

.13
1.20
.156

17.56
.62
.62
.59
4)239
17.60
.50 abs ecle
17.10

Frod. 1327 is SLOW

0^m 17^s.10

at 22^h 50^m S.T.

Sat Oct 24, 1908

Mer Cir　　　　Wh Obs

Br. 3077 +56°40' (last 10 wires)
E. [γ Pisc.] +2°47'
τ Pegasi +23°14'
Rattle at $23^h 18^m$.

+56°40'		+2°47'		+23°14'	
08^m 23.2	1.4	11^m 45.4 32.5	7.9	15^m 24.6 15.7	0.3
30.0	6.0	48.2 38.1	8.3	27.4 18.2	0.6
36.7	10.4	50.9 37.3	8.2	30.0 10.4	0.4
43.7	14.8	53.0 25.0	8.0	32.7 7.7	0.4
50.0	19.3	55.2 22.4	7.6	35.2 4.7	9.9
5) 183.6	51.9	1.5 16.5	8.0	42.0 58.0	0.0
36.72	10.38	5.0 12.9	7.9	46.2 54.1	0.3
	33.59		8.8		50.3
	36.79		15) 147		15) 22
			8.98		50.15

$23^h 08^m 36.76$	$23^h 12^m 8^s.98$	$23^h 15^m 50^s.15$
53.82	26.05	7.21
17.06	17.07	17.06
	17.18	17.12

ass u = 0

17.06
.50 Besse
16.56

ass u = 138

17.15
.50
16.65

86
13
258
86
1118

49
13
147
49
637

Frod. 1327 is SLOW

$0^m 16^s.56$

at $23^h 10^m$

Tuesday Oct 27, 1908

Mer Cir Coll. Obs.

Rattle at $19^h 58^m$
ϑ Aquilae −1 06'
o¹ Cygni +46°28'
24 Vulpec. +24°23'

−1 06'		+46°28'		+24°23'	
5^m 55.6 42.3	7.9	9^m 55.0 30	8.0	12^m 10.6 2.0	2.6
58.0 39.9	7.9	58.7 59.4	8.1	13.1 59.2	2.3
0.5 37.4	7.9	2.2 55.9	8.1	15.7 56.5	2.2
3.0 35.0	8.0	5.7 52.2	7.9	18.6 54.0	2.6
5.3 32.4	7.7	9.3 48.7	8.0	21.3 51.2	2.5
11.7 26.4	8.1	18.4 39.9	8.3	28.2 44.5	2.7
15.2 22.8	8.0	23.7 34.6	8.3	32.0 40.4	2.4
	18.9		29.2		36.2
	15 ⌊144		15 ⌊19		15 ⌊35
	18.96		29.06		36.23

$20^h 06^m 18^s.96$	$20^h 10^m 29^s.06$	$20^h 12^m 36^s.23$
34.81	44.80	51.96
15.85	15.74	15.73

a=0
n=.0

15.85
.74
.73
3⌊232
15.77
.50 b sec δ
15.27

Trod. 1327 is SLOW

$0^m 15^s.27$

at $20^h 10^m$ S. T.

Fri Oct 30, 1908

Mer Cir W.L.Obs.

ϑ Aquilae -1°6' — Rattle at $20^{h}09^{m}$

o¹ Cygni +46°28'

24 Vulpec. +24°23'

γ Cygni +40°0'

-1°6'		+46°28'		+24°23'		+40°0'	
05^{m} 59.444.2	1.6	9^{m} 56.747	1.4	12^{m} 12.13.7	5.8	18^{m} 12.013.0	5.0
59.842.0	1.8	0.31.2	1.5	15.01.1	6.1	15.19.8	4.9
2.339.3	1.6	3.957.5	1.4	17.758.2	5.9	18.26.7	4.9
4.836.9	1.7	7.454.0	1.4	20.355.4	5.7	21.43.3	4.7
7.234.2	1.4	11.050.4	1.4	23.052.8	5.8	24.7 0.2	4.9
13.328.2	1.5	20.041.9	1.9	29.746.2	5.9	32.852.3	5.1
17.124.3	1.4	25.336.0	1.3	34.042.2	6.2	37.747.4	5.1
	20.7		30.9		38.1		42.4
	15|117		15|112		15|145		15|70
	20.78		30.75		37.97		42.47

$20^{h}\,6^{m}\,20^{s}.78$	$20^{h}\,10^{m}\,30^{s}.75$	$20^{h}\,12^{m}\,37^{s}.97$	$20^{h}\,18^{m}\,42^{s}.47$
34.77	44.72	51.90	56.41
13.99	13.97	13.93	13.94

aso u = 0

13.99
.97
.93
.94
4|23
13.96
.50
13.46

Frod. 1327 is SLOW

$0^{m}\ 13^{s}.46$

at $20^{h}\ 12^{m}$ S.T.

Sat Oct 31, 1908

Mer Cir E. L. Wells

Rattle at 22h 19m

η Lacertae +49°49'

η Aquarii −0°36'

10 Lacertae +38°34'

η Peg. +29°44'

+49°49'		−0°36'		+38°34'		+29°44'	
26m 42·154·7	6·8	30m 3·049·8	2·8	34m 26·326·3	2·6	38m 2·956·9	9·8
45·851·0	6·8	6·747·2	2·9	29·623·3	2·9	5·754·1	9·8
49·847·2	7·0	8·145·0	3·1	32·720·2	2·9	8·751·2	9·9
53·643·3	6·9	10·342·7	3·0	36·017·0	3·0	11·648·4	0·0
57·239·3	6·5	13·040·2	3·2	39·213·7	2·9	14·345·5	9·8
7·030·0	7·0	19·233·8	3·0	47·0 6·0	3·0	21·338·3	9·6
12·724·2	6·9	23·030·1	3·1	52·0 1·2	3·2	25·734·3	0·0
	18·6		26·4		56·6		30·0
	15⌊65		15⌊75		15⌊71		15⌊139
	18·43		26·50		56·47		29·93

	22h 27m 18s·43	22h 30m 26s·50	22h 34m 56s·47	22h 38m $\overset{29}{30}$s·93
				43.29
	31·94	39·78	9·88	~~42·83~~
	13.51	13.28	13.41	13.36
azo u = ~~2~~ $\frac{1}{6}$	.0~~2~~5	$\overset{16}{.0\cancel{9}}$	.02	.06
	13.4$\overset{6}{\cancel{8}}$~~7~~	1~~3.37~~	13.43	13.42
		13.44		

13.46
·44
·43
·42
4⌊15
13.44
.50 break.
12.984

Frod. 1327 is SLOW

0m 12s·$\overset{9}{\cancel{8}}$4

at 22h 30m S. T.

Mon Nov. 2, 1908

Mer Cir Wole Obs.

Rattle at 20^h26^m

ε Delphini +10°59'

β Delph. +14°16'

α Cygni +44°57° (missed 1st 2 wires)

η Cephei +61°29' (7 wires middle)

Chronograph run down. Rattle again 20^h45^m.

+10°59'

28^m 13.61.3 4.9
16.159.0 5.1
18.66.2 4.8
21.253.9 5.1
23.751.3 5.0
30.044.9 4.9
33.741.2 4.9
37.4
15) 71
37.47

+14°16'

32^m 38.32.7 5.0
41.024.2 5.2
43.421.4 4.8
46.019.0 5.0
48.716.8 5.5
55.010.1 5.1
58.76.5 5.2
2.9
15) 87
2.58

+44°57'

37^m = = =
39.631.8 1.4
43.028.2 1.2
46.424.9 1.3
55.116.2 1.8
0.310.8 1.1
5.3
6) 66
5.60

+61°29'

42^m = = —
= = =
43.7 41.1 4.8
57.028.0 5.0
5.020.3 5.3
12.7
7) 38
12.54

$20^h28^m37^s.47$	$20^h33^m2^s.58$	$20^h38^m5^s.60$	$20^h43^m12^s.54$
50.28	15.31	18.56	25.69
12.81	12.73	12.96	13.15
.17	.15	.02	.21
12.98	12.88	12.94	12.94

1.84 13.15

0.19 12.81
.25 12.73
44) 154 (12.77
0.22

1.62) .38 (.23
324
560
486
.740

12.98
.88
.94
.94
4) 14
12.94
.506 secδ
12.44

n = .23

.23
.23
279 (?)
146
.1679 (?)

.66
.23
199
132
.1518

.93
.23
279
186
.2139

Frod. 1327 is SLOW

$0^m12^s.44$

at 20^h35^m S.T.

Tues Nov. 3, 1908

Mer Cir — Tel. Obs.

ϑ Aquarii −8° 14′
τ Aquarii −1° 51′
3 Lacertae +51° 46′
Rattle at 22^h 23^m
7 Lacertae +49° 49′

−8° 14′	−1° 51	+51° 46′	+49° 49′
11^m 24.6 12.0 6.6	16^m 20.57.3 7.8	19^m 8.0 24.0 2.0	26^m 43.0 55.5 8.5
27.29.5 6.7	23.0 5.0 8.0	12.0 19.8 1.8	46.5 51.8 8.3
29.6 7.0 6.6	25.3 2.3 7.6	15.7 15.5 1.2	50.5 48.0 8.5
32.2 4.6 6.8	27.8 0.0 7.8	19.8 11.6 1.4	54.4 44.0 8.4
34.7 2.0 6.7	30.2 57.5 7.7	24.0 7.6 1.6	58.3 40.3 8.6
41.0 55.9 6.9	36.4 51.3 7.7	34.0 57.6 1.6	7.7 31.0 8.7
44.7 52.2 6.9	40.2 47.7 7.9	39.7 51.7 1.4	13.3 25.2 8.5
48.3	43.9	45.7	19.2
15)55	15)13 4	15)117	15)37
48.37	43.89	45.78	19.25
22^h 11^m 48^s.37	22^h 16^m 43^s.89	22^h 19^m 45^s.78	22^h 27^m 19^s.25
60.74	56.22	58.24	31.87
12.~~43~~ 37	12.33	12.46	12.62
.21	.19	.06	.05
12.58	12.52	12.40	12.57

assn-1/5

12.58
.52
.40
.57
4)07
12.52
.50
12.02

Frod. 1327 is SLOW

0^m 12^s.02

at 22^h 20^m S. T.

Wednesday Nov. 4, 1908

~~Wol. Cllo.~~

Mer Cir

Wol. Cllo.

Rattle at 22h 32m.

10 Lacertae +38°34'

η Pegasi + 29°44'

λ Pegasi + 23°5'

ι Cephei +65°43'

+38°34'		+29°44'		+23°5'		+65°43'	
34m 28.027.7	5.7	38m 4.358.2	2.5	41m 30.644	2.0	45m 17.011.2	8.2
31.125.0	6.1	7.255.4	2.6	33.218.8	2.0	23.25.4	8.6
34.324.5	5.8	10.052.6	2.6	35.816.0	1.8	28.859.2	8.0
37.418.4	5.8	12.849.7	2.5	38.613.4	2.0	35.353.2	8.5
40 615.0	5.6	15.546.8	2.3	41.010.9	1.9	41.047.0	8.0
48.37.2	5.5	22.639.8	2.4	48.04.0	2.0	56.0282.4	8.4
53.02.5	5.5	27.035.5	2.5	52.00.0	2.0	5.223.7	8.9
	57.6		31.2		56.0		14.2
15	126	15	37	15	147	1	28
	57.84		31.25		55.98		14.19

2.22 12.32
.42 11.91
1.8 (.41 (23
36
50
54

22h 34m 57.84s	22h 38m 31.25s	22h 41m 55.98s	22h 46m 14.19s
22 35 9.81	43.23	7.89	26.51
11.97	11.98	11.91	12.32
.03	.08	.11	.30
12.00	12.06	12.02	12.02

n = .23

.23
.11
23
23
.0250

.35
.23
105
70
.08

.49
.23
147
98
.1127

.23
.13
69
23
.099

12.00
.06
.02
.02
~~1.2~~4) 10
12.02
.50 b sec δ
11.52

Frod. 1327 is SLOW

0m 11.52s

at 22h 40m S.T.

Thursday Nov. 5, 1908

Mer Cir [illegible]

Rattle at 20h 30m.

β Delphini	+14°16'
α Delphini	+15°35'
α Cygni	+44°57'
ε Cygni	+33°38'

+14°16'		+15°35'		+44°57'		+33°38'	
32m 39.627.8	7.4	34m 47.336.0	3.3	37m 33.739.8	3.5	41m 50.646.9	7.5
42.025.4	7.4	49.733.4	3.1	37.336.4	3.7	53.544.0	7.5
44.722.8	7.5	52.230.8	3.0	40.432.6	3.0	56.440.9	7.3
47.220.3	7.5	55.028.1	3.1	44.129.4	3.5	59.337.8	7.1
49.517.7	7.2	57.525.7	3.2	47.626.0	3.6	2.335.0	7.3
56.211.3	7.5	3.919.0	2.9	56.217.3	3.5	9.727.7	7.4
0.07.6	7.6	7.715.3	3.0	1.512.0	3.5	14.523.0	7.5
	3.9		11.3		6.9		187
	15) 110		15) 79		15) 112		15) 103
	3.73		11.53		6.75		18.69

20h 33m 3.s73	20h 35m 11.s53	20h 38m 6.s75	20h 42m 18.s69
15.27	23.06	18.48	30.32
11.54	11.53	11.73	11.63
.16	.16	.02	.06
11.70	11.69	11.71	11.69

Ass n = -1/4

11.70
.69
.71
.69
11.70
.50 b accl.
11.20

Frod. 1327 is SLOW

0m 11.s20

at 20h 37m S.T.

Sat Nov. 7, 1908

Quer Cir Wells Obs.

Rattle at 23^h03^m

Br. 3077 +56°40'

E [γ Pisc.] +2°4~~1~~7'

τ Pegasi +23°14'

+56°40'		+2°47'		+23°14'	
08^m 0.225.3	5.5	11^m 52.038.8	0.8	15^m 31.022.0	3.0
4.821.0	5.8	54.536.5	1.0	33.719.3	3.0
9.216.3	5.5	57.034.0	1.0	36.316.7	3.0
13.812.0	5.8	59.431.6	1.0	39.114.0	3.1
17.87.6	5.4	2.029.1	1.1	41.711.3	3.0
29.356.3	5.6	8.123.0	1.1	48.24.6	2.8
36.349.4	5.7	12.019.2	1.2	52.60.7	3.3
	42.7		15.4		56.6
	15)120		15)76		15)78
	42.80		15.51		56.52

$23^h08^m42^s.80$	$23^h12^m15^s.51$	$23^h15^m56^s.52$
53.50	25.93	7.07
10.70	10.42	10.55
.12	.17	.10
10.58	10.59	10.65

10.42
10.70
.28

.05
1.52
1.47

n = .2

10.58
.59
.65
3)82
10.61
.50 b sec δ
10.11

Frod. 1327 is SLOW

$0^m 10^s.11$

at 23^h12^m S.T.

Mon Nov. 9, 1908

Mer Cir — Wells

Rattle at $1^h 11^m$

υ Pisc +26°47'
δ Cass. +59°45'
η Pisc +14°52'

+26°47'		+59°45'		+14°52'	
13^m 51.343.8	5.1	18^m 55.328.3	3.6	26^m 2.250.9	3.1
54.340.9	5.2	0.123.3	3.4	5.248.4	3.6
57.138.2	5.3	5.018.4	3.4	7.645.7	3.3
59.935.6	5.5	9.813.4	3.2	10.243.2	3.4
2.433.0	5.4	14.58.5	3.0	12.840.8	3.6
9.126.0	5.1	27.056.3	3.3	19.034.3	3.3
13.821.7	5.5	34.349.0	3.3	22.630.5	3.1
	17.9		41.7		26.7
	15) 100		15) 99		15) 101
	17.67		41.66		26.67

$1^h 14^m 17^s.67$	$1^h 19^m 41^s.66$	$1^h 26^m 26^s.67$
27.25	51.43	36.24
9.58	9.77	9.57
.06	.11	.09
9.64	9.66	9.66

1.71 9.77
.26 9.57
1.45) .20 (.14
145
550
580

m = .14

9.65
.150 b sec 6
9.15

Frod. 1327 is SLOW

$0^m 9^s.15$

at $1^h 20^m$ S.T.

Times Nov. 12, 1908

Trans Cir Ladd Obs.

ν Cygni +40° 49'. (9 wires, middle)
Rattle at 20h 56m
61 Cygni + 38° 18'
ζ Cygni + 29° 51'

+40°49'		+38°18'		+29°51'	
= =	=				
53m 15.5 58.1	3.6	2m 9.4 8.8	8.2	8m 26.8 20.7	7.5
18.7 54.6	3.3	12.2 6.0	8.2	29.6 ~~20.7~~ 18.0	7.6
27.0 46.6	3.6	15.2 ~~6.0~~ 2.7	7.9	32.3 ~~18.0~~ 15.1	7.4
31.7 41.8	3.5	18.4 ~~2.7~~ 59.7	8.1	35.2 12.2	7.4
	36.9	21.6 56.3	7.9	38.1 9.3	7.4
		29.6 48.3	7.9	45.3 2.2	7.5
		34.3 43.7	8.0	49.5 58.0	7.5
			39.0		53.7

9) .69
36.76

15) .2
39.01

15) 1.10
53.73

20h 53m 36s.76	21h 02m 39s.01	21h 08m 53s.73
45.39	47.55	62.33
8.63	8.54	8.60
.01	.02	.05
8.64	8.56	8.65

aso u = $\frac{1}{7}$

8.64
.56
.65
2) 5
8.62
.50 b sec δ
8.12

Frod. 1327 is SLOW

0m 8s.12

at 21h 0m S. T.

Fri Nov. 13, 1908

Mer Cir Wells Obs.

ξ Ceti −10° 47′
α Triang +29°08′ (last 6 wires)
β Arietis +20° 22′ (9 middle wires)
Rattle at 1h 52m
γ Andron +41°53′
α Arietis +23° 2′
β Trian +34°33′

+ 20°22′		+ 41°53′		+23°2′		+ 34°33′	
49m ≡ ≡		57m 38.641.6	0.2	1m 28.919.6	8.5	3m 30.727.6	8.3
11.245.4	6.6	41.938.2	0.1	31.316.9	8.2	33.724.7	8.4
13.742.5	6.2	45.335.0	0.3	34.014.0	8.0	36.721.7	8.4
20.236.0	6.2	48.631.8	0.4	36.611.4	8.0	39.618.6	8.2
24.132.1	6.2	52.028.3	0.3	39.38.7	8.0	42.715.4	8.1
	28.3	0.220.3	0.5	46.02.0	8.0	50.08.1	8.1
	9 | 15	5.415.0	0.4	49.958.1	8.0	54.83.6	8.4
	28.17		10.3		54.1		59.2
			15 | 25		15 | 8		15 | 21
			10.17		54.05		59.14

ass. $n = \frac{1}{7}$

$1^h 49^m 28^s.17$	$1^h 58^m 10^s.17$	$2^h 01^m 54^s.05$	$2^h 03^m 59^s.14$
36.20	18.25	62.03	7.13
8.03	8.08	7.98	7.99
.08	.00	.07	.04
8.11	8.08	8.05	8.03

8.11
.08
.05
.03
4 | 27
8.07
.50
7.57

Frod. 1327 is SLOW

$0^m 7^s.57$

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

Fri. Nov. 13.9, 1908

~~Trans Cir.~~ Noh. Obs.

Collimation

23h 00

S. Coll. on N. Coll

51.0
52.6
49.1
51.2
48.0
49.7
48.1
48.0
51.4
50.3
49.94

Set at 49.9

Tel. on S. Coll.	Tel. on N. Coll.
33.159	34.152
.151	.000
.152	.157
.189	.003
.131	.035
.182	.002
.133	.049
.179	.028
.130	.028
.179	.037
33.1585	34.0491

33.1585
34.0491
2) 67.2076
33.6038
.012
33.6158

Set at 33.616

Monday Nov. 16, 1908

Mer Cir F. O. le Clo.

Rattle at 21h 29m:

74 Cygni +40°0

ε Pegasi. +9°27′

π² Cygni +48°53′

+40°0′		+9°27′		+48°53′	
32m 39.0 40.3	9.3	39m 10.7 58.3	9.0	42m 42.2 52.3	5.5
42.6 37.2	9.8	13.2 56.0	9.2	45.8 49.4	5.2
45.7 34.0	9.7	15.6 53.3	8.9	49.5 45.8	5.3
48.8 30.8	9.6	18.3 50.7	9.0	53.3 42.0	5.3
52.2 27.5	9.7	20.8 48.2	9.0	57.0 38.1	5.1
0.1 19.2	9.3	27.0 42.0	9.0	6.4 28.8	5.2
5.0 14.5	9.5	30.9 38.3	9.2	12.1 23.3	5.4
	9.6		34.5		17.9
	15)115		15)~~1~~8		15)89
	9.77		34.52		17.66

21h 33m 9s.97	21h 39m 34s.52	21h 43m 17s.66
16.73	41.50	24.69
6.96	6.98	7.03
.01	.08	.02
6.97	7.06	7.01

aoo = $\frac{1}{10}$

6.97
7.01
7.06
3)4
7.01
.50 6 sec
6.51

Frod. 1327 is SLOW

0m 6s.51

at 21h 40m S. T.

Tues. Nov. 17, 1908

Dessau Cir Wells

β Aquarii −5°.59'
74 Cygni +40°0'
Rattle at 21h 35m.
ε Pegasi +9°27'

−5°59'		+40°0'		+9°27'	
26m 14.3 1.2	5.5	32m 39.7 40.5	0.1	39m 11.0 58.7	9.7
17.0 59.0	6.0	42.7 38.3	0.0	13.3 56.3	9.6
19.2 56.2	5.4	45.8 34.0	9.8	15.8 53.8	9.6
21.7 54.0	5.7	49.1 31.0	0.1	18.6 51.2	9.8
24.2 51.4	5.6	52.2 27.7	9.9	21.1 48.4	9.5
30.3 45.6	5.9	0.5 19.6	0.1	27.5 42.4	9.9
34.0 41.8	5.8	5.3 15.1	0.4	31.5 38.7	0.2
	38.1		10.2		35.0
	15 | 130		15 | 6		15 | 133
	37.87		10.04		34.89

21h 26m 37s.87	21h 33m 10s.04	21h 39m 34s.89
44.49	16.71	41.49
6.62	6.67	6.60
·07	·00	·05
6.69	6.67	6.65

asom = $\frac{1}{15}$

6.67
·50 δ secle
6.17

Frod. 1327 is SLOW

0m 6s.17

at 21h 35m S. T.

Wed. Nov. 18, 1908

Level Obs. Wh. Obs.

23h: 15m

Telescope South.

Zero	W End	E End.		
W	- 7.6	- 59.1	-66.7	
E	72.0	+ 20.3	+ 92.3	+25.6
W	-10.3	-62.0	- 72.3	
E	+ 69.0	+ 17.3	+ 86.3	+ 14.0

Telescope North

W	-11.0	-67.3	- 78.3	
E	+ 82.2	+ 31.0	+ 113.2	+34.9
W	- 8.7	- 60.0	- 68.7	
E	+81.1	+29.7	+ 110.8	+42.1

Changed length of bubble.

Telescope South.

W	-3.2	- 41.1	-44.3
E	+ 66.0	+ 28.1	94.1
W	-	-	
E			

Reject. Level plate removed and cleaned. Level adjusted.

Thursday Nov. 19, 1908

~~Friday Nov. 20, 1908.~~

~~Level Obs.~~ ~~Coll. Obs.~~

Sliding surfaces of level saddle cleaned and oiled this afternoon.

Friday Nov. 20, 1908

Level Obs. ——— W.L. Obs

Telescope South

Zero	W End	E End.		
W	-50.5	-79.0	-129.5	
E	+88.0	+59.4	+147.4	+17.9
W	-47.8	-79.2	-127.0	
E	+88.0	+59.6	147.6	+20.6
	Telescope North.			
W	-30.8	-59.0	-89.8	
E	+75.7	+47.6	+123.3	+33.5
W	-37.8	-60.0	-91.8	
E	+75.7	+47.5	+123.2	+31.4
	Telescope South.			
W	-49.0	-77.3	-126.3	
E	+89.2	+61.0	+150.2	+23.9
W	-48.8	-77.0	-125.8	
E	+88.1	+60.0	+148.1	+22.3
	Telescope North			
W	-30.9	-59.0	-89.9	
E	+74.0	+46.0	+120.0	+30.1
W	-31.0	-59.1	~~+~~-90.1	
E	+75.0	+47.0	122.0	+31.9
				32)211.6

32)211.6(6.61
192
196
192
40

.96

6.61
.06
.3966 = b.
1.35
19830
11898
3966
.535410

b sec φ = 0.54 West end high.

Fri Nov 20, 1908

~~W. bill~~

Amer Ci W.h.Clb.

Rattle at $23^h 45^m$

α Pegasi, +18°37'

ω Piscium +6°21'

β Cass. +58°39' (Wires 3-10, 12&13)

+18°37'		+6°21'		+58°39'	
47^m 20.598	0.3	54^m 8.855.7	4.5	03^m ≡	≡
23.27.3	0.5	10.953.3	4.2	—	
25.75.0	0.7	13.250.6	3.8	37.648.7	6.3
28.32.5	0.8	15.948.3	4.2	42.644.4	7.0
31.059.8	0.8	18.245.6	3.8	46.8—	-
37.453.1	0.5	24.239.0	3.2	58.727.3	6.0
41.249.1	0.3	28.035.7	3.7	6.120.7	6.8
	45.0		32.0		13.4
	15 | 39		15 | 144		9 | 25
	45.26		31.96		13.28

$23^h 47^m 45.^s26$	$23^h 54^m 31.^s96$	$0^h 04^m 13.^s28$
50.56	37.41	18.66
5.40	5.45	5.38
.03	.04	.04
5.37	5.41	5.42

~~assu~~ ~~$\frac{1}{10}$~~

1.64 | 5.38
.11 | 5.45
1.53) .07

$m = \frac{1}{20}$

5.37
.41
.42
3 | 1.20
5.40
~~.54~~ b acc a
4.86

Frod. 1327 is SLOW

$0^m 4.^s86$

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

Mon Nov. 23, 1908

Mer Cir Wells Obs

Rattle at $22^h 02^m$.

π Pegasi +32°44'
ζ Cephei +57°45' (9 wires, middle)
ι Aquarii −8°14'
γ Aquarii −1°51'
3 Lacertae +51°46

+32°44'
05^m 22.4 18.1 0.5
25.3 15.2 0.5
28.3 12.2 0.5
31.3 9.3 0.6
34.2 6.3 0.5
41.6 59.1 0.7
46.0 54.7 0.7
50.3
15 | 43
50.29

±57°45'
07^m 5.4 5.7 1.1
10.2 1.0 1.2
21.6 49.4 1.0
28.7 42.4 1.1
35.4
9 | 48
35.53

−8°14' ~~8'~~
11^m 31.9 19.1 1.0
34.4 16.8 1.2
36.7 14.1 0.8
39.3 11.7 1.0
42.0 9.2 1.2
48.0 3.0 1.0
51.7 59.2 0.9
55.7
15 | 78
55.52

−1°51'
16^m 27.5 14.3 1.8
30.0 12.0 2.0
32.3 9.5 1.8
35.0 7.0 2.0
37.2 4.4 1.6
43.5 58.4 1.9
47.2 54.7 1.9
51.0
15 | 140
50.93

+51°46'
19^m 14.9 30.3 5.2
19.0 26.7 5.7
22.7 22.4 5.1
26.7 18.5 5.2
30.7 14.6 5.3
40.8 4.4 5.2
46.5 58.7 5.2
52.7
15 | 96
52.64

$22^h 05^m 50^s.29$	$22^h 07^m 35^s.53$	$22^h 11^m 55^s.52$	$22^h 16^m 50^s.93$	$22^h 19^m 52^s.64$
55.36	40.66	60.49	55.97	57.69
5.07	5.13	4.97	5.04	5.05
.03	.07	.10	.09	.04
5.04	5.06	5.07	5.13	5.01

1.59 | 5.13
−.14 | 4.97
1.73 | .16

n = .1

5.04
.06
.07
.01
.13
5 | 31
5.06
.54 b sec c
4.52

Frod. 1327 is SLOW

$0^m\ 4^s.52$

at $22^h\ 12^m$ S. T.

Tues Nov. 24, 1908

Transit Cir [illegible]

Rattle at 22h.03m

ξ Cephei +57°45'
ι Aquarii −8°14'
γ Aquarii −1°51'

+57°45'		−8°14'		−1°51'	
6m 51.8 19.4	1.2	11m 32.0 19.1	1.1	16m 27.6 14.6	2.2
56.5 15.0	1.5	34.4 16.9	1.3	30.2 12.1	2.3
0.9 10.4	1.3	36.9 14.2	1.1	32.5 9.7	2.2
5.6 5.6	1.2	39.3 11.7	1.0	35.0 7.1	2.1
10.1 1.0	1.1	41.8 9.3	1.1	37.5 4.7	2.2
21.8 49.5	1.3	48.0 3.1	1.1	43.7 58.6	2.3
28.6 42.4	1.0	51.9 59.4	1.3	47.4 54.8	2.2
	35.6		55.7		51.2
	15 | 92		15 | 87		15 | 17
	35.61		55.58		51.11

22h 07m 35s.61	22h 11m 55s.58	22h 16m 51s.11
40.63	60.47	55.95
5.02	4.89	4.84
.07	.11	.09
4.95	5.00	4.93

1.59
−.08
1.67

5.02
4.86
16

μ = .1

.14
.03
117

4.95
5.00
4.93
3 | 288
4.96
.54
4.42

Frod 1327 is SLOW

0m 4s.42

at 22h 12m S.T.

Friday Nov. 27, 1908

Mer Cir Wells

Rattle at $22^h 13^m$

γ Aquarii −1°51′

3 Lacertae +51°46′

7 Lacertae +49°49′

η Aquarii −0°36′

−1°51′

16^m 28.2 15.1 3.3
30.6 12.8 3.4
33.3 10.2 3.5
35.8 8.0 3.8
38.2 5.3 3.5
44.3 59.1 3.4
48.1 55.4 3.5
51.7
15 | 111
51.74

+51°46′

19^m 15.5 31.3 6.8
19.3 27.2 6.5
23.4 23.1 6.5
27.1 19.1 6.2
31.2 15.3 6.5
41.3 5.2 6.5
47.3 59.3 6.6
53.3
15 | 39
53.26

+49°49′

26^m 50.6 3.1 3.7
54.4 59.3 3.7
58.3 55.7 4.0
1.9 51.7 3.6
6.0 48.0 4.0
15.4 38.3 3.7
21.3 32.7 4.0
27.0
15 | 137
26.91

−0°36′

30^m 11.7 58.7 0.4
14.0 56.3 0.3
16.4 53.7 0.1
19.0 51.4 0.4
21.3 48.9 0.2
27.7 42.6 0.3
31.7 38.7 0.4
35.1
15 | 22
35.15

$22^h 16^m 51^s.74$	$22^h 19^m 53^s.26$	$19^h 27^m 26^s.91$	$19^h 30^m 35^s.15$
55.92	57.58	31.26	39.45
4.18	4.32	4.35	4.30
.10	.04	.03	.09
4.28	4.28	4.32	4.39

ass n =.1

4.28
.28
.32
.39
4 | 127
4.32
.54 b sec a
3.78

Frod. 1327 is SLOW

$0^m 3^s.78$

at $22^h 25^m$ S. T.

Sat Nov. 28, 1908

Mer Cir W. h. Obs

β Androm + 35°8' Rattle at 1h 07m.
Ξ [ζ' Pisc] +7°5'
ν Pisc. +26°47' (missed 1st wire)

+35°8'	+7°5'	+26°47'
4m 4.9 1.8 6.7	8m 30.2 17.8 8.0	13m 59.7 46.8 6.5
7.7 59.1 6.8	33.0 15.3 8.3	2.4 44.0 6.4
10.5 56.0 6.5	35.3 12.6 7.9	5.1 41.2 6.3
14.0 52.9 6.9	37.8 10.1 7.9	8.0 38.3 6.3
16.7 50.0 6.7	40.1 7.7 7.8	15.0 31.2 6.2
24.7 42.6 7.3	46.6 1.5 8.1	19.0 27.2 6.2
29.0 38.0 7.0	50.2 57.9 8.1	23.3
33.4	54.2	13 ⌊22
15 ⌊6 3	15 ⌊0 3	23.17
33.42	54.02	
1h 04m 33s.42	1h 08m 54s.02	1h 14m 23s.17
37.45	57.99	27.16
4.03	3.97	3.99
.02	.08	.04
4.05	4.05	4.03

azm = .1

4.05
.05
.03
3 ⌊13
4.04
.54 b sec c
3.50

Frod. 1327 is SLOW

0m 3s.50

at 1h 10m S.T.

Tuesday Dec. 1. 1908

Mer. Cir. G. Obsr.

Mark at 0h 53m
β Androm +35° 7′ no rattle at beginning
ν Piscium +26° 46′

+35° 7′				+26° 46′			
1h 4m	5.3	28	8.1	1h 13m	57.6	50.1	7.7
	8.6	59.8	8.4		0.2	47.3	7.5
	11.5	56.6	8.1		3.4	44.4	7.8
	14.3	537	8.0		5.8	41.8	7.6
	17.5	505	8.0		8.7	39.3	8.0
	25.1	43.2	8.3		15.5	32.2	7.7
	29.5	385	8.0		19.8	28.1	7.9
			34.2				24.0

611	5842
1h 4m 34s.07	1h 14m 23.61
1 4 37.42	1 14 27.14
3.35	3.53
.02	.04
3.37	3.57

3.47
.54 baug
2.93

Frod 1327 is slow

0m 2.93

at 1h 15m Sid T.

Wednesday Dec. 2. 1908,

Mer. Circle W.P.G. obsr.

Rattle $22^h 31^m$

η Pegasi +29° 44′

ι Cephei +65° 42′ no rattle at beginning

ο Androm +41° ~~19′~~ 49′

+29° 44			+65° 42′			+41° 49′		
$22^h 38$			$22^h 45$			$22^h 57$		
12.8	66	9.4	24.6	18.8	3.4	8.0	11.2	9.2
15.5	39	9.4	30.4	12.8	3.2	11.1	8.0	9.0
18.4	1.0	9.4	37.2	7.0	4.2	15.0	4.2	9.2
21.1	58.0	9.1	42.8	1.2	4.0	18.2	1.2	9.4
24.0	55.3	9.3	48.3	55.2	3.5	21.3	58.0	9.3
31.0	48.0	9.0	3.9	40.1	4.0	29.4	49.2	8.6
35.5	43.8	9.3	12.8	31.2	4.0	34.9	44.5	9.4
	39.5		~~21.6~~	40.0	21.6			39.8
	744			~~31.2~~	27 9			

22 38 39.50
22 38 42.79
3.29
.04
3.33

46 21.83
46 25.28
3.45
.12
3.33

57 39.45
57 42.76
3.31
00
3.31

3.33
$.54^h$ sub
2.79

2.21 3.45
.57 3.29
1.64) .16 (.1
.16

n from Dec 6 = .3

Assumed n = 7

Frod 1327 is ~~fast~~ slow

$0^m\ 2^s.79$

at $22^h 45$ Sid Time

Saturday Dec. 5. 1908.

Mer. Circle

W.P.G. obs.

Rattle $0^h 42^m$

μ Androm +37° 59′

ε Piscium + 7° 23′

β Androm + 35° 07′

+37° 59

51^m	9.1	08.3	7.4
	12.2	05.5	7.7
	15.2	02.1	7.3
	18.2	59.1	7.3
	21.4	56.3	7.7
	29.4	48.0	7.4
	34.3	43.3	7.6

38.9

15) 11.3

0^h 51 38.75

0^h 51 41.26

2.51

.03

2.52

.54

assumed

n = .2

See Dec 2 & 6

2.52

.54

1.98

δ

37°	2.54
7°	.63
35°	.50
	167

2.56

band = .54

2.02

+7° 23

$0^h 57^m$

46.5	33.3	19.8
48.9	31.3	20.2
51.3	28.7	20.0
54.0	—	—
56.5	23.6	20.1
2.6	17.3	19.9
6.6	13.9	20.5
		[10.2]

13) 1307

0^h 58^m 10.05

0 58 12.47

2.42

.21

2.63

+35° 7′

$1^h 4$

6.2	3.6	9.8
9.4	0.8	10.2
12.4	57.4	9.8
15.3	54.4	9.7
18.4	51.5	9.9
25.9	44.0	9.9
30.3	39.5	9.9_8 [35.0]

15) ~~643~~ 741

$1^h 4^m$ 34.94

1 4 37.39

2.45

.05

2.50

Frod 1327 is slow

0^m $2^s.02$

at $1^h 0^m$ Sid Time

Sunday, Dec 6-1908

Mer. Circle

JAD [illegible]

Ratt after 23^h 4

Br 3077 on Wire no 14 Cloudy
γ Piscium on Wire 15 "
τ Pegasi +23 14 all : seeing poor
4 Cass. +61 46 all
70 Pegasi +12 15 last 2 wires only
ι Androm +42 45 all : clouds.

τ Pegasi			4 Cass			ι Androm.		
+23° 14			+61 46			+42° 45		
23^h 15			23 19			23 33		
39.0	30.0	9.0	53.8	33.4	27.2	5.0	8.4	13.4
41.6	27.6	9.2	59.4	28.7	8.1	8.2	5.2	13.4
44.6	24.7	9.3	4.8	23.3	8.1	11.8	2.1	13.9
47.1	22.0	9.1	10.2	18.0	8.2	15.1	59.6	14.7
49.8	19.4	9.2	15.6	12.5	8.1	18.0	55.7	13.7
56.5	12.7	9.2	28.0	59.5	7.5	26.9	47.2	14.1
0.4	8.6	9.0	35.8	52.0	7.8	31.8	42.5	14.3
		[4.8]			[44.0]			[37.0]
		68 8						

	τ Pegasi	4 Cass	ι Androm
T	23^h 16 4.59	23 19 43.93	23 33 36.97
RA.	23 16 6.69	23 20 46.52	23 33 39.17
	2.10	2.59	2.20
	.10	.19	0
	2.20	2.40	2.20

1.86 2.59
1.43 2.10
1.43) .49 [.34
43
60

m = .33

n .10 Decr

Assumed
m = .2

δ
+23° 2.20
+42 .20 } 2.20
+61 40 2.40
2.27 2.30
b aug = .54
1.73

Frod 1327 is slow

0^m 1.73^s

at 23^h 20^m Sid Time

Monday, Dec 7, 1908.

Rattle after 0h 53m

Meridian Circle
J.A.D. obsr.

ε Piscium +7°24 all; } clear
β Androm +35 8 all; }
ζ' Piscium +7°5 reject all but last 5 wires which
are the wires 11 to 15; Clouds
Observed the preceding & brighter component
ν Piscium +26 47 Tally 1 all;
and part of 2nd; Clouds.

	ε Piscium			β Androm.			ζ' Piscium	ν Piscium
	+7°24			+35°8			+7°5	+26°47
	0h 57			1h 4			1h 9 English Almanac	1h 13
	46.6	34.0	20.6	6.5	3.7	10.2	10.7	58.8
	49.5	31.5	21.0	9.5	0.8	10.3	11.9	1.5
	51.7	29.0	20.7	12.4	57.7	10.1	14.4	4.4
	54.2	26.7	20.9	15.5	54.7	10.2	17.0	7.3
	56.7	24.0	20.7	18.6	51.8	10.4	19.4	9.5
	2.9	18.1	21.0	26.0	44.2	10.2	73.4	21.5
	6.7	14.4	21.1	30.8	39.7	10.5	14.68	4.30
	~~10.5~~		10.5			35.2	−18.60	+20.76
		15) 156.5				77.1	56.08	~~43.62~~ 25.06
T =	0h 58 10s.43			1h 4 35.14			1h 8 56.08	1h 14 25.06
α =	0 58 12.45			1 4 37.37			1 8 57.92	1 14 27.09
	2.02			2.23			1.84	2.03
	.27			.08			.27	.14
	2.29			2.31			2.11	2.17

Assumed
n = .33
See Obs of Dec 6

+7° 2.29
+35° .31 } n
+26° .17 }
.77
2.26
b sec φ = .54
1.72

Sid 1327 is slow
0m 1s.72
at 1h 10m Sid Time

Dec 8, 1908

Noon

Collimation
of Meridian Circle.

JHD. obsr.

S. coll on N. coll.

855
846
854
844
853

254

Set at ~~85.08~~
→ 85.1

Tel. on N. coll.

Micrometer found
at 33.615

3$\overset{1}{4}$,324 ~~345~~
345
340
338
325
172
3$\overset{1}{4}$,334

Tel. on S. coll.

35.775
783
785
795
795
433
35.7866

Lines of reticules
well adjusted to
motion of telescope

31.334
35.787
7.121
33.560

Tel. R.A. micrometer set at 33.560

Dec 8 — 1908

Mer Circle — JAD Obsr

Daylight obs.

α Lyrae +38 42 — Rattle af 18h 36

γ Cygni +39°58 — Rattle after 20h 20

α Cygni +44°57 — Rattle after 20h 39

α Lyrae			γ Cygni			α Cygni		
18h 33			20h 18			20 37		
17.1	17.4	34.5	23.1	24.2	47.3	42.6	48.7	91.3
20.4	14.1	34.5	26.2	21.4	47.6	46.2	45.6	91.8
23.5	10.9	34.4	29.5	18.0	47.5	49.5	42.0	91.5
26.6	7.4	34.5	33.0	14.7	47.7	53.2	38.5	91.7
29.9	4.4	34.3	36.0	11.5	47.5	56.6	35.0	91.6
37.8	56.6	34.4	44.0	3.5	47.5	5.2	26.5	91.7
42.3	51.8	34.1	48.8	58.6	47.4	10.6	21.0	91.6
		[47.2]		[—]				[16.0]
		15⌊7079		14)~~39 2 5~~ 30752 5	~~2611~~ 53.75			15)2372⌊1581

	α Lyrae	γ Cygni	α Cygni
	18 33 47.19	20 18 53.75	20 38 15.81
α =	18 33 48.97	20 18 55.61	20 38 17.73
	1.78	1.86	1.92
	.03	.02	.03
	1.81	1.88	1.89

t corr = 1.86
.54
1.32

Frod 1327 is slow
$\overline{0}$ 1.32
at 19h 50
Sid Time

Dec 9 - 1908

Mer Circle —— JAD obs

β Androm +35 8 all
ζ' Piscium + 7 5 last 5 only; star?
Rattle after 1h 11
ν Piscium +26 47 all
δ Cass +59 45 all

β Androm		ζ' Piscium	ν Piscium			δ Cass.		
1h 4m		1h 9	1h 13			1h 19		
26.6	52.3	10.0	58.8	17.1	40.5	3.0	35.0	16.4
30.8	55.2	12.3	1.5	21.0	43.2	7.8	41.8	21.6
35.6	58.2	14.9	4.5	25.3	46.5	12.5	49.6	26.2
40.1	1.2	17.5	7.4	29.2	48.9	17.7	56.5	31.4
44.8	4.2	20.0	10.2	33.5	51.7	23.0	4.0	35.6
~~52.3~~								
177.9	[illegible]11	74.7	22.4	126.1	230.8	64.0	246.9	131.2
35.58	58.22	14.94	4.48	25.22	46.16	12.80	49.38	26.24
+.05	-22.57	~~-22.57~~ -18.60	+20.78	+.05	-20.68	36.81	+.08	-36.65
35.63	35.65	56.34	25.26	25.27	25.48	49.61	49.46	49.59

	β Androm	ζ' Piscium	ν Piscium	δ Cass.
	1h 4m 35s.64	1h 8 56s.34	1h 14 25s.34	1h 19 49.55
				1 19 50.98
α =	1 4 37.34	1 8 57.91	1 14 27.07	
	1.70	1.57	1.73	1.43
	.08	+.26	.14	.27
	1.78	1.83	1.87	1.16

Mean α-T = 1.61

Mean ~~[illegible]~~ α-T corr = 1.66

Gen mean 1.63

Mean for 3 α-T instead } 1.83
above 1.61
above 1.66
2.10
Accepted 1.70
-.54
[illegible] 1.16

Fund 1327 is slow

0m 1s.16

at 1h 10m Sid Time

Dec 10-1908

Meridian Circle   JAD obs

Daylight obs

α Lyrae +38°42   2nd & 3rd Tallies; seeing poor
Rattle after 18 32

α Aq~~uilae~~narii -0°46   all; pen bad
Rattle after 22^{h}5

ξ Cephei +57°45   T1, bad 3; II & III
θ Aquarii -8°14   all
3 Lacertae +51°46 all
Fix pen; look at ink
for writing
examine point of pen

7 Lacertae +49°48   all; pen bad as usual
η Aquarii -0°36 all
10 Lacertae +38°34 all
η Pegasi +29°44 all
λ Pegasi +23°5, all; pen defective

Rattle ~~22~~^{h} before 22 4~~8~~3

Dec 10-1908 continued

	α Lyrae	α ~~Aquilae~~ Aquarii	ζ Cephei	θ Aquarii	β Lacertae
	+38°42	−0°46	+57°45	−8°14′	+51°46′
	18^h33	22^h0	22^h7	22^h11	22^h19
	II III	I	II III		
	37.9 4.7	39.8	~~8.1~~ 24.7 3.7	35.0 58.8 12.5	17.3 43.7
	42.4 8.7	42.3	~~13.0~~ 31.6 8.3	× 2.5 15.0	21.5 49.6
	47.5 11.0	45.0	× 13.0	40.0 6.2 17.5	25.7 55.6
	52.5 14.0	47.0	45.4 17.9	× 55.0 20.1	29.7 1.8
	56.7 17.4	49.8	52.4 22.0	45.0 51.2 22.5	33.5 7.9
	237.0 55.3	223.9	154.1 64.9	120.0 293.7 87.6	127.7 278.6
	47.40 11.06	44.78	38.52 12.98	40.00 58.74 17.52	25.54 55.72
	+.05 23.65	18.55	+.07 34.59	18.74 +.04 18.65	29.96 +.06
	47.45 47.41	3.33	38.59 38.39	58.74 58.78 58.87	55.50 55.66
T =	18 33 47.43	22 1 3.33	22 7 38.48	22 11 58.80	22 19 55.58
α =	18 33 48.96	22 1 4.96	22 7 40.09	22 11 60.29	22 19 67.23
	1.53	1.63	1.61	1.49	1.65
	+.01	+.06	−.04	+.06	−.02
	1.54	1.69	1.57	1.55	1.63

	δ	
	−8°14	1.55
	−0 46	1.69
	−0° 36	1.55
	+23 5	1.71
	+29 44	1.69
	+38 34	1.74
[18^h33]	+38 42	1.54
	+49 8	1.54
	+51 46	1.63
	+57 45	1.57

1.621 = Mean α − T corrected

.54 − b sec φ

1.08

	s	tan δ
+57° 45	1.61	1.586
+51 46	1.65	1.268
	1.63	+1.427
−0° 46	1.63	0.012
−8 14	1.49	0.144
−0° 36	1.49	0.010
	1.54	−0.056
	.09	1.48) .09 (0.06

n = 0.06 s

Dec 10-1908 included.

7 Lacertae			η Aquarii			ω Lacertae			η Pegasi			λ Pegasi	
+49°48'			−0° 36'			+38° 34			+29° 44			+23° 5	
22^h26			22^h30			22^h34			22^h38			22^h41	
									14.0			I	II
53.1	17.7	50.4	14.2	30.5	51.3	37.4	57.6	24.8	16.9	32.5	56.6	40.1	57.7
56.8	23.5	54.3	16.9	34.3	53.6	40.5	2.6	28.1	19.3	36.8	59.5	42.8	1.7
0.7	29.3	58.0	19.2	38.0	56.2	43.7	7.5	31.0	22.5	41.0	2.1	45.5	5.7
4.2	34.9	1.9	21.8	41.5	58.8	46.7	11.9	34.4	25.2	45.2	5.0	48.2	9.6
8.5	40.5	58	24.0	45.0	1.2	49.9	16.6	37.5		49.5	8.0	51.0	13.7
3033	1459	2904	961	1893	2811	2182	362	1558	979	2050	3112	2276	3284
0.66	29.18	58.08	19.22	37.86	56.22	43.64	7.24	31.16	19.58	41.00	2.24	45.52	5.68
28.73	+.06	28.60	18.55	+.04	18.46	23.73	+.05	23.63	21.36	+.04	21.26	20.16	+.04
29.39	29.24	29.48	37.77	37.90	37.76	7.37	7.29	7.53	40.94	41.04	40.98	5.68	5.74

22 27 29.37	22 30 37.84	22 35 7.40	22 38 40.99	22 42 5.70
22 27 30.93	22 30 39.33	22 35 9.14	22 38 42.66	22 42 7.38
1.56	1.49	1.74	1.67	1.68
−.02	+.06	+.00	+.02	+.03
1.54	1.55	1.74	1.69	1.71

Ford 1327 is slow

$0^m\ 1.08^s$

at $22^h\ 0^m$

Dec 10-1908

Sid Time

Sat. Dec 12 - 1908

Mer Cir. JAD obs

Rauld after. 3^{h} 22

o Tauri +8 42 all of II & III

[σ Persei] +47 41; all; where the 1st wire should be ~~on the~~ the last wire is the 2nd last of the group there.

o Tauri

3^{h} ~~20~~ 19

46.4 7.6
50.0 9.8
54.0 12.4
57.4 15.2
1.5 17.5
269.3 62.5
53.86 12.50
+.04 -18.66
53.90 53.84

3 ~~19~~ 19 53.87
3 19 54.73
0.86
.05
0.91

σ Persei

3^{h} 23

33.5 57.3 28.2
37.1 2.7 31.8
40.8 8.0 35.5
44.3 13.7 39.5
47.9 19.2 42.8
203.6 40.9 177.8
40.72 8.18 35.56
27.55 05 27.43
8.27 8.23 8.13

3 24 8.21
3 24 9.17
0.96
.01
0.95

~~124~~ No 362

3 . 24 4.976

0.6244
9.7797
0.4041 +2.536
8.6638
9.2615n
7.9253n -.084
8.7950
0.4952
9.2902 +.195
8.8856
1.3050
0.1906 +1.551
+4.198 +4.198

RA = 3 24 9.17

b sec φ = 0.93
54
0.39

Frod 1327 is slow

ō $0^{s}.39$

at 3^{h} 20^{m} Sid Time

Wednesday Dec. 16. 1908

Mer. Circle W.P.G. obsr

Rattle $23^h\,29^m$

ι Androm $42°\,45'$ First tally poor

6.2 10.5 67
7.2
9.5 ~~4.2~~ 6.7
13.9 4.2
6.6 0.7 77.2
16.6 49.0 65.6
20.2 43.6 63.8
28.5 38.8 67.3
33.4

Error in reading sheet: See below.

For additional stars see next page.

6.2	10.4	6.6
9.5	7.2	6.7
13.0	4.2	7.2
16.6	0.6	7.2
20.1	57.0	7.1
28.5	49.0	7.5
33.4	43.5	6.9
		38.8
	(15)	8.0

23 33 ~~38.73~~
23 33 ~~38.98~~
~~0.25~~
~~.00~~
~~.25~~
~~.54~~
~~29 fast.~~

38.53
38.98
0.45
.00
0.45
54 = b sec φ
0.09

Frod 1327 is fast
$0^m\;0^s.09$
at $23^h\,30^m$ Sid Time

Wednesday Dec 16. 1908

Mer-Circle W.P.G obsr.

Rattle 1h 42m.

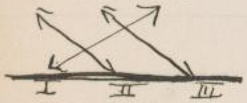
ε Cassiop	63° 12'	
γ Androm.	41° 53'	
β Trian.	34° 32'	First two and last two wires missed
ξ² Ceti	8° 02'	1st wire missed totally + Least wire last [illegible] (missed seeing poor)
γ Arietis	21° 33	Missed. Seeing poor.

ε Cassiop

+63° 12 I
1h 47 46

332 200 576
415 246 30
497 307 87
580 365 138
5.6 415 188

2480 1533 419
4960 3066 838
II III I



I II III
1.2682 8.5563 1.2662
0.3462 0.3462 0.3462
1.6144 8.9025 1.6124
41.15 .08 40.97
~~30.75 30.74 7.41~~
30~~.75 30.58~~
49.53 49.68 49.69
T = 1h 47 49.63
α = 1 47 50.11
α-T = 0 48
.20
0.28

~~γ Androm~~
β Triang
+34 32

I II III
x 2h 3
x
44.3 57.8 23.2
1 25.2
47.4 22
6.8 29.2
50.2 11.2 x
. 15.4 x
1419 334 776
4730 668 2587

1.2060 1.2041
0.0841 0.0841
1.2901 1.2882
+19.50 +05 -19.42
6.80 6.73 6.45
2h 4 6s.67
2 4 7.04
0.37
.05
0.42

+41° 53'
46.2 49.2 5.4
49.2 46.0 (5.2)
52.6 42.6 5.2
56.1 39.2 5.3
59.3 36.0 5.3
7.8 27.7 5.5
12.8 22.6 5.4
17.8
15) 8.9
1 58 17.~~59~~ .613
1 58 18.09
0.46 ~~0.50~~
.00 ~~.00~~
0.46 ~~0.50~~
.54 ~~.54~~
0.08 ~~.04 fast~~

0.46
.01
0.47

ξ² Ceti +8° 02'

2h 22
I II III
550 x 32.3
580 15.1 34.6
549 185 374
25 224 40.2
49 260 x
3003 820 1445
0.06 20.50 36.13

0.2608 1.2366
0.0042 0.0042
0.2650 1.2408
+18.73 -1.84 -17.41
18.79 18.66 18.72
2h 23 18s.73
2 23 18.79
0.06
.15
0.21

ε Cass +63° 12
and
ξ Ceti +8° 02
~~1~~.98 0.48
.14 0.06
1.84) 0.42 (.23
.32
.60
n = .2

0.48 28 48
37 42 06 } 27
46 47 42
06 21 47
137 138 116
.34 35 38

0.40
54
0.14 fast

Ford 1327 is fast
0 0s.14
at 2h 00 Sid Time

Saturday Dec 19-1908
Daylight observation
Meridian Circle

JAD obs
Rattles after 18h 35m

α Lyrae: +38°42

α Cygni +44°57

18h	33m	33m	34m
			x
	195	39.6	x
	22.7	44.6	13.0
	25.7	49.5	16.5
	x	x	19.9
	32.0	x	
67.9		133.7	49.4
22.63	32.0	44.57	16.47
1.3225	1.1338	0.5729	1.3206
0.1077	0.1077	0.1077	0.1077
1.4302	1.2415	0.6806	1.4283
26.92	17.44	4.79	26.81
49.55	49.44	49.36	49.66
Wes 3	1	3	3

T = 18h 33 49.52
α = 18 33 48.96

.56
.00
.56 f.
.54 = b m φ

Bond 1327 is Fast 1s.10

20h 37		
44.5	7.5	37.1
48.4	12.7	40.4
51.7	18.0	44.0
55.2	23.0	47.6
x	28.3	50.9
199.8	89.5	220.0
50.00	17.90	44.00
1.2962		
0.1500		
1.4462		
+27.94	+06	-26.10
17.94	17.96	17.90

20 38 17.93
20 38 17.55
0.38
.00
.38
.54
.92

Bond 1327 is fast 1s.00
at 19h 30m Sid Time

Mon. Dec 21-1908

Mer. Circle. J.A.D. Asr

Day light observation

α Lyrae +38° 42 all; Rattle after $18^{h}\,35$

α Aquilae +8° 37 all Rattle after $19^{h}\,48$

α Cygni +44° 57 II & III Rattle after $20^{h}\,40$

α Lyrae

18 33

19.7	40.0 44.9	6.8
22.7	49.5	10.0
25.8	54.4	13.1
29.0	59.0	16.5
32.1		19.5
129.3	247.8	65.9
25.86	49.56	13.18
23.76	.05	23.65
49.62	49.61	49.53

18 33 49.59
18 33 48.97
0.62

~~0.2~~

α Lyrae

~~$18^{h}\,32$~~		
~~55.2~~	~~11.6~~	~~32.7~~
~~57.8~~	~~15.3~~	~~35.2~~
~~0.4~~	~~19.0~~	~~37.6~~
~~2.8~~	~~22.7~~	~~(40.1)~~
~~5.3~~	~~26.4~~	~~42.6~~
~~301.5~~	~~95.0~~	~~188.2~~
~~0.30~~	~~19.00~~	~~37.64~~
~~23.76~~	~~+ 05~~	~~23.65~~
~~24.06~~		

α Aquilae

$19^{h}\,45$

55.2	11.5	32.7
57.8	15.3	35.2
0.3	19.0	37.7
2.9	22.7	(40.2)
5.3	26.5	42.6
301.5	95.0	188.4
0.30	19.00	37.68
18.75	+ 04	18.66
19.05	19.04	19.02

19 46 19.04
19 46 18.30
0.74

Not used as n is not known

α Cygni

$20^{h}\,38$

II	III
7.5	37.3
12.8	40.8
18.1	44.2
23.3	47.8
28.6	51.1
90.3	221.2
18.06	44.24
~~[illegible]~~ +.06	26.10
18.12	18.14

20 38 18.13
20 38 17.52
0.61

δ		
+38°	α Lyrae	0.62
+44	α Cygni	0.61
		0.61
		54
		1.15

Frod 1327 is fast $0^{m}\,1^{s}.15$ at $19^{h}\,30^{m}$ Sid. Time

Wed. Dec 23 - 1908

Mer Circle S A D[illegible]

Rattly after $23^h 30$

[72 Pegasi] +30°49 all
ι Androm +42°45 all

72 Pegasi

$23^h 28$

58.1 16.9 41.3
0.9 21.3 44.0
3.7 25.5 46.8
6.5 29.8 50.0
9.8 34.1 52.8

19.0 127.6 234.9
38.0 25.52 46.98
~~21~~.60 .04 21.50

25.40 25.56 25.48

$T = 23^h 29^m 25^s.48$

$\alpha = 23\ 29$ ~~16.23~~ 25.126

0.28
.06
0.28

tan δ - tan φ = .31
weight = 1

1 × 28 = .28
2 × 48 = 96
3) 124
0.41
54
0.95

ι Androm.

$23^h 33$

7.6 29.4 57.7
10.7 34.3 1.0
13.8 39.3 4.3
17.4 44.2 8.0
20.7 49.4 11.2

70.2 196.6 22.2
14.04 39.32 4.44
25.25 .05 25.14

39.29 39.37 ~~19.26~~ 39.30

$23^h 33^m 39^s.32$

23 33 38.84

0.48
00

0.48

tan δ - tan φ = 00
weight = 2

$h\ 23.198$
23 29 ~~14.227~~
536

9.8050
0.4722
0.277^2 1.893

9.2108n
8.5953 -.006
7.8061n ~~.066~~

9.7147n
8.8861
8.6008 -.041

1.3109
8.0165n
9.3274n +.212
+.206

$23^h 29$ ~~$16^s.23$~~
25.26

Frod. 1327 is fast

$0^m\ 0^s.95$

at $23^h 30^m$ Sid Time

Sat. Dec 26-1908

Mer Circle   J.A.Dibers   Daylight bar

Rain after $18^h 3\overset{5}{4}$

α Lyrae +38°42' all.

α Lyrae

$18^h 33$

19.5	40.1	(7.6)
22.8	45.0	10.7
25.8	49.7	13.5
29.1	54.5	16.6
32.2	59.3	19.9
129.4	248.6	67.8
25.88	49.72	13.46
23.76	.05	23.65
49.64	49.79	49.81

18 33 49.75

18 33 48.98

0.77

50

b corr 54

1.31

Frod 1327 is fast

0^m 1.31^s

at $18^h 30^m$ Sid time

Sunday, Dec 27 - 1908

Mer circle J.A.D. obsr
Cloudy

ξ Persei +31°37′ I wt 2 ~~III~~ II .3 } III all; fairly good:
Very Cloudy
rej. of discordance

ε Persei +39°44′ II 1st 3 : rej 3rd string } very doubtful; faint in clouds
III. wt 4
Very cloudy

Rattle after 3 53

ξ Persei

I	II	III
3^h47	48	48
58.0		42.0
0.9		44.4
×	25.85	47.1
×		50.2
×		53.2
		2369
		47.38
		21.68

T = 3 48 25.70
α = 3 48 24.46
1.24
.08
1.32

Using n = .25

ε Persei

II	III
3^h51	3^h52
	~~*~~
37.2	4.0
40.8	6.5
~~×45.6~~	wt 4 10.2
×	13.2
	339
	8.48
	~~25.61~~ 22.42

3^h51 ~~42.87~~ 46.06
3 51 44.60
~~27~~ 1.46
.00
1.46

1.2944 1.2366
0.1140 0.1140
1.4084 1.3506
~~25.61~~ 22.42

1.40
tan φ = .54
1194

Find 1327 is fast
ō $1^s.94$
at 3^h50 Sid Time

Dec 27 $\frac{10}{10}$, 1908

Monday ~~Dec 28, 1908~~

Mer. Circle

DAD obs

Day light observation

~~Ratto~~ after 18^h 33

α Lyrae +38° 42 all

α Lyrae

18^h 33

		7.9
20.5	41.0	11.0
23.6	45.8	14.0
26.8	50.5	17.3
30.0	55.1	20.5
33.1	59.8	
134.0	252.2	70.7
26.80	50.44	14.14
23.76	.05	23.65
50.56	50.49	50.49

T = 18^h 33 50.51^s

α = 18 33 49.00

1.51

.00

.51

6 surf .54

2.05

Find 1327 is last

Dec $28\frac{10}{10}$, 1908

Tuesday   Day light obs.

~~Rain~~ after $18^{h}35$

· α Lyrae I last 3 : II all. Clouds stop obs.

α Lyrae

$18^{h}33$

	x	40.8
	x	45.5
	26.5	50.3
	29.7	55.0
	33.1	59.9
	893	2515
1.2060	29.77	50.30
0.1077	20.60	1.05
1.3137	50.37	50.35

T = 18 33 50.36

α = 18 33 49.01

1.35
00
1.35
.54
1.89

Frod 1327 is fast
$0^{m}\ 1^{s}.89$

at $18^{h}30$ Sid. T.

Dec 29.2 – 1908

Mer Circle JAD

Ob. for determining n

γ Cephei +77 7.1 all
Clouds after 23 39

φ Pegasi +18 37 all
[ρ Cass +57 0) all
[27 Piscium] −4 4 all

Fresh ink needed badly

Clouds after 23 55

γ Cephei			φ Pegasi			ρ Cass			27 Piscium		
23h 33m	35	36	23 47			23h 49			23h 53		
49.6	1.4	35.2	26.7	43.7	5.5	6.4	35.8	14.5	37.5	53.8	14.5
07	18.5	46.2	29.2	x	x	11.2	42.7	18.9	39.8	57.3	17.2
11.4	34.7	58.5	31.7	x	x	15.5	x	23.5	42.5	1.0	19.7
22.5	51.6	9.2	34.4	55.3	13.5	20.0	56.2	x	44.6	4.7	22.0
33.5	8.5	19.5	37.0	59.2	16.2	25.6	3.4	32.3	47.3	8.4	24.4
11.54	34.94	57.72	31.90	52.73	11.73	15.74	49.53	22.30	42.34	1.04	19.56
1.2682	8.5563	1.2662		0.0755	~~1.4882~~ 1.7619			1.2511			
0.6519	0.6519	0.6519		0.0233	0.0233			0.2639			
1.9201	9.2082	1.9181		0.0988	~~1.5115~~ 1.7852			1.5150			
83.20	.16	82.81	19.56	1.255	~~32.47~~ 1.7849 0.0233 ~~2.6~~1.3082 20.31	34.05	.07	32.73	18.59	04	18.50
34.74	35.10	34.91	51.46	51.47	51.42	49.79	49.60	49.57	0.93	1.08	1.06

T = 23h 35m 34.92s

23h 47m 51.45s

23h 49m 49.65s

23h 54m 1.02s

23h 49 46.911

~~23h 53 59.782~~

539

~~9.9015~~	0.4741	
	9.8202	
	0.2943	1.969
~~0.8991~~	9.0105	
	9.6066n	
	8.6171n	−.041
~~0.3997n~~	9.0871	
	0.3996n	
	9.4867n	−.307
1.3072	7.7428n	
	1.3072	
	9.0500n	−.112
		1.509

α 23 35 33.98
0.94
.35
1.29

23 47 50.09
1.36
.06
1.30

23 49 48.42
1.23
.06
1.29

23 53 59.62
1 40
.10
1.30

1908phae+proj.1634M

Dec 29 continued

~~1777~~

γ Cephei	γ Cephei
φ Pegasi	27 Piscium
+4,37 0.44	+4,37 0.94
+ 34 1.36	−07 1.40
4,03).42 (10	4,44).46 (.10
403	44
170	200

$n = 1/10$

$$
\begin{array}{r}
1.30 \\
.54 \\
\hline
1.84
\end{array}
$$

b sec φ = 1.84

Dec 29.2 - 1908

Frod 1327 is fast

$0^m \; 1{,}84^s$

at $23^h\,45$ Sid Time

Telescope North

		W	E.
~~Screw~~	~~E~~	~~13.6~~	~~51.0~~
~~"~~	~~W~~ ~~E~~	~~8.0~~	~~45.0~~
~~"~~	~~E~~	~~8.2~~	~~45.0~~
	~~W~~		
	~~W~~		

		W	E
		~~6.0~~	~~43.0~~
Screw	E	19.0	56.3
"	E	19.5	56.7
	W		
	W		

Dec 30 $\frac{10}{10}$, 1908

Merid. circle J.A.D. obs

Day light observation

α Lyrae +38°42

Rated after $18^h 35^m$

α Cygni +44 57

Rated after ~~18~~ $20^h 41$

α Lyrae

$18^h 33$

200 40.3 7.1
231 45.2 10.4
260 49.8 13.6
294 54.6 16.9
325 59.3 19.9

1310 249.2 67.9
2620 498.4 135.8
2376 05 2365
49.96 49.89 46.93

18 33 49.93
α 18 33 49.02

0.91
.01

0.92

α Cygni

~~18~~ $20^h 37$

45.4 7.9 37.7
49.0 13.3 41.1
52.3 18.5 44.7
55.9 23.9 48.2
59.2 28.9 51.4

261.8 92.5 223.1
523.6 185.0 446.2
26.20 +.06 26.08

18.56 18.56 18.54

20^h ~~18~~ 38^m 18.55^s
20 38 17.42

1.13
.01

1.12

b sec φ 1.02
~~.54~~ .63

~~1.56~~
1.65

Ford 1327 is fast
⊙ ~~1.56~~ 1.65^s
at A $9^h 35^m$ Sid time