

KG  
11366  
v. 466

General Catalogue.  
Observations & Reductions.

From  $A_2$   $1874-5$   $m$   
 $R$   $52$   $to$   $R$   $22$

Charles W. Sever, University Bookstore, Cambridge.











Feb. 1874-5

Observations and Reductions

A<sub>2</sub>

From 1<sup>h</sup> 52<sup>m</sup> to 4<sup>h</sup> 22<sup>m</sup>







1874

$$\begin{array}{r} 3 \\ 42.854 \\ + 36.12 \\ 78.974 \\ + 4.980 \\ 83.954 \\ + 17.101 \\ 101.055 \end{array}$$

$$\begin{array}{r} \text{cond} \quad 9.49424 \\ 66 \quad .11134 \\ 66' \quad 9.59558 \\ 66' \quad 9.58739 \\ \text{cond} \quad 9.97775 \end{array}$$

1875

$$\begin{array}{r} 8 \\ 47.836 \\ + 48' \quad 53.820 \\ + 4.782 \\ + 17.697 \end{array}$$

$$\begin{array}{r} 9.49424 \\ .12552 \\ 9.61976 \end{array}$$

$$\begin{array}{l} \text{cond} = \\ \text{cond} = \\ \text{tang} = +3.085 \\ I = 6.60 \\ K = -.048 \end{array}$$
1874.0  $\delta$ 

$$\begin{array}{r} \alpha \\ 42.81 \\ .95 \\ .86 \\ \hline 84 \\ 42.865 \\ .854 \\ +.011 \end{array}$$

36.12

1875.0  $\delta$ 

$$\begin{array}{r} \alpha \\ 48.09 \\ 47.85 \\ 47.88 \\ \hline 47.940 \\ .836 \\ +.104 \end{array}$$

53.52

-09 Dec 13

$$\begin{array}{r} 52 \quad 36.652 \quad 16.8 \\ 39.9 \quad 21.2 \\ 43.2 \quad 26.8 \\ 46.6 \\ 49.8 \\ 52 \\ 52.5 \quad 52 \quad 48.2 \\ 54.9 \quad 52.0 \\ 57.0 \quad 58.5 \end{array}$$

44.87

$$\begin{array}{r} 52 \quad 49.856 \quad 52 \quad 21.60 \\ 49.808 \quad +4.61 \\ 52 \quad 53.464 \quad -2.7 \\ -3.683 \\ +4.00 \quad -5.60 \\ -33 \quad 47.95 \\ -5.60 \\ -1.93 \\ 52 \quad 49.81 \quad 42.88 \\ 47.88 \quad -16 \quad 14.10 \\ +1.15 \\ -56.50 \\ 48 \quad 53.78 \end{array}$$

$$\begin{array}{r} +28.26 \quad -3.04 \\ 15 \end{array}$$

$$\begin{array}{r} -3.21 \\ 2 \quad 25.5 \quad 2 \quad 38.3 \\ 27.5 \quad 40.4 \\ 13.0 \quad 78.7 \\ 17 \quad 26.50 \quad 17 \quad 39.35 \end{array}$$

$$\begin{array}{r} 145117 \quad 0.48287 \\ 107093 \quad 0.10263 \\ +11.77 \quad -1.27 \\ 17 \quad 38.27 \quad 17 \quad 38.08 \end{array}$$

$$\begin{array}{r} 5 \quad 10.08 \quad 10.27 \\ 10.17 \\ 26 \quad 22 \quad 26 \quad 9 \end{array}$$

$$\begin{array}{r} +9.03 \\ 1.52073 \quad 1.52063 \\ +33.17 \quad +33.16 \end{array}$$

$$\begin{array}{r} -10 \quad -45 \quad .00 \\ -36 \quad -40 \\ 32.88 \quad 32.746 \\ 5 \quad 42.64 \quad 43.03 \\ +4.6 \\ 30.3 \quad 12.7 \\ 12.5 \\ -16 \quad 14.33 \quad 53.48 \\ + \quad 1.57 \quad 53.94 \\ - \quad 36.50 \\ -16 \quad 44.26 \quad 53.84 \end{array}$$



1874

1875

Andromeda  
h m s  
5 4 14  
+ 41 14  
+ 0 39  
+ .01

Nov. 16 56 1398  
21 1398 -00  
26 1397 .01  
Dec. 1 1395 .02  
6 1392 .03  
11 1388 .04  
16 1384 .04  
21 1378 .06  
26 1372 .06

Jan 0 56 1364  
5 1355 -9  
10 1347 .8  
15 1339 .8  
Dec 20 1331 .8  
25 1325  
Dec. 30 1774  
11 1754 -5  
16 1754 .5

1874	1874	1874	1875	1875	1875
Nov. 29	Dec. 9	Dec. 27	Jan. 9	Jan. 27	Dec. 12
1 55 496 55 476 55 483 55 370 55 407 55 245 55 320 55 269 56 152 54 595 55 54753 368	523 500 510 400 436 264 348 291	530 518 537 421 461 283 376 315	56 160 188 214 270 307 354 410 466 466	56 160 188 214 270 307 354 410 466 466	56 160 188 214 270 307 354 410 466 466
56 84 56 288 815 246 172 199 227 2474 180	56 84 56 288 815 246 172 199 227 2474 180	56 84 56 288 815 246 172 199 227 2474 180	56 84 56 288 815 246 172 199 227 2474 180	56 84 56 288 815 246 172 199 227 2474 180	56 84 56 288 815 246 172 199 227 2474 180
674 55 4980 6127 56 3163 56 6106 +7987 1396 -485	522 55 3970 5726 56 294055 57224 +9289 1390 +918	6297 55 2640 57245 56 102055 57224 +16587 1371 +403 56 13948 +16	5353 55 2917 48664 48643 +2483 29834 +4316 13280 +28	55 170 1574 55 3890 14309 56 2693 14288 +2789 1788 -05	56 1429 0 2936 1429 1 -16 1419 -3190 43 4317
+791 56 1029 + .07 -333 -079 + 4.11 56 6.11 41 3825 56 +20 1495 56 1022 13871 -2820 +41 43 35.00	+ 928 1035 + 1654 1034 + 2484 1402 + 4316 + 24 + 48 2983 56 1429 0 2936 56 13.96 -16 1419 -3190 43 4317	+ 1654 1034 + 2484 1402 + 4316 + 24 + 48 2983 56 1429 0 2936 56 13.96 -16 1419 -3190 43 4317	+ 2484 1402 + 4316 + 24 + 48 2983 56 1429 0 2936 56 13.96 -16 1419 -3190 43 4317	+ 4316 + 24 + 48 2983 56 1429 0 2936 56 13.96 -16 1419 -3190 43 4317	+ 4316 + 24 + 48 2983 56 1429 0 2936 56 13.96 -16 1419 -3190 43 4317
+1633 -25.50 +25.04 -24.66 +30.84 -12.96 +19.49	+25.04 -24.66 +30.84 -12.96 +19.49	+30.84 -12.96 +19.49	-12.96 +19.49	+19.49	+19.49
40 47.7 1 37.0 0 40.5 1 26.9 0 33.4 1 15.4 0 45.1 2 11.7 13.7 25.9 25.9 265	37.0 0 40.5 1 26.9 0 33.4 1 15.4 0 45.1 2 11.7 13.7 25.9 25.9 265	37.0 0 40.5 1 26.9 0 33.4 1 15.4 0 45.1 2 11.7 13.7 25.9 25.9 265	37.0 0 40.5 1 26.9 0 33.4 1 15.4 0 45.1 2 11.7 13.7 25.9 25.9 265	37.0 0 40.5 1 26.9 0 33.4 1 15.4 0 45.1 2 11.7 13.7 25.9 25.9 265	37.0 0 40.5 1 26.9 0 33.4 1 15.4 0 45.1 2 11.7 13.7 25.9 25.9 265
121299 141654 139863 139199 148911 111261 128981 194522 154913 110106	139863 139199 148911 111261 128981 194522 154913 110106	139199 148911 111261 128981 194522 154913 110106	148911 111261 128981 194522 154913 110106	111261 128981 194522 154913 110106	128981 194522 154913 110106
41 924 41 907 41 835 41 736 41 707 41 827 41 672 41 533 41 463 41 402	907 41 835 41 736 41 707 41 827 41 672 41 533 41 463 41 402	835 41 736 41 707 41 827 41 672 41 533 41 463 41 402	736 41 707 41 827 41 672 41 533 41 463 41 402	707 41 827 41 672 41 533 41 463 41 402	827 41 672 41 533 41 463 41 402
9.81302 9.81902 +1672 9.82972 9.82572 9.82698 9.83298 9.83241 9.83841 9.82641 9.83441 9.83441 9.83441	9.81902 +1672 9.82972 9.82572 9.82698 9.83298 9.83241 9.83841 9.82641 9.83441 9.83441 9.83441	9.82972 9.82572 9.82698 9.83298 9.83241 9.83841 9.82641 9.83441 9.83441 9.83441	9.82572 9.82698 9.83298 9.83241 9.83841 9.82641 9.83441 9.83441 9.83441	9.82698 9.83298 9.83241 9.83841 9.82641 9.83441 9.83441 9.83441	9.83298 9.83241 9.83841 9.82641 9.83441 9.83441 9.83441
-0.26 -17 -10 -085 -103 -92 3826 3825 41 3908 3997 41 4029 3918 41 4240 910	-17 -10 -085 -103 -92 3826 3825 41 3908 3997 41 4029 3918 41 4240 910	-10 -085 -103 -92 3826 3825 41 3908 3997 41 4029 3918 41 4240 910	-085 -103 -92 3826 3825 41 3908 3997 41 4029 3918 41 4240 910	-103 -92 3826 3825 41 3908 3997 41 4029 3918 41 4240 910	-92 3826 3825 41 3908 3997 41 4029 3918 41 4240 910
41 3826 3825 41 3908 3997 41 4029 3918 41 4240 910	3826 3825 41 3908 3997 41 4029 3918 41 4240 910	3825 41 3908 3997 41 4029 3918 41 4240 910	41 3908 3997 41 4029 3918 41 4240 910	3908 3997 41 4029 3918 41 4240 910	3997 41 4029 3918 41 4240 910
+2 158 158 161 182 568 165 176 147 147 147	158 158 161 182 568 165 176 147 147 147	158 161 182 568 165 176 147 147 147	161 182 568 165 176 147 147 147	182 568 165 176 147 147 147	568 165 176 147 147 147
+2 1481 43 2484 +2 1438 2413 +2 1586 2522 +2 1420 43 4287	1481 43 2484 +2 1438 2413 +2 1586 2522 +2 1420 43 4287	43 2484 +2 1438 2413 +2 1586 2522 +2 1420 43 4287	2484 +2 1438 2413 +2 1586 2522 +2 1420 43 4287	1438 2413 +2 1586 2522 +2 1420 43 4287	2413 +2 1586 2522 +2 1420 43 4287
+1 4658 43 2484 +1 4505 2457 +1 4493 2468 +2 0.77 43 4287	4658 43 2484 +1 4505 2457 +1 4493 2468 +2 0.77 43 4287	43 2484 +1 4505 2457 +1 4493 2468 +2 0.77 43 4287	2484 +1 4505 2457 +1 4493 2468 +2 0.77 43 4287	14505 2457 +1 4493 2468 +2 0.77 43 4287	2457 +1 4493 2468 +2 0.77 43 4287



1874  
 $\begin{array}{r} 10.230 \\ + 25.89 \\ + 3.651 \\ + 17.480 \end{array}$

10.230 9.87288  
 26 10.134  
 26 9.97422  
 16 9.96603  
 10.230 9.82326

1875  
 $\begin{array}{r} 13.881 \\ + 43.4337 \\ + 3.651 \\ + 17.477 \end{array}$

9.87288  
 12.852  
 9.97840

Count =  
 cond =  
 tang $\delta$  = +.89  
 I = 2.76  
 K = -.021

-09

Dec 13

-110

53 57.553 442  
 56 0.2 468  
 29 492  
 85  
 11.3  
 14.1  
 16.8 56 290  
 19.6 316  
 25.1 387  
 28.0  
 30.9

2147  
 60

1547 55 4673  
 56 14064 56 3143  
 14.043 +4.01  
 56 17.87 -0.8  
 -3.83

+ 4.40 1398  
 - .10

-3.99  
 -0.09  
 56 1404 2971  
 56 13.95 -16 1410  
 -1  
 -3200  
 43 4351

+2733 -1787  
 20

-321

1 494 2 332  
 51.5 361  
 1009 93  
 21 5045 22 3465

1.43664 1.23980m  
 1.43504 1.23820m  
 +2723 -17.31  
 22 1763 22 1734

0 3067 31.01

30.84  
 38 2 38 47

+909  
 9.81309 9.82109  
 -0.65 -0.66

-20-47 +09  
 -27 -39

-1.12 -1.14  
 0 29.55 29.57

15.44  
 -16 14.1 14.5

14.3  
 -16 14.33 43.19

0.31436 43.51  
 -32.00  
 -16 46.36 43.35



1874

1874phae.proj.1

*Ch. Anthesis*

2	0	08
+22	52	
+19	31	
+33		

Nov.	16	5 <sup>th</sup>	89	800	
	21	5 <sup>th</sup>	803	+3	
	26	5 <sup>th</sup>	816	.3	
Dec	1	5 <sup>th</sup>	808	.2	
	6	5 <sup>th</sup>	810	.2	
	11	5 <sup>th</sup>	811	.1	
	16	5 <sup>th</sup>	812	.1	
	21	5 <sup>th</sup>	812	.0	
	26	5 <sup>th</sup>	812	.0	

	1874		1875
	<sup>8</sup>		<sup>8</sup>
L	4.411		7.779
D	+ 55.93		+ 52 1315
W	+ 3.368		+ 3.368
W	+ 17.225		+ 17.223
Land	2.96445		9.96445
16'	.10134		.12552
66'	.06549		.08997
16'	.05760		
Land	9.58949		

-07 1874 Nov. 29			+01 Dec. 9			+08 Dec. 15			-01 Dec. 21			+05 Dec. 23			+03 1874 Dec. 27		
1 59 46.7	59 36.0	59 45.1	59 34.1	59 43.6	59 31.8	59 41.0	59 29.3	59 54.2	59 38.0	59 28.2	59 38.0	59 28.2	59 38.0	59 28.2	59 38.0	59 28.2	
48.8	88.0	47.4	36.2	46.0	34.0	43.2	31.9	56.7	40.1	30.3	56.7	40.1	56.7	40.1	56.7	40.1	
57.0	40.0	49.6		48.3	36.0	45.5	34.0	58.5	42.3	32.7	58.5	42.3	58.5	42.3	58.5	42.3	
53.3		54.2		52.7		49.8			46.6			46.6		46.6		46.6	
57.8		56.4		54.8		52.0			48.9			48.9		48.9		48.9	
52.9		58.5		57.0		53.4			51.1			51.1		51.1		51.1	
2 0 2.1	2 0 0.9	0.9		59.4		56.6		2 2.3	53.4	0 13.2	2 2.3	53.4	0 13.2	2 2.3	53.4	0 13.2	
4.3	3.1	3.1	2 0 1.6	6.0		5.8		5.8	5.6	15.1	5.8	5.6	15.1	5.8	5.6	15.1	
8.9	7.3	7.3		8.2		8.1		8.1	8.1	17.7	8.1	8.1	17.7	8.1	8.1	17.7	
11.1	9.7	9.7		10.7		7.7			4.7			4.7			4.7		
13.4	12.1	12.1															
35.95	34.45	38.83		41.75		26.63		38.31									
300	300	240		150				180									
65.95 59 38.00	64.45 59 38.15	62.83 59 38.93		59.75 59 31.73		59 56.47		56.31 59 30.40									
59 59.85	58.59	57.18		54.38		53.26		51.19									
59.38	58.54	57.10		54.30		53.23		51.17									
0 1.84	0 1.87	0 1.84		0 1.77		0 1.77		0 1.74									
-7.95	-9.50	-10.74		-13.49		-14.53		-16.57									
+ 7.91	+ 9.28	+ 10.71		+ 13.48		+ 14.53		+ 16.57									
- 0.03	- 0.00	- 0.00		- 0.02		- 0.00		- 0.00									
- 3.48	- 3.46	- 3.43		- 3.38		- 3.36		- 3.33									
+ 4.40	+ 3.82	+ 7.28		+ 10.08		+ 11.18		+ 13.21									
59 59.94	59 58.59	59 57.10		59 54.30		59 53.24		59 51.19									
0 4.34	0 4.39	0 4.38		0 4.38		0 4.42		0 4.38									
77.08	77.58	77.48		77.48		77.88		77.48									
+22.51	+22.51	+22.51		+22.51		+22.51		+22.51									
57.13	57.13	57.13		57.13		57.13		57.13									
+21.95	+23.44	+23.19		+22.59		-3.21		+20.79									
30 1.4	30 1.4	30 1.4		30 1.4		30 1.4		30 1.4									
47.8	51.1	54.9		52.0		20.6		52.9									
58.7	56.9	56.1		55.8		27.1											



1875

Corr. 1 =  
Corr. 2 =

Jan. 0	0	7.70		52	21.1		Corr. 1 =
5		7.65	-.05		21.0	-.01	Corr. 2 =
10		7.59	.06		20.9	.1	
15		7.53	.06		20.8	.2	
20		7.47	.06		20.5	.2	
25		7.40	.07		20.2	.3	
30		7.33	.07		19.9	.3	
Feb 4		7.26	.07		19.6	.3	
9		7.19	.07		19.2	.4	

Jan 6		11.59			40.4		
11		11.56	-.03		40.5	+.1	
16		11.53	.03		40.6	.1	
21		11.50	.03		40.7	.1	
26		11.48	.02		40.8	.0	

+171875

Jan. 9

+31 Jan 27

-06 Dec 12

+1050				+240				-085			
59 29.2	59 32.0	59	10.6	59	1.659	59	47.1	59	47.1		
31.6			13.0		3.0		56.5		49.3		
33.8			15.2		5.1		58.8		51.2		
38.2			19.8		0		3.3				
40.6			31.8				5.5				
42.7			24.1				7.8				
45.0			26.4				10.0	0	30.1		
47.2			28.6				12.4		31.9		
51.6			33.0				16.8		34.5		
54.0			35.3				19.0				
56.1			37.5				21.2				
47.00			26.52				26.56				

59 42.77	59 32.00	59	24.109	59 32.3		85.6	59 49.20
42.710	+2488	59	24.092	+43.17	0	7.782	0 32.17
0 7.60	+1.07	0	7.37	+1.13	0	7.765	+8.789
-24.89			43.28			11.53	-0.3
	+0.18			+0.41		3.79	-3.77
+24.84	7.79	+43.16	7.80	+3.74		7.75	
+0.02		+0.11		-0.03			
+0.18		+0.41		-3.74			
+25.04		+43.68		-0.06			
59 42.41	50 8.16	59	24.09	8 31.50	0	7.76	55.00
0 7.75	+2 15.15	0	7.77	-16 10.05		-16 14.19	
	-1.1	0	7.77	-1.2	0	7.70	-1.1
	-7.60			-7.00			-2.740
52 14.41		52	13.25		52	12.31	

+10.73		+20.88		+18.58		-24.89	
30		10		10			
-3.13		-3.49		-3.20			
2 5.3		3 28.2		3 8.9	4	0.1	
6.8		29.3		10.5		1.3	
12.1		57.5		19.4		1.4	
32 6.05		13 28.75		13 9.70	14	0.70	
1.03060		1.31973		1.26905		1.88721	
1.2623		1.40770		1.35702		1.47718	
+13.24		+25.69		+22.86		-3.60	
22 19.25		13 37.44		13 3.76	13	30.70	
18.20							
50 29.10		8 53.91		9 15.59		17.65	
50 30.05		29 41		29 16.62		30 18	
1.30940	1.30950	+3196		+1263			
+2241		1.33181	1.34136	1.34146	1.32203	1.32213	
-21.47	-21.47	-21.95	-21.95	-21.95	-20.99	-21.00	
-02-21		-08-23		-06-62		-11	
-40-42		-38-46		-48		-60	
-21.89		-22.41		-21.53		-21.74	
50 8.16		8 30.50		8 54.06		55.44	
2.9		52 20.7		40.5			
+2 1.28		-16 11.4		13.6		15.4	
+2 14.20		-16 10.21		-16 14.53			
1.03 52 13.53		1.15 11.36	13.14	1.05 13.31		11.08	
1.80 13.17		7.02		27.40		12.96	
+2 5.37		-16 18.36		-16 42.98			
52 13.53		13.14		12.02			



1874

$\alpha$  58.726  
 $\delta$  +42.38  
 $\mu_{\alpha}$  +1.623  
 $\mu_{\delta}$  -17.321

cond 962649m  
 2.6 0.09315  
 2.6 9.71964  
 cond 9.95716

Cond = —  
 Cond = +0.40  
 tangl = -2.14  
 I = 4.87  
 K = +0.36

N.A.

Nov. 29 14 5 56 60  
 Dec. 4 29 5 56 60  
 9 5 56 60  
 14 5 56 60  
 19 5 56 60  
 24 5 56 60

Nov. 29 14 5 56 60  
 Dec. 4 29 5 56 60

Draconis I.C.  
 142 01 00  
 115 02  
 $z = -72$  39  
 $\sin z = -.95$

Nov. 29 1874 Dec. 15 1874 Dec. 21 1874  
 21 100 16.9 0 38.5 0 31.3 0 36.7 0 29.5  
 148 186 39.22 15 08  
 4948 4163

1 6.90 0 31.30 0 27.50  
 21 26.19 +7.97 48.347 +10.73 46.292 +13.49  
 + 7.91 +.15 + 10.41 - .41 + 13.48  
 + 18 +27 + .01 - .08 - .71  
 - 6.56 +0.27 +1.693 -7.20 -0.11 +1.213 -7.49 -0.11 +0.913  
 + 8.36 +0.103 +12.85  
 21 47.22 17.55 58.26 58.66 58.5 58.14  
 57.29 59 58.41 59 28.50 59 30.57  
 49.173 +2 14.95 0.283 +21.765 0.763 +215.39  
 + 3.8 + 3.1 + 3.1  
 - 2.770 - 32.50 - 34.70  
 1 40.46 1 16.45 1 14.36

+72.25 25 +12.01 -15.99 +16.76 -14.74  
 26 21.9 1 36.9 1 38.0 1 46.0 1 28.7  
 25.8 49.3 30.1 41.1 25.0  
 47.2 106.2 68.1 87.1 53.7  
 26 23.60 26 33.10 26 34.05 26 43.35 26 26.85  
 1.50 +5.3 1.23070 1.19888m 1.22427 1.16850m  
 1.22817 0.95034m 0.91802 0.94391m 0.88814  
 -16.91 -8.92 +5.28 -5.79 +7.73  
 26 6.69 26 44.18 26 42.33 26 34.76 26 34.58  
 56 41.66 +114 56 4.17 6.02 56 13.59 13.77  
 -72 35 14 35 33 35 23 35 10  
 2.25858m 2.26906m  
 +16.70 +49.27 +49.27 +35.88  
 2.27568 2.27576 2.30815 2.30833 2.29396 2.29414  
 +18860 +18870 +20330 +20340 +19680 +19690  
 + 8 + 8 + 20 + 20 + 11 + 14  
 +2.22 +0.3 -15 +0.7 -23 -15 +0.5 -17 -14  
 +3 8.45 +3 23.34 +3 23.46 +3 16.83 +3 16.95  
 59 50.41 +114 59 27.51 29.48 59 30.42 30.72  
 +2 17.17 +2 17.17 20.00 +2 15.28 18.14  
 - 2.770 -1038 -32.50 -15.98 -34.70 -12.38  
 +1 5.27 1 47.20 1 14.71 43.49



B Trianguli

$$\begin{array}{r} 2 \ 2 \ 3 \\ + 34 \ 24 \\ \hline \end{array}$$

$$\begin{array}{r} 3 = + \ 7 \ 59 \\ + 16 \end{array}$$

1874

Dec. 6	2	66	23	517
11	6.62	-0.01	520	3
16	6.58	.04	523	2
21	6.54	.04	526	2
26	6.87	.03	529	3

$$\begin{array}{l} \text{Corr.} = - \\ \text{Corr.} = -0.80 \end{array}$$

$$\text{Temp.} = +.68$$

$$I = 2.51$$

$$K = -0.19$$

$$\text{Corr.} = -0.19$$

1875

Jan 20	2	6.16	23	527
25	6.07	-0.09	523	-4
30	5.99	.08	520	3

1874

1875

$$\begin{array}{r} 3.032 \\ + 24.18 \\ + 3.548 \\ + 17.242 \end{array}$$

$$\begin{array}{r} 6.580 \\ + 23.4142 \\ + 3.548 \\ + 17.239 \end{array}$$
1874  
Dec. 91874  
Dec. 151874  
Dec. 231874  
Dec. 271875  
Jan. 271875  
Jan. 271875  
Jan. 27

Ch. f.

1874	1874	1874	1874	1875
50.9	50.9	50.9	50.9	50.9
52.1	52.1	52.1	52.1	52.1
53.4	53.4	53.4	53.4	53.4
54.6	54.6	54.6	54.6	54.6
55.8	55.8	55.8	55.8	55.8
57.0	57.0	57.0	57.0	57.0
58.2	58.2	58.2	58.2	58.2
59.4	59.4	59.4	59.4	59.4
60.6	60.6	60.6	60.6	60.6
61.8	61.8	61.8	61.8	61.8
63.0	63.0	63.0	63.0	63.0
64.2	64.2	64.2	64.2	64.2
65.4	65.4	65.4	65.4	65.4
66.6	66.6	66.6	66.6	66.6
67.8	67.8	67.8	67.8	67.8
69.0	69.0	69.0	69.0	69.0
70.2	70.2	70.2	70.2	70.2
71.4	71.4	71.4	71.4	71.4
72.6	72.6	72.6	72.6	72.6
73.8	73.8	73.8	73.8	73.8
75.0	75.0	75.0	75.0	75.0
76.2	76.2	76.2	76.2	76.2
77.4	77.4	77.4	77.4	77.4
78.6	78.6	78.6	78.6	78.6
79.8	79.8	79.8	79.8	79.8
81.0	81.0	81.0	81.0	81.0
82.2	82.2	82.2	82.2	82.2
83.4	83.4	83.4	83.4	83.4
84.6	84.6	84.6	84.6	84.6
85.8	85.8	85.8	85.8	85.8
87.0	87.0	87.0	87.0	87.0
88.2	88.2	88.2	88.2	88.2
89.4	89.4	89.4	89.4	89.4
90.6	90.6	90.6	90.6	90.6
91.8	91.8	91.8	91.8	91.8
93.0	93.0	93.0	93.0	93.0
94.2	94.2	94.2	94.2	94.2
95.4	95.4	95.4	95.4	95.4
96.6	96.6	96.6	96.6	96.6
97.8	97.8	97.8	97.8	97.8
99.0	99.0	99.0	99.0	99.0
100.2	100.2	100.2	100.2	100.2
101.4	101.4	101.4	101.4	101.4
102.6	102.6	102.6	102.6	102.6
103.8	103.8	103.8	103.8	103.8
105.0	105.0	105.0	105.0	105.0
106.2	106.2	106.2	106.2	106.2
107.4	107.4	107.4	107.4	107.4
108.6	108.6	108.6	108.6	108.6
109.8	109.8	109.8	109.8	109.8
111.0	111.0	111.0	111.0	111.0
112.2	112.2	112.2	112.2	112.2
113.4	113.4	113.4	113.4	113.4
114.6	114.6	114.6	114.6	114.6
115.8	115.8	115.8	115.8	115.8
117.0	117.0	117.0	117.0	117.0
118.2	118.2	118.2	118.2	118.2
119.4	119.4	119.4	119.4	119.4
120.6	120.6	120.6	120.6	120.6
121.8	121.8	121.8	121.8	121.8
123.0	123.0	123.0	123.0	123.0
124.2	124.2	124.2	124.2	124.2
125.4	125.4	125.4	125.4	125.4
126.6	126.6	126.6	126.6	126.6
127.8	127.8	127.8	127.8	127.8
129.0	129.0	129.0	129.0	129.0
130.2	130.2	130.2	130.2	130.2
131.4	131.4	131.4	131.4	131.4
132.6	132.6	132.6	132.6	132.6
133.8	133.8	133.8	133.8	133.8
135.0	135.0	135.0	135.0	135.0
136.2	136.2	136.2	136.2	136.2
137.4	137.4	137.4	137.4	137.4
138.6	138.6	138.6	138.6	138.6
139.8	139.8	139.8	139.8	139.8
141.0	141.0	141.0	141.0	141.0
142.2	142.2	142.2	142.2	142.2
143.4	143.4	143.4	143.4	143.4
144.6	144.6	144.6	144.6	144.6
145.8	145.8	145.8	145.8	145.8
147.0	147.0	147.0	147.0	147.0
148.2	148.2	148.2	148.2	148.2
149.4	149.4	149.4	149.4	149.4
150.6	150.6	150.6	150.6	150.6
151.8	151.8	151.8	151.8	151.8
153.0	153.0	153.0	153.0	153.0
154.2	154.2	154.2	154.2	154.2
155.4	155.4	155.4	155.4	155.4
156.6	156.6	156.6	156.6	156.6
157.8	157.8	157.8	157.8	157.8
159.0	159.0	159.0	159.0	159.0
160.2	160.2	160.2	160.2	160.2
161.4	161.4	161.4	161.4	161.4
162.6	162.6	162.6	162.6	162.6
163.8	163.8	163.8	163.8	163.8
165.0	165.0	165.0	165.0	165.0
166.2	166.2	166.2	166.2	166.2
167.4	167.4	167.4	167.4	167.4
168.6	168.6	168.6	168.6	168.6
169.8	169.8	169.8	169.8	169.8
171.0	171.0	171.0	171.0	171.0
172.2	172.2	172.2	172.2	172.2
173.4	173.4	173.4	173.4	173.4
174.6	174.6	174.6	174.6	174.6
175.8	175.8	175.8	175.8	175.8
177.0	177.0	177.0	177.0	177.0
178.2	178.2	178.2	178.2	178.2
179.4	179.4	179.4	179.4	179.4
180.6	180.6	180.6	180.6	180.6
181.8	181.8	181.8	181.8	181.8
183.0	183.0	183.0	183.0	183.0
184.2	184.2	184.2	184.2	184.2
185.4	185.4	185.4	185.4	185.4
186.6	186.6	186.6	186.6	186.6
187.8	187.8	187.8	187.8	187.8
189.0	189.0	189.0	189.0	189.0
190.2	190.2	190.2	190.2	190.2
191.4	191.4	191.4	191.4	191.4
192.6	192.6	192.6	192.6	192.6
193.8	193.8	193.8	193.8	193.8
195.0	195.0	195.0	195.0	195.0
196.2	196.2	196.2	196.2	196.2
197.4	197.4	197.4	197.4	197.4
198.6	198.6	198.6	198.6	198.6
199.8	199.8	199.8	199.8	199.8
201.0	201.0	201.0	201.0	201.0
202.2	202.2	202.2	202.2	202.2
203.4	203.4	203.4	203.4	203.4
204.6	204.6	204.6	204.6	204.6
205.8	205.8	205.8	205.8	205.8
207.0	207.0	207.0	207.0	207.0
208.2	208.2	208.2	208.2	208.2
209.4	209.4	209.4	209.4	209.4
210.6	210.6	210.6	210.6	210.6
211.8	211.8	211.8	211.8	211.8
213.0	213.0	213.0	213.0	213.0
214.2	214.2	214.2	214.2	214.2
215.4	215.4	215.4	215.4	215.4
216.6	216.6	216.6	216.6	216.6
217.8	217.8	217.8	217.8	217.8
219.0	219.0	219.0	219.0	219.0
220.2	220.2	220.2	220.2	220.2
221.4	221.4	221.4	221.4	221.4
222.6	222.6	222.6	222.6	222.6
223.8	223.8	223.8	223.8	223.8
225.0	225.0	225.0	225.0	225.0
226.2	226.2	226.2	226.2	226.2
227.4	227.4	227.4	227.4	227.4
228.6	228.6	228.6	228.6	228.6
229.8	229.8	229.8	229.8	229.8
231.0	231.0	231.0	231.0	231.0
232.2	232.2	232.2	232.2	232.2
233.4	233.4	233.4	233.4	233.4
234.6	234.6	234.6	234.6	234.6
235.8	235.8	235.8	235.8	235.8
237.0	237.0	237.0	237.0	237.0
238.2	238.2	238.2	238.2	238.2
239.4	239.4	239.4	239.4	239.4
240.6	240.6	240.6	240.6	240.6
241.8	241.8	241.8	241.8	241.8
243.0	243.0	243.0	243.0	243.0
244.2	244.2	244.2	244.2	244.2
245.4	245.4	245.4	245.4	245.4
246.6	246.6	246.6	246.6	246.6
247.8	247.8	247.8	247.8	247.8
249.0	249.0	249.0	249.0	249.0
250.2	250.2	250.2	250.2	250.2
251.4	251.4	251.4	251.4	251.4
252.6	252.6	252.6	252.6	252.6
253.8	253.8	253.8	253.8	253.8
255.0	255.0	255.0	255.0	255.0
256.2	256.2	256.2	256.2	256.2
257.4	257.4	257.4	257.4	257.4
258.6	258.6	258.6	258.6	258.6
259.8	259.8	259.8	259.8	259.8
261.0	261.0	261.0		



$$\begin{array}{r}
 1874.0 \quad \delta \\
 \alpha \\
 2.95 \\
 \underline{97} \\
 2.963 \\
 \underline{3.032} \\
 - .069
 \end{array}$$

24.18

$$\begin{array}{r}
 1875.0 \quad \delta \\
 \alpha \\
 6.70 \\
 \underline{6.700} \\
 \underline{580} \\
 + .120
 \end{array}$$

41.42

Dec 15	Dec 23	Dec 27
+ 28.12	+ 28.10	+ 26.27
- .43	- .10	- .06
- .44	- .47	- .39
+ 27.25	+ 27.53	+ 25.82
54 10.95	9.06	54 14.33
56 28.5	30.0	12.95
		54 13.46
		30.8
		14.69

+ 2	17.17	55 56.12	+ 2	14.82	55 55.67	+ 2	15.86	55 55.05
+	1.20	54.23	+	1.22	54.29	+	1.23	56.25
	33.20			34.70			35.57	
+ 1	45.17	55 55.17	+ 1	41.34	55 54.98	+ 1	41.59	55 55.65

Jan. 9	Dec 12	Dec 12
+ 26.43		+ 25.85
- .39		- .12
- .68		- .75
+ 25.36		+ 24.98
54 16.72		13 0.42
31.7		47.3

+ 2	14.20	56 12.87	+ 16	14.53	56 12.27
+	1.25		+	1.28	
	19.30			34.90	
+ 1	56.15		+ 16	46.15	



1874

1875

55 Cass

2 4 42  
+ 65 56 13

- 23 33

1874

 $\alpha$  37.127  
 $\delta$  +55.27  
 $\lambda$  +4.620  
 $\mu$  +17.150
1874  
Dec. 9  
Chy
 Dec. 6 4 42.10  
 11 4 41.98  
 16 4 41.85  
 21 4 41.73  
 26 4 41.60

 55 56.8  
 87.7  
 88.4  
 89.6  
 90.6

 $\text{corr.} = +.013$   
 $\text{corr.} = +.66''$ 
 $\text{tang.} = +2.24$ 
 $I = 5.04$ 
 $K = -.037$   
 Dec. 23

Dec. 15

 4 3 41.0  
 20.9  
 23.4  
 25.9  
 28.6  
 31.1  
 33.3  
 36.1  
 38.6  
 41.0

 4 3 41.0  
 16.7  
 19.4  
 22.0  
 24.5  
 27.0  
 29.5  
 32.0  
 34.5  
 37.1

2791

2429

1874  
Dec. 27
 3 33.6  
 146  
 17.3  
 20.0  
 22.5  
 25.3  
 27.8  
 30.0  
 32.3  
 36.0

2260

1875  
Jan. 9
 3 28.0  
 38  
 36.7  
 38.4  
 41.3  
 44.0  
 46.7  
 49.0  
 51.3  
 53.6

1442

1875  
Jan. 27
 3 28.0  
 38  
 36.7  
 38.4  
 41.3  
 44.0  
 46.7  
 49.0  
 51.3  
 53.6

3395

25

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1874

1875

$\delta = 9.61045$   
 $.09315$   
 $9.70360$

$9.61045$   
 $12552$   
 $9.73597$

-06

Dec 12

-085

4 92.3 4 14.8  
 35.8 18.8  
 38.0 22.7  
 40.7  
 43.4  
 45.9  
 48.4  
 51.0  
 53.5

39.00

4 18.60

4 43.333  
 43.296 +3.78  
 4 45.2098 -1.13  
 -3.9268  
 -3.9170 -5.24  
 41.71

+ 3.94  
 - 3.24  
 - 1.69 13 042  
 4 43.30 -16 11.19  
 + 1.4  
 4 41.61 -34.90  
 56 12.73

+ 24.73

5 - 3.20  
 4 57.9  
 1.0  
 11.89  
 9 57.45

1.39322  
 1.12919  
 +13.46  
 10 12.91

12 35.44

33 49

+1272  
 1.41242 1.4222  
 +25.85 -25.85

-12 -43

-75 -87

-26.72 +24.98

12.3 8.72 0.92

56 473  
 -16 1453.581 97.1  
 - 128 55 18.04  
 34.9  
 -16 50.71 55 15.01  
 9.71



1874

1875-

C Persei  
h m s  
2 5 18  
+ 50 29

$$z = -86 - 14i$$

Sec.	6	5 <sup>m</sup>	5	
	11		18.16	
	16		18.10	- .06
	21		18.04	.06
	26		17.98	.06
			17.92	.06

28	738	
	744	+ .6
	751	.7
	757	.6
	764	.7

Jan	20	5 <sup>th</sup>	17.40		29	17.3	
	25		17.28	- .12		17.1	- .2
	30		17.16	.12		16.8	.3
Dec	6		22.49			33.0	
	11		22.44	-.05		32.4	-.6
	16		22.39	.05		31.8	.6
			2	14,088			18,237
			10	+4408			+29 113
			10	+3.949			+3.950
			10	+16.952			+16.949

$$\begin{aligned} \text{Corr } \alpha &= +.015^{\circ} \\ \text{Corr } \beta &= +.32'' \end{aligned}$$
$$\tan \phi = +1.21$$
$$I = 3.25$$
$$K = -0.24 \text{ } ^3\text{Sec}^{-12}$$

	1874	1875
Lard	9.80366	9.80366
Lb.	.09315	.12552
Lb'	9.89681	9.92918
Tsin S	9.88730	

+08  
1874  
Dec. 15

+31 1875  
Jan. 24

+30  
Jan. 26

$$K = -0.024 \text{ } ^{\circ}\text{C}^{-1} \text{ } ^{\circ}\text{C}^{-1}$$

5	-400		+2870		+266		-080			
4	5.1	4	2.4	4	15.4	4	488	5-	6	0.9
	1.0		2.0		18.4		468			3.0
	2.5	5-	2.7		22.0		49.7			6.1
	4.0				28.0					
	5.4				31.6					
	7.5				35.0					
	9.0	5-	38.1		38.2				18.9	18.0
	10.4		41.0		41.0				20.4	.77
	12.2		43.5		47.7				23.1	.84
	14.1				51.4				23.8	.61
					54.4				25.3	.78
661			3043		3846				1102	

[illegible]

55	53.9	1	25.5	2	34.7	2	19.7	2	19.7	2	42.4
55	53.1		25.8		39.9		22.1		22.0		47.0
55	53.50	36	25.65	37	37.30	37	20.90	37	19.70	37	44.70

0.92788	1.52543	1.01536	1.07225 <sub>m</sub>	1.61584 <sub>m</sub>	1.64787
0.82469	1.42224 <sub>m</sub>	0.94454	1.00143 <sub>m</sub>	1.54502 <sub>m</sub>	1.57703
+668	-2644	+8.80	-10.03	-3588	-3776
56 0.18	55 57.21	37 46.10	37 10.87	36 44.62	37 6.9

$$\begin{array}{r} +50^{\circ} 26' 48.17'' \\ - 8' 6' 48.65'' \\ \hline 41^{\circ} 14' 45.225'' \end{array}$$

0.91380m	0.91330m						
+ 4928		+ 3203		+ 3374		+ 1274	
0.96608	0.96258	0.94583	0.94538	0.94754	0.94704	0.92654	0.92604
+ 918	+ 917	+ 883	+ 882	+ 886	+ 885	+ 844	+ 844

$-0.02$	$-30$	$-30$	$-03$	$-16$	$-04$	$-14$	$-52$	$-43$
$+7.11$	$-17$	$-29$	$-32$	$-25$	$-29$	$-34$	$-86$	
$+7.05$	$+8.70$	$+8.51$	$+8.51$	$+8.51$	$+8.51$	$+7.58$		
26 57.22	57.84	45 10.76	10.76	85 46.05	45 48.99			
29 150		170		29 171	022			
42 178	17.2	62		-16 289	-16 168			
42 17.32		17.32		16 16.5	16 16.5			

[illegible]







1875-

$$\text{corr } \alpha = -.031$$

$$\text{corr } \delta = -1.11''$$

Jan 20	9	5292		16	15.6		$\text{tang } \delta = +.66$
25		5284	-.08		15.4	-.2	
Mar 30		5276	.08		15.1	.3	$I = 2.46$
Apr 6		5230			33.6		$K = -0.17$
11		5221	-.03		33.3	-.3	
16		5224	.03		33.0	.2	

-06

Dec 12

9	389	9	39.8
	41.3		41.7
	43.5		43.3
	48.9		
	51.0		
	53.6		
	56.0		
	58.5		
	64		
	59		
	85		
	4093		
	186		
9	5893	9	4160
	53.573		
	53.554		+378
9	57.26		-04
	-371		
	-368		-399
			5330
	3.74		
	-1.06		
	-299		
	0.31	32	48.72
9	53.55	-16	14.19
			-6
9	53.24		-2880
	16		533

+1197

45

-3.20

4 378

370

49 3570

107809

1.12588

+1336

49 2426

33 1449

2 57.89

5 43

+1282

0.97782

-9.50

0.97842

-9.51

-03

-64

10.17

332 3.92

16 332

46 168

76 168

16 14.53

57 1.504

2880

-16 4384

0.97842

-9.51

-03

-64

10.17

332 3.92

16 332

46 168

76 168

16 14.53

57 1.504

2880

-16 4384







O Ceti

2 13 01

-3 34

z = +45 57

+72

1874  
 $\times 58.901$   
 $\div -3.43$   
 $\div +3.026$   
 $\div +16.530$

lensd 9.99916  
 $\div 6.12582$   
 $\div 0.12468$   
 lensd 8.79356m

1873  
 $\times 1.927$   
 $\div 52.4690$   
 $\div +3.026$   
 $\div +16.527$

9.99916  
 $\div 6.12582$   
 $\div 0.12468$

convd =

convd =

lensd = -.06

I = 2.08

K = -0.15

1874  
 Dec 6 12 62.30  
 11 62.28  
 16 62.25  
 21 62.22  
 26 62.19

1875  
 Jan 20 13 1.93  
 25 1.87  
 30 1.81  
 Feb. 4 1.75  
 9 1.68

Dec 6 5.66  
 11 5.64  
 16 5.62  
 21 5.59  
 26 5.56

32 44.7  
 45.1  
 45.6  
 46.0  
 46.5

32 48.5  
 48.7  
 48.9  
 49.1  
 49.3

26.1  
 26.5  
 27.0  
 27.4  
 27.9

+05  
 1874  
 Dec. 23

+30 1875  
 Jan. 26

+31  
 Jan. 27

-06  
 Dec 12

12 35.3	12 24.5	12 2.3	12 35.4	12 38.6	12 13	12 12.6
37.4	27.2	0.4	36.9	40.8	13	14.2
39.5	28.9	11.5	39.4	42.9	13	15.8
43.6		15.6				
45.7		18.7				
47.8		19.8				
49.8	13 5.6	21.8				
51.8	20	24.0				
53.0	8.3	26.0				
55.0		28.2				
13 01		30.2				
46.49		32.2				
60		34.2				
52.49	12 26.87	36.2				
47.18	13 6.97	38.2				
47.02	+14.57	40.2				
2.21	-1.00	42.2				
-14.51		44.2				
	-8.31	46.2				
+14.54	12 58.96	48.2				
+0.00		50.2				
-33.1	-2.44	52.2				
+11.23		54.2				
47.70	35 0.00	56.2				
+2	15.18	58.2				
38.93	-2.4	60.2				
1.956	-17.20	62.2				
-9	4.42	64.2				
33	37.47	66.2				
		68.2				
		70.2				
		72.2				
		74.2				
		76.2				
		78.2				
		80.2				
		82.2				
		84.2				
		86.2				
		88.2				
		90.2				
		92.2				
		94.2				
		96.2				
		98.2				
		100.2				
		102.2				
		104.2				
		106.2				
		108.2				
		110.2				
		112.2				
		114.2				
		116.2				
		118.2				
		120.2				
		122.2				
		124.2				
		126.2				
		128.2				
		130.2				
		132.2				
		134.2				
		136.2				
		138.2				
		140.2				
		142.2				
		144.2				
		146.2				
		148.2				
		150.2				
		152.2				
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		168.2				
		170.2				
		172.2				
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		184.2				
		186.2				
		188.2				
		190.2				
		192.2				
		194.2				
		196.2				
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		200.2				
		202.2				
		204.2				
		206.2				
		208.2				
		210.2				
		212.2				
		214.2				
		216.2				
		218.2				
		220.2				
		222.2				
		224.2				
		226.2				
		228.2				
		230.2				
		232.2				
		234.2				
		236.2				
		238.2				
		240.2				
		242.2				
		244.2				
		246.2				
		248.2				
		250.2				
		252.2				
		254.2				
		256.2				
		258.2				
		260.2				
		262.2				
		264.2				
		266.2				
		268.2				
		270.2				
		272.2				
		274.2				
		276.2				
		278.2				
		280.2				
		282.2				
		284.2				
		286.2				
		288.2				
		290.2				
		292.2				
		294.2				
		296.2				
		298.2				
		300.2				
		302.2				
		304.2				
		306.2				
		308.2				
		310.2				
		312.2				
		314.2				
		316.2				
		318.2				
		320.2				
		322.2				
		324.2				
		326.2				
		328.2				
		330.2				
		332.2				
		334.2				
		336.2				
		338.2				
		340.2				
		342.2				
		344.2				
		346.2				
		348.2				
		350.2				
		352.2				
		354.2				
		356.2				
		358.2				
		360.2				
		362.2				
		364.2				
		366.2				
		368.2				
		370.2				
		372.2				
		374.2				
		376.2				
		378.2				
		380.2				
		382.2				
		384.2				
		386.2				
		388.2				
		390.2				
		392.2				
		394.2				
		396.2				
		398.2				
		400.2				
		402.2				
		404.2				
		406.2				
		408.2				
		410.2				
		412.2				
		414.2				
		416.2				
		418.2				
		420.2				
		422.2				
		424.2				
		426.2				
		428.2				
		430.2				
		432.2				
		434.2				
		436.2				
		438.2				
		440.2				
		442.2				
		444.2				
		446.2				
		448.2				



1875-

1874phae.proj.1

$i^h$  Boes  
2 18<sup>m</sup> 47<sup>s</sup>  
+ 66° 30'  
= - 24 27  
- 41

		<sup>m</sup>	s	
Jan	20	18	4:36	
Dec	6		4:792	
	11		4:80	-12
	16		4:68	.12
	21		4:56	.12
	26		4:44	.12

50	20.1	
	32.6	
	33.7	+1.
	34.7	1.
	35.7	1.
	36.7	1.

	Jan	18 <sup>th</sup>	47.26	50 <sup>th</sup>	37.4	
	5		49.07	-19	39.9	+5
	10		46.87	20	38.3	4
	15		46.68	19	38.7	4
	20		46.48	20	39.1	4
	25		46.28	20	39.5	4
Dec.	6		53.9		51.2	
	11		53.10	-01	52.2	+10
	16		53.00	10	53.1	9

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1874  
 42.538  
 + 1.99  
 + 4.839  
 + 16.464  
 9.59484  
 0.11678  
 97.1162  
 9.68799  
 9.96849

1875  
 47.378  
 + 50 18.45  
 + 4.840  
 + 16.460  
 9.59484  
 0.12552  
 97.2036

cond =  
 cond =  
 lang D = 2.33  
 I = 5.23  
 K = -0.38

Jan 27  
 17 22.3 18 8.9  
 52.1 25.4 39.3 13.9  
 54.4 30.6 41.4 17.1  
 55.3 44.3  
 59.8 47.0  
 18 2.4 49.7  
 5.2 52.4 18 54.0  
 8.0 53.0 59.2  
 10.6 57.8 62.7  
 13.2 0.8  
 26.33 38.77  
 24.0 60  
 23.3 17 26.10 44.77 18 13.23  
 18 2.589 18 49.744 18 58.63  
 2.551 +43.18 49.706 +3.78  
 18 46.220 +7.2 18 53.08 -7.14  
 -43.645 +1.18 -5.70  
 47.63 47.65  
 + 43.18 + 3.74  
 + .63 - .20  
 + 1.18 - 5.76  
 + 44.98 - 2.16  
 18 2.589 6 48.96 18 49.71 7 56.84  
 18 47.53 -16 1005 18 47.55 -16 14.19  
 +14 18 47.55 +14  
 -2.20 -33.90  
 50 19.11 50 20.18

15 +36.49 15 +36.51 -8.89  
 -3.49 -3.20  
 1 7.2 0 4.69 1 11.0  
 8.9 50.9 14.9  
 16.1 9.78 5.9  
 16 8.05 15 48.90 16 12.95  
 1.56217 1.56241 0.94890  
 1.28253 1.28277 0.66726  
 +19.17 +19.18 -4.67  
 16 27.22 16 8.08 16 8.28  
 6 21.13 6 40.27 40.07  
 40.17  
 27 59 27 35  
 +32.20 +12.99  
 1.45040 1.45030 1.43119 1.43109  
 +28.21 +28.20 +26.99 +26.98  
 -26.19 -26.29 -0.2  
 -12.38 -12 -1.8  
 +27.83 +26.61 +26.78  
 6 48.96 7 68.8 6.85  
 39.4 32.4  
 -16 8.3 14.5 14.4  
 4.3 14.5  
 -16 10.21 8.78 18 98 -16 14.53 19.46  
 + 1.43 7 1.31 32.2 19.73  
 - 21.20 -4.74 - 33.90 19.44  
 -16 29.98 18.98 -16 47.12 19.75



1875-

E. coli

L	21	31
+	7	54
Σ = 84		29

	<sup>m</sup>	<sup>s</sup>	<sup>6</sup>	<sup>"</sup>
Jan 20	21	27.30	53	38.6
Dec. 6		31.11		59.7
11		31.09	52	59.4
16		31.07	52	59.2
21		31.05	51	59.0
26		31.03	52	58.8

Jan.	0	21	3078		53
	5		3073	- .15	58.6
	10		3088	.05	58.3
	15		3083	.05	58.7
	20		3078	.05	57.9
	25		3072	.06	57.2
	30		3066	.06	57.0
Dec.	6		3464		78.4
	11		3462	- .02	78.2
	16		3460	.02	78.4

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1874  
 27.645  
 +38.48  
 +3.181  
 +16.345  
 9.99586  
 11.678  
 11.264  
 0.8901  
 9.13813

1875  
 30.826  
 +53.5982  
 +3.181  
 +16.343  
 9.99586  
 12.552  
 12.188

corr. =  
 corr. =  
 tang. = +1.41 1.01  
 I = 2.08  
 K = -0.16

+25 -06  
 Jan. 30  
 196  
 20 31.9 20 24.7 21 18.5 21 6.7  
 34.0 26.5 20.5 9.2  
 36.0 28.6 22.6 11.8  
 40.2 26.4  
 42.2 28.7  
 44.4 30.9  
 46.5 33.0 21 49.9  
 48.6 35.1 52.0  
 52.7 37.3 53.9  
 54.8 41.4  
 56.9 43.4  
 48.82 34.03

20 44.82 20 26.60 21 30.936 21 51.93  
 44.866 +46.31 30.920 +3.78  
 21 30.66 +5.04 21 54.62 -0.01  
 -46.29 -0.6 -3.79  
 +46.28 30.83 +3.75 30.90  
 +.03 -.01  
 +0.19 -3.79  
 +46.48 0.05  
 20 44.37 10 37.3 21 30.92 33.20  
 -16 10.47 -16 14.19  
 21 30.85 -1.8 21 30.87 -1.9  
 -2.20 -23.30  
 53 54.26 53 53.81

10 +17.78 - 10 +26.87 -20.99  
 -3.52 -3.20  
 1 32.3 1 41 21 0.9  
 36.3 6.6 2.8  
 6.86 10.7 3.7  
 11 34.30 11 5.35 12 18.5

124993 1.33985 1.32201  
 1.37131 1.46123 1.44339  
 +23.52 +28.92 -27.76  
 11 37.82 11 34.27 11 34.09  
 10 50.53 11 14.08 14.26  
 14.17  
 27 17 28 14

+22.48 +13.05  
 1.61908 1.61918 1.60965 1.60975  
 -41.60 -41.61 -40.71 -40.71  
 -0.2 -0.3  
 -18 -20 -16 -30  
 -41.80 -40.90 -41.04  
 10 8.73 10 33.18 10 33.22  
 5.0 54 18.7  
 11.9 15.1 15.1  
 11.7 15.1  
 -16 10.46 12.46 54.07 -16 14.53 16.34 53.54  
 -20.04 14.14 -16 18.7 16.34 53.58  
 2.20 23.30  
 -16 14.66 54.07 -16 39.64 53.56



1874

1875

$$\begin{aligned} \text{corr } L &= \\ \text{corr } S' &= \end{aligned}$$
$$\begin{aligned} \tan \delta &= 1.31 \\ I &= 2.16 \\ K &= -0.1 \end{aligned}$$

27 Anctis

2	23	56
+ 17	09	

$$z = + 25 \quad 111$$

$$\sin z = +.43$$
[illegible]

5 5

$$\begin{array}{r} 23 \quad 58.48 \\ + 58.38 \\ + 3.316 \\ + 1614 \end{array}$$

9.98025  
12552  
10577

1874

1874

1875-

Jan. 26

Jan. 27

23	43245	23	54423	23	2283	23	2480	23	1577	22	5750	22	5673
		23	44100	24	115323	24	68323	33	100	23	16100	23	15091
	43229		441084		45239		33084				16084		15075
+	11.45	+	14.55	+	13.49	+	2535	+	4214	+	4318	+	4318
+	.05	-	.00	-	.01	+	.04	+	.08	+	.08	+	.08
+	0.41	-	3.48	-	3.49	-	0.01	+	0.18	+	0.19	+	0.19
+	11.91	+	11.07	+	9.99	+	2538	+	42.40	+	43.45	+	43.45
23	4323	23	44.08	23	45.24	23	33.08	23	16.08	23	15.04	23	15.04
23	55.14	23	55.15	23	55.23	23	58.46	23	58.48	23	58.52	23	58.52
	58.456		58.466		58.46		58.46						

[illegible]



Jan. 30		Dec 12	
22	+0.96	22	-0.85
23	590	23	45.1
	10		43.3
	3.3		44.5
	7.6		57.0
	9.7		54.4
	11.0		56.4
	14.2		58.6
	16.8		0.7
	20.6		2.9
	22.8		7.2
	24.9		9.3
			11.6
	1913		3847
	60		30.0
	1313	22	43.07
23	11.936	23	58.609
		24	19.73
	11920	23	57.700
			58.654
+	462.9	+	3.75
+	.06	-	.03
+	0.23	-	3.88
+	46.58	-	0.16
23	11.92	23	58.68
23	58.50	23	58.52
			58.86

Jan.		Jan.	
1	+28.87	55	+19.23
55	-3.52	55	-3.20
1	26.3	1	14.9
	29.1		15.4
	55.4		10.3
56	27.70	56	15.15
		57	8.50
	1.46045		1.28398
	1.56622		1.38975
	+36.83		+24.53
57	4.53	56	37.68
25	43.82	26	8.67
		12	8.31
		27	13
			20
	+22.55		+13.10
	1.45575		1.44630
	-28.56		-27.94
			-27.96
	-12		-05
	-16		-31
	-28.84		-19
25	14.98		28.18
-16	10.46	25	40.49
	151	-16	14.53
	51.4		1.38
	17.19		-25.46
	57.84		-9.29
	57.54	-16	41.34
			59.15
			58.27
			58.71



1875-

36, No Cass

	"	"	"	"
Jan 20	26	4.43	15	728
Dec. 16		11.93		863
21		11.74	-19	8.94
26		11.56	.18	884

Jan 10	26"	1854	16	305"	
15		1856	-28	310	+0
20		1828	28	313	.3
25		999	24	314	.1
30		969	30	315	.1
Dec. 6		1820		420	
11		1812	-13	423	+1.3
16		1790	-13	445	12

$$z^2 = -29 \quad 53$$
[illegible]

A. R.



1874  
 $\alpha$  5.736  
 $\delta$  +53.41  
 $\alpha$  +5.546  
 $\delta$  +16.113

Less  $\delta$  9.48371  
 16' 11.673  
 16' 9.60049  
 16' 9.57686  
 Sine  $\delta$  9.97886

+25 -06

Jan. 30

4.196  
 25 9.4 25 2.6 2.6  
 12.9 32.1  
 16.2  
 19.8  
 23.2  
 26.8  
 29.8  
 32.2  
 36.6  
 20.79

25 23.100 25 26.85  
 23.050  
 26 9.7668  
 -46.653 +46.31  
 +46.29 +.78  
 +.61 +1.60  
 +1.60 11.54  
 +48.50 .55  
 25 33.05 26 14.41

26 11.55 42.13 26 11.38 56.59  
 -16 10.47 -16 14.19  
 +1.6 11.406 +1.5  
 -22.00 -34.10  
 16 11.26 16 9.80

50 -3.75

-3.52

0 40.0

45.0

85.0

50 42.50

0.57403m

0.18326m

-1.52

50 40.98

32 7.37

+22.62

1.57222 1.57212

+35.01 +34.84

+34.15

-01 -04

-08 -09

+34.76

32 42.13

5.5

10.6

10.6

-16 10.46 11.48

+ 7.76 8.70

- 22.00 -5.89

-16 30.70 11.48

1875  
 $\alpha$  11.283  
 $\delta$  +16.952  
 $\alpha$  +5.548  
 $\delta$  +16.109

9.48371  
 11.2852  
 9.60928

-06

Dec 12

-0.85  
 0.9 25 25.0  
 4.4 30.4  
 8.0 35.4  
 11.3  
 15.0  
 18.0  
 21.9 25 59.0  
 24.9 5.9  
 28.6 13.4

13.28

25 30.27  
 26 6.03

14.706

26 18.108

-3.578 +3.77

+3.78 -1.9

+3.75 -6.81

+2.7 -11.48

+3.41 -3.33

26 14.41

26 11.38 56.59

-16 14.19

+1.5

-34.10

16 9.80

+44.49 +8.73

50 -3.20

0 6.1 0 20.4

9.1 23.8

15.2 42

50 7.60 50 22.10

16.4826 0.94101

1.25749 0.55024

+18.09 +3.55

50 25.29 50 25.25

32 22.66 32 22.70

22.68

53 40 53 26

+13.15

1.53278 1.53265

+34.10 +34.09

-31.18 -01

-01 -04

+33.78 +36.01

32 56.44 56.74

43.6

12.8 13.1

13.0

-16 14.53 9.41

+ 7.60 2.93

- 34.10 7.99

-16 47.03 9.56

corr.  
 corr.

tang  $\delta$  +3.13 3.29

I 6.78

K = 0.50

1874.0  $\delta$  $\alpha$ 

5.77

79

63

5.730

736

-0.006

53.41

1875.0  $\delta$  $\alpha$ 

11.27

44

39

55

38

11.406

283

+1.23

9.52



5 Upr. Min L.C.

$$\begin{array}{r} 14 \times 27 \ 34 \\ + \ 76 \ 15 \\ \hline 103 \ 45 \end{array}$$

$$z = -61 \ 22$$

$$\text{sing} = -.88$$

$$\begin{array}{r} 1874 \ 5 \\ 1427 \ 48985 \\ +76 \ 15 \ 3049 \\ \hline -208 \\ -1602 \end{array}$$

$$\begin{array}{r} 1875 \\ 27 \ 478 \\ 15 \ 140 \\ \hline -207 \\ -1605 \end{array}$$

$$\begin{array}{r} \text{Lead } 9.37600n \\ \text{C6 } .12652 \\ \text{C6 } 9.46915n \\ \hline \text{Lead } 9.98737 \end{array}$$

$$\begin{array}{r} 9.37600n \\ .12652 \\ 9.50152n \end{array}$$

$$\begin{array}{l} \text{corr.} = \\ \text{corr.} = \\ \text{tang.} = -4.09 \\ I = 8.71 \\ K = +.064 \end{array}$$

1874	1874	1875	1875	1875	1875
Dec. 23	Dec. 23	Jan. 12	Jan. 26	Jan. 27	Jan. 30
27 -006	27 -040	27 4100	27 4266	27 4290	27 4196
27 13.3 26 338	27 16.2 26 32.3	27 6.0 29 8.6	27 24.7 26	27 26 34 26	27 45.0 27 27
19.6 27 23	20.3 27 338	8.6	27 24.7 26	27 26 34 26	27 45.0 27 27
24.2 10.4	25.1 27 43	13.8	27 24.7 26	27 26 34 26	27 45.0 27 27
28.4	29.0	18.3	27 24.7 26	27 26 34 26	27 45.0 27 27
32.4	34.0	22.8	27 24.7 26	27 26 34 26	27 45.0 27 27
37.3	38.0	26.8	27 24.7 26	27 26 34 26	27 45.0 27 27
41.4 27 50.9	42.1 27 49.8	31.3	27 24.7 26	27 26 34 26	27 45.0 27 27
45.6	46.8	36.0	27 24.7 26	27 26 34 26	27 45.0 27 27
49.7	51.1	39.8	27 24.7 26	27 26 34 26	27 45.0 27 27
2944	3026	2046	27 24.7 26	27 26 34 26	27 45.0 27 27
27 32.711	27 50.9027	27 32.733	27 32.711	27 32.711	27 32.711
32.875	33.686	22.797	32.875	32.875	32.875
+ 14.55	+ 13.49	+ 27.08	+ 14.55	+ 14.55	+ 14.55
+ .02	+ .16	- .41	+ .02	+ .02	+ .02
+ 1.74 + 1.532	+ 1.91 + 1.702	- .20 - 1.03	+ 1.74 + 1.532	+ 1.74 + 1.532	+ 1.74 + 1.532
16.31	15.56	26.47	16.31	16.31	16.31
49.08	49.1825	49.27	49.08	49.08	49.08
48.872	49.042		48.872	48.872	48.872

1874	1874	1875	1875	1875	1875
40	40	40	40	40	40
+ 29.88	- 18.19	+ 37.15	- 16.18	- 45.87	- 1496
32.1	38.2	2 31	1 47.0	1 37.3	3 - 3.47
53.9	39.9	1.7	46.8	33.3	3 7.4
106.0	78.1	4.8	93.8	70.6	14.4
41 53.00	41 39.05	42 2.40	41 46.90	41 85.30	23 11.90
1.47538	1.25983	1.56996	1.20898	1.66153	1 17493
0.94483	0.72898	1.03911	0.67813	1.16225	0.67645
-8.80	+5.36	-10.94	+4.77	6.256	+4.75
41 44.20	41 44.41	41 51.46	41 57.67	41 49.82	23 16.65
103 41 41.5	41 39.4	40 56.89	56.8	40 55.49	59 31.70
-61 20.14	20 28	20 32	20 32	20 32	20 36
2.02092	2.02101	+3526	+4160	+3413	+3232
+1996	2.04088	2.04097	2.05618	2.05627	2.05324
+10990	+10990	+11350	+11350	+11350	+11350
+ 2	+ 2	+ 3	+ 3	+ 2	+ 2
+10 -12	+103	+17 -09	+03	+20 -07	+14 -12
-19	-19	-20	-18	-30 -05	-38 -24
+1 49.53	+1 49.76	+1 53.80	+1 53.68	+1 55.49	+1 52.78
103 42 53.98	53.70	42 50.69	50.36	42 55.01	+1 24.55
+2 1182	+2 1528	+2 1793	+2 1483	+2 1483	-16 10.21
+ 2.68	+ 2.65	+ 2.65	+ 2.65	+ 2.65	+ 2.01
-36.20	-36.20	-36.20	-36.20	-36.20	-25.16
+1 43.70	44 37.08	43.73	34.09	+1 54.34	-16 32.24
45.123	44 36.94	34.25	50.30	515	52.31
44 52.99					



V *Apelle*  
 $2 \ 31 \ 43$   
 $+21 \ 25$   
 $g = +20 \ 58$   
 $+36$

1870

Jan 0	31	4342		25	181	
5		4337	-.05		18.0	-.1
10		4332	.05		17.9	.1
15		4327	.05		17.8	.1
20		4321	.06		17.6	.2
25		4314	.07		17.4	.2
30		4307	.07		17.1	.3
Dec 6		4730			359	
11		4728	-.02		360	+.1
16		4726	.02		360	.0

1875  
 $43.294$   
 $+25 \ 37.88$   
 $+3.391$   
 $+15.797$   
 $corr = -0.46$   
 $corr = +.43$   
 $\tan \delta = +.39 \ 1.07$   
 $I = 2.20$   
 $K = -.017$   
 $l. cond \ 9.96893$   
 $66 \ 1.2552$   
 $66 \ .09445$   
 $l. cond \ 9.56247$

1874  
 Dec. 23  
 Ch. f.

1875	Jan 12	Jan 26	Jan 27	Jan 30	Dec 12
32	30	31	30	30	30
31	52.7	47.6	46.5	43.5	38.2
30	53.6	49.8	48.7	45.6	40.8
29	37.7	52.0	50.9	47.0	42.4
28	11.8	56.5	55.4	52.3	39.2
27	13.8	58.6	57.6	54.4	41.4
26	16.0	58	57.2	56.6	43.7
25	18.4	50	51.0	59.0	45.8
24	20.6	5.6	4.2	1.1	48.0
23	25.0	9.6	8.7	5.4	52.4
22	27.2	11.0	10.9	7.8	54.5
21	29.4	14.1	16.1	10.0	56.7
20	17.4	30.92	35.79	38.36	47.90
19	30	300	300	240	
18	31	9.2	30	36.77	62.36
17	16.127	0.836	39.809	30	36.691
16	16.110	1.819	59.772	30	36.674
15	42.31	45.18	43.121	31	43.07
14	27.20	45.30	43.32	30	46.40
13	27.25	42.36	43.38	30	46.45
12	38	43.24	43.25	30	43.25
11	24.08	42.14	43.18	30	46.29
10	1.04	1.10	1.10	30	4.08
9	-0.02	0.14	0.18	30	0.22
8	27.10	42.41	43.46	30	46.54
7	16.11	0.82	10.76	30	36.67
6	12	1.3	1.3	30	10.05
5	43.21	43.23	43.25	31	43.26
4	21	25	25	25	10.02
3	55	55.33	55.33	55.33	55.33
2	55	55	55	55	55
1	55	55	55	55	55
0	55	55	55	55	55
-1	55	55	55	55	55
-2	55	55	55	55	55
-3	55	55	55	55	55
-4	55	55	55	55	55
-5	55	55	55	55	55
-6	55	55	55	55	55
-7	55	55	55	55	55
-8	55	55	55	55	55
-9	55	55	55	55	55
-10	55	55	55	55	55
-11	55	55	55	55	55
-12	55	55	55	55	55
-13	55	55	55	55	55
-14	55	55	55	55	55
-15	55	55	55	55	55
-16	55	55	55	55	55
-17	55	55	55	55	55
-18	55	55	55	55	55
-19	55	55	55	55	55
-20	55	55	55	55	55
-21	55	55	55	55	55
-22	55	55	55	55	55
-23	55	55	55	55	55
-24	55	55	55	55	55
-25	55	55	55	55	55
-26	55	55	55	55	55
-27	55	55	55	55	55
-28	55	55	55	55	55
-29	55	55	55	55	55
-30	55	55	55	55	55
-31	55	55	55	55	55
-32	55	55	55	55	55
-33	55	55	55	55	55
-34	55	55	55	55	55
-35	55	55	55	55	55
-36	55	55	55	55	55
-37	55	55	55	55	55
-38	55	55	55	55	55
-39	55	55	55	55	55
-40	55	55	55	55	55
-41	55	55	55	55	55
-42	55	55	55	55	55
-43	55	55	55	55	55
-44	55	55	55	55	55
-45	55	55	55	55	55
-46	55	55	55	55	55
-47	55	55	55	55	55
-48	55	55	55	55	55
-49	55	55	55	55	55
-50	55	55	55	55	55
-51	55	55	55	55	55
-52	55	55	55	55	55
-53	55	55	55	55	55
-54	55	55	55	55	55
-55	55	55	55	55	55
-56	55	55	55	55	55
-57	55	55	55	55	55
-58	55	55	55	55	55
-59	55	55	55	55	55
-60	55	55	55	55	55
-61	55	55	55	55	55
-62	55	55	55	55	55
-63	55	55	55	55	55
-64	55	55	55	55	55
-65	55	55	55	55	55
-66	55	55	55	55	55
-67	55	55	55	55	55
-68	55	55	55	55	55
-69	55	55	55	55	55
-70	55	55	55	55	55
-71	55	55	55	55	55
-72	55	55	55	55	55
-73	55	55	55	55	55
-74	55	55	55	55	55
-75	55	55	55	55	55
-76	55	55	55	55	55
-77	55	55	55	55	55
-78	55	55	55	55	55
-79	55	55	55	55	55
-80	55	55	55	55	55
-81	55	55	55	55	55
-82	55	55	55	55	55
-83	55	55	55	55	55
-84	55	55	55	55	55
-85	55	55	55	55	55
-86	55	55	55	55	55
-87	55	55	55	55	55
-88	55	55	55	55	55
-89	55	55	55	55	55
-90	55	55	55	55	55
-91	55	55	55	55	55
-92	55	55	55	55	55
-93	55	55	55	55	55
-94	55	55	55	55	55
-95	55	55	55	55	55
-96	55	55	55	55	55
-97	55	55	55	55	55
-98	55	55	55	55	55
-99	55	55	55	55	55
-100	55	55	55	55	55



1874

1875

*S. beti*  
 2 33 05-  
 - 0 13  
 + 42 36  
 +.68

Jan 0 33 1.54  
 5 1.49 -.05  
 10 1.44 -.05  
 15 1.39 -.05  
 20 1.34 -.05  
 Dec 6 33 5.03  
 11 5.01 -.02  
 16 4.99 -.02  
 21 4.97 -.02  
 26 4.95 -.02

12 5.99  
 6.03 +.4  
 6.6 .3  
 6.07 .3  
 6.12 .3  
 Jan 2 33 4.91  
 5 4.86 -.05  
 10 4.81 .05  
 15 4.76 .05  
 20 4.71 .05  
 25 4.66 .05  
 Dec 6 8.43  
 11 8.42 -.1  
 16 8.40 .2

4.91 12 4.17  
 4.86 -.05 4.21 +.4  
 4.81 .05 4.24 .3  
 4.76 .05 4.27 .3  
 4.71 .05 4.30 .3  
 4.66 .05 4.32 .2  
 8.43 216  
 8.42 -.1 224 +.4  
 8.40 .2 224 .4

+25  
1874

+05

-01  
1874

1875-

+31

-06

Jan 18  
 +245  
 1 32 34.132 34.1 32  
 41.3 35.8  
 43.3 37.2  
 47.4  
 49.6  
 51.7  
 53.6  
 55.8  
 59.8  
 1.9  
 1.0  
 44.73  
 120  
 56.7 32 35.70  
 32 51.73  
 51.58 +9.77  
 33 1.36 .00  
 - 9.80  
 + 9.87  
 + .00 33  
 + 10.18 +3.251  
 + 9.95  
 32 51.56 5 2.109 32  
 33 1.51 -7 32.12  
 4.581 +2.20  
 - 0 13 0.01

Dec. 21 23  
 -005  
 33 1.82 32  
 40.9 20.9  
 42.1 22.7  
 46.2  
 48.3  
 50.3  
 52.5 32 58.2  
 54.6 33 0.1  
 58.6 1.7  
 33 0.4  
 2.8  
 55.4.0

Dec. 23 1  
 -010  
 33 3.93 32 30.1 32  
 41.2 31.8  
 43.2 34.0  
 47.5  
 49.4  
 51.6  
 53.5  
 55.7  
 59.7  
 1.9  
 1.0  
 44.70  
 120  
 56.7 32 31.97  
 32 51.545  
 51.530 +13.47  
 33 4.77 .00  
 - 13.44  
 + 13.49  
 + .00  
 + 10.06  
 32 51.53 14 54.77 32  
 57.53 53.26 32 39.37  
 33 1.59 -2.3 33  
 4.661 -18.10  
 12 58.27

Jan 10  
 +21  
 32 33.0 32  
 29.3  
 31.3  
 35.4  
 37.4  
 39.2  
 41.3  
 43.4  
 47.6  
 49.6  
 51.7  
 43.32

Jan. 27  
 +240  
 32 41.0 33  
 21.6  
 23.4 34  
 25.6 48  
 29.6 36  
 31.7 40  
 33.8 44

Dec 12  
 -085  
 33 1.5  
 3.4  
 5.2  
 06  
 2.5  
 4.6  
 6.8  
 8.8  
 23.2

32 56.7 32 35.70  
 32 51.73  
 51.58 +9.77  
 33 1.36 .00  
 - 9.80  
 + 9.87  
 + .00 33  
 + 10.18 +3.251  
 + 9.95  
 32 51.56 5 2.109 32  
 33 1.51 -7 32.12  
 4.581 +2.20  
 - 0 13 0.01

Dec. 21 23  
 -005  
 33 1.82 32  
 40.9 20.9  
 42.1 22.7  
 46.2  
 48.3  
 50.3  
 52.5 32 58.2  
 54.6 33 0.1  
 58.6 1.7  
 33 0.4  
 2.8  
 55.4.0

Dec. 23 1  
 -010  
 33 3.93 32 30.1 32  
 41.2 31.8  
 43.2 34.0  
 47.5  
 49.4  
 51.6  
 53.5  
 55.7  
 59.7  
 1.9  
 1.0  
 44.70  
 120  
 56.7 32 31.97  
 32 51.545  
 51.530 +13.47  
 33 4.77 .00  
 - 13.44  
 + 13.49  
 + .00  
 + 10.06  
 32 51.53 14 54.77 32  
 57.53 53.26 32 39.37  
 33 1.59 -2.3 33  
 4.661 -18.10  
 12 58.27

Jan 10  
 +21  
 32 33.0 32  
 29.3  
 31.3  
 35.4  
 37.4  
 39.2  
 41.3  
 43.4  
 47.6  
 49.6  
 51.7  
 43.32

Jan. 27  
 +240  
 32 41.0 33  
 21.6  
 23.4 34  
 25.6 48  
 29.6 36  
 31.7 40  
 33.8 44

Dec 12  
 -085  
 33 1.5  
 3.4  
 5.2  
 06  
 2.5  
 4.6  
 6.8  
 8.8  
 23.2

25 +15.87  
 2 5.7  
 52.2  
 117.9  
 27 58.95  
 120.58  
 1.3 17.36  
 +2.07  
 27 17.72  
 10° 4' 31.37  
 +42 34 31  
 1.72 310 1.72 330  
 +3.154  
 1.75464  
 -56.84

35 -9.64 -30.24 +19.57  
 1 32.9 2 18.9 1 14.9  
 6.0 31.3 24.9  
 115.9 50.2 39.8  
 36 59.45 37 25.10 36 19.90  
 0.98408 1.48058 1.29159  
 1.07723 1.57373 1.88474  
 -1195 -37.48 +24.25  
 36 47.50 36 47.62 36 44.15  
 13 59.15 59.24 13 55.40  
 59.21  
 34 52 35 18 34 13  
 +19.99 +35.30  
 1.74309 1.74309 1.75840  
 -55.34 -55.34 -57.33

35 +4.38  
 1 34.8  
 41.7  
 76.5  
 36 38.25  
 0.64147  
 0.76659 739.62  
 +5.85  
 36 43.65  
 13 55.75  
 40 55.33  
 34 31  
 +49.21  
 1.77251  
 -59.23

15 -19.26  
 3 48.5  
 49.5  
 40.50  
 1.29137  
 1.41659  
 -26.11  
 23.8  
 13 55.75  
 40 55.33  
 34 31  
 +49.21  
 1.77251  
 -59.23

15 +127  
 2 59.5  
 56.9  
 174  
 17 58.70  
 0.10380  
 0.22932  
 +1.69  
 15 0.39  
 55 120.4  
 34 11  
 +13.28  
 1.78638  
 -54.50

15 +127  
 2 59.5  
 56.9  
 174  
 17 58.70  
 0.10380  
 0.22932  
 +1.69  
 15 0.39  
 55 120.4  
 34 11  
 +13.28  
 1.78638  
 -54.50

+14.00 +0.6  
 +12 +12  
 -56.72  
 5 28.09  
 13 11  
 -7 33.0  
 -7 33.0  
 -7 52.37 12 59.86 +2  
 160 33.97  
 + 2.20 +17.94  
 -7 31.74 12 59.86 +1  
 12 44.13

+24.00 -22 +0.4 00 +0.2 00 +0.6  
 -20 -24 -13 -13  
 -55.54 -55.58 -57.46  
 14 52.69 54.85 14 53.26  
 12 41.0 40.8  
 +2 13.7 13.8  
 +2 13.8  
 14 52 12 59.84 +2  
 2.07 12.3 64.00 -  
 17.95 -216 -  
 54.85 12 59.84 +1  
 55.13 12 59.84 +1  
 55.13 12 59.84 +1

+0.2 00 +0.6  
 -13 -13  
 -57.46  
 14 53.26  
 40.8  
 12.5  
 12.5  
 15.28 12.3 58.13 +2  
 2.05 12.3 58.13 +2  
 18.10 -236 -  
 55.13 12 59.84 +1  
 55.13 12 59.84 +1  
 55.13 12 59.84 +1

00 +5  
 -30 -30  
 -59.53  
 14 54.86  
 42.4  
 12.5  
 12.5  
 15.28 12.3 58.13 +2  
 2.05 12.3 58.13 +2  
 18.10 -236 -  
 55.13 12 59.84 +1  
 55.13 12 59.84 +1  
 55.13 12 59.84 +1

00 +5  
 -30 -30  
 -59.53  
 14 54.86  
 42.4  
 12.5  
 12.5  
 15.28 12.3 58.13 +2  
 2.05 12.3 58.13 +2  
 18.10 -236 -  
 55.13 12 59.84 +1  
 55.13 12 59.84 +1  
 55.13 12 59.84 +1

00 +5  
 -30 -30  
 -59.53  
 14 54.86  
 42.4  
 12.5  
 12.5  
 15.28 12.3 58.13 +2  
 2.05 12.3 58.13 +2  
 18.10 -236 -  
 55.13 12 59.84 +1  
 55.13 12 59.84 +1  
 55.13 12 59.84 +1



1874  
 $\angle$  1.544  
 $\rho$  -58.90  
 $\frac{d\rho}{d\theta}$  +3.071  
 $\frac{d\rho}{d\theta}$  +15.736

1875  
 $\frac{d\rho}{d\theta}$  4.615  
 $\frac{d\rho}{d\theta}$  -12 43.17  
 $\frac{d\rho}{d\theta}$  +3.071  
 $\frac{d\rho}{d\theta}$  +15.733

corr  $\alpha$  =  
 corr  $\delta$  =

tang  $\delta$  = -.00

I = 2.06

K = .015

1.000 0.00000  
 $\frac{d\rho}{d\theta}$  .11678  
 $\frac{d\rho}{d\theta}$  .11678-

.00000  
 .12552  
 .12552

$\frac{d\rho}{d\theta}$  .09315-

lsin  $\delta$  7.54767m







O Persei  
2 85 40  
+ 48 42

3 = + 19  
corr. = -6  
corr. = -11

angle = +1.14 1.51  
t = 3.12

1874  
K = -0.23  
Jan 18

2 35 6.7 34 48.3 35 8.3 35 18  
10.0 51.2 114 42  
18.1 54.2 144 7.0  
10.3 208  
22.5 238  
25.6 270  
28.7 300 35 423  
32.0 332 462  
38.1 395 48.1  
41.3 427  
44.4 438

2817

35 25.609 34 51.25 35 4.00  
25.586 57.2835 26.991 35 45.33  
+ 9.78 +13.44  
+ 28 +.01  
35 35.587 35 40.59 35 42.25  
- 9.98 +0.57 -13.42 3618  
+ 9.44 + 13.49  
+ 28 +.04  
+ 0.57 44630 -4.25 -190  
+ 10.62 49 2364 + 9.20 39 3079  
35 25.59 -7 321235 3677 42 1539  
+ 7 +.4  
35 3621 -1400 35 3617 -2990  
40270 48 48 3792 40220 41 3662

30 +34.36  
3 6.3  
57.2  
123.5  
33 1.75  
40 +22.94 -18.54 40  
- 2.02  
2 44.9 3 18.6 2 53.0 3 27.9  
46.0 20.0 53.9 29.5  
90.9 38.6 106.9 57.4  
42 45.45 43 19.30 42 53.45 43 28.70

1.53631 1.35526 1.26811m  
1.47264 1.26796 1.18081m  
+ 29.69 +18.53 -15.77  
33 31.44 43 3.98 43 4.13  
49 44.37 44.22  
3 44.29  
19 22 18 48  
+ 35.32  
0.80490 0.80430 0.84022 0.83962  
+ 31.57 +6.92 +6.91  
+ 0.83647 +6.86

-31 -06  
+18 -13  
-6.99+6.73  
49 2364  
11 513  
-7 323  
-7 323  
+ 323 41 3753  
+ 26 321 3659  
1400 +1.50  
-7 4611 41 3753 +1 4571 36.50  
5.00

1874m  
Jan 10 35 35.73  
15 35.64 -0.09  
20 35.54 -10  
15 40.43  
21 40.39 -0.04  
26 40.34 -0.05

1874  
2 36.140  
+ 37.30  
+ 40.60  
+ 15.501  
35 981955  
66 11678  
66 993633

Wind = 987589  
9.91270

1875  
41 529  
51.2 +.3  
51.4 +.2  
66.5  
67.2 +.7  
67.8 .6  
1875  
40.201  
+ 41 5280  
+ 4.061  
+ 15.497  
981963  
12.552  
994507

1875  
Jan 10 35 40.27 42 8.3  
5 40.18 -0.09 8.8 +.5  
10 40.09 .09 9.1 .3  
15 40.00 .09 9.3 .2  
20 39.90 .10 9.4 .1  
25 39.80 .10 9.4 +.0  
30 39.69 .11 9.3 -.1  
Dec. 6 4176 22.7  
11 4493 -0.3 23.5 +.8  
16 4489 .04 24.2 .7

1875  
Jan 5  
Chf.

1875  
Jan 10  
35 8.1  
9.9  
11.4  
13.2 No S  
14.7  
16.2  
17.6  
19.2  
20.9

1312

35 14578  
14.555 +2536  
40.09 +24  
-25.54 +0.11  
+ 25.35  
+ .14  
+ 0.11  
+ 25.60 +  
35 14.55 +2 16.90  
35 40.15 +.4  
36 40.13  
120  
1410  
12818  
12795  
46.35  
-27.26  
+ 27.08  
+ 27.11  
+ 27.15  
+ 27.34  
35 12.79 +2 15.9034  
36 40.13 +.3  
35 40.22 -16.60  
41 34.09

+17.32

A.R.

A.R.

20 -2.09  
4 -3.49  
38.6  
38.8  
72.4  
24 36.20  
0.32015  
0.26522  
-184  
24 3436  
58 1399  
19 12  
0.80450  
+ 3293  
0.83693  
+ 687

-08  
-01-26-52  
-51  
-7.39+6.35  
58 20.34  
42 94  
-16 109  
-16 109  
-16 102  
-16 102  
+ 10.21 41 5391  
+ 38 483  
+ 16.60 -1.10  
-16 2693 41 5391



$$\begin{array}{r}
 1874.0 \\
 \alpha \\
 36.21 \\
 .17 \\
 \hline
 36.190 \\
 140 \\
 +.050
 \end{array}$$

37.30

$$\begin{array}{r}
 1875.0 \\
 \alpha \\
 40.15 \\
 .13 \\
 .22 \\
 .30 \\
 .21 \\
 \hline
 40.202 \\
 201 \\
 +.001
 \end{array}$$

52.80

$$\begin{array}{r}
 +25 \quad 1875 \\
 \text{Jan } 30 \\
 +196 \\
 34 \quad 34.5 \quad 34 \quad 425 \quad 35 \quad 22.635 \quad 7.6 \\
 37.6 \quad 453 \quad 25.6 \quad 10.0 \\
 40.9 \quad 47.5 \quad 28.9 \quad 12.0 \\
 44.0 \quad 35.0 \\
 50.2 \quad 38.2 \\
 53.2 \quad 41.3 \\
 56.4 \quad 44.4 \quad 35 \quad 49.0 \\
 59.5 \quad 47.6 \quad 51.4 \\
 58 \quad 53.8 \quad 54.0 \\
 9.0 \\
 12.0 \quad 0.2 \\
 10.41 \\
 15.0
 \end{array}$$

-06  
Dec 12

-080

4544

$$\begin{array}{r}
 34 \quad 53.282 \quad 35 \quad 41.809 \quad 35 \quad 51.447 \\
 53.250 \quad +4633 \quad 41.286 \quad +377 \\
 35 \quad 53.684 \quad +28 \quad 55 \quad 41.922 \quad -07 \\
 -4632 \quad -09 \quad -3.63 \\
 +4630 \quad +0.52 \quad -4.72 \\
 +22 \quad 4030 \quad 4027 \\
 +0.52 \quad -4.72 \\
 +47.04 \quad -1.087 \\
 34 \quad 53.26 \quad 35 \quad 41.89 \\
 35 \quad 4030 \quad 35 \quad 40.242 \\
 +8.15 \quad +5.44 \quad -10.16 \\
 20 \quad 20
 \end{array}$$

$$\begin{array}{r}
 4 \quad 23.7 \quad 0 \quad 1.9 \quad 3 \quad 46.4 \quad 4 \quad 24.4 \\
 28.1 \quad 8.7 \quad 40.3 \quad 26.5 \\
 32.8 \quad 16 \quad 15.7 \quad 10.9 \\
 24 \quad 26.40 \quad 20 \quad 58.0 \quad 23 \quad 47.85 \quad 24 \quad 25.45
 \end{array}$$

$$\begin{array}{r}
 0.91275 \quad 58 \quad 2095 \quad 149748 \quad 1.00689 \quad 3814 \\
 0.85582 \quad -16 \quad 1647 \quad 1.44255 \quad 0.95156 \quad -16 \quad 1419 \\
 +7.21 \quad +3 \quad +27.71 \quad -8.95 \quad +3 \\
 24 \quad 33.61 \quad -1650 \quad 24 \quad 15.56 \quad 24 \quad 16.50 \quad -3090 \\
 58 \quad 14.74 \quad 41 \quad 54.38 \quad 58 \quad 32.79 \quad 31.85 \quad 41 \quad 53.35 \\
 19 \quad 22 \quad 20 \quad 0 \quad 19 \quad 23 \\
 0.80490 \quad 0.80560 \quad 0.80490 \\
 +2287 \quad +1333 \\
 0.82777 \quad 0.81895 \quad 0.81823 \\
 +6.72 \quad +6.59 \quad +6.58
 \end{array}$$

$$\begin{array}{r}
 -0.3 \quad -25 \\
 -48 \quad -51 \\
 -7.23 \quad +6.21 \\
 58 \quad 20.95 \quad 1 \\
 9.3 \quad 1 \\
 -16 \quad 11.6 \\
 -16 \quad 11.6 \\
 -16 \quad 10.46 \quad 5438 \quad -16 \quad 11.53 \quad 5347 \\
 + \quad 39 \quad 1007 \quad + \quad 35 \quad 1418 \quad 5266 \\
 1650 \quad -1.00 \quad 3090 \quad 1340 \\
 -16 \quad 26.57 \quad 41 \quad 5438 \quad -16 \quad 4508 \quad 5306
 \end{array}$$



1874 - 2  
Dec 16 36 49.85  
21 49.83  
26 49.82

42 31.2 1875

4 Jan	0	36 <sup>m</sup>	49 <sup>h</sup> 78	42	301	
	5		49 <sup>h</sup> 74	-.04	297	-.4
	10		49 <sup>h</sup> 69	-.05	294	.3
	15		49 <sup>h</sup> 64	-.05	291	.3
	20		49 <sup>h</sup> 59	-.05	288	.3
	25		49 <sup>h</sup> 53	-.06	286	.2
Dec.	6		53 33		474	
	11		53 32	-.01	471	-.3
	16		53 30	-.02	467	.4

$$\begin{array}{r} 2 \quad 36 \quad 32 \\ + 2 \quad 42 \\ \hline 3 = + 39 \quad 41 \end{array}$$

9.99952  
12552  
0.12504

$\tan \theta = +05$   $100$   
 $I_s = 2.06$   $1874$   $\ln s = 8.67308$   
 $K = -.015$   $+05-$   $Dec. 2123$   $Dec$

1874  
Dec. 23

1875-  
+21  
Jan 10

+20/ f Am 12

+20 -08  
Jan 14

+30  
Jan. 26

36	229	36	16
	250		18
	271		20
	312		
	333		
	353		
	374	36	43
	394		46
	433		48
	454		
	478		
3886			

23.9	26	39.4	36
25.0		42.1	
28.1		44.0	
32.2			
34.5			
36.4			
38.6	37	12.3	
40.8		14.3	
44.5		16.5	
46.7			
48.9			
49.6			

12.0	25	58.3	37
14.2		06	
16.1		28	
20.2			
22.4			
24.1			
26.5			
28.6			
32.7			
34.8			
34.7			
26.86			

7.100		
10.4	37	6.2
12.3		8.0
14.4		10.6
18.6		
20.6		
22.4		
24.8		
26.7		
30.9		
32.7		
35.0		
29.3		

	7.110	
8.5	36	11.0
14.6		35
12.7		
16.9		36
18.9		
21.0		
23.1		
25.1		
29.2		
31.3		
33.4		
33.7		

54.8	38	400
58.0		57.6
59.0		58.4
5.2		
5.2		
7.3		
9.2		
11.8		
15.5		
17.7		
19.7		
26.0, 2,		

36 35327 36 18.  
36 35312 36 45.  
36 4983 +145  
-1452 +0  
-3.  
+ 1455 36 46  
- .08  
-384  
+ 1121 .337  
36 3031 40 18  
+2 15  
36 4642 -2  
49323 18  
+2 42 13

36	41.93
36.418	37 14.37
36.403	+18.47
49.83	- .00
13.43	36
	-3.44
13.49	46.43
.00	+
-3.44	-3.37
10.05	+
26.40	16.55
	36
	+2 16.39
46.45	-3.2
49.553	36
	-18.70
	42 13.04

34,418	36	0.57	36
24,403	+2536		
4969	+0136		
25,29			
	-020		
25,35	4957		
.01			
-020			
25,16			
2440	176537		
	+2 1690		
49,56	-20 37		
	-1,80		
	42,3075		

2664	36	827	36
2649	+2708		
1467	+01		36
2648	-018		
2702	4956		+
2708			+
00			
-018			+
2690			
2265	40	1743	36
	+2	1390	
4955	-20		36
	-170		
	42	2963	

20973	36	11.00	36
20,958		+28.49	
49.65		+0.01	36
28.89		-0.08	
		-0.16	
28.74		49.83	+
.00			+
-0.16			
28.58			+
2096	58	3635	36
	-16	656	
49.54		-2.0	36
		-1.50	
42	26	29	

80.2 35 51.63  
72.91  
72.76 +42.15  
13.2 +.01  
42.28  
4 -0.03  
42.15 49.41  
.01  
9.03  
42.13  
7.28 42.47  
-16 10.76  
49.41 -2.0  
-0.90  
42.28

	\$	
1	+ 17.20	- 10.
40	"	
68	= - 305	
1	12.8	1 46.
	24.1	57.
	36.9	104
41	18.45	41 32.
	123553	10187
	132820	11118
	+ 2129	- 129
41	39.74	41 394

$-551 - 3495$   
 $3020$   
 $412 \quad 2 \quad 215 \quad 1$   
 $481 \quad 281$   
 $893 \quad 496$   
 $4465 \quad 42 \quad 2480 \quad 41$   
 $74115_n \quad 157921_n \quad 18$   
 $83382_n \quad 167188_n \quad 18$   
 $-682 \quad -4698$   
 $3783 \quad 41 \quad 3782 \quad 41$

+ 23.85		
- 3.15		40
6.0		1
9.0		
15.0		
7.50		41
2749	1,47016	1.
2803		1.2
31.81		
33.21		
37.02		4

14.39		
320		20
18.3		3
22.6		
409		
2045		23
58.06	125073	0.9
8370		1.1
7949		+
19.84		23.
3826		

+9.97	
<u>32.3</u>	20
7.7	2
6.4	
14.1	
7.05	22
9870	1.1
2374	1.0
330	+
0,35	2.3

15.66  
347  
52.9  
53.2  
1061  
53.05  
479  
983  
20.89  
13.94

9	39	11	39	4
	1,678	40	1,678	5
	+203			
	1,698		1,698	
	-489		-489	
	-01	-17		-7
	-13			-1
	-50,08		-50,1	
40	1853		18	
1/2	308			
+2	123			
+2	122			
+2	1482	42	128	
-	195	1287	129	
-	1860	8.20		
+1	5427	42	128	

1052			
38	40	18	39
5850	1.67870		1.4
3532			
1382	1.71402		1.3
51.74	-51.76		
-08		-04	
-17	-22	-24	
5191		-52.04	
1161		18.49	4
309			
123		124	
123			
1528		1326 +2	
193	1.835	1314	
1870	-3.33		
5465		1320 +2	

$$\begin{array}{r}
 11.33 \\
 0 \\
 7840 \\
 4921 \\
 2761 \\
 -5341 \\
 \hline
 -03 \quad +12 \\
 -21 \quad -24 \\
 5385 \\
 1768 \\
 294 \\
 117 \\
 11.7 \\
 15.62 \quad 42 \quad 2949 + 2 \\
 2.01 \quad 13.61 \\
 1.50 \quad +13.57 \\
 11.81 \quad 42 \quad 2949 + 2
 \end{array}$$

10.69	
13	39
	1.6
4160	
72,000	1.7
52,40	
-01-13	
-25-26	
52.66	
174.3	58
29.3	42
11.8	-16
11.9	-
14.83	2852 -16
204 12.79	-
1.40 +13.69	-
11.09	28.52 -16

19  
1840  
2964  
0804  
5105

$\begin{array}{r} -01-30 \\ -39-60 \\ \hline 5165 \\ 3635 \\ 29.1 \end{array}$

$\begin{array}{r} 7.2 \\ 7.00 \\ 1.06 \\ 1.58 \\ 10.56 \end{array}$

$\begin{array}{r} 42 \\ 9.06 \\ +13.89 \end{array}$

$\begin{array}{r} 25.79 \\ -16 \\ 2579 \\ -16 \end{array}$

58

16

5429  
1269  
5761

-01 -16  
-32 -83

5194  
4247  
285  
140  
140  
1132 2803  
222 1354  
2907 4449  
1444 2803



$+31.1875$   
 par. 27  
 $+270$   
 35 539 35 42.4 36 37.436 32.6  
 56.0 44.4 39.3 33.9  
 53.1 46.8 41.4 35.9  
 36 2.2 45.9  
 4.3 47.5  
 6.3 49.7  
 8.4 51.6 37 9.0  
 10.5 53.8 10.8  
 14.6 57.9 12.5  
 16.5 59.9  
 18.8 61.1  
 24.98 54.58  
 18.0  
 6.98 35 44.47 36 34.13  
 36 6.345 36 49.618 37 10.77  
 6.338  $+43.19$  49.603  $+3.77$   
 36 49.51  $+0.2$  36 53.32  $-1.00$   
 $-43.18$   $-0.02$   $-3.83$   
 $+43.19$  49.52  $+3.457$  49.54  
 $+0.01$   $-0.00$   
 $-0.02$   $-3.83$   
 $+43.18$   $-0.08$   
 36 6.33 5 - 36 49.60  
 36 49.51  $-16.100536$  49.52  
 $+21.87$   $+15.49$   $-2.15$   
 20  $-3.49$  20  $-3.20$   
 2 46.1 3 54.3 2 33.9 3 20.4  
 47.2 54.1 34.9 21.9  
 93.3 18.41 8.1 23  
 22 46.65 23 54.20 22 34.05 23 21.15  
 133985 58 4088 119005 132531 59 418  
 146489 -16 1005 1.31509 145035 -16 1419  
 $+29.17$  -20  $+20.66$  -28.21 -2.1  
 23 15.82 -0.90 22 54.71 22 52.94 -21.40  
 59 32.53 42 27.86 59 53.64 -55.41 42 27.19  
 54.52  
 38 46 39 43  
 1.67830 1.67850  
 $+13.35$   
 1.69165 1.69185  
 $-49.16$   $-49.19$   
 $+32.44$   
 1.71084  
 $-51.89$   
 $-0.2$  33  $-0.1$  46  $-0.2$   
 $-31$  -43  $-39$  -51  
 $-51.72$   $-49.56$   $-49.72$   
 58 4081 59 4.08 5.69  
 2.85 4.0 4.0  
 $-16$  123 1.51 1.67  
 $-16$  123 1.59  
 $-16$  1021 42 27.44  $-14.53$  26.11  
 $-22.3$  204.165 27.2  
 $-90.1457$  21.40 6.01  
 $-16$  13.34 42 27.47 16 37.94 26.92



1874  
 $\gamma$  Eridani  
 2 39 07.  
 -19 03

$z = +61$  26

$\sin g = +.88$

1874  
 297554  
 10. 19315  
 16' .06869  
 1874  
 9.51374m

1875

39. 1618  
 6 10.85  
 +2.798  
 +15.44

Corrd =  
 Corrd =  
 tangd = -.35  
 I = 2.18  
 K = -.016

9.97554  
 .12652  
 .10106

1874  
 Dec 24 23

-005  
 38 491 38 403 28 503 38 407  
 57.3 42.1 52.4 43.1  
 33.6 44.5 56.7 45.2  
 37.8 55.0 43.2  
 39 0.0 29 12  
 2.2 3.5 39 20.3  
 4.4 29 9.3 53 39 20.3  
 6.6 22.0  
 11.0 12.1 23.6  
 13.1 14.3  
 15.3 16.3  
 26.44 27.91  
 24.0 24.0  
 39 22.18 39 42.30 39 35.55 39 43.00  
 2.202 35.39 39 21.97  
 + 14.55 + 13.49  
 + .00 + .01  
 - 3.38 - 58.2 - 3.39 - 59.2  
 + 11.17 + 10.1  
 39 2.20 39 3.54  
 39 13.37 [39 13.65 16.448]  
 16.168 18.54

1874  
 Dec 23 1

1875

Jan 10  
 Ch. f.

Jan 27

Jan 30

Dec 12

+240  
 38 20.1 38 6.6 38 16.9 38 9.4 39 36.38 56.0  
 22.2 8.6 19.1 2.7 5.1 57.6  
 24.5 10.5 21.4 12.4 9.1 59.7  
 28.8 26.4 11.5  
 31.0 28.0 14.0  
 33.2 30.2 16.1  
 35.4 39 6.8 34.4 38 41.5 15.4 39 37.0  
 37.5 9.4 34.5 44.4 20.4 39.0  
 42.0 11.6 38.9 46.6 24.9 41.0  
 44.0 41.0 26.9  
 46.3 43.2 29.3  
 36.51 33.14 17.72  
 38 33.191 39 8.57 38 9.93 38 57.77  
 33.175 39 9.5738 30.118 38 44.27 39 16.109 39 39.60  
 + 43.19 + 46.30 + 3.70  
 \* -.09 \* -.07 + .03  
 - 0.49 - 0.15 - 3.32  
 + 42.91 + 46.08 + 0.46  
 38 33.17 38 30.10 39 16.09  
 39 16.08 39 16.18 [39 16.58]  
 16.130

+14.92 - 7.08 +20.55 - 18.42  
 25 25 10  
 3 33.6 - 3.45 3 47.4 4 32.1 1 21.8  
 3 53.6 4 34.9 3 57.9 4 44.5 1 14.7  
 7.9 38.9 57.9 44.5 14.7  
 12.15 6.38 105.3 76.6 36.5  
 29 0.75 29 31.90 28 52.65 29 58.30 11 18.25  
 1.29929 0.85703 1.31281 1.26529  
 1.36798 0.71872 1.38150 1.33398  
 +23.33 - 8.29 +24.07 - 21.57  
 29 24.08 29 23.61 29 16.72 29 16.73  
 - 19 6 35.73 35.26 6 28.37 28.38  
 +61 26 35.49 28.37  
 2.02292 2.02308  
 +20.03 +35.34  
 2.04295 2.04311 2.05826 2.05842  
 -110.0 -110.40 -114.30 -114.40  
 - 2.23 - 2 - 3.33 - 3  
 +0.78 - 38 +0.1 - 39 - 35 +0.6  
 -40 -45 -39 -46  
 -1 50.75 -1 50.86 -1 54.65 -1 54.86  
 -19 8 26.48 26.12 8 23.02 23.24  
 +2 14.82 +2 15.28  
 2.68 12.14 2.65 12.63  
 -12.54 +2.87 -12.85 +2.59  
 +1 59.57 +1 59.78  
 -19 6 26.91 26.55 23.24 23.46  
 6 26.73 23.35  
 6 11.29 7.89 8.02

+24.62 - 36.18 +20.20 - 14.14 +18.34 - 22.89  
 10 10 10 10 10  
 -34.49 -3.52 -3.20  
 0 28.2 1 43.9 0 35.5 1 18.2 0 13.4 1 9.1  
 29.2 44.4 38.4 20.0 12.9 6.8  
 57.4 88.3 73.9 38.2 6.3 13.6  
 10 28.70 11 44.15 10 36.95 11 19.10 10 13.10 11 6.80  
 1.39129 1.55849 1.30535 1.15245 1.26340 1.35945  
 1.49235 1.65753 1.40641 1.25151 1.36446 1.44021  
 +51.07 -45.66 +25.49 -17.85 +23.15 -28.59  
 10 57.77 10 58.49 11 2.44 11 1.25 10 36.30 10 37.91  
 48 11.42 10.14 48 14.09 48 12.90 47 47.95 49.56  
 26 10.78 13.49 26 25 27 19  
 +32.47 +22.97 +13.40  
 2.05539 2.05555 2.04589 2.04605 2.05632 2.05648  
 -113.60 -113.60 -111.20 -111.20 -108.70 -108.80  
 - 3.1 - 3 - 3 - 3 - 3  
 +10.04 +22 +20.05 +0.3 +0.6 +0.9  
 -05 -19 -07 -14 -03 -16  
 -1 53.58 -1 53.60 -1 51.23 -1 51.34 -1 48.70 -1 48.90  
 50 5.00 53.74 50 5.32 42.4 49 36.65 38.46  
 -16 10.21 10.46 -16 14.53  
 3.07 13.28 3.09 13.55 2.81 17.34  
 +6.12 +21.32 + 6.23 +21.67 -1.06 +4.38  
 -16 7.16 -16 7.32 -16 18.40  
 6 12.16 10.90 12.44 11.56 (5 53.05 56.66)  
 11.53 12.10 11.56  
 11.53 10.40 12.10 11.56



41 <sup>h</sup> <sup>m</sup> <sup>s</sup> Arctis  
2 42 38  
+ 26 45  
= + 15 38  
+ 27

		1874	"	1875	"
Jan	10	42	33.97	44	29.7
	15		33.91		28.6
Jan	20		33.85		29.6
Dec	6		37.99		46.3
	11		37.98	+ .01	46.7
	16		37.96	.02	46.9
	21		37.95	.01	47.1
	26		37.93	.02	47.3

1574

34.198  
+ 22.32  
+ 3.513  
+ 15.092

Coord 9.95084  
16' 116.78  
16' 06.62  
16' 04.399  
16' 04.399  
16' 04.399

1875

37.412  
+ 44 37.41  
+ 3.514  
+ 15.088

Coord =  
Coord =  
Range = +50 1/2  
I = 231  
K = -0.17

[illegible]



1870-

		<sup>5</sup>		<sup>4</sup>	<sup>3</sup>	
Jan	0	42	37.88		44	47.3
	5		37.83	-.05		47.3
	10		37.78	.05		47.3
	15		37.72	.06		47.3
	20		37.66	.06		47.2
	25		37.59	.07		47.1
	30		37.52	.07		46.9
Dec.	6		41.87			63.7
	11		41.85	-.02		63.9
	16		41.84	.01		64.1

[illegible]







7 Persei  
2 45 24  
+ 52 13  
2 - - 9 52  
-17

1874 m e  
10 45 14.68  
15 19.51 -10  
Jan 20 19.48 .10  
Dec. 6 24.64 - .04  
11 24.60 .04  
16 24.56 .04  
21 24.52 .04  
26 24.48 .04

14 53.7  
56.1 +4  
56.4 3  
65.7  
69.6 +9  
70.4 8  
71.2 8  
72.0 8

1874  
20.029  
+4.117  
+4.210  
+15.037  
6950 978691  
66 11678  
66 990369  
66 988006  
66 988001

1875  
24.239  
+14 56.20  
+4.210  
+15.033  
978691  
12552  
991243  
163  
I = 3.37  
K = -0.25

+25 1874 Jan 18				-01 Dec. 12				+18 Dec. 16				+05 1874 Dec. 23				+13 1875- Jan 5				+21 Jan 10			
2 44	493 44	27.0	44	54.3 44	46.0	44	58.8 44	44	49.7 44	36.8 44	44	42.5 44	28.0 44	44	42.5 44	28.0 44	44	42.5 44	28.0 44	44	42.5 44	28.0 44	
	32.8	30.9		57.3	48.7		53.1	40.8		40.8		45.9	30.3		45.9	30.3		45.9	30.3		45.9	30.3	
	56.1	33.4		6.8	12.2		56.4	43.4		43.4		49.3	33.0		49.3	33.0		49.3	33.0		49.3	33.0	
45	2.8			7.6			8.2					56.0			56.0			56.0			56.0		
	6.2			11.2			6.6					59.3			59.3			59.3			59.3		
	9.5			14.3			10.0					2.6			2.6			2.6			2.6		
	13.0 45	33.5		17.9 45	35.4		13.4 45	19.2				6.0 45	35.0 45		6.0 45	35.0 45		6.0 45	35.0 45		6.0 45	35.0 45	
	16.4	36.0		21.2	38.3		16.8	21.7				9.4	34.4		9.4	34.4		9.4	34.4		9.4	34.4	
	23.0	39.1		28.0	41.3		23.7	24.8				16.2	37.5		16.2	37.5		16.2	37.5		16.2	37.5	
	26.5			31.4			26.1					19.4			19.4			19.4			19.4		
	29.8			34.7			30.3					23.0			23.0			23.0			23.0		
	28.54			27.88			29.01					32.96			32.96			32.96			32.96		
	18.0			12.0			18.0					30.0			30.0			30.0			30.0		
43	10.54 44	30.43		15.88 44	48.97		44 59.80	44	40.33			29.6 44	30.43		29.6 44	30.43		29.6 44	30.43		29.6 44	30.43	
	26.73 45	36.2045		14.36 45	38.33		45 10.88	45	21.9045			26.91 45	33.97 44		26.91 45	33.97 44		26.91 45	33.97 44		26.91 45	33.97 44	
	9.882			14.436			10.09					2.666			2.666			2.666			2.666		
	9.557	+9.7X8		14.411	+103X4		9.984	+14.58				21.57			21.57			21.57			21.57		
	+8.2			-0.1			+0.6					+1.7			+1.7			+1.7			+1.7		
45	19.521			24.59			24.50					24.31			24.31			24.31			24.31		
	-9.785	+0.52		-10.18	-4.36		-14.52	-4.47				-21.64	-0.07		-21.64	-0.07		-21.64	-0.07		-21.64	-0.07	
	45 20.18			20.18			20.18					24.34			24.34			24.34			24.34		
	9.78			10.26			14.55					21.53			21.53			21.53			21.53		
	+3.2			.00			-.01					.15			.15			.15			.15		
	+25.2+4730			-4.56-350			-4.47-260					-6.09			-6.09			-6.09			-6.09		
	+10.62 23	29.41		+5.70 12	53.90		+10.07	15.743				21.61			21.61			21.61			21.61		
45	9.56 -7	32.1245		14.41 +2	14.94		45 9.98	+2 15.18				26.7	+2	16.0744	58.74 +2	16.0744		58.74 +2	16.0744		58.74 +2	16.0744	
	+5			+5			+6					+6			+6			+6			+6		
45	20.18	-15.10		20.11	-28.60		20.05	-30.40				24.28	-16.80		24.28	-16.80		24.28	-16.80		24.28	-16.80	
	24.39+52.14	42.69		24.320 14	40.74		24.260 14	42.81				14 57.27			14 57.27			14 57.27			14 57.27		
	3.15			62			29.68					18.9			18.9			18.9			18.9		
	+39.24	-26.53		+25.39	-23.97		+30.59	-10.98				+32.26	-31.28		+32.26	-31.28		+32.26	-31.28		+32.26	-31.28	
0	-286			-294			-305					-308			-308			-308			-308		
0	1.4 0	55.9		43.2 0	21.4 4	55.1 0	35.0 0	7.9 4				35.1 0	23.9 0		35.1 0	23.9 0		35.1 0	23.9 0		35.1 0	23.9 0	
	54.0	47.0		46.9	25.5	54.7	39.9	14.4				37.2	27.1		37.2	27.1		37.2	27.1		37.2	27.1	
	11.34	10.29		9.01	46.9	10.98	74.9	22.3				72.3	51.0		72.3	51.0		72.3	51.0		72.3	51.0	
57	57.70 0	51.45 9		45.05 10	23.45 9	54.90 10	34.5 10	11.15 9				36.15 10	25.50 10		36.15 10	25.50 10		36.15 10	25.50 10		36.15 10	25.50 10	
	159273	142021m		140603	137822m		147246	107078m				150266	144527m		150266	144527m		150266	144527m		150266	144527m	
	149642	132892m		138609	125828m		135252	095824				132109	130550m		132109	130550m		132109	130550m		132109	130550m	
	+3136	-21.32		+19.32	-18.12		+22.52	-9.02				+26.27	-25.57		+26.27	-25.57		+26.27	-25.57		+26.27	-25.57	
0	29.06 0	30.13 10		4.37 10	5.33		9 59.97 10	2.13 10				2.52 10	5.92 10		2.52 10	5.92 10		2.52 10	5.92 10		2.52 10	5.92 10	
	0.63						0.63					0.63			0.63			0.63			0.63		
22	19.29 22	18.22 12		43.98	43.02		12 48.38	46.22 13				45.3	48.42 12		45.3	48.42 12		45.3	48.42 12		45.3	48.42 12	
	18.75			43.50			47.30					47.72			47.72			47.72			47.72		
9 52	30 51	37 52		22 51	42		52 31	51 42				52 31	51 42		52 31	51 42		52 31	51 42		52 31	51 42	
	1.00 100m	1.00040m					1.00 100m	1.00040m				1.00 100m	1.00040m		1.00 100m	1.00040m		1.00 100m	1.00040m		1.00 100m	1.00040m	
	+3166			+3552			+2007					+3128			+3128			+3128			+3128		
	1.03264	1.03206		1.03652	1.03592		1.02107	1.02047				1.03228	1.03168		1.03228	1.03168		1.03228	1.03168		1.03228	1.03168	
	+10.78	+10.77		+10.88	+10.86		+4.050	+10.48				+10.77	+10.76		+10.77	+10.76		+10.77	+10.76		+10.77	+10.76	
	-4.0-12	-18		-17+47	-15		-23-37	-03				-27-51	-26		-27-51	-26		-27-51	-26		-27-51	-26	
	+29	+05		-58	-04		-46	-02				-46	-04		-46	-04		-46	-04		-46	-04	
	+10.67	+10.64		+10.13	+10.67		+9.81	+10.43				+10.04	+10.46		+10.04	+10.46		+10.04	+10.46		+10.04	+10.46	
22	29.96	28.86		12 54.11	53.69		12 58.19	56.65 12				57.76	57.04 12		57.76	57.04 12		57.76	57.04 12		57.76	57.04 12	
14	56.3			15 9.8			11.6					15			15			15			15		
	33.7	32.6		+2 15.7	16.1		13.4					15.2			15.2			15.2			15.2		
	33.2			+2 15.7			14.2					15.6			15.6			15.6			15.6		
	32.37 14	42.89		+2 14.71	40.71		+2 14.82	43.12 +2				15.67 14	57.15 +2		15.67 14	57.15 +2		15.67 14	57.15 +2		15.67 14	57.15 +2	
	40.5197	41.97		+49.1520	40.29		+51.1533	41.58 +				52.619	56.43 +		52.619	56.43 +		52.619	56.43 +		52.619	56.43 +	
	15.10 -0.06			28.60+13.56			30.40-15.36					16.80-17.7			16.80-17.7			16.80-17.7			16.80-17.7		
	47.07 14	42.84 +1		46.60	40.50		+1 44.93	42.35 +1				59.39 14	56.79 +1		59.39 14	56.79 +1		59.39 14	56.79 +1		59.39 14	56.79 +1	



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Jan 0	48	2440	15	12.5
5		2431	-09	13.0
10		2420	.10	13.4
15		2411	.10	13.7
20		2400	.11	13.9
25		2388	.12	13.9
30		2376	.12	13.9
Dec 6		2327		258
11		2323	-04	26.1
16		2319	.04	27.6

+20 -08				+30				+31				+25 -00				-06						
Jan 14				Jan 26				Jan 27				Jan 30				Dec 12						
+110				+266				+256				+196				-085						
44	45	9.8	44	44	21.3	44	5.1	44	44	21.3	43	41.9	44	17.2	44	42.3	46	44	42.0	44	42.0	
48.5	12.9		24.0	7.8	24.0	7.8	10.2	23.5	44.2	23.5	44.2	47.0	24.0	44.6	18.9	48.3	20.6	48.4	22.4	24.1	25.6	
50.2	15.8		28.0	10.2	28.0	10.2		33.5	38.0	33.5	38.0	40.4	40.8	45	40	40.8	45	40	40.8	45	39.0	
57.9			34.8		34.8			43.9	45	29.6	43.9	45	44.1	44.1	8.9	29.0	30.9	43.1	32.5	32.5	32.5	
53.6			38.0		38.0			47.1	32.4	32.4	47.1	32.4	52.1	52.1	11.7	52.1	52.1	52.1	52.1	52.1	52.1	
53.4			41.5		41.5			53.5	33.4	33.4	53.5	33.4	54.2	54.2		54.2	54.2	54.2	54.2	54.2	54.2	
56.8			44.7		44.7			57.8	36	36	57.8	36	57.8	57.8		57.8	57.8	57.8	57.8	57.8	57.8	
58.7			48.3		48.3			60			60		60	60		60	60	60	60	60	60	
45	0.4		58.4		58.4			66			66		66	66		66	66	66	66	66	66	
2.0			1.8		1.8																	
497.5			396.5		396.5			383.7			383.7		41.1			231.3			231.3			
45	12.83		456.5	44	7.70			44.37	43	44.37	44.37	43	44.37	44.37	44.37	44.37	44.37	44.37	44.37	44.37	44.37	
44	85.28		41.500	44	41.500			40.336	45	22.47	40.336	45	22.47	40.336	45	22.47	40.336	45	22.47	40.336	45	22.47
55.263	+28.0		41.475	+42.16	41.475			40.311	+43.20	40.311	+43.20	40.311	+43.20	40.311	+43.20	40.311	+43.20	40.311	+43.20	40.311	+43.20	
45	24.132		23.875	+3.9	23.875			23.875	+4.0	23.875	+4.0	23.875	+4.0	23.875	+4.0	23.875	+4.0	23.875	+4.0	23.875	+4.0	
-28.87	-1.3		-42.438	+0.89	-42.438			-42.531	+0.42	-42.531	+0.42	-42.531	+0.42	-42.531	+0.42	-42.531	+0.42	-42.531	+0.42	-42.531	+0.42	
+28.44	24.30		+40.15	24.42	+40.15			+43.19	24.33	+43.19	24.33	+43.19	24.33	+43.19	24.33	+43.19	24.33	+43.19	24.33	+43.19	24.33	
+14			+3.4		+3.4			+3.5		+3.5		+3.5		+3.5		+3.5		+3.5		+3.5		
+0.12			+0.32		+0.32			+0.42		+0.42		+0.42		+0.42		+0.42		+0.42		+0.42		
+29.00			+42.88		+42.88			+43.96		+43.96		+43.96		+43.96		+43.96		+43.96		+43.96		
44	55.25	31	219.44	44	24.5144			40.31	24.7844	40.31	24.7844	40.31	24.7844	40.31	24.7844	40.31	24.7844	40.31	24.7844	40.31	24.7844	
-16	6.56		-16	10.76	-16	10.76		-16	10.05	-16	10.05	-16	10.05	-16	10.05	-16	10.05	-16	10.05	-16	10.05	
45	24.25		24.35		24.35			24.21		24.21		24.21		24.21		24.21		24.21		24.21		
-17.50			-17.50		-17.50			-17.70		-17.70		-17.70		-17.70		-17.70		-17.70		-17.70		
14	58.43		14	56.75	14	56.75		14	57.63	14	57.63	14	57.63	14	57.63	14	57.63	14	57.63	14	57.63	
50	-17.55		50	+3.50	50	+3.50		50	+55.97	-52.13	50	+55.97	-52.13	50	+55.97	-52.13	50	+55.97	-52.13	50	+55.97	
1	-3.23		1	-3.47	1	-3.47		0	44.9	2	14.1	0	46.2	1	55.1	0	40.3	1	28.3	0	40.3	
32.7			4.5		4.5			48.9	18.7	48.9	18.7	48.9	18.7	48.9	18.7	48.9	18.7	48.9	18.7	48.9	18.7	
49.3			8.8		8.8			94.8	32.8	94.8	32.8	94.8	32.8	94.8	32.8	94.8	32.8	94.8	32.8	94.8	32.8	
102.0			13.3		13.3			10.01	11.72	10.01	11.72	10.01	11.72	10.01	11.72	10.01	11.72	10.01	11.72	10.01	11.72	
51	51.00		51	6.65	50	50.05	51	58.60	50	43.10	51	30.95	50	43.10	51	30.95	50	43.10	51	30.95	50	43.10
1.24428m			1.52892		1.52892			1.74796	1.71709m	1.74796	1.71709m	1.74796	1.71709m	1.74796	1.71709m	1.74796	1.71709m	1.74796	1.71709m	1.74796	1.71709m	
1.15671m			1.44135		1.44135			1.66039	1.62952m	1.66039	1.62952m	1.66039	1.62952m	1.66039	1.62952m	1.66039	1.62952m	1.66039	1.62952m	1.66039	1.62952m	
-14.35			+2.13		+2.13			+4.575	-4.261	+4.575	-4.261	+4.575	-4.261	+4.575	-4.261	+4.575	-4.261	+4.575	-4.261	+4.575	-4.261	
51	36.65		51	34.28	51	33.15	51	32.79	51	32.79	51	32.79	51	32.79	51	32.79	51	32.79	51	32.79	51	32.79
31	17.70		31	14.07	31	15.20	31	14.56	31	15.25	31	15.44	31	32.17	31	32.17	31	32.17	31	32.17	31	32.17
						53	1	53	32	53	32	53	32	53	32	53	32	53	32	53	32	
						1.00140	1.00180m			1.00140	1.00180m			1.00140	1.00180m			1.00140	1.00180m			
+29.64			+34.45		+34.45			+32.56		+32.56		+32.56		+32.56		+32.56		+32.56		+32.56		
1.03064	1.03004		1.03475	1.03435	1.03435			1.03436	1.03436	1.03436	1.03436	1.03436	1.03436	1.03436	1.03436	1.03436	1.03436	1.03436	1.03436	1.03436	1.03436	
+10.73	+10.72		+10.85	+10.88	+10.88			+10.81	+10.82	+10.81	+10.82	+10.81	+10.82	+10.81	+10.82	+10.81	+10.82	+10.81	+10.82	+10.81	+10.82	
-08	-22		-29	-20	-20			-77	-91	-77	-91	-77	-91	-77	-91	-77	-91	-77	-91	-77	-91	
-36	-44		-12	-41	-41			-09	-25	-09	-25	-09	-25	-09	-25	-09	-25	-09	-25	-09	-25	
+10.29			+10.44		+10.44			+9.93	+9.85	+9.93	+9.85	+9.93	+9.85	+9.93	+9.85	+9.93	+9.85	+9.93	+9.85	+9.93	+9.85	
31	2.79		31	24.51	31	25.15	31	24.41	31	24.49	31	25.55	31	41.99	31	41.99	31	41.99	31	41.99	31	41.99
15	13.7		15	13.9	15	13.9		15	13.9	15	13.9	15	13.9	15	13.9	15	13.9	15	13.9	15	13.9	
-16	8.3		-16	10.6	-16	10.6		-16	10.5	-16	10.5	-16	10.5	-16	10.5	-16	10.5	-16	10.5	-16	10.5	
-16	8.3		-16	10.6	-16	10.6		-16	10.5	-16	10.5	-16	10.5	-16	10.5	-16	10.5	-16	10.5	-16	10.5	
-16	7.00	14	58.03	-11.32	56.07			10.21	57.83	10.21	57.83	10.21	57.83	10.21	57.83	10.21	57.83	10.21	57.83	10.21	57.83	
+54	6.46		+54	10.74	10.74			59	86.2	59	86.2	59	86.2	59	86.2	59	86.2	59	86.2	59	86.2	
17.50	-2.47		17.70	-2.67	17.70			17.70	-2.67	17.70	-2.67	17.70	-2.67	17.70	-2.67	17.70	-2.67	17.70	-2.67	17.70	-2.67	
-16	23.96	14	58.03	-25.44	56.07			27.32	57.46	27.32	57.46	27.32	57.46	27.32	57.46	27.32	57.46	27.32	57.46	27.32	57.46	







P. Mus. Min. L.C.

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9.54784m

<div><div>1874</div><div>Jan 18</div><div>+25</div><div>+246</div><div>2 50 41.0 50 58.2 51</div><div>44.6 4.6</div><div>49.0 11.0</div><div>52.7</div><div>57.1</div><div>57 0.4</div><div>8.1</div><div>12.6</div></div>	<div><div>1875</div><div>Jan 14</div><div>+20.1</div><div>+110</div><div>52 17.6 50</div><div>214</div><div>23.5</div><div>7.8 36.4</div><div>15.8 85</div><div>23.7 96</div></div>	<div><div>1875</div><div>Jan 18</div><div>+34.1 -0.8</div><div>+2.70</div><div>49 53.9 50</div><div>180</div><div>21.9</div><div>25.9</div><div>29.8</div><div>32.8</div><div>37.8</div><div>41.5</div><div>45.3</div><div>49.0</div></div>	<div><div>1875</div><div>Jan 20</div><div>+2.3</div><div>+2.30</div><div>49 53.5 50</div><div>160</div><div>20.0</div><div>23.7</div><div>27.4</div><div>31.3</div><div>35.4</div><div>39.2</div><div>42.6</div><div>46.0</div></div>	<div><div>1875</div><div>Jan. 26</div><div>+7.30</div><div>+2.66</div><div>49 52.3 50</div><div>10.0</div><div>17.4</div><div>21.3</div><div>25.4</div><div>28.7</div><div>32.0</div><div>35.0</div><div>41.0</div></div>	<div><div>1875</div><div>Jan. 27</div><div>+7.31</div><div>+2.57</div><div>49 55.7</div><div>8.6</div><div>12.1</div><div>16.3</div><div>20.4</div><div>24.4</div><div>28.2</div><div>32.1</div><div>35.7</div><div>40.7</div><div>46.4</div></div>
<div>2694</div> <div>240</div> <div>50 9.4 51 4.60</div> <div>50 56.600 51 36.60</div> <div>56.67 +9.78</div> <div>51 53.541 -9.1</div> <div>53.95</div> <div>-8.773</div> <div>+ 9.48</div> <div>- 8.9</div> <div>+ 9.09 -0.5</div> <div>50 36.6 -7 32.1230</div> <div>51 5.7 +5.15 -22.00</div> <div>5.46</div> <div>5.51</div>	<div>52 20.83</div> <div>50 33.67</div> <div>33.724 +32.77</div> <div>51 5.349 -1.24 51</div> <div>-31.627 +.30</div> <div>-31.670 -0.07</div> <div>5.51</div> <div>+ 32.64</div> <div>- .98</div> <div>- .008</div> <div>+ 31.6436 31.89</div> <div>33.72 -16 5.90 50</div> <div>+ 2.8</div> <div>5.36 -24.50</div> <div>105 20 42.9</div>	<div>50 2.17</div> <div>50 31.400</div> <div>31.457 +35.11</div> <div>51 5.260 -8.4 51</div> <div>-34.104</div> <div>-34.1412 -0.28</div> <div>5.45</div> <div>+ 35.08</div> <div>- .84</div> <div>- .028</div> <div>+ 33.96</div> <div>32.12 + 40.41</div> <div>31.46 -16 5.55 50</div> <div>+ 2.8</div> <div>5.42 -24.90</div> <div>20 1.47</div>	<div>49 53.50</div> <div>50 25.28</div> <div>25.343 +42.16</div> <div>51 6.059 -1.09 51</div> <div>-40.785</div> <div>-40.783 -0.77</div> <div>5.45</div> <div>+ 42.15</div> <div>- .91</div> <div>- .077</div> <div>+ 40.41</div> <div>35.37 + 41.35</div> <div>25.34 -16 10.76 50</div> <div>+ 2.8</div> <div>-25.70</div> <div>20 1.71</div>	<div>49 52.30</div> <div>50 34.200</div> <div>24.257 +43.20</div> <div>51 6.7818 -1.13</div> <div>-41.442</div> <div>-42.00 -0.56</div> <div>5.44</div> <div>+ 43.19</div> <div>- .98</div> <div>- .086</div> <div>+ 41.35</div> <div>24.26 -16 10.05</div> <div>+ 2.8</div> <div>5.61 -25.80</div> <div>20 1.42</div>	<div>49 41.00</div> <div>49 34.47</div> <div>24.257 +43.20</div> <div>51 6.7818 -1.13</div> <div>-41.442</div> <div>-42.00 -0.56</div> <div>5.44</div> <div>+ 43.19</div> <div>- .98</div> <div>- .086</div> <div>+ 41.35</div> <div>24.26 -16 10.05</div> <div>+ 2.8</div> <div>5.61 -25.80</div> <div>20 1.42</div>
<div>55</div> <div>-8.00</div> <div>-40.00</div> <div>20 -2.36</div> <div>2 8.5 1 58.6</div> <div>2.3 51.4</div> <div>10.8 11.0</div> <div>57 5.40 56 33.00</div> <div>0.70309m 1.60206m</div> <div>0.44217 1.14116</div> <div>+2.77 +13.84</div> <div>57 8.17 57 8.84</div> <div>10.5</div> <div>18.25 40.18 39.51</div> <div>105 34 1282 20.49</div> <div>89.84</div> <div>-62 55 23 55 33</div> <div>2.04978m 2.04985m</div> <div>+31.71</div> <div>2.08149 2.08156</div> <div>+120.60 +120.60</div> <div>+ .03 +.03</div> <div>+ .01 +.22</div> <div>+13 +24 +11</div> <div>+2 0.77 +2. 0.96</div> <div>36 20.59 21.45</div> <div>39 50.6</div> <div>20 9.4</div> <div>-7 31.5 31.1 19 48.68</div> <div>-7 31.3 48.20</div> <div>-7 32.37 30.27</div> <div>+ 2.10 -7.24</div> <div>- 22.50</div>	<div>A. R.</div> <div>149831</div> <div>1.04615</div> <div>-1112</div> <div>48 21.38</div> <div>34 26.97</div> <div>25 33.03</div> <div>55 16 56 6</div> <div>2.04975m 2.05000m</div> <div>+4783</div> <div>2.09758</div> <div>+12520</div> <div>+ .07 +.21</div> <div>+14 -35</div> <div>-49 -38</div> <div>+2 4.92</div> <div>21.36 37.95 31.49</div> <div>38 33.4</div> <div>20 26.6 28.12</div> <div>-16 53 20 3.77</div> <div>-16 53</div> <div>-16 6.55 6.22</div> <div>+ 2.93 20 3.77</div> <div>- 21.50 -9.74</div>	<div>45 +31.50</div> <div>45 -3.30</div> <div>3 31.8 2 41.7</div> <div>33.2 42.5</div> <div>65.0 87.2</div> <div>45 32.50 47 42.10 48 33.85 47 52.00 48 25.85 47 47.90 48 29.95 47 37.75</div> <div>1.57864</div> <div>1.12648m</div> <div>-13.38</div> <div>48 20.47</div> <div>34 27.88</div> <div>25 32.12</div> <div>45 +37.90</div> <div>45 -3.35</div> <div>3 32.1 2 50.3</div> <div>33.7 53.7</div> <div>67.7 104.0</div> <div>45 32.50 47 42.10 48 33.85 47 52.00 48 25.85 47 47.90 48 29.95 47 37.75</div> <div>1.57864</div> <div>1.12648m</div> <div>-13.38</div> <div>48 20.47</div> <div>34 27.88</div> <div>25 32.12</div>	<div>45 +32.99</div> <div>45 -3.47</div> <div>3 23.2 2 40.5</div> <div>28.5 46.3</div> <div>51.7 83.8</div> <div>45 32.50 47 47.90 48 29.95 47 37.75</div> <div>1.51838</div> <div>1.06622m</div> <div>-11.65</div> <div>48 14.20</div> <div>34 34.15</div> <div>25 25.85</div>	<div>45 +33.20</div> <div>45 -3.49</div> <div>3 27.5 2 31.7</div> <div>32.4 48.8</div> <div>59.9 74.5</div> <div>45 32.50 47 47.90 48 29.95 47 37.75</div> <div>1.63328</div> <div>1.18332m</div> <div>-15.25</div> <div>48 14.70</div> <div>34 33.65</div> <div>25 26.35</div>	<div>45 +32.62</div> <div>2.08288</div> <div>+130.90</div> <div>+ .04 +.15</div> <div>+ .26 +.50</div> <div>-38 -12 -29</div> <div>+2 0.82</div> <div>27 27.07357</div> <div>39 32.1</div> <div>27.8 -33.94</div> <div>7.6 1.93</div> <div>7.6</div> <div>11.32 8.24</div> <div>3.08</div> <div>2.5707094</div> <div>1.43 +</div> <div>3.10 -110.4 1.56</div>



1874

1875-

1874.0

1875.0

Jan 10	51	4.74		39	52.1	
15		5.16	+42		51.1	-1.0
20		5.59	.43		50.3	.8
25		6.04	.45		49.6	.7
30		6.49	.45		49.1	.5

Jan 10	51	4.73		39	52.1	
15		5.15	+42		51.1	-1.0
20		5.58	.43		50.3	.8
25		6.02	.44		49.6	.7
30		6.47	.45		49.1	.5
Feb 4		6.92	.45			
9		7.37	.45			

39	34.9			39	34.9	
	33.9	-1.0			33.9	-1.0
	33.0	.9			33.0	.9
	32.3	.7			32.3	.7
	31.8	.5			31.8	.5
	31.5	.3			31.5	.3
	31.3	.2			31.3	.2

5.71		5.48
48		36
56		42
72		75
75		61
		29
		38
		08
5.710		5.421
567		321
+1.43		+1.00
	12.62	5786

Dec 6	51	236		28.6	
11		258	+22	26.8	-1.8
16		283	.25	25.1	1.7

Jan 30	50	49	367.50	Feb 10	50	346.50	Dec 12	50	349
	5.4				5.4				39.8
	9.5				9.5				47.0
	12.8				12.8				
	17.0	50	400		17.0	50	400		
	20.5		474		20.5		474		
	24.3		573		24.3		573		
	28.4				28.4				
	32.5				32.5				
	36.0				36.0				

1870	50	49	36.70	2050	50	44.77	2842	50	40.57
	20.78		48.9051		9.444		5242		31.47
	20.835	+46.34			9.501	-0.98	58.301		+37.6
	6.475	-9.1	51		1.3944	-1.02	51	2.60	+2.2
	-45.861	+2.3			+2.1106			-4.381	
	-45.689	-1.13			+2.03198	-2.12		-4.989	+2.71
		58.36			538				4.99
	+46.30	.36	-1.00						
	-1.71		-1.00						
	-1.13		-2.12						
	+44.46	36	34.76		-4.12				
	20.83	-16	104.7		9.50-16	84.7			
		+2.8			+2.8				
	51	52.9	-2610		5.38				
		2.4	1.19						
	20								

°	+44.08	-28.12	+24.67		+17.67	-33.23					
45			45		45						
	-3.52		-3.72		-3.20						
3	22.7	2	58.5	3	31.9	3	1.1	3	39	2	46.1
	30.1		6.4		42.8		10.4		9.1		51.5
	3.28		12.47		74.8		11.5		12.8		97.6
48	26.40	48	24.5	48	37.40	48	9.75	48	6.40	47	48.80
	16.4424	1.44902m	1.39417		1.92773		1.24794		1.52153m		
	1.19208m	0.99686	0.94000m		475.57		0.69508m		1.06937		
	-15.86	+9.73	-8.71		-2.859		-1.75		+11.73		
48	10.84	48	12.38	48	28.69	48	7.57	48	14.5	48	0.53
34	37.51	35.97	34	19.66	40.54	34	46.90		47.82		
25	22.49	24.03	25	40.34	25	19.16	25	13.10		12.18	
	36.74										

+2330	2.07305	2.07330	+4184	+1363	2.06338	2.06363
	+11830	+11840	+12350		+11370	+11580
	+1.03	+1.03	+1.04		+1.02	+1.02
	+2.27	+1.1	+1.08		+0.4	+1.6
	-37	-16	-33		-47	-42
+1	58.23	+1	58.21	+2	2.86	
27	20.72	35.74	22.24	27	22.02	
39	31.8		31.3			
	28.2	33.43	28.7			
-16	7.5	8.60				
-16	6.7	2.30				
-16	10.46	0.15	-8.60			
+	3.12	1.34	1.53			
-						







1875

1874.0

1875. 0

[illegible]
$$\begin{array}{r} 41.67 \\ 41.71 \\ 41.76 \\ 41.83 \\ \hline 18 \\ 41.742 \\ \hline 635 \\ + 107 \\ + 083 \end{array}$$
$$\begin{array}{r} 44.81 \\ .81 \\ \hline .77 \\ \hline .77 \\ \hline 7.90 \\ .764 \\ + .026 \\ \hline 51.91 \end{array}$$
[illegible]

15 1 +17.32	-22.74	-7.64	+20.54	-22.53
25 =349	30	-3.72	25 -3.20	
4 35.3	0 4.2	4 18	4 18	4 59.4
36.9	6.9	19	19	59.8
42.3	11.1	17	17	15
29 36.10	30 5.55	29 18.5	29 18.5	29 59.75
1.23855	1.35679m	0.68309	1.31260	1.35856m
1.36321	1.48145m	1.00775m	1.43726	1.48317m
+23.08	-30.30	-10.15	+27.37	-30.42
29 39.18	29 35.37	29 29.22	29 29.22	29 33
52 49.17	52 52.98	53 19.13	53 19.07	19.02
+32.69	+4184	15 14	46 12	
1.69729	1.69749	1.66450	1.66480	
-49.81	-49.83	+13.73	1.67823	1.67853
-101	-0.03	1.67823	-47.67	-47.70
-51	-0.01	-02-70	-03	
-50.33	-02-02	-60	-75	
51 58.84	52 2.09	48.29	48.48	
35 53.6	33.1	308.4	305.4	
-16 5.2	-16 9.0	13.1	13.1	
5.2	9.0	17.4	17.4	
-16 10.21	-16 8.60	19.5	19.5	
12.40	47.74	14.53	53.10	
2.19	2.34	2.01	1.654	52.80
1.70	1.20	2.120	6.87	
16 14.10	16 12.14	37.74	52.95	



P  
G Persie  
h en s  
5 7 10  
+ 38 21  
= + 4 1  
+ .07

	187 <sup>1</sup> / <sub>4</sub> m				
Jan 10	57	6.27	= .07	21	12.5
15		6.20			12.5
Jan 20		6.13	.07		12.5
			1875		
			10,281		
			+ 21 1544		
			+ 3.821		
			+ 114.255		

1875-					
Jan	20	57 <sup>20</sup>	1026 <sup>15</sup>	21	293
	28		1018	-.08	292
	30		10.09	.09	291
Feb.	4		10.00	.09	290
	7		7.91	.09	289

L<sub>1050</sub> 9.89445      9.89445      C<sub>1050</sub> =  
 C<sub>10</sub> 11.678      12.532      C<sub>1000</sub> =  
 C<sub>100</sub> 0.1133      0.1997  
 L<sub>1000</sub> 9.99272       $\Delta$  = +.79  
 $+23 \frac{18}{35}$        $+28$       I =  $2.63$   
 Jan 20      Feb. 10      K =  $-0.23$

+25/87 1/4				+23/87 1/2				+28			
Jan 18				Jan 20				Feb. 10			
236	406	56	46.8	56	56	47.6	56	54.8	57	101	
	430		48.9			49.8		57.5		116	
	45.7		51.2			52.2		61		149	
	51.0							56			
	53.6							81			
	56.3							10.7			
	58.9	57	50.9			39.4		12.6	57	461	
	15		27.1			16.4		160		485	
	6.7		29.8					21.2		510	
	9.3							23.7			
	12.1							26.5			
3788				1753				237.5			
240								120			
6188	56	48.97		56	49.87			117.5	57	12.30	
56	56.235	57	27.70	56	35.060			106.82	57	48.53	
	56.235		+9.79		35.040	+35.11		106.62		-0.98	
57	6.16		+2.0	57	10.26	+18		9.89		+2.22	
	-9.93				-35.22						
			+0.30			+0.02		+0.77		+0.39	
+	9.49	58	653	+	35.09	10.35		-	1.00	10.29	
+	.14			+	.18			+	.21		
	+630	+4120			+0.03				+0.39		
+	10.28			+	35.29			-	0.40		
56	56.23	28	4538.56		35.04	37	38.31	57	1066	37605	
			32.12			-16	855	57	10.26	-16	8.47
57	651	7	-3.57	1033		-	3			-3	
	10.330		-1.30				-1390			-1350	
	+38.21		1.76			21	1556			21	1538

$\begin{array}{r} 50 + 7.28 \\ 2011 = 11 - 236 \\ 3 \quad 57.9 \quad 4 \quad 34.0 \quad 0 \quad 20.8 \\ 44.9 \quad 27.3 \quad 21.1 \\ 102.5 \quad 6.13 \quad 4.19 \\ 53 \quad 51.40 \quad 54 \quad 30.65 \quad 45 \quad 20.95 \end{array}$

$\begin{array}{r} 0.86213 \quad 1.497762n \quad 1.17056n \\ 0.873336 \quad 1.508852n \quad 1.19058n \\ +7.47 \quad -32.27 \quad -15.51 \\ 03 \quad 55.87 \quad 03 \quad 55.33 \quad 45 \quad 5.44 \end{array}$

$\begin{array}{r} +38. \\ 28 \quad 49.48 \quad 49.97 \quad 37 \quad 42.91 \\ +4 \quad 1.23 \quad 2 \quad 3 \quad 1 \quad 33 \\ 0.60750 \quad 0.60860 \quad 0.60770 \\ +4087 \quad +4574 \\ 0.64837 \quad 0.64947 \quad 0.65344 \\ -4.45 \quad -4.46 \quad -4.50 \end{array}$

$\begin{array}{r} -02+11 \quad -26 \quad -06-05 \\ +23 \quad +27 \quad -04-10 \\ -424 \quad -445 \quad -460 \\ 28 \quad 452.4 \quad 4552 \quad 37 \quad 388.1 \\ 21 \quad 125 \quad 29.3 \\ -7 \quad 327 \quad 38.0 \quad -16 \quad 90 \\ - \quad 329 \quad -16 \quad 90 \\ -7 \quad 3239 \quad 21 \quad 190 \quad -16 \quad 928 \quad 21 \quad 1990 \quad -16 \quad 860 \\ - \quad 153254 \quad 168 \quad -23 \quad 9.51 \quad - \quad 26 \quad 8.86 \quad 1471 \\ - \quad 1130+296 \quad - \quad 1390+236 \quad - \quad 13.50+0.76 \quad 1588 \\ -7 \quad 4384 \quad 21 \quad 154 \quad -16 \quad 2391 \quad 21 \quad 1470 \quad -16 \quad 2236 \quad 1529 \end{array}$

$\begin{array}{r} 45 - 1.62 \quad - 3785 \\ 45 - 372 \\ 0 \quad 6.2 \quad 0 \quad 42.5 \\ 10.8 \quad 47.0 \\ 17.0 \quad 89.5 \\ 45 \quad 8.50 \quad 45 \quad 44.75 \end{array}$

$\begin{array}{r} 0.20952n \quad 1.57807n \\ 0.22949n \quad 1.59804n \\ -08.70 \quad -3963 \\ 45 \quad 6.80 \quad 5.12 \\ 37 \quad 41.55 \quad 4323 \\ 1 \quad 20 \quad 1 \quad 57 \\ 0.60730 \quad 0.60860 \\ +4184 \\ 0.64914 \quad 0.65044 \\ -4.46 \quad -4.47 \end{array}$

$\begin{array}{r} 00-27 \quad -37 \\ -02 \quad -15 \\ -4.48 \quad -4.99 \\ 37 \quad 3707 \quad 38.24 \\ 28.9 \quad 82 \quad 9.3 \\ 87 \end{array}$



*B. Persie*  
 $z = +1.55$   
 $+0.03$

1874  
 $58.556$   
 $+6.20$   
 $+3.877$   
 $+14.185$

1874  
 $988126$   
 $11678$   
 $9.99804$   
 $9.81225$

1875  
 $2.933$   
 $+28.2038$   
 $+3.574$   
 $+14.181$

1875  
 $988126$   
 $12552$   
 $0.00678$

corr. =  
 corr. =  
 $\log p = +.85$   
 $I = 2.11$   
 $K = +0.20$

1874 Jan 0 59 58.50  
 5 58.44 .06  
 10 58.38 .06  
 15 58.31 .07  
 20 58.23 .08

1874 Jan 17				1874 Jan 18				1875 Jan 18				1875 Jan 20				1875 Feb 8				1875 Feb 10			
+232				+233				+33				+23				+32				+28			
Jan 17				Jan 18				Jan 18				Jan 20				Feb 8				Feb 10			
+232				+245				+350				+230				+330				+243			
2	59	32.9	59 22.3	59	32.1	59 18.3	59	12.6	58 57.7	59	16.7	59 15.9	59	15.9	59 49.6	59 14.0	59	46.5	59 27.6				
		35.4	24.6			21.7		15.0	0.7			13.6		19.0		52.4		47.3	50.0				
		38.4	26.8			23.8		17.8	1.4			16.2		22.2		54.9		50.4	32.8				
		42.7						23.2				21.8		0		0.6		52.4					
		46.5						25.8				24.4		0		2.9		53.0					
		49.1						28.7				27.3		0		5.4		53.3	28.4				
		51.8	0 20.7			40		31.3				26.9		0	35.7	8.5	0	53.3	31.8				
		54.7	22.3			68		34.0				32.6		0	40.2	11.4		53.6	34				
		57.1	24.4			9.1		36.3				38.0			41.4	16.2		54.4					
		59.6						42.3				40.8			43.5	19.3		54.4					
								44.7				43.5			45.7	21.7		54.4					
		36.08				41.22		31.47				29.88			24.32			27.06					
		180				120						180			180			240					
		54.08	59 24.57			53.2 2	59 21.33					59 16.97			63.2	59 46.370		278.2	59 30.13				
		49.164	0 224.759			48.382	0 67.359	28.609				27.164		0	5.745	0 39.630		278.2	0 31.43				
		49.144	+89.4			48.362	+9.79	28.554				27.144		+35.11	5.725	-3.83		276.2	-0.97				
		58.28	+19	59 58.26		58.26	+2.1	2.16				2.43		+2.0	2.08	+2.7	0	2.04	+2.4				
		-9.14		-9.90		-9.90		-33.87				-35.29			+3.64			+1.52					
			+0.28				+0.30									+0.35			+0.39				
		+8.95	59 58.55			58.66	+9.99	58.66				35.7			24.5	-8.85		27.28	-0.99				
		+20					+2.1									+2.8		23					
		+6.28	+4.157				+0.30	+4.177								+0.35		+0.39					
		+9.43					+10.30									-32.2		-0.37					
		49.14	35 51.329			48.36	35 50.349	28.59				27.14			43.580	5.72		45.660	45.25				
		58.57	-7 33.50			58.66	-7 32.12	-16 800				-16 855			-16 855	-16 936		-16 817					
		24.47	-1.180			2.537	-1.180	-1.1				24.3			-2	-2		1.89	-2				
		+40	28 6.12			28 6.32		28 17.82							-14.50	-14.20		2.39	-14.10				
															28 20.33	28 21.70		28 22.48					
													</										



1876-

an 0	0	2.69		28	33.9	
5		2.63	-.06		34.3	+ .4
10		2.57	.06		34.6	.3
15		2.50	.07		34.8	.2
20		2.43	.07		34.9	.1
25		2.35	.08		34.9	+ .0
30		2.26	.09		34.9	- .0
35		2.16	.10		34.8	.1
40		2.06	.10		34.6	- .2
Dec 6		2.08			47.6	
11		2.08	-.00		48.2	+ .6
16		2.07	.01		48.8	.6

Dec 12

59	47.059	36.9
	499	39.8
	525	42.2
0	085.79	
	5.4	
	6.2	
	8.9	0
	14.3	11.6
	17.0	13.7
	19.7	16.2
	27.6	
	24.6	
	37.6	
0	3.57	59 39.63
	1.178	0 18.83
0	3.398	+3.76
0	7.08	-0.5
	-3.68	
	-4.65	
+	5.46	24.6
+	-1.087	
	-4.65	
	-0.96	
0	3.40	45 3.89
	-16	14.19
0	2.44	- .1
	-2.790	
	28	20.70

35	+23.79	-16.41
	-32.0	
2	1.5	2 5.16
	2.09	5.41
	3.84	5.7
87	19.20	37 52.85
	1.37639	1.01745m
	1.38317	1.02433m
	+2.416	-11.57
37	43.36	37 42.28
45	4.99	6.07
	5.53	
53	31	54 5
	0.27920	0.28150
	+13.81	
	1.29301	0.29531
	-1.96	-1.97
	-1.4	-4.9
	-3.4	-4.4
	-2.44	-2.44
45	3.55	3.63
	4.83	
-16	1.42	1.53
-16	1.47	
	14.53	20.02
	.10	14.63
	21.90	-13.72
-16	4.253	2.56

1874.0	8
58.57	
.66	
58.615	
55.6	620
+ .059	

1875.0	8
2.58	
2.43	
2.50	
2.39	
2.44	
2.468	
.433	20.38
+ .035	

1874.0	8	48 % Cephei	1875.0	8
24.87			32.19	
.96			32.10	
			32.03	
			31.85	
24.915			32.042	78
76.4	4.71		.121	18.55
+ .151			- .079	



48 Cephei (16) 8

$$\begin{array}{r} 32 \\ + 77 \\ \hline 109 \end{array}$$
$$\begin{array}{r} 2 = -34 \\ -56 \end{array} \quad \begin{array}{l} 43 \\ 5 \end{array}$$

Lead 9.34324  
 LB .11678  
 LB' 9.46002

Asin<sup>o</sup> 9.98919

add second.

$$\begin{aligned} \text{corr } d &= +0.97\% \\ \text{corr } p &= +1.11\% \end{aligned}$$
$$\tan \beta = +4.442$$
$$I = 9.38$$
$$K = -\frac{5}{4} + 23$$

Feb 8

+330

1944 7.2  
21.5 9.4

23.7 11.8  
28.1

30.3

34.9 4 57

37.1	30
41.4	30
42.5	

433  
456

3580

49

32.545 4-5

$$32.475$$
$$+ 2.0812$$
$$+ 1.48 + 2.02$$
$$\begin{array}{r} 3.85 \\ + 1.46 \\ \hline \end{array}$$
$$+ 1.27 \quad 578$$

$32.47 +$

31.85 16 20 - 24

 $+2311 \quad -20$ 

368

30.6	0	4
35.4		4

660	9
3300	4

36380	1.312
-------	-------

83256	0.785
83257	0.785

3980 50 40.

68.55 8.

3 15 53

+3590

1.639401.6393  
1.4350 1.4350

745.07 745.07

- 13 -

$\begin{array}{r} +43.40 \\ 51.95 \\ \hline 95.35 \end{array}$

42.6  
9.3

92

16 943 7.37

206-10.27  
2410 203

6 31.47



S Aries  
 3 4 29  
 + 19° 15'

Feb. 8

50  
 ' "  
 0 26.5 1 21.3  
 25.9 20.3  
 52.4 41.6  
 50 26.20 51 20.80



1875

12  
x *Eridani*

$$\begin{array}{r} 36 \\ - 29 \\ \hline 7 \end{array}$$
$$Z = +71 \quad 5.2$$
$$\sin z = +.95$$

$$\begin{array}{r}
 6,445.82 \\
 + 992.6 \\
 + 2,543 \\
 + 1441 \\
 \hline
 \end{array}$$

$\cos \theta = 99.3977$   
 $\cos \theta' = 12552$   
 $\cos \theta'' = 06529$   
 $\sin \theta = 9.69212m$

$$\begin{aligned} \cos \alpha &= \\ \cos \beta &= \\ \tan \beta &= -0.57 \\ I &= 2.37 \\ K &= -0.18 \end{aligned}$$

1875-  
Jan 18

Feb. 8

3	6	$+2.10$	6	318	6	$+3.80$	6	322
	—			340				325
	—			371				350
	—							
	114	13.77						
	138	80						
	162	83						
	232	72					7	217
	254	85						233
	281	88						255

4300

6	34.30	6	33.57
13.508	5,500	7	23.50
13.790	50,000		
	49,982		
+	32.10	-	3.84
-	15	-	19
-	0.61	-	0.34
+	31.94	-	4.27
6	13.79	6	49.98
6	45.73	6	45.71
			45.72

30 - 2049

$\begin{array}{r} 1-330 \\ 2 \quad 44.7 \\ \quad 46.2 \\ \quad 909 \\ 32 \quad 45.45 \end{array}$

$$\begin{array}{r} 1.311542 \\ 1.376832 \\ - 2381 \\ \hline 32 \quad 2164 \end{array}$$

9 33.29

$$\begin{array}{r} +71 \ 48 \ 57 \\ 2.23926 \\ +4812 \\ 2.28738 \\ -19380 \\ \hline 2.09358 \end{array}$$
$$\begin{array}{r} 20 \\ + .09 \\ - 39 \end{array}$$
$$\begin{array}{r} -29 \\ -3 \\ 12 \end{array} \quad \begin{array}{r} 1435 \\ 4764 \end{array}$$

-16 655  
- 3.12

$$\begin{array}{r} + 740 \\ - 16 \quad 225 \\ \hline 724 \quad 209 \end{array}$$

21 20 7/10/19

$$\begin{array}{r} 5 \\ + 16.43 \\ - 33.50 \\ \hline 30 \end{array}$$

	-368		
2	7.2	3	5.0
	8.0		5.4
	15.2		10.4
33	760	33	5.2

$$\begin{array}{r} 1.21564 \\ 1.28093 \\ + 19.10 \\ \hline 32 \quad 26.7032 \end{array} \quad \begin{array}{r} 1.52504 \\ 1.59033 \\ - 38.93 \\ \hline 26.27 \end{array}$$

9 38'35 3792

$$\begin{array}{r} 48 \quad 20 \quad 49 \quad 17 \\ 2.2897 \quad 2.23938 \\ +3590 \\ 2.27487 \quad 2.27528 \\ -18830 \quad -18850 \\ \hline 19 \quad 19 \end{array}$$
$$\begin{array}{r} +.06-39 \\ -44 \end{array}$$
$$\begin{array}{r} -3 \quad 887-3 \quad 909 \\ 12 \quad 4722 \quad 4701 \end{array}$$

-16 943 12.92  
349  
8.18 22.80

$$\begin{array}{r} -16 \quad 444 \quad 5168 \\ 20 \quad 516 \quad 5145 \end{array}$$

28 51.55



3 Eudani  
3 9 46  
- 9 17  
3 = +51 40  
sin 3 = +.78

1875

9 45.76  
17 79.83  
+2.709  
+13.60

corr. 2 =  
corr. 3 =  
tang. 2 = -.16  
I = 2.09  
K = -0.16

Leas. 8 9.99427  
66 0.12552  
66 0.11977

Leas. 8 9.20768w

1874

Leas. 8 9.99427  
66 0.11678  
0.11195

1874

1875

Jan 17	Jan 18	Jan 19	Jan 20	Jan 25	Feb. 8
29 230 9 26.1 9 29.1 32.0	29 240 9 0.1 8 59.0 8 41.6 8 33.8 43.6 35.9 37.1 51.1 52.0 54.0 56.0 58.2 2.4 4.6 6.6 40.97 180 58.97 8 35.57 8 35.59 52.539	29 230 9 26.1 9 29.1 32.0	29 230 9 26.1 9 29.1 32.0	29 230 9 26.1 9 29.1 32.0	29 230 9 26.1 9 29.1 32.0
15.420 15.404	13.482 13.466	13.482 13.466	13.482 13.466	13.482 13.466	13.482 13.466
+8.95	+32.71	+32.71	+32.71	+32.71	+32.71
-0.04	-0.04	-0.04	-0.04	-0.04	-0.04
+8.7181	+32.23	+32.23	+32.23	+32.23	+32.23
39 15.40	9 13.47	8 53.89	8 52.54	9 5.04	9 49.72
39 24.81	9 45.75	9 26.87	9 27.23	9 45.82	9 45.71
(24.81)					40.760
13.65	+12.98	+18.04	+22.22	-14.87	+24.41 -17.06
25 10.34	20 -3.30	15 -3.32	15 -3.35	20 -3.43	20 -3.68
42.1	2 10.7	4 1.1	3 53.8	2 49.4	1 57.2 2 53.0
25.9	10.2	57.8	51.2	48.9	54.4 50.1
65.0	20.9	11.89	105.0	9.83	111.6 103.1
28 34.00	22 10.45	18 59.45	18 52.50	22 49.15	21 55.80 22 51.55
1.13513m	1.11327	1.25624	1.34674	1.17231m	1.38757 1.23198m
2.24618m	1.23306	1.37603	1.46659	1.29210m	1.50736 1.35777m
-17.63	+17.10	+23.77	+29.28	-19.59	+32.16 -22.48
28 1637	22 27.53	19 23.22	19 21.78	22 29.56	22 27.96 22 29.07
-9 5 3802	-8° 59 39.20	56 34.47	56 33.43	59 41.21	59 39.61 40.72
+51 36 6	38 22				38 8 39 2
1.86050	1.86110				1.86100 1.86130
+4122	+4818	+4425	+4602	+2769	+3590
1.20172	1.90928	1.90535	1.90712	1.88879	1.89690 1.89520
79.70	-81.15	-80.42	-80.75	-77.41	-78.87 -78.92
+1.01	-2	-	-	-	-
+1.1	+0.1 -15	+0.2 -27	+0.3 -26	+0.4 -38	+0.4 -47 +0.2
-1 19.64	-31 -30	-56 -84	-55 -52	-39 -37	-40 -61
-9 6 57.60	-1 21.47	-1 20.987	-1 21.28	-1 17.79	-1 19.24 -1 19.52
-7 33.50	81 0.67	57 55.84	57 54.71	0 56.00	0 58.55 1 0.24
-1 1.82	-16 6.55 9.12	-16 8.17 10.75	-16 9.28 11.89	-16 9.61 12.28	-16 9.43 12.30
+3.26	+2.57	+2.58	+2.61	+2.67	+2.87
-7 34.26	+1.54 +15.14	+1.60 +15.20	+1.66 +15.26	+2.03 +15.63	+2.69 +16.29
14 24.2	-16 7.58	-16 9.15	-16 10.23	-16 10.25	-16 9.61
	17 8.25	14 4.99	14 4.94	17 9.25	17 8.46 9.85
					17 9.15



1874phae.proj.1470.







Feb. 8

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 12 39.9 12 30.3  
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10 +20.12 -18.18  
 -36.8  
 0 40.2 1 32.0  
 41.9 31.9  
 43.8 21.9  
 10 41.05 11 31.95  
 1.30363 1.25959  
 1.42859 1.38455  
 +26.83 -24.24  
 11 7.88 11 7.71  
 11 40.47 40.64  
 40.55  
 26 53 27 44  
 +35.90  
 1.71120 1.71140  
 -51.43 -51.45  
 -0.2224 -0.1  
 -15 -31  
 -51.59 -51.77  
 10 48.88 48.87  
 -16 9.43  
 -2.35 11.78  
 -0.36 +12.36  
 -16 12.34  
 36.54 36.53  
 36.53



1874

1875

L. Persei  
 3 15 24  
 + 49 25  
 - 7 2  
 - 12

Lind 988081111

Lind 9881328  
 L.B. 81678  
 L.B. 993006

9.81328  
 12552  
 993880

cond =  
 cond =

tand = + 1.17 1.54

I = 3/6

k = -0.23  
 Jan. 25 +20

+32  
 Feb. 8

1874										1875										1876										1877										1878																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
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314	51.9	14	440	14	326	14	280	14	440	15	46	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14	30.1	14



$\alpha$  1874 1 1875  
 $\alpha$  20197  
 $\delta + 37.56$   
 $\delta + 4.250$   
 $\delta + 13.136$   
 $24.448$   
 $+ 24.5069$   
 $+ 4.251$   
 $+ 13.132$

$\alpha$  1874.0  $\delta$   
 $20.27$   
 $20.270$   
 $197$   
 $+ .073$

$\alpha$  1875.0  $\delta$   
 $24.43$   
 $43$   
 $41$   
 $45$   
 $43$   
 $43$   
 $24.430$   
 $448$   
 $- .018$

37.56

50.69

Feb. 10  $+28$ 

$15$   $58$   $15$   $+28$   $1968$   
 $90$   
 $12.1$   
 $18.4$   
 $21.5$   
 $24.7$   
 $27.0$   
 $31.0$   
 $37.3$   
 $40.5$   
 $44.0$

27 2.2

$15$   $24745$   
 $24.722$   $-0.925$   
 $15$   $24.098$   $+23$   
 $+ 0.634$   $+0.37$   
 $+ 0.98$   $24.47$   
 $+ .32$   
 $+ 0.34$   
 $- 2.9$   
 $15$   $24.72$   
 $24.43 - 16.847$   
 $24.00 + .4$   
 $24.44$   
 $- .018$

A. R.



1875

Q Lauri  
m  
3  
18 05  
+ 8 35  
= +33 48  
+56

Jan 20 18 587  
25 351 -06  
30 344 04  
Feb 4 538 06  
7 531 07

1875  
5.280  
+35 14.14  
+3.221  
+12.931  
Cord =  
Cord =  
Long = +15  
I = 208  
K = -0.16  
Lam 2 999511  
16 12.552  
16 12.063  
Lam 2 9.17391

1875  
Jan 18  
Ch. f.

+20		+32		+28	
Jan. 25		Feb. 8		Feb. 10	
17	447	17	546	17	538
18	138	18	588	18	550
19	159	19	577	19	549
20	201	20	451	20	20
21	222	21	68	21	41
22	244	22	90	22	62
23	266	23	112	23	84
24	286	24	133	24	105
25	307	25	154	25	126
26	328	26	175	26	146
27	348	27	195	27	166
28	368	28	216	28	188
29	377	29	2196	29	2488
30	24336	30	996	30	688
31	24320	31	9055	31	6255
32	551	32	9039	32	6239
33	4119	33	832	33	5009
34	-0.23	34	+3.72	34	+0.945
35	+4112	35	-3.83	35	-0.94
36	+0.03	36	+0.05	36	+0.04
37	-0.23	37	-0.04	37	-0.01
38	+40.92	38	-3.82	38	-0.94
39	2432	39	904	39	624
40	-16	40	3672	40	-16
41	524	41	-18	41	530
42	-420	42	-360	42	-18
43	+E 35	43	1539	43	1596

30  
0 10.6  
12.5  
23.1  
30 11.55

30	-4.69	30	+21.55	30	-29.62
0	-3.43	0	-3.68	0	8.1
10	40.9	10	8.1	10	13.0
20	42.5	20	8.1	20	15.5
30	834	30	162	30	285
40	4170	40	8.10	40	31
50	0.67117	50	133345	50	147640
60	0.79180	60	1465408	60	159703
70	6.19	70	+2845	70	-3954
80	30 3551	80	3605	80	3471
90	52 1284	90	11.80	90	1364
100	+33 46 54	100	12.72	100	46 20 47 26
110	1.58550	110	1.58540	110	1.58560
120	+2781	120	+3590	120	+4184
130	1.61331	130	1.62130	130	1.62744
140	-4405	140	-4181	140	-4244
150	-01-05	150	-03-18	150	-01
160	-10	160	-02	160	-25
170	-41.16	170	-41.86	170	-42.14
180	51 31.68	180	2994	180	3150
190	35 183	190	177	190	138
200	16 134	200	122	200	138
210	16 134	210	130	210	943
220	16 9.61	220	16 1595	220	1485
230	1.921.53	230	2.06	230	11.45
240	4.20	240	360	240	16.41
250	15.13	250	15.09	250	15.63

A.R.



2  
Mrs. Min. L. Co

15 20 37  
+ 72 17  
107 43

z = -65 20

ring = -.91

1875  
d 56.726  
p + 16 43.64  
q - 0.133  
r - 12.814

Local 9.48332m  
L6 12.832m  
L6 9.60884m  
Local 9.97890

corr. = -.115 (1874)

corr. = -

Long. = -2.13 3.29

I = 6.78

K = +0.50

1875

+34 -08  
Jan. 18  
3 20 162 19 52.5 20  
13.7  
16.9  
20.7  
23.8  
27.0  
30.6  
33.7  
37.4  
2140  
19 52.50  
20 33.78  
8  
20 23.828  
20 56.04  
+ 32.77  
- 84  
+ 0.66  
32.53  
56.36  
59 41.47  
-16 59.0  
+ 28  
- 24.30  
+107 43 14.07

+28  
Feb. 10  
489  
495  
504  
510  
514  
518  
522  
526  
530  
534  
538  
542  
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702  
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710  
714  
718  
722  
726  
730  
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738  
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750  
754  
758  
762  
766  
770  
774  
778  
782  
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950  
954  
958  
962  
966  
970  
974  
978  
982  
986  
990  
994  
998  
1000

+31  
Feb. 13  
419 20 0.8  
45.7  
49.4  
52.5  
55.9 21 14.4  
59.2 17.9  
62.3 22.4  
65.7 26.9  
69.5  
73.2  
76.9  
80.6  
84.3  
88.0  
91.7  
95.4  
99.1  
102.8  
106.5  
110.2  
113.9  
117.6  
121.3  
125.0  
128.7  
132.4  
136.1  
139.8  
143.5  
147.2  
150.9  
154.6  
158.3  
162.0  
165.7  
169.4  
173.1  
176.8  
180.5  
184.2  
187.9  
191.6  
195.3  
199.0  
202.7  
206.4  
210.1  
213.8  
217.5  
221.2  
224.9  
228.6  
232.3  
236.0  
239.7  
243.4  
247.1  
250.8  
254.5  
258.2  
261.9  
265.6  
269.3  
273.0  
276.7  
280.4  
284.1  
287.8  
291.5  
295.2  
298.9  
302.6  
306.3  
310.0  
313.7  
317.4  
321.1  
324.8  
328.5  
332.2  
335.9  
339.6  
343.3  
347.0  
350.7  
354.4  
358.1  
361.8  
365.5  
369.2  
372.9  
376.6  
380.3  
384.0  
387.7  
391.4  
395.1  
398.8  
402.5  
406.2  
409.9  
413.6  
417.3  
421.0  
424.7  
428.4  
432.1  
435.8  
439.5  
443.2  
446.9  
450.6  
454.3  
458.0  
461.7  
465.4  
469.1  
472.8  
476.5  
480.2  
483.9  
487.6  
491.3  
495.0  
498.7  
502.4  
506.1  
509.8  
513.5  
517.2  
520.9  
524.6  
528.3  
532.0  
535.7  
539.4  
543.1  
546.8  
550.5  
554.2  
557.9  
561.6  
565.3  
569.0  
572.7  
576.4  
580.1  
583.8  
587.5  
591.2  
594.9  
598.6  
602.3  
606.0  
609.7  
613.4  
617.1  
620.8  
624.5  
628.2  
631.9  
635.6  
639.3  
643.0  
646.7  
650.4  
654.1  
657.8  
661.5  
665.2  
668.9  
672.6  
676.3  
680.0  
683.7  
687.4  
691.1  
694.8  
698.5  
702.2  
705.9  
709.6  
713.3  
717.0  
720.7  
724.4  
728.1  
731.8  
735.5  
739.2  
742.9  
746.6  
750.3  
754.0  
757.7  
761.4  
765.1  
768.8  
772.5  
776.2  
779.9  
783.6  
787.3  
791.0  
794.7  
798.4  
802.1  
805.8  
809.5  
813.2  
816.9  
820.6  
824.3  
828.0  
831.7  
835.4  
839.1  
842.8  
846.5  
850.2  
853.9  
857.6  
861.3  
865.0  
868.7  
872.4  
876.1  
879.8  
883.5  
887.2  
890.9  
894.6  
898.3  
902.0  
905.7  
909.4  
913.1  
916.8  
920.5  
924.2  
927.9  
931.6  
935.3  
939.0  
942.7  
946.4  
950.1  
953.8  
957.5  
961.2  
964.9  
968.6  
972.3  
976.0  
979.7  
983.4  
987.1  
990.8  
994.5  
998.2  
1000

Jan. 18 20 55.52 72° 16' 21"

15 55.56 34  
20 56.22 36  
25 56.60 38  
30 56.98 38  
35 57.37 39  
40 57.76 39  
45 58.15 39  
50 58.54 39

+55.08 -24.52  
25 20  
0 31.3 4 57.5  
40.8 7.2  
72.1 124.7  
25 36.05 28 2.35  
1.74099 1.38952m  
1.34953m 0.99836  
-22.38 +9.96  
25 13.47 25 12.31  
2 25.32 23.46  
37 34.68 36.04  
18 12 18 116  
2.07532 2.07557m  
+34.96  
2.13028 2.13047  
+135.00 +135.00  
+ 7 + 7  
+48.97 +0.9  
-13 20  
+2 15.42 +2 15.16  
39 50.10 51.20  
-16 9.21  
+ 3.39 5.82  
-27.96 -14.69  
-16 33.32 11.78  
43 46.98 17.85  
17.33

+31.28  
25  
0 -3.90  
36.2  
41.7  
77.9  
25 38.95  
14.9527  
1.1041m  
-12.71  
25 26.24  
+108 2 37.89  
+107 57 22.11  
-65 18 9  
2.09532m  
+48.89  
2.14371  
+139.20  
+ 9  
+1.57 +0.3 +0.7  
-0.8  
+2 19.38  
+107 59 41.97  
-16 6.55  
+ 3.80 3.55  
- 24.30 11.44  
-16 27.85  
43 13.62



1875

1875

Jan 3 23 38  
+ 12 30  
3 = + 29 53  
+ .50

Jan 8 23 5889  
11 5886 - .03  
15 5882 .04  
20 5878 .04  
25 5873 .05  
30 5868 .05  
Feb 4 5862 .06  
9 5858 .07  
14 5848 .07

58.434  
+ 30 24/10  
+ 3.305  
+ 12.601  
Corr. =  
Corr. =  
Temp. = +2.2  
I = 2.11  
K = -0.6  
9.98958  
12552  
11510  
9.98958  
9.815  
0.8273

1875-  
Jan 5  
3 23 245 23 119 23 132 23 4.2 23 49.623 36.3 23 142.5 23 582  
26.7 14.2 15.5 51.6 38.4 449 464  
28.7 16.1 17.6 53.7 40.4 467 490  
33.0 21.7 58.0 51.3 51.3  
35.1 23.8 24 0.1 58.4  
37.3 25.9 2.3 55.5  
39.3 23 51.0 4.3 24 21.3 57.4 24 213  
41.4 54.1 6.4 23.6 59.5 24.4  
45.7 55.8 10.6 24.9 3.9 26.7  
47.8 36.6 12.8 15.0 8.2  
50.0 38.6 16.0  
4095 2854 2644 6098  
23 14.07 23 4.20 24 23.18 24 23.00 23 55.436 24 24.13  
23 37.227 23 53.923 25.745 +32.79 2.202 -380 55.420 +2.89  
23 37.211 +2.159 25.929 +0.7 23 58.49 +0.07 23 58.42 +0.07  
23 58.86 +0.03 23 58.75 -0.08 23 58.71 -0.06 23 58.41 +2.98 58.39  
-21.65 -0.43 +32.72 58.39 -2.83 58.41 +0.06  
+ 31.55 33 58.40 + 0.06 -0.32 -0.06 +0.01  
+ .03 + 32.46 -3.82 +3.00  
-1.43 + 32.46 -3.82 +3.00  
+ 21.15 + 32.46 -3.82 +3.00  
23 37.21 28 16.39 23 25.93 46 38.41 24 2.20 39.61 23 55.42 39.66  
23 58.36 +2 16.07 23 58.39 -16 59.0 58.38 -16 9.36 58.42 -16 9.19  
-6.40 -1.6 23 58.39 -16 59.0 58.38 -16 9.36 58.42 -16 9.19  
+12 30 24.46 30 25.01 30 23.88 30 24.07  
50 +23.16 -16.70 35 +21.74  
1 -3.08 -3.30  
3 23.6 4 12.1 0 4.1  
32.0 20.1 5.1  
55.6 32.2 9.2  
53 27.80 54 16.10 35 4.60  
1.36474 1.22272 1.33726  
1.47724 1.28722 1.40226  
+3.619 24.47 +28.34  
53 58.36 53 58.36 35 32.94  
+12 28 58.36 54.42 47 15.41  
52.53 52.45  
+29 51 20 52 9  
1.51910 1.51940 +48.45  
+32.99  
1.55209 1.55239 1.56755  
-33.65 -33.68 -36.94  
-06-43 -03 -05-03  
-35 -43 -01-06  
-36.06 -36.14 -37.00  
16.47 16.31 46 38.41  
30 30.5 30 30.0  
+2 14.0 14.2 16 8.4  
+2 14.1 14.2 16 8.4  
+2 15.67 30 29.20 -16 6.55 24.31 -16 9.43 30 24.29 -16 9.21 23.74  
1.541413 2.104 1.65 8.20 1.24 1.22 22.20 1.86 11.07 23.85  
6.40+6.20 5.90+6.70 5.00+7.60 4.80+7.80  
+2 7.73 30 24.12 -16 14.10 24.31 -16 16.21 23.54 -16 15.87 23.50



1875

E. Eridani

3 27 02  
-9 53

z = +58 16  
2  
+79

Jan. 27 312. -04  
5 308 .04  
10 304 .04  
15 300 .04  
20 295 .05  
25 289 .06  
30 282 .07  
Feb. 4 273 .07  
9 268 .07

52 577  
58.3 +.1  
58.8 .5  
59.3 .5  
59.8 .5  
60.1 .3  
60.4 .3  
60.7 .3  
60.9 .2

1875

2485  
-52.58.40  
+2.823  
+12.389

long 999307  
12 12552  
16 111903  
long 9.23462m

corr. =

Corr. =

tange = -17 1.01

I = 209

K = -0.16

9.22351  
99315  
.08666

1875-

Jan 3

3 26 250 26 188 27  
371 210  
832 230  
372  
893  
416  
43.8 26 57.7  
45.2 54.7  
48.9 56.4  
52.1  
54.1  
4570

Jan 17

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Feb 8

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Feb 13

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26 41545 26 543327 15.482  
41529 +21.59 15.466  
27 3.08 -02.27 2.98  
-21.55 -0.60

+ 21.56 27 250 + 31.54  
- .02 - .05  
- .060 - .050  
+ 20.94 + 31.02  
26 4153 55 102124 10.44  
+2.1607  
27 247 -24  
-9 53 52.64

15 +20.61 -12.79 +12.25  
-3.08 -3.08  
1 9.0 1 50.4 2 57.5  
21.4 1.4 57.5  
30.4 111.8 117.0  
16 15.20 16 55.90 57 58.50

1.31408 1.10659m 1.08814  
1.10659m 1.20717  
+2.1607  
16 15.20 16 55.90 57 58.50

-9 53 53.74 53 50.73 35 16.26  
52.01 51.93 26.26  
+58 14 8 14 49

1.83440 1.83440  
1.83440 1.83440  
+3312  
1.90332 1.90372 1.91383  
-8.08 -8.02 -8.15  
- .01 - .01 - .01  
+04.13 +.01 - .01  
-12 -19 -57

-1 20.17 -1 20.31 -1 20.72  
53.5 12.18 54.5 12.24 36 46.98  
52 58.3 52 58.3  
+2 13.9 13.9 -16 12.5  
+2 13.9 -16 12.5

+2 15.67 12 59.04 -16 7.45 52 58.92 -16 6.55 52 58.10 -16 6.55 52 58.10  
- 2.12 13.24 59.10 - 2.59  
- 0.10 +12.29 + 1.10  
+2 13.14 52 59.06 -16 8.94 53.92 -16 7.95 58.40 -16 7.95 58.40

26 13.10 26 13.10  
30 30.345  
30.329 +32.79  
27 299 -0.06 27 2.69 -0.05  
-32.64 -0.49 +3.88

+ 32.79 2.49 - 3.83  
- .05 - .06  
- .049 - .021  
+ 32.48 - 3.10  
26 30.33 36 30.33 36 30.33  
-16 5.90 -16 9.36  
27 2.61 -26 27 2.48  
+1.20 7  
52 57.75 52 57.75 52 57.75

+17.24 +27.25 -24.62 +26.67 -11.57  
55 -3.30 55 -3.68 55 -3.73  
2 33.2 2 43.0 3 50.1 2 42.4 3 31.9  
52.3 40.8 49.3 43.7 32.1  
105.5 83.8 99.4 86.1 68.0  
57 52.75 57 41.90 58 44.70 57 43.05 58 32.40

1.23654 1.43537 1.39129m 1.42602 1.06333m  
1.35557 1.55440 1.57082 1.57505 1.18336m  
+22.68 -32.83 +35.08 -15.22  
58 15.43 58 17.74 58 17.32 58 18.13 58 16.78

35 27.08 35 29.39 28.97 35 29.78 28.43  
13 54 15 2 13 55 14 44

+48.50 +35.90 +35.09  
1.71890 1.90630 1.90659 1.90549 1.90529  
-82.97 -82.59 -80.63 -80.44 -80.48  
- .02 - .01 - .01 - .01 - .01  
+03.19 +.05 +.05 +.05 +.05  
-41 -38 -80 -80 -80  
-1 22.37 23.37 -1 21.11 -1 21.39 -1 20.95 -1 21.21

36 50.45 36 50.50 50.86 36 50.73 48.64  
16 92 16 92 16 92 16 92  
16 92 16 92 16 92 16 92

+2.60 +1.20 13.59 + 2.50 +14.89  
+ 1.20 13.59 + 2.50 +14.89  
+ 1.20 13.59 + 2.50 +14.89

26 39.33 26 39.33  
27 31.20 26 59.800 27 11.37  
-380 34.784 +2.90  
-0.5 27 2.62 -0.5  
-3.84 -0.14

+ 2.93 2.49  
- .05 - .05  
- .014 - .014  
+ 2.74 + 2.74  
26 50.4326 50.4326 50.4326  
-16 9.36 -16 9.36  
27 2.52 27 2.52 -26  
+2.60 +2.60  
52 57.79 52 57.79 52 57.79

+27.25 -24.62 +26.67 -11.57  
55 -3.68 55 -3.73  
2 43.0 3 50.1 2 42.4 3 31.9  
40.8 49.3 43.7 32.1  
83.8 99.4 86.1 68.0  
57 41.90 58 44.70 57 43.05 58 32.40

1.43537 1.39129m 1.42602 1.06333m  
1.55440 1.57082 1.57505 1.18336m  
+35.08 -32.83 +35.08 -15.22  
58 17.74 58 17.32 58 18.13 58 16.78

35 29.39 28.97 35 29.78 28.43  
13 54 15 2 13 55 14 44

+35.90 +35.09  
1.90630 1.90659 1.90549 1.90529  
-82.59 -80.63 -80.44 -80.48  
- .01 - .01 - .01 - .01  
+03.19 +.05 +.05 +.05 +.05  
-41 -38 -80 -80 -80  
-1 22.37 23.37 -1 21.11 -1 21.39 -1 20.95 -1 21.21

36 50.45 36 50.50 50.86 36 50.73 48.64  
16 92 16 92 16 92 16 92

+2.60 +1.20 13.59 + 2.50 +14.89  
+ 1.20 13.59 + 2.50 +14.89  
+ 1.20 13.59 + 2.50 +14.89



Jan	0	31 <sup>m</sup>	2625 <sup>s</sup>	48	492 <sup>n</sup>	
	5		2615	10	57.1	7.9
	10		2604	11	58.9	8
	15		19.91	13	51.6	7
	20		1977	14	52.2	6
	25		19.62	16	52.6	4
	30		1946	16	53.0	4
Feb.	4		1928	18	53.2	2
	9		1908	20	53.3	1

$\frac{1}{S} = \frac{1}{1576}$

$x = 19.446$

$d + 48 = 31.82$

$\frac{d}{48} = 5.142$

$\frac{d}{48} + 12.174$

$\text{corr } x = +.120$

$\text{corr } d = +.28$

$\text{length} = +1.95$

$I = \frac{S}{4.50}$

$K = -.034$

$\cos 2 = 9.65976$

$.12582$

$6' = 9.78528$

$\sin 2 = 9.94917$

$9.65976$

$69.315$

$9.75291$

Jan 17  
Chf.

1875  
+18  
Jan 5  
+11 1/2  
3 30 49.6 30 11.7  
51.9 15.0  
53.9 20.0  
56.6  
58.6  
31 0.7  
3.0 30 5.70  
5.3 31 1.6  
7.4 6.4

$$\begin{array}{r}
 2870 \\
 - 240 \\
 \hline
 5270
 \end{array}$$

$$\begin{array}{r}
 30 \quad 58536 \quad 30 \quad 15.57 \\
 58522 \\
 \hline
 31 \quad 20.137
 \end{array}$$

$$\begin{array}{r}
 - 21.82 \\
 - 21.54 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 + 21.59 \\
 + .25 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 + 21.56 \\
 + .23 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 - 0.69 \\
 + 21.10 \\
 \hline
 30 \quad 38.52
 \end{array}$$

$$\begin{array}{r}
 46 \quad 3304 \\
 31 \quad 1962 + 2 \quad 1607 \\
 \hline
 + 13 \\
 - 1830 \\
 + 62.48 \quad 320
 \end{array}$$

$\begin{array}{r} \phantom{0}^S \\ + 42.99 \\ 35 \end{array}$

$- 3.27$

$\underline{\phantom{0}^S 3.08}$

$\begin{array}{rrrr} 1 & 12.3 & 1 & 40.8 & 3 & 5.3 \\ & 13.5 & & 40.9 & & 6.2 \\ & 25.8 & & 81.7 & & 11.3 \\ 36 & 12.90 & 36 & 40.85 & 18 & 5.75 \end{array}$

$\begin{array}{r} 163937 \\ + 14128 \\ \hline 178065 \\ - 2432 \\ \hline 175633 \\ + 422 \\ \hline 176055 \\ - 372 \\ \hline 175683 \end{array}$   
 26      26      37.00  
 42.46    42.3    24.9  
           11.2    4.35  
 -20   25   54    28    26  
 1.38150    1.33130<sub>m</sub>  
      + 3330  
 1.36480    1.36460  
      + 3316    + 2315

	-41	-35	.00
	-12		-17
	+263		+2298
46	3315		3238
As	507		
+2	170		178
+2	174		
+2	1567	48	519 3219
+	107	1674	3744 3077
-	180	+227	613
+2	549	48	3818 3148
1	50		3418

$+34$     $-08$   
 Jan 18  
 $+250$   
 20. 37.6   29  
 39.7  
 42.1  
 44.6  
 46.4  
 48.7  
 51.0  
 53.2  
 55.5  
 4188

29 53.50

30 46.533

31 46.499

31 19.842

- 53.342

- 33.44

+ 32.92

+ 52

- 0.37

+ 32.87

31 19.82

30 46.50

31 52.69

30 19.37

56.49

32.2

90

4.1

- 24.20

48 31.54

[illegible]

172452	1.71834
1.50580	1.50580
+ 32.35	+ 34.89
18 14.80	18 13.54
4 33.55	4 34.81
26 6	
+ 48.58	+ 44.69
1.38008	1.37619
+ 23.99	+ 23.98

$$\begin{array}{r}
 -62 \\
 -38 \\
 +2299 \\
 \hline
 4 \quad 5654 \\
 48 \quad 520 \\
 -16 \quad 45 \\
 -16 \quad 45 \\
 -16 \quad 655 \\
 + \quad 15 \quad 540 \\
 20 \quad 20 \quad 20 \quad 20 \\
 -16 \quad 260
 \end{array}$$

+33  
 Jan 19  
 +330  
 26.7 29 50.0  
 38.0  
 41.0  
 43.0  
 45.3  
 47.8  
 49.2  
 52.0  
 54.6  
 41.02

29. 53.36

45.578	
45.574	
19.8499	
34.245	+3377
34.397	+64
53.75	-034
68	1961
-034	
3409	
19.79	
45.54	4 576
53.68	-16 870
19.63	+12
	-203
48	305

$+ 5228$   
 $- 3,32$   
 $41.1 \quad 3 \quad 38.2$   
 $42.2 \quad 39.8$   
 $833 \quad 780$   
 $41.65 \quad 18 \quad 24.00$

1834  
0362  
+ 3189  
13,52  
34,81  
+ 4469  
7819  
23,78

$$\begin{array}{r}
 -60 \\
 -38 \\
 + 22880 \\
 \hline
 57.61 \\
 5231 \\
 55 \\
 55 \\
 817 \\
 716 \quad 701 \\
 20230 \quad 216 \\
 \hline
 2031
 \end{array}$$

7.32		
Feb. 8		
+330		
—	30	534
—		564
—		6.2
3.20	15.3	43
.39	17.9	
.78	32.8	21
.77	27.3	40.9
.55	31.6	46.9
		50.8

$$\begin{array}{r}
 30 \quad 56.67 \\
 29.558 \quad 31 \quad 46.20 \\
 29.524 \\
 19.131 \\
 5.735 + 3.41 = 8.80 \\
 5.735 + 3.98 = 9.62 \\
 3.83 \quad + 0.84 \\
 .64 \quad 19.68 \\
 + 0.34 \\
 2.85 \\
 19.11 \\
 2.52 \quad 5- \quad 6.75 \\
 16.16 - 16 \quad 936 \\
 1967 \quad + 11 \\
 - 2150 \\
 48 \quad 2099
 \end{array}$$

$$\begin{array}{r} 25.89 \\ - 3.68 \\ \hline 22.21 \end{array}$$

41313 1.3748<sub>m</sub>  
 9841 1.15966<sub>n</sub>  
 + 1579 - 1444  
 9.79 18 10.46  
 3856 37.89  
~~3822~~  
 54 25 23  
 +3590  
 36740  
 +2330 +2330

$-12$     $-77$     $-10$   
 $-61$     $-71$   
 $+2257$     $+2249$   
 $1.13$     $0.88$   
 $333$   
 $7.8$     $7.1$   
 $7.5$   
 $943$     $8.15$     $3448$   
 $128$     $9$     $3448$   
 $21$     $50$     $2365$   
 $2365$     $3443$   
 $9$     $3443$   
 $3443$     $3443$   
 $3443$

Feb. 13

36.5	3	12.9
43.2		18.2
797		311
3085	18	155



19

1874phae.proj.1470.



1875

$$\begin{array}{r}
 \text{J Persie} \\
 \begin{array}{r}
 3^h \quad 34^m \quad 02^s \\
 + 49^m \quad 23^s \\
 \hline
 = - 5 \quad 0 \\
 - 009
 \end{array}
 \end{array}$$

Jan	0	34 <sup>m</sup>	239		23	227 <sup>n</sup>
	5		234	-.05		233
	10		229	.05		238
	15		222	.07		242
	20		214	.08		246
	25		205	.09		249
	30		196	.09		251
Feb.	4		185	.11		252
	9		173	.12		253

$1875$   
 $z = 1.848$   
 $p = +23.736$   
 $\frac{p}{z} = +4.240$   
 $\frac{p}{z^2} = +11.868$   
 $\cos \alpha =$   
 $\cos \rho =$   
 $\tan \rho = +1.09 \quad 1.48$   
 $\pm = 3.04$   
 $K = -0.23$   
 $\cos \delta = 9.86682$

Jan 5				Jan 18				Jan 19				Feb. 8				Feb. 13			
33	224	33	2.1	33	140	33	5.2	33	9.9	32	57.2	33	47.2	33	224	33	46.2		
	254		4.8		170		6.7		13.0		2.0		50.0		255		43.4		
	286		7.2		231		9.1		16.0		5.8		53.1		278		46.3		
	346				26.1				22.0				59.3				52.5		
	377				28.8				25.0				2.3				55.5		
	406				22.3				28.0				3.2				58.6		
	43.7	33	57.3		35.5				31.0				8.4	34	228		1.5		
	46.8	34	8.9		41.1				34.1				11.4		274		46		
	53.0		8.0		44.5				40.4				17.4		297		10.7		
	58.1				47.6				43.6				20.4				13.9		
	59.0								46.4				23.6				16.6		
	447.9				321.0				309.4				298.3				343.7		
		33	4.73			33	7.00			33	2.20		5.83	33	25.23		6.437		
33	407.18	34	0.40	33	29.82	33	28.127	33	1.53	34	5.300	33	26.633	33	58.518	33	20.03		
	406.95		+21.59		29.159		+32.80		28.104		+33.77		5.277		-3.79		36.93		
34	2.34	34	+1.4	34	2.17	34	+3.7	34	1.785	34	+3.6	34	1.693	34	+2.91	34	+2.91		
	2.165		-0.49		-33.01		-12		-34.085		-0.30		-3.184		+0.10		+3.4		
							-0.32												
	+21.06	34	194		+32.43		155.89		+33.75		1.93		+3.82		1.93.94		1.97		
	+1.13				+2.9		.89		+3.8				+3.6						
	-0.49				-0.32				-0.30				+0.10						
	+21.20				+32.70				+33.83				+3.36						
33	407.0	21	81.33	33	29.16	39	28.8833	33	28.10	34	32.30	33	5.28	33	33.4733	33	34.65		
	+2	16.07			-16	590			-16	800			-16	936			-16		
34	1.90		+3.3	34	1.86		+3	34	1.93		+3	34	1.92		+2	34	1.97		
	+47	23	919		-1640		-1640		-1650		-1650		-1720		-1720		-1720		
				23	6.88	23	8.10	23	8.10	23	7.11	23	8.56	23	8.56	23	8.56		
	+35.99		-19.68		+22.18				+25.73				+40.07		-21.33		+38.49		
	-3.88				-3.30				-3.32				-3.68				-3.73		
1	13.1	1	1.0	3	3.3	2	56.3	2	56.3	3	38.2	2	40.3	3	51.1	2	51.1		
	16.6		3.1		5.7		57.7		57.7		41.5		45.2		55.6		55.6		
	29.7		4.1		9.0		114.0		114.0		84.1		79.7		106.7		106.7		
1	14.85																		



2 1874.0 8

1875.0 8

$$\begin{array}{r} x \\ 1.90 \\ .86 \\ .93 \\ .92 \\ .97 \\ \hline 1.916 \\ .848 \\ \hline +.068 \end{array}$$

7.96



1875  
 $\frac{1}{2}$   
 $\frac{1}{2}$   
 $\frac{1}{2}$   
 $\frac{1}{2}$

37 15.71  
 11 18.60  
 + 2.870  
 12.43

corr.  $\delta$  =  
 corr.  $\delta$  =  
 tang.  $\delta$  = -1.8  
 $I = 2.09$   
 $K = .016$

long.  $\delta$  9.99310  
 1.6 12.552  
 1.6 0.11862

long.  $\delta$  9.24748u

$\delta = +52 \quad 34$   
 $\sin \delta = +.79$

1875

Jan 18	Jan 19
+2.290	+3.350
3 36 31.036	28.7 36 29.936
33.1	30.1 32.036
33.2	32.0 24.436
39.3	33.3 48
41.4	40.5 59
43.7	42.4 50
45.7	44.6 51
47.8	
52.0	
54.0	
56.2	

36 47.94	36 30.27	36 19.60
43.582	42.531	
43.566	42.515	
+ 32.93	+ 32.95	
- 0.05	- 0.06	
+ 32.14	+ 32.16	
36 43.54	36 42.57	
37 15.71	37 15.67	
	15.690	

15 + 13.31	15 + 22.93
1 - 3.20	1 - 3.32
1 18.8	1 3.4
17.7	1.5
36.5	4.9
16 18.25	16 2.45

1.12418	1.36040
1.24280	1.47902
+ 17.19	+ 30.13
16 55.74	16 32.58
- 9 53 47.39	53 44.23
+ 52.32 30	32 14
1.87510	1.87510
+ 4.869	+ 4.482
1.92379	1.91992
- 53.71	- 53.16

- 2	- 1
+ 0.01	+ 0.04
- 18	- 14
- 1 24.10	- 1 23.27
- 9 55 11.49	55 7.50
- 16 6.55	- 16 8.17
- 2.60 9.15	- 2.62 10.79
+ 0.93 + 13.36	+ 1.02 + 13.45
- 16 8.22	- 16 9.79
11 19.71	17.24



1875

5 Camell (16)  
 3 37 12  
 + 70 37  
 f = -28 34  
 -48

Jan 0 37 12.86  
 5 12.71 -15  
 10 12.54 -17  
 15 12.35 -19  
 20 12.13 -22

56 56.1 +1.0  
 57.1 10  
 58.9 8  
 59.7 8

1875  
 11.530  
 +56 37.88  
 +6.214  
 +11.652

corr<sub>A</sub> = +1.25  
 corr<sub>B</sub> = -.06  
 tang<sub>l</sub> = +2.88  
 I = 6.29  
 K = -0.45

Leind 9.97554

9.61374  
 993 15  
 9.60689

+13 1875-  
 Jan 5  
 3 36 38.6 36 36.9 36 27.8 36 22.3  
 41.6 45.4 30.8 26.9  
 44.8 49.7 33.9 32.4  
 47.8 36.4  
 50.9 39.8  
 54.0 43.2  
 57.5 46.4  
 37 50.6 49.5  
 3.6 53.0  
 3388 3606  
 120  
 4588 36 44.00 36 26.90  
 36 50.978 36 40.067  
 50.96233 40.05722  
 37 12.720 37 12.276  
 -21.76 21.79 +2.159 -32.25 32.25 +3.165  
 -21.88 21.91 +3.8 -32.35 32.37 +1.04  
 +21.56 -11.5 +31.54 -0.71  
 +.34 37 11.75 +.78 11.75  
 -1.15 -0.41  
 +20.75 +31.64  
 36 50.93 36 40.02  
 37 11.68 54 39.57 37 11.66 -16 65.4  
 +16 76.0  
 -1920 -2140  
 +70 56 38.06 58 38.44

+6.98  
 25 -3.08  
 3 18.2 3 39.7 0 11.5  
 18.4 39.2 11.2  
 36.6 78.9 22.7  
 28 18.30 28 39.45 10 11.35  
 0.54386 1.11959m  
 0.48515 0.95835m  
 +3.74 +2.82 +0.74  
 28 21.32 28 92.28 10 17.07  
 21.12 17.07  
 +70 54 27.01 54 60.8 12 42.74  
 27.23 31.26  
 -28 33 49 33 37  
 1.49602 1.49602m  
 +33.57m +13.74  
 1.52987 1.53974  
 +33.85 +34.65

-01 -37  
 -33 -34  
 +33.51  
 554 34.74 39.59 13 +34.58  
 56 57.1 56 59.3 17.32 18 15.11  
 +2 17.5 -16 18.0  
 +2 15.67 17.14 -16 74.5 38.8  
 + 11.4 56 37.53 + 15.4 56 50.04  
 - 19.20 -7.53 - 21.40 -9.75  
 +1 57.74 -16 27.28  
 56 37.53 50.04  
 38.56



1874 m 2  
 42 19 39 59.56  
 14 59.48 -08  
 19 59.39 .09  
 1876  
 42 55.8  
 55.6 -2  
 55.5 Jan 0

2 Larrix  
 40 03  
 + 28 43  
 + 18 40  
 +.32

1874  
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 1876  
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 1897  
 1898  
 1899  
 1900

corr. a =  
 corr. b =  
 tang. s = +44.09  
 I = 2.25  
 K = -0.17

386  
 382 .04  
 378 .04  
 374 .04  
 371 .08  
 386  
 382 .04  
 378 .04  
 374 .04  
 371 .08

1874  
 Feb. 14  
 3 40 33.4 40 46.3 39 28.7 39 14.3 39 18.7 39 159.39 174 39 6.5  
 57.8 118 31.0 16.6 21.4 19.8 8.5  
 6.0 30.8 33.1 18.4 23.2 21.9 10.3  
 7.4 37.7 27.5 26.3  
 6.7 40.0 32.8 28.7  
 4.8 42.3 32.2 31.0  
 11.1 44.6 40 58 34.2 33.2  
 13.5 46.0 9.0 36.6 35.4  
 18.0 57.2 11.2 41.0 40.0  
 20.2 53.5 43.3 42.1  
 22.1 55.8 45.6 44.5  
 24.5 46.48 35.28 34.03

98.5 40 48.63 39 16.43 39 15.90 39 8.43  
 41 8.955 39 42.255 40 8.6789 32.073 30.936  
 8.935 42.238 +21.59 32.0536 +31.65 30.919 +32.80  
 39 58.48 40 3.822 +.06 40 3.73 +.16 40 3.72 +.15  
 +69.46 -21.58 -31.687 -0.09 -32.80 -0.09  
 +31.04 +21.89 40 3.42 +31.58 340 +32.54 341  
 +.05 +.05 +.12 +.12  
 +.032 -0.44 -0.38 -0.34  
 +31.41 +21.15 +31.32 +32.49  
 41 8.94 39 42.24 40 54.839 32.06 59 1815.39 30.92 1712  
 41 40.35 40 3.39 +2 16.07 40 3.38 -16 7.60 40 3.41 -16 5.90  
 -9.60 -7.1 40 3.41 -1.1  
 +2.3 43 8.35 42 5.985 43 0.42

+20.32 +25.82 -26.42 +16.17 +22.51  
 30 10.1 = 3.00 40 -3.08 20 -3.28 20 -3.30  
 4 27.9 0 0.9 2 0.3 2 48.4 2 39.7  
 24.5 3.9 5.0 49.1 43.3  
 52.4 48 53 97.5 83.0  
 34 29.20 40 2.40 42 2.65 22 48.75 22 41.50  
 1.30792 1.41196 1.42193m 1.20871 1.35238  
 1.351638 1.41196 1.42193m 1.20871 1.439.58  
 +24.80 -31.65 +19.37 +27.52  
 34 52.33 41 32.68 23 9.02 23 9.02  
 12.47 57.80 41 15.42 17.35 59 45.23 59 39.33  
 18.41 58 38 55 39 56 39 1 38 53  
 1.28980 1.28860 1.28900 +4380 +4875  
 +1686 +3370 1.32230 1.32270 1.32240 1.33735  
 1.30616 -21.24 -21.02 -21.50 -21.74

-0.08 -12.27 -13 -05.49 -09.23  
 +26 -10 -20 -53.58 -38.47  
 -20.06 -21.22 -21.35 -22.08 -22.21  
 47 37.74 40 55.44 54.32 59 23.15 59 17.12  
 42 45.6 40 7.9 43 7.9 43 7.9  
 +2 14.5 156 -16 8.3 7.1  
 +2 15.1 -16 8.3 7.1  
 -7 3107 39 52.01 +2 15.67 43 0.53 -16 7.45 8.49 0.66 -16 6.55  
 -7 3173 40 +6.46 +2 5.07 42 59.97 -16 12.09 6.06 -16 7.30 59.82







7 Eridani  
 $\begin{matrix} 42 & 14 \\ -24 & 15 \\ \hline = +66 & 38 \end{matrix}$   
 $\sin z = +.92$

1875  
 $\begin{matrix} 42 & 17.31 \text{ Cond} = \\ 15-48.24 \text{ cond} = \\ +2.577 \\ +11.38 \text{ tang } \delta = -.45 \end{matrix}$   
 $I = 226$   
 $\begin{matrix} \text{Cond } 9.95988 & 9.95988 \\ 1.5 & .12652 & .09315 & K = -.017 \\ 66 & .008510 & .05203 \end{matrix}$   
 $\text{Cond } 9.61354m$

1875  
 Jan 5  
 $\begin{matrix} 41 & 42.941 & 26.6 & 41 & 32.8 & 41 & 31.7 & 41 & 21.3 \\ 44.0 & 30.1 & 35.0 & 36 & 31.7 & 33.9 & 28.7 \\ 47.4 & 32.0 & 37.3 & 39 & 33.8 & 36.1 & 25.9 \\ 51.8 & & 41.8 & 32 & & 40.7 & \\ 54.3 & & 44.0 & 26 & & 43.0 & \\ 56.4 & & 46.3 & 30 & & 45.1 & \\ 58.6 & 42 & 16.7 & & & 47.4 & \\ 42 & 1.1 & 18.6 & & & 49.8 & \\ 55.5 & 20.3 & & & & 54.2 & \\ 7.8 & & & & & 56.6 & \\ 16.2 & & & & & 59.1 & \end{matrix}$   
 3808  
 240  
 $\begin{matrix} 41 & 62.08 & 41 & 29.57 & 41 & 31.90 & 41 & 23.63 \\ 41 & 56.436 & 42 & 18.53 & 41 & 46.300 & 41 & 45.236 \\ 56.419 & & 46.283 & & 45.219 & & \\ +21.64 & & +31.68 & & +32.74 & & \\ -0.5 & & -12 & & -12 & & \\ -1.34 & -0.86 & -1.66 & -0.72 & -1.64 & -0.71 & \\ +20.18 & +20.66 & +30.40 & +30.74 & +31.58 & +31.91 & \\ 41 & 56.42 & 41 & 46.28 & 41 & 45.22 & \\ 42 & 16.60 & 42 & 16.68 & 42 & 16.68 & \\ 17.08 & & 17.02 & & 17.13 & & \\ & & & & 16.693 & & \end{matrix}$

5  
 $\begin{matrix} +26.87 & -22.09 & +14.40 \\ 35 & & 15 & +21.61 \end{matrix}$   
 $\begin{matrix} 1 & -3.08 & & -3.28 \\ 2 & 53.5 & 3 & 49.7 & 4 & 48.3 \\ & 4.9 & & 1.1 & & 45.2 \\ & 11.84 & & 11.08 & & 7.35 \\ 37 & 59.20 & 38 & 55.40 & 19 & 46.75 \end{matrix}$   
 $\begin{matrix} 1.42927 & 1.34420 & 1.15836 \\ 1.37476 & 1.42927 & 1.24376 \\ +3.24 & -4.87 & +17.53 \\ 38 & 37.71 & 38 & 2.11 & 20 & 4.28 \\ 25.56 & 36.12 & & & & \\ 24.15 & 45.56 & 49.16 & 57 & 16.93 \\ 41.21 & 41.49 & 41.77 & & & \end{matrix}$   
 $\begin{matrix} +66.35 & 52 & 36 & 48 & 35 & 57 \\ 2,121.40 & 2,121.70 & & & & \\ +33.78 & & & & & +40.84 \\ 2,155.18 & 2,155.48 & 2,168.24 & & & 2,170.18 \\ -14.290 & -14.300 & -14.630 & & & -14.800 \\ -5 & -5 & -8 & & & -10 \\ +13 & -23 & +0.9 & +0.4 & -4.8 & -28 \\ -30 & -39 & -91 & -87 & -64 & -56 \\ -2 & 28.12 & -2 & 23.35 & -2 & 27.25 \\ -24.18 & 4.33 & 5.12 & 59 & 43.18 & 59 & 4.37 \\ +2 & 15.67 & -16 & 7.45 & -16 & 6.55 & 2.58 \\ & 28.3 & 12.84 & 321 & 10.46 & 3.03 & 2.58 \\ +8.66 & +280 & +16.54 & +4.43 & +16.54 & +4.56 & \\ +2 & 24.4 & 15.64 & -16 & 0.09 & 6.03 & -75 & 59.08 & 50.2 \\ 15 & 43.11 & 48.69 & 42.93 & 49.21 & 16 & 44.15 & 14.39 \\ 15 & 43.55 & 49.48 & 49.21 & 49.21 & 17.45 & 46.39 \end{matrix}$







1875

$49$	$54.26$	$\cos L =$
$0$	$137.9$	$\cos P =$
$+2.214$		
$+11.27$		$\tan g P = -98$
		$I = 262$
$\cos P$	$9.89653$	$9.89653$
$16$	$12552$	$09315$
$66$	$22200$	$955568$
$\cos L$	$9.78934$	

$\begin{array}{r} s \\ + 24.91 \\ 15 \end{array} - 9.32 - 19.13$   
 $\begin{array}{r} 1 - 3.08 \\ 4 \end{array} \quad \begin{array}{r} 1.9 \\ 9.7 \\ 11.6 \\ 5.80 \end{array} \quad \begin{array}{r} 4 \end{array} \quad \begin{array}{r} 38.3 \\ 42.0 \\ 75.3 \\ 57.65 \end{array} \quad \begin{array}{r} 1 \end{array} \quad \begin{array}{r} 12.7 \\ 14.5 \\ 27.2 \\ 13.60 \end{array}$   
 $\begin{array}{r} 139637 \\ 141842 \\ 138608 \\ 19 \end{array} \quad \begin{array}{r} 0.96942 \\ 0.99117 \\ 0.95810 \\ 32.23 \\ 36.13 \\ 48.66 \\ 40.20 \end{array} \quad \begin{array}{r} 1.28171 \\ 1.30376 \\ -2013 \\ 0 \end{array} \quad \begin{array}{r} 2 \\ 2 \\ 2 \\ 2 \\ 2 \\ 2 \\ 2 \\ 2 \end{array} \quad \begin{array}{r} 512 \\ 512 \\ 512 \\ 512 \\ 512 \\ 512 \\ 512 \\ 512 \end{array}$   
 $\begin{array}{r} 180 \\ 2.51089 \\ + 338.6 \\ 2.54475 \\ - 350.60 \\ - .76 \\ + 1.77 \end{array} \quad \begin{array}{r} 89 \\ 2.51124 \\ + 338.6 \\ 2.54510 \\ - 350.60 \\ - .76 \\ + 1.77 \end{array} \quad \begin{array}{r} 17 \\ 31 \\ 17 \\ 31 \\ 17 \\ 31 \\ 17 \\ 31 \end{array} \quad \begin{array}{r} 26 \\ 2.51117 \\ + 488.1 \\ 2.55998 \\ - 363.00 \\ - 1.40 \\ + 1.0 \end{array} \quad \begin{array}{r} 2 \\ 2 \\ 2 \\ 2 \\ 2 \\ 2 \\ 2 \\ 2 \end{array} \quad \begin{array}{r} 512 \\ 512 \\ 512 \\ 512 \\ 512 \\ 512 \\ 512 \\ 512 \end{array}$   
 $\begin{array}{r} - 5 \\ - 38 \end{array} \quad \begin{array}{r} 516.0 \\ 2 \end{array} \quad \begin{array}{r} 3338 \\ 1567 \\ 304 \\ 5.02 \\ 18.45 \\ 57 \end{array} \quad \begin{array}{r} 5 \\ 2 \\ 2 \\ 2 \\ 2 \\ 2 \\ 2 \\ 2 \end{array} \quad \begin{array}{r} 31.25 \\ 1263 \\ 16.79 \\ 11.28 \\ 14.04 \\ 14.74 \end{array} \quad \begin{array}{r} 16 \\ 16 \\ 16 \\ 16 \\ 16 \\ 16 \\ 16 \\ 16 \end{array} \quad \begin{array}{r} 512 \\ 512 \\ 512 \\ 512 \\ 512 \\ 512 \\ 512 \\ 512 \end{array}$   
 $\begin{array}{r} 0 \\ + 5.30 \end{array} \quad \begin{array}{r} 14.74 \\ 14.74 \end{array} \quad \begin{array}{r} 11.83 \\ 11.83 \end{array}$



1874  
 (E) (E) *Canal* 16  
 3 46 30 1874  
 + 60 44  
 3 = -18 21  
 -31

$\delta = 9.94049 \cos \delta$  968920  
 16 11678  
 16 980598

1874  
 Feb 9 46 2398  
 14 2381  
 19 2364  
 1875  
 29541  
 +44 2454  
 +5.064  
 +11.032

1870  
 44 32.3  
 32.2  
 32.1  
 Jan 0 46 3046  
 5 3038  
 10 3029  
 15 3018  
 20 3006  
 25 2992  
 30 2978  
 Feb. 4 2962  
 9 2945  
 3046  
 3038  
 3029  
 3018  
 3006  
 2992  
 2978  
 2962  
 2945  
 44 412  
 42.1  
 42.0  
 41.7  
 41.3  
 40.8  
 40.2  
 39.5  
 38.7  
 37.7  
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 3.7  
 2.7  
 1.7  
 0.7  
 0.0  
 -0.7  
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 -93.7  
 -94.7  
 -95.7  
 -96.7  
 -97.7  
 -98.7  
 -99.7  
 -100.7

$\cos \delta = -0.40$   
 $\cos \delta = -0.69$

$\tan \delta = +1.78$   
 $I = 4.21$   
 $K = -0.31$

1874  
 Feb 14  
 3 45 41.0 45 41.2 46 0.2 45 320 45 14.2 44 41.8  
 46.2 2.1 33.6 19.8 44.5  
 48.3 4.3 38.4 23.1 47.8  
 50.4 6.6 31.3 35.5  
 52.5 8.6 39.4  
 54.8 10.5 43.9 45 2.8  
 56.7 12.8 46 2.57 48.0 5.7  
 58.6 15.0 21.6 48.0 5.7  
 1.0 17.0 32.0 56.5 11.1  
 50

41.25  
 60  
 on 47.25 45 41.20  
 45 52.500 46 8.567 45 35.33 43.73 44 44.60  
 52.469 +31.14 8.536 +21.59 39.724 +48.75  
 46 23.920 +4.44 46 30.384 +2.23 46 28.698 +1.43  
 -31.583 -21.843 -21.843 -0.83 -49.981 -0.14  
 -31.31 +0.68 -21.843 -21.843 -0.83 -49.981 -0.14  
 + 31.00 +36.113 + 21.57 + 21.57 + 49.46  
 + 19 21 37  
 + 0.68 -0.83 -0.14  
 + 31.92 52 794 + 20.95 42 2408 + 18.99 0 5496  
 45 52.47 -7 3098 46 8.54 +2 16.07 45 39.72 -16 1098  
 + 2 + 10  
 46 24.39 -16.70 46 29.49 -17.60 46 28.71 -20.90  
 29.453 + 6.044 1916 44 23.53 44 24.13

1 + 11.30  
 30 -3.70  
 0 59.7  
 56.7  
 116.4  
 30 58.20  
 105.308  
 0.85906  
 + 7.23  
 31 24.3  
 +60 51 42.2  
 -18 21 30  
 1.28120m  
 +165.4  
 1.39774  
 +24.99  
 +33.24 -20.33 +55.15 +32.88  
 40 20 -3.08 -3.57 -27.12  
 0 23.0 0 57.1 1 31.2 2 26.8  
 24.6 57.6 41.9 36.3  
 47.6 114.7 73.1 63.1  
 40 33.80 40 57.35 21 36.55 22 31.55  
 1.52166 1.30814m 1.74155 1.51693m 1.43329  
 1.52166 1.12238 1.55627 1.33165m 1.24801  
 +21.92 -13.27 +36.00 -24.46  
 40 44.50 40 44.08 22 12.55 22 12.09  
 46.6 143.4 13.85  
 42 28.5 42.4 0 35.80 35.26  
 36.5 40.1 35.15 34.50  
 21 43 21 10 22 12 21 16  
 1.28130 1.28110m 1.28150 1.28110m  
 +33.97 +29.89  
 1.31527 1.31507 1.31139 1.31099  
 +20.67 +20.66 +20.48 +20.46

-0.3+0.1  
 +0.6 +0.3  
 +25.02  
 52 7.9 4  
 44 32.2  
 -7 35.7  
 -7 35.74  
 -7 36.4 44 19.10  
 30.7 30.14  
 93 -1.66  
 18.70 44 19.10  
 18.70 44 19.10  
 -25.23 -0.9  
 -0.4 -0.9  
 +20.38 +20.48  
 42 23.67 24.49 0 55.40 54.52  
 44 42.1 44 45.4  
 +2 18.34 17.6 16 10.0 9.1  
 +2 18.00 -16 9.55  
 +2 17.3 44 22.9 -16 10.2 24.52  
 +2 15.67 16.62 23.51 -16 11.08 23.64  
 + 9.5 -8.56 + 1.10 -8.86  
 17.60 44 23.10 -16 20.90 24.08  
 17.60 44 23.10 -16 20.90 24.08



*Persei*  
 $\begin{matrix} 46 & 17 \\ + 31 & 31 \\ \hline 77 & 48 \end{matrix}$   
 $z = +10 \quad 52$   
 $\sin z = +.19$

1875  
 $\begin{matrix} 16.670 \\ + 30 & 37.01 \\ + 3.157 \\ + 11.020 \end{matrix}$

$\cos \delta \quad 9.93069$   
 $\sin \delta \quad .12552$   
 $\tan \delta \quad .03621$   
 $\cos \delta \quad 9.71829$

$\cos \delta =$   
 $\cos \delta =$   
 $\tan \delta = +.61 \quad 1.17$   
 $I = 2.92$   
 $K = .018$

$+36.08$   
 $1875$   
 $\text{Jan } 17$   
 $\begin{matrix} 3.45 & 308 & 15 & 495 \\ 33.4 & & & 524 \\ 35.7 & & & 547 \\ 40.4 & & & \\ 42.0 & & & \\ 45.4 & & & \\ 47.8 & & & \\ 50.4 & & & \\ 52.8 & & & \\ 57.8 & & & \\ 1.1 & & & \end{matrix}$   
 $42.93$   
 $19.93 \quad 45 \quad 5220$   
 $45 \quad 45.391$   
 $45.37$   
 $+ 31.65$   
 $+ 31.08 \quad + 22$   
 $+ .16 \quad - .09$   
 $- 0.41 \quad - .41$   
 $+ 31.33 \quad 46 \quad 16.74$   
 $45 \quad 45.37$   
 $46 \quad 16.70$

$581$   
 $35 \quad 6.48$   
 $0 \quad 44.8$   
 $46.2$   
 $91.0$   
 $35 \quad 45.50$   
 $0.81158$   
 $0.81158$   
 $0.81158$   
 $35 \quad 45.50$   
 $37.75$   
 $3147 \quad 1060$   
 $+10 \quad 51 \quad 58$   
 $1.04350$   
 $+439.3$   
 $1.08743$   
 $+12.23$   
 $- .01$   
 $- .15$   
 $+ 12.07$   
 $+31 \quad 47 \quad 2767$   
 $- 16 \quad 1.45$   
 $- .06$   
 $- 12.02$   
 $- 16 \quad 19.53$   
 $31 \quad 3.14$



J. Mrs. Min. S. Co.  
 153 48 34,  
 10 49  
 11  
 26  
 $\Sigma = -89$   
 -86

1875-  
 Jan 20 48 3173  
 25 3342 +39  
 30 3274 .52  
 Feb 4 3348 .54  
 9 3403 .55

1875  
 49 1935 =  
 33,506 cond = +1.552 (1875)  
 +10 4065 cond = -  
 -2,297  
 -10.896 tangd = -4.78 489  
 931129m I = 18.99  
 12552 K = +.075  
 9,62564m  
 9,43681m  
 9,99070

1874.0

1875.0

33.82  
 34.15  
 34.03  
 34,000  
 33,506  
 +.494  
 40.65

1875-  
 Jan 17  
 47 414 334  
 414 322  
 1162 48.9  
 514  
 56.8  
 15  
 64  
 126  
 168  
 220  
 2541  
 240  
 141 47 40.50  
 48 1067 47 40.50  
 47 40.50  
 48 3640 47 0.50  
 47 44911  
 1642 +3165 45,942 +48.59 44,986 +49.75  
 31,5702 -172 48 33,712 -134 48 33,1823 -115  
 -29,988 +.39 -4,128 +.29 48,1724  
 -30.33 +1.89 -47.48 +0.39 -48,549 +0.28  
 48 3385 3387 3387  
 + 31.58 + 48.586 + 49.76  
 - 1.29 - .74 - 1.00  
 +18.89 +0.39 +0.28  
 + 32.18 + 48.21 5116 + 49.04 5352  
 48 164 -16 760 47 45.94 -16 112447 4499 -16 1093  
 + 26 + 26 + 26  
 48 3382 -2410 48 34.15 -3690 48 3403 -2700  
 +10149 1712 49 1562 49 1819  
 +2107  
 1 +20.78  
 15 -50.53  
 15 -3.55  
 3 21.2  
 3 34.2  
 554  
 18 27.70  
 15 50.75  
 164748  
 1,086,22m  
 1,086,22m  
 1,086,22m  
 18 1288  
 41.52  
 4 6.83  
 25 20  
 2,152,24  
 1,489,18m  
 +31.32  
 2,018,70  
 +10440  
 + 03  
 +.24 -0.05  
 -37 -10  
 +1 44.33  
 57 37.50 5 51.16  
 10 13.8  
 49 46.2  
 16 50  
 -16 12.02 897 1529  
 + 305 16.00  
 26.90  
 -16 35.87 1520 -16 35.01 18.51  
 +.05 -34  
 -74 -69  
 +1 46.81  
 57 47.40 5 46.22  
 10 16.0  
 48 48.4  
 -16 33.22  
 -16 12.02 40 12.9  
 + 282 46.3  
 2410 -13.20  
 -16 28.73 49 17.99 -16 35.87 1520 -16 35.01 18.51



E. P. 1874

3 49 28 1874  
+ 39 39 24.046  
+ 36.22  
+ 4.002  
+ 10.798

z = + 2 44  
+ 0.4

loss 9.88647  
66 .11678  
66 .00345

loss 9.80489

1874  
Feb. 5

+ 330  
48 445 48 405  
47 0 43.3  
49 4 46.0  
45.0  
57.6  
6.2  
3 0 49 18.1  
5 9 28.3  
11 0 28.0  
14 0  
16.7

30.47  
30.0

49 0.427 48 43.27  
0.407 49 20.47  
23.84 +23.889  
-23.43 +2.9

+ 0.21  
+ 23.4049 24.30  
+ .27

+ 0.21 + 4.212  
+ 23.88  
49 0.41 46 21.94  
-7 31.35  
49 24.29 -1  
28.292 -12.50  
+ 39 38 37.94

S  
35 +17.16 -20.04 25  
26 -2.79  
12.8 1 50.7 2 2.7  
58.9 36.8 3.6  
131.7 57.5 6.3  
36 23.5 36 43.75 27 3.15

1.23452 1.30190  
1.23797 1.30535  
+1730 -20.20  
36 23.15 36 23.55

+39.46 25.20 2480  
25.00  
+2 43 38 44 16  
0.43820 0.44800  
+ 4504  
0.48324 0.48504  
-3.04 -3.05

-06 -01 -11  
+07 +10  
-3.05 -3.06  
46 22.15 21.74  
38 4.7  
-7 33.4 33.0  
-7 33.2  
-7 131.27 38 38.24  
11 31.38 38.86  
12.50 -1.70  
-7 43.88 38 38.06  
38 4.7

1874  
Jan 15 49 23.95  
21 23.86 -0.9  
Feb 9 23.77 .09  
1875  
28.018  
+88 47.02  
+4.002  
+10.793

9.88647  
13.552  
0.1199

Jan. 27

1875  
Feb. 2

+210  
48 224.48 26.3  
252 28.8  
280 31.6  
33.1  
35.9  
38.4  
41.4 49 30  
42.8 48  
43.3 7.2  
52.6  
54.7

424.2  
48 28.57  
48 58.564 49 4.67  
38.544  
48 28.240 +49.76  
28.240 +2.0  
+10.381

-0.18  
+ 49.76 49 38.32  
+ .17  
-0.18  
+ 49.75  
48 38.54 55 14.35  
-16 10.93  
49. 28.27 -2  
-14.80  
38 48.42

+ 9.99 -26.11  
25 -3.57  
2 16.8 2 53.7  
24.3 1.0  
41.1 11.47  
27 20.55 27 5.35

0.99913 1.41681  
1.01112 1.42880  
+1026 -26.84  
27 30.81 27 30.57

55 17.54 17.84  
17.69  
43 32 44 9  
0.43790 0.43980  
+ 29.74  
4.678 4.6574  
-2.94 -2.95

-03 -39 -18  
-25 -32  
-3.22 -3.45  
55 14.32 14.39  
39 39.18  
-16 12.5 12.6  
-16 12.6  
-16 11.08 38 48.30  
14 11.22 48.37  
14.80 -4.00  
-16 26.02 38 48.33

1875  
Jan 20 49 28.46  
25 28.37 -0.9  
30 28.29 .08  
Feb. 4 28.21 .04  
7 28.13 .08

corr. =  
comp. =

long. = +0.83

± = 2.68

K = -0.20



1875-  
Jan 19  
51 262 51 152  
283 170  
504 190  
344  
264  
384  
460  
472  
486  
517  
51 42.68 51 17.07  
51 38.600  
38.784  
+ 33.46  
- .09  
- .64  
+ 33.43  
38.8078  
52 11.83

1875-  
52 11.95 cond =  
51 16.21 cond =  
+ 24.95  
+ 105.8  
tand = -25  
I = 2.12  
K = -0.16  
6.008 9.98715  
66 12.552  
66 11.267  
6.008 9.37960

1875-  
Jan 19  
51 262 51 152  
283 170  
504 190  
344  
264  
384  
460  
472  
486  
517  
51 42.68 51 17.07  
51 38.600  
38.784  
+ 33.46  
- .09  
- .64  
+ 33.43  
38.8078  
52 11.83

Jan. 27

Feb. 1

Feb. 2

+15.8  
51 11.2 51 61 51 10.0 51 15.3  
13.2 81 12.1 17.6  
15.8 10.0 14.4 19.2  
19.6  
21.6  
23.8  
26.1 51 48.0 24.9 51 53.6  
28.1 50.2 27.0 56.1  
32.2 52.4 31.2 58.0  
34.5  
36.4  
35.6  
26.19 51 8.07 25.04 51 17.37  
51 23.809 51 50.305 22.764 51 55.90  
23.793 22.748  
+ 48.53  
- .04  
- .48  
48.04  
23.81  
11.83  
+ 49.76  
- .05  
- .36  
49.35  
22.75  
12.10  
11.927

55 +21.73  
55 -382  
1 31.3  
29.4  
68.7  
56 30.35  
1.33706  
1.44973  
+28.17  
56 38.52  
-13 34 10.17  
+56 12 42  
1.93364  
+439.0  
1.97757  
-99.9  
-2  
+0.08  
-21  
-1 35.15  
-13 35 45.32  
-16 8.17  
-27.5 10.92  
+1.50 11.01  
-16 9.42  
51 54.74

55

1 34.1  
33.1  
67.2  
56 33.60

+15.74 -26.49 +5.39 -33.14  
55 -3.55  
1 35.7 2 30.1 1 32.4 2 41.2  
43.1 37.0 56.9 46.2  
78.8 67.1 109.3 87.4  
56 39.40 57 33.55 56 54.65 57 45.70  
1.19700 1.142308 0.73159 1.52035  
1.30967 1.53570 0.84426 1.63302  
+20.40 -34.34 +6.99 -42.96  
56 59.80 56 59.31 57 1.64 57 0.74  
34 11.45 10.86 34 13.29 12.37  
11.15 12.84  
12 51 13 46 13 9 13 56  
1.93372 1.93397 1.93378 1.93399  
+3.149 +2.995  
1.96521 1.96546 1.96373 1.96894  
-92.30 -92.30 -91.99 -92.03  
-1 -1 -1 -1  
+0.3 -18 +0.1 -18  
-18 -29 -21 -30  
-1 32.46 -1 32.58 -1 32.19 -1 32.21  
35 43.91 43.44 35 45.26 44.60  
-16 12.02 14.96 -16 11.08 14.04  
-29.4  
+2.6 13.11 +2.76 13.21  
-16 12.36 56.27 -16 11.34 56.83  
56.77 55.80 51 55.94  
56.03 52.26 56.38



1874

1875

Jan 1 Jan 15  
 53 53 45  
 + 12 08  
 9 = + 30 15  
 + 50

Jan 20 53 42.23  
 25 42.18  
 30 42.12  
 Feb 4 42.06  
 9 41.99  
 14 41.92  
 19 41.84  
 24 41.76  
 Mar. 1 41.68

Jan 20 53 42.23  
 25 42.18  
 30 42.12  
 Feb 4 42.06  
 9 41.99  
 14 41.92  
 19 41.84  
 24 41.76  
 Mar. 1 41.68

Jan 20 53 45.86  
 25 45.80  
 30 45.74  
 Feb 4 45.68  
 9 45.62

1874

1874

1875

Feb. 1 +30  
 53 9.0 53 39.0  
 11.1 40.6  
 13.3 41.9  
 17.4  
 19.6  
 21.8  
 23.8  
 25.7  
 30.1  
 32.1  
 34.3

Feb. 5 +35  
 53 39.3 53 57  
 1.0  
 3.0  
 10.1  
 14.3  
 16.5  
 18.7  
 20.6  
 22.7  
 27.1  
 29.2  
 31.3

Feb. 14 +25  
 53 58.2 52 51.0  
 0.2  
 2.4  
 6.7  
 8.7  
 10.9  
 13.0  
 15.2  
 19.3  
 21.3  
 23.5

Jan 17 +36  
 53 16  
 3.9  
 5.4  
 10.0  
 12.2  
 14.3  
 16.4  
 18.4  
 22.7  
 24.8  
 26.9

Jan 19 +33  
 53 29.2  
 31.9  
 9.9  
 12.0  
 14.0  
 16.3  
 20.6  
 22.4  
 24.7

Jan. 27  
 53 29.2  
 31.9  
 9.9  
 12.0  
 14.0  
 16.3  
 20.6  
 22.4  
 24.7

2854

2043

1794

1567

53 21.67 53 40.50  
 53 31.745 53 18.573  
 21.929 +20.481  
 53 42.700 +0.06 53 42.05  
 -20.176 -0.02  
 + 20.08 53 42.08  
 + 0.07  
 -0.02 +3.296  
 + 20.43  
 53 21.67 15 33.16  
 53 42.36 10 53 42.06  
 15.676 -8.30  
 +12.42 7 56.66

53 1.10 53 42.37  
 18.557 +23.39  
 42.05 +0.07  
 -22.49 +0.02  
 42.04 +0.02  
 + 23.41 42.04  
 + 0.07  
 +0.02 +3.336  
 23.50  
 53 18.56 33.13  
 18.56 33.13  
 7 31.35  
 53 42.06 7 31.35  
 45.376 -8.20  
 7 57.08

1194 52 32.83  
 10.855  
 10.839 +31.14  
 41.72 +0.05  
 -31.08 +0.15  
 42.18 +31.59  
 + 0.02  
 +0.16 +3.466  
 31.23  
 12.84 15 32.89  
 14.23  
 53 42.06 7 31.35  
 42.07 -1.5  
 7 57.61

14245  
 14.229 +31.66  
 45.9089 +0.08  
 -31.08 -0.50  
 45.39 +31.59  
 + 0.06  
 -0.50  
 + 31.15  
 14.23  
 -16 76.0  
 -16 53 45.35  
 8 76.1

53 12.004  
 11.988 +33.80  
 45.179 +0.7  
 -33.88 -0.48  
 45.38  
 + 33.14  
 + 0.07  
 -0.48  
 + 33.36  
 53 11.99 24.2331  
 -16 80.0  
 -16  
 -6.10  
 8 76.1

5 -18.56  
 5 10.1 2 10.3  
 52.1 52.2  
 22 2.5  
 6 1.10 7 1.25  
 126.858  
 137.555  
 -22.74  
 6 37.51 6 38.40  
 +42.16 10.99  
 +30 14 33  
 1.52560 1.52590  
 +50.97  
 1.57641 1.57671  
 -37.71 -37.73

5 +17.47 -2380  
 5 23.9 2 15.9  
 8.2 0.4  
 52.1 16.3  
 6 16.05 7 8.15  
 124.229 137.658  
 1.34926 1.48355  
 +22.35 -30.45  
 6 37.50 6 40.55  
 10.30  
 13 48 14 40  
 +4504 +16.75  
 1.57070 1.57094  
 -37.22 -37.23

5 +18.02  
 5 20.2 1 20.2  
 14.8  
 35.0  
 6 17.50  
 125.575  
 1.36272  
 +23.65  
 10.65 16 7.80  
 -3.00  
 1 20.2  
 14.8  
 35.0  
 6 17.50  
 125.575  
 1.36272  
 +23.65  
 10.65 16 7.80

55 -3.28  
 55 18.3  
 17.8  
 36.1  
 57 18.05  
 1.25768  
 1.37339  
 -23.63  
 57 47.17  
 25 1.18  
 14 23  
 1.52570 1.52590  
 +47.00  
 1.57270  
 -37.39

55 -18.10  
 55 11.3  
 10.3  
 21.6  
 58 10.80  
 1.25768  
 1.37339  
 -23.63  
 57 47.17  
 25 1.18  
 14 23  
 1.52570 1.52590  
 +47.00  
 1.57270  
 -37.39

55 1.3  
 0.5  
 1.8  
 0.90

15 37.74 -37.68  
 33.16  
 33.5  
 33.5  
 31.65 7 56.88  
 133 32.98  
 3.20 +7.18  
 -7 36.28 7 56.88  
 -7 35.86 57.27  
 -7 35.47 57.52

15 37.27 37.30 37.16  
 32.78 33.49 34.91  
 33.6 33.9 33.7  
 33.5 30.7  
 31.27 32.66 56.92  
 139 32.66 57.63  
 32.0 +7.28  
 -7 35.86 57.27  
 -7 35.47 57.52

15 34.91 34.91  
 34.91 34.91  
 34.91 34.91  
 34.91 34.91  
 34.91 34.91  
 34.91 34.91  
 34.91 34.91  
 34.91 34.91

8 13.1  
 13.1  
 13.1  
 13.1  
 13.1  
 13.1  
 13.1  
 13.1  
 13.1

24 23.31  
 8 13.0  
 -16 10.3  
 -16 10.3  
 -16 8.17 8 73.8  
 16.6 9.33  
 6.10 +4.38  
 -16 15.93 8 73.8



1874  
 $\times 42.0714$   
 $\div +56.38$   
 $\div +3.316$   
 $\div +10.481$

6.058 9.99019  
 6.6 .11678  
 6.6 .10677

Leind 9.32261

1875  
 $45.390$   
 $+8.686$   
 $+3.317$   
 $+10.477$

9.99019  
 .12552  
 .11871

cond =  
 cond =

tang $\delta$  = +.21 102

$I = 2.11$

$K = -0.16$

+28 -06  
 Feb. 1

52 445.52 57.052 43.3 53 21.8  
 46.4 53.1 45.8 23.8  
 48.7 55.1 44.6 25.7  
 52.0 57.4 57.4  
 54.8 53.6  
 57.1 56.3  
 59.2 53 58.0  
 7.4 24.9 0.1  
 5.6 27.3 4.3  
 4.0 6.6  
 19.7 8.7  
 38.79 37.54  
 24.6 24.0  
 6.279 52 53.07 61.54 53 23.77  
 52 57.082 53 25.1052 55.945  
 57.066 +48.60 53.929 +49.76  
 53 45.721 +1.06 53 48.70 +.05  
 -48.654 -0.06 -49.77 -0.31  
 -0.32  
 + 48.56 45.35 + 49.77 45.43  
 + .03 + .04  
 -0.32 -0.31  
 + 48.27 + 49.50  
 52 57.07 34 26.552 55.93 26.44  
 -16 11.24 -16 10.93  
 53 45.34 -16 52 45.43 -1.6  
 -3.60 -5.60  
 8 8.24 8 8.31

+24  
 Feb. 2

5 55 -27.83  
 $+4.01$  -28.02 +3.07  
 $-3.55$  55 -3.57  
 2 36.6 3 17.9 2 40.8 3 18.9  
 44.1 24.9 46.9 24.9  
 80.7 42.8 82.7 42.8  
 57 40.35 58 21.40 57 42.85 58 21.90  
 0.60314 1.44747m 1.44451m  
 0.71885 1.56318m 1.56022m  
 +5.23 -36.58 -36.82 -36.32  
 57 45.58 57 44.82 57 7.52 57 45.38  
 25 2.77 3.53 25 40.82 25 2.77  
 $3.185$   
 13 52 14 33  
 $+31.53$  +29.97  
 $1.55443$  1.55563 1.55580 1.55587  
 $-36.08$  -36.09 -35.91 -35.96  
 .80 -38 -09 -08 -19 -38  
 -80 -37 -30  
 35.78 36.38 35.63 -36.53 35.57 -36.33  
 24 26.39 26.98 24 26.44  
 12.5  
 13.9 14.5 13.9  
 14.2 13.9  
 -16 12.02 13.79 7.52 -16 11.88 12.86 7.98  
 -17.7 7.59 -17.8 5.60 +4.88  
 -16 12.39 7.29 -16 15.46 7.98



Groom 750  
 $2^h 57^m$   
 $+ 85^\circ 13'$   
 $z = -42$   
 $\sin z = -.68$

1874  
 $46.257$   
 $+10.13$   
 $+16.529$   
 $+10.240$

lead 8.92110  
 $16' 11678$   
 $16' 9.03788$   
 $\text{lead} 9.99848$

1875  
 $58.095$   
 $+13.2036$   
 $+16.847$   
 $+10.219$

8.92110  
 $12552$   
 $9.04662$

corr. = +.350

corr. d =

long. = +11.95

I =

$\lambda = -182$

log. 9.99848  
 $\log. 8.92110$   
 $\log. 11.521$   
 $6.73672$   
 $5.65600$

1874  
 Feb. 3  
 $+330$   
 $56 247$   
 $37.5$   
 $57 16$   
 $12.1$   
 $2.48$   
 $39.6$   
 $58 3.4$   
 $30.32$   
 $180$   
 $12.32$   
 $56 370$   
 $57 13.689$   
 $13.507$   
 $+ 23.41$   
 $+ 3.934$

1874  
 Feb. 14  
 $42.2$   
 $57 51.3$   
 $6.4$   
 $18.5$   
 $30.5$   
 $4.400$   
 $6.218$   
 $+ 31.06$   
 $+ 1.28$

1875  
 Jan. 17  
 $+36.1875$   
 $+290$   
 $56 50$   
 $57 27$   
 $16.2$   
 $27.3$   
 $40.8$   
 $58 5.8$   
 $18.7$   
 $25.38$   
 $55 5.10$   
 $57 28.200$   
 $28.218$   
 $+31.66$   
 $+ 31.09$   
 $+ 3.213$   
 $- 4.91$   
 $+ 30.11$   
 $57 28.02$   
 $57 58.13$   
 $29 53.05$   
 $-16 7.0$   
 $+ 2.1$   
 $- 22.81$   
 $+ 85 13$   
 $24.74$

1875  
 Dec. 19  
 $+33$   
 $+350$   
 $56 342$   
 $48.4$   
 $57 59.9$   
 $12.2$   
 $23.3$   
 $36.4$   
 $58 49.9$   
 $2.4$   
 $16.7$   
 $28.24$   
 $48.0$   
 $76.24$   
 $55 33.50$   
 $57 24.711$   
 $24.529$   
 $+33.80$   
 $+ 33.77$   
 $+ 4.178$   
 $- 4.34$   
 $+ 33.61$   
 $57 24.53$   
 $57 58.14$   
 $29 52.18$   
 $-16 8.00$   
 $+ 2.1$   
 $- 23.22$   
 $+ 13$   
 $21.06$

1875  
 Jan. 27  
 $+2.5$   
 $+196$   
 $56 215$   
 $36.3$   
 $48.0$   
 $57 0.3$   
 $11.6$   
 $2.4$   
 $35.7$   
 $44.0$   
 $58 1.4$   
 $22.58$   
 $42.0$   
 $64.58$   
 $56 2.00$   
 $57 11.756$   
 $11.574$   
 $+ 46.43$   
 $+ 46.86$   
 $+ 2.34$   
 $- 2.08$   
 $+ 46.62$   
 $57 11.57$   
 $57 58.19$   
 $29 54.24$   
 $-16 10.47$   
 $+ 2.2$   
 $- 25.78$   
 $+ 13$   
 $20.89$

$+ 9.99$   
 $0$   
 $10.1 - 2.79$   
 $2 43.2$   
 $33.0$   
 $76.2$   
 $2 38.10$   
 $0.99957$   
 $0.03745$   
 $+ 1.09$   
 $2 39.19$   
 $+ 1.8520$   
 $9.16$   
 $-4$   
 $-42 49 50$   
 $1.72700$   
 $+ 4.504$   
 $1.77294$   
 $+ 5.716$   
 $+ 0.15$   
 $+ 0.07$   
 $+ 16$   
 $+ 5.31$   
 $+ 85 21 8.47$   
 $- 7 31.27$   
 $+ 1.89$

$0$   
 $2 50.4$   
 $29.6$   
 $80.2$   
 $2 40.10$   
 $93$   
 $+ 16$

$50$   
 $+143.10$   
 $-3.28$   
 $3 37.1$   
 $37.9$   
 $75.0$   
 $53 37.50$   
 $54 4.55$   
 $53 44.15$   
 $2.15564$   
 $1.20226$   
 $+15.93$   
 $53 53.43$   
 $+85 28 54.92$   
 $-50 11$   
 $1.72710$   
 $+4.927$   
 $1.77627$   
 $+5.714$   
 $-93 -80$   
 $-68 -161$   
 $+58.13$   
 $29 53.05$   
 $-16 7.45$   
 $+ 2.23$   
 $-22.81$   
 $-16 28.03$   
 $13 25.02$   
 $Fe.$

$50$   
 $+111.21$   
 $-3.32$   
 $3 43.4$   
 $44.9$   
 $88.3$   
 $53 44.15$   
 $2.04614$   
 $1.09276$   
 $+13.38$   
 $53 56.53$   
 $28 51.82$   
 $47.0$   
 $1.77410$   
 $+5.944$   
 $-56 -54$   
 $-52 -148$   
 $+58.36$   
 $29 50.18$   
 $-16 8.17$   
 $+ 2.25$   
 $-22.22$   
 $-16 29.14$   
 $21.04$

$50$   
 $3 56.1$   
 $58.6$   
 $114.7$   
 $53 57.35$

$50$   
 $+69.76$   
 $-15.94$   
 $-3.52$   
 $3 49.8$   
 $45.1$   
 $84.9$   
 $53 42.45$   
 $53 52.05$   
 $1.84361$   
 $0.89023$   
 $+7.77$   
 $53 50.32$   
 $53 49.94$   
 $28 58.13$   
 $58.27$   
 $50 6 49 56$   
 $1.72700$   
 $+25.18$   
 $1.75215$   
 $+56.51$   
 $+56.51$   
 $-22.54$   
 $-41$   
 $+55.88$   
 $29 54.01$   
 $-16 10.46$   
 $+ 2.39$   
 $-25.08$   
 $-16 33.15$   
 $20.86$   
 $21.09$   
 $21.22$



$\alpha$  1874.0  $\beta$ 

$\alpha$  1875.0  $\beta$

58.13  
 .14  
 .19  
 .09  
 .53  
 58.216  
 .095  
 +.440  
 .121

20.36

+28 -06

+24

Feb. 1

Feb. 2

+105

+210

56 209 55 434 56 188 55 433

324

300

444

426 56 2.6

561

555

57 25

57 25

214

196

352

350

458

454

20

580

2654

3106

360

240

6254 55 4340

706 55 4330

57 9.489

57 7844

9.307

7662

+48.60

+49.76

+ 48.56

+ 3.35

+ 1.85

+ 2.501

- 1.63

- 1.41

+ 48.78

+ 50.87

57 9.31

57 766

57 58.09

57 58.53

30 0.85

29 5400

-16 1124

-16 1093

+ 2.2

+ 2.2

-25.35

-25.48

13 2646

13 19.79

5

+8454

+6424

50 +8609

50

-3.55

-3.57

3 29.0

3 24.9

40.1

35.2

69.1

48.4

53 34.55

53 30.05

53 43.75

1.93495

1.92806

0.98107

0.97568

+9.58

+8.41

53 44.13

53 30.462

29 42.2

29 58.9

+3166

18 49 57

1.75866

1.72710

+57.37

+3824

-34.27

1.75714

-40

+57.17

+56.63

+57.15

30 0.85

29 54.00

-16 12.02

-16 1108

+ 2.41

+ 2.42

-25.28

-25.43

-16 34.96

-16 34.14

25.89

19.86











Feb. 1

Feb. 2

+135	59	344	59	48.7	59	41.9
59	488	36.1	59	44.9		45.0
57.2		41.0		52.0		45.6
53.3				56.3		
50.4				58.5		
59.4				0.4		
1.9				2.7	0	2.5
4.1	0	19.3		4.9		23.2
6.2		21.7		9.2		24.9
10.3		22.4		11.4		
12.5				13.6		
14.7						
32.01				30.66		
30.0				30.0		
20.1	59	39.17		6.6	59	44.7
0	1.827	0	21.470	0.600	0	23.20
	1.871			0.584		
+ 48.56				+ 49.44		
+ .05				+ .06		
- 0.36				- 0.35		
+ 48.25				+ 49.48		
0	1.80			0	0.58	
0	50.05			0	50.06	
				50.030		

8						
5	+22.66	-19.64	5	+22.43	-16.60	
	-3.55			-3.57		
0	11.9	1	7.1	0	21.1	1
	18.7		12.9		27.5	17.0
	30.6		20.0		48.6	28.9
5	13.30	6	10.00	5	24.30	6
	135826		129314m		135083	
	146138		135922m		145695	
	+28.93		-25.08		+28.64	
5	44.23	5	44.92	5	52.94	5
					53.26	
17	4.12		3.43	16	55.41	
	3.77				55.24	
				21	36	22
					1.43600	1.42620
	+3176				+3008	
	1.46786		1.46806		1.46608	1.46628
	-29.37		-29.38		-29.25	-29.26
	-07	-14	-05		-07	-14
	-63		-13		-04	-13
	-29.47		-29.56		-29.36	-29.43
16	34.65		33.87	16	25.05	
-16	12.02			-16	11.09	
	1.52		13.54		1.53	12.61
	-7.46	+2.51			-7.43	+2.54
-16	21.00			-16	20.04	
0	13.65		12.7		6.01	56.2
0	13.5				5.81	



$$p_{\text{Laird}} = \frac{p_{\text{Laird}}}{p_{\text{Laird}} + p_{\text{Laird}}}$$

$$p_{\text{Laird}} = \frac{p_{\text{Laird}}}{p_{\text{Laird}} + p_{\text{Laird}}}$$

$$p_{\text{Laird}} = \frac{p_{\text{Laird}}}{p_{\text{Laird}} + p_{\text{Laird}}}$$

$$\begin{aligned} \text{corr } \alpha &= \\ \text{corr } \beta &= \\ \text{tang } \beta &= +.49 \\ I &= 2.30 \\ K &= -.017 \end{aligned}$$

1874				1875			
Feb. 5				Jan. 19			
+	330			+	330		
2	32.2	2	341	2	260	2	156
	34.6		358		283		187
	37.1				306		195
	41.2				352		
	43.4				376		
	45.9				400		
	48.4	3	150		422		
	50.7		209		445		
	55.4		229		490		
	57.5				51.4		
	59.6				53.7		
	506.2	2	54.95		4385	2	1760
2	460.18	3	2060.2		39.864		

46.001	92.847
+ 23.41	+ 33.47
+ 16	+ 17
+ 0.24 + 3.683	- 0.01
+ 23.61	+ 33.43
2 46.00	2 39.88
3 96.1	2 1.229
13.253	8
9.61	

$$\begin{array}{r} 39.847 \\ + 33\frac{1}{4}\% \\ + 17 \\ - 0.51 \\ + 3343 \\ 2 \quad 39.885 \\ 2 \quad 1.328 \end{array}$$
[illegible]

27,138	24,919	23,743
+ 46.36	+ 48.06	+ 49.44
+ .10	+ .07	+ .10
- 0.38	- 0.35	- 0.34
+ 4608	+ 4828	+ 4903
2 27.14	2 24.92	2 23.76
3 13.22	3 13.20	3 13.29
		13.250

$$\begin{array}{r}
 1 - 893 \\
 5 - 34.58 \\
 26.5 = 1 - 2.19 \\
 0 4.6 \\
 52.0 \\
 116.6 \\
 4 58.30 \\
 0.9585 \\
 0.60073 \\
 -3.99 \\
 4 54.31.5 \\
 +26 17 428.10 \\
 +16 12 30 14 0 12 46 \\
 1.22340 1.22440 1.22430 \\
 +1504 \\
 1.26874 1.26944 1.26965 \\
 -18.67 -18.60 -18.61 \\
 -02 -08 -25 -11 \\
 -30 +09 -16 -22 \\
 -18.20 -18.56 -18.94 \\
 +26 17 3575 41.76 25 29.08 \\
 -7 3127 16 8.17 \\
 -7 3205 92 \\
 -8.23 +154 -10.50 \\
 -7 4028 16 17.54 \\
 -7 55.47 1.98 9 9.49 \\
 1.125 9 9.49
 \end{array}$$

55

55	+34.08	-35.48	55	+20.77	-26.06	55	+26.33	-5.44
	-3.52			-3.55			-3.67	
1	13.1	2 38.2	1	27.2	2 23.1	1	21.0	2 0.3
	19.1	43.4		36.9	32.9		29.8	8.9
	32.2	81.6		64.1	56.0		50.8	9.2
56	16.10	57 40.80	56	32.05	57 25.00	56	25.40	57 4.60
	1.53230	1.54978 <sub>m</sub>		1.31744	1.41597 <sub>m</sub>		1.42045	0.73560 <sub>m</sub>
	1.61112	1.62860 <sub>m</sub>		1.39606	1.49459 <sub>m</sub>		1.49907	0.81422 <sub>m</sub>
	+40.85	-42.52		+24.89	-31.28		+31.55	6.52
56	34.95	56 58.28	56	56.94	56 56.77	56	56.95	58.08
25	51.40	50.07	25	51.41	51.58	25	51.40	49.27
	50.73			51.49			50.83	
12	28	13 53				12	37	13 17
1.22370	1.22440	-				1.22370	1.22400	
	+25.30			+31.84			+30.11	
1.24900	1.24970	1.25554	1.25624	1.25381	1.25411			
-17.75	-17.77	-18.01	-18.04	-17.94	-17.95			
-25	-47	-25	-27	-42	-16	-15	7	0
-14	-30	-16	-16	-27	-15	-23		
-1814	-1832	-1844	-1846	-1824	-1819			
25	3326	3175	25	3297	33.12	25	3316	31.08
-16	1046	1144	-16	12.02	1301	-16	1108	1207
	98			99			99	
-1033	-0.76		-1033	-0.76		-1033	-0.76	
-16	21.97	75	-16	2354		-16	2260	
	11.29	9.78		943	9.58		10.56	848
	10.03			950			75.2	
	18.53							



0' Eridani  
4<sup>h</sup> 5<sup>m</sup> 46<sup>s</sup>  
- 7 10  
+ 49 33  
+.%

	1874				1874				1875
					L <sub>2</sub>	42.971			46.897
					$\frac{dL}{dt}$	- 4.72			- 9.5526
					$\frac{d^2 L}{dt^2}$	+ 2.925			+ 2.925
					$\frac{d^3 L}{dt^3}$	+ 9.672			+ 9.668
Jan	20	5 <sup>m</sup>	43.81		9	66.4			
	25		43.25	- .06		66.8	+ .4		
	30		43.19	.06		67.2	.4		
Feb.	4		43.12	.07		67.5	.3		
	9		43.10	.07		67.5	.3	Lead	9.99659
	14		42.98	.07		68.0	.2	LC	.11678
	19		42.90	.08		68.1	.1	LC'	0.11337
	24		42.82	.08		68.2	.1		0.12211
Mar.	1		42.94	.08		68.2	.0	lsind	9.09606m

1874				1874				1875				1875				1875							
Feb. 1				Feb. 3				Feb. 14				Jan 10				Jan 19							
+330				+330				+107				+125				+350							
5	10.3	5	5.5	5	7.3	4	57.6	5	21.7	5	—	5	31.4	5	—	5	0.1	4	47.1	4	47.1	4	29.1
	12.3		7.5		9.3		59.2		23.4		—		—		—		2.4		49.6		31.2		
	14.5		10.6		11.6		61.8		25.5		—		—		—		4.4		51.9		33.0		
	18.6		—		15.5		—		—		—		—		—		6.0		55.4		—		
	20.6		—		17.7		—		—		—		—		—		10.6		57.9		—		
	22.9		—		19.7		—		—		—		—		—		12.8		59.9		—		
	24.8	5	44.8		21.9	5	34.1		13.9		—		21.0	—	—		14.8		61.9		—		
	26.8		46.2		23.8		35.5		16.1		—		23.2	—	—		16.8		63.9		—		
	30.9		48.3		28.0		37.8		—		—		25.3	—	—		18.8		65.9		—		
	33.0		—		30.1		—		—		—		—		—		20.8		67.9		—		
	35.1		—		32.3		—		—		—		—		—		22.8		69.9		—		
2497				2173				595				1399				2998							
5	22700	5	7.87	5	4623	5	59.53	5	23.53	5	21.07	5	31.40	5	25.43	5	12.718	5	49.23	5	31.10		
	22.684		+20.42		19739		+2339		11.884		+31.124		21.071		+26.72		12.702		+33.81		18.30		
5	13.16	5	-0.4	5	43.14	5	-0.5	5	42.98	5	-0.3	5	46.61	5	-0.3	5	46.54	5	-0.4	5	46.43		
	-20.48		-23.386		-31.10		-31.12		-0.01		-25.56		-0.71		-33.86		-0.64		-46.48		-0.53		
	-20.50	5	42.87		4.295		—		4.298		—		4.296		—		4.583		—		4.578		
	+20.38		+23.41		+31.06		+31.06		+25.39		+33.77		+33.77		+46.56		+46.56		+46.56		+46.56		
	-0.04		-0.04		-0.01		-0.01		-0.01		-0.01		-0.01		-0.01		-0.01		-0.01		-0.01		
	-0.19		-0.19		-0.13		-0.13		-0.01		-0.01		-0.01		-0.01		-0.01		-0.01		-0.01		
	+20.15	3341	+23.24		3335		+31.04		2.8540		+24.66		12.526		+32.09		53.422		+45.81		42.84		
5	2268	7	3170	5	1974	7	3135	5	11.88	7	3098	5	21.07	7	1690	5	12.70	7	5004	5	39.97		
	-2.2		-2.2		-2.2		-2.2		-2.2		-2.2		-2.4		-2.4		-2.4		-2.4		-2.4		
5	4283	7	4298	5	4298	7	4298	5	4292	7	4292	5	4573	7	4573	5	4573	7	4573	5	4573		
	45755	7	46.1		45.905	7	46.1		45.845	7	45.845		52.36	7	52.36		52.36	7	52.36		52.36		
</																							



1875

$$\text{corr}d = +.016^s$$

$$\text{corr}d = +.86''$$

$$\text{tang} \delta = -.13 \quad 10'$$

$$I = 2.08$$

$$K = -.016^s$$

Jan 0	5	46.65	- .02	7	52.2	+ .6
5		46.83			52.8	
10		46.61	.02		53.4	.6
15		46.57	.04		53.9	.5
20		46.53	.04		54.4	.5
25		46.48	.05		54.8	.4
30		46.42	.06		55.2	.4
Feb 4		46.35	.07		55.5	.3
5		46.28	.07		55.8	.3

+28 -06

Feb. 1

	4	45.4	35.4	4	44.2	4	32.9	5	42.3	5	38.6
		47.5	36.8		46.8		34.9		44.3		31.2
		49.5			48.4		36.3		46.6		33.5
		51.6			50.5				50.6		
		53.8			52.5				52.6		
		55.8			54.6				54.7		
		57.9			56.8	5	15.9		56.8	6	14.2
		59.9			58.8	10	18.0		58.9		16.2
		61.9			60.8	15	19.9		60.9		18.1
		63.8			62.8				62.8		
		65.8			64.8				64.8		
		67.8			66.8				66.8		
		69.8			68.8				68.8		
		71.8			70.8				70.8		
		73.8			72.8				72.8		
		75.8			74.8				74.8		
		77.8			76.8				76.8		
		79.8			78.8				78.8		
		81.8			80.8				80.8		
		83.8			82.8				82.8		
		85.8			84.8				84.8		
		87.8			86.8				86.8		
		89.8			88.8				88.8		
		91.8			90.8				90.8		
		93.8			92.8				92.8		
		95.8			94.8				94.8		
		97.8			96.8				96.8		
		99.8			98.8				98.8		
		101.8			100.8				100.8		
		103.8			102.8				102.8		
		105.8			104.8				104.8		
		107.8			106.8				106.8		
		109.8			108.8				108.8		
		111.8			110.8				110.8		
		113.8			112.8				112.8		
		115.8			114.8				114.8		
		117.8			116.8				116.8		
		119.8			118.8				118.8		
		121.8			120.8				120.8		
		123.8			122.8				122.8		
		125.8			124.8				124.8		
		127.8			126.8				126.8		
		129.8			128.8				128.8		
		131.8			130.8				130.8		
		133.8			132.8				132.8		
		135.8			134.8				134.8		
		137.8			136.8				136.8		
		139.8			138.8				138.8		
		141.8			140.8				140.8		
		143.8			142.8				142.8		
		145.8			144.8				144.8		
		147.8			146.8				146.8		
		149.8			148.8				148.8		
		151.8			150.8				150.8		
		153.8			152.8				152.8		
		155.8			154.8				154.8		
		157.8			156.8				156.8		
		159.8			158.8				158.8		
		161.8			160.8				160.8		
		163.8			162.8				162.8		
		165.8			164.8				164.8		
		167.8			166.8				166.8		
		169.8			168.8				168.8		
		171.8			170.8				170.8		
		173.8			172.8				172.8		
		175.8			174.8				174.8		
		177.8			176.8				176.8		
		179.8			178.8				178.8		
		181.8			180.8				180.8		
		183.8			182.8				182.8		
		185.8			184.8				184.8		
		187.8			186.8				186.8		
		189.8			188.8				188.8		
		191.8			190.8				190.8		
		193.8			192.8				192.8		
		195.8			194.8				194.8		
		197.8			196.8				196.8		
		199.8			198.8				198.8		
		201.8			200.8				200.8		
		203.8			202.8				202.8		
		205.8			204.8				204.8		
		207.8			206.8				206.8		
		209.8			208.8				208.8		
		211.8			210.8				210.8		
		213.8			212.8				212.8		
		215.8			214.8				214.8		
		217.8			216.8				216.8		
		219.8			218.8				218.8		
		221.8			220.8				220.8		
		223.8			222.8				222.8		
		225.8			224.8				224.8		
		227.8			226.8				226.8		
		229.8			228.8				228.8		
		231.8			230.8				230.8		
		233.8			232.8				232.8		
		235.8			234.8				234.8		
		237.8			236.8				236.8		
		239.8			238.8				238.8		
		241.8			240.8				240.8		
		243.8			242.8				242.8		
		245.8			244.8				244.8		
		247.8			246.8				246.8		
		249.8			248.8				248.8		
		251.8			250.8				250.8		
		253.8			252.8				252.8		
		255.8			254.8				254.8		
		257.8			256.8				256.8		
		259.8			258.8				258.8		
		261.8			260.8				260.8		
		263.8			262.8				262.8		
		265.8			264.8				264.8		
		267.8			266.8				266.8		
		269.8			268.8				268.8		
		271.8			270.8				270.8		
		273.8			272.8				272.8		
		275.8			274.8				274.8		
		277.8			276.8				276.8		
		279.8			278.8				278.8		
		281.8			280.8				280.8		
		283.8			282.8				282.8		
		285.8			284.8				284.8		
		287.8			286.8				286.8		
		289.8			288.8				288.8		
		291.8			290.8				290.8		
		293.8			292.8				292.8		
		295.8			294.8				294.8		
		297.8			296.8				296.8		
		299.8			298.8				298.8		
		301.8			300.8				300.8		
		303.8			302.8				302.8		
		305.8			304.8				304.8		
		307.8			306.8				306.8		
		309.8			308.8				308.8		
		311.8			310.8				310.8		
		313.8			312.8				312.8		
		315.8			314.8				314.8		
		317.8			316.8				316.8		
		319.8			318.8				318.8		
		321.8			320.8				320.8		
		323.8			322.8				322.8		
		325.8			324.8				324.8		
		327.8			326.8				326.8		
		329.8			328.8				328.8		
		331.8			330.8				330.8		
		333.8			332.8				332.8		
		335.8			334.8				334.8		
		337.8			336.8				336.8		
		339.8			338.8				338.8		
		341.8			340.8				340.8		
		343.8			342.8				342.8		
		345.8			344.8				344.8		
		347.8			346.8				346.8		
		349.8			348.8				348.8		
		351.8			350.8				350.8		
		353.8			352.8				352.8		
		355.8			354.8				354.8		
		357.8			356.8				356.8		
		359.8			358.8				358.8		
		361.8			360.8				360.8		
		363.8			362.8				362.8		
		365.8			364.8				364.8		
		367.8			366.8				366.8		
		369.8			368.8				368.8		
		371.8			370.8				370.8		
		373.8			372.8				372.8		
		375.8			374.8				374.8		
		377.8			376.8				376.8		
		379.8			378.8				378.8		
		381.8			380.8				380.8		
		383.8			382.8				382.8		
		385.8			384.8				384.8		
		387.8			386.8				386.8		
		389.8			388.8				388.8		
		391.8			390.8				390.8		
		393.8			392.8				392.8		
		395.8			394.8				394.8		
		397.8			396.8				396.		



1874  
 $\alpha$  Eridani  
 4 9 32  
 - 7 49  
 $\delta = +50$  12  
 $\text{long} = +77$   
 1875  
 9 31.15  
 50' 56.6  
 +2761  
 +585  
 999 595  
 12552  
 12147  
 1874  
 9 31.15  
 50' 56.6  
 +2761  
 +585  
 999 595  
 12552  
 12147  
 1875  
 9 31.15  
 50' 56.6  
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 1874  
 9 31.15  
 50' 56.6  
 +2761  
 +585  
 999 595  
 12552  
 12147  
 1875  
 9 31.15  
 50' 56.6  
 +2761  
 +585  
 999 595  
 12552  
 12147

conv =  
 cond =  
 tangd = -14  
 $\pm = 2.08$   
 $K = -0.16$

1874	1874	1874	1875	1875
Jan 18	Feb. 1	Feb. 14	Jan 10	Jan 17
+1248	+330	+104	+123	+270
4 9 65.9	8 53.8	8 41.9	8 54.1	8 47.5
116	57.8	47.0	56.2	49.8
14.0	53.6	48.9	58.3	51.8
15.6	0.0	53.2	2.5	56.0
15.0	4.0	55.4	4.4	58.1
17.0	6.0	57.4	6.6	62
18.1	8.1	59.3	8.5	22
21.1	10.1	1.6	10.7	44
28.2	12.4	5.8	13.0	85
27.2	16.6	7.8	16.8	105
29.3	18.7	10.0	19.0	127
31.4	20.6			
2091	2101	3913	2521	3016
9 13.73	9 11.1	8 15.00	9 7.21	9 16.9
9 52.27	8 19.1	9 25.408	9 6.555	9 0.145
18.993	8.175	57.391	6.539	0.129
+9.88	+2038	+31.04	+25.39	+31.60
-0.03	-0.05	-0.01	-0.62	-0.04
+0.38+2381	+0.22+2541	+0.03+2731	+0.74	+0.68
+9.42	+2011	+31.03	+24.63	+30.88
9 18.99	9 8.17	8 57.37	9 6.54	9 0.13
9 28.41	9 28.28	9 28.40	9 31.17	9 31.01
31.11	31.041	31.161		
		28.263		

5 +5.28	-33.26	+14.89	-17.21	+42.39	10 +19.28	55 -8.76	55
0 4.1	0 55.2	4 52.3	0 34.9	0 37.3	4 11.9	1 29.7	1 41.2
50.2	39.5	34.2	15.1	30.3	16.8	27.4	40.7
114.3	94.7	86.5	50.0	67.6	28.7	57.1	89.9
4 57.15	5 47.35	4 48.25	5 25.00	5 33.80	14 14.35	56 28.55	56 40.95
072263	152192m	117289	123578m	162726	128511	194250m	
0.83586	1.63465m	1.28562	1.34851m	1.73989	1.28588	1.06397m	
+6.84	-43.12	+19.80	-22.31	+54.95	+28.80	-11.89	
5 3.99	5 4.23	5 2.58	5 2.69	6 28.75	14 3.85	56 16.96	
742 15.64	15.88	42 14.20	14.34	43 40.40	51 5.150	33 28.61	
15.76		14.27		40.40	50.99		
+50 12 29	13 19	12 57	13 6		12 7		
1.83900	1.83920				1.83890	1.83910	
+32.46		+5135		+1717	+4921	+4442	
1.87146	1.87166	1.89035	1.89055	1.85617	1.88811	1.88831	
-7438	-7441	-7769	-7772	-7181	-7729	-7732	
+07+21	+07	+01+16	+02	+11+02	+02	+01	
+1.29	+0.05	+2.8	+0.2	+0.4	-80	-29	
-1 14.09	-1 14.30	-1 17.50	-1 17.69	-1 11.66	-1 18.08	-1 16.73	
-7 43 29.73	30.18	43 31.81	32.03	43 52.06	53 97.907	34 45.34	
-7 32.37		-7 31.65		-7 57.07	+2 15.62	-16 7.45	
181	3418	204	3369	231	2.92	2.52	
+1.59	+7.44	+2.76	+8.61	+3.44	-1.58+4.27	-0.82+6.03	
-7 32.89		-7 30.93		-7 32.20	+2 11.62	-16 10.74	
51 29.2	297	254	296		50 57.545	56.13	
51 2.84		2.75			50 57.545	56.13	
50 56.84		56.90					



Jan. 30				Feb. 1				Feb. 4			
8	328	8	216	8	316	8	185	9	288	9	104
	348				32.7		210		29.6		11.6
	380				348		230		31.8		14.2
	412				388				35.8		
	432	8	585		409				38.8		
453	2474		60		430				398		
	198		1.5		452	8	581		41.9	9	582
	536				472		590		440		594
	558				514		1.0		184		
	579				535				504		
					554				526		
	4985				4838				4397		
8	45318	8	2160	8	43982	8	2083	9	39973	9	1207
	45302	9	0.008		43857		59.039		39957		5885
	+ 46.34				+ 48.54				- 8.32		
	- .03				- .02				- .04		
	- 0.04				- 0.52				- 0.48		
	+ 45.89				+ 48.03				- 8.84		
8	4530			8	43.06			9	39.96		
9	31.10			9	31.09			9	31.12		
									31.098		

<sup>1</sup> 55	+23.72	-14.68	<sup>24</sup> 55	+22.84	<sup>96</sup> -13.05	<sup>55</sup> +27.90	-18.88	
<del>55</del>	-3.52		<del>55</del>	-3.55		<del>55</del>	-3.61	
0	46.9	1 38.1	0	47.1		0	38.9	
	49.2	40.9		52.8	42.1		43.3	
	46.1	79.0		99.9			52.3	
55	48.05	56 39.50	55	44.95		55	41.10	
<hr/>								
1.37511	1.16673	1.34713	1.20313	1.444560	1.27600			
1.49608	1.28820	1.46860	1.32450	1.56707	1.37747			
+3.37	-19.42	+29.42	-21.11	+36.90	-24.97			
56	19.42	56 20.08	56	19.37	20.99	56	18.00	
							21.53	
33	31.07	31.73	33	31.02	32.64	33	29.65	
	31.40			31.83			31.61	
12	0	12	51					
<hr/>								
	+25.48			+32.06			+35.66	
1.86438	1.86458	1.87096	1.87116	1.87436	1.87476			
-73.18	-73.21	-74.29	-74.33	-74.91	-74.95			
-1	-1	-1	-1	-1	-1		-1	
+0.4	1.11	+0.1	+0.3	<del>0.3</del> =0.6	-0.5	<del>0.1</del> =0.3		
-0.9	-1.8	-0.9	-0.9	-0.8	-0.8			
-1	13.29	-1	13.39	-1	14.56	-1	14.95	
34	44.31		45.12	34	45.38		34	44.60
-16	10.46	-16	12.02	-16	11.31	14.08		
	2.74	13.17		2.73	14.75			
	+0.33	+6.18		+0.44	6.32		+0.66	6.51
-16	12.34	-16	14.28	-16	13.92			
	57.15		59.66		58.02			
	57.55		59.66		58.02			



Jamie  

$$\begin{array}{r} 4 \text{ } ^h \text{ } ^m \text{ } ^s \\ 4 \quad 12 \quad 41 \\ + \quad 15^e \quad 19' \\ \hline 27 \quad 4 \\ +46 \\ \hline \end{array}$$

1874

Jan	20	12 <sup>m</sup>	37.70		19
	25		37.65	-.05	
	30		37.60	-.05	
Feb.	4		37.54	.06	
	9		37.47	.07	
	14		37.40	.07	
	19		37.32	.08	
	24		37.24	.08	
Mar.	1		37.16	.09	

1874  
27155

$$\begin{aligned} & 37.455 \\ & + 17.21 \\ & + 3.407 \\ & + 9.041 \end{aligned}$$

1875

$$\begin{array}{r} 40.862 \\ + 19.2635 \\ + 3.407 \\ + 9.037 \end{array}$$

$\cos \delta$  9.98429  
 $\delta$  .11678  
 $\delta'$  .10107  
 $\sin \delta$  9.42186

9.98429  
.12552  
.10981

1874  
+ 25  
Jan 18  
+ (245  
4 12 150 12  
171  
163  
236  
257  
278  
300 12  
321  
362  
385  
406  
3059

$7.30$   
 $+ 330$   
 $2 \quad 4.2 \quad 12$   
 $6.6$   
 $8.6$   
 $12.9$   
 $13.0$   
 $17.2$   
 $19.2 \quad 12$   
 $21.3$   
 $23.0$   
 $25.6$   
 $27.6$   
 $30.0$   
 $188.2$

1874  
+25  
Feb 14  
#104  
33.5 11  
33.6  
37.8  
1.9  
4.2  
6.4  
8.3  
16.7  
14.8  
17.0  
19.2  
2496

1875  
+21  
Jan 10  
#125  
3.3 11  
3.4  
7.6 12  
11.9  
14.0  
16.0  
18.1  
20.4  
24.7  
26.8  
29.0  
177.2

$+ 32$   
 $11$   
 $+ 305$   
 $25$   $11$   
 $46$   $12$   
 $68$   
 $111$   
 $131$   
 $153$   
 $173$   
 $196$   
 $239$   
 $269$   
 $281$   
 $1683$

$+ 36 - 06$   
 $\underline{\quad}$   
 $+ 240$   
 $\quad - \quad 12190$   
 $\quad - \quad 209$   
 $\quad - \quad 230$   
 $\quad 55$   
 $\quad 28$   
 $\quad 28$   
 $\quad 20$   
 $\quad 139$   
 $\quad 2$   
 $\quad -$   
 $\quad -$   
 $490$

	12	7.10		12	8.53		18.8
12	27809	12	52.00	12	17.09	12	4630
	27793		+9.84		17.053		+20.42
12	473		+0.07	12	3.58		+0.8
	-9.94		-0.28		20.49		-21.09
	+9.88	12	3742		+20.39		-4.13
	+ .07				+ .09		
	-0.28	+3.127			-0.13	+3.277	
	+9.82				+20.35		+5.05
12	2779	26	55.74	12	17.09		55.78
	-7		32.12				3170
12	3741		-14	12	3744		-14
	40817		-5.10		40847		-4.40
	+18.19		17.12		19		17.68

$$\begin{array}{r} 3 \\ 12 \quad 16.109 \\ \quad 16.093 \\ 12 \quad 41.49 \\ \quad - 25.40 \\ \hline + 25.39 \\ + \quad .03 \\ \quad - 0.63 \\ + 24.79 \\ 3 \quad 12 \quad 16.09 \\ 2 \\ 12 \quad 40.88 \\ 0 \\ 5 \end{array}$$
$$\begin{array}{r} 11 \quad 3970 \\ + 2544 \\ + .06 \\ \hline 12 \quad 4220 \\ - .63 \\ \hline 12 \quad 4157 \\ + 26.10 \\ + .08 \\ \hline 12 \quad 4183 \\ + 25.56 \\ \hline 12 \quad 4439 \\ + 2.16 \\ \hline 12 \quad 4460 \\ - 1.5 \\ \hline 12 \quad 4458.5 \\ 9 \quad 23.70 \\ \hline 12 \quad 4482.2 \end{array}$$

11	5983		12	2097
			12	9800
+2612				5789
+09	12			1146
				-31.67
-062				-08
4087				-059
				4085
				3160
				084
				-059
				3108
17	1687	12	35	4277
+2	1763		-16	760
	-15	12		-75
	-770			780
19	2530		19	4480

<sup>s</sup> + 20.71	<sup>.19</sup> - 24.74	+ 8.58	- 29.19	+ 18.70
55	55	55	55	55
<del>20.71</del> = -23.6		-26.6		-3.50
0 1.9	0 58.1	0 17.9	1 5.4	0 4.3
48.0	44.9	59.5	47.0	56.5
109.9	103.0	137.4	112.4	120.8
54 54.95	55 5150	55 570	55 56.20	55 0.40
1.31618	1.38226 <sup>364</sup>	0.93349	1.46523 <sub>n</sub>	1.27184
1.41725	1.45843 <sub>n</sub>	1.03436	1.56634 <sub>n</sub>	1.37291
+26.14	-30.53	+10.83	-36.84	+23.60
55 21.09	55 20.97	55 19.53	55 19.36	55 24.00
+150				
27 27.26	27 27.38	27 28.82	27 28.99	27 24.35
27.32	27.38	28.90		
+27 2 27	3 23	2 40	3 28	2 32
1.46810	1.46840			
+32.49		+51.45		+17.26
1.50059	1.50089	1.51955	1.51985	1.48536
-31.64	-31.69	-33.08	-33.10	-30.55

$+16.41$   
 $0$   
 $-3.15$   
 $4 \quad 35.6$   
 $37.2$   
 $728$   
 $4 \quad 36.40$   
 $121511$   
 $1.32468$   
 $+29.78$   
 $4 \quad 57.18$   
 $17 \quad 57.22$   
 $57.22$   
 $2 \quad 29$   
 $1.46810$   
 $+49.21$   
 $1.57731$   
 $-32.91$

$$\begin{array}{r} + 15.47 \\ 0 \\ - 3.19 \\ 4 \quad 36.2 \\ 40.8 \\ 770 \\ 4 \quad 38.50 \\ 1.18949 \\ 1.32839 \\ + 19.52 \\ 4 \quad 3802 \\ 17 \quad 4943 \\ \quad 5633 \\ 1.146840 \\ + 4461 \\ 1.51271 \\ - 3756 \end{array}$$
$$\begin{array}{r} 20.17 \\ - 11.17 \\ \hline 45 \\ - 3.28 \\ \hline 1 \quad 47.21 \\ 46.9 \\ 741 \\ 46 \quad 47.05 \\ 1.04805_n \\ 1.15786_n \\ - 1438 \\ \hline 456 \quad 32.67 \\ 376 \quad 15.68 \\ 2 \quad 59 \\ + 4478 \\ 1.57258 \\ - 32.55 \\ \hline \end{array}$$

-06 +10	-08	-07 -03	-11	-04 -02
+29	+05	+01	+05	00 -04
26 3144	-3172	3308	-3316	3062
26 5582	5566	26 5574	5583	26 5373
19 223		220		217
-7 335	334	337	338	320
-7 335		337		320
-7 337	19 1627	3166	1807	-7 3107
-108 3345	1711	1232	3287	1816
-510 346	1719	480	429	450
-7 3655	19 1664	-7 3767	1812	-7 3695
19 237	2423		2716	

-	03
-	87
-	33.8
17	174
17	33.9
+2	165
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19 23.91 +2 1819  
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	10		41.49	.02		33.9	
	15		41.46	.03		33.8	
	20		41.43	.03		33.6	.2
	25		41.38	.05		33.5	.1
	30		41.33	.05		33.4	.1
Feb	4		41.27	.16		33.3	.1
	7		41.20	.07		33.1	.2

 $\cos \alpha =$   
 $\cos \beta =$ 

$$\tan \theta = +.24 \quad 104$$

$$I = 2.13$$

$$K = -.016$$

Jan	19		
11	54.9	11	52.2
	58.0		54.2
	59.0		55.8
12	33		
	5.5		
	8.7		
	12.0		
	16.3		
	18.3		
	20.4		
	26.2		
	18.0		
12	84.2	11	34.07
	7.655		
12	7.639		+3382
	41.44		+0.9
	33.80		
			-0.58
	+33.78		40.96
	+0.9		.97
	-0.58		
	+33.29		
12	7.64	35	42.49
	-16		800
12	40.93		-1.5
			-7.40
	19		25.59

Jan. 27

Feb	2		
11	38.9	11	25.4
	21.8		27.1
	45.0		29.0
	17.3		
	42.4		
	51.6		
	53.0	12	28.5
	55.8		25.8
	0.0		29.5
	2.2		
	4.4		
	38.9		
	18.0		
11	56.89	11	27.17
	51.78	12	25.60
	51.702		+4.877
12	41.31		+0.6
	-49.61		
			-0.45
	+49.78		41.08
	+0.6		-8.32
	-0.45		.08
	+49.39		-8.65
11	51.70		44.50
	-16		10.93
12	41.09		-1.5
			-7.20
	19		24.87

Feb. 4

45	+13.58		
1	-3.82		
1	16.2		
	14.9		
	31.1		
46	15.55		
	113290		
	1.24271		
	+17.49		
46	33.84		
36	15.31		
	+45.53		
	1.51365		
	-32.63		
	-0.2		
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	-32.82		
35	42.49		
	33.6		
	8.8		
	8.9		
-16	8.17		
	1.52		
	7.40		
-16	17.09		

+24.55	-33.88	+24.17	-28.95
-3.57		-3.61	
0	37.9	2	12.7
	2.9		18.1
	12.08		3.08
46	0.40	47	15.40
			1.39005
			1.44986
			+31.61
46	320.1		31.77
36	16.34		16.58
	16.46		17.48
		2	13
		3	19
+32.18		+33.89	
1.50028	1.50058	1.50390	1.50429
-31.64	-31.67	-31.91	-31.94
-0.8	-30	-16	-0.8
-11		-25	-11
-31.83	-32.08	-32.10	-32.29
35	44.51	44.50	35
	33.4		44.28
	11.1		3.33
	11.1		11.0
	11.1		12.0
-16	11.08	29.59	-16
	1.64	12.72	1.66
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$$\begin{array}{r}
 1874.0 \quad \delta \\
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 40.14 \\
 .21 \\
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 40.175 \\
 16.1 \\
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 +.014
 \end{array}
 \quad 41.85$$

$$\begin{array}{r}
 1875.0 \quad \delta \\
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 43.63 \\
 64 \\
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 43.654 \\
 62.2 \\
 \hline
 +.032
 \end{array}
 \quad 50.64$$

$$\begin{array}{r}
 +26. \\
 Feb. 4 \\
 +283 \\
 15 \quad 392.15 \quad 233 \\
 41.8 \quad 248 \\
 43.8 \quad 266 \\
 48.1 \\
 52.2 \\
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 52.6 \quad 16 \quad 183 \\
 52.6 \quad 259 \\
 1.0 \quad 225 \\
 3.2 \\
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 \end{array}$$

$$\begin{array}{r}
 395.4 \\
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 575.4 \quad 15 \quad 24.90 \\
 15 \quad 523.09 \quad 16 \quad 20.27 \\
 522.93 \quad -8.45 \\
 15 \quad 420.4 \quad +.08 \\
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 -8.32 \quad 43.50 \\
 +.09 \\
 -0.42 \\
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 15 \quad 522.9 \quad 31 \quad 9.90 \\
 -16 \quad 11.48 \\
 15 \quad 43.64 \quad -1.4 \\
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 14 \quad 49.42
 \end{array}$$

$$\begin{array}{r}
 8 \\
 +27.41 \quad -27.96 \\
 50 \\
 -36.1 \\
 0 \quad 31.1 \quad 1 \quad 41.6 \\
 37.8 \quad 46.4 \\
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 50 \quad 34.5 \quad 51 \quad 44.00
 \end{array}$$

$$\begin{array}{r}
 1.43791 \quad 1.44654 \\
 1.54844 \quad 1.55207 \\
 +36.95 \quad -35.65 \\
 57 \quad 9.40 \quad 57 \quad 8.35
 \end{array}$$

$$\begin{array}{r}
 31 \quad 389.5 \quad 31 \quad 40.00 \\
 39.47 \\
 6 \quad 46 \quad 7 \quad 56 \\
 1.43110 \quad 1.43150 \\
 +36.04 \\
 1.46714 \quad 1.46754 \\
 -29.32 \quad -29.34
 \end{array}$$

$$\begin{array}{r}
 -11.24 \quad -12 \\
 -0.7 \quad -1.9 \\
 -29.50 \quad -29.65 \\
 31 \quad 4.45 \quad 16.35 \\
 8.32 \\
 -16 \quad 11.2 \quad 12.1 \\
 -16 \quad 11.6 \\
 -16 \quad 11.31 \quad 49.28 \\
 1.511282 \quad 49.93 \\
 71.00 \quad +1.19 \\
 -16 \quad 24.2 \quad 14 \quad 49.48
 \end{array}$$



$\begin{matrix} & 6.4 \\ J^2 & \text{Tamie} \\ 4^{in} & 16^{m} & 53^s \\ & + 17^\circ & 09' \\ j = & + 25 & 14 \\ \sin j = & + .413 \end{matrix}$

1874

$\frac{d}{dt}$

Case	9.98025
L6	.11678
L6'	.09703
Land	9.46964

1875  
16 53.46  
9' 835'  
+ 314521  
+ 869  
  
998025  
12552  
0.10577

corr =  
corr<sup>2</sup> =  
länge<sup>2</sup> = 4.31  
I = 2.16  
K = -0.16

1874  
Jan 18  
+ 245  
—  
—  
—  
—  
—  
—  
16

16 42.4 1.4  
44.7 3.1  
48.0 3.6  
51.1 3.0  
53.3 3.0  
6 24.07

1874  
Feb. 1  
+ 330  
16 181  
18.8 121  
20.9 136  
25.1  
274  
29.6  
31.7  
33.9  
38.2  
40.3  
42.5  
525.2

1873-		
Jan 11		
4.305		
150	16	13
17.1		35
192		5.9
23.4		
25.6		
27.9		
30.1		
32.0		
36.4		
38.4		
40.9		
39.63		

6	16	0.4
	+160	
	105	3.0
	125	5.0
	147	
	190	
	212	
	234	
	266	
	288	
	319	
	345	
	365	
2571		

Feb 2		
	+ 210	
15	513	15 436
	534	452
	556	470
	578	
	20	
	41	
	63	16 347
	86	369
	109	393
	150	
	171	
	2861	

16 40,364  
16 40,348  
+ 9.88  
+ 10  
- 0.28 + 3.12  
+ 9.62  
16 40,35  
16 49.97  
53,422

$$\begin{array}{r} 16 \quad 29.564 \\ \quad 29.548 \\ \hline + \quad 20.89 \\ + \quad .10 \\ - \quad 0.13 \quad + 3.32 \\ + \quad 20.36 \\ 16 \quad 29.55 \\ \hline 16 \quad 49.91 \\ \quad 53.362 \\ \hline 49.940 \end{array}$$

3

16 3.37

16 37845  
27829

+ 26.10  
+ .09  
- 0.65  
+ 25.521  
16 27.83

16 53.37

16 23373  
23357  
+ 3042  
+ 115  
- 0.62  
+ 30.15  
16 2336  
16 5351

$$\begin{array}{r} 240 \\ 461 \quad 15 \quad 45.27 \\ 16 \quad 4.191 \quad 16 \quad 37.63 \\ \quad 4.175 \\ + \quad 49.48 \\ - \quad 0.66 \\ + \quad 48.39 \\ 16 \quad 4.17 \\ 16 \quad 53.56 \end{array}$$

$$\begin{array}{r} 9 \\ 5 \\ 20 = 1 - 2.136 \\ 1 \quad 10.1 \\ 37.4 \\ 12.75 \\ 6 \quad 3.75 \end{array}$$

$$\begin{array}{r} 8 \\ 5 + 17.63 \\ 5 \\ \hline 0 \quad 25.9 \\ \quad 6.8 \\ \quad 32.7 \\ 5 \quad 16.35 \\ \hline 1.24625 \\ 1.34328 \\ + 2204 \\ 5 \quad 38.39 \\ \hline 17 \quad 9.96 \\ 12 \quad 48 \\ 1.43310 \\ + 5160 \\ 1.48470 \\ - 3053 \end{array}$$

$+24.47$   
 10  
 $-3.19$   
 4  $46.2$   
 $49.7$   
 $95.9$   
 14  $47.95$   
  
 $1.38863$   
 $1.48584$   
 $+8.22$   
 15  $19.17$   
 $12.50$   
  
 $27$   $29.15$   
 $29.80$   
  
 12  $41$   
 $1.48310$   $1.48340$   
 $+4464$   
 $1.47774$   $1.47804$   
 $-3004$   $-3004$

$$\begin{array}{r} + 2057 \\ 55 \\ \hline - 3.27 \\ 1 \quad 32.3 \\ \quad 23.9 \\ \quad \quad 56.2 \\ 56 \quad 25.10 \\ \hline 1.91323 \\ 1.41900 \\ + 26.20 \\ 56 \quad 54.30 \\ \hline 25 \quad 54.00 \end{array}$$

$+18.92$        $-32.84$   
 55  
 $-3.57$   
 1    23.2    2    29.9  
      29.3               35.1  
      5.25               65.0  
 56    26.25    57    32.50  
      1.27692    1.51440m  
      1.38269    1.62217m  
      +24.13               -41.90  
 56    57.38    56    50.60  
 25    57.97               57.75  
      57.86  
 12    38    13    45  
      +30.29  
      1.46339  
      -29.67               -29.90

$$\begin{array}{r} -102 + 02 \\ + 06 + 04 \\ \hline 2920 \\ + 1716 - 2819 \quad 30.92 \\ \hline -7323 \\ - 104 \quad 33.38 \\ \hline - 523 + 3.06 \\ \hline -739.01 \\ 4978 \\ 5891 \\ \hline 97.60 \end{array}$$
$$\begin{array}{r} -04-04 \\ +02-02 \\ \hline -30.55 \\ 16 \quad 39.41 \\ -7 \quad 31.65 \\ \hline - \quad 71.4 \quad 3.279 \\ - \quad -0.40 + 3.29 \\ \hline -7 \quad 38.19 \\ -9 \quad 1.22 \\ \hline 9 \quad 9.91 \end{array}$$
$$\begin{array}{r} -09 -50 \\ -91 -100 \\ \hline 31.04 \\ +2 \quad 58.16 \\ \hline +2 \quad 18.19 \\ - \quad 12.97 \quad 18.82 \\ \hline - \quad 8.02 \quad +0.67 \\ \hline +2 \quad 8.80 \\ 9 \quad 7.56 \end{array}$$
$$\begin{array}{r} -0.6 \\ -29 \\ \hline 29.92 \\ 24.5 \\ \hline 16 \end{array} \begin{array}{r} 17 \\ 35 \\ \hline 6.96 \\ 1.40 \\ \hline 8.36 \\ 1.95 \\ \hline 6.41 \\ 16 \end{array}$$

$$\begin{array}{r}
 -06 \overline{) 31} \quad -16 \\
 \underline{-15} \quad -27 \\
 -29 \quad 27 \\
 245 \quad 2870 \quad -29 \quad 52 \\
 \underline{-16} \quad 1108 \quad 28 \quad 23 \\
 \quad 158 \quad 1266 \\
 \underline{-16} \quad 2029 \quad +108 \\
 \quad 843 \\
 \quad 820
 \end{array}$$



Feb 4

16 283 16 38.9  
51.4 40.9  
53.6 43.8  
58.0

17 0.1  
2.4  
4.5 17 31.4  
6.6 38.4  
11.0 35.2  
12.9  
15.1

26.49  
24.0

17 24.9 16 40.87  
2.264 17 33.33  
2.248

- 8.32  
+ .09  
- 0.42  
- 8.65  
17 2.25

16 53.60  
53.510

<sup>s</sup>  
55 +21.39 -31.07

1 -3.61  
1 21.0 2 27.3  
26.9 32.9  
4.79 60.2  
56 23.95 57 30.10

1.33021 1.49234 n  
1.43598 1.59811 n  
+22.29 -39.64  
16 51.26 56 54.46

25 57.09 57.89

57.49  
12 56 13 42

+36.11  
1.46521 1.46951  
-29.46 -29.48

-0.31 -14  
-15 -28  
-29.68 -29.89  
25 27.41 28.00

16 11.31 12.86  
-1.55 +1.13

16 24.42 7.58  
6.99  
9 17.28



1874				1874				1875			
E J. J. J.				Jan 20 21 15.73				Jan 20 21 17.75			
4 21 19				25 15.81				25 19.70			
+ 18 34				30 15.81				30 19.64			
3 = + 23 29				7 15.81				7 19.58			
+ 40				14 15.81				14 19.52			
1874				19 15.81				19 19.45			
4 20 52.9				24 15.81				24 19.38			
56.1				Mar. 1 15.37				Mar. 1 19.22			
57.5											
1.7											
8.9											
6.0											
8.2											
10.1											
14.0											
16.9											
19.1											
24.63											
18.0											
6.63											
21 6.027											
6.811											
15.95											
-9.94											
+ 9.83											
+ .08											
-0.31											
+ 9.60											
21 6.01											
15.61											
19.106											
4.18											
53 56.85											
19.1											
20											
16.1											
0											
8.7											
28.9											
20 14.45											
13.9199											
1.48470											
+30.53											
20 44.98											
19° 5 3.37											
+23 27 46											
1.34770											
+32.54											
1.43027											
-26.93											
-0.08											
+0.1											
1											
54 23											
-7 36.1											
-7 32.37											
-9.4											
53 56.94											
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1874phae.proj.1470.

18  
4  
+  
20  
27  
66  
66'

2

+3



1874

1875

1 Camel  
4 22 58  
1 53 38

leg

Jan 20 22 3.78  
25 3.88 -10  
30 3.77 .11  
Feb. 4 3.66 .11  
9 3.54 .12  
14 3.41 .13  
19 3.28 .13  
24 3.13 .15  
Mar. 1 2.98 .15

38 17.6  
18.2  
18.7  
19.1  
19.4  
19.6  
19.7  
19.7  
19.6

Jan. 20 22 9.10  
25 8.90 -10  
30 8.79 .10  
Feb. 4 8.67 .11  
9 8.54 .12  
14 8.41 .13  
19 8.27 .14  
24 8.13 .14  
Mar. 1 8.00 -1

38 28.1  
28.6  
29.1  
29.5  
29.8  
30.2  
30.1  
30.1  
30.0

1874  
3.545  
+38 2.26  
+4.725  
+8.301  
2 = -11° 15'  
-19

1875  
9.77302  
9.77302  
9.77302

1 sin P = 9.905920

corr. L = -.144  
corr. D = +.37"

tang P = +1.36  
I = 3.47  
K = -.026

Jan 18  
21 45 46.6  
47.6  
48.2  
51.1  
52.8  
54.6  
56.3  
58.0  
59.8  
47.51 43.5

Feb 14  
21 22 0.3  
2.0  
0.8  
3.54 30.17  
39.2  
39.0

Jan 19  
21 14.0  
17.3  
20.8  
27.8  
31.3  
34.8  
38.5  
41.9  
48.4  
52.2  
55.8

Feb. 2  
21 31.3  
34.6  
37.6  
2.0 19.50  
26.1 19.10  
33.2 19.20  
36.3 18.90  
39.7 18.70

21 53.789 53.722 22 8.30 21 30.100  
52.763 53.696 +28.5 30.174  
22 4.081 4.081 +34 22 5.120  
-11.285 -10.381 -33.83  
-11.131 -10.187 -0.47 -33.19  
22 24.8 3.32  
+9.83 +9.83 + 31.04  
+33 +33 + 14  
-0.44255 -0.442 +1255 +0.14 4865  
+9.69 9.69 45.5597 + 31.35  
21 39.6 53.40 -7.8721 30.17  
22 24.5 339 -1570 22 1.52  
7.175 8.115 8.75 6.245  
+53

21 8.70 21 34.50  
21 34.782 21 19.060  
34.758 +33.63 19.034 +48.78  
22 9.12 +4.45 22 8.884 +7.83  
-34.36 -49.841  
-34.22 -49.7067 -0.54  
22 8.19 8.07  
+33.19 +49.78  
+33.47 +28  
-0.85 -0.57  
+33.41 54 35.90 +49.49 40.67  
21 34.76 -16 80.21 19.03 -16 10.93  
+6  
22 8.17 -17.40 22 8.52 -17.70  
38 1.110 38 1.174

35 -21.91 -15.61 -14.58  
35 -12.36 35 -3.89  
2 27.0 2 30.4  
17.3 32.1  
44.3 42.5  
37 22.15 37 22.15 37 12.25  
134.664 116.137 116.316  
1.28 0.44 1.0517 1.05332  
-17.00 -16.25 -1.31  
37 51.5 37 10.90 37 19.94  
+53 45 43.20 37.10 45 28.41  
-11 15 6 14 54  
1.05910 1.05905  
+3258 51.71  
1.09168 1.11071  
+12.35 +12.90

25 +26.08 25 -15.41  
25 -3.32 25 -3.57  
3 3.3 3 27.6  
4.6 35.9  
7.9 63.5  
28 34.5 28 31.75  
1.41631 1.18865  
1.31485 1.08719  
+20.65 -15.39  
28 34.60 28 16.36  
54 23.75 54 28.82  
15 44 15 16  
1.05940 1.05920  
+45.75 +30.36  
1.10515 1.08956  
+12.74 +12.29

-12 +01 +14 +02  
+12.37 55.57 49.82 45 41.40  
38 17.84 17.4 17.6  
-7 38.2 -7 32.45 -7 34.6  
-7 32.9 21.8  
-7 32.0 8 8.54 37 53.60  
-7 32.37 2.79 -7 31.97  
+ 44  
15.10 37 16.84 17.20 37 53.0  
-7 47.03 10.09 -7 47.20

-17 -29 -42 -59  
+12.15 54 35.90  
28.0  
-16 7.9  
-16 7.9  
-16 7.5 38 10.96  
-16 8.17 -7.54  
+ 1.08 -9.10  
1.140 38 10.96 -18.40 11.56  
-16 29.4 -16 29.1



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