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KG
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Fundamental Stars.
Ephemeridies
and Constants for 1879

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α Androm.

	h m s	s		l sin δ	9.67757	15 cos. δ tang i	
	2 8.078	+3.0884		l cos. δ	9.94422	R1	
	+48° 25′ 20.″59	+19.″906		l tang δ	9.73336	R_2	
				l sec. δ	0.05588	lR_1	
				tang. δ	+0.542	lR_2	
N.A.	m s 2 8.089			sec. δ	+1.137	I	
	′ ″ 25 21.30						

1879	α	δ
Feb. 18	m s 2 8.04	′ ″ 25 29.0
23		
28	8.01	27.4
March 5		
10	8.01	25.9
15		
20	8.05	24.5
25		
30	8.13	23.3
Apr. 4		
9	8.26	22.4
14		
19	8.44	21.9
24		
29	8.66	21.7
May 4		
9	8.92	21.9
14		
19	9.21	22.5

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β Cassiop.

δ	$2^m\ 43^s.719$	$+3^s.1672$
	$+58°\ 28'\ 35''.43$	$+19''.850$

lsin δ	9.93075	15 cos δ tang δ
lcos δ	9.71812	R_1
ltang δ	0.21263	R_2
lsec δ	0.28198	lR_1
tang δ	+1.632	lR_2
sec δ	+1.914	I

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3.

4 Pegasi.

α	^{m} ^{s} 7 0.356	^{s} +3.0832	$l \sin \delta$	9.39892	$\frac{1}{2}\cos\delta\tan gi$
δ	$+$ 30′ 38.″27	+20.″030	$l \cos \delta$	9.98592	R_1
			$l \tan g \delta$	9.41300	R_2
			$l \sec \delta$	0.01418	lR_1
			$\tan g \delta$	+0.259	lR_2
N.A.	^{m} ^{s} 7 0.365		$\sec \delta$	+1.033	I
	30′ 39.″74				

1879	α		δ	
	^{m}	^{s}	′	″
Feb. 18	7	0.55	30	44.7
23				
28		0.52		43.7
March 5				
10		0.52		43.0
15				
20		0.55		42.4
25				
30		0.63		42.0
April 4				
4		0.74		41.9
14				
14		0.90		42.1
24				
29		1.10		42.7
May 4				
9		1.34		43.5
14				
19		1.61		44.6

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β Ceti N. A.

$0^h\ 37^m\ 30^s.860$ $+3^s.013$

$-18°\ 39'\ 3''.26$ $+19''.83$

l sin δ	9.50486 n	1 sec. δ tang i
l cos δ	9.97657	R_1
l tang δ	9.52828 n	R_2
l sec. δ	0.02353	lR_1
tang δ	− 0.837	lR_2
sec. δ	+ 1.056	I

1879		α		δ
Feb.	18	37m 31s.30	38′	64″.4
	23			
	28	31.24		63.5
March	5			
	10	31.21		62.4
	15			
	20	31.21		61.0
	25			
	30	31.25		59.4
Apr.	4			
	9	31.33		57.5
	14			
	19	31.45		55.5
	24			
	29	31.61		53.3
May	4			
	9	31.81		51.0
	14			
	19	32.05		48.6

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1 Cassiop.

α	$0^h\ 49^m\ 24^s.962$	$+3^s.5735$	$\log \sin \delta$	9.93780	$15 \cos \delta \tan \gamma$
δ	$+70^\circ\ 3'\ 38''.91$	$+19''.563$	$\log \cos \delta$	9.69817	R_1
			$\log \tan \delta$	0.23963	R_2
			$\log \sec \delta$	0.30193	$\log R_1$
			$\tan \delta$	+1.736	$\log R_2$
			$\sec \delta$	+2.004	I

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β Androm.

1h 2m 57.668 | +3.3431

+34° 58′ 43.26 | +19.208

l sin. δ	9.75835	15 cos. δ tang.	
l cos. δ	9.91348	R_1	
l tang. δ	9.84487	R_2	
l sec. δ	0.08662	lR_1	
tang. δ	+ 0.700	lR_2	
sec. δ	+1.221	I	

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	Hrs.	Min.			
	h	m	s		s
	14		23.966		+21.4415
+88°	39'		50.34		+19.025

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δ Cassiop.

1h	17m	54.776	1	+3.8710	log sin δ	9.93579	15cos δ tang i
					log cos δ	9.70411	R_1
+59°	36′	20.52		+18.864	log tang δ	0.23168	R_2
					log sec δ	0.29599	lR_1
					tang δ	+1.705	lR_2
					sec δ	+1.977	I

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Electi

1	17m 58.s528	+2.s9980	
–	48′ 29.″46	+18.″696	

N.A. 17m 58.s524
48′ 28.″11

l sin δ	9.18506 n	15 cor. δ tang.					
l cos. δ	9.99485	R_1					
l tang δ	9.19021 n	R_2					
l sec. δ	0.00525	lR_1					
tang. δ	– 0.155	lR_2					
sec. δ	+1.012	I					

1879	α	δ
Feb. 18	17m 59.s11	47′ 87.″3
23		
28	59.02	87.0
March 5		
10	58.95	86.5
15		
20	58.91	86.7
25		
30	58.91	84.8
Apr. 4		
9	58.95	83.5
14		
19	59.03	82.1
24		
29	59.15	80.4
May 4		
9	59.32	78.6
14		
19	59.52	76.6

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β Arietis

$1^h\ 47^m\ 57^s.433$ $+3^s.3017$

$+20°\ 12'\ 57''.01$ $+17''.773$

$l \sin \delta$	9.53854	$l \cos \delta \tan g \delta$	$l \cos \delta \tan g i$
$l \cos \delta$	9.97238	R_1	R_1
$l \tan g \delta$	9.56615	R_2	R_2
$l \sec \delta$	0.02772	lR_1	lR_1
$\tan g \delta$	+0.368	lR_2	lR_2
$\sec \delta$	+1.066	I	I

N. A. $47^m\ 57^s.444$

$12'\ 58''.14$

1878	α	δ
Feb. 18	$47^m\ 58^s.10$	$13'\ 7''.5$
23		
28	57.98	6.7
March 5		
10	57.89	5.8
15		
20	57.82	5.0
25		
30	57.80	4.3
Apr. 4		
9	57.81	3.7
14		
19	57.88	3.4
24		
29	57.99	3.3
May 4		
9	58.14	3.5
14		
19	58.34	3.9

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γ Androm.

1h	56m	28.490	+3.6530	l sin. δ	9.82337	l cos δ tang i	
41°	44′	53.26	+17.467	l cos. δ	9.87279	R,	
				l tang δ	9.95058	R₂	
				l sec. δ	0.12731	l R,	
				tang. δ	+0.892	l R₂	
				sec. δ	+1.341	I	

α
2h
+22°
N.
187
Feb.
March
April
May

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α Arietis

2^h	0^m	$21^s.252$	$+3^s.3688$		
$+22°$	$53'$	$22''.02$	$+17''.213$		

l sin. δ	9.58989	15 cos. S tang.	
l cos. δ	9.96438	R_1	
l tang. δ	9.62551	R_2	
l sec. δ	0.03572	lR_1	
tang. δ	+0.422	lR_2	
sec. δ	+1.086	I	

N.A.	0^m	$21^s.269$	
	$53'$	$22''.88$	

1879	α	δ
	0^m 21^s	$53'$ $33''.3$
Feb. 18	21.99	
23		
28	21.86	32.4
31		
March 10	21.76	31.5
15		
20	21.68	30.5
25		
30	21.64	29.7
35		
April 9	21.64	29.0
14		
19	21.70	28.5
24		
29	21.80	28.2
May 3		
8	21.94	28.2
13		
18	22.14	28.5

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3 Trianguli

2^h	2^m	$20.^s774$	$+3.^s5492$	$l \sin. \delta$	9.75218
$+34°$	24′	50.″35	$+17.''228$	$l \cos. \delta$	9.91644
				$l \tang. \delta$	9.83573
				$l \sec. \delta$	0.08366
				$\tang. \delta$	+0.685
				$\sec. \delta$	+1.212

$15 \cos. \delta \tang. \alpha$

R_1

R_2

$l R_1$

$l R_2$

I

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η Eridani

2h 50m 30.974s	+2.s9271	l sin. δ	9.21216 n	15 cos δ tang i.	
−9° 22′ 50.″89	+14.″509	l cos. δ	9.99415	R_1	
		l tang δ	9.21801 n	R_2	
		l sec. δ	0.00595	lR_1	
		tang. δ	−0.165	lR_2	
		sec. δ	+1.014	I	

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35

α Ceti

α	h 2	m 55	s 57.280	s +3.1292	l sin. δ	8.79956	15 cos. δ tang. i
δ	-3°	36′	49.″21	+14.″319	l cos. δ	9.99914	R_1
					l tang δ	8.80043	R_2
					l sec. δ	0.00096	l R_1
					tang. δ	+0.063	l R_2
N.A.	m 55	s 57.299			sec. δ	+1.002	I
	′ 36	″ 50.32					

1879		α		δ
		m	s	′ ″
Feb.	18	55	58.37	36 54.5
	23			
	28		58.23	54.2
March	5			
	10		58.09	54.1
	15			
	20		57.98	54.1
	25			
	30		57.89	54.2
Apr.	4			
	9		57.84	54.6
	14			
	19		57.83	55.1
	24			
	29		57.87	56.0
May	4			
	9		57.94	56.9
	14			
	18		58.07	58.0

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γ Persei

$2^h\ 56^m\ 2.490^s$	$+4.3080^s$	$\log \sin \delta$	9.90252	15cm Stangi	
$+53^\circ\ 1'\ 51.''29$	$+14.''405$	$\log \cos \delta$	9.77916	R_1	
		$\log \tan \delta$	0.12337	R_2	
		$\log \sec \delta$	0,22094	$\log R_1$	
		$\tan \delta$	+1.329	$\log R_2$	
		$\sec \delta$	+1.663	I	

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7

α Persei

$3^h\ 15^m\ 41^s.455$	$+4^s.2528$	$\log \sin \delta$	9.88 058
$+49°\ 25'\ 43''.18$	$+13''.113$	$\log \cos \delta$	9.81318
		$\log \tan g \delta$	0.06739
		$\log \sec \delta$	0.18692
		$\tan g \delta$	+ 1.168
		$\sec \delta$	+ 1.538

$15 \cos \delta \tan g \delta$

R_1

R_2

$\log R_1$

$\log R_2$

I

N.A. $15^m\ 41^s.369$

$25'\ 43''.52$

1879	α	δ
Feb. 18	$15^m\ 42^s.68$	$25'\ 63''.2$
28	42.44	62.3
10	42.21	61.1
20	42.00	59.7
30	41.84	58.1
9	41.74	56.3
19	41.69	54.5
29	41.71	52.7
9	41.80	51.0
19	41.95	49.5

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ε Eridani

3	27	13.775	s	+2.8230	s	l sin δ	9.23402n
−9	52	8.″92		+12.376	″	l cos δ	9.99352
						l tang δ	9.24049n
						l sec δ	0.00658
						tang δ	−.174
						sec δ	+1.015

N.A.

l sin δ	9.23402n
l cos δ	9.99352
l tang δ	9.24049n
l sec δ	0.00658
tang δ	−.174
sec δ	+1.015

l sin δ tang i
R_1
R_2
lR_1
lR_2
I

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δ Persei

3h 34m 18.813s	+4.2420s	
47° 23′ 55.39″	+11.848″	

N.A. 34m 18.737s
23′ 55.47″

l sin δ	9.86692	log cos δ			
l cos δ	9.83053	R_1			
l tang δ	0.03638	R_2			
l sec. δ	0.16957	lR_1			
tang δ	+1.087	lR_2			
sec. δ	+1.478	I			

1879	α		δ	
Feb. 18	34m	20.25s	23′	74.3″
23				
28		20.01		73.7
March 5				
10		19.78		72.7
15				
20		19.57		71.4
25				
30		19.40		70.0
Apr. 4				
9		19.28		68.4
14				
19		19.21		66.7
24				
29		19.21		65.0
May 4				
9		19.27		63.4
14				
19		19.40		62.0

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δ Eridani

3h 37m 27.17

−10° 11′

Comm. de J 3m 37s 27.17

10′ 26.″7

l sin. δ	9.24713n	15 cos Stang i
l cos. δ	9.99311	R_1
l tang. δ	9.25401n	R_2
l sec. δ	0.00699	lR_1
tang. δ	− 0.179	lR_2
sec. δ	+ 1.016	I

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Tauri

$3^h\ 40^m\ 17^s.569$	$+3^s.5541$	
$+23°\ 43'\ 46''.11$	$+11''.436$	

log sin δ	9.60470	15. cos δ tang i	
log cos δ	9.96163	R_1	
log tang δ	9.64306	R_2	
log sec δ	0.03847	log R_1	
tang δ	+ .440	log R_2	
sec δ	+ 1.093	I	

N.A. $40^m\ 17^s.583$
$43'\ 46''.71$

1879	α	δ
Feb. 18	$1^m\ 40^s\ 19^s.01$	$43'\ 57''.4$
23		
28	18.84	56.9
March 5		
10	18.67	56.3
15		
20	18.53	55.7
25		
30	18.40	55.0
Apr. 4		
9	18.31	54.4
14		
19	18.27	53.9
24		
29	18.26	53.4
May 4		
9	18.31	53.1
14		
19	18.41	53.0

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ζ Persei

3h	46m	31.699	+3.1578
+31°	31′	21.″05	+11.″002

N.A.	46m	31.683	
	31′	21.″91	

log sin δ	9.71836	15 cos δ tang δ	
log cos δ	9.98066	R_1	
log tang δ	9.78770	R_2	
log sec δ	0.06944	lR_1	
tang δ	+ 613	lR_2	
sec δ	+ 1.173	I	

1879		α		δ
		m	s	′ ″
Feb.	18	46	33.20	31 35.2
	23			
	28		33.02	34.7
March	5			
	10		32.84	34.1
	15			
	20		32.67	33.3
	25			
	30		32.54	32.4
Apr.	4			
	9		32.43	31.4
	14			
	19		32.38	30.5
	24			
	29		32.37	29.7
May	4			
	9		32.41	28.9
	14			
	19		32.51	28.3

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23

γ Caidani. N.A.

α	3h 52m 23.050s	+2.797s
δ	+13° 51' 12.59"	+10.51"

$\log \sin \delta$	9.37917n	15cos Stang i	
$\log \cos \delta$	9.98718	R_1	
$\log \tan \delta$	9.39199n	R_2	
$\log \sec \delta$	0.01292	$\log R_1$	
tang δ	− .247	$\log R_2$	
sec. δ	+ 1.030	I	

1879		α m	s	δ ′	″
Feb.	18	52	24.34	50	74.9
	23				
	28		24.17		75.0
March	5				
	10		24.00		74.8
	15				
	20		23.84		74.4
	25				
	30		23.70		73.6
Apr.	4				
	9		23.60		72.6
	14				
	19		23.52		71.3
	24				
	29		23.49		69.8
May	4				
	9		23.50		68.9
	14				
	19		23.56		66.1

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α Tauri

$4^h\ 28^m\ 58.700^s$	$+3.4368^s$	log. sin. δ	9.44725	log cos. Stang. i	
$+16°\ 15'\ 52.24''$	$+7.591''$	log cos. δ	9.98226	R_1	
		log tang. δ	9.46499	R_2	
		log sec. δ	0.01784	lR_1	
		tang. δ	+ .292	lR_2	
N.A. $28^m\ 58.716^s$		sec. δ	+ 1.042	I	
$15'\ 53.35''$					

1879	α	δ
	$m\ s$	$'\ ''$
Feb. 18	$28\ 60.42$	$15\ 60.2$
23		
28	60.25	59.9
Mar. 5		
10	60.09	59.5
15		
20	59.92	59.2
25		
30	59.78	59.0
Apr. 4		
9	59.66	58.7
14		
19	59.57	58.6
24		
29	59.52	58.5
May 4		
9	59.52	58.6
14		
19	59.57	58.8

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45

1 Aurigae

h	m	s	s			15 cos δ tang i	
4	49	6.885	+3.8981	l sin δ	9.73578		
+32°	58′	21.″54	+6.″093	l cos. δ	9.92373	R_1	
				l tang δ	9.81206	R_2	
				l sec. δ	0.07637	lR_1	
				tang. δ	+ .649	lR_2	
N.A.	m 49	s 6.892		sec. δ	+ 1.192	I	
	′ 58	″ 22.50					

1879		α		δ
		m	s	′ ″
Feb.	18	49	8.93	58 24.4
	23			
	28		8.75	34.3
March	5			
	10		8.55	34.1
	15			
	20		8.36	33.6
	25			
	30		8.18	33.0
Apr.	4			
	9		8.03	32.3
	14			
	19		7.91	31.5
	24			
	29		7.84	30.7
May	4			
	9		7.82	29.9
	14			
	19		7.85	29.1

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β Eridani

5^h	1^m	54.080^s	$+2.9461^s$		
$-5°$	$14'$	$39.19''$	$+4.967''$		

$l \sin \delta$	8.96097n	$l \sec \delta \, l \tan g \, i$
$l \cos \delta$	9.99818	R_1
$l \tan g \, \delta$	8.96279n	R_2
$l \sec \delta$	0.00192	lR_1
$l \tan g \, \delta$	− .092	lR_2
$\sec \delta$	+ 1.004	I

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α Aurigae

	h m s	s		log sin δ	9.85600	15 cos δ tang i
	7 45.148	+4.4243		log cos δ	9.84277	R_1
+45°	52′ 21.″76	+4.″112		l tang δ	0.01322	R_2
				log sec δ	0.15733	lR_1
				tang δ	+ 1.031	lR_2
N.A.	m s			sec δ	+ 1.437	I
	7 45.136					
	′ ″					
	52 22.24					

1879	α	δ	δ
Feb. 18	m s 7 47.62	6	52′ 37.″5
23			
28	47.39		37.7
March 5			
10	47.14		37.5
15			
20	46.90		37.1
25			
30	46.67		36.4
Apr. 4			
9	46.47		35.5
14			
19	46.31		34.3
24			
29	46.20		33.0
May 4			
9	46.14		31.6
14			
19	46.15		30.2

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B Opionis

5	h 8	m 43.403	s +2.8818			log. sin. δ	9.16174n	15 cos δ tang. i	
− 8°	20′	35.″17	+4.435			log cos. δ	9.99538	R_1	
						log tang. δ	9.16636n	R_2	
						log sec. δ	0.00472	$\log R_1$	
						tang. δ	− 0.147	$\log R_2$	
N.A.	m 8	s 43.384				sec. δ	+ 1.011	I	
	20′	33.″69							

1879		α m	α s	δ ′	δ ″
Feb.	18	8	45.11	20	36.2
	23				
	28		44.94		36.7
March	5				
	10		44.76		36.9
	15				
	20		44.59		36.9
	25				
	30		4442		36.6
Apr.	4				
	9		44.27		36.1
	14				
	19		44.15		35.4
	24				
	29		44.06		34.4
May	4				
	9		44.01		33.2
	14				
	19		44.00		31.8

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49 Tauri

	h 5	m 18	s 38.617	s +3.7894	$\log \sin \delta$	9.67870	$15 \cos \delta \tan g i$
	28°	30′	11.″01	+3.″405	$\log \cos \delta$	9.94389	R_1
					$\log \tan g \delta$	9.73481	R_2
					$\log \sec \delta$	0.05621	$\log R_1$
					$\tan g \delta$	+ .543	$\log R_2$
	N.A.	m 18	s 38.604		$\sec \delta$	+1.138	I
		30′	12.″50				

1879		α		δ
		m	s	′ ″
Feb.	18	18	40.79	30 21.6
	23			
	28		40.62	21.6
March	5			
	10		40.43	21.5
	15			
	20		40.25	21.2
	25			
	30		40.07	20.9
Apr.	4			
	9		39.91	20.4
	14			
	19		39.78	19.9
	24			
	29		39.69	19.3
May	4			
	9		39.64	18.8
	14			
	19		39.64	18.2

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γ Orionis

$5^h\ 18^m\ 38.505^s$	$+3.2165^s$	$l\sin\delta$ 9.03613 — $15\cos\delta\tan i$
$+6°\ 14'\ 18.24''$	$+3.579''$	$l\cos\delta$ 9.99742 — R_1
		$l\tan g.\delta$ 9.03871 — R_2
		$l\sec.\delta$ 0.00268 — lR_1
		$\tan g.\delta$ + .109 — lR_2
N.A.		$\sec.\delta$ + 1.006 — I

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3[illegible] δ Orionis

5^h	25^m	$49^s.590$	$+3^s.0672$	$l\sin.\ \delta$	7.83479n
$-0°$	23′	25″.93	+2″.939	$l\cos.\ \delta$	9.99999
				$l\tan g.\ \delta$	7.83480n
				$l\sec.\ \delta$	0.00011
				$\tan g.\ \delta$	− .007
				$\sec.\ \delta$	+1.000

15 cos δ tang. i

R_1

R_2

lR_1

lR_2

I

N. A. 25^m $49^s.551$

23′ 24″.73

1879		α		δ
Feb. 18	25^m	$51^s.42$	23′	25″.3
23				
28		51.27		25.8
March 5				
10		51.10		26.1
15				
20		50.93		26.2
25				
30		50.76		26.1
Apr. 4				
9		50.61		25.8
14				
19		50.49		25.4
24				
29		50.40		24.7
May 4				
9		50.34		23.9
14				
19		50.33		23.0

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α Leporis. N.A.

5h 27m 23.700s +2.646s

−17° 54′ 35.″65 +2.″87

l sin. δ	9.48790n	15 cos δ tang. i
l cos. δ	9.97842	R_1
l tang. δ	9.50948n	R_2
l sec. δ	0.02168	lR_1
tang. δ	− .323	lR_2
sec. δ	+1.051	I

1879		α		δ
		m	s	′ ″
Feb.	18	27	25.44	54 41.″3
	23			
	28		25.26	42.0
March	5			
	10		25.07	42.3
	15			
	20		24.88	42.3
	25			
	30		24.69	42.0
Apr.	4			
	9		24.52	41.4
	14			
	19		24.38	40.5
	24			
	29		24.27	39.2
May	4			
	9		24.19	37.7
	14			
	19		24.15	36.0

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43

Orionis

$5^h\ 29^m\ 30.^s900$	$+2.^s9341$	$\log \sin \delta$	9.01863 n	$\log \cos \delta \tan i$	
$5°\ 59'\ 26.''94$	$+2.''646$	$\log \cos \delta$	9.99762	R_1	
		$\log \tan \delta$	9.02101 n	R_2	
		$\log \sec \delta$	0.00248	$l R_1$	
		$\tan \delta$	− .105	$l R_2$	
		$\sec \delta$	+ 1.006	I	

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ε Orionis

5h	30m	4.469		+3.0446			
−1°	16′	51.13		+2.601			
N.A.		30m	4.433				
		16′	49.98				
1879		α			δ		
Feb.	18	30m	6.32		16′	51.0	
	23						
	28		6.16			51.5	
March	5						
	10		6.00			51.8	
	15						
	20		5.82			51.9	
	25						
	30		5.66			51.8	
April	4						
	9		5.50			51.5	
	14						
	19		5.38			51.1	
	24						
	29		5.28			50.4	
May	4						
	9		5.22			49.6	
	14						
	19		5.20			48.6	

l sin. δ	8.34924n	15cos δ tang i
l cos. δ	9.99989	R_1
l tang δ	8.34935n	R_2
l sec. δ	0.00021	lR_1
l tang. δ	− .022	lR_2
sec. δ	+1.000	T

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35

ζ Orionis

5 34

2

Conn de J 34 39.25

0 29.3

l sin. δ	8.54462n	15 cos δ tang i
l cos. δ	9.99973	R,
l tang δ	8.54489n	R₂
l sec. δ	0.00037	l R,
tang δ	− .035	l R₂
sec. δ	+1.001	I

α (

5

−34

18

Feb.

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α Columbae N.A.

5h	35m	16.s129	+2.s173
−34°	8′	21.″62	+2.″14

lsin. δ	9.74912n	15cos.δ tang i
lcos. δ	9.91786	R_1
ltang. δ	9.83126n	R_2
lsec. δ	0.08224	lR_1
tang. δ	− .678	lR_2
sec. δ	+ 1.208	I

1879	α		δ
	m	s	′ ″
Feb. 18	35	17.80	90.9
28		17.58	91.9
10		17.34	92.3
20		17.10	92.4
30		16.87	92.0
9		16.65	91.1
19		16.46	89.9
29		16.30	88.3
9		16.18	86.3
19		16.10	84.0

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47

Orionis

h	m	s	s
5	42	1.065	+2.8447
9°	42′	50.83	+1.557

A. R.

log sin. δ	9.22719n	15 cos. δ tang. i
log cos. δ	9.99373	R_1
log tang. δ	9.23346n	R_2
log sec. δ	0.00637	lR_1
tang. δ	− .171	lR_2
sec. δ	+1.015	I

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α Orionis

$5^h\ 48^m\ 37^s.282$	$+3^s.2480$	$\log \sin \delta$	9.10893
$+7°\ 22'\ 57''.51$	$+0''.995$	$\log \cos \delta$	9.99638
		$\log \tan g \delta$	9.11254
		$\log \sec \delta$	0.00372
		$\tan g \delta$	+ .130
		$\sec \delta$	+ 1.009

15 cos δ tang i

R_1

R_2

$\log R_1$

$\log R_2$

I

		N.A.		
		$48^m\ 37^s.291$		
		$22'\ 59''.03$		
1879				
Feb.	18	48 39.36	22	57.9
	23			
	28	39.22		57.6
March	5			
	10	39.05		57.3
	15			
	20	38.88		57.2
	25			
	30	38.71		57.2
Apr.	4			
	9	38.56		57.3
	14			
	19	38.43		57.5
	24			
	29	38.32		57.8
May	4			
	9	38.26		60.2
	14			
	19	38.23		60.7

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39

β Aurigae

$l \sin \delta$	9.84898	15 cos. Stang. i
$l \cos. \delta$	9.84999	R_0
$l \tang. \delta$	9.99899	R_2
$l \sec. \delta$	0.15011	$l R_1$
$\tang. \delta$	+ .998	$l R_2$
$\sec. \delta$	+ 1.413	I

α 5^h 50^m $39^s.266$ $+4^s.4021$

δ $+44°$ $55'$ $58''.17$ $+0''.809$

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θ Aurigae

$5^h\ 51^m\ 28.^s226$ $+4.^s0912$

$+37°\ 12'\ 7.''26$ $+0.''637$

$\log \sin \delta$	9.78149	$15 \cos \delta \tan i$
$\log \cos \delta$	9.90119	R_1
$\log \tan g. \delta$	9.88031	R_2
$\log \sec. \delta$	0.09891	$\log R_1$
tang. δ	+ .759	$\log R_2$
sec. δ	+ 1.256	I

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1879phaeo.prc.1746.

47

μ Geminor.

h	m	s
6	15	38.440
+22°	34′	25.″92

s
+ 3.6329
− 1.″481

l sin. δ	9.58421
l cos. δ	9.96538
l tang. δ	9.61883
l sec. δ	0.03472
tang. δ	+ .416
sec. δ	+ 1.083

l cos. δ tang i
R_1
R_2
$l R_1$
$l R_2$
I

	m	s
N.A.	15	38.457
	34′	26.″94

1879		α		δ
		m	s	′ ″
Febr.	18	15	40.89	34 31.0
	23			
	28		40.75	31.1
March	5			
	10		40.59	31.2
	15			
	20		40.41	31.2
	25			
	30		40.23	31.2
Apr.	4			
	9		40.06	31.1
	14			
	19		39.91	31.0
	24			
	29		39.79	30.8
May	4			
	9		39.70	30.6
	14			
	19		39.65	30.4

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γ Geminor.

$6^h\ 30^m\ 43.288^s$	$+3.4669^s$	
$+16°\ 30'\ 2.''61$	$-2.''729$	

lsin. δ	9.45334	sin a lang. i
lcos. δ	9.98174	R_1
ltang. δ	9.47160	R_2
lsec. δ	0.01836	lR_1
tang. δ	+ ,296	lR_2
sec. δ	+ 1.043	I

N.A. $30^m\ 43.336^s$

$30'\ 4.''28$

1879	α	δ
Feb. 18	$30^m\ 45.^s74$	$30'\ 5.''7$
28	45.61	5.7
10	45.46	5.7
20	45.29	5.7
30	45.12	5.7
9	44.95	5.7
19	44.80	5.7
29	44.68	5.8
9	44.58	5.8
19	44.53	5.9

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4

α Canis Maj. N.A.

h	m	s	s
6	39	48.935	+2.645
− 16°	33′	4.30″	−4.68

$l \sin \delta$	9.45462n	$15 \cos \delta \tan \zeta$
$l \cos \delta$	9.98162	R_1
$l \tan \delta$	9.47299n	R_2
$l \sec \delta$	0.01848	lR_1
$\tan \delta$	− .297	lR_2
$\sec \delta$	+ 1.043	I

1879		α		δ	
		m	s	′	″
Feb.	18	39	50.96	32	73.6
	23				
	28		50.82		74.8
March	5				
	10		50.65		75.6
	15				
	20		50.47		76.2
	25				
	30		50.28		76.3
Apr.	4				
	9		50.09		76.2
	14				
	19		49.92		75.8
	24				
	29		49.77		75.0
May	4				
	9		49.65		74.0
	14				
	19		49.57		72.7

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ε Cygni Maj. N.A.

6h 53m 52.313s	+2.358s	
−28° 48′ 30.29″	−4.67″	

l sin. δ	9.68294n	l sin δ tang. i
l cos. δ	9.94262	R₁
l tang δ	9.74032n	R₂
l sec. δ	0.05742	l R₁
tang. δ	− .550	l R₂
sec. δ	+ 1.142	I

1879

Feb.	18	53	54.39	48 39.9
	23			
	28		54.20	41.4
March	5			
	10		54.01	42.6
	15			
	20		53.80	43.4
	25			
	30		53.59	43.7
Apr.	4			
	9		53.37	43.7
	14			
	19		53.17	43.2
	24			
	29		52.99	42.4
May	4			
	9		52.84	41.2
	14			
	19		52.72	39.6

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45

Canis Maj. N.A.

h	m	s	s
7	3	28.351	+2.440
−26°	12′	5.″99	−5.″45

l sin. δ	9.64498n	15 cos δ tang i
l cos. δ	9.95291	R_1
l tang δ	9.69207n	R_2
l sec. δ	0.04719	lR_1
tang δ	− .492	lR_2
sec. δ	+1.115	I

1879		α			δ	
		m	s	′	″	
Feb.	18	3	30.45	11	75.3	
	23					
	28		30.30		76.9	
March	5					
	10		30.12		78.1	
	15					
	20		29.93		78.9	
	25					
	30		29.72		79.3	
Apr.	4					
	9		29.52		79.3	
	14					
	19		29.32		78.9	
	24					
	29		29.15		78.2	
May	4					
	9		29.00		77.1	
	14					
	19		28.88		75.7	

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β Canis Min.

7	h 20	m 35.312	s +3.2582	l sin δ	9.17125	15 cos δ tang α	
+ 8°	31′	53.72	" −6.959	l cos. δ	9.99517	R_1	
				l tang. δ	9.17608	R_2	
				l sec. δ	0.00493	lR_1	
				tang. δ	+ .150	lR_2	
				sec. δ	+1.011	I	

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4/ 2 Geminor

	h	m	s			l sin δ	9.72606
7		26	52.435	+3.8381		l cos δ	9.92769
+22°		9′	7.66	−7.497		l tang δ	9.79836
						l sec δ	0.07241
						tang δ	+ .629
N.A.		m	s			sec δ	+1.181
		26	52.401				
		9′	7.92				

1879.9	α		δ
	m	s	″
Feb. 18	26	55.42	69.6
23			
28		55.31	70.3
March 5			
10		55.17	70.9
15			
20		55.00	71.5
25			
30		54.81	71.9
Apr. 4			
4		54.62	72.1
14			
19		54.44	72.2
24			
29		54.27	72.1
May 4			
9		54.13	71.9
14			
19		54.02	71.5

15 cos δ tang i	
R₁	
R₂	
lR₁	
lR₂	
I	

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α Canis Min.

	h m s	s	
1	32 57.986	+3.1508	
+5°	32′ 1.67	−8.″806	

lsin.δ	8.98419	15 cos δ tang.i
lcos.δ	9.99797	R_1
ltang.δ	8.98622	R_2
lsec.δ	0.00213	lR_1
tang.δ	+ .097	lR_2
sec.δ	+ 1.005	I

	m s		
N.A.	32 58.143		
	32 1.13		

1879	α	δ
	m s	′ ″
Feb. 18	32 60.63	31 56.4
23		
28	60.54	55.9
March 5		
10	60.42	55.5
15		
20	60.27	55.3
25		
30	60.11	55.3
Apr. 4		
9	59.95	55.4
14		
19	59.79	55.5
24		
29	59.65	55.8
May 4		
9	59.52	56.1
14		
19	59.43	56.6

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β Geminor.

α	h 7	m 37	s 54.604	s +3.6806	
+	+28°	19′	0.″36	− 8.″368	

l sin δ	9.67609	l cos. δ tang i	
l cos. δ	9.94465	R_1	
l tang δ	9.73144	R_2	
l sec. δ	0.05545	lR_1	
tang δ	+ .539	lR_2	
sec. δ	+1.136	I	

	m	s	′	″
M. A.	37	54.638	19	1.″64

1879		α m	α s	δ ′	δ ″
Feb.	18	37	57.78	19	61.″6
	23				
	28		57.49		62.1
March	5				
	10		57.36		62.7
	15				
	20		57.20		63.2
	25				
	30		57.02		63.6
Apr.	4				
	9		56.84		63.9
	14				
	19		56.66		64.1
	24				
	29		56.50		64.1
May	4				
	9		56.36		64.0
	14				
	19		56.25		63.8

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ν Aquæ – p B.A.C. 2728. N.A.

	h	m	s	s
	8	2	23.551	+2.556
–	23°	57′	22.33	– 10.14

l sin. δ	9.60856 n	15 cos. δ tang. i
l cos. δ	9.96088	R,
l tang. δ	9.64768 n	R₂
l sec. δ	0.03972	l R,
tang. δ	– .914	l R₂
sec. δ	+ 1.094	I

1879		α		δ	
		m	s	′	″
Feb.	18	2	25.85	57	32.3
	23				
	28		25.76		34.2
March	5				
	10		25.63		35.7
	15				
	20		25.47		36.9
	25				
	30		25.29		37.7
Apr.	4				
	9		25.11		38.1
	14				
	19		24.92		38.2
	24				
	29		24.75		38.0
May	4				
	9		24.59		37.3
	14				
	19		24.45		36.4

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51

1 Ursae Maj.

	h	m	s	s			
	8	50	54.977	+4.1365	lsin δ	9.87455	15cos δ tang i
	+48°	30′	54.58	− 13.877	lcos δ	9.82115	R_1
					l tang δ	0.05340	R_2
					lsec. δ	0.17895	lR_1
					tang. δ	+ 1.131	lR_2
N.A.		m	s		sec. δ	+ 1.510	I
		50	54.982				
		30′	54.88				

1879		α		δ
		m	s	
Feb.	18	50	58.97	30′ 51.8
	23			
	28		58.92	53.5
March	5			
	10		58.82	55.2
	15			
	20		58.66	56.8
	25			
	30		58.46	58.1
Apr.	4			
	9		58.23	59.2
	14			
	19		57.99	60.0
	24			
	29		57.75	60.4
May	4			
	9		57.52	60.5
	14			
	19		57.32	60.3

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α Hydrae

h m s	s	
9 21 38.472	+2.9491	
−8° 8′ 6.27	−15.414	

lsin. δ	9.15083 n	lsin δ tang. i
lcos. δ	9.99561	R_1
ltang. δ	9.15523 n	R_2
lsec. δ	0.00439	lR_1
tang. δ	− .143	lR_2
sec. δ	+ 1.010	I

	m	s
N.A.	21	38.501
	8′	″ 5.10

1879		α		δ
Feb.	18	21	41.06	8 15.9
	23			
	28		41.06	17.3
March	5			
	10		41.02	18.4
	15			
	20		40.94	19.3
	25			
	30		40.83	19.9
Apr.	4			
	9		40.71	20.3
	14			
	19		40.58	20.4
	24			
	29		40.44	20.4
May	4			
	9		40.30	20.1
	14			
	19		40.18	19.6

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43

Ursae Maj.

	h	m	s	s			
	9	24	45.233	+4.0464			
	52°	13′	38.39	−16.″208			
N.A.	m	s					
	24	45.285					
	13′	39.″60					

lsin δ	9.89788		lsin δ tang i				
lcos δ	9.78712		B_1				
l tang δ	0.11075		B_2				
lsec δ	0.21298		lR_1				
tang δ	+ 1.291		lR_2				
sec δ	+ 1.633		I				

1879	α		δ	
	m	s	′	″
Feb. 18	24	49.54	13	33.4
23				
28		49.54		35.4
March 5				
10		49.47		37.3
15				
20		49.33		39.2
25				
30		49.14		40.9
Apr. 4				
9		48.91		42.3
14				
19		48.66		43.5
24				
29		48.40		44.2
May 4				
9		48.15		44.7
14				
19		47.90		44.7

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E Leonis

9^h	38^m	$58^s.831$
$+24°$	$19'$	$49''.31$

$+3^s.41168$

$-16''.399$

$\log \sin \delta$	9.61490	15 cos. δ tang. i
$\log \cos \delta$	9.95961	R_1
$\log \tan \delta$	9.65529	R_2
$\log \sec \delta$	0.04049	$\log R_1$
$\log \tan \delta$	+ .452	$\log R_2$
$\log \sec \delta$	+ 1.098	I

N.A.

	38^m	$58^s.895$
	$19'$	$50''.66$

1879	α	δ
Feb. 18	39^m $1^s.95$	$19'$ $40''.4$
23		
28	1.98	41.0
March 5		
10	1.95	41.7
15		
20	1.89	42.5
25		
30	1.79	43.3
Apr. 4		
9	1.67	44.1
14		
19	1.53	44.9
24		
29	1.39	45.6
May 4		
9	1.24	46.1
14		
19	1.10	46.6

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55

α Leonis

h	m	s	s
10	1	55.591	+3.2012
+12°	33′	28.″20	−17.″432

	m	s
N.A.	1	55.661
	33′	29.″70

	l sin. δ	9.33733	15 cos. δ tang. i	
	l cos. δ	9.98948	R_1	
	l tang. δ	9.34784	R_2	
	l sec. δ	0.01062	lR_1	
	tang. δ	+ .223	lR_2	
	sec. δ	+ 1.025	I	

1879	α	δ
	m s	′ ″
Feb. 18	1 58.47	33 17.5
23		
28	58.52	17.3
March 5		
10	58.52	17.3
15		
20	58.48	17.5
25		
30	58.41	17.9
Apr. 4		
9	58.32	18.3
14		
19	58.20	18.9
24		
29	58.08	19.4
May 4		
9	57.95	19.9
14		
19	57.83	20.5

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ζ Leonis

$10^h\ 9^m\ 57^s.456$	$+3^s.3476$	
$+24°\ 1'\ 11''.13$	$-17''.772$	

$\sin \delta$	9.60964	$B \cos \delta \tan g i$
$\cos \delta$	9.96066	B_1
$\tan g \delta$	9.64898	B_2
$\sec \delta$	0.03944	lB_1
$\tan g \delta$	+ .446	lB_2
$\sec \delta$	+ 1.096	I

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1 Leonis

	h	m	s		s
	10	13	17.978		+3.316
+20°		27′	11.95		−18.04

		m	s
N.A.		13	17.978
		27′	11.95

				α		δ	
1879				m	s	′	″
Feb.	18			13	20.92	26	59.1
	23						
~~Mar.~~	28				20.99		59.4
March	5						
	10				21.00		59.9
	15						
	20				20.97		60.5
	25						
	30				20.91		61.3
Apr.	4						
	9				20.82		62.1
	14						
	19				20.70		62.9
	24						
	29				20.58		63.7
May	4						
	9				20.45		64.3
	14						
	19				20.32		64.9

lain. δ	9.54337	15 cos. δ tang. i	
lcos. δ	9.97172	R_1	
ltang. δ	9.57164	R_2	
lsec. δ	0.02838	lR_1	
tang. δ	+ .373	lR_2	
sec. δ	+1.068	I	

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μ Ursae Maj.

	10h	15m	6.921	+3.5980	l sin. δ	9.82642	15 cos δ tang i'
					l cos. δ	9.87033	R_1
+	42°	6'	25.77	−17.985	l tang. δ	9.95609	R_2
					l sec. δ	0.12977	lR_1
					tang. δ	+ .904	lR_2
					sec. δ	+ 1.348	I

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559

β Ursae Maj.

	h	m	s	s		
	10	54	31.809	+3.6623		
+	57°	1′	4″.00	−19.″237		

l sin. δ	9.92374	15 cos. δ tang. i′	
l cos. δ	9.73575	R₁	
l tang. δ	0.18799	R₂	
l sec. δ	0.26435	l R₁	
tang. δ	+ 1.541	l R₂	
sec. δ	+ 1.838	I	

N. A.

1879

Fe Feb. 18
23
28

Mar. 10
20
30

A 9
19

M 29
9
19

α

+

N

1

Feb.

Mar.

Apr.

May

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α Ursae Maj.

h	m	s	s
10	56	14.870	+3.7563
+62°	24′	12.90	−19.″370

N.A. 56m 14.859s
24′ 13.″18

log sin δ	9.94754	15 cos. Stang. i				
log cos. δ	9.66582	R_1				
log tang. δ	0.28173	R_2				
log sec. δ	0.33428	lR_1				
tang. δ	+ 1.913	lR_2				
sec. δ	+ 2.159	I				

1879	α	δ
	m s	′ ″
Febr. 18	56 19.84	23 58.1
23		
28	20.00	60.5
March 5		
10	20.06	63.0
15		
20	20.03	65.6
25		
30	19.92	68.2
Apr. 4		
9	19.73	70.6
14		
19	19.48	72.7
24		
29	19.19	74.5
May 4		
9	18.86	75.9
14		
19	18.52	76.8

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61

Ψ Ursae Maj.

11h 2m 51.267s +3.3950

+ 45° 9′ 15.″37 −19.″514

l sin. δ	9.85066	l cos. δ Stange	
l cos. δ	9.84830	R_1	
l tang. δ	0.00236	R_2	
l sec. δ	0.15180	lR_1	
tang. δ	+ 1.005	lR_2	
sec. δ	+ 1.418	I	

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8 Leonis

11h	7m	40.277	+3.2014
+21°	11′	10.20	−19.″684

N.A.

lsin. δ	9.55799	15cos δ tang i
lcos. δ	9.96961	R_1
ltang. δ	9.58838	R_2
lsec. δ	0.03049	lR_1
tang. δ	+ .388	lR_2
sec. δ	+ 1.073	I

1879

		m	s	′	″
Feb.	18	7	43.22	10	55.5
	23				
	28		43.34		55.8
March	5				
	10		43.41		56.3
	15				
	20		43.44		57.1
	25				
	30		43.43		58.0
Apr.	4				
	9		43.38		58.9
	14				
	19		43.30		60.0
	24				
	29		43.21		61.0
May	4				
	9		43.10		62.0
	14				
	19		42.98		62.9

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43

3 Leonis

	h	m	s	s					
	11	42	53.203	+3.0650			lsin. δ	9.41993	15 cos. δ sin. μ
	+15°	14′	54.09	−20.″098			lcos. δ	9.98444	R_1
							ltang. δ	9.43549	R_2
							lsec. δ	0.01566	lR_1
							tang. δ	+ .273	lR_2
	N.A.	m	s				sec. δ	+ 1.087	I
		42	53.234						
		14′	55.50						
	1879		α		δ				
Feb.	18	m	s		′	″			
		42	55.88		14	37.8			
	23								
	28		56.03			37.7			
March	5								
	10		56.14			37.8			
	15								
	20		56.20			38.2			
	25								
	30		56.22			38.8			
Apr.	4								
	9		56.21			39.6			
	14								
	19		56.17			40.5			
	24								
	29		56.10			41.4			
May	4								
	9		56.02			42.3			
	14								
	19		55.93			43.2			

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γ Ursae Maj.

h	m	s
11	47	27.623

°	′	″
+54	22	2.36

s
+3.1859
−.20026

	m	s
N.A.	47	27.597
	′	″
	22	2.90

			α		δ
1879			m	s	′ ″
Feb.	18		47	31.43	21 42.7
	23				
	28			31.65	44.6
March	5				
	10			31.79	46.8
	15				
	20			31.86	49.2
	25				
	30			31.86	51.6
Apr.	4				
	9			31.80	54.1
	14				
	19			31.68	56.5
	24				
	29			31.52	58.6
May	4				
	9			31.32	60.5
	14				
	19			31.09	62.0

log sin δ	9.90996	log sin/tang i
log cos δ	9.76537	R_1
log tang δ	0.14460	R_2
log sec δ	0.23473	$\log R_1$
tang δ	+ 1.395	$\log R_2$
sec δ	+ 1.717	I

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45

Courri

m
1 3
- 8 56'

l sin δ	9.57258n	log Stang i	
l cos δ	9.96733	B_1	
l tang δ	9.60526n	B_2	
l sec. δ	0.03277	lR_1	
tang δ	− .403	lR_2	
sec. δ	+1.078	I	

Comm de F 3 54 20
56 48.3

δ
12
−15

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δ Corvi

12h 23m

−15° 50′

Comm de J	23	36.41	
	50	30.0	

lsin δ	9.43613n	15 cos δ tang δ
lcos. δ	9.98318	B_1
ltang δ	9.45295n	B_2
lsec. δ	0.01692	lB_1
tang δ	− .284	lB_2
sec. δ	+ 1.040	I

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Bcorri N.A.

12h 28m 1.989	+3.140	
22° 43′ 36.85	−19.95	

lsin.δ	9.586985n	1sec.δ tang.i
lcos.δ	9.96490	B_1
ltang.δ	9.62209n	B_2
lsec.δ	0.03520	lB_1
tang δ	− .419	lB_2
sec. δ	+ 1.084	I

1879	α		δ	
	m	s	′	″
Feb. 18	28	4.32	43	48.2
23				
28		4.52		50.4
March 5				
10		4.68		52.5
15				
20		4.79		54.3
25				
30		4.87		56.0
Apr. 4				
9		4.91		57.4
14				
19		4.92		58.5
24				
29		4.90		59.5
May 4				
9		4.86		60.2
14				
19		4.80		60.7

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γ Virginis

12	35	31.770	+3.0383	$l_{\sin \delta}$	8.13735$_n$	$\log \delta_{\text{tang}}$
				$l_{\cos \delta}$	9.99996	B_1
− 0°	4′	8.84	−19.785	$l_{\text{tang}\,\delta}$	8.13739$_n$	B_2
				$l_{\sec \delta}$	0.00014	lB_1
				$\text{tang}\,\delta$	− .014	lB_2
				$\sec \delta$	+1.000	I

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54

Ursae Maj.

42	48	42.121	+2.6597	l sin. δ	9.92169	15 cos. δ tang. i	
+46°	36′	59.35	−19.645	l cos. δ	9.74055	B₁	
				l tang. δ	0.18114	B₂	
				l sec. δ	0.25955	l B₁	
				tang. δ	+1.518	l B₂	
				sec. δ	+1.818	I	

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δ Virginis

h	m	s	s
12	49	30.521	+3.0202
+ 4°	3′	18.64	−19.660

l sin. δ	8.84956	15 cos δ tang. ζ
l cos. δ	9.99891	B_1
l tang. δ	8.85065	B_2
l sec. δ	0.00119	lB_1
tang. δ	+ .071	lB_2
sec. δ	+ 1.003	I

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α Canis Ven. seg.

h	m	s	s
12	50	21.907	+2.8152
+38°	58′	19.49	−19.524

sin. δ	9.79861	Vcos δ tang i	
cos. δ	9.89067	B_1	
tang. δ	9.90794	B_2	
sec. δ	0.10943	lR_1	
tang. δ	+ .809	lR_2	
sec. δ	+1.287	I	

N.A. m s
50 21.951
58′ 20.33

1879		m	s	δ	′	″
Feb.	18	50	24.67		57	56.5
	23					
	28		24.91			57.4
March	5					
	10		25.11			58.7
	15					
	20		25.25			60.4
	25					
	30		25.34			62.3
Apr.	4					
	9		25.39			64.3
	14					
	19		25.39			66.5
	24					
	29		25.35			68.7
May	4					
	9		25.28			70.7
	14					
	19		25.18			72.6

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ε Virginis

12h 56m 9.s183 +2.s9873

+11° 36′ 35.″37 −19.″429

l sin. δ	9.30377	1 sin δ tang i
l cos. δ	9.99102	B₁
l tang. δ	9.31275	B₂
l sec. δ	0.00908	lB₁
tang. δ	+ .205	lB₂
sec. δ	+1.021	I

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7 Virginis N.A.

α $3^h\ 18^m\ 49^s.216$ $+3^s.154$

δ $+20°\ 31'\ 44''.21$ $-18''.90$

$\log \sin \delta$	9.26177n	$15 \cos \delta \tan g^l$	
$\log \cos \delta$	9.99263	B_1	
$\log \tan g \delta$	9.26914n	B_2	
$\log \sec \delta$	0.00747	$\log B_1$	
$\tan g \delta$	$-$ .186	$\log B_2$	
$\sec \delta$	+1.017	I	

1879	α	δ
	^{m} ^{s}	$'$ $''$
Feb. 18	18 51,37	31 58.6
23		
28	51.60	60.1
March 5		
10	51.80	61.4
15		
20	51.97	62.5
25		
30	52.09	63.4
Apr. 4		
9	52.19	64.0
14		
19	52.25	64.4
24		
29	52.28	64.6
May 4		
9	52.29	64.7
14		
19	52.28	64.6

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ζ Ursae Maj. pr.

13h	19m	3.125	+2.4313
+55°	33′	26.16	−18.927

l sin. δ	9.91630	l cos δ sin i
l cos. δ	9.75248	B1
l tang. δ	0.16381	B2
l sec. δ	0.24762	l B1
tang. δ	+ 1.458	l B2
sec. δ	+ 1.769	I

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7

Nº Vesuvio Maf.

	h	m	s	s				
	13	42	46.314	+2.3721		log sin δ	9.88372	log cos δ tang i
						log cos δ	9.80882	B_1
	+29°	55′	3.33	−18.089		log tang δ	0.07490	B_2
						log sec δ	0.19128	lB_1
						tang δ	+1.188	lB_2
N.A.		m	s			sec δ	+1.553	I
		42	46.351					
		′	″					
		55	3.57					

1879	α		δ	
	m	s	′	″
Febr. 18	42	48.86	54	36.3
23				
28		49.19		37.3
March 5				
10		49.48		38.7
15				
20		49.70		40.6
25				
30		49.87		42.9
Apr. 4				
9		49.99		45.4
14				
19		50.04		48.1
24				
29		50.05		50.8
May 4				
9		50.00		53.5
14				
19		49.91		55.9

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η Bootis

h	m	s	s
13	48	55.383	+2.8570
+19°	0′	17.″45	−18.″196

	m	s
N.A.	48	55.456
	0′	18.″90

1879	α m	s	δ ′	″
Feb. 18	48	57.53	59	56.5
23				
28		57.79		56.2
March 5				
10		58.02		56.3
15				
20		58.21		56.8
25				
30		58.36		57.7
Apr. 4				
9		58.47		58.8
14				
19		58.55		60.1
24				
29		58.60		61.6
May 4				
9		58.62		63.2
14				
19		58.61		64.7

$l \sin \delta$	9.51276	15 cos δ tang i
$l \cos \delta$	9.97566	B_1
$l \tang \delta$	9.53711	B_2
$l \sec \delta$	0.02444	lB_1
tang δ	+ .344	lB_2
sec. δ	+ 1.058	I

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1 Virginis

$13^h\ 55^m\ 29^s.324$	$+3^s.0491$	$\log \sin \delta$ 8.57027
$+2°\ 7'\ 49''.61$	$-17''.624$	$\log \cos \delta$ 9.99970
		$\log \tan g \delta$ 8.57057
		$\log \sec \delta$ 0.00040
		$\tan g \delta$ + .037
		$\sec \delta$ + 1.001

$\log \cos \delta \tan g \delta$

R_1

R_2

$\log R_1$

$\log R_2$

I

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α Bootis

$14^h\ 10^m\ 8.530^s$ $+2.7338^s$

$+19°\ 48'\ 47.''76$ $-18.''874$

l sin. δ	9.53016	l cos. δ sin. δ tang. i	
l cos. δ	9.97350	B_1	
l tang. δ	9.55666	B_2	
l sec. δ	0.02660	lB_1	
tang. δ	+ .360	lB_2	
sec. δ	+ 1.063	I	

N.A. $10^m\ 8.551^s$

$48'\ 48.''59$

1879	α	δ
	$^m\ ^s$	$'\ ''$
Feb. 18	10 10.49	48 25.4
23		
28	10.76	25.1
March 5		
10	11.00	25.1
15		
20	11.20	25.6
25		
30	11.37	26.4
Apr. 4		
9	11.51	27.6
14		
19	11.61	28.9
24		
29	11.67	30.5
May 4		
9	11.71	32.1
14		
19	11.71	33.7

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79

Bootis

14^h	27^m	$12^s.431$	$+24''.226$
$+38°$	$50'$	$16''.98$	$-15''.915$

l sin δ	9.79736	15 cos δ tang i
l cos δ	9.89149	B_1
l tang δ	9.90587	B_2
l sec. δ	0.10861	lB_1
tang δ	+ .805	lB_2
sec. δ	+ 1.284	I

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ε Bootis N.A.

14^h	39^m	$42^s.196$	$+2^s.622$
$+27°$	$35'$	$7''.32$	$-15''.35$

l sin δ	9.66566	15 cos δ tang
l cos δ	9.94759	B_1
l tang δ	9.71807	B_2
l sec δ	0.05251	lB_1
tang δ	+ .522	lB_2
sec δ	+ 1.129	I

1879		α		δ	
		^{m}	^{s}	$'$	$''$
Feb.	18	39	43.96	34	42.4
	23				
	28		44.26		42.2
March	5				
	10		44.53		42.5
	15				
	20		44.77		43.3
	25				
	30		44.97		44.5
Apr.	4				
	9		45.14		46.0
	14				
	19		45.27		47.9
	24				
	29		45.36		49.8
May	4				
	9		45.42		51.9
	14				
	19		45.44		54.1

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2. Librae N.A.

14h	44m	11.s165	+3.s308
−15°	32′	15.″24	−15.″18

l sin δ	9.42796n	15 cos δ tang i
l cos δ	9.98383	R₁
l tang δ	9.44413n	R₂
l sec. δ	0.01627	lR₁
tang δ	− .278	lR₂
sec. δ	+1.038	I

1879	α	δ
	m s	′ ″
Feb. 18	44 12.96	32 27.4
23		
28	13.26	28.8
March 5		
10	13.53	30.0
15		
20	13.77	31.0
25		
30	13.98	31.9
Apr. 4		
9	14.16	32.6
14		
19	14.32	33.1
24		
29	14.44	33.5
May 4		
9	14.53	33.7
14		
19	14.60	33.8

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β Ursae Minor.

14h	51m	4.350	−0.2409
+ 74°	38′	58.″81	−14.″762

log. sin. δ	9.98422	15 cos. δ tang.
log. cos. δ	9.42278	R_1
log. tang. δ	0.56145	R_2
log. sec. δ	0.57732	lR_1
tang. δ	+ 3.643	lR_2
sec. δ	+ 3.779	I

N.A.

	m	s
	51	4.422
	′	″
	38	58.34

1879		α		δ	
		m	s	′	″
Feb.	18	50	66.56	38	28.5
	23				
	28		67.37		29.3
March	5				
	10		68.11		30.8
	15				
	20		68.75		32.9
	25				
	30		69.27		35.3
Apr.	4				
	9		69.66		38.1
	14				
	19		69.90		41.2
	24				
	29		70.01		44.4
May	4				
	9		69.97		47.6
	14				
	19		69.79		50.7

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183

β Bootis

h	m	s	s
14	57	23.284	+2.2606
+40°	52′	6.″07	−14.″402

	m	s
N.A.	57	23.288
	52′	7.″07

lsin. δ	9.81580	usec δ tang. l
lcos. δ	9.87864	R_1
ltang. δ	9.93716	R_2
lsec. δ	0.12146	lR_1
tang. δ	+ .865	lR_2
sec. δ	+ 1.323	I

1879	α		δ	
	m	s	′	″
Feb. 18	57	24.92	51	39.4
23				
28		25.26		39.5
March 5				
10		25.58		40.1
15				
20		25.86		41.3
25				
30		26.10		43.0
Apr. 4				
9		26.29		45.0
14				
19		26.44		47.4
24				
29		26.55		49.9
May 4				
9		26.62		52.6
14				
19		26.64		55.2

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β Librae

h	m	s	s
15	10	29.807	+3.2212
− 8°	56′	7.″22	− 13.″535

	m	s
N.A.	10	29.818
	56′	5.″62

1879		α		δ	
		m	s	′	″
Feb.	18	10	31.46	56	19.6
	23				
	28		31.76		20.7
March	5				
	10		32.03		21.7
	15				
	20		32.29		22.4
	25				
	30		32.51		22.8
Apr.	4				
	9		32.71		23.1
	14				
	19		32.89		23.2
	24				
	29		33.03		23.1
May	4				
	9		33.15		22.8
	14				
	19		33.24		22.5

l sin. δ	9.19126n	15 cos δ tang i
l cos. δ	9.99470	R_1
l tang δ	9.19657n	R_2
l sec. δ	0.00540	lR_1
tang. δ	− .157	lR_2
sec. δ	+ 1.013	I

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85

δ Bootis

15h	10m	37.532	+2.4211	l sin. δ	9.74493	Recd Tang.	
+33°	46′	1.″67	−13.″611	l cos. δ	9.91976	B_1	
				l tang. δ	9.82517	B_2	
				l sec. δ	0.08034	lB_1	
				tang. δ	+ .669	lB_2	
				sec. δ	+ 1.203	I	

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α Cor. Bor.					l sin. δ	9.65886	15 cos δ tang I	
15^h	29^m 33.895^s		+2.5389^s		l cos. δ	9.94941	R₁	
+27°	7′ 22.94″		−12.302″		l tang. δ	9.70945	R₂	
					sec. δ	0.05069	lR₁	
					tang. δ	+ .512	lR₂	
N.A.	29^m 33.912^s				sec. δ	+ 1.124	I	
	7′ 23.42″							

1879

Date	m s	′	″
Feb. 18	29 35.30	6	58.8
23			
28	35.61		58.3
March 5			
10	35.91		58.4
15			
20	36.18		58.9
25			
30	36.43		60.0
Apr. 4			
9	36.64		61.4
14			
19	36.82		63.2
24			
29	36.97		65.2
May 4			
9	37.08		67.4
14			
19	37.16		69.6

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7

ζ Serpentis

	h m s	s		log sin δ	9.07390	15 cos δ tang i	
15	38 18.492	+2.9509		log cos δ	9.99693	R_1	
+16°	48′ 26.″76	− 11.561		log tang δ	9.07697	R_2	
				log sec. δ	0.00317	$\log R_1$	
				tang. δ	+ .119	$\log R_2$	
N.A.	m s			sec. δ	+ 1.007	I	
	38 18.491						
	48′ 27.″87						

1879	α	δ
	m s	′ ″
Feb. 18	38 19.91	48 9.1
23		
28	20.21	8.3
March 5		
10	20.50	7.8
15		
20	20.76	7.7
25		
30	21.00	8.0
Apr. 4		
9	21.21	8.5
14		
19	21.40	9.3
24		
29	21.56	10.4
May 4		
9	21.69	11.6
14		
19	21.80	12.9

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1879phae.proj.1746.

δ Scorpii N.A.

$15^h\ 53^m\ 10^s.820$	$+3^s.538$	
$-22^\circ\ 16'\ 30''.86$	$-10''.54$	

lsin. δ	9.57870n	1500 Stangl
lcos. δ	9.96632	R_1
ltang. δ	9.61238n	R_2
lsec. δ	0.03378	lR_1
tang. δ	− .410	lR_2
sec. δ	+1.081	I

1879		α		δ
		m	s	′ ″
Feb.	18	53	12.32	16 39.3
	23			
	28		12.65	40.4
March	5			
	10		12.97	41.4
	15			
	20		13.27	42.3
	25			
	30		13.55	43.1
Apr.	4			
	9		13.80	43.8
	14			
	19		14.03	44.4
	24			
	29		14.23	44.9
May	4			
	9		14.40	45.3
	14			
	19		14.54	45.6

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1879

β' Scapii. N.A.

	h	m	s	s			
	15	58	24131	+3.478			
−	19°	28′	21.″61	−10.″16			

l sin. δ	9.52290n	15 cos. δ tang i
l cos. δ	9.97442	R_1
l tang. δ	9.54848n	R_2
l sec. δ	0.02568	lR_1
tang. δ	− .354	lR_2
sec. δ	+1.061	I

1879		α		δ	
		m	s	′	″
Feb.	18	58	25.59	28	31.0
	23				
	28		25.92		32.0
March	5				
	10		26.23		32.9
	15				
	20		26.52		33.7
	25				
	30		26.80		34.4
Apr.	4				
	9		27.05		34.9
	14				
	19		27.28		35.3
	24				
	29		27.48		35.7
May	4				
	9		27.65		35.9
	14				
	19		27.80		36.0

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δ Ophiuchi

16^h	8^m	0.342^s	$+3.11400^s$	$l \sin \delta$	8.77061 n	15 cos δ tang i	
$-3°$	$22'$	$53.''63$	$-9.''563$	$l \cos \delta$	9.99924	R_1	
				$l \tang \delta$	8.77137 n	R_2	
				$l \sec \delta$	0.00086	lR_1	
				$\tang \delta$	− .059	lR_2	
N.A.	8^m	0.306^s	$22'\ 51.''76$	$\sec \delta$	+1.002	I	
	$22'$	$51.''76$					

1879		α	δ
		$m\ s$	$'\ ''$
Feb.	18	8 1.61	22 66.6
	23		
	28	1.92	67.5
March	5		
	10	2.22	68.1
	15		
	20	2.50	68.5
	25		
	30	2.76	68.6
Apr.	4		
	9	3.00	68.4
	14		
	19	3.22	68.0
	24		
	29	3.41	67.4
May	4		
	9	3.57	66.7
	14		
	19	3.71	65.9

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1

τ Herculis

16^h	16^m	$34^s.935$	$+2^s.6439$	l sin δ	9.52218
$+19°$	$26'$	$17''.68$	$-8''.697$	l cos. δ	9.97451
				l tang δ	9.54767
				l sec. δ	0.02559
				tang. δ	+ .353
				sec. δ	+ 1.061

15 cos δ tang i

R_1

R_2

lR_1

lR_2

I

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1079phae.proj.1746.

α Scorpii N.A.

16h	21m	59.432s	+3.670s
−26°	9′	41.″94	−8.34

lsin. δ	9.64434n	Reed Tangt
lcos. δ	9.95306	R_1
ltang. δ	9.69127n	R_2
lsec. δ	0.04704	lR_1
tang. δ	− .491	lR_2
sec. δ	+ 1.104	I

1879

1879		α		δ	
		m	s	°	″
Feb.	18	21	60.81	9	48.4
	23				
	28		61.16		49.3
March	5				
	10		61.50		50.1
	15				
	20		61.82		50.9
	25				
	30		62.13		51.6
Apr.	4				
	9		62.41		52.2
	14				
	19		62.67		52.8
	24				
	29		62.90		53.4
May	4				
	9		63.11		53.8
	14				
	19		63.28		54.3

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73

ζ Herculis

$16^h\ 25^m\ 1.125^s$	$+2.5769^s$	
$+21°\ 45'\ 16.85''$	$-8.059''$	

$l \sin \delta$	9.56896	$15 \cos \delta \tan g i$
$l \cos \delta$	9.96791	R_1
$l \tan g \delta$	9.60105	R_2
$l \sec \delta$	0.03219	lR_1
$\tan g \delta$	+ .399	lR_2
$\sec \delta$	+ 1.077	I

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ξ Ophiuchi N.A.

16h 30m 29.813s +3.299s
−10° 19′ 12.30″ −7.58″

l sin. δ	9.25318n	1500 δ tang i
l cos. δ	9.99292	B_1
l tang. δ	9.26027n	B_2
l sec. δ	0.00718	lB_1
tang. δ	− .182	lB_2
sec. δ	+1.017	I

1879		α		δ
		m	s	′ ″
Feb.	18	30	31.05	19 24.2
	23			
	28		31.36	25.0
March	5			
	10		31.67	25.6
	15			
	20		31.96	26.0
	25			
	30		32.25	26.3
Apr.	4			
	9		32.51	26.3
	14			
	19		32.75	26.1
	24			
	29		32.97	25.8
May	4			
	9		33.16	25.4
	14			
	19		33.32	24.9

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95

ζ Herculis

16h 36m 43.s567 +2.s2643

+31° 49' 22.''64 −6.''714

l sin. δ	9.72205	sen. δ tang i	
l cos. δ	9.92926	R,	
l tang. δ	9.79279	R₂	
l sec. δ	0.07084	l R,	
tang. δ	+ .621	l R₂	
sec. δ	+ 1.177	I	

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η Herculis

	h	m	s	s			
	16	38	44.910	+2.0561			
	+ 39°	9′	11.57	−7.″043			
					log. δ	9.80030	1500 δ tang. i
					log. δ	9.88956	R_1
					log. tang. δ	9.91074	R_2
					log. sec. δ	0.11054	lR_1
					tang. δ	+ .814	lR_2
					sec. δ	+ 1.290	I

N.A. 38m 44.880 s
9′ 13.″22

1879		α		δ
		m	s	′ ″
Feb.	18	38	45.57	8 47.8
	23			
	28		45.92	47.0
March	5			
	10		46.27	46.8
	15			
	20		46.60	47.2
	25			
	30		46.92	48.2
Apr.	4			
	9		47.20	49.8
	14			
	19		47.46	51.7
	24			
	29		47.69	54.1
May	4			
	9		47.87	56.7
	14			
	19		48.02	59.5

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17

η Ophiuchi

h	m
17	3

°	′
−15	34

l sin. δ	9.42887 n	l cos δ tang. i
l cos. δ	9.98376	R_1
l tang. δ	9.44511 n	R_2
l sec. δ	0.01634	lR_1
tang. δ	− .279	lR_2
sec. δ	+ 1.038	I

Comde 3 26.33

34 23.5

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α' Herculis

17h 9m 7.826 s +2.7337 s
+14° 31' 46.29 " −4.365 "

N.A. 9m 7.814 s
31' 47.32"

lsin. δ	9.39949	15cm. Stangi			
lcos. δ	9.98588	R_1			
ltang. δ	9.41361	R_2			
lsec. δ	0.01422	lR_1			
tang. δ	+ .259	lR_2			
sec. δ	+ 1.033	I			

1879	α	δ
	m s	' "
Feb. 18	9. 8.62	31 28.8
23		
28	8.93	27.9
March 5		
10	9.23	27.4
15		
20	9.53	27.4
25		
30	9.81	27.8
Apr. 4		
9	10.09	28.6
14		
19	10.34	29.8
24		
29	10.57	31.3
May 4		
9	10.78	33.0
14		
19	10.96	34.9

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99

δ Herculis

17h 10m 3.s688 +2.s4608

+24° 58′ 38.″22 −4.″490

l sin. δ	9.62568	l cos. δ tang. i	
l cos. δ	9.95733	R₁	
l tang. δ	9.66834	R₂	
l sec. δ	0.04277	l R₁	
tang. δ	+ .466	l R₂	
sec. δ	+ 1.103	I	

T

+

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π Herculis

17^h	10^m	$5^s.0050$	$+2''.0890$	lsin. δ	9.77893	15cos δ tang i
$+36°$	$56'$	$47''.75$	$-4''.255$	lcos. δ	9.90265	R_1
				ltang. δ	9.87628	R_2
				lsec. δ	0.09745	lR_1
				tang. δ	+ .752	lR_2
				sec. δ	+ 1.252	I

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β Draconis

17h	27m	41.915	+1.35512	l sin δ	9.89883
+52°	23′	28.885	−2.819	l cos δ	9.78551
				l tang δ	0.11332
				l sec δ	0.21459
				tang δ	+1.298
				sec δ	+1.639

1500 Steng. i

R_1

R_2

lR_1

lR_2

I

N.A. 27m 41.883

23′ 29.″02

1879	α	δ
	9m s	′ ″
Feb. 18	27 41.72	23 4.3
23		
28	42.12	3.1
March 5		
10	42.54	2.5
15		
20	42.95	2.6
25		
30	43.35	3.4
Apr. 4		
9	43.73	4.7
14		
19	44.08	6.6
24		
29	44.39	9.0
May 4		
9	44.65	11.8
14		
19	44.87	14.8

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α Ophiuchi

17h 29m 19.050s +2.7820s
+12° 38′ 58.22″ −2.880″

N. A. 29m 19.047s
38′ 58.95″

lsin. δ	9.34043	15cos δ tang i			
lcos. δ	9.98933	B_1			
ltang. δ	9.35111	B_2			
lsec. δ	0.01077	lB_1			
tang. δ	+ .224	lB_2			
sec. δ	+ 1.025	I			

1879		α		δ
		m	s	′ ″
Feb.	18	29	19.76	38 41.7
	23			
	28		20.06	40.8
March	5			
	10		20.36	40.3
	15			
	20		20.66	40.2
	25			
	30		20.95	40.6
Apr.	4			
	9		21.23	41.3
	14			
	19		21.50	42.4
	24			
	29		21.74	43.8
May	4			
	9		21.97	45.5
	14			
	19		22.17	47.3

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ν Draconis

17h	53m	47.850	+1.3939	l sin δ	9.89356
+51°	30′	12.58	−0.580	l cos δ	9.79412
				l tang δ	0.09944
				l sec. δ	0.20598
				tang. δ	+ 1.257
				l sec. δ	+ 1.607

15 cos. Stang. i

R_1

R_2

lR_1

lR_2

I

N.A. 53m 47.945 30′ 13.10

1879 α δ

		m	s	′	″
Feb.	18	53	47.55	29	50.1
	23				
	28		47.93		48.7
March	5				
	10		48.34		47.9
	15				
	20		48.74		47.7
	25				
	30		49.14		48.2
Apr.	4				
	9		49.53		49.3
	14				
	19		49.90		51.0
	24				
	29		50.23		53.2
May	4				
	9		50.53		53.8
	14				
	19		50.78		58.8

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ε Sagittarii

18 16

−34 26

	m	s
Comm. de T	16	8.40
	36′	27.″3

l sin. δ	9.75248n	15 cos δ sin i
l cos. δ	9.91628	R_1
l tang. δ	9.83623n	R_2
l sec. δ	0.08382	lR_1
tang. δ	− .686	lR_2
sec. δ	+1.213	I

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η Serpentis

$18^h\ 15^m\ 2.894^s$	$+3.1003^s$	lsin. δ 8.70823n
$-2^\circ\ 55'\ 43.61''$	$+0.628''$	lcos. δ 9.99943
		ltang δ 8.70879n
		lsec. δ 0.00067
		tang. δ − .051
N.A. $15^m\ 2.843^s$		sec. δ + 1.002
$55'\ 42.04''$		

lcos. δ tang δ

B_1

B_2

lR_1

lR_2

I

1879	α	δ
Feb. 18	$15^m\ 3.50^s$	$55'\ 53.1''$
23		
28	3.78	53.7
March 5		
10	4.07	54.0
15		
20	4.37	54.0
25		
30	4.67	53.8
Apr. 4		
9	4.96	53.3
14		
19	5.25	52.5
24		
29	5.53	51.5
May 4		
9	5.79	50.4
14		
19	6.03	49.2

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α Lyrae

18^h	32^m	$50^s.500$	$+2^s.0313$
$+38°$	$40'$	$18''.85$	$+3''.152$

N.A.	32^m	$50^s.496$
	$40'$	$19''.21$

1879		α	δ
Feb.	18	32^m $50^s.31$	$39'$ $60''.5$
	23		
	28	$50^s.61$	$58''.9$
March	5		
	10	$50^s.94$	$57''.9$
	15		
	20	$51^s.28$	$57''.5$
	25		
	30	$51^s.62$	$57''.6$
Apr.	4		
	9	$51^s.96$	$58''.4$
	14		
	19	$52^s.29$	$59''.7$
	24		
	29	$52^s.61$	$61''.5$
May	4		
	9	$52^s.90$	$63''.7$
	14		
	19	$53^s.17$	$66''.3$

$l \sin \delta$	9.79579		$l \cos \delta \tan g i$
$l \cos \delta$	9.89250		B_1
$l \tan g \delta$	9.90328		B_2
$l \sec \delta$	1.10760		lB_1
$\tan g \delta$	+ .800		lB_2
$\sec \delta$	+ 1.281		I

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σ Sagittarii N.A.

18h	47m	45.732	+3.723	l sin. δ	9.64868n
−26°	26′	41.57	+4.09	l cos. δ	9.95200
				l tang. δ	9.69668n
				l sec. δ	0.04810
				tang. δ	− .498
				sec. δ	+1.107

15 cos. δ tang. i

R_1

R_2

$l R_1$

$l R_2$

I

1879		α		δ	
		m	s	′	″
Feb.	18	47	46.44	26	45.1
	23				
	28		46.75		44.7
March	5				
	10		47.07		44.3
	15				
	20		47.40		43.8
	25				
	30		47.73		43.3
Apr.	4				
	9		48.07		42.8
	14				
	19		48.40		42.3
	24				
	29		48.73		41.7
May	4				
	9		49.05		41.2
	14				
	19		49.35		40.8

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ζ Aquilae

18h	59m	50.844	+2.7542				
+13°	41′	48.3	+5.070				

lsin. δ	9.37393	lcos. δ tang i	
lcos. δ	9.98750	R_1	
ltang. δ	9.38644	R_2	
lsec. δ	0.01260	lR_1	
tang. δ	+ .243	lR_2	
sec. δ	+ 1.029	I	

	m	s
N.A.	59	50.824
	41′	6.47

1879	α		δ	
	m	s	′	″
Febr. 18	59	51.07	40	53.6
23				
28		51.33		52.6
March 5		51.6		
10		51.60		51.9
15				
20		51.89		51.7
25				
30		52.18		51.9
Apr. 4				
9		52.48		52.5
14				
19		52.78		53.5
24				
29		53.07		54.9
May 4				
9		53.36		56.6
14				
19		53.62		58.5

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λ Aquilae

18	59	49.653	+3.1855	l sin δ	8.94580n	15cos δ tang i
−5°	3′	45.38″	+5.093	l cos δ	9.99830	R_1
				l tang δ	8.94749n	R_2
				l sec. δ	0.00180	lR_1
				tang δ	− .089	lR_2
				sec. δ	+1.004	I

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Π Sagittarii

19 2

− 21 12

	m	s
Com de Π	2	33.78
	12	51.0

l sin. δ	9.55853n	l cos. δ tang. i
l cos. δ	9.96953	R_1
l tang. δ	9.58900n	R_2
l sec. δ	0.03057	l R_1
tang. δ	− .388	l R_2
sec. δ	+ 1.073	I

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β Cygni

19h	25m 50.514s	+2.4193s
+27°	42′ 23.83″	+7.350″

lsin. δ	9.66739	1 cos δ tang i
lcos. δ	9.94711	B_1
ltang. δ	9.72027	B_2
lsec. δ	0.05299	lB_1
tang. δ	+ .525	lB_2
sec. δ	+ 1.130	I

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γ Aquilae

h	m	s	s
19	40	30.422	+2.8525
+10°	19′	10.03″	+8.519

lsin. δ	9.25318	1 5 cos. Stang.	
lcos. δ	9.99292	R_1	
ltang. δ	9.26027	R_2	
lsec. δ	0.00718	lR_1	
tang. δ	+ .182	lR_2	
sec. δ	+ 1.017	I	

	m	s
N.A.	40	30.408
	19′	11.11″

1879		α m	α s	δ ′	δ ″
Feb.	18	40	30.57	18	61.2
	23				
	28		30.79		60.3
March	5				
	10		31.04		59.8
	15				
	20		31.31		59.6
	25				
	30		31.59		59.7
Apr.	4				
	9		31.89		60.3
	14				
	19		32.19		61.3
	24				
	29		32.49		62.6
May	4				
	9		32.79		64.2
	14				
	19		33.07		66.0

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δ Cygni

19h 41m 11.529s	+1.8742	lsin. δ 9.84824
+44° 50′ 9.44″	+8.590	lcos. δ 9.85072
		ltang. δ 9.99751
		lsec. δ 0.14938
		tang. δ + .994
		sec. δ + 1.411

15 cor. Stange

R_1

R_2

lR_1

lR_2

I

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α Aquilae

h	m	s	s
19	44	52.774	+2.9285
+ 8°	32′	59.51	+9.″242

lsin. δ	9.17223	15 cos δ tang i	
lcos. δ	9.99515	B_1	
ltang. δ	9.17708	B_2	
lsec. δ	0.00495	lB_1	
long. δ	+ .150	lB_2	
sec. δ	+ 1.011	I	

	m	s
N.A.	44	52.741
	33′	0.″40

1879		α		δ	
		m	s	′	″
Feb.	18	44	52.92	32	51.1
	23				
	28		53.14		50.3
March	5				
	10		53.39		49.8
	15				
	20		53.66		49.6
	25				
	30		53.94		49.9
Apr.	4				
	9		54.23		50.5
	14				
	19		54.53		51.4
May	24				
	29		54.83		52.7
May	4				
	9		55.13		54.3
	14				
	19		55.42		56.1

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β Aquilae

	h	m	s	s
19	49	22.160		+2.9471
+6°	6′	″		″
		20.64		+8.730

lam. δ	9.02678	15 cos. δ tang i
lcos. δ	9.99753	R_1
ltang. δ	9.02925	R_2
lsec. δ	0.00257	lR_1
tang. δ	+ .107	lR_2
sec. δ	+ 1.006	I

N. A.	m	s
	49	22.138
	6′	21.42

1879		α		δ
		m	s	′ ″
Feb.	18	49	22.33	6 12.6
	23			
	28		22.56	11.9
March	5			
	10		22.80	11.5
	15			
	20		23.06	11.4
	25			
	30		23.34	11.6
Apr.	4			
	9		23.63	12.3
	14			
	19		23.93	13.2
	24			
	29		24.23	14.5
May	4			
	9		24.53	16.0
	14			
	19		24.82	17.7

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θ Aquilae

20h 5m	3.s658	+3.s0974	lsin δ	8.31393n	lsen δ tang i
−1° 10′	45.″33	+10.″407	lcos δ	9.99991	R_1
			ltang δ	8.31402n	R_2
			lsec δ	0.00019	lR_1
			tang δ	− .020	lR_2
			sec δ	+ 1.000	I

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17

ζ^2 Capricorni N.A.

α	20^h	11^m	$20^s.366$	$+3^s.333$	$l \sin \delta$	9.34943n
δ	$-12°$	$55'$	$6''.20$	$+10''.89$	$l \cos \delta$	9.98886
					$l \tan g \delta$	9.36057n
					$l \sec \delta$	0.01124
					$\tan g \delta$	− .229
					$\sec \delta$	+ 1.026

1500 δ Stargi

R_1

R_2

lR_1

lR_2

I

1879	α	δ
	^{m} ^{s}	$'$ $''$
Feb. 18	11 20.71	54 70.9
23		
28	20.93	70.6
March 5		
10	21.17	70.2
15		
20	21.43	69.5
25		
30	21.71	68.7
Apr. 4		
9	22.01	67.7
14		
19	22.31	66.6
24		
29	22.63	65.3
May 4		
9	22.94	64.0
14		
19	23.25	62.6

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γ Cygni

20	17	53.159	+ 2.1533	l sin. δ	9.80688	15 ω Stangi
+ 39°	52′	12.56	+ 11.366	l cos. δ	9.88508	R_1
				l tang. δ	9.92180	R_2
				l sec. δ	0.11502	lB_1
				tang. δ	+ .835	lB_2
				sec. δ	+ 1.303	I

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