

MAS Eclipsing Binary Ephemeris for April 2022
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all times in U.T.

	RT	TW	WZ	AD	BD	BX	DS	DS	QX	QX	RY	XZ	KO	KP	OO	OO	V342	V343	V346	RX	SS	RY	SX
	AND	AND	AND	AND	AND	AND	AND	AND	AND	AND	AQR	AQL	AQL	AQL	AQL	AQL	AQL	AQL	AQL	ARI	ARI	AUR	AUR
MAX	9.3	8.8	11.6	11.1	11.3	8.6	10.8	10.8	11.3	11.3	8.8	9.3	8.3	9.7	9.2	9.2	9	10.6	9	9.4	10.1	11.7	8.2
MIN	10.2	11	12.6	11.6	11.7	9.5	11.4	11.4	11.6	11.6	10.1	11.2	9.3	10.5	10.1	10.1	12.5	12.3	10.4	9.9	11.1	14	9
DUR	3	11	4	4	3	4	4	4	3	3	5	7	5	4	3	3	7	4	4	4	3	6	4
TOT		2															3						
				(S)				(S)		(S)						(S)							
0- 1																9.0							
1- 2						1.0								10.0	9.0								
2- 3																9.5							
3- 4	10.0															10.0	11.0					4.5	
4- 5					10.0	2.5										10.0							
5- 6					8.0							11.0				10.5				1.0	5.5		
6- 7										1.5						11.0							
7- 8				11.5												11.0							
8- 9	10.5			11.5												11.5							
9-10				11.0															7.5				
10-11	8.0			10.5	10.5														9.0	10.0			
11-12				10.5	8.5						10.0		11.0										
12-13			11.0	10.0					1.0														
13-14	11.5			9.5						2.0						7.0							
14-15				9.5									7.5			7.5							2.0
15-16	8.5			9.0		2.0										7.5							
16-17				8.5	10.5											8.0						3.0	
17-18				8.5	9.0											8.5							
18-19														6.0		8.5				1.0			
19-20									1.0							9.0			9.0				
20-21	9.5									2.0	10.5					9.5	10.0	10.5	11.5				3.0
21-22		10.5														9.5							
22-23							1.0									10.0		7.0					
23-24					9.5		1.5									10.5							
24-25					7.5		1.5									10.5							
25-26	10.0						2.0									11.0							
26-27						1.5			1.5							11.5							4.5
27-28	7.5															11.5							
28-29			11.0											8.5									
29-30					10.0													8.0	1.0				

all times in U.T.

	TT	WW	WW	AP	AP	AR	AR	CL	EM	EP	HP	HP	IM	V459	V459	SS	SS	SS	TU	TU	TY	TY	TZ
	AUR	AUR	AUR	AUR	AUR	AUR	AUR	AUR	AUR	AUR	AUR	AUR	AUR	AUR	AUR	BOO	BOO	BOO	BOO	BOO	BOO	BOO	BOO
MAX	8.7	5.7	5.7	10.9	10.9	6	6	11.7	11	10.8	10.8	10.8	7.9	7.7	7.7	10.3	10.3	10.3	11.7	11.7	11.8	11.8	10.6
MIN	9.7	6.4	6.4	11.4	11.4	6.7	6.7	13.2	11.9	11.3	11.5	11.5	8.5	8.1	8.1	11	11	11	12.7	12.7	12.3	12.3	11.1
DUR	5	5	5	4	4	5	5	4	4	3	3	3	4	4	4	18	18	18	3	3	3	3	3
TOT																6	6	6					
			(S)		(S)		(S)					(S)			(S)	(2)		(3)		(S)		(S)	
0- 1				3.0						3.0					5.5				5.5	1.5	1.5	5.5	
1- 2	4.0		2.5	6.5															4.5			4.5	5.0
2- 3					3.0								3.0						4.0		7.0	3.0	2.5
3- 4					6.5					2.0	4.0						3.5	6.5	3.5	7.5	6.0	2.0	
4- 5				3.0															2.5	6.5	4.5		4.5
5- 6	4.0			6.0															2.0	6.0	3.5	7.0	2.0
6- 7			3.5		2.5				1.5					2.0					1.5	5.5	2.5	6.0	6.5
7- 8					6.0					5.0			2.5	3.5						4.5	1.0	5.0	4.0
8- 9				2.5							3.5			5.0						4.0	7.5	3.5	1.5
9-10	3.5			5.5															7.5	3.5	6.5	2.5	6.0
10-11					2.0					4.0									6.5	2.5	5.0	1.5	3.0
11-12			5.0		5.5														6.0	2.0	4.0		
12-13				2.0									2.5						5.5	1.5	3.0	6.5	5.0
13-14	3.5			5.5						3.0	3.0								4.5		1.5	5.5	2.5
14-15					2.0										1.0				4.0			4.5	7.0
15-16					5.0				4.0						3.0				3.5	7.0	7.0	3.0	4.5
16-17			6.0	1.5						2.0					4.5				2.5	6.5	6.0	2.0	2.0
17-18	3.5			5.0				4.5					2.0		6.0				2.0	6.0	4.5		6.5
18-19					1.5							2.5				5.5	8.5	11.5	1.5	5.5	3.5	7.5	4.0
19-20					5.0															4.5	2.5	6.0	1.0
20-21		1.0		1.5						5.0										4.0	1.0	5.0	5.5
21-22	3.5			4.5		2.0													7.0	3.5		4.0	3.0
22-23					1.0			4.0					2.0						6.5	2.5	6.5	2.5	
23-24					4.5		4.0			4.0	2.0			2.0					6.0	2.0	5.5	1.5	5.0
24-25				1.0											3.5				5.5	1.5	4.0		2.5
25-26	3.5	2.0		4.5										5.0					4.5		3.0	7.0	7.0
26-27									2.5	3.0								2.0	4.0		2.0	5.5	4.5
27-28				4.0				3.5					1.5						3.5	7.0		4.5	1.5
28-29												1.5							2.5	6.5	7.0	3.5	6.0
29-30	3.5			4.0						2.0									2.0	6.0	6.0	2.0	3.5

all times in U.T.

	TZ	UW	VW	VW	ZZ	AD	AD	BW	BW	44	44	Y	SV	AL	CD	CD	R	RT	SX	TU	TZ	TZ	UU
	BOO	BOO	BOO	BOO	BOO	BOO	BOO	BOO	BOO	BOO	BOO	CAM	CAM	CAM	CAM	CAM	CMA	CMA	CMA	CMA	CMA	CMA	CMA
MAX	10.6	10.4	10.5	10.5	6.8	9.8	9.8	7.1	7.1	4.7	4.7	10.6	8.6	10.5	11.6	11.6	6.2	11.4	10.3	9.7	9.8	9.8	10
MIN	11.1	11.4	11	11	7.6	10.4	10.2	7.5	7.5	4.9	4.8	12.4	9.4	11.3	11.8	11.8	6.8	12.9	11.4	10.7	10.5	10.5	12.5
DUR	3	3	3	3	5	4	4	5	5	3	3	6	3	5	5	5	4	5	4	4	4	4	5
TOT																							
	(S)			(S)	(S)		(S)		(S)		(S)				(S)							(S)	
0- 1	4.5	4.0	3.0	7.5			11.5			2.5	5.5		10.5		9.5								2.0
1- 2	1.5	4.0	4.0	8.0						4.0	1.0			3.5	4.0			1.5					
2- 3	6.0	4.0	4.5							6.0	2.5		5.5	11.0		7.5			3.5				
3- 4	3.5	4.0	5.0		2.0					1.0	4.5		10.0		11.0	2.0	1.0			2.5			
4- 5	1.0	4.5	6.0	1.5				3.0		3.0	6.0				5.5		4.5						
5- 6	5.5	4.5	6.5	2.5						4.5	1.5	4.5	4.5	3.0		9.0							
6- 7	3.0	4.5	7.0	3.0				2.0		6.5	3.0		9.0	11.0		3.0						2.5	
7- 8		4.5	7.5	3.5					11.0	1.5	5.0				6.5								
8- 9	5.0	5.0		4.0	2.0					3.5			3.5		1.0	10.5							
9-10	2.0	5.0		5.0				10.0		5.0	2.0		8.0	2.5		4.5							
10-11	7.0	5.0	1.5	5.5							3.5			10.5	8.0			3.0					
11-12	4.0	5.0	2.0	6.0						2.0	5.5		3.0		2.5	11.5							
12-13	1.5	5.0	2.5	7.0						4.0			7.5			6.0	3.0						
13-14	6.0	5.5	3.5	7.5	1.5					5.5	2.5		11.5	2.0	9.5								2.0
14-15	3.5	5.5	4.0	8.0					3.0		4.0		2.0	10.0	4.0								
15-16		5.5	4.5							2.5	5.5	2.5	6.5			7.5			3.5				
16-17	5.5	5.5	5.5					2.0		4.0	1.0		11.0		11.0	1.5							
17-18	3.0	6.0	6.0	2.0					11.0	6.0	2.5		1.0	2.0	5.0								
18-19		6.0	6.5	2.5	1.5	1.5				1.0	4.5	10.0	5.5	9.5		8.5							
19-20	4.5	6.0	7.0	3.0			2.5	10.0		3.0	6.0		10.0			3.0							
20-21	2.0	6.0	8.0	4.0		3.0				4.5	1.5				6.5		2.0						
21-22	6.5	6.0		4.5			4.0			6.5	3.0		5.0	1.5		10.0							
22-23	4.0	6.5		5.0		5.0				1.5	5.0		9.0	9.5		4.5							
23-24	1.5	6.5	1.5	5.5	1.5		5.5			3.5					8.0			1.5					
24-25	6.0	6.5	2.5	6.5		6.5		3.0		5.0	2.0		4.0		2.0	11.5							
25-26	3.5	6.5	3.0	7.0			7.5			3.5			8.5	1.0		5.5							
26-27		7.0	3.5	7.5		8.0		2.0		2.0	5.0			9.0	9.5								2.0
27-28	5.5	7.0	4.0				9.0		11.0	3.5			3.0		3.5						2.0		
28-29	2.5	7.0	5.0		1.0	10.0				5.5	2.0	8.0	7.5			7.0		3.0					
29-30		7.0	5.5	1.5			10.5	10.0			4.0				10.5	1.5	4.0			1.0		1.0	

all times in U.T.

	PV	V364	V364	V375	V380	U	SU	WW	WZ	WZ	XX	ZZ	CW	CW	DK	DL	DV	EG	EK	GK	RW	RW	RZ	
	CAS	CAS	CAS	CAS	CAS	CEP	CEP	CEP	CEP	CEP	CEP	CEP	CEP	CEP	CEP	CEP	CEP	CEP	CEP	CEP	CEP	COM	COM	COM
MAX	10	11.2	11.2	10.1	10.4	6.7	8.8	11.1	11.7	11.7	8.5	9.3	7.6	7.6	12.2	12.4	11.6	9.6	8.2	6.9	11	11	10	
MIN	10.6	11.7	11.7	10.9	11.1	9.8	9.8	11.9	11.3	11.1	9.6	10	8	8	14.2	13.2	12.4	10.6	9.5	7.4	11.6	11.6	10.7	
DUR	3	4	4	5	5	4	4	4	3	3	4	5	5	5	4	5	4	3	6	4	3	3	3	
TOT						2																		
	(S)		(S)						(S)				(S)								(S)			
0- 1				11.0	9.5				5.0	10.0			11.5		6.5	6.5	1.5				3.5		3.0	
1- 2							9.5			6.0					6.0		5.5	1.0	4.0		2.5	5.0	3.5	
2- 3							7.5		7.0	2.0					6.0		9.5	3.5			1.0	4.0	3.5	
3- 4				9.5	3.0			9.0	3.0	8.0			5.0		5.5			5.5			5.5	2.5	4.0	
4- 5					11.5	3.5			9.0	4.0	8.5				5.0			7.5			4.5	1.5	4.5	
5- 6									5.0	10.0					5.0			9.5			3.0		5.0	
6- 7				8.0					1.0	6.0					4.5					11.0	2.0	4.5	5.0	
7- 8	6.0				4.5				7.0	2.0			7.0	4.0				1.0		9.5		3.5	5.5	
8- 9			10.5						3.0	8.0						10.5	4.5	3.0		8.0	5.0	2.5	6.0	
9-10				7.0		3.0			9.0	4.0							8.5	5.0		6.5	4.0	1.0	6.5	
10-11							10.0		5.0			3.0						7.5		5.0	2.5	5.5	6.5	
11-12					6.5		7.5		1.0	6.0	9.0		9.5					9.5		3.5	1.5	4.5	7.0	
12-13				5.5			5.0		7.5	2.5		6.0						11.5		2.0		3.0	7.5	
13-14			1.5						3.5	8.5						7.5					5.0	2.0	8.0	
14-15	6.0					3.0			9.5	4.5		9.5	3.0					3.0	10.5		3.5			
15-16				4.5	8.0				5.5					11.5	1.5		4.0	5.0			2.5	5.0		
16-17									1.5	6.5	1.0				1.0		8.0	7.0			1.0	4.0		
17-18								4.5	7.5	2.5								9.5			5.5	3.0	1.0	
18-19		11.0		3.0	1.0				3.5	8.5	9.0			5.0		5.0		11.5			4.5	1.5	1.5	
19-20					9.5	2.5	10.5		9.5	4.5											3.0		2.0	
20-21							8.0		5.5												2.0	5.0	2.5	
21-22	6.0			2.0			5.5		1.5	6.5						11.5		5.0		10.5		3.5	2.5	
22-23					3.0				7.5	2.5			7.5				3.5	7.0		9.0	5.5	2.5	3.0	
23-24					11.5				4.0	9.0	1.0						7.5	9.0	7.0	7.5	4.0	1.0	3.5	
24-25						2.0			10.0	5.0							11.0	11.0		6.0	3.0	5.5	3.5	
25-26			10.0						6.0		9.5	2.5	1.0							4.5	1.5	4.5	4.0	
26-27					4.5			9.5	2.0	7.0				9.5		9.0		2.5		3.0		3.0	4.5	
27-28									8.0	3.0		6.0						4.5		1.5	5.0	2.0	5.0	
28-29	6.0			10.5			10.5		4.0	9.0								6.5			3.5		5.0	
29-30						2.0	8.5			5.0		9.5		3.0			2.5	9.0			2.5	5.5	5.5	

all times in U.T.

	RZ	SS	SS	CC	CC	U	RW	TW	W	W	RV	RV	SX	SX	V	Y	SW	WW	ZZ	AE	BR	CG	DK
	COM	COM	COM	COM	COM	CRB	CRB	CRB	CRV	CRV	CRV	CRV	CRV	CRV	CRT	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG
MAX	10	10.9	10.9	11	11	7.6	10.1	10.5	10.6	10.6	9	9	8.9	8.9	9.5	7	9.3	9.9	10.7	11.8	9.4	11	10.3
MIN	10.7	11.5	11.5	11.9	11.9	8.8	10.6	11.3	11.2	11.2	10	10	9.2	9.2	10.2	7.6	11.8	13.2	12	12.8	10.5	11.8	10.8
DUR	3	4	4	2	2	5	4	4	4	4	4	4	3	3	4	6	5	5	4	4	4	3	4
TOT																	2						
	(S)		(S)		(S)					(S)		(S)		(S)									
0- 1	7.0	3.5	8.5		3.0			8.0	7.5	3.0		1.5		4.0	3.0			9.0	10.0			10.5	
1- 2	7.5	9.0	4.0	2.5	5.0		8.5		2.0	7.0	5.0		7.0	3.0		8.5							
2- 3	7.5	5.0	10.0	5.0	2.5	7.0	2.0	2.5	6.0	1.5		7.5	5.5	2.0	5.5				7.5			8.0	
3- 4	8.0		5.5	2.5	5.0			7.0		5.5			4.5										
4- 5		6.5	1.5	4.5	2.0		6.0	11.0	4.5		5.0		3.0	7.0	8.0	8.5							
5- 6		2.0	7.0	2.0	4.5				8.5	4.0		7.0	2.0	6.0	1.0				11.0				11.0
6- 7	1.0	8.0	3.0	4.5	2.0		10.5	5.5	3.0	8.0				4.5									9.5
7- 8	1.5	3.5	8.5	1.5	4.0		4.0	10.0	7.0	2.5	4.5		7.0	3.5	3.5	8.5			8.0			9.5	8.5
8- 9	2.0	9.5	4.5	4.0	1.5				2.0	6.5		7.0	6.0	2.0									
9-10	2.0	5.5		1.5	4.0	5.0	8.0	4.0	5.5	1.0			5.0		6.0		7.0		5.5			7.0	
10-11	2.5	1.0	6.0	3.5	1.0			8.5		5.0	4.5		3.5	7.5		8.5		8.0	11.5				
11-12	3.0	7.0	2.0	1.0	3.5				4.5	9.0		6.5	2.5	6.0									
12-13	3.5	2.5	7.5	3.5			6.0	3.0	8.5	3.5				5.0	1.5				9.0			10.5	
13-14	3.5	8.5	3.5		3.0			7.0	3.0	7.5	4.0		7.5	3.5		8.5							11.0
14-15	4.0	4.0	9.0	3.0			10.0	11.5	7.0	2.0		6.5	6.5	2.5	4.0				6.0			8.0	10.0
15-16	4.5	10.0	5.0		3.0		3.5		1.5	6.0			5.0										8.5
16-17	5.0	5.5		2.5		2.5		6.0	5.5		4.0		4.0		6.5	8.5							
17-18	5.0	1.5	6.5	5.0	2.5		8.0	10.0		4.5		6.0	2.5	6.5					9.5			11.5	
18-19	5.5	7.0	2.5	2.5	5.0				4.0	8.5			1.5	5.5		10.5				11.5			
19-20	6.0	3.0	8.0	5.0	2.0			4.5	8.0	3.5	3.5			4.0	2.0	8.0			7.0			9.0	
20-21	6.5	9.0	4.0	2.0	4.5		5.5	8.5	2.5	7.0		6.0	6.5	3.0				6.5					
21-22	6.5	4.5	9.5	4.5	2.0				6.5	2.0	9.5		5.5	1.5	4.5					11.5			11.0
22-23	7.0		5.5	2.0	4.5		10.0	3.0	1.0	6.0	3.5		4.5			8.0			10.0	10.5	11.5		10.0
23-24	7.5	6.0	1.0	4.0	1.5		3.5	7.5	5.0			5.5	3.0	7.0	7.0				10.0				8.5
24-25	8.0	2.0	7.0	1.5	4.0			11.5	9.0	4.5	9.0		2.0	5.5					7.5	9.0		10.5	
25-26		7.5	2.5	4.0	1.5		7.5		3.5	8.5	3.0			4.5		8.0				8.5			
26-27		3.5	8.5	1.0	3.5	11.0		6.0	7.5	3.0		5.5	7.0	3.5	2.5					7.5	11.5	8.0	
27-28		9.0	4.5	3.5	1.0			10.5	2.0	7.0	9.0		6.0	2.0					11.0				
28-29	1.0	5.0			3.5		5.5		6.0	1.5	2.5		4.5		5.0	8.0							
29-30	1.5		6.0	3.0				4.5		5.5		5.0	3.5	7.5					8.0			11.5	11.5

all times in U.T.

	KR	KV	V346	V387	V388	V401	V456	V466	V466	V477	V477	V548	V704	1034	W	TT	TY	YY	FZ	Z	RZ	TW	UZ
	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	DEL	DEL	DEL	DEL	DEL	DRA	DRA	DRA	DRA
MAX	9.2	11.5	11.8	11.5	9.7	10.8	10.8	10.8	10.8	8.3	8.3	8.9	13.8	9.6	9.4	10.6	9.6	11	10.2	10.8	10	7.8	9.9
MIN	10	12.6	13.6	12.3	10.3	11.6	11.9	11.6	11.6	9.2	8.7	9.7	14.6	10.6	12.7	12.5	10.8	12	11.3	13.6	10.9	9.5	10.7
DUR	4	5	5	3	3	4	3	4	4	4	4	5	4	4	7	5	4	4	3	4	3	5	5
TOT															2							1	
									(S)		(S)												
0- 1					8.0	8.0														9.0	11.0		
1- 2				10.5									8.5						9.5				
2- 3												8.0									2.5		
3- 4	9.5			8.5		6.0											10.5			2.0	5.0		6.5
4- 5						10.0	9.5		8.0											10.5	7.5	10.0	
5- 6							7.0						8.5								10.0		
6- 7			11.0		8.5			10.0					11.5			9.0							
7- 8						8.0												10.0		4.0	1.5	5.5	
8- 9	11.0			11.5											9.5				10.5		4.0		
9-10	7.5												8.0								6.5		
10-11				10.0		6.0							11.5								9.0		
11-12						9.5			6.5			8.5						9.0		5.5	11.5		
12-13				8.0	8.5		10.0										11.0		8.5				
13-14		8.5					7.5	9.0				4.0	8.0								3.0		1.5
14-15	9.0					7.5							11.5								5.5		
15-16						11.5			11.0									8.0	12.0	7.5	8.0		
16-17																					10.5		7.5
17-18			10.5	11.0		5.5							8.0	11.5									
18-19					9.0	9.5							11.5	10.5				10.0			2.0	11.0	
19-20	10.5			9.0										10.0					9.5	9.0	4.5		
20-21	7.0						10.5	8.0				9.0		9.5							7.0		
21-22				7.0		7.5	8.0				7.0		8.0	9.0							9.5	6.0	
22-23						11.5			10.0			4.5	11.0	8.5			11.5			2.0			
23-24														8.0						11.0			
24-25					9.5								7.5				8.5				3.5	1.5	
25-26	8.5					9.5				7.0			7.5	7.0							6.0		
26-27				10.0									11.0	6.5		11.5		10.5	11.0	4.0	8.5		2.5
27-28								7.0													11.0		
28-29			10.0	8.5		7.5	11.0				8.0												
29-30						11.5	8.5		9.0			10.0	7.5			8.0					2.5		8.5

all times in U.T.

	UZ	AI	BH	S	YY	YY	RW	SX	TX	WW	AF	AL	RX	SZ	TT	TU	UX	CC	CT	DI	DI	HS	HS
	DRA	DRA	DRA	EQU	ERI	ERI	GEM	GEM	GEM	GEM	GEM	GEM	HER	HER	HER	HER	HER	HER	HER	HER	HER	HER	HER
MAX	9.9	7.2	8	8	8.4	8.4	9.6	10.8	10	9.8	10.2	9.3	7.1	10.2	9.7	10.6	8.9	9.5	9.9	8.4	8.4	8.5	8.5
MIN	10.7	8.2	8.6	10	9.1	9.1	11.6	11.7	11.9	10.5	11.3	10	7.7	12	10.4	13.4	9.8	12.8	11.2	9.1	9.1	9	9
DUR	5	4	5	5	3	3	5	5	6	4	4	4	5	4	4	5	5	4	4	6	6	4	4
TOT							1									1							
	(S)					(S)															(S)		(S)
0- 1																							
1- 2														7.5		6.0							
2- 3								1.5		1.0			9.5				8.0			6.5		11.5	
3- 4				1.5							3.5	1.0			11.5			10.5	10.5				8.0
4- 5		4.0					5.0								9.5								
5- 6		9.0							6.5					10.0	7.5		10.5	4.0	5.0				
6- 7			9.0					4.0						5.5	5.0								
7- 8							1.5					5.5										9.5	
8- 9	4.0		4.5			1.0			1.5		2.5												6.0
9-10																							
10-11		4.0												7.5		7.5		9.0			9.5		
11-12	10.0	9.0											7.0										
12-13				1.5																			
13-14									4.5	2.0												7.5	
14-15											4.5			10.0	10.0				3.5				
15-16			11.0											5.5	8.0								
16-17		4.0													6.0		6.5						10.5
17-18		8.5	6.5	11.5		1.0		2.5							4.0			7.5				5.5	
18-19										3.5	1.5		10.0										
19-20									6.5						7.5		9.0	9.0					
20-21																							
21-22	5.0				1.5			5.0				3.5								7.0			8.5
22-23		3.5							1.5								11.0						
23-24		8.5								2.0					9.5					9.0			
24-25	11.5			8.5										5.5	11.0			6.0					
25-26															9.0								9.5
26-27			8.5			1.0									7.0	4.5							6.5
27-28							3.0						7.5		4.5								
28-29		3.5	4.0							1.0		2.5		7.5		10.5				10.5			
29-30		8.5																11.0					

all times in U.T.

	LT	V728	68	WY	WY	AV	DF	DF	DI	DK	V470	V470	VX	AW	CM	CO	CO	DG	GX	Y	UU	UV	VZ
	HER	HER	HER	HYA	HYA	HYA	HYA	HYA	HYA	HYA	HYA	HYA	LAC	LAC	LAC	LAC	LAC	LAC	LAC	LEO	LEO	LEO	LEO
MAX	10.7	10.9	4.7	10.3	10.3	10.2	11	11	11	10.5	13	13	10.9	10.6	8.5	10.5	10.5	10.8	10.1	9.5	11.4	9.5	10.6
MIN	11.1	11.5	5.4	11.1	11.1	10.6	11.5	11.5	12	11	13.5	13.5	12.3	11.3	9.5	11	11	12	10.4	12.7	12.7	10.2	11.7
DUR	4	3	5	3	3	4	4	4	4	4	3	3	4	5	4	5	5	4	6	5	4	3	4
TOT																							
				(S)			(S)				(S)					(S)							
0- 1						1.5		4.0	4.0			3.5										1.5	6.5
1- 2		10.0			1.5			3.5			3.0												6.5
2- 3		8.5		3.5		2.5		3.5				3.0	9.5				9.5						
3- 4		7.0			5.0		7.0	3.0	6.0	1.5	2.5		11.5							7.5	7.5	2.0	
4- 5		6.0				3.5	7.0	3.0		2.5		2.5											6.5
5- 6		4.5	3.5				6.5	3.0	2.5	4.0	2.0						11.5						
6- 7		3.0			2.0	5.0	6.5	2.5		5.0		1.5	7.5	11.5	6.5			8.5					2.0
7- 8			4.5	3.5			6.5	2.5		6.0	1.5	6.0	11.0										6.5
8- 9	4.5				5.5	6.0	6.0	2.0	4.0		6.0	1.0								8.5			
9-10	6.5	10.5	6.0				6.0	2.0			1.0	5.5			8.5								2.0
10-11	8.5	9.0				7.5	6.0	2.0			5.5									1.0		6.5	2.0
11-12	10.5	7.5	7.0		2.0		5.5	1.5	6.0			5.0											4.0
12-13		6.0		4.0			5.5	1.5			5.0				10.5								2.0
13-14		5.0	8.5		5.5	1.0	5.0	1.0	2.0			4.5											6.5
14-15		3.5					5.0	1.0			4.5		7.5										
15-16			9.5			2.0	5.0			2.0		4.0	11.0					7.0	2.5	2.0	2.0		
16-17					2.5		4.5		4.0	3.0	3.5		9.0				6.5						6.5
17-18		10.5	11.0	4.0		3.5	4.5			4.0		3.5	10.5					9.0					
18-19		9.0			6.0		4.0			5.0	3.0												2.0
19-20		8.0				4.5	4.0		5.5	6.0		3.0		7.5		8.5							6.5
20-21		6.5		1.0			4.0				2.5									4.0	2.5		
21-22	5.0	5.0			2.5	6.0	3.5		2.0			2.5											2.0
22-23	7.0	3.5		4.5			3.5				2.0		7.5			10.5							6.5
23-24	9.0				6.5	7.0	3.0					2.0	11.0										4.0
24-25	11.0						3.0	7.0	3.5		1.5												2.0
25-26		11.0		1.0			3.0	7.0			6.0	1.0								5.5	3.5	6.5	8.0
26-27		9.5			3.0		2.5	6.5			1.0	5.5				7.5							
27-28		8.0		5.0			2.5	6.5	5.5	2.0	5.5			8.0									2.0
28-29		6.5				2.0	2.0	6.0		3.0		5.0						10.0					6.5
29-30		5.5					2.0	6.0	1.5	4.0	5.0					9.5							

all times in U.T.

	1010	EF	EF	ER	ER	ET	FH	FL	FR	FT	GU	GU	TY	UX	AQ	AQ	BG	DI	GP	KW	KW	RT	ST
	OPH	ORI	ORI	ORI	ORI	ORI	ORI	ORI	ORI	ORI	ORI	ORI	PEG	PEG	PEG	PEG	PEG	PEG	PEG	PEG	PEG	PER	PER
MAX	6.2	12.6	12.6	9.5	9.5	11.2	10.5	10.5	11	9.1	12.6	12.6	10.5	10.7	10.3	10.3	10.5	9.6	10.2	12.1	12.1	10.6	9.7
MIN	7	14.1	12.8	10.2	10.2	12.4	11.5	13.2	11.9	9.7	13.5	13.5	12.6	12	13	13	11.8	10.8	11	12.4	12.4	12	13.2
DUR	4	6	6	3	3	5	5	3	4	4	4	4	6	5	12	12	4	2	4	3	3	4	5
TOT															4	4	1						1
	(S)		(S)		(S)							(S)			(2)	(3)					(S)		
0- 1	10.5			1.5																			
1- 2											4.5				11.0						9.0		
2- 3	10.0										3.0			11.0									
3- 4											1.5									10.0		2.5	
4- 5	9.5		1.5		2.0				2.0	4.0													
5- 6												4.5										11.0	
6- 7	9.5											3.0											
7- 8					1.0							1.5											
8- 9	9.0	2.5		2.5																			
9-10							1.5				4.5											1.5	
10-11	8.5										3.0										8.5		
11-12				1.5				2.0	4.0		1.5						11.5						
12-13	8.0		3.5						1.0												9.5		
13-14												4.5											
14-15	8.0					2.0					3.0										10.5	3.5	
15-16					2.0	1.0					1.5												
16-17	7.5																11.0			11.5			
17-18											4.5		11.5										
18-19	7.0			1.5							3.0												
19-20									2.5		2.0			10.5								8.0	
20-21	6.5																					2.5	2.5
21-22		1.5										4.5					10.5			9.0			
22-23	6.0			2.0								3.0											
23-24										1.5		2.0										10.0	
24-25	6.0						3.0																
25-26			2.5	1.0				1.0			4.5								11.5	11.0			
26-27	5.5				2.5				4.0	5.5	3.0						10.5		11.0			1.0	
27-28									1.5		2.0								10.5				
28-29																			10.0				1.5
29-30		3.5			1.5						4.5					9.0			9.0				

all times in U.T.

	XZ	IQ	IQ	IT	KW	V432	BETA	RV	UZ	UZ	AV	U	V505	1968	RS	AO	CC	CC	Y	RW	RZ	TY	WY
	PER	PER	PER	PER	PER	PER	PER	PSC	PUP	PUP	PUP	SGE	SGR	SGR	SER	SER	SER	SER	SEX	TAU	TAU	TAU	TAU
MAX	10.6	7.7	7.7	9.9	10.5	11	2.2	11.3	9.7	9.7	10.2	6.4	6.4	12.3	10.8	10.6	11.1	11.1	9.8	8	10.5	11.5	11.5
MIN	12.7	8.3	7.9	10.5	11.5	11.7	3.5	12	10.6	10.3	10.8	9.1	7.6	13.3	11.5	12.1	11.7	11.7	10.2	12.5	11.2	12	11.7
DUR	4	5	5	4	4	3	8	3	4	4	3	6	5	4	4	4	4	4	3	4	3	2	4
TOT												2								1			
			(S)							(S)								(S)					
0- 1	2.0					2.0			1.0					7.5			7.0						
1- 2														10.5			7.5	5.0					
2- 3															10.0		8.5	1.0			2.0		
3- 4					3.0			11.5			1.0						3.0	9.0	7.5				
4- 5			3.5		1.0						3.5					11.5	4.0	10.0	3.5		2.0		
5- 6		2.5				1.5								9.0	10.0	8.5	4.5	11.0					
6- 7																5.5	5.5	11.5	6.0				2.0
7- 8									5.0				10.0			3.0	6.0		2.0	2.0			
8- 9	3.5			2.0		3.5		11.5			1.0	10.0			9.5		7.0						4.0
9-10										4.5	4.0				7.5		7.5		4.5		2.0		
10-11						1.5									10.5		8.5						
11-12			3.0						4.0							9.5	9.0	3.0	6.5				
12-13		1.5			10.5											9.5	10.0	4.0	3.0				
13-14						3.0				4.0	1.5					6.5	10.5	4.5					
14-15											4.0			9.0	9.0	3.5	11.5	5.5	5.5		1.5		
15-16	1.5								3.5									6.0	1.5				2.0
16-17	5.0																	7.0	7.5		3.5	2.0	
17-18					2.0					3.5					9.0			7.5	4.0				4.0
18-19						2.5	2.0				1.5				8.0			8.5					
19-20		1.0							3.0		4.0					10.5	3.0	9.0	6.0		1.5		
20-21													10.0		8.5	7.5	3.5	10.0	2.5				
21-22										2.5						4.5	4.5	10.5			3.0		
22-23																	5.5	11.5	4.5				
23-24	3.0					2.0			2.5		1.5			9.5	8.5		6.0						
24-25											4.5						7.0		7.0		1.0		2.5
25-26			1.5		11.0					2.0		7.5					7.5		3.0				
26-27															8.0	11.0	8.5				3.0		4.5
27-28									2.0					8.0		8.0	9.0	3.0	5.5				
28-29						1.5					2.0			11.0		5.5	10.0	3.5	2.0				
29-30										1.5	4.5				8.0		10.5	4.5	8.0				

all times in U.T.

	AC	AM	AQ	EQ	EQ	HU	V	X	W	W	TX	TY	TY	UX	UX	VV	XZ	ZZ	AF	W	RU	VV	AG	
	TAU	TAU	TAU	TAU	TAU	TAU	TRI	TRI	UMA	UMA	UMA	UMA	UMA	UMA	UMA	UMA	UMA	UMA	UMA	UMI	UMI	VIR	VIR	
MAX	10.5	10.4	12	10.3	10.3	6	10.9	8.9	9.1	9.1	6.8	11.7	11.7	12.7	12.7	10.1	10.1	9.8	10.8	8.6	10.7	11.7	8.8	
MIN	12.3	12.3	12.9	11	11	6.8	11.9	12	9.9	9.9	8.9	12.4	12.4	13.8	13.8	11	11.7	11.2	11.6	9.7	11.4	13.5	9.4	
DUR	6	5	5	3	3	6	4	4	3	3	6	3	3	1	1	3	3	4	8	7	4	4	4	
TOT																								
				(S)						(S)		(S)												
0- 1	2.0								2.5	6.5		6.5	2.0	3.5	8.0	6.0		3.5		4.0	2.0	7.0		
1- 2									2.5	6.5		8.0	3.5	7.5	3.0							3.0	4.5	2.5
2- 3								1.5	3.0	7.0		1.0	5.0	2.5	7.0	7.5		11.0	1.5		4.0		9.5	
3- 4				1.5					3.0	7.0		2.5	7.0	7.0	2.0		4.0				5.5	10.0	1.0	
4- 5				2.0					3.0	7.0		4.0	8.5	1.5	6.5	9.0	9.5				6.5	7.5	8.0	
5- 6				2.5					3.0	7.0		5.5	1.5	6.0	1.5	1.5				6.5	8.0	5.0		
6- 7									3.0	7.0		7.0	3.0	1.0	5.5	10.5					9.0		6.0	
7- 8									3.0	7.0			4.5	5.0		3.0		1.0	7.5		10.0	10.5		
8- 9									3.0	7.0		1.5	6.0		5.0		1.5				11.5	7.5	4.5	
9-10			2.5						3.0	7.0		3.0	7.5	4.5	9.0	4.5	7.0	8.5				5.0		
10-11					1.5				3.0	7.0		4.5		9.0	4.0					9.0	1.0	2.5	2.5	
11-12					2.0				3.0	7.0		6.0	2.0	3.5	8.5	6.0					2.5	10.5	9.5	
12-13					2.5				3.0	7.0		7.5	3.5	8.0	3.0					2.0	3.5	8.0		
13-14									3.0	7.0	2.0		5.0	3.0	7.5	7.5					5.0	5.5	7.5	
14-15									3.0	7.0		2.5	6.5	7.0	2.5		4.0				6.0	3.0		
15-16							1.0		3.0	7.0		4.0	8.0	2.0	7.0	9.0	9.5			11.5	7.0		6.0	
16-17									3.0	7.0	3.5	5.5	1.0	6.5	1.5	1.5		6.0			8.5	8.5		
17-18				1.0					3.0	7.0		7.0	2.5	1.0	6.0	10.5				4.5	9.5	6.0	4.0	
18-19				2.0					3.0	7.0		8.5	4.0	5.5		3.0					11.0	3.5		
19-20		2.0		2.5					3.0	7.0	5.0	1.5	5.5		5.0		1.5						2.5	
20-21			1.5	3.0					3.0	7.0		3.0	7.0	5.0		4.5	7.0					9.0	9.5	
21-22		3.0				2.0			3.0	7.0		4.5		9.0	4.5							2.0	6.0	
22-23									3.0	7.0	6.5	6.0	2.0	4.0	8.5	6.0				7.0	3.0	3.5	7.5	
23-24		4.0				3.5			3.0	7.0		7.5	3.5	8.5	3.5			3.5	2.0		4.0			
24-25					1.0				3.0	7.0			5.0	3.0	8.0	7.5						5.5	9.0	6.0
25-26					1.5				3.5	7.5	8.0	2.0	6.5	7.5	3.0		4.0	10.5			6.5	6.5		
26-27			3.0		2.5				3.5	7.5		3.5	8.0	2.5	7.0	9.0	9.5				7.5	4.0	4.0	
27-28					3.0				3.5	7.5		5.0		6.5	2.0	1.5				9.5	9.0			
28-29									3.5	7.5	9.5	6.5	2.5	1.5	6.5	10.5			8.5		10.0	9.5	2.5	
29-30									3.5	7.5		8.0	4.0	6.0	1.0	3.0				2.0	11.5	7.0	9.5	

all times in U.T.

	AH	AH	AK	AW	AW	AX	AZ	AZ	BH	MS	MS	NY	Z	AW	AY	BE	BO	BS	BT	BU	CD	V495	V495	
	VIR	VIR	VIR	VIR	VIR	VIR	VIR	VIR	VIR	VIR	VIR	VIR	VUL	VUL	VUL	VUL	VUL	VUL	VUL	VUL	VUL	VUL	VUL	VUL
MAX	9.7	9.7	10	10.8	10.8	10	11	11	9.9	9.4	9.4	13.3	7.4	10.8	11	9.9	10.4	11	11.8	10.6	11.5	9.6	9.6	
MIN	10.2	10.2	11.5	11.9	11.9	10.8	11.8	11.8	11.3	9.7	9.7	14.2	9.2	11.9	12.9	11.4	13.3	11.5	12.5	11.4	12.6	10	10	
DUR	4	4	4	3	3	4	3	3	4	3	3	1	6	5	4	5	4	3	3	3	4	4	4	
TOT																								
		(S)		(S)			(S)			(S)													(S)	
0- 1	8.0	3.0		5.5	1.0			5.0	11.0	7.0	3.0	2.0		9.5					10.5	11.0				
1- 2	3.5	8.0		7.0	2.5	5.0	2.0	6.5	6.5	5.5		2.0				9.5					9.0			
2- 3	8.5	4.0		8.5	4.0		3.5	7.5	2.0	4.0		2.5	10.0									11.0		
3- 4	4.0	9.0		1.5	5.5	7.5	4.5				6.0									7.0	10.0		8.0	
4- 5	9.5	4.5	3.5	3.0	7.0		5.5	1.5			4.5			10.5			10.5		10.5					
5- 6	5.0		8.5	4.5		10.0	7.0	2.5	8.5	7.0	3.0							9.5			11.5			
6- 7		5.5		6.0	1.5	3.0	8.0	4.0	4.0	5.5								8.5						
7- 8	6.0	1.0		7.5	3.0			5.0		4.0			8.0					7.0	7.0			8.5		
8- 9	1.5	6.5			4.5	5.5	2.0	6.0			6.0	1.5		11.0					10.5	10.0				
9-10	7.0	2.0		2.0	6.0		3.0	7.5	10.5		4.5	1.5												
10-11	2.5	7.5	3.0	3.5	7.5	8.0	4.5		6.0	6.5	3.0	2.0			8.5									
11-12	8.0	3.0	7.5	4.5		1.0	5.5	1.5	2.0	5.0		2.0												
12-13	3.5	8.5		6.0	2.0	11.0	6.5	2.5		3.5	7.5	2.5	6.0							9.5	7.5			
13-14	9.0	4.0		7.5	3.5	3.5	8.0	3.5			6.0			7.5										
14-15	4.5	9.0			5.0		5.0	8.0			4.5						10.5				9.0			
15-16	9.5	5.0		2.0	6.5	6.0	2.0	6.0	4.0	6.5	3.0					8.5		9.5	6.5					
16-17	5.0			3.5	8.0		3.0	7.0		5.0								8.0	10.0	9.5	10.0		10.0	
17-18		5.5	7.0	5.0		9.0	4.0	8.5		3.5	7.5			8.0				7.0						
18-19	6.0	1.0		6.5	2.5	1.5	5.5		10.0		6.0	1.5				11.0					11.0			
19-20	1.5	6.5		8.0	4.0	11.5	6.5	2.5	6.0		4.5	1.5												
20-21	7.0	2.0		1.0	5.5	4.5	7.5	3.5		6.5	3.0	2.0								9.0		10.5		
21-22	2.5	7.5		2.5	7.0			4.5		5.0		2.0		9.0									8.0	
22-23	8.0	3.0		4.0	8.5	7.0	1.5	6.0		3.5	7.5	2.5			10.0									
23-24	3.5	8.5	6.0	5.5	1.5		3.0	7.0	8.0		6.0													
24-25	9.0	4.0	10.5	7.0	3.0	9.5	4.0	8.0	3.5		4.5						10.5	10.0	8.5					
25-26	4.5	9.5			4.5	2.5	5.0			6.5	3.0			9.5			10.5	9.5			7.5	8.5		
26-27	9.5	5.0		1.5	6.0		6.5	2.0		5.0								8.0						
27-28	5.5			3.0	7.5	5.0	7.5	3.5	10.0	3.5	7.5						9.5	7.0			8.5			
28-29		5.5		4.5				4.5	5.5		6.0	1.5								8.0				
29-30	6.0	1.5	5.5	6.0	2.0	7.5	1.5	5.5			4.5	1.5	10.5	10.5		8.0	8.0			11.5	10.0			