

	SW	XX	AT	SW	TZ	YZ	AA	BO	BR	DN	TZ	BH	RS	ST	SW	SZ	TV	TW	UU	UY	UY	RW	TT
	AND	AND	AND	AQR	AQR	AQR	AQR	AQR	AQR	AQR	AUR	AUR	BOO	BOO	BOO	BOO	BOO	BOO	BOO	BOO	CAM	CNC	CNC
MAX	9.3	10.3	10.8	10.5	11.6	12.1	11.4	11.6	10.8	10.7	11.2	11.1	9.8	10.6	11.3	12.0	10.8	10.8	11.2	10.6	11.5	10.7	11.0
MIN	10.8	11.6	11.5	12.1	12.4	12.9	13.0	12.6	11.9	11.5	12.8	12.6	11.3	11.8	12.7	13.4	11.5	12.1	12.7	12.0	11.9	12.6	12.3
RISE	2	3	3	1	3	2	2	3	2	3	2	2	2	3	2	2	3	2	1	2	3	2	3
0- 1	2.0	4.0	3.5	2.5	3.5	0.5	0.0		0.0	4.5	6.0	8.0		12.0	11.0	0.5	12.5				6.0	10.0	13.0
1- 2	10.0		9.5	0.5		3.0	5.5				10.0	5.5	1.5		11.5		11.0				1.5	12.0	
2- 3	7.0	8.5	0.0			5.5				2.5	5.0	3.5		12.0		2.0					3.0		5.5
3- 4	4.5	1.5	6.0		0.0		1.0	1.5			9.0	1.5			0.5		0.5		2.5		4.5		8.5
4- 5	1.5	12.5	11.5	5.5	3.5		6.5				4.0	10.5	11.0		1.0			9.0	0.0		6.5	5.5	11.5
5- 6	9.5	5.5	2.0	3.5				3.5	7.0	6.5	8.0	8.0		11.5			12.5	10.5			1.5	8.0	
6- 7	6.5		8.0	1.5		2.5	2.0		6.5	6.5	3.0	6.0		2.5			11.0	12.5			3.0	10.5	
7- 8	4.0	9.5			0.0	5.0		5.5	5.5	4.0	7.0	4.0	11.0				2.0	1.0		13.0	5.0	12.5	7.0
8- 9	1.0	3.0	4.0		3.5				4.5		2.0	2.0					0.5				0.0		10.0
9-10	9.0		10.0				3.5		3.5	1.5	6.0	10.5				10.5			1.0	11.5	1.5		
10-11	6.5	7.0	0.5	5.0				0.0	3.0		10.0	8.5	11.5	11.0		11.5	12.5				3.5	6.0	
11-12	3.5	0.5	6.0	3.0	0.0	1.5			2.0		5.0	6.5		2.0		12.5	11.0		10.5		5.0	8.5	6.0
12-13	0.5	11.0		1.0	3.5	4.0	4.5	2.0	1.0	5.5	9.0	4.5				1.0	2.0	9.0			0.0	10.5	9.0
13-14	8.5	4.5	2.5						0.5		4.0	2.5	12.0				0.5	10.5			2.0		12.0
14-15	6.0		8.5				0.0	4.0		3.5	8.0	0.0						12.0	1.5		3.5		
15-16	3.0	8.5			0.0		5.5				3.0	9.0	0.5	10.5			12.5	0.5	10.5		5.0	4.5	
16-17	0.5	2.0	4.5	4.0	3.5	1.0		6.0		1.0	7.0	7.0	12.5	1.5	9.0		11.0	2.0			0.5	6.5	7.5
17-18	8.0	12.5	10.5	2.0		3.5	1.5				2.0	5.0			9.5		2.0				2.0	9.0	10.5
18-19	5.5	6.0	1.0	0.5		6.0	6.5		7.5		6.0	2.5	1.0		10.5		0.5				3.5	11.0	
19-20	2.5		6.5		0.0			0.5	6.5	5.0	10.5	0.5			11.0				2.0		5.0		
20-21	10.5	10.0			3.5		2.5		5.5		5.0	9.5		10.0	11.5		12.5		0.0		0.5		6.0
21-22	7.5	3.5	3.0	5.5		0.0		2.5	5.0	2.5	9.5	7.5	1.0	1.0	12.5	11.0	11.0	10.0			2.0	5.0	9.0
22-23	5.0		9.0	3.5		2.5			4.0		4.0	5.0			0.5	12.0	2.0	11.5		12.0	3.5	7.0	12.5
23-24	2.0	7.5		1.5	0.0	5.0	3.5	4.5	3.0	0.0	8.5	3.0		13.0	1.0	0.5	0.5	0.5			5.5	9.5	
24-25	10.0	0.5	5.0		3.5				2.5	6.5	3.0	1.0	10.5					2.0		11.0	0.5	11.5	5.0
25-26	7.0	11.5	11.0					6.5	1.5		7.5	10.0					12.5		0.5		2.0		8.0
26-27	4.5	4.5	1.5				4.5		0.5	4.5	2.0	7.5		0.5			11.0				4.0		11.0
27-28	1.5		7.0	4.5		1.5					6.5	5.5	11.0				2.0				5.5	5.5	
28-29	9.5	8.5		3.0	3.5	4.0	0.5	1.0		2.0	1.0	3.5		12.5			0.5				0.5	7.5	
29-30	6.5	2.0	3.5	1.0			5.5				5.5	1.5						9.5			2.5	10.0	6.5

	VZ	VZ	KV	SS	RV	RZ	VW	YZ	AN	RR	RU	RV	RX	RZ	UU	XX	XZ	DM	RW	XZ	RX	SV	BB
	CNC	CNC	CNC	CVN	CAP	CAP	CAP	CAP	CAP	CET	CET	CET	CET	CET	CET	CYG	CYG	CYG	DRA	DRA	ERI	ERI	ERI
MAX	7.2	7.2	11.9	11.2	10.2	12.5	12.6	11.0	12.0	9.3	10.8	10.3	11.0	11.2	11.5	11.4	9.1	11.2	11.0	9.6	9.2	9.6	10.9
MIN	7.9	7.9	13.0	12.5	11.6	13.5	13.5	11.6	13.0	10.3	12.1	11.2	11.7	12.4	12.4	12.5	10.5	12.7	12.0	10.3	10.1	10.2	11.9
RISE	1	1	2	2	2	3	2	3	5	2	3	3	3	2	3	1	3	2	2	3	3	5	2
0- 1	8.5	12.5	4.5		0.5		4.5	4.5		5.5	2.0	1.5	5.5	9.0	5.5	2.5	5.0	1.0	5.5	5.0	6.0		8.5
1- 2	10.0	6.0	4.5			1.5	3.0	0.0		8.0	6.0	7.5		9.5		7.5	3.5	7.5	2.5	4.0	10.0	9.0	12.0
2- 3	12.0	7.5	4.5	0.5			1.5	2.5	0.5					10.0	1.0	3.0	2.0	3.5	10.5	2.5		2.0	
3- 4	5.0	9.0	5.0	11.0	3.5	1.5	0.0	4.5			0.5	4.5	2.0	10.5	6.5	8.0	0.5		7.5	1.5	4.5		5.0
4- 5	6.5	11.0	5.0	10.0	1.0			0.0	3.5	2.5	4.5		5.5			3.5	10.0	6.0	5.0	0.5	8.5	5.5	8.5
5- 6	8.5	12.5	5.0	9.0		1.5		2.5		5.0	8.5	1.5			2.0	8.5	8.5	2.0	2.0	10.5			12.0
6- 7	10.0	5.5	5.0	8.0			3.5	4.5		7.5		7.5			7.0	4.0	7.0		10.0	9.5	3.0	8.5	
7- 8	11.5	7.5	5.5		4.5	1.5	2.5	0.5	0.0	10.0	3.0		2.5	0.5		9.0	5.0	4.5	7.5	8.5	7.0	2.0	5.0
8- 9		9.0	5.5		2.0		1.0	2.5			7.0	4.0	6.0	1.0	2.5	4.5	3.5	0.5	4.5	7.5	11.0		8.0
9-10	6.5	11.0	5.5			2.0		5.0	3.5	2.0		10.0		1.5	8.0	9.5	2.0	7.0	2.0	6.0		5.0	11.5
10-11	8.0	12.5	5.5					0.5		4.5	1.5	1.0		2.0		5.0	0.5	3.0	10.0	5.0	5.5		
11-12	10.0	5.5	5.5			2.0	4.5	3.0		7.0	5.5	7.0	3.0	2.5	3.5	0.5	10.0		7.0	4.0	9.5	8.5	4.5
12-13	11.5	7.5	6.0		2.5		3.0	5.0		9.5			6.5	3.0		5.5	8.5	5.5	4.5	3.0		2.0	8.0
13-14		9.0	6.0	1.0	0.0	2.0	1.5	1.0				4.0		3.5		1.0	6.5	1.5	1.5	1.5	4.0		11.5
14-15	6.5	10.5	6.0	11.5			0.0	3.0	3.5	1.5	4.0	10.0		4.0	4.0	6.0	5.0	8.0	9.5	0.5	8.0	5.0	
15-16	8.0	12.5	6.0	10.5		2.0				4.0	8.0	1.0	3.5	4.5		1.5	3.5	4.0	6.5	11.0	12.5		4.5
16-17	9.5	5.5	6.0	9.0	3.5			1.0		6.5		6.5	7.0	5.0		6.5	2.0	0.0	4.0	10.0		8.5	7.5
17-18	11.5	7.0	6.5	8.0	1.0	2.0	3.5	3.5		9.0	2.0			5.5	5.0	2.0	0.5	6.5	1.0	8.5	6.5	1.5	11.0
18-19		9.0	6.5				2.0				6.5	3.5	0.0	6.0		7.5	10.0	2.5	9.0	7.5	11.0		
19-20	6.0	10.5	6.5			2.5	1.0	1.0	3.0	1.0		9.5	3.5	6.5	0.5	2.5	8.5		6.5	6.5		5.0	4.0
20-21	8.0	12.0	6.5		4.0			3.5		3.5	0.5	0.5	7.0	7.0	5.5	8.0	6.5	5.0	3.5	5.5	5.0		7.5
21-22	9.5	5.5	6.5		1.5	2.5				6.0	4.5	6.5		7.5		3.0	5.0	1.0	1.0	4.0	9.0	8.5	11.0
22-23	11.5	7.0	7.0				4.5	1.5		8.5	9.0		0.5	8.0	1.0	8.5	3.5	7.5	9.0	3.0		1.5	
23-24	13.0	8.5	7.0			2.5	3.0	3.5				3.5	4.0	8.5	6.5	4.0	2.0	3.5	6.0	2.0	3.5		4.0
24-25	6.0	10.5	7.0	1.0	4.5		1.5		3.0	0.5	3.0	9.0	7.5	9.0		9.0	0.5		3.5	1.0	7.5	5.0	7.0
25-26	8.0	12.0	7.0	11.5	2.0	2.5	0.0	1.5		3.0	7.0	0.0		9.5	2.0	4.5	10.0	6.0	0.5	11.0	12.0		10.5
26-27	9.5	5.0	7.0	10.5				4.0		5.5		6.0	1.0	10.0	7.0	9.5	8.5	2.0	8.5	10.0		8.5	
27-28	11.0	7.0	7.5	9.5		3.0				8.0	1.5		4.5	10.5		5.0	6.5		5.5	9.0	6.0	1.5	3.5
28-29	13.0	8.5	7.5	8.5			3.5	2.0			5.5	3.0	8.0		2.5	0.5	5.0	4.5	3.0	7.5	10.5		7.0
29-30	6.0	10.0	7.5		3.0	3.0	2.0	4.0	2.5			9.0			8.0	5.5	3.5	0.5	0.0	6.5		5.0	10.5

MAS RR Lyrae Ephemeris for November 2015

all times in U.T.

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	RX	SS	RR	TW	VX	VZ	AR	DL	DY	DY	DY	LS	SZ	UU	DG	DH	RR	SS	ST	TV	WW	AA	U	
	FOR	FOR	GEM	HER	HER	HER	HER	HER	HER	HER	HER	HER	HYA	HYA	HYA	HYA	LEO	LEO	LEO	LEO	LEO	LEO	LEP	
MAX	11.1	9.4	10.7	10.5	9.9	10.7	10.6	11.0	10.2	10.2	10.2	10.8	10.6	10.7	11.6	11.4	10.0	10.5	10.8	11.5	11.0	11.3	9.8	
MIN	12.5	10.6	11.9	11.8	10.4	12.0	11.6	12.4	10.6	10.6	10.6	11.1	11.7	12.3	12.6	12.6	11.7	12.0	12.3	12.6	12.0	12.4	11.1	
RISE	2	2	2	2	2	2	2	1	1	1	1	2	2	2	3	2	2	2	2	2	3	2	2	
0- 1	9.0	6.5	6.0			3.0	2.5	0.5								11.0	9.0		12.5				9.0	
1- 2		6.0	10.5	2.5		0.5	1.0				0.5		6.5			10.5	7.0				7.0			
2- 3	4.0	6.0	5.5					11.0		1.5		0.5	8.5	6.0	11.0	10.0					11.5	10.5		
3- 4	8.5	6.0	10.0	2.5	1.0		9.5						10.5	7.5		9.5		10.0					6.5	
4- 5		5.5	5.0			2.5				0.0			12.0	8.5		9.0	11.0		13.0		7.0		10.5	
5- 6	3.5	5.5	10.0	2.5							1.0	0.5		9.5	11.5	8.5	8.5		12.0		12.0	10.0		
6- 7	8.0	5.0	5.0						2.0					11.0		8.0	6.5		11.0				4.5	
7- 8		5.0	9.5	2.5		4.0	3.5							12.0		7.5			10.0		7.5		8.5	
8- 9	3.0	4.5	4.5		1.0	1.5	2.0				0.5		0.5			12.0	7.0	12.5	10.5	8.5		12.5	10.0	12.5
9-10	8.0	4.5	9.0	2.5			1.0					1.5		8.0		6.0	6.5	10.5						
10-11		4.5	4.0				10.5	2.0	13.0				10.0					8.0				8.0	6.0	
11-12	3.0	4.0	9.0	2.5		3.5	9.0					0.5	11.5		12.5		6.0				13.0	10.0	10.0	
12-13	7.5	4.0	4.0			0.5					0.5					6.5								
13-14		3.5	8.5	2.5	1.5			1.0			1.5			6.0			12.0	10.5			8.0		4.0	
14-15	2.5	3.5	3.5									0.5		7.5	12.5		10.0					9.5	8.0	
15-16	7.5	3.0	8.0	2.0		2.5	3.5							8.5	7.0		7.5		13.0				11.5	
16-17		3.0	3.0				2.0	0.0		1.0			7.5	9.5					12.0		8.5			
17-18	2.5	2.5	8.0	2.0			0.5				2.0	0.5	9.5	11.0					10.5	8.5		9.5	5.5	
18-19	7.0	2.5	3.0		1.5		10.5						11.5	12.0	7.0		11.5	11.0	9.5				9.5	
19-20		2.5	7.5	2.0		1.5			0.5							13.0	9.0		8.5	8.5	9.0			
20-21	2.0	2.0	2.5							1.5		0.5					12.5	7.0				9.5	3.5	
21-22	6.5	2.0	7.0	2.0							13.0				7.5	12.0				9.0			7.5	
22-23		1.5	12.0			3.5											11.5				9.0		11.0	
23-24	1.5	1.5	7.0	2.0	1.5	0.5	3.0	2.5	0.5			1.0	7.5			11.0	11.0	11.0		9.5		9.5		
24-25	6.5	1.0	11.5				1.5			1.5			9.0	6.0	8.0	10.5	8.5						5.0	
25-26		1.0	6.5	2.0			0.5						11.0	7.5		10.0	6.5			10.0	9.5		9.0	
26-27		1.0	11.0			2.5	10.0	1.5				1.0	12.5	8.5		9.0			12.5			9.0		
27-28	6.0	0.5	6.0	2.0					1.0					9.5	8.5	8.5	12.5		11.5	10.5				
28-29			11.0		2.0					2.0				11.0		8.0	10.5	11.5	10.5		10.0		7.0	
29-30			6.0	2.0				0.5				1.0		12.0		7.5	8.0		9.5	11.0		9.0	10.5	

	SZ	SZ	SZ	RR	RZ	ST	AV	BH	KZ	RU	DF	RV	TU
	LYN	LYN	LYN	LYR	LYR	OPH	PEG	PEG	PUP	SCL	SER	UMA	UMA
MAX	9.1	9.1	9.1	7.1	10.0	11.3	9.9	10.0	11.3	9.3	11.4	10.1	9.2
MIN	9.6	9.6	9.6	8.1	12.0	12.7	10.9	10.8	12.8	10.8	13.0	11.2	10.2
RISE	1	1	1	2	2	3	2	3	3	2	2	3	3
0- 1	4.5	7.5	1.5	4.0		2.0	0.0	4.5		0.5	0.5	2.0	
1- 2	6.5	9.5	3.5				4.0			0.0		0.5	9.0
2- 3	8.5	3.0	6.0					2.5				10.0	11.5
3- 4	2.0	5.0	8.0	0.0			3.0				12.5	8.5	
4- 5	4.0	7.0	10.0	3.5			7.0	0.5				7.0	
5- 6	6.0	9.0	3.0	6.5		0.5	2.0	7.5				5.5	
6- 7	8.0	2.5	5.0		0.0		6.0					4.0	9.0
7- 8	10.0	4.5	7.5		0.5		0.5	5.5			0.5	2.5	12.0
8- 9	3.5	6.5	9.5	2.5	1.0		5.0		6.0			1.0	
9-10	5.5	8.5	2.5	6.0	1.5	2.0		3.5				10.5	
10-11	7.5	2.0	4.5		2.0		3.5		6.5		13.0	9.0	7.0
11-12	9.5	4.0	6.5		3.0		8.0	2.0				7.5	9.5
12-13	3.0	6.0	9.0	2.0	3.5		2.5		7.0			6.0	12.5
13-14	5.0	8.0	2.0	5.0	4.0		6.5	0.0				4.5	
14-15	7.0	10.0	4.0		4.5	1.0	1.5	7.0	7.5		1.0	3.0	
15-16	9.0	3.5	6.0		5.0		5.5					1.5	7.5
16-17	2.5	5.5	8.0	1.0	5.5		0.0	5.0	8.0	7.0		11.0	10.0
17-18	4.5	7.5	10.5	4.0			4.5			7.0	13.0	9.5	13.0
18-19	6.5	9.5	3.5			2.0		3.0	8.5	6.5		8.0	
19-20	8.5	3.0	5.5				3.0			6.0		6.5	
20-21	2.0	5.0	7.5	0.0			7.5	1.5	9.0	6.0		5.0	8.0
21-22	4.0	7.0	9.5	3.5			2.0	8.0		5.5	1.0	3.5	10.5
22-23	6.0	9.0	3.0	6.5			6.0		9.0	5.0		2.0	
23-24	8.0	2.0	5.0			1.0	1.0	6.0		5.0		0.5	
24-25	10.0	4.5	7.0				5.0		9.5	4.5	13.0	10.0	
25-26	3.5	6.5	9.0	2.5				4.5		4.5		8.5	8.5
26-27	5.5	8.5	2.5	6.0			4.0		10.0	4.0		7.0	11.0
27-28	7.5	1.5	4.5			2.5		2.5		3.5		5.5	
28-29	9.5	3.5	6.5				2.5		10.5	3.5	1.0	4.0	
29-30	3.0	6.0	8.5	2.0	0.0		6.5	0.5		3.0		2.5	