

MAS RR Lyrae Ephemeris for December 2015

all times in U.T.

Page 1

	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	4.0		9.0					3.0			0.0	10.0	11.5	9.0		8.0	12.5	11.0	12.0		4.0	12.0	9.5
1- 2	1.0	6.0	0.0				1.5				4.5	8.0				9.5	11.0	12.5	10.0		5.5		12.5
2- 3			5.5		3.5	1.0					8.5	6.0	9.0		7.0	10.5	9.5		8.0		1.0	3.5	
3- 4	6.0	10.0		4.0		3.5				3.5	3.5	4.0	12.0	11.5	7.5	11.5	8.0				2.5	6.0	5.0
4- 5	3.5	3.5	2.0	2.0			2.5		5.0		7.5	2.0			8.5	12.5	6.5				4.0	8.0	8.0
5- 6	0.5		7.5	0.0					4.5	1.0	2.5	10.5	9.5	8.5	9.0		12.5		13.0	12.5	5.5	10.5	11.5
6- 7	8.5	7.5			3.5				3.5		6.5	8.5	12.5		9.5		11.0	7.5	11.0		1.0	12.5	
7- 8	5.5	1.0	4.0			0.0	3.5	2.0	2.5		1.5	6.5			10.5		9.5	9.0	8.5	11.5	2.5		4.0
8- 9	3.0					2.5			1.5		5.5	4.5	10.0	11.0	11.0		8.0	10.5			4.0	4.0	7.0
9-10	0.0	5.0	0.5	3.5				4.0	1.0		0.5	2.0	13.0		11.5		6.5	12.5		10.0	6.0	6.0	10.0
10-11	8.0		6.0	1.5	3.5		4.5			3.0	4.5	0.0		8.0	12.5		12.5				1.0	8.5	13.0
11-12	5.5	9.0									9.0	9.0	10.5		13.0		11.0		11.5	9.0	2.5	11.0	
12-13	2.5	2.5	2.5				0.5			0.5	3.5	7.0				9.0	9.5		9.5		4.5		5.5
13-14			8.0			2.0					8.0	4.5	10.5			10.0	8.0				6.0		8.5
14-15	7.5	6.5			3.0	4.5		0.5			2.5	2.5	10.5			11.0	6.5	7.5			1.0	4.5	11.5
15-16	5.0		4.5	2.5			1.5			4.5	7.0	0.5				12.0	12.5	9.0			3.0	6.5	
16-17	2.0	10.5		0.5				2.5			1.5	9.5	8.0				11.0	10.5	12.0		4.5	9.0	4.0
17-18		3.5	1.0						5.5	2.0	6.0	7.0	11.0				9.5	12.0	10.0		6.0	11.0	7.5
18-19	7.0		6.5		3.0	1.0	2.5	4.5	4.5		0.5	5.0		10.0			8.0		8.0	13.0	1.5		10.5
19-20	4.5	8.0				3.5			3.5		5.0	3.0	8.5				6.5				3.0	2.5	
20-21	1.5	1.0	3.0	4.0					3.0		9.0	1.0	11.5				12.5			12.0	4.5	5.0	3.0
21-22			8.5	2.0			3.5		2.0		4.0	9.5		13.0	7.0		11.0		12.5		6.5	7.0	6.0
22-23	6.5	5.0			3.0				1.0	4.0	8.0	7.5	9.0		8.0		9.5	7.0	10.5	10.5	1.5	9.5	9.0
23-24	4.0		5.0			0.5		1.0	0.0		3.0	5.5	12.0	9.5	8.5	8.5	8.0	8.5	8.5		3.0	11.5	12.0
24-25	1.0	9.0				3.0	4.5			1.5	7.0	3.5		0.5	9.0	9.5	6.5	10.0		9.5	5.0		
25-26		2.5	1.5					3.0			2.0	1.5	9.5		9.5	10.5	12.5	11.5			6.5	3.0	4.5
26-27	6.0		7.0	3.0	3.0		0.5				6.0	10.0	12.5	12.5	10.5	11.5	11.0	0.5		8.5	1.5	5.5	7.5
27-28	3.5	6.5		1.0				5.0			1.0	8.0			11.0	12.5	9.5		0.5		3.5	7.5	10.5
28-29	0.5		3.5								5.0	6.0	10.0	9.0	11.5		8.0		9.0		5.0	10.0	
29-30	8.5	10.5	9.0			2.0	1.5			3.0	9.0	4.0	13.0	0.0	12.5		6.5				0.0	12.0	3.5
30-31	5.5	4.0			3.0	4.5			5.5		4.0	1.5			13.0		12.5				2.0		6.5

MAS RR Lyrae Ephemeris for December 2015

all times in U.T.

Page 2

	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	7.5	3.5	7.5	6.5	0.5		1.0			2.5			1.5			1.0	2.0		8.0	5.5	4.5		
1- 2	9.5	5.0	7.5					2.0		5.0	4.0	6.0	5.0	0.5	3.5	6.0	0.5	3.0	5.5	4.5	9.0	8.5	3.5
2- 3	11.0	6.5	8.0							7.5				1.0		1.5	10.0		2.5	3.0		1.5	6.5
3- 4	4.0	8.5	8.0									2.5		1.5		6.5	8.5	5.5	10.5	2.0	3.0		10.0
4- 5	6.0	10.0	8.0		1.0			2.0			2.0		1.5	2.0	4.0	2.0	6.5	1.5	8.0	1.0	7.5	5.0	
5- 6	7.5	3.0	8.0	12.5			1.5			1.5	6.5		5.0	2.5		7.0	5.0		5.0	11.0			3.0
6- 7	9.0	5.0	8.0	11.5			0.0	0.0		4.5		5.5		3.0		2.5	3.5	4.0	2.5	10.0	1.5	8.5	6.5
7- 8	11.0	6.5	8.5	10.5				2.5		7.0	0.5			3.5	5.0	7.5	2.0		10.0	9.0	6.0	1.5	10.0
8- 9	4.0	8.5	8.5	9.5	2.0						4.5	2.5	2.0	4.0		3.0	0.5		7.5	8.0	10.0		
9-10	5.5	10.0	8.5	8.5				0.5				8.5	5.5	4.5	0.5	8.0	10.0	2.5	4.5	6.5		5.0	3.0
10-11	7.5	3.0	8.5	7.5			2.0	2.5		1.0				5.0	5.5	3.5	8.5		2.0	5.5	4.5		6.0
11-12	9.0	4.5	8.5	6.5			1.0			3.5	3.0	5.0		5.5		8.5	6.5	4.5	10.0	4.5	8.5	8.0	9.5
12-13	10.5	6.5	9.0		2.5			0.5		6.5			2.5	6.0	1.5	4.0	5.0	1.0	7.0	3.5		1.5	
13-14	4.0	8.0	9.0		0.0			3.0				2.0	6.0	6.5		9.5	3.5		4.5	2.0	2.5		2.5
14-15	5.5	10.0	9.0								1.5	8.0		7.0		4.5	2.0	3.5	1.5	1.0	7.0	4.5	6.0
15-16	7.0	11.5	9.0					0.5		0.5	5.5			7.5	2.0	0.0	0.0		9.5	11.5			9.5
16-17	9.0	4.5	9.0	13.0			1.5	3.0		3.0		5.0	3.0	8.0		5.5	10.0	5.5	7.0	10.5	1.0	8.0	
17-18	10.5	6.5	9.5	11.5	1.0		0.0			5.5			6.5	8.5		0.5	8.0	2.0	4.0	9.0	5.5	1.5	2.5
18-19	3.5	8.0	9.5	10.5				1.0		8.5	4.0	2.0			2.5	6.0	6.5		1.5	8.0	9.5		5.5
19-20	5.5	9.5	9.5	9.5				3.0				7.5				1.0	5.0	4.0	9.0	7.0		4.5	9.0
20-21	7.0	11.5	9.5	8.5						0.0			3.0			6.5	3.5	0.5	6.5	5.5	4.0		
21-22	9.0	4.5	9.5	7.5	1.5		2.0	1.0		2.5	2.0	4.5			3.5	2.0	2.0		3.5	4.5	8.0	8.0	2.0
22-23	10.5	6.0	10.0	6.5			1.0			5.0	6.5					7.0	0.0	2.5	1.0	3.5		1.0	5.5
23-24	3.5	8.0	10.0							7.5		1.5	0.0			2.5	10.0		9.0	2.5	2.5		8.5
24-25	5.0	9.5	10.0				1.5	1.5			0.5	7.5	3.5		4.0	7.5	8.0	5.0	6.0	1.0	6.5	4.5	
25-26	7.0	11.0	10.0		2.0						4.5			0.5		3.0	6.5	1.5	3.5	0.0	10.5		2.0
26-27	8.5	4.5	10.0							2.0		4.5		1.0		8.0	5.0		0.5	10.5	1.0	8.0	5.0
27-28	10.5	6.0	10.5	13.0			1.5	1.5		4.5			0.5	1.5	5.0	3.5	3.5	3.5	8.5	9.5	5.0	1.0	8.5
28-29	3.5	7.5	10.5	12.0			0.0			7.0	3.0	1.0	4.0	2.0		8.5	2.0		6.0	8.0	9.0		
29-30	5.0	9.5	10.5	11.0	3.0				1.5			7.0			2.5	0.5	4.0	0.0	6.0	3.0	7.0	4.5	1.5
30-31	7.0	11.0	10.5	10.0	0.5	0.0		1.5						3.0	5.5	9.0	10.0	2.0	0.5	6.0	3.5		5.0

	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	5.5		1.0			2.0						11.0	10.0	7.0		9.0	7.0	6.0	8.5	8.5		5.5			
1- 2			5.5	2.0					12.0					9.0			6.5			7.5	11.5	10.0		4.5	
2- 3	0.5		0.5				1.5			13.0			12.0	10.5			6.0	12.0			6.5		9.0	8.5	
3- 4	5.5		5.0	2.0			0.0						10.0	12.5		9.5	5.5	10.0	11.5			12.0	5.5		
4- 5			10.0		0.0	1.0	10.0				11.5			5.0		5.0	7.5					10.5		2.5	
5- 6	0.5		5.0	2.0			8.5	12.5	12.0				12.0		6.5		4.5	5.0	9.0			12.5		8.5	6.0
6- 7	5.0		9.5										10.0	5.0	7.5	9.5							6.0	10.0	
7- 8			4.5	1.5										6.5	8.5			11.5		12.5	12.5	11.0			
8- 9	0.0		9.0			10.5		11.5			11.5	12.0	8.5	9.5			9.0	12.0	11.5				8.5	4.0	
9-10	4.5		4.0	1.5	0.0				12.5				10.0	10.0	11.0	10.0		7.0		10.5			6.5	8.0	
10-11			9.0				1.0							12.0	12.0	4.0		4.5	9.0	9.5			11.0		
11-12			4.0	1.5		2.0	11.0			11.0			12.0								8.5			8.5	2.0
12-13	4.5		8.5				9.5	1.0			12.0	10.0				10.5	12.5	11.0			7.0		6.5	5.5	
13-14			3.5	1.5			8.0		13.0						4.5	12.0	8.5	12.0	6.0			11.5		9.5	
14-15			8.0		11.5							12.0	6.0				11.5	6.5						8.0	
15-16	4.0		3.5	1.5		1.0				11.0		10.0	8.0	5.0	11.0	11.0	4.0	9.5					7.0	13.0	3.5
16-17			8.0								12.0		10.0	6.5	5.0	10.5	12.5					6.5	12.0		7.5
17-18			3.0	1.5			2.5					12.0	11.5	7.5		10.0	10.5	6.5						8.0	
18-19	3.5		7.5				1.0					10.0		8.5	11.5	9.5	8.0	12.5	12.5	7.0	7.5	12.5		1.5	
19-20	8.5		2.5	1.5	11.5	0.0	11.0			11.5				9.5	5.5	9.0	6.0			11.5			12.5	5.0	
20-21			7.0				9.5				12.5	12.0		11.0			8.5		9.5	10.0	7.5		8.0	9.0	
21-22	3.5	7.0	2.5	1.5			8.0	12.0				10.0	6.0	12.0	11.5	8.0	12.0			9.0			7.5	12.5	
22-23	8.0	7.0	7.0			2.0			11.0				7.5		6.0	7.5	10.0	6.5	8.0	8.0	12.5			3.0	
23-24		6.5	2.0	1.5		10.0				12.0		12.0	9.5			6.5	7.5	12.5	7.0				7.5	7.0	
24-25	3.0	6.5	6.5		12.0						13.0	10.0	11.0		12.0	6.0	5.5		6.0	8.5	8.0	12.5			
25-26	7.5	6.5	1.5	1.5			2.0						13.0		6.0	5.5		10.0				13.0			
26-27		6.0	6.0			1.5	1.0		11.0			12.0		5.0		5.0	11.5			9.0			7.5	4.5	
27-28	2.5	6.0	1.5	1.0			10.5			12.0		10.0		6.5	12.5	4.5	9.5	7.0				8.5	12.0	8.5	
28-29	7.5	5.5	6.0				9.0	0.0					5.5	7.5	6.5		7.0			9.5					
29-30		5.5	1.0	1.0	12.0		7.5					12.0	7.0	8.5			4.5		12.0				7.5	2.5	
30-31	2.5	5.0	5.5			0.5			11.5			10.0	9.0	10.0	13.0			10.0	11.0	10.0	8.5	12.0		6.5	

	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	5.0	8.0	2.0	5.0	1.0		1.5		11.0	2.5		1.0	8.5
1- 2	7.0	1.0	4.0		1.5		5.5			2.5		10.5	11.5
2- 3	0.5	3.0	6.0	11.5	2.0		0.5	5.5	11.5	2.0	10.0	9.0	
3- 4	2.5	5.0	8.0	1.0	2.5		4.5			1.5		7.5	
4- 5	4.5	7.5	1.5	4.5	3.0			3.5	12.0	1.5		6.0	6.5
5- 6	6.5	0.5	3.5		3.5		3.5			1.0	11.5	4.5	9.0
6- 7	8.5	2.5	5.5					2.0	12.5	1.0		3.0	12.0
7- 8	2.0	4.5	7.5	0.5		0.0	2.0			0.5		1.5	
8- 9	4.0	6.5	1.0	3.5				0.0	13.0	0.0		11.0	
9-10	6.0	0.0	3.0				1.0				10.0	9.5	7.0
10-11	8.0	2.0	5.0				5.0					8.0	9.5
11-12	1.5	4.0	7.0					5.0				6.5	12.5
12-13	3.5	6.0	0.5	2.5			4.0				12.0	5.0	
13-14	5.5	8.0	2.5					3.0				3.5	
14-15	7.5	1.5	4.5				3.0					2.0	7.5
15-16	0.5	3.5	6.5	12.5				1.0				0.5	10.0
16-17	3.0	5.5	8.5	2.0		0.5	1.5				10.5	10.0	13.0
17-18	5.0	7.5	2.0	5.0			5.5					8.5	
18-19	7.0	1.0	4.0				0.5	6.0				7.0	5.0
19-20	0.0	3.0	6.0	11.5			4.5				12.0	5.5	7.5
20-21	2.0	5.0	8.0	1.0	11.5			4.5				4.0	10.5
21-22	4.5	7.0	1.5	4.5	12.0		3.5					2.5	
22-23	6.5	0.5	3.5		0.5			2.5				1.0	
23-24	8.5	2.5	5.5		1.0		2.5				10.5	10.5	5.5
24-25	1.5	4.5	7.5	0.5	1.5			0.5				9.0	8.0
25-26	3.5	6.5	1.0	3.5	2.0		1.0					7.5	11.0
26-27	6.0	8.5	3.0		2.5		5.0				12.0	6.0	
27-28	8.0	2.0	5.0		3.0			5.5			9.0	4.5	
28-29	1.0	4.0	7.0		3.5		4.0					3.0	6.0
29-30	3.0	6.0	0.5	2.5		12.5		3.5		5.5		1.5	8.5
30-31	5.0	8.0	2.5				3.0			5.0	10.5	11.0	11.5