

MAS RR Lyrae Ephemeris for January 2015

all times in U.T.

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	SW	XX	AT	SW	YZ	AA	BO	BR	DN	TZ	BH	RS	ST	SW	SZ	TV	TW	UU	UY	UY	RW	TT	VZ
	AND	AND	AND	AQR	AQR	AQR	AQR	AQR	AQR	AUR	AUR	BOO	BOO	BOO	BOO	BOO	BOO	BOO	BOO	BOO	CAM	CNC	CNC
MAX	9.3	10.3	10.8	10.5	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	7.2
MIN	10.8	11.6	11.5	12.1	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	7.9
RISE	2	3	3	1	2	2	3	2	3	2	2	2	3	2	2	3	2	1	2	3	2	3	1
0- 1	6.0		0.5	1.0						7.0	2.5	13.0		10.5	6.5	9.5	5.0	12.0	9.5	2.5	4.0	6.5	1.5
1- 2	3.5	8.0	6.0		0.5					2.0	0.5	7.0	11.0	11.0	7.5	8.0	6.5	9.5		4.0	6.0	9.5	3.0
2- 3	0.5	1.5								6.0	9.5	10.0		11.5	8.5	6.5	8.0	7.5	8.5	5.5	8.5	12.5	5.0
3- 4			2.5				2.0			1.0	7.5		7.5	12.0	9.5	5.0	9.5			1.0	11.0	2.0	6.5
4- 5	5.5	5.5								5.0	5.0	7.5		13.0	10.5	11.0	11.0		7.5	2.5		5.0	8.5
5- 6	3.0					1.0			1.5	0.0	3.0	10.5			11.5	9.5	12.5	12.5		4.0	2.0	8.0	1.5
6- 7	0.0		4.5	0.0						4.0	1.0		10.5		13.0	8.0		10.5	6.5	5.5	4.5	11.0	3.0
7- 8		3.0			2.0					8.5	10.0	8.0				6.5		8.5		1.0	6.5	1.0	5.0
8- 9	5.0		1.0			2.0		3.0		3.0	7.5	11.0	7.0			5.0		6.0		2.5	9.0	4.0	6.5
9-10	2.5	7.0	6.5							7.5	5.5		13.0			11.0	6.0		12.5	4.0	11.0	7.0	8.0
10-11		0.5					0.5	1.5		2.0	3.5	8.5				9.5	7.5			6.0		10.0	1.5
11-12			3.0	1.5				0.5		6.5	1.5	11.5	10.0	5.0		8.0	9.0	11.0	11.5	1.0	2.5	13.0	3.0
12-13	4.5	4.5			1.5		2.5		0.5	1.0	10.0			6.0	7.0	6.5	10.5	9.0		2.5	5.0	2.5	4.5
13-14	2.0									5.5	8.0	9.0	6.5	6.5	8.0	5.0	12.0	7.0	10.0	4.5	7.0	5.5	6.5
14-15		8.5	5.0							0.0	6.0	12.0	12.5	7.0	9.0	11.0				6.0	9.5	8.5	8.0
15-16		2.0								4.5	4.0	6.0		7.5	10.0	9.5			9.0	1.0	11.5	11.5	1.0
16-17	4.5		1.5			0.0				8.5	2.0	9.5	9.0	8.5	11.0	8.0		11.5		3.0	1.0	1.0	3.0
17-18	1.5	6.0	7.0	1.0	0.5				2.5	3.5	10.5	12.5		9.0	12.5	6.5	5.5	9.5	8.0	4.5	3.0	4.0	4.5
18-19										7.5	8.5	6.5	6.0	9.5		5.0	7.0	7.5		6.0	5.5	7.0	6.0
19-20	6.5		3.5			1.0	1.0		0.0	2.5	6.5	10.0	12.0	10.5		11.0	8.5		7.0	1.5	7.5	10.5	8.0
20-21	4.0	3.0								6.5	4.5	13.0		11.0		9.5	10.0			3.0	10.0		1.0
21-22	1.0							3.5		1.5	2.0	7.0	8.5	11.5		8.0	12.0	12.0		4.5	12.0	3.0	2.5
22-23		7.0	5.5			2.0		2.5		5.5	0.0	10.0		12.5		6.5		10.0	13.0	6.0	1.5	6.0	4.5
23-24	6.0	0.5		0.0	2.0			1.5		0.5	9.0			13.0	6.5	5.0		8.0		1.5	3.5	9.0	6.0
24-25	3.5		2.0					1.0	1.5	4.5	7.0	7.5	11.5		7.5	11.0		6.0	11.5	3.0	6.0	12.0	7.5
25-26	0.5	4.5	7.5							9.0	4.5	10.5			8.5	9.5	5.0			4.5	8.0	1.5	9.5
26-27										3.5	2.5		8.0		9.5	8.0	6.5	13.0	10.5	6.5	10.5	4.5	2.5
27-28	5.5		4.0							8.0	0.5	8.0			10.5	6.5	8.5	11.0		1.5	12.5	7.5	4.0
28-29	3.0	2.0		1.5	1.5		1.5			2.5	9.5	11.0			12.0	5.0	10.0	8.5	9.5	3.0	2.0	10.5	6.0
29-30	0.0		0.5							7.0	7.0		11.0		13.0	11.0	11.5	6.5		5.0	4.0		7.5
30-31		6.0	6.0			0.0				1.5	5.0	8.5		5.0		9.5	13.0		8.5	0.0	6.5	3.0	9.5

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	VZ	KV	SS	RV	VW	YZ	RR	RU	RV	RX	RZ	UU	XX	XZ	DM	RW	XZ	RX	SV	BB	RX	SS	RR
	CNC	CNC	CVN	CAP	CAP	CAP	CET	CET	CET	CET	CET	CET	CYG	CYG	CYG	DRA	DRA	ERI	ERI	ERI	FOR	FOR	GEM
MAX	7.2	11.9	11.2	10.2	12.6	11.0	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	11.1	9.4	10.7
MIN	7.9	13.0	12.5	11.6	13.5	11.6	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	12.5	10.6	11.9
RISE	1	2	2	2	2	3	2	3	3	3	2	3	1	3	2	2	3	3	5	2	2	2	2
0- 1	6.0	10.0	6.0	0.0			1.5			3.5	1.5		6.0	11.0	1.5	9.0	4.5	1.0		0.5		2.0	7.5
1- 2	7.5	10.0	5.0				4.0		2.0		2.0		1.5	9.5		6.0	3.5	5.5	6.5	4.0		1.5	2.5
2- 3	9.0	10.0	4.0			0.5		3.5			2.5		6.5	8.0	4.0	3.5	2.5			7.5	3.0	1.5	7.5
3- 4	2.5	10.0								0.5	3.0	0.5	2.0	6.0	0.0	1.0	1.5					1.0	2.5
4- 5	4.0	10.0		1.0					5.0	4.0	3.5		7.0	4.5		8.5	0.0	4.0	3.0	0.5		1.0	7.0
5- 6	5.5	10.5	12.5			0.5	1.0	2.0			4.0		2.5	3.0	2.5	6.0	10.5	8.0		4.0	3.0	0.5	2.0
6- 7	7.5	10.5	11.5				3.5		2.0		4.5	1.0	7.5	1.5		3.0	9.5		6.5	7.0		0.5	6.5
7- 8	9.0	10.5	10.5				6.0			1.0	5.0		3.0	11.0		0.5	8.0	2.5				0.0	1.5
8- 9	2.0	10.5	9.5			0.5		0.5			5.5		8.0	9.5	1.0	8.5	7.0	6.5		0.0	2.5	0.0	6.5
9-10	4.0	11.0	8.5					4.5	4.5		6.0	2.0	3.5	8.0		5.5	6.0		3.0	3.5			1.5
10-11	5.5	11.0	7.5		0.5		0.5				6.5		8.5	6.0	3.5	3.0	5.0	1.0		7.0			6.0
11-12	7.0	11.0	6.5			1.0	3.0		1.5	1.5			4.0	4.5		0.0	3.5	5.0	6.5		2.0		1.0
12-13	9.0	11.0	5.5				5.5	3.0				2.5	9.0	3.0		8.0	2.5						5.5
13-14	2.0	11.0	4.5										4.5	1.5	2.0	5.0	1.5			3.5			1.0
14-15	3.5	11.5				1.0			4.5				0.0	11.0		2.5	0.5	3.5	3.0	6.5	2.0		5.5
15-16	5.5	11.5						1.0		1.5		3.5	5.0	9.5		10.5	10.5	7.5					0.5
16-17	7.0	11.5	12.5				2.5		1.5				0.5	8.0	0.5	7.5	9.5		6.0				5.0
17-18	9.0	11.5	11.5	0.5			5.0						5.5	6.0		5.0	8.5	2.0		3.0	1.5		0.0
18-19	2.0	11.5	10.5										1.0	4.5	3.0	2.0	7.0	6.0		6.5	6.0		4.5
19-20	3.5	12.0	9.5					3.5	4.0	2.0			6.5	3.0		10.0	6.0		3.0				9.5
20-21	5.5	12.0	8.5										1.5	1.5		7.5	5.0	0.5				1.0	4.5
21-22	7.0	12.0	7.5		0.5		2.0		1.0				7.0	11.0	1.5	4.5	4.0	4.5	6.0	3.0	6.0		9.0
22-23	8.5	0.0	6.5				4.5	2.0			0.5		2.0	9.5		2.0	2.5			6.0			4.0
23-24	1.5	0.0	5.5							2.5	1.0	0.5	7.5	8.0	4.0	9.5	1.5					1.0	8.5
24-25	3.5	0.0	4.5						4.0		1.5		3.0	6.0	0.0	7.0	0.5	3.0	2.5		5.5		3.5
25-26	5.0	0.5						0.5			2.0		8.0	4.5		4.5	11.0	7.5		2.5			8.5
26-27	7.0	0.5					1.5	4.5	0.5		2.5	1.0	3.5	3.0	2.5	1.5	9.5		6.0	6.0	0.5		3.5
27-28	8.5	0.5	13.0				4.0			3.0	3.0		8.5	1.5		9.5	8.5	1.5			5.0		8.0
28-29	1.5	0.5	12.0								3.5		4.0	11.0		6.5	7.5	5.5					3.0
29-30	3.5	0.5	10.5					3.0	3.5		4.0	2.0	9.0	9.5	1.0	4.0	6.5		2.5	2.5	0.0		7.5
30-31	5.0	1.0	9.5	0.0							4.5		4.5	7.5		1.0	5.0	0.0		5.5	5.0		3.0

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	TW	VX	VZ	AR	DL	DY	DY	DY	LS	SZ	UU	DG	DH	RR	SS	ST	TV	WW	AA	U	SZ	SZ	SZ		
	HER	HER	HER	HER	HER	HER	HER	HER	HER	HYA	HYA	HYA	HYA	LEO	LEO	LEO	LEO	LEO	LEO	LEP	LYN	LYN	LYN		
MAX	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	9.1	9.1	9.1		
MIN	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	9.6	9.6	9.6		
RISE	2	2	2	2	1	1	1	1	2	2	2	3	2	2	2	2	2	3	2	2	1	1	1		
0- 1				0.5	12.5				11.5	10.5	3.0	7.5	5.5	7.5	9.0	12.5	6.0	9.5	6.0	12.5	6.0	2.0	5.0	7.5	
1- 2	0.5	12.0		10.5		12.5			9.0	8.5	5.0	9.0		7.0	6.5		4.5		11.0			4.0	7.0	1.0	
2- 3		9.5	12.0	9.0		10.0				12.5	6.5	10.0	12.0	6.5	4.5	9.5		10.0			7.5	0.0	6.0	0.0	3.0
3- 4	0.5		9.5	7.5	11.5			11.0		10.5	8.5	11.0	6.0	6.0	2.0				6.0	12.5	4.0	8.0	2.5	5.0	
4- 5				6.0					12.0	8.5	10.0	12.0		5.5	10.5	6.5		10.5	11.0			8.0	1.5	4.5	7.0
5- 6	0.0					13.0			9.5	12.5	12.0		12.5	4.5	8.5	13.0	12.0				7.5		3.5	6.5	0.5
6- 7		12.0	11.0		10.5	10.5				10.5			6.5	4.0	6.0		11.0	11.0	6.5	12.0	2.0	5.5	8.5	2.5	
7- 8	0.0	10.0	8.5	13.0				11.0		8.5	2.5	3.0		3.5	3.5	10.0	10.0		11.5		5.5	7.5	1.5	4.5	
8- 9				0.0				8.5	12.0	12.5	4.5	4.0	13.0	3.0	12.5		9.0	11.0	2.0	7.5			1.0	4.0	6.5
9-10	0.0			10.0	9.5				9.5	10.5	6.0	5.5	7.0	2.5	10.0	7.0	7.5		7.0	12.0			3.0	6.0	0.0
10-11			10.5	8.5		10.5				8.5	8.0	6.5			7.5		6.5	11.5	12.0		3.5	5.0	8.0	2.0	
11-12	0.0	12.0		7.0				11.5		12.5	10.0	7.5			5.5		5.5		2.0	7.0	7.5	7.0	1.0	4.0	
12-13		10.0		5.5				9.0	12.5	10.5	11.5	9.0	7.5	13.0	3.0	10.0	4.5	12.0	7.0	12.0			0.5	3.0	6.0
13-14	0.0		12.5		13.0			10.0	8.5		10.0			12.0	11.5				12.0		1.0	2.5	5.5	8.0	
14-15			9.5			11.0				12.5		11.0		11.5	9.5	7.0		12.5	2.5	7.0	5.0	4.5	7.5	1.5	
15-16	9.5			12.5			12.0			10.5	4.0	12.5	7.5	11.0	7.0		13.0	4.5	7.5	11.5			6.5	0.5	3.5
16-17		12.5		11.5	12.0		9.5	13.0	8.5	6.0				10.5	5.0		12.0	13.0	12.5				8.5	2.5	5.5
17-18	9.5	10.5	11.5	10.0				10.0	12.5	7.5				10.0	2.5	10.5	11.0	5.0	3.0	7.0	3.0	2.0	4.5	7.5	
18-19			8.5	8.5		11.0				10.5	9.5	3.0	8.0	9.5	11.0		9.5		8.0	11.5	7.0	4.0	7.0	1.0	
19-20	9.5			7.0	11.0		12.0			9.0	11.0	4.5	2.0	9.0	9.0	7.5	8.5	5.5	13.0				6.0	0.0	3.0
20-21				5.5			9.5			12.5		5.5		8.5	6.5		7.5		3.5	6.5	0.5	8.0	2.0	5.0	
21-22	9.5	12.5	10.5					10.5	10.5			6.5	8.5	8.0	4.5	4.5	6.5	6.0	8.0	11.5	4.5	1.5	4.0	7.0	
22-23		10.5	7.5		10.0	11.5				9.0	3.5	7.5	2.5	7.5	2.0	10.5	5.5						3.5	6.0	0.5
23-24	9.5	8.5		12.5		9.0	12.5			12.5	5.5	9.0		7.0	10.5		4.5	6.5	3.5	6.5			5.5	8.5	2.5
24-25			12.5	11.0			10.0			10.5	7.5	10.0	9.0	6.5	8.5	7.5			8.5	11.0	2.5	7.5	1.5	4.5	
25-26	9.5		9.5	9.5				11.0	9.0	9.0	11.0	3.0	6.0	6.0				7.0			6.5	1.0	3.5	6.5	
26-27		13.0		8.0		12.0				12.5	11.0	12.5		5.5	3.5	5.0	12.5		4.0	6.5			3.0	5.5	8.5
27-28	9.5	10.5		6.5		9.0	13.0			10.5	12.5		9.5	5.0	12.5	11.0	11.5	7.5	9.0	11.0	0.0	5.0	7.5	2.0	
28-29		8.5	11.5	5.5			10.0			9.0			3.5	4.5	10.0		10.5				4.0	7.0	1.0	4.0	
29-30	9.0		9.0		12.5			11.0	12.5	3.5	3.0			4.0	7.5	8.0	9.5	8.0	4.5	6.0	8.0	0.0	3.0	6.0	
30-31						12.0				10.5	5.0	4.5	10.0	3.5	5.5		8.5		9.0	11.0			2.5	5.0	8.0

	RR	RZ	ST	AV	BH	KZ	RU	DF	RV	TU
	LYR	LYR	OPH	PEG	PEG	PUP	SCL	SER	UMA	UMA
MAX	7.1	10.0	11.3	9.9	10.0	11.3	9.3	11.4	10.1	9.2
MIN	8.1	12.0	12.7	10.9	10.8	12.8	10.8	13.0	11.2	10.2
RISE	2	2	3	2	3	3	2	2	3	3
0- 1	9.5		13.0				2.5		7.5	8.0
1- 2	12.5		10.5	1.5		8.5	2.5	12.0	6.0	10.5
2- 3	2.0						2.0	9.0	4.5	
3- 4				0.5		9.0	1.5		3.0	3.0
4- 5							1.5		1.0	5.5
5- 6	12.0		11.5			9.0	1.0	10.5	11.0	8.5
6- 7	1.5			3.5	3.0		1.0	7.5	9.5	11.0
7- 8						9.5	0.5		8.0	
8- 9				2.0	1.0		0.0	12.5	6.5	3.5
9-10	11.0	9.5				10.0		9.5	5.0	6.0
10-11	0.5	10.0	10.5	1.0					3.5	9.0
11-12		10.5				10.5			1.5	11.5
12-13		11.0						11.0	0.0	
13-14	10.0	12.0			4.0	11.0		8.0	10.0	4.0
14-15		0.0	12.0						8.5	6.5
15-16	3.0	0.5		3.0	2.5	11.5		12.5	7.0	9.5
16-17		1.0						9.5	5.5	12.0
17-18	9.5			1.5	0.5				4.0	
18-19	12.5								2.0	4.5
19-20	2.5		11.0	0.5				11.0	0.5	7.0
20-21								8.0	10.5	10.0
21-22									9.0	12.5
22-23	12.0			3.5	3.5			12.5	7.5	
23-24	1.5		12.0					9.5	6.0	4.5
24-25				2.5	1.5				4.5	7.5
25-26									3.0	10.0
26-27	11.0			1.0				11.0	1.0	
27-28	0.5							8.0	11.0	
28-29			11.0	0.0					9.5	5.0
29-30								12.5	8.0	8.0
30-31	10.5							9.5	6.5	10.5