

MAS RR Lyrae Ephemeris for January 2018

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

	VZ	KV	SS	YZ	RR	RU	RV	RX	RZ	TY	UU	XX	XZ	DM	RW	XZ	RX	SV	BB	RX	RR	GQ	VX
	CNC	CNC	CVN	CAP	CET	CET	CET	CET	CET	CET	CET	CYG	CYG	CYG	DRA	DRA	ERI	ERI	ERI	FOR	GEM	GEM	HER
MAX	7.2	11.9	11.2	11.0	9.3	10.8	10.3	11.0	11.2	11.4	11.5	11.4	9.1	11.2	11.0	9.6	9.2	9.6	10.9	11.1	10.7	13.6	9.9
MIN	7.9	13.0	12.5	11.6	10.3	12.1	11.2	11.7	12.4	11.9	12.4	12.5	10.5	12.7	12.0	10.3	10.1	10.2	11.9	12.5	11.9	14.6	10.4
RISE	1	2	2	3	2	3	3	3	2	2	3	1	3	2	2	3	3	5	2	2	2	2	2

0- 1	2.5	9.5			4.0	3.5							0.5			2.5						0.5	
1- 2	4.5	9.5					1.5	1.5					2.5	10.0		1.5	0.5	1.5	2.5	0.0	5.0	2.0	
2- 3	6.0	9.5	11.0							5.0				0.5	9.0	0.0	5.0		6.0	5.0	0.0	5.5	11.0
3- 4	7.5	10.0	10.0			2.0				4.5		3.0			6.5	10.5		5.0			5.0	9.0	
4- 5		10.0	9.0		1.0		4.0			3.5	0.5			2.5		9.5					9.5		
5- 6	2.5	10.0	8.0		3.5			2.0		3.0		3.5			1.0	8.5	3.5		2.5	4.5	4.5	2.0	
6- 7	4.0	10.0	6.5			0.5	1.0			2.5			2.0		9.0	7.0	7.5	1.5	5.5		9.0	5.5	
7- 8	6.0	10.0	5.5							1.5	1.0	4.0	0.5	1.5	6.0	6.0					4.0	9.0	
8- 9	7.5	10.5								1.0		9.0	10.0			5.0	2.0	5.0		4.0	9.0		
9-10		10.5			0.5		4.0	2.5	0.0	0.5		4.5			0.5	4.0	6.0		2.0		4.0	2.0	
10-11	2.5	10.5			3.0	3.0				0.5		2.0	0.0		8.5	2.5			5.5		8.5	5.5	
11-12	4.0	10.5					0.5			1.0					6.0	1.5	0.0	1.5		4.0	3.5	8.5	
12-13	5.5	10.5								1.5		0.5		2.0		0.5	4.5					8.0	
13-14	7.5	11.0	11.0			1.0		2.5	2.0	5.0	2.5		2.0		0.5	10.5		5.0	2.0		3.0	1.5	
14-15		11.0	10.0				3.5			2.5	4.5		1.0	0.5		8.0	9.5		5.0	3.5	8.0	5.0	
15-16	2.0	11.0	9.0		2.5					3.0	4.0		10.0	0.5		8.5	3.0				3.0	8.5	
16-17	4.0	11.0	8.0		5.0		0.5			4.0	3.0		1.5			7.5	7.0	1.5			7.5		
17-18	5.5	11.0	7.0			3.5		3.0	4.5	2.5					10.5	6.0			1.5	3.0	2.5	1.5	
18-19	7.0	11.5	6.0						5.0	2.0		2.5			8.0	5.0	1.5	5.0	5.0		7.0	5.0	9.5
19-20		11.5					3.0		5.5	1.0						4.0	5.5				2.0	8.5	
20-21	2.0	11.5			2.0	2.0			6.0	0.5		3.0	2.0	1.5		3.0				3.0	7.0	11.5	
21-22	3.5	11.5			4.5		0.0						0.5		10.5	1.5		1.5	1.5		2.0	1.5	
22-23	5.5	11.5										3.5	10.0		7.5	0.5	4.0		4.5		6.5	5.0	
23-24	7.0	12.0				0.5								0.0		11.0		4.5		2.5	1.5	8.0	9.5
24-25		12.0	11.0				3.0	0.5		5.5	0.5	4.0				9.5					6.0	11.5	
25-26	2.0	12.0	10.0	0.0	1.5					4.5		9.0		2.5	10.0	8.5	2.5		1.0		1.5	1.5	
26-27	3.5		9.0		4.0					4.0		4.5			7.0	7.5	6.5	1.0	4.5	2.0	6.0	4.5	
27-28	5.5		8.0			3.0				3.5	1.0	9.5	2.0			6.5					1.0	8.0	
28-29	7.0		7.0	0.0				0.5		2.5			0.5	1.0		5.0	1.0	4.5			5.5	11.5	9.5
29-30			6.0				2.5			2.0		0.5	10.0		9.5	4.0	5.0		1.0	2.0	0.5	1.0	
30-31	2.0				1.0	1.0				1.0	2.0				7.0	3.0			4.0		5.0	4.5	

	VZ	AR	DL	DY	DY	DY	SZ	UU	DG	DH	RR	SS	ST	TV	WW	AA	VY	U	SZ	SZ	SZ	RR	RZ	
	HER	HER	HER	HER	HER	HER	HYA	HYA	HYA	HYA	LEO	LEO	LEO	LEO	LEO	LEO	LMI	LEP	LYN	LYN	LYN	LYR	LYR	
MAX	10.7	10.6	11.0	10.2	10.2	10.2	10.6	10.7	11.6	11.4	10.0	10.5	10.8	11.5	11.0	11.3	13.6	9.8	9.1	9.1	9.1	7.1	10.0	
MIN	12.0	11.6	12.4	10.6	10.6	10.6	11.7	12.3	12.6	12.6	11.7	12.0	12.3	12.6	12.0	12.4	14.6	11.1	9.6	9.6	9.6	8.1	12.0	
RISE	2	2	1	1	1	1	2	2	3	2	2	2	2	2	3	2	2	2	1	1	1	2	2	
0- 1								6.0	4.0	4.0			6.0	11.5	5.5		7.5		2.5	5.5	8.5	0.5		
1- 2		11.5					3.5	7.0		3.5	11.0	5.5	5.0		10.0	6.0	8.5		4.5	7.5	1.5			
2- 3		10.0		10.0			5.5	8.5	10.0		8.5	11.5		12.0		10.5	10.0	2.0	6.5	1.0	3.5			
3- 4		8.5					7.0	9.5	4.5		6.5				5.5		11.0	6.0	8.5	3.0	5.5			
4- 5		7.0					9.0	10.5			4.0	8.5		12.5	10.5	6.0	12.5		2.0	5.0	8.0			
5- 6							10.5	12.0	10.5							10.5			4.0	7.0	1.0			
6- 7				10.5			12.5		4.5		10.5	6.0	11.5	13.0	6.0		2.0	4.0	6.0	0.5	3.0			
7- 8											8.0	12.0	10.5		11.0	5.5	3.5		8.0	2.5	5.0		11.0	
8- 9			12.0						11.0	11.5	5.5		9.0			10.5	4.5		1.5	4.5	7.0	12.5	11.5	
9-10		11.0				9.5	5.0	4.0	5.0	11.0	3.5	9.0	8.0	5.5	6.5		6.0	1.5	3.5	6.5	0.5		12.0	
10-11	10.0	9.5		10.5			6.5	5.0		10.5				7.0		11.0	5.5	7.0	5.5	5.5	8.5	2.5		0.5
11-12		8.0	11.0				8.5	6.0	11.5	10.0	9.5	6.0	6.0	6.0		10.0	8.5		7.5	2.0	4.5			
12-13		6.5					10.5	7.0	5.5	9.5	7.5	12.0	5.0		6.5		9.5		1.0	4.0	6.5	11.5		
13-14						10.0	12.0	8.5		9.0	5.0			6.5	11.5	5.5	11.0	3.0	3.0	6.0	0.0	1.0		
14-15	9.0						9.5	12.0	8.5	3.0	9.0					10.0	12.0	7.0	5.0	8.0	2.0			
15-16							10.5	6.0	8.0					6.5	7.0				7.0	1.0	4.0			
16-17							4.5	12.0		7.5	9.0	6.5			12.0	5.0	2.0	1.0	0.5	3.5	6.0	11.0		
17-18		11.0				10.5	6.5		12.0	7.0	7.0	12.5	11.0	7.0		10.0	3.5	5.0	2.5	5.5	8.0	0.5		
18-19		9.5					8.0		6.5	6.0	4.5		10.0		7.5		4.5		4.5	7.5	1.5			
19-20		8.0					10.0			5.5		9.5	9.0	7.5	12.5	5.0	6.0		6.5	0.5	3.5			
20-21					9.5		11.5	4.0		5.0			8.0		2.5	10.0	7.0	2.5	8.5	2.5	5.5			
21-22	10.0		12.5			10.5		5.0	6.5	4.5	8.5	6.5	7.0	8.0	7.5		8.5	6.5	2.0	5.0	7.5			
22-23								6.0		4.0	6.5	12.5	6.0		12.5	5.0	9.5		4.0	7.0	1.0			
23-24							4.0	7.0		3.5	4.0		5.0	8.5	3.0	9.5	11.0	0.5	6.0	0.0	3.0			
24-25			11.5		10.0		6.0	8.5	7.0			9.5			8.0		12.0	4.5	8.0	2.0	5.0			
25-26	9.0	10.5					7.5	9.5			10.5			9.0	13.0	4.5			1.5	4.0	7.0	12.5		
26-27		9.0					9.5	10.5			8.0	7.0			3.5	9.5	2.0		3.5	6.5	0.5			
27-28		7.5	10.5				11.5	12.0	7.5		5.5	13.0		9.5	8.5		3.5	2.0	5.5	8.5	2.5			
28-29					10.5						3.5		11.0				4.5	6.0	7.5	1.5	4.5			
29-30												10.0	10.0	10.0	4.0	9.5	6.0		1.0	3.5	6.5	11.5	10.5	
30-31							4.0		8.0	11.5	9.5		9.0		8.5		7.0		3.0	5.5	8.5	1.5	11.0	

	AV	BH	RU	DF	RV	TU
	PEG	PEG	SCL	SER	UMA	UMA
MAX	9.9	10.0	9.3	11.4	10.1	9.2
MIN	10.9	10.8	10.8	13.0	11.2	10.2
RISE	2	3	2	2	3	3

0- 1	2.5					
1- 2		2.0			10.5	5.5
2- 3	1.0				9.0	8.0
3- 4		0.0			7.5	11.0
4- 5				9.0	6.0	
5- 6					4.5	
6- 7						6.0
7- 8						8.5
8- 9		3.5			11.0	11.5
9-10	2.0				9.5	
10-11		1.5			8.0	
11-12	0.5			9.0	6.5	6.5
12-13					5.0	9.0
13-14					3.5	12.0
14-15						
15-16						4.0
16-17	2.5				10.0	6.5
17-18		2.5			8.5	9.5
18-19	1.5			9.5	7.0	12.0
19-20		1.0	2.0		5.5	
20-21	0.0		2.0		4.0	4.5
21-22			1.5			7.0
22-23			1.5	8.0		10.0
23-24			1.0		10.5	12.5
24-25			0.5		9.0	
25-26	2.0		0.5	9.5	7.5	5.0
26-27		2.0			6.0	7.5
27-28	1.0				4.5	10.5
28-29		0.0				
29-30				8.0		
30-31					11.0	5.5