

The 2020 AAVSO RR Lyrae Ephemeris

The AAVSO RR Lyrae Ephemeris provides the predicted time of maximum for RR Lyrae and Delta Sct type stars in the AAVSO RR Lyrae observing program. These times appear in Universal Time in the body of the ephemeris table. The time is rounded to the nearest half hour, providing sufficient accuracy to plan observing sessions while, hopefully, leaving sufficient doubt about the exact time in order to eliminate anticipatory bias. This ephemeris is designed for use by observers at American longitudes.

The top rows of the ephemeris table list the name of the star. Directly below the star's name are its approximate maximum and minimum magnitudes. These magnitudes are taken from the 4th edition of the GCVS and may be visual, photographic, or V.

Gerard Samolyk, AAVSO Short Period Pulsator Section

REFERENCE

Kholopov, P. N., *et al.* 1985, *General Catalogue of Variable Stars*, Fourth Edition, Moscow.

Below that, in the row labeled "RISE". This is the approximate time required for the star to rise from minimum to maximum, in hours.

CCD observations of RR Lyrae type stars at all phases of their lightcurves are encouraged. This ephemeris can be used as a guide to determine what portion of the lightcurve is observable on a given night.

The numbers in the left-most column are the "double date" - the evening and the following morning - for the event times listed in the corresponding row. For example, 5-6 corresponds to the evening of the 5th and the morning of the 6th of the month. January 0-1 is the evening of December 31 and the morning of January 1.

AAVSO RR Lyrae Ephemeris for January 2020

all times in U.T.

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	SW	XX	AT	SW	TZ	BH	RS	ST	SW	SZ	TV	TW	UU	UY	RW	TT	RR	XZ	DM	RW	XZ	RR	VX	
	AND	AND	AND	AQR	AUR	AUR	BOO	BOO	BOO	BOO	BOO	BOO	BOO	BOO	CNC	CNC	CET	CYG	CYG	DRA	DRA	GEM	HER	
MAX	9.3	10.3	10.8	10.5	11.2	11.1	9.8	10.6	11.3	12.0	10.8	10.8	11.2	10.6	10.7	11.0	9.3	9.1	11.2	11.0	9.6	10.7	9.9	
MIN	10.8	11.6	11.5	12.1	12.8	12.6	11.3	11.8	12.7	13.4	11.5	12.1	12.7	12.0	12.6	12.3	10.3	10.5	12.7	12.0	10.3	11.9	10.4	
RISE	2	3	3	1	2	2	2	3	2	2	3	2	1	2	2	3	2	3	2	2	3	2	2	
0- 1		7.5	2.0		7.0	7.0				11.5		9.5	10.0	12.5	4.5	10.0	4.0		1.5		3.0	5.0		
1- 2	5.5	0.5			1.5	5.0				12.5		11.5	8.0		7.0					10.5	2.0	0.0		
2- 3	2.5				6.0	3.0	8.0	12.0			6.0			11.5	9.0	2.5		2.5		7.5	1.0	4.5	9.0	
3- 4		4.5	4.0		0.5	1.0									11.5	5.5		1.0			11.0	9.5		
4- 5					5.0	9.5		8.5						10.0		8.5	1.0	10.5			10.0	4.5		
5- 6	5.0		0.5		9.0	7.5	8.5		6.5				10.5		2.5	11.5	3.5	9.0	2.5	10.0	9.0	9.0		
6- 7	2.5	2.0	6.0		4.0	5.5			7.0			6.5	8.5	9.0	5.0					7.5	7.5	4.0		
7- 8					8.0	3.5		11.5	7.5		6.0	8.0			7.0	4.0					6.5	8.5	9.5	
8- 9		6.0	2.5	1.0	3.0	1.5	9.0		8.5	7.5		9.5		8.0	9.5	7.5			1.0		5.5	3.5		
9-10	4.5				7.0	10.0		8.0	9.0	8.5		11.0			12.0	10.5	0.5	2.5		10.0	4.5	8.5		
10-11	2.0				2.0	8.0			9.5	10.0		12.5					3.0	1.0		7.0	3.0	3.5		
11-12		3.5	4.5		6.0	6.0			10.5	11.0			9.0		3.0	3.0	5.5	10.5			2.0	8.0		
12-13					1.0	4.0		11.0	11.0	12.0	6.5		7.0		5.5	6.0			9.0			1.0	3.0	9.5
13-14	4.0		1.0		5.0	1.5			11.5					13.0	7.5	9.0			2.0	9.5	11.0	7.5		
14-15	1.5	1.0		0.0	9.5	10.5		7.5	12.5						10.0	12.0				6.5	10.0	2.5		
15-16					4.0	8.5						7.5		11.5	12.0	1.5	2.5				9.0	7.5		
16-17		5.0	3.0		8.5	6.5	7.0					9.0	10.0			4.5	5.0	2.5	0.5		8.0	2.5		
17-18	3.5				3.0	4.0		10.5			6.5	10.5	7.5	10.5	3.5	7.5		1.0		9.0	6.5	7.0	10.0	
18-19	1.0				7.5	2.0						12.0			6.0	10.5		10.5	2.5	6.5	5.5	2.0		
19-20		2.5	5.0		2.0	0.0	7.5	7.0		7.0				9.5	8.0			9.0			4.5	6.5		
20-21					6.5	9.0				8.0					10.5	3.5	2.0			1.0	3.5	1.5		
21-22	3.0	6.5	1.5		1.0	6.5				9.5			10.5	8.5	12.5	6.5	4.5		1.0	9.0	2.0	6.5		
22-23	0.5				5.5	4.5	8.0	10.0		10.5	6.5		8.5		2.0	9.5				6.0	1.0	1.5	10.0	
23-24					0.0	2.5				11.5		7.0		7.0	4.0	12.5		2.5			11.5	6.0		
24-25	5.5	3.5	3.5		4.5	0.5			6.5			8.5			6.5	2.0		1.0		0.5	10.5	1.0		
25-26	2.5			0.5	8.5	9.5	8.5	12.5	7.0			10.0			8.5	5.0	1.5	10.5		8.5	9.0	5.5		
26-27					3.5	7.0			8.0			11.5			11.0	8.0	4.0	9.0	2.0	5.5	8.0	1.0		
27-28		1.0	5.5		7.5	5.0		9.5	8.5		6.5		9.0			11.0					7.0	5.5	10.5	
28-29	5.0				2.5	3.0	9.0		9.0					12.0	2.5					0.5	5.5	0.5		
29-30	2.0	5.0	2.0		6.5	1.0			9.5						4.5	3.5			0.5	8.0	4.5	5.0		
30-31					1.5	9.5		12.0	10.5					11.0	7.0	6.5	1.0	2.5			3.5	0.0		

	AR	DL	DY	SZ	UU	DG	DH	RR	SS	TV	WW	SZ	RR	RZ	AV	RV
	HER	HER	HER	HYA	HYA	HYA	HYA	LEO	LEO	LEO	LEO	LYN	LYR	LYR	PEG	UMA
MAX	10.6	11.0	10.2	10.6	10.7	11.6	11.4	10.0	10.5	11.5	11.0	9.1	7.1	10.0	9.9	10.1
MIN	11.6	12.4	10.6	11.7	12.3	12.6	12.6	11.7	12.0	12.6	12.0	9.6	8.1	12.0	10.9	11.2
RISE	2	1	1	2	2	3	2	2	2	2	3	1	2	2	2	3
0- 1	10.0			4.0		6.5	6.0	6.5	7.0	12.5	6.5	1.5	0.5		2.5	5.0
1- 2	8.5	11.5		6.0			5.5	4.5			11.5	4.0				3.5
2- 3	7.0			7.5			5.0					6.0			1.5	
3- 4				9.5	4.0	7.0	4.5	10.5	10.5	5.5	7.0	8.0				
4- 5		10.5		11.5	5.0		4.0	8.5			11.5	1.0			0.5	10.5
5- 6					6.0		3.5	6.0	7.5	5.5		3.0		11.0		9.0
6- 7					7.0	7.5		4.0			7.0	5.5		11.5		7.0
7- 8	11.0			3.5	8.5					6.0	12.0	7.5		12.0		5.5
8- 9	9.5			5.5	9.5			10.0	10.5			0.5	12.5	0.5		4.0
9-10	8.0			7.5	10.5	7.5		8.0		6.5	7.5	2.5			2.0	
10-11	7.0			9.0	12.0			5.5	7.5		12.5	4.5				
11-12		13.0		11.0				3.0		7.0	3.0	7.0			1.0	11.0
12-13						8.0	11.5				8.0	0.0	12.0			9.5
13-14							11.0	9.5	11.0	7.5	12.5	2.0	1.5			7.5
14-15		12.0			4.0		10.5	7.0			3.0	4.0				6.0
15-16	11.0			5.0	5.0	8.5	10.0	5.0	8.0	8.0	8.0	6.0				4.5
16-17	9.5			7.0	6.0		9.5	2.5				8.5	11.0		3.0	
17-18	8.0	11.0		8.5	7.0		9.0			8.5	3.5	1.5	0.5			
18-19			9.5	10.5	8.5	9.0	8.0	9.0	11.0		8.5	3.5			1.5	
19-20				12.5	9.5	3.0	7.5	6.5		9.0		5.5				10.0
20-21					10.5		7.0	4.5	8.0		4.0	7.5			0.5	8.0
21-22					12.0	9.5	6.5			9.5	9.0	1.0				6.5
22-23			10.0	5.0		3.5	6.0	10.5	5.5			3.0				5.0
23-24	10.5			6.5			5.5	8.5	11.5	9.5	4.0	5.0				3.5
24-25	9.0			8.5		9.5	5.0	6.0			9.0	7.0				
25-26	7.5			10.0	4.0	4.0	4.5	4.0	8.5	10.0		0.5	12.5		2.5	
26-27			10.0	12.0	5.0		4.0				4.5	2.5				10.5
27-28		12.0			6.0	10.0	3.5	10.0	5.5	10.5	9.5	4.5			1.0	8.5
28-29					7.5	4.0		8.0	11.5			6.5		11.0		7.0
29-30				4.5	8.5			5.5		11.0	5.0	0.0	12.0	11.5	0.0	5.5
30-31		11.0	10.5	6.0	9.5	10.5		3.0	8.5		10.0	2.0	1.5	12.0		4.0

AAVSO RR Lyrae Ephemeris for February 2020

all times in U.T.

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	SW	XX	AT	TZ	BH	RS	ST	SW	SZ	TV	TW	UU	UY	RW	TT	RR	XZ	DM	RW	XZ	RR	TW	VX
	AND	AND	AND	AUR	AUR	BOO	BOO	BOO	BOO	BOO	BOO	BOO	BOO	CNC	CNC	CET	CYG	CYG	DRA	DRA	GEM	HER	HER
MAX	9.3	10.3	10.8	11.2	11.1	9.8	10.6	11.3	12.0	10.8	10.8	11.2	10.6	10.7	11.0	9.3	9.1	11.2	11.0	9.6	10.7	10.5	9.9
MIN	10.8	11.6	11.5	12.8	12.6	11.3	11.8	12.7	13.4	11.5	12.1	12.7	12.0	12.6	12.3	10.3	10.5	12.7	12.0	10.3	11.9	11.8	10.4
RISE	2	3	3	2	2	2	3	2	2	3	2	1	2	2	3	2	3	2	2	3	2	2	2
0- 1				5.5	7.5			11.0	7.5		6.5			9.0	9.5	3.5	1.0			2.5	4.5		
1- 2		2.5	4.0	0.5	5.5		9.0	11.5	9.0	6.5	8.0	9.5	10.0	11.5			10.5		10.5	1.0	9.5	8.5	10.5
2- 3	1.5			4.5	3.5	6.5		12.5	10.0	5.0	10.0	7.5		0.5	2.5		9.0		8.0	0.0	4.5		8.5
3- 4			0.5	9.0	1.0		5.5		11.0		11.5	5.5	8.5	2.5	5.5		7.5		5.0	10.5	9.0	8.5	
4- 5				3.5			11.5		12.0					5.0	8.5	0.0				9.5	4.0		
5- 6				8.0	8.0	7.0							7.5	7.5		3.0			10.0	8.0	8.5	8.5	
6- 7	1.0	4.0	2.5	2.5	6.0		8.5			6.5		10.0		9.5	1.0			0.0	7.5	7.0	3.5		10.5
7- 8				7.0	3.5					5.0	4.5	8.0	6.5	12.0	4.0		1.0		4.5	6.0	8.5	8.5	8.5
8- 9				1.5	1.5	7.5					6.5	6.0		1.0	7.0		10.5			5.0	3.5		
9-10	3.5	1.5		6.0			11.0	4.5	5.0		8.0		5.0	3.0	10.0		9.0		10.0	3.5	8.0	8.0	
10-11	1.0			0.5	8.5	5.0		5.0	6.0		9.5		12.5	5.5		2.0	7.5		7.0	2.5	3.0		
11-12		5.5	1.0	5.0	6.5	8.0	7.5	6.0	7.0	6.5	11.0	11.0		7.5	2.5				4.5	1.5	7.5	8.0	
12-13				9.0	4.0			6.5	8.5	5.0	12.5	9.0	11.5	10.0	5.5					0.5	3.0		9.0
13-14	3.0			4.0	2.0	5.5		7.0	9.5			6.5		12.5	9.0				9.5	10.5	7.5	8.0	
14-15	0.5	2.5	3.0	8.0		8.5	10.5	8.0	10.5				10.0	1.5			1.0		7.0	9.5	2.5		
15-16				3.0	9.0			8.5	11.5		4.5			3.5	1.5	1.5	10.5		4.0	8.5	7.0	8.0	
16-17				7.0	6.5	5.5	7.0	9.0		6.5	6.0		9.0	6.0	4.5		9.0			7.0	2.0		
17-18	2.5	0.0		2.0	4.5	9.0		10.0		5.0	7.5	9.5		8.0	7.5		7.5		9.0	6.0	6.5	8.0	9.0
18-19				6.0	2.5			10.5		3.5	9.0	7.5	8.0	10.5	10.5				6.5	5.0	2.0		
19-20		4.0	1.5	1.0	0.5	6.0	10.0	11.0			10.5	5.5						0.5	4.0	4.0	6.5	8.0	
20-21				5.0				11.5			12.0		7.0	2.0	3.0	1.0				2.5	1.5		
21-22	2.0			9.0	7.0		6.5		5.5	6.5				4.0	6.0		1.0		9.0	1.5	6.0	8.0	
22-23		1.5	3.5	4.0	5.0	6.5	12.5		6.5	5.0		10.0	5.5	6.5	9.0		10.5		6.0	0.5	1.0		9.0
23-24				8.0	3.0				8.0	3.5		8.0	13.0	8.5			9.0			10.5	5.5	8.0	
24-25				3.0	1.0		9.5		9.0		5.5	6.0		11.0	1.5		7.5			9.5	1.0		
25-26	1.5			7.0		7.0		10.0			7.0		11.5	0.0	4.5	0.5			8.5	8.5	5.5		
26-27				2.0	7.5		6.0		11.0	6.5	8.5			2.5	8.0	3.0			6.0	7.5	0.5		
27-28		3.0	2.0	6.0	5.5		12.0		12.0	5.0	10.0	10.5	10.5	4.5	11.0					6.0	5.0		9.5

	AR	DL	DY	SZ	UU	DG	DH	RR	SS	TV	WW	SZ	RR	RZ	AV	RV
	HER	HER	HER	HYA	HYA	HYA	HYA	LEO	LEO	LEO	LEO	LYN	LYR	LYR	PEG	UMA
MAX	10.6	11.0	10.2	10.6	10.7	11.6	11.4	10.0	10.5	11.5	11.0	9.1	7.1	10.0	9.9	10.1
MIN	11.6	12.4	10.6	11.7	12.3	12.6	12.6	11.7	12.0	12.6	12.0	9.6	8.1	12.0	10.9	11.2
RISE	2	1	1	2	2	3	2	2	2	2	3	1	2	2	2	3
0- 1	10.5		8.0	8.0	10.5	4.5	1.5	1.0		11.5		4.0				2.5
1- 2	9.0			9.5				9.5	6.0	3.5	5.5	6.0				
2- 3	7.5	10.0						7.0	12.0	12.0	10.0	8.0	11.0			11.0
3- 4	6.0				1.5	5.0		5.0		4.0		1.5				9.0
4- 5			8.0	2.0	2.5			2.5	9.0	12.5	5.5	3.5				7.5
5- 6		9.0		4.0	4.0					4.5	10.5	5.5		0.5		6.0
6- 7				6.0	5.0	5.5	10.0	9.0	6.0		1.0	7.5	10.5			4.5
7- 8				7.5	6.0			9.5	6.5	12.0	5.0	6.0	1.0			3.0
8- 9	10.0		8.5	9.5	7.5			9.0	4.5		11.0	3.0				1.5
9-10	8.5	12.5			8.5	6.0		8.5	2.0	9.0	5.5	1.5	5.0			
10-11	7.0				9.5			8.0	10.5		6.5	7.0	9.5			9.5
11-12	6.0			2.0	10.5			7.5	8.5	6.5	6.0	11.0	0.5	12.5		8.0
12-13		11.5	9.0	3.5		6.5	7.0	6.0	12.5		1.5	2.5				6.5
13-14				5.5				6.5	4.0	3.5	6.5	6.5	4.5			5.0
14-15				7.0	1.5			5.5	1.5	9.5		11.5	6.5	8.5	0.0	3.5
15-16		10.5		9.0	2.5	6.5	5.0	10.0		7.0	2.0	8.5	12.0	8.5		2.0
16-17	10.0		9.0		4.0			4.5	8.0	6.5	7.0	2.0		9.0		
17-18	8.5				5.0			4.0	5.5	12.5	7.0	4.0		9.5		10.0
18-19	7.0	9.5		1.5	6.0	7.0	3.5	3.0	3.5		2.5	6.0		10.0		8.5
19-20	5.5			3.0	7.5	1.0	3.0	1.0	9.5	7.5	7.5	8.0	11.0	10.5		7.0
20-21			9.5	5.0	8.5			2.5	9.5			1.5		11.0		5.5
21-22		8.5		7.0	9.5	7.5	2.0	7.0	7.0	8.0	2.5	3.5		12.0	1.0	4.0
22-23		13.0		8.5	11.0	1.5	1.5	5.0	13.0		7.5	5.5				2.5
23-24	11.0			10.5				2.5	4.0	8.5		7.5	10.5			
24-25	9.5		10.0			8.0			10.0		3.0	1.0				11.0
25-26	8.0	12.0			1.5	2.0		9.0		9.0	8.0	3.0				9.0
26-27	7.0			3.0	3.0			6.5	7.0			5.0				7.5
27-28	5.5			4.5	4.0	8.5		4.5		9.5	3.5	7.0	9.5			6.0

AAVSO RR Lyrae Ephemeris for March 2020

all times in U.T.

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	SW	XX	AT	TZ	BH	RS	ST	SW	SZ	TV	TW	UU	UY	RW	TT	RR	XZ	DM	RW	XZ	RR	TW	VX	
	AND	AND	AND	AUR	AUR	BOO	BOO	BOO	BOO	BOO	BOO	BOO	BOO	CNC	CNC	CET	CYG	CYG	DRA	DRA	GEM	HER	HER	
MAX	9.3	10.3	10.8	11.2	11.1	9.8	10.6	11.3	12.0	10.8	10.8	11.2	10.6	10.7	11.0	9.3	9.1	11.2	11.0	9.6	10.7	10.5	9.9	
MIN	10.8	11.6	11.5	12.8	12.6	11.3	11.8	12.7	13.4	11.5	12.1	12.7	12.0	12.6	12.3	10.3	10.5	12.7	12.0	10.3	11.9	11.8	10.4	
RISE	2	3	3	2	2	2	3	2	2	3	2	1	2	2	3	2	3	2	2	3	2	2	2	
0- 1	1.0			5.0	1.0		9.0	5.0		2.0		6.5	9.5	9.0	3.5		10.5		8.5	4.0	4.5	8.0		
1- 2				9.5		5.0		6.0	3.0			4.5			6.5		9.0		5.5	3.0				
2- 3				4.0		8.0	5.5	6.5	4.0	6.5	3.5		8.5	0.5			7.5		3.0	1.5	4.5	7.5		
3- 4				8.5	6.0		11.5	7.0	5.0	5.0	5.0			3.0			5.5			0.5			9.5	
4- 5	0.5			3.0	3.5	5.0		8.0	6.0	3.5	6.5	9.5	7.0	5.0	2.0				8.0	11.0	4.0	7.5	7.5	
5- 6			11.5	7.5	1.5	8.5	8.5	8.5	7.5	2.0	8.0	7.0		7.5	5.0				5.0	9.5	8.5		5.5	
6- 7		2.0		2.0				9.0	8.5		10.0	5.0	6.0	9.5	8.0			9.5	2.5	8.5	4.0	7.5		
7- 8				6.5		5.5	5.0	10.0	9.5	6.5	11.5	3.0					10.5		10.5	7.5	8.5			
8- 9				1.0	6.0	9.0	11.0	10.5	10.5	5.0			5.0	1.0	0.5				7.5	6.5	3.5	7.5	10.0	
9-10				5.5	4.0	3.0		11.0	11.5	3.5		10.0	12.0	3.0	4.0				7.5	5.0	5.0	8.0	8.0	
10-11					2.0	6.0	8.0	11.5		2.0	3.0	8.0	3.5	5.5	7.0				5.5	2.0	4.0	3.0	7.5	5.5
11-12		3.0	0.5	4.5							4.5	6.0	11.0	8.0					10.0	3.0	7.5			
12-13				8.5		3.5	4.5			6.5	6.5	3.5		10.0		1.5			7.5	2.0	3.0	7.5		
13-14			12.0	3.5	6.5	6.5	10.5		3.5	5.0	8.0		10.0		2.5				4.5	0.5	7.5		10.0	
14-15		0.5		7.5	4.5				4.5	3.5	9.5	10.5		1.5	5.5		10.5		2.0	11.0	2.5	7.5	8.0	
15-16				2.5	2.5	4.0	7.5	2.5	5.5	2.0	11.0	8.5	8.5	3.5	8.5		9.0		9.5	10.0	7.0		6.0	
16-17				6.5		7.0		3.5	7.0		12.5	6.5		6.0			7.5		7.0	9.0	2.0	7.5		
17-18				1.5			4.0	4.0	8.0	6.5		4.5	7.5	8.0	1.0	1.0	5.5		4.0	7.5	6.5			
18-19				5.5	7.0	4.5	10.0	4.5	9.0	5.0	3.0			10.5	4.0					6.5	2.0	7.5	10.5	
19-20	1.5	2.0	1.0		5.0	7.5		5.5	10.0	3.5	4.5		6.5		7.0			10.0	9.5	5.5	6.5		8.0	
20-21				4.5	3.0		7.0	6.0	11.0	2.0	6.0	9.0		2.0					6.5	4.5	1.5	7.5	6.0	
21-22			12.5	9.0	0.5	5.0		6.5	12.5		7.5	7.0	5.0	4.0			10.5		4.0	3.0	6.0			
22-23				3.5		8.0	3.5	7.0		6.5	9.0	5.0	12.5	6.5	3.0		9.0			2.0	1.0	7.0		
23-24	1.0			8.0		9.5	8.0		5.0	10.5		4.0	8.5	6.0			7.5		9.0	1.0	6.0		10.5	
24-25		3.5		2.5	5.5	5.0		8.5	3.0	3.5	12.0		11.5		9.0		5.5		6.5	11.0	1.0	7.0	8.5	
25-26				7.0	3.0	8.5	6.5	9.0	4.0	2.0		9.5							3.5	10.0	5.5		6.5	
26-27			11.0	1.5	1.0		12.0	10.0	5.0		2.5	7.5	10.0	2.5	1.5					9.0	0.5	7.0		
27-28	0.5	1.0	1.5	6.0		5.5		10.5	6.5	6.5	4.0	5.5		4.5	4.5			9.5	8.5	8.0	5.0			
28-29				0.5		9.0	9.0	11.0	7.5	5.0	5.5	3.5	9.0	7.0	7.5		10.5		6.0	6.5		7.0	11.0	
29-30				5.0	5.5	3.0		12.0	8.5	3.5	7.0			9.0			9.0		3.0	5.5	5.0		8.5	
30-31				9.0	3.5	6.0	5.5		9.5	2.0	8.5	10.5	8.0				7.0			4.5		7.0	6.5	

AAVSO RR Lyrae Ephemeris for April 2020

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	XX	AT	SW	TZ	BH	RS	ST	SW	SZ	TV	TW	UU	UY	RW	TT	XZ	DM	RW	XZ	RR	TW	VX	AR	
	AND	AND	AQR	AUR	AUR	BOO	BOO	BOO	BOO	BOO	BOO	BOO	BOO	CNC	CNC	CYG	CYG	DRA	DRA	GEM	HER	HER	HER	
MAX	10.3	10.8	10.5	11.2	11.1	9.8	10.6	11.3	12.0	10.8	10.8	11.2	10.6	10.7	11.0	9.1	11.2	11.0	9.6	10.7	10.5	9.9	10.6	
MIN	11.6	11.5	12.1	12.8	12.6	11.3	11.8	12.7	13.4	11.5	12.1	12.7	12.0	12.6	12.3	10.5	12.7	12.0	10.3	11.9	11.8	10.4	11.6	
RISE	3	3	1	2	2	2	3	2	2	3	2	1	2	2	3	3	2	2	3	2	2	2	2	
0- 1		9.5		4.0	1.5		11.5		10.5		10.0	8.5			3.0	5.5		8.5	3.5	4.5		4.5	3.0	
1- 2						3.5	2.5	1.5		6.5	11.5	6.0	7.0	3.0	6.0	4.0		5.5	2.0		7.0		1.5	
2- 3				3.0		6.5	8.5	2.0		5.0		4.0		5.0				3.0	1.0	4.0				
3- 4		11.5	9.5	7.0				2.5	1.5	3.5	2.0	2.0	5.5	7.5					11.5		7.0	9.0	10.0	
4- 5				2.0	4.0	4.0	5.0	3.5	2.5	2.0	3.5				2.0	10.5	9.0	8.0	10.0	4.0		6.5	8.5	
5- 6				6.0	2.0	7.0	11.0	4.0	3.5		5.0	9.0	4.5		5.0	9.0		5.5	9.0		7.0	4.5	7.0	
6- 7						1.0	2.0	4.5	4.5	6.5	6.5	7.0	11.5	1.0		7.0		2.5	8.0	3.5			5.5	
7- 8				5.0		4.5	8.0	5.5	6.0	5.0	8.0	5.0	3.5	3.5		5.5	7.5	10.5	7.0		7.0		4.0	
8- 9		10.0	10.5			7.5		6.0	7.0	3.5	10.0	2.5	10.5	5.5		4.0		7.5	5.5	3.0		9.0	2.5	
9-10	1.0			4.0	4.5	1.5	4.5	6.5	8.0	2.0	11.5		2.0	8.0	3.5		9.5	5.0	4.5		7.0	7.0	1.0	
10-11	11.5				2.5	4.5	10.5	7.5	9.0			9.5	9.5		6.5				2.0	3.5	3.0		5.0	11.0
11-12				3.0		8.0	1.5	8.0	10.0	6.5	1.5	7.5	1.0			10.5		10.0	2.5		6.5		9.5	
12-13				7.0		2.0	7.5	8.5	11.5	5.0	3.0	5.5	8.5	1.5		9.0	8.5	7.5	1.0	2.5			8.0	
13-14				2.0		5.0		9.0		3.5	4.5	3.5		4.0	2.0	7.0		4.5			6.5	9.5	6.5	
14-15			10.0	6.0	5.0	8.5	4.0	10.0	1.0	2.0	6.5	1.5	7.0	6.0	5.0	5.5		2.0	10.5	2.0		7.0	5.5	
15-16				1.0	2.5	2.5	10.0	10.5	2.0		8.0	10.0		8.5		4.0		10.0	9.0	7.0	6.5	5.0	4.0	
16-17		10.0		5.0		5.5		11.0	3.0	6.5	9.5	8.0	6.0					7.0	8.0	2.0			2.5	
17-18						9.0	7.0		4.0	5.0	11.0	6.0					9.0	4.5	7.0	6.5	6.5		1.0	
18-19				4.0		3.0			5.5	3.5		4.0	5.0	2.0	4.0	10.5		1.5	6.0	1.5		9.5	11.0	
19-20						6.0	3.5		6.5	2.0	1.5	2.0		4.0	7.0	9.0		9.5	4.5	6.0	6.5	7.5	9.5	
20-21			9.0	3.0	3.0		9.5	1.5	7.5		3.0	11.0	3.5	6.5		7.0	7.5	6.5	3.5	1.0		5.0	8.0	
21-22				7.5	1.0	3.5		2.0	8.5	6.5	4.5	8.5	11.0	8.5		5.5		4.0	2.5	6.0	6.5		6.5	
22-23	1.5			2.0		6.5	6.5	3.0	9.5	5.0	6.0	6.5	2.5		2.5	4.0		1.0	1.5				5.0	
23-24				6.5				3.5	11.0	3.5	7.5	4.5	10.0		5.5			9.0		5.5	6.5	9.5	3.5	
24-25		10.5		1.0		4.0	3.0	4.0		2.0	9.0	2.5	1.5	2.5				6.5	10.5			7.5	2.0	
25-26			10.5	5.5	3.5	7.0	9.0	4.5			10.5		8.5	4.5		10.5	8.5	3.5	9.5	5.0	6.5	5.5		
26-27					1.5	1.0		5.5	1.5	7.0		9.5		7.0	1.0	8.5		1.0	8.5			3.5	10.5	
27-28				4.5		4.5	6.0	6.0	2.5	5.5		7.5	7.5		4.5	7.0		9.0	7.0	5.0	6.5		9.0	
28-29						7.5	11.5	6.5	3.5	4.0	2.5	5.0				5.5		6.0	6.0			10.0	7.5	
29-30		9.0		3.5		1.5	2.5	7.5	5.0	2.5	4.0	3.0	6.5			4.0		3.5	5.0	4.5	6.5	8.0	6.0	

	DL	DY	SZ	UU	DG	DH	RR	SS	TV	WW	SZ	RR	RZ	AV	RV
	HER	HER	HYA	HYA	HYA	HYA	LEO	LEO	LEO	LEO	LYN	LYR	LYR	PEG	UMA
MAX	11.0	10.2	10.6	10.7	11.6	11.4	10.0	10.5	11.5	11.0	9.1	7.1	10.0	9.9	10.1
MIN	12.4	10.6	11.7	12.3	12.6	12.6	11.7	12.0	12.6	12.0	9.6	8.1	12.0	10.9	11.2
RISE	1	1	2	2	3	2	2	2	2	3	1	2	2	2	3
0- 1	9.5			4.0		5.0	5.0	3.0	8.5	7.0	4.5	6.5	8.0		
1- 2		10.0	1.0	5.0		4.5	2.5	9.0			7.0	10.0	9.0		10.0
2- 3	4.5	7.5	2.5	6.5	1.0	4.0				2.5			9.5		8.5
3- 4	8.5	5.0	4.5	7.5		3.5	9.0	6.0	1.5	7.5	2.0		10.0		7.0
4- 5			6.5			3.0	6.5				4.0	6.0	10.5	9.0	5.5
5- 6		10.5			1.5	2.5	4.5	3.0	2.0	3.0	6.0	9.0	11.0		4.0
6- 7	7.5	7.5				2.0	2.0	9.0			8.5		11.5		2.5
7- 8		5.0				1.0			2.0		1.5				1.0
8- 9					2.0		8.5	6.0		3.5	3.5	5.0			10.5
9-10	6.5	10.5	2.5	1.5			6.0		2.5		5.5	8.0			9.0
10-11	11.0	8.0	4.0	3.0			4.0	3.5			7.5	11.5			7.5
11-12		5.5	6.0	4.0	2.0		1.5	9.5	3.0	3.5	1.0				6.0
12-13	5.5			5.0							3.0				4.5
13-14	10.0			6.5			8.0	6.5	3.5		5.0	7.5			3.0
14-15		8.5		7.5	2.5		5.5			4.0	7.0	10.5			1.5
15-16	4.5	5.5					3.5	3.5	4.0						11.0
16-17	9.0		2.0				1.0				2.5		4.5		9.5
17-18			3.5		3.0				4.5	4.5	4.5	6.5	5.0		8.0
18-19		8.5	5.5				7.5	6.5			6.5	10.0	5.5		6.5
19-20	8.0	6.0					5.0		5.0				6.0		5.0
20-21				2.0	3.5	6.0	2.5	4.0		4.5	2.0		7.0	9.0	3.5
21-22				3.0		5.5			5.5		4.0	6.0	7.5		2.0
22-23	7.0	9.0		4.0		5.0	9.0	1.0			6.0	9.0	8.0		
23-24	11.5	6.5	1.5	5.0	4.0	4.5	6.5	7.0	6.0	5.0	8.0		8.5		10.0
24-25		4.0	3.5	6.5		4.0	4.5				1.5		9.0		8.5
25-26	6.0		5.0	7.5		3.5	2.0	4.0	6.0		3.5	5.0	9.5		7.0
26-27	10.5	9.5			4.5	3.0				5.5	5.5	8.5	10.0		5.5
27-28		6.5				2.5	8.5	1.0	6.5		7.5	11.5	10.5		4.0
28-29	5.0	4.0				2.0	6.0	7.5			1.0		11.0		2.5
29-30	9.5				4.5	1.5	4.0		7.0	5.5	3.0		11.5	8.5	1.0

AAVSO RR Lyrae Ephemeris for May 2020

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	SW	XX	AT	SW	TZ	BH	RS	ST	SW	SZ	TV	TW	UU	UY	RW	TT	XZ	DM	RW	XZ	RR	TW	VX
	AND	AND	AND	AQR	AUR	AUR	BOO	BOO	BOO	BOO	BOO	BOO	BOO	BOO	CNC	CNC	CYG	CYG	DRA	DRA	GEM	HER	HER
MAX	9.3	10.3	10.8	10.5	11.2	11.1	9.8	10.6	11.3	12.0	10.8	10.8	11.2	10.6	10.7	11.0	9.1	11.2	11.0	9.6	10.7	10.5	9.9
MIN	10.8	11.6	11.5	12.1	12.8	12.6	11.3	11.8	12.7	13.4	11.5	12.1	12.7	12.0	12.6	12.3	10.5	12.7	12.0	10.3	11.9	11.8	10.4
RISE	2	3	3	1	2	2	2	3	2	2	3	2	1	2	2	3	3	2	2	3	2	2	2
0- 1							4.5	8.5	8.0	6.0		5.5			3.0		2.5	9.5		3.5			5.5
1- 2	10.0	11.0		9.5	2.5	2.0	8.0		8.5	7.0	7.0	7.0	10.0	5.0	5.0	3.0		5.5	8.5	2.5	4.0	6.5	3.5
2- 3				7.5			2.0	5.5	9.5	8.0	5.5	8.5	8.0				10.5		5.5	1.5			
3- 4					1.5		5.0		10.0	9.0	4.0	10.0	6.0	4.0			8.5	8.0	3.0		4.0	6.0	10.0
4- 5			7.5				8.5	2.0	10.5	10.5	2.5		4.0				7.0			10.5			8.0
5- 6	9.5						2.5	8.0					1.5	3.0					8.0	9.5	3.5	6.0	6.0
6- 7				11.0	4.5	2.5	5.5				7.0	2.0	10.5	10.0	3.5	4.5	4.0	6.5	5.5	8.5			3.5
7- 8			9.5	9.0			9.0	5.0			5.5	3.5	8.5	2.0	5.5		2.5		2.5	7.5	3.0	6.0	1.5
8- 9				7.0	3.5		3.0	10.5		2.0	4.0	5.0	6.5	9.0				9.0	10.5	6.0			10.5
9-10	9.0	9.5					6.0	1.5	1.5	3.0	2.5	6.5	4.5				10.5		8.0	5.0	3.0	6.0	8.0
10-11					2.5			7.5	2.0	4.5		8.0	2.5	8.0			3.5	8.5		5.0	4.0		6.0
11-12						2.5	3.5		3.0	5.5	7.0	10.0			1.5		7.0	7.5	2.5	3.0	2.5	6.0	4.0
12-13			8.0	10.0	1.5		6.5	4.5	3.5	6.5	5.5		9.0	7.0	4.0		5.5		10.0	1.5			2.0
13-14				8.5				10.0	4.0	7.5	4.0		7.0		6.0		4.0	10.0	7.5		2.0	6.0	10.5
14-15		11.0					4.0		4.5	8.5	2.5	1.5	5.0	5.5		2.0	2.5	6.0	5.0	11.0			8.5
15-16			10.0		5.0		7.0	7.0	5.5	10.0		3.0	3.0			5.0			2.0	9.5	2.0	6.0	6.5
16-17									6.0	11.0	7.0	5.0		4.5			10.5	8.5	10.0	8.5			4.0
17-18					4.0		4.0	3.5	6.5		5.5	6.5	10.0		2.0		8.5		7.0	7.5	1.5	6.0	2.0
18-19				9.5			7.5	9.5	7.5		4.0	8.0	8.0	3.5	4.5		7.0		4.5	6.5			11.0
19-20				7.5	3.0		1.5		8.0	1.5	2.5	9.5	5.5	10.5	6.5	3.5	5.5	7.0	1.5	5.0		6.0	8.5
20-21	10.0		8.5				4.5	6.5	8.5	2.5		11.0	3.5	2.0			4.0		9.5	4.0			6.5
21-22					2.0		8.0		9.5	4.0	7.0		1.5	9.5			2.0	9.5	7.0	3.0		6.0	4.5
22-23		10.0					2.0	3.0	10.0	5.0	5.5		10.5					5.5	4.0	2.0			2.0
23-24			10.5	11.0			5.0	9.0	10.5	6.0	4.0	3.0	8.5	8.5	2.5	2.5	10.0					5.5	
24-25	9.5			9.0	5.0		8.5		7.0	2.5	4.5	6.5		4.5			8.5	8.0	9.0	11.0			9.0
25-26			7.0				2.5	6.0		8.0		6.0	4.5	7.0			7.0		6.5	10.0		5.5	6.5
26-27					4.0		5.5		9.5	7.0	7.5	2.0					5.5		4.0	8.5	5.0		4.5
27-28						2.0	9.0	2.5		10.5	5.5	9.0		6.0			4.0	6.5		7.5		5.5	2.5
28-29	9.5		9.0		3.0		3.0	8.5	1.5		4.0	10.5	9.0			4.0	2.0		9.0	6.5	4.5		
29-30				10.0			6.0		2.0		2.5		7.0	5.0	3.0			9.0	6.0	5.5		5.5	9.0
30-31				8.0	2.0			5.5	3.0				5.0		5.0		10.0		3.5	4.0	4.0		7.0

	AR	DL	DY	SZ	UU	DG	DH	RR	SS	TV	WW	SZ	RR	RZ	AV	RV
	HER	HER	HER	HYA	HYA	HYA	HYA	LEO	LEO	LEO	LEO	LYN	LYR	LYR	PEG	UMA
MAX	10.6	11.0	10.2	10.6	10.7	11.6	11.4	10.0	10.5	11.5	11.0	9.1	7.1	10.0	9.9	10.1
MIN	11.6	12.4	10.6	11.7	12.3	12.6	12.6	11.7	12.0	12.6	12.0	9.6	8.1	12.0	10.9	11.2
RISE	2	1	1	2	2	3	2	2	2	2	3	1	2	2	2	3
0- 1	5.0		9.5					1.5	4.5			5.0	7.5			10.5
1- 2	3.5	4.0	7.0	3.0	2.0								10.5		7.5	9.0
2- 3	2.0	8.5	4.5		3.0				1.5							7.5
3- 4			2.0		4.0			5.5	7.5			2.5	3.5			6.0
4- 5	10.5	3.0	10.0		5.0			3.5		1.5		4.5	6.5			4.5
5- 6	9.0	7.5	7.5						4.5			6.5	10.0			3.0
6- 7	7.5		4.5											3.0	9.0	1.5
7- 8	6.0		2.0					7.5	1.5		1.5	2.0	2.5	3.5		
8- 9	4.5	6.5	10.0	2.5				5.0				4.0	6.0	4.0	8.0	9.5
9-10	3.0	11.0	7.5	4.5				3.0				6.0	9.0	4.5		8.0
10-11	1.5		5.0						5.0	1.5	2.0			5.5	7.0	6.5
11-12		5.5	2.5									1.5		6.0		5.0
12-13	10.0	10.0	10.5		2.0			7.0	2.0	2.0		3.5	5.0	6.5		3.5
13-14	8.5		8.0		3.0			4.5			2.5	5.5	8.5	7.0		2.0
14-15	7.0	4.5	5.5		4.0			2.0		2.5				7.5		
15-16	6.0	9.0	2.5	2.0	5.5				5.0					8.0	8.5	10.0
16-17	4.5			4.0			4.0			3.0	3.0	3.0	4.5	8.5		8.5
17-18	3.0	3.5	8.5				3.5	6.0	2.0			5.0	7.5	9.0	7.5	7.0
18-19	1.5	8.0	5.5				3.0	4.0		3.5			11.0	9.5		5.5
19-20			3.0				2.5	1.5			3.0			10.0		4.0
20-21	10.0	2.5					2.0		5.5	3.5		2.5	3.5	10.5		2.5
21-22	8.5	7.0	8.5			1.5	1.5					4.5	7.0			
22-23	7.0		6.0	2.0				5.5	2.5	4.0	3.5	6.5	10.0		9.0	10.5
23-24	5.5		3.5	3.5	2.0			3.5								9.0
24-25	4.0	6.0			3.0	2.0				4.5		2.0	3.0		8.0	7.5
25-26	2.5	10.0	9.0		4.0				5.5		4.0	4.0	6.0			6.0
26-27			6.5		5.5			7.5		5.0		6.0	9.0		7.0	4.5
27-28	11.0	5.0	3.5			2.5		5.0	2.5							3.0
28-29	9.5	9.0						3.0		5.5	4.0			2.5		1.5
29-30	8.0		9.0	1.5								3.5	5.0	3.5		11.0
30-31	6.5	4.0	6.5	3.0		3.0			6.0	6.0		5.5	8.5	4.0		9.5

AAVSO RR Lyrae Ephemeris for June 2020

all times in U.T.

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	SW	XX	AT	SW	TZ	RS	ST	SW	SZ	TV	TW	UU	UY	RW	TT	RR	XZ	DM	RW	XZ	RR	TW	VX
	AND	AND	AND	AQR	AUR	BOO	BOO	BOO	BOO	BOO	BOO	BOO	BOO	CNC	CNC	CET	CYG	CYG	DRA	DRA	GEM	HER	HER
MAX	9.3	10.3	10.8	10.5	11.2	9.8	10.6	11.3	12.0	10.8	10.8	11.2	10.6	10.7	11.0	9.3	9.1	11.2	11.0	9.6	10.7	10.5	9.9
MIN	10.8	11.6	11.5	12.1	12.8	11.3	11.8	12.7	13.4	11.5	12.1	12.7	12.0	12.6	12.3	10.3	10.5	12.7	12.0	10.3	11.9	11.8	10.4
RISE	2	3	3	1	2	2	3	2	2	3	2	1	2	2	3	2	3	2	2	3	2	2	2
0- 1				6.0		3.5		3.5	2.0	7.0	2.5	3.0	3.5				8.5			3.0		5.5	5.0
1- 2	9.0					6.5	2.0	4.0	3.5	5.5	4.0				2.5		7.0	7.5	8.5	2.0			2.5
2- 3			7.5				8.0	5.0	4.5	4.0	5.5	9.5	2.5				5.5	3.5	6.0			5.5	
3- 4						4.0		5.5	5.5	2.5	7.0	7.5					4.0	10.0	3.0				9.5
4- 5		10.0		9.5		7.0	5.0	6.0	6.5		8.5	5.5		3.5			2.0	6.0		10.0		5.5	7.0
5- 6	8.5		9.5	7.5		10.5	6.5	7.5	7.0	10.0	3.5								8.5	9.0			5.0
6- 7				5.5	3.0	4.0		7.5	9.0	5.5							10.0	8.5	5.5	8.0		5.5	3.0
7- 8		7.5	6.0			7.5	7.5	8.0	10.0	4.0		10.5	7.5			10.5	8.5	4.5	3.0	6.5	3.0		
8- 9					2.0			8.5		2.5	2.0	8.0					7.0			5.5		5.5	9.5
9-10	8.0			10.5		4.5	4.5	9.5			3.5	6.0	6.5				5.5	7.0	8.0	4.5	2.5		7.5
10-11			8.0	8.5		8.0	10.0	10.0		7.0	5.0	4.0		4.0	3.0		4.0		5.0	3.0		5.5	5.0
11-12				6.5		2.0				5.5	6.5	2.0	5.0				2.0	9.0	2.5	2.0	2.0		3.0
12-13	10.0	9.0				5.0	7.0		3.0	4.0	8.5	11.0				10.0		5.5	10.5			5.5	
13-14	7.5		10.0			8.5			4.0	2.5	10.0	9.0	4.0				10.0		7.5		2.0		9.5
14-15						2.5	4.0		5.0			7.0					8.5	8.0	5.0	10.0		5.0	7.5
15-16			6.5	10.0	3.5	5.5	9.5		6.0	7.0		4.5	3.0	2.0			7.0	4.0	2.0	9.0			5.5
16-17	9.5			8.0		8.5			7.0	5.5		2.5		4.5			5.5		10.0	8.0		5.0	3.5
17-18	7.0	10.5		6.0	2.5	3.0	6.5	2.0	8.5	4.0	3.0		2.0			9.5	4.0	6.5	7.5	7.0			
18-19			8.5			6.0		3.0	9.5	2.5	5.0	9.5					2.0		4.5	5.5		5.0	10.0
19-20							3.5	3.5			6.5	7.5						8.5	2.0	4.5			8.0
20-21	9.0	7.5	5.0			3.5	9.0	4.0		7.0	8.0	5.5	8.0				10.0	5.0	9.5	3.5		5.0	5.5
21-22			10.5	9.5		6.5		5.0		5.5	9.5	3.5		2.5			8.5		7.0	2.5			3.5
22-23				7.5			6.0	5.5		4.0			7.0	5.0			7.0	7.0	4.0			5.0	
23-24			7.0	5.5		3.5		6.0	2.5	2.5		10.0				2.0	5.5	3.5					10.0
24-25	8.5					7.0	3.0	7.0	3.5			8.0	5.5				3.5	9.5	9.5	10.5		5.0	8.0
25-26		9.0				8.5	7.5	4.5	7.0	3.0	6.0						2.0	6.0	6.5	9.0			6.0
26-27			9.0	10.5	2.5	4.0		8.0	5.5	5.5	4.5	4.0	4.5						4.0	8.0		5.0	3.5
27-28				8.5		7.5	5.5	8.5	6.5	4.0	6.0	2.0		3.0			10.0	8.0		7.0			
28-29	8.5		5.5	6.5				9.5	8.0	2.5	7.5	10.5	3.5			11.0	8.5	4.5	9.0	6.0		5.0	10.5
29-30						4.5	2.5	10.0	9.0		9.0	8.5					7.0		6.5	4.5			8.0

	AR	DL	DY	SZ	UU	DH	RR	SS	TV	WW	SZ	RR	RZ	AV	RV
	HER	HER	HER	HYA	HYA	HYA	LEO	LEO	LEO	LEO	LYN	LYR	LYR	PEG	UMA
MAX	10.6	11.0	10.2	10.6	10.7	11.4	10.0	10.5	11.5	11.0	9.1	7.1	10.0	9.9	10.1
MIN	11.6	12.4	10.6	11.7	12.3	12.6	11.7	12.0	12.6	12.0	9.6	8.1	12.0	10.9	11.2
RISE	2	1	1	2	2	2	2	2	2	3	1	2	2	2	3
0- 1	5.5	8.0	4.0										4.5	8.5	8.0
1- 2	4.0						4.5	3.0					5.0		6.5
2- 3	2.5	3.0	9.5				2.0				3.0	4.5	5.5	7.5	5.0
3- 4		7.0	7.0		2.0							7.5	6.0		3.5
4- 5	11.0		4.5		3.0							11.0	6.5	6.5	2.0
5- 6	9.5	2.0											7.0		
6- 7	8.0	6.0	10.0				4.0	3.0			2.5	3.5	7.5	5.5	10.0
7- 8	6.5	10.5	7.0								4.5	7.0	8.0		8.5
8- 9	5.0		4.5									10.0	8.5		7.0
9-10	3.5	5.0	2.0										9.0	8.0	5.5
10-11	2.0	9.5	10.0										3.0	9.5	4.0
11-12			7.5			2.0	3.5	3.5			4.0	6.0	10.5	7.0	2.5
12-13	10.5	4.0	5.0									9.5	11.0		
13-14	9.0	8.5	2.5	2.5										6.0	10.5
14-15	7.5		10.5		2.0							2.0			9.0
15-16	6.0	3.0	8.0		3.0		5.0				3.0	5.5		5.0	7.5
16-17	5.0	7.5	5.0				3.0	4.0				8.5		9.0	6.0
17-18	3.5		2.5												4.5
18-19	2.0	2.0							2.0				2.0	7.5	3.0
19-20		6.5	8.0								2.5	4.5	2.5		
20-21	10.5		5.5	2.0			4.5		2.5	2.0		7.5	3.0	6.5	
21-22	9.0		3.0				2.5	4.0				11.0	3.5		9.5
22-23	7.5	5.5							3.0				4.0	5.5	8.0
23-24	6.0	10.0	8.5							2.5	2.0	3.5	4.5		6.5
24-25	4.5		6.0						3.5		4.0	7.0	5.0		5.0
25-26	3.0	4.5	3.5		2.0		4.0					10.0	5.5	8.5	3.5
26-27		9.0			3.0			4.5	4.0	2.5			6.0		2.0
27-28			9.0									3.0	6.5	7.0	
28-29	10.0	3.5	6.0						4.5		3.5	6.0	7.0		10.0
29-30	8.5	8.0	3.5							3.0		9.5	7.5	6.0	8.5

AAVSO RR Lyrae Ephemeris for July 2020

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	SW	XX	AT	SW	BH	RS	ST	SW	SZ	TV	TW	UU	UY	RW	RR	XZ	DM	RW	XZ	TW	VX	AR	DL
	AND	AND	AND	AQR	AUR	BOO	BOO	BOO	BOO	BOO	BOO	BOO	BOO	CNC	CET	CYG	CYG	DRA	DRA	HER	HER	HER	HER
MAX	9.3	10.3	10.8	10.5	11.1	9.8	10.6	11.3	12.0	10.8	10.8	11.2	10.6	10.7	9.3	9.1	11.2	11.0	9.6	10.5	9.9	10.6	11.0
MIN	10.8	11.6	11.5	12.1	12.6	11.3	11.8	12.7	13.4	11.5	12.1	12.7	12.0	12.6	10.3	10.5	12.7	12.0	10.3	11.8	10.4	11.6	12.4
RISE	2	3	3	1	2	2	3	2	2	3	2	1	2	2	2	3	2	2	3	2	2	2	1
0- 1		10.5				8.0	8.0			7.0		6.5	2.0			5.5	6.5	3.5	3.5	5.0	6.0	7.0	
1- 2	10.5		7.5			2.0				5.5		4.5				3.5	3.0		2.5		4.0	5.5	2.5
2- 3	8.0			10.0		5.0	5.0			4.0		2.5		8.0	2.0	9.0	8.5			5.0	2.0	4.5	7.0
3- 4	5.0	8.0	4.0	8.0		8.5				2.5	2.5			10.5		5.0	6.0			9.5		3.0	
4- 5			9.5	6.0	9.5	2.5	1.5		2.0		4.0					10.0		3.0	10.5	4.5	8.5		
5- 6	10.0			4.0		5.5	7.5		3.0	7.0	5.5	7.0				8.5	7.5		9.5	9.5	6.5		6.0
6- 7	7.5	5.5	6.0					2.5	4.0	5.5	7.0	5.0				7.0	4.0	8.5	8.0	4.5	4.0	10.0	
7- 8	4.5					3.0	4.5	3.0	5.0	4.0	8.5	3.0	6.0		7.5	5.5	10.0	5.5	7.0	9.5	2.0	8.5	
8- 9		9.5		9.0		6.0		3.5	6.0	2.5				10.0	3.5	6.0	3.0	6.0	4.5	4.5	7.0	5.0	5.0
9-10	9.5		8.0	7.0	9.5			4.0	7.5				5.0			2.0	2.5		5.0	9.5	8.5	5.5	9.5
10-11	7.0			5.0		3.5	7.0	5.0		7.0		8.0					8.5	8.0	3.5	4.5	6.5	4.0	
11-12		6.5	4.5	3.5		6.5		5.5		5.5	2.0	6.0	3.5			10.0	4.5	5.5	2.5	9.5	4.5	2.5	4.0
12-13			10.0				4.0	6.0		4.0	3.5	3.5				8.5		2.5		4.5	2.0		8.5
13-14	9.0	10.5		10.5		3.5		7.0		2.5	5.0		2.5		9.5	7.0	7.0	10.5		9.5			
14-15	6.5		6.5	8.5	10.0	7.0		7.5			6.5			2.0		5.5	3.0	7.5	10.5	4.5	9.0	9.5	3.0
15-16				6.5			6.5	8.0		7.0	8.5	8.5				3.5	9.5	5.0	9.5	9.5	6.5	8.0	7.5
16-17		8.0		4.5		4.0			2.5	5.5		6.5				2.0	5.5	2.0	8.5	4.5	4.5	6.5	
17-18	8.5		8.5			7.5	3.5		3.5	4.0		4.5					2.0	10.0	7.0	9.0	2.5	5.5	2.0
18-19	6.0						9.5		4.5	2.5		2.5		9.0	10.0	8.0	7.5	6.0	4.5		4.0	6.5	
19-20		5.5	4.5	9.5	10.5	4.5			5.5							8.5	4.0	4.5	5.0	9.0	9.0	2.5	
20-21			10.5	7.5		8.0	6.0		7.0	7.0	3.0	9.0	6.5	2.5		7.0		2.0	4.0	4.5	7.0		
21-22	8.0	9.5		6.0		2.0			8.0	5.5	5.0	7.0				5.0	6.5	10.0	2.5	9.0	5.0	11.0	5.5
22-23	5.5		7.0	4.0		5.0	3.0			4.0	6.5	5.0	5.5			3.5	2.5	7.0		4.5	2.5	9.5	10.0
23-24						8.0	8.5			2.5	8.0	3.0			8.0	2.0	9.0	4.5		9.0		8.0	
24-25	10.5	7.0	3.0	11.0	11.0	2.5							4.0	11.0		5.0		11.0	4.0	9.5	6.5	4.5	
25-26	7.5		9.0	9.0		5.5	5.5	2.5		7.0						10.0		9.5	9.5	9.0	7.0	5.0	9.0
26-27	5.0	11.0		7.0				3.0		5.5		7.5	3.0			8.5	7.5	6.5	8.5	4.0	5.0	3.5	
27-28			5.0	5.0		3.0	2.5	3.5	2.0	4.0		5.5				7.0	3.5	4.0	7.5	9.0	3.0	2.0	3.5
28-29	10.0		11.0	3.0		6.0	8.0	4.5	3.0	2.5	3.0	3.5	2.0		7.5	5.0	10.0		6.5	4.0			8.0
29-30	7.5	8.5						5.0	4.0		4.5			10.0	3.5	6.0	9.0	5.0	9.0		10.5		
30-31			7.5	10.0	9.0	3.0	5.0	5.5	5.0	7.0	6.0					2.0	2.0	6.5	4.0	4.0	7.5	9.0	2.5

AAVSO RR Lyrae Ephemeris for August 2020

all times in U.T.

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	SW	XX	AT	SW	TZ	BH	RS	ST	SW	SZ	TV	TW	UU	UY	RR	XZ	DM	RW	XZ	RR	TW	VX	AR
	AND	AND	AND	AQR	AUR	AUR	BOO	BOO	BOO	BOO	BOO	BOO	BOO	BOO	CET	CYG	CYG	DRA	DRA	GEM	HER	HER	HER
MAX	9.3	10.3	10.8	10.5	11.2	11.1	9.8	10.6	11.3	12.0	10.8	10.8	11.2	10.6	9.3	9.1	11.2	11.0	9.6	10.7	10.5	9.9	10.6
MIN	10.8	11.6	11.5	12.1	12.8	12.6	11.3	11.8	12.7	13.4	11.5	12.1	12.7	12.0	10.3	10.5	12.7	12.0	10.3	11.9	11.8	10.4	11.6
RISE	2	3	3	1	2	2	2	3	2	2	3	2	1	2	2	3	2	2	3	2	2	2	2
0- 1				8.5	8.5	7.0	6.5		6.0		5.5						8.5	3.5	3.0		9.0	5.0	7.5
1- 2	9.5	5.5	3.5	6.5				2.0			4.0		6.5			10.0	4.5		2.0		4.0	3.0	6.0
2- 3	7.0		9.5	4.5			3.5				2.5		4.0		7.0	8.5		9.0			9.0		5.0
3- 4	4.0	10.0		2.5									2.0		9.5	7.0	7.0	6.0	11.0		4.0		3.5
4- 5		3.0	5.5			9.5		4.5								5.0	3.0	3.5	10.0		9.0		2.0
5- 6	9.0		11.5	9.5		7.5	4.0				5.5	2.5				3.5	9.5		8.5		4.0	5.5	
6- 7	6.5	7.0	2.0	7.5				1.5			4.0	4.0	7.0	4.5		2.0	5.5	8.5	7.5		8.5	3.5	
7- 8	3.5		7.5	5.5			1.5	7.0		1.5	2.5	5.5	5.0		6.5		1.5	5.5	6.5		4.0		
8- 9		11.0		3.5			4.5				2.5		3.0	3.5	9.0	10.0	8.0	3.0	5.5		8.5		7.5
9-10	8.5	4.5	4.0	1.5	9.0	10.0		4.0			3.5					8.5	4.0		4.0		4.0		6.0
10-11	6.0		10.0	11.0		8.0	2.0			4.5	6.0			2.0		7.0		8.0	3.0		8.5	5.5	4.5
11-12	3.0	8.5		9.0			5.0			6.0	4.5					5.0	6.5	5.5	2.0		4.0	3.5	3.0
12-13			6.0	7.0				6.5	1.5		3.0		5.5		6.0	3.5	2.5	2.5			8.5	1.5	1.5
13-14	8.0			5.0			2.5		2.5		1.5	2.0	3.5		8.5	2.0	8.5	10.5	11.0		4.0		
14-15	5.5	6.0	2.5	3.0		10.5	5.5	3.5	3.0			3.5	1.5		11.0		5.0	8.0	10.0		8.5		
15-16	2.5		8.0			8.5				3.5		6.0	5.0			10.0		5.0	9.0		3.5	6.0	8.5
16-17	10.5	10.0		10.0			3.0		4.5		4.5	6.5				8.5	7.5	2.5	7.5		8.5	3.5	7.0
17-18	7.5	3.5	4.5	8.0			6.0	6.0	5.0		3.0		6.0		5.5	6.5	3.5	10.0	6.5		3.5	1.5	5.5
18-19	5.0		10.0	6.0	9.0				5.5		1.5		4.0		8.0	5.0	9.5	7.5	5.5		8.5		4.5
19-20		7.5		4.0		11.0	3.0	3.0	6.5	2.0			2.0		10.5	3.5	6.0	5.0	4.5		3.5		3.0
20-21	10.0		6.5	2.5		8.5	6.5			3.0	6.0					2.0	2.0	2.0	3.0		8.5	6.0	1.5
21-22	7.0	11.5								4.0	4.5	1.5		3.5			8.0	10.0	2.0		3.5	4.0	
22-23	4.5	5.0	3.0	9.5			3.5	5.5		5.5	3.0	3.0	6.5			10.0	4.5	7.0		9.5	8.5	2.0	
23-24			8.5	7.5							1.5	5.0	4.5	2.5	7.5	8.5		4.5	11.0		3.5		8.5
24-25	9.5	9.0		5.5				2.5				6.5	2.5		10.0	6.5	6.5	1.5	10.0		8.5		7.0
25-26	6.5		5.0	3.5		9.0	4.0				6.0			1.5		5.0	3.0	9.5	9.0		3.5	6.5	5.5
26-27	4.0		10.5	1.5		7.0					4.5					3.5	9.0	7.0	8.0		8.0	4.0	4.0
27-28		6.0	1.5	10.5	9.5		1.5	5.0			3.0					2.0	5.5	4.0	6.5		3.5	2.0	2.5
28-29	9.0		7.0	8.5			4.5				1.5		5.5		7.0		1.5	1.5	5.5		8.0		
29-30	6.5	10.0		6.5				2.0				1.5	3.0		9.5	10.0	7.5	9.5	4.5		3.5		
30-31	3.5	3.5	3.5	5.0		9.5	2.0			1.5	6.0	3.0				8.5	4.0	6.5	3.5		8.0	6.5	

AAVSO RR Lyrae Ephemeris for August 2020

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	DL	DY	SS	RR	RZ	AV	RV
	HER	HER	LEO	LYR	LYR	PEG	UMA
MAX	11.0	10.2	10.5	7.1	10.0	9.9	10.1
MIN	12.4	10.6	12.0	8.1	12.0	10.9	11.2
RISE	1	1	2	2	2	2	3
0- 1	7.0	6.0		3.0		6.5	4.5
1- 2		3.5		6.5			3.0
2- 3	1.5			9.5	1.5	5.0	1.5
3- 4	5.5				2.0	9.5	
4- 5		6.5		2.5	2.5	4.0	
5- 6		4.0		5.5	3.0	8.0	
6- 7	4.5			8.5	3.5	3.0	6.5
7- 8					4.0	7.0	5.0
8- 9		6.5		1.5	4.5	1.5	3.5
9-10	3.5	4.0		5.0	5.5	6.0	2.0
10-11		1.5		8.0	6.0		
11-12				11.0	6.5	4.5	
12-13	2.5	7.0			7.0	9.0	
13-14	7.0	4.5		4.0	7.5	3.5	7.0
14-15		2.0		7.0	8.0	7.5	5.5
15-16	1.5			10.5	8.5	2.5	4.0
16-17	6.0				9.0	6.5	2.5
17-18		4.5		3.0	9.5		
18-19		2.0		6.5	10.0	5.5	
19-20	5.0			9.5			
20-21						4.0	
21-22		5.0		2.5		8.5	6.0
22-23	4.0	2.5		5.5		3.0	4.5
23-24				9.0		7.0	3.0
24-25			1.5			2.0	1.5
25-26	3.0	5.5		1.5	1.5	6.0	
26-27	7.5	3.0		5.0	2.0		
27-28				8.0	2.5	5.0	
28-29	2.0			11.5	3.5	9.0	6.5
29-30	6.5	5.5			4.0	3.5	5.0
30-31		3.0		4.0	4.5	8.0	3.5

AAVSO RR Lyrae Ephemeris for September 2020

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	SW	XX	AT	SW	TZ	BH	RS	ST	SW	SZ	TV	TW	UU	UY	RW	TT	RR	XZ	DM	RW	XZ	RR	TW
	AND	AND	AND	AQR	AUR	AUR	BOO	BOO	BOO	BOO	BOO	BOO	BOO	BOO	CNC	CNC	CET	CYG	CYG	DRA	DRA	GEM	HER
MAX	9.3	10.3	10.8	10.5	11.2	11.1	9.8	10.6	11.3	12.0	10.8	10.8	11.2	10.6	10.7	11.0	9.3	9.1	11.2	11.0	9.6	10.7	10.5
MIN	10.8	11.6	11.5	12.1	12.8	12.6	11.3	11.8	12.7	13.4	11.5	12.1	12.7	12.0	12.6	12.3	10.3	10.5	12.7	12.0	10.3	11.9	11.8
RISE	2	3	3	1	2	2	2	3	2	2	3	2	1	2	2	3	2	3	2	2	3	2	2
0- 1	0.5		9.0	3.0	7.5	7.5			1.5	2.5	4.5	4.5						6.5	10.0	4.0	2.0		3.5
1- 2	8.5	7.5		1.0		5.5		4.5	2.5	3.5	3.0						4.0	5.0	6.0	1.0	1.0	8.0	
2- 3	6.0	1.0	5.5				2.5		3.0		1.5				10.5		6.5	3.5	2.5	9.0	11.5		3.5
3- 4	3.0	11.5	11.0	8.0				1.5	3.5				4.0				9.0	2.0	8.5	6.0	10.5	7.5	
4- 5		5.0	2.0	6.0		10.0							2.0				11.5		4.5	3.5	9.0		3.0
5- 6	8.0		7.5	4.0		8.0	2.5				4.5					11.0		10.0	1.0	0.5	8.0		
6- 7	5.5	9.0		2.0		5.5		4.0			3.0	1.0					3.5	8.5	7.0	8.5	7.0		3.0
7- 8	2.5	2.5	4.0		8.5						1.5	2.5		2.0			6.0	6.5	3.5	6.0	6.0		
8- 9	10.5		9.5				3.0	1.0				4.0	4.5	11.0			8.5	5.0	9.5	3.0	4.5		3.0
9-10	7.5	6.5		7.5	7.5	10.5							2.5	0.5		10.0	11.0	3.5	5.5				
10-11	5.0		6.0	5.5		8.0				1.0	4.5							2.0	2.0	8.5	2.5		3.0
11-12	2.0	10.5	11.5	3.5	6.5	6.0	3.5	3.5		2.0	3.0									8.0	5.5	1.0	
12-13	10.0	4.0	2.5	1.5						3.0	1.5						5.5	10.0	4.0	3.0			3.0
13-14	7.0		8.0				1.0										8.0	8.0			10.5		
14-15	4.5	8.0		8.5		11.0	4.0					0.5	3.0		11.0	11.5	10.5	6.5	6.5	8.0	9.5		3.0
15-16	1.5	1.0	4.5	6.5		8.5					4.5	2.0	1.0					5.0	2.5	5.0	8.0		
16-17	9.5	12.0	10.0	4.5	8.5	6.5	1.5	3.0			3.0	3.5						3.5	9.0	2.5	7.0		3.0
17-18	6.5	5.0	1.0	2.5							1.5						5.0	2.0	5.0		6.0		
18-19	4.0		6.5	0.5	7.5				1.0							10.0	7.5		1.5	7.5	5.0		3.0
19-20	1.0	9.5					2.0		2.0				3.5		9.5		10.0	10.0	7.5	5.0	3.5		
20-21	9.0	2.5	3.0	8.0	6.5	9.0			2.5		4.5		1.5	2.0	11.5			8.0	3.5	2.0	2.5		3.0
21-22	6.0		8.5	6.0		7.0		2.5	3.0	0.5	3.0							6.5	10.0		1.5		
22-23	3.5	6.5		4.0			2.5		3.5	1.5	1.5			1.0			4.0	5.0	6.0	7.5		9.0	3.0
23-24	0.5		5.0	2.0						2.5		1.5				12.0	7.0	3.5	2.0	4.5	10.5		
24-25	8.5	10.5	10.5					5.0		4.0		3.5	4.5				9.5	2.0	8.5	2.0	9.5	9.0	3.0
25-26	5.5	4.0	1.5	9.0	9.0	9.5	2.5				4.5	5.0	2.5		10.0		12.0		4.5		8.5		
26-27	3.0		7.0	7.0		7.5		2.0			3.0							10.0	0.5	7.0	7.0	8.5	2.5
27-28		8.0		5.0	8.0	5.5					1.5					10.5	3.5	8.0	7.0	4.0	6.0		
28-29	8.0	1.5	3.5	3.5			3.0										6.0	6.5	3.0	1.5	5.0	8.0	2.5
29-30	5.5		9.0	1.5	7.0			4.5					5.0				9.0	5.0	9.5		4.0		

	VX	AR	DL	DY	SZ	UU	DG	DH	WW	SZ	RR	RZ	AV	RV
	HER	HER	HER	HER	HYA	HYA	HYA	HYA	LEO	LYN	LYR	LYR	PEG	UMA
MAX	9.9	10.6	11.0	10.2	10.6	10.7	11.6	11.4	11.0	9.1	7.1	10.0	9.9	10.1
MIN	10.4	11.6	12.4	10.6	11.7	12.3	12.6	12.6	12.0	9.6	8.1	12.0	10.9	11.2
RISE	2	2	1	1	2	2	3	2	3	1	2	2	2	3
0- 1	4.5		1.0								7.5	5.0	2.5	2.0
1- 2	2.0	6.5	5.5									5.5	6.5	
2- 3		5.0								8.0		6.0	1.5	
3- 4		4.0		3.5							3.5	6.5	5.5	
4- 5		2.5	4.5	1.0							6.5	7.0		
5- 6	4.5	1.0									9.5	7.5	4.5	
6- 7	2.5								11.0	7.5		8.0	8.5	4.0
7- 8			3.5	3.5		11.5					2.5		3.0	2.5
8- 9				1.0							5.5		7.5	1.0
9-10		6.5							11.0		9.0		2.0	
10-11	5.0	5.0	2.5				11.0						6.0	
11-12	2.5	3.5		4.0							1.5		1.0	
12-13		2.0		1.5				11.5	11.5		5.0		5.0	
13-14		0.5	1.5				11.0	11.0			8.0		9.0	4.5
14-15			6.0										4.0	3.0
15-16	5.0			4.5					12.0	8.0	1.0	0.5	8.0	1.5
16-17	3.0			1.5			11.5				4.0	1.0	2.5	
17-18	0.5	6.0	5.0								7.5	2.0	6.5	
18-19		5.0					11.5						2.5	1.5
19-20		3.5		4.5						7.5		3.0	5.5	
20-21	5.0	2.0	4.0	2.0	12.0						3.5	3.5		5.0
21-22	3.0										6.5	4.0	4.5	3.5
22-23	1.0											4.5	8.5	2.0
23-24			3.0	5.0						7.0		5.0	3.5	
24-25				2.5							2.5	5.5	7.5	
25-26		6.0									6.0	6.0	2.0	
26-27	3.5	4.5	2.0								9.0	6.5	6.0	
27-28	1.0	3.0			11.5							7.0	1.0	
28-29		1.5		2.5						8.5	2.0	7.5	5.0	4.0
29-30			1.0			11.5					5.0	8.0	9.0	2.5

AAVSO RR Lyrae Ephemeris for October 2020

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	SW	XX	AT	SW	TZ	BH	RS	ST	SW	SZ	TV	TW	UU	UY	RW	TT	RR	XZ	DM	RW	XZ	RR	TW
	AND	AND	AND	AQR	AUR	AUR	BOO	BOO	BOO	BOO	BOO	BOO	BOO	BOO	CNC	CNC	CET	CYG	CYG	DRA	DRA	GEM	HER
MAX	9.3	10.3	10.8	10.5	11.2	11.1	9.8	10.6	11.3	12.0	10.8	10.8	11.2	10.6	10.7	11.0	9.3	9.1	11.2	11.0	9.6	10.7	10.5
MIN	10.8	11.6	11.5	12.1	12.8	12.6	11.3	11.8	12.7	13.4	11.5	12.1	12.7	12.0	12.6	12.3	10.3	10.5	12.7	12.0	10.3	11.9	11.8
RISE	2	3	3	1	2	2	2	3	2	2	3	2	1	2	2	3	2	3	2	2	3	2	2
0- 1	2.5	5.5				10.0	0.5						3.0		8.0		11.5	3.5	5.5	6.5	2.5	8.0	2.5
1- 2	10.5		5.5		6.0	8.0		1.5				1.5	1.0		10.5	9.0		2.0	1.5	4.0	1.5		
2- 3	7.5	9.5	11.0	6.5		5.5				0.0	1.5	3.0				12.0	3.0	0.0	8.0	1.0	0.5	7.5	2.5
3- 4	5.0	3.0	2.0	4.5	5.0	3.5	1.0			1.0	0.0						5.5		4.0		10.5		
4- 5	2.0		7.5	2.5	9.0												8.0	8.0	0.0	6.5	9.5	7.5	2.5
5- 6	10.0	7.0		0.5		10.5			12.0							8.0	11.0	6.5	6.5	3.5	8.5		
6- 7	7.0	0.0	4.0		8.0	8.0	1.5	1.0	0.5				1.5		8.5	11.0		5.0	2.5	1.0	7.5	7.0	2.5
7- 8	4.5	11.0	9.5			6.0			1.0		1.5			0.5	11.0		2.5	3.5	9.0		6.0		
8- 9	1.5	4.5	0.5	6.0	7.0	4.0			2.0		0.0	12.0					5.0	1.5	5.0	6.0	5.0	6.5	2.5
9-10	9.5		6.0	4.0			2.0					1.0					7.5	0.0	1.0	3.0	4.0		
10-11	6.5	8.5	11.5	2.0	6.0	10.5						2.5				9.5	10.0		7.5	0.5	3.0	6.5	2.5
11-12	4.0	1.5	2.5			8.5		0.5					2.0					8.0	3.5		1.5		
12-13	1.0	12.5	8.0		5.0	6.5	2.0				1.5		0.0		9.0		2.0	6.5		5.5	0.5	6.0	2.5
13-14	9.0	5.5		7.0	9.5	4.5					0.0				11.5		4.5	5.0	6.0	3.0	11.0		
14-15	6.0		4.5	5.0				3.0		0.5						8.0	7.0	3.5	2.0	0.0	10.0	5.5	2.5
15-16	3.5	9.5	10.0	3.0	8.5					1.5						11.0	9.5	1.5	8.0		8.5		
16-17	0.5	3.0	1.0	1.0		9.0							2.5					0.0	4.5	5.5	7.5		2.0
17-18	8.5		6.5		7.5	7.0					1.5	0.5	0.5				1.5		0.5	2.5	6.5		
18-19	5.5	7.0	12.0			5.0					0.0	2.0			9.5		4.0	8.0	7.0		5.0		2.0
19-20	3.0	0.5	3.0	6.5	6.5			2.5							11.5	10.0	6.5	6.5	3.0		4.0		
20-21	0.0	11.0	8.5	4.5			0.5										9.0	5.0		5.0	3.0		2.0
21-22	8.0	4.5		2.5	5.5	9.5												3.5	5.5	2.0	2.0	9.5	
22-23	5.0		5.0	0.5		7.5					1.5		1.5					1.5	1.5		0.5		2.0
23-24	2.5	8.5	10.5			5.0	1.0				0.0				7.5	8.5	3.5	0.0	7.5		11.0	9.0	
24-25	10.5	2.0	1.5		8.5	3.0		2.0	12.0						10.0	11.5	6.0		4.0	4.5	10.0		2.0
25-26	7.5		7.0	5.5					0.5	0.0		0.0			12.0		8.5	8.0	0.0	2.0	9.0	8.5	
26-27	4.5	6.0		3.5	7.5	10.0	1.5		1.0	1.0		1.5				11.0	6.5	6.0		7.5			2.0
27-28	2.0		3.5	1.5		7.5			2.0		1.5		2.0					5.0	2.5	7.0	6.5	8.5	
28-29	10.0	10.0	9.0		6.5	5.5					0.0					10.0	3.0	3.5	8.5	4.5	5.5		2.0
29-30	7.0	3.5				3.5	2.0	1.5							8.0		5.5	1.5	5.0	1.5	4.5	8.0	
30-31	4.0		5.5	7.0	5.5										10.5		8.0	0.0	1.0		3.0		2.0

	VX	AR	DL	DY	SZ	UU	DG	DH	RR	SS	TV	WW	SZ	RR	RZ	AV	RV
	HER	HER	HER	HER	HYA	HYA	HYA	HYA	LEO	LEO	LEO	LEO	LYN	LYR	LYR	PEG	UMA
MAX	9.9	10.6	11.0	10.2	10.6	10.7	11.6	11.4	10.0	10.5	11.5	11.0	9.1	7.1	10.0	9.9	10.1
MIN	10.4	11.6	12.4	10.6	11.7	12.3	12.6	12.6	11.7	12.0	12.6	12.0	9.6	8.1	12.0	10.9	11.2
RISE	2	2	1	1	2	2	3	2	2	2	2	3	1	2	2	2	3
0- 1									10.5							4.0	1.0
1- 2													6.0			8.0	10.5
2- 3	1.5			3.0						12.5		9.0	8.0	1.0		3.0	
3- 4				0.5										4.0		7.0	
4- 5		4.5			11.0									7.5		1.5	
5- 6		3.0					11.5	10.0				9.5	5.5			5.5	
6- 7		1.5	3.5				11.0						7.5	0.0		0.5	3.0
7- 8	1.5			0.5			10.5							3.5	0.5	4.5	1.5
8- 9						9.0	9.5				9.5			6.5	1.0	8.5	11.0
9-10			2.5			10.0	9.0								1.5	3.5	9.5
10-11						11.5		9.0		11.5			7.0		2.0	7.5	
11-12				1.0	10.5		9.0				10.0			2.5	2.5	2.5	
12-13	2.0	4.0	1.5		12.5						12.0			6.0	3.0	6.5	
13-14		2.5													3.5	1.0	
14-15		1.0					9.5			12.0	10.5		6.5		4.0	5.0	2.0
15-16			0.0	1.5				8.5					8.5	2.0	4.5		0.5
16-17														5.0	5.0	4.0	10.0
17-18	2.0						10.0				10.5				5.5	8.0	
18-19					10.0								6.0		6.0	3.0	
19-20			3.5	1.5	12.0	9.0		10.5					8.0	1.0		7.0	
20-21		4.0				10.5	10.0				11.0			4.5		2.0	
21-22		2.5				11.5								7.5		6.0	2.5
22-23	2.0	1.0	2.5										5.5			0.5	1.0
23-24	0.0			2.0			10.5				11.5	7.5	0.5			4.5	10.5
24-25								10.0						3.5		9.0	
25-26			1.5		10.0									6.5		3.5	
26-27					11.5		11.0				11.5					7.5	
27-28	2.5			2.5				11.5					7.0			2.5	
28-29	0.5	3.5	0.5					11.0						2.5		6.5	3.0
29-30		2.0					11.5	10.5	9.5		12.0			6.0		1.5	1.5
30-31		0.5				9.0		10.0							0.5	5.5	11.0

AAVSO RR Lyrae Ephemeris for November 2020

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	SW	XX	AT	SW	TZ	BH	RS	ST	SW	SZ	TV	TW	UU	UY	RW	TT	RR	XZ	DM	RW	XZ	RR	TW	
	AND	AND	AND	AQR	AUR	AUR	BOO	BOO	BOO	BOO	BOO	BOO	BOO	BOO	CNC	CNC	CET	CYG	CYG	DRA	DRA	GEM	HER	
MAX	9.3	10.3	10.8	10.5	11.2	11.1	9.8	10.6	11.3	12.0	10.8	10.8	11.2	10.6	10.7	11.0	9.3	9.1	11.2	11.0	9.6	10.7	10.5	
MIN	10.8	11.6	11.5	12.1	12.8	12.6	11.3	11.8	12.7	13.4	11.5	12.1	12.7	12.0	12.6	12.3	10.3	10.5	12.7	12.0	10.3	11.9	11.8	
RISE	2	3	3	1	2	2	2	3	2	2	3	2	1	2	2	3	2	3	2	2	3	2	2	
0- 1	1.5	7.5		5.0		10.0									12.5	6.0					2.0	7.5		
1- 2	9.5	0.5	2.0	3.0	4.5	8.0						11.0				9.0			3.5	4.0	1.0		2.0	
2- 3	6.5		7.5	1.0	8.5	6.0					0.0	12.5	0.5			12.0	2.5	6.5		1.5	11.0	7.5		
3- 4	4.0	4.5			3.5	4.0		1.0							6.5		5.0	5.0	5.5		10.0		2.0	
4- 5	1.0		4.0		7.5	2.0				11.0					8.5		7.5	3.5	2.0		9.0	7.0		
5- 6	9.0	9.0	9.5		2.5	10.5		13.0		12.0					11.0	7.5		1.5		3.5	8.0		1.5	
6- 7	6.0	2.0	0.0	4.0	6.5	8.5									10.5		2.0	0.0	4.0	1.0	6.5	6.5		
7- 8	3.5		6.0	2.5	6.5	6.5					0.0						2.0		0.5		5.5		1.5	
8- 9	0.5	6.0		0.5	5.5	4.5		0.5									4.5		6.5		4.5	6.5		
9-10	8.5		2.0		2.0	0.5	10.5		10.5			10.5			7.0	6.0	7.0	6.5	3.0	3.5	3.5		1.5	
10-11	5.5	10.0	8.0		4.5		12.0	11.0				12.0		12.0	9.0	9.5		5.0		0.5	2.0	6.0		
11-12	3.0	3.5			9.0	9.0			11.5			1.0			11.5	12.5		3.0	5.0		1.0		1.5	
12-13	0.0		4.5	3.5	3.5	7.0			12.5		0.0			11.0			1.5	1.5	1.5		11.5	5.5		
13-14	8.0	7.5	10.0	1.5	8.0	4.5											4.0	0.0		3.0	10.0		1.5	
14-15	5.0	1.0	0.5		2.5	2.5										8.0	6.5		3.5	0.5	9.0	5.5		
15-16	2.5		6.5		7.0			11.5							7.0	11.0	9.0				8.0		1.5	
16-17		5.0				9.5				11.5					9.5			6.5	6.0		7.0	5.0		
17-18	7.5		2.5	5.0	6.0	7.0					0.0	10.0			12.0		0.5	5.0	2.0	2.5	5.5		1.5	
18-19	4.5	9.0	8.5	3.0		5.0						12.0	0.5			6.5	3.5	3.0		10.5	4.5	4.5		
19-20	2.0	2.5		1.0	5.0	3.0						0.5				9.5	6.0	1.5	4.5		3.5	9.5	1.5	
20-21	9.5		4.5		9.0			11.0							5.5	12.5	8.5		1.0	5.0	2.5	4.5		
21-22	7.0	6.5			4.0	9.5									7.5					2.5	1.0	9.0	1.5	
22-23	4.0		1.0		8.0	7.5					0.0				10.0		0.0		3.0	10.0	0.0	4.0		
23-24	1.5	10.5	7.0	4.0	3.0	5.5							1.0	12.5	12.0	8.5	2.5	6.5			10.5	8.5	1.5	
24-25	9.5	4.0		2.0	7.0	3.5										11.5	5.5	5.0	5.5	5.0	9.5	3.5		
25-26	6.5		3.0	0.0		1.5								11.5			8.0	3.0	1.5	2.0	8.0	8.5	1.5	
26-27	3.5	8.0	9.0		6.0	10.0						11.5			6.0			1.5		10.0	7.0	3.5		
27-28	1.0	1.0				8.0				11.0	0.5	0.0			8.0	7.0				4.0		6.0	8.0	1.0
28-29	9.0		5.0		5.0	6.0			10.5	12.5					10.5	10.0	2.0		0.0	4.5	4.5			
29-30	6.0	5.0		3.5	9.5	4.0	0.5		11.0						12.5		4.5		6.5	1.5	3.5	7.5	1.0	

AAVSO RR Lyrae Ephemeris for December 2020

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	SW	XX	AT	SW	TZ	BH	RS	ST	SW	SZ	TW	UU	UY	RW	TT	RR	XZ	DM	RW	XZ	RR	TW	AR
	AND	AND	AND	AQR	AUR	AUR	BOO	BOO	BOO	BOO	BOO	BOO	BOO	CNC	CNC	CET	CYG	CYG	DRA	DRA	GEM	HER	HER
MAX	9.3	10.3	10.8	10.5	11.2	11.1	9.8	10.6	11.3	12.0	10.8	11.2	10.6	10.7	11.0	9.3	9.1	11.2	11.0	9.6	10.7	10.5	10.6
MIN	10.8	11.6	11.5	12.1	12.8	12.6	11.3	11.8	12.7	13.4	12.1	12.7	12.0	12.6	12.3	10.3	10.5	12.7	12.0	10.3	11.9	11.8	11.6
RISE	2	3	3	1	2	2	2	3	2	2	2	1	2	2	3	2	3	2	2	3	2	2	2
0- 1	3.0		1.5	1.5	4.0	1.5		10.0	11.5							7.5		2.5	9.5	2.5	2.5		
1- 2	0.5	9.0	7.0		8.5	10.5			12.5					4.0	5.5		5.0			1.5	7.5	1.0	11.0
2- 3		2.5			3.0	8.5								6.5	8.5		3.0			0.0	2.5		9.5
3- 4	5.5		3.5		7.5	6.5		13.0			9.5			8.5	11.5	1.5	1.5	1.0	1.5	10.5	7.0	1.0	
4- 5	3.0	6.5			2.0	4.0					11.0			11.0		4.0	11.0		9.5	9.5	2.0		
5- 6	0.0		0.0	2.5	6.5	2.0		9.5			12.5	9.0			4.5	6.5		3.5		8.5	6.5	1.0	
6- 7	8.0		5.5	1.0	1.0	0.0							13.0		7.5					7.0	1.5		
7- 8	5.0	4.0			5.5	9.0				9.5				4.5	10.5				1.0	6.0	6.5	1.0	
8- 9	2.5		2.0		7.0			12.5		10.5			11.5	7.0		1.0	4.5	2.0	9.0	5.0	1.5		
9-10		8.0	7.5		4.5	4.5			12.0					9.0		3.5	3.0			4.0	6.0	1.0	10.5
10-11	7.5	1.5			8.5	2.5		9.0				9.5	10.5	11.5	6.0	6.0	1.5	4.5		2.5			9.5
11-12	4.5		4.0	2.0	3.5	0.5					9.0				9.0		11.0	0.5	0.5	1.5	5.5	1.0	
12-13	2.0	5.5		0.0	7.5	9.5					10.5		9.5		12.0				8.5	0.5			
13-14			0.5		2.5	7.0		12.0			12.0			5.0		0.5		3.0		10.5	5.5	1.0	
14-15	7.0		6.0		6.5	5.0			8.5					7.5	4.5	3.0			3.0	9.5			
15-16	4.0	3.0			1.5	3.0			9.0			10.5		9.5	7.5	5.5	4.5		0.5	8.5	5.0	1.0	
16-17	1.5		2.5		5.5	1.0	9.0		10.0					12.0	10.5		3.0	1.5	8.5	7.5			0.5
17-18		7.0		1.5		9.5			10.5								1.5			6.0	4.5	0.5	10.5
18-19	6.5	0.0			4.5	7.5		11.5	11.0	9.0						0.0	11.0	4.0	3.0	5.0	9.5		9.0
19-20	3.5		4.5		8.5	5.5			11.5	10.0	8.5			5.5	6.5	2.5		0.0	0.0	4.0	4.5	0.5	
20-21	1.0	4.0			3.5	3.5				11.5	10.5	11.0		7.5	9.5	5.0			8.0	3.0	9.0		
21-22			1.0		7.5	1.0				12.5	12.0		12.0	10.0	12.5			2.5		1.5	4.0	0.5	
22-23	6.0	8.5	6.5	2.5	2.5	10.0								12.5			4.5		2.5	0.5	8.5		
23-24	3.0	1.5		0.5	6.5	8.0		11.0					11.0		5.0		3.0	5.0	10.5	11.0	3.5	0.5	
24-25	0.5		3.0		1.5	6.0								3.5	8.0	2.0	1.5	1.0	7.5	9.5	8.5		0.5
25-26		5.5			5.5	4.0							10.0	6.0	11.0	4.5	11.0			8.5	3.5	0.5	10.0
26-27	5.5				0.5	1.5						9.5		8.0		7.0		3.5	2.0	7.5	8.0		9.0
27-28	2.5		5.0		4.5	10.5				8.5				10.5	3.5				10.0	6.5	3.0	0.5	
28-29		3.0		2.0	9.0	8.5		10.0			10.0			12.5	6.5					5.0	7.5		
29-30	8.0		1.5		3.5	6.5				11.5					10.0	1.5	4.5	2.0		4.0	2.5	0.5	
30-31	5.0	7.0	7.0		8.0	4.0				9.5				4.0	13.0	4.0	3.0		2.0	3.0	7.5		

	DL	SZ	UU	DG	DH	RR	SS	TV	WW	SZ	RR	RZ	AV	RV
	HER	HYA	HYA	HYA	HYA	LEO	LEO	LEO	LEO	LYN	LYR	LYR	PEG	UMA
MAX	11.0	10.6	10.7	11.6	11.4	10.0	10.5	11.5	11.0	9.1	7.1	10.0	9.9	10.1
MIN	12.4	11.7	12.3	12.6	12.6	11.7	12.0	12.6	12.0	9.6	8.1	12.0	10.9	11.2
RISE	1	2	2	3	2	2	2	2	3	1	2	2	2	3
0- 1		9.5	7.0		5.0		9.5		11.0	6.5			1.5	8.5
1- 2		11.5	8.0			10.0					3.0			7.0
2- 3	12.5		9.0	10.0		7.5			6.0	2.0			0.5	
3- 4			10.5			5.5	12.5	7.0	11.0	4.0			4.5	
4- 5			11.5							6.0				
5- 6		6.0		10.5			9.5	7.5	6.5	8.0	2.0		3.5	
6- 7		7.5				9.5			11.5	1.5				10.5
7- 8		9.5				7.0		8.0		3.5			2.0	9.0
8- 9		11.0		11.0		4.5	13.0		7.0	5.5				7.5
9-10				5.0				8.5	12.0	7.5	1.5		1.0	6.0
10-11			6.0		11.5		10.0							
11-12			7.0	11.5	11.0	9.0		9.0	7.5	3.0				
12-13		5.5	8.0	5.5	10.5	6.5			12.0	5.0			4.0	
13-14		7.0	9.5		10.0			9.5		7.0	0.5			11.0
14-15		9.0	10.5	11.5	9.5				7.5		4.0	0.0	3.0	9.5
15-16	13.0	10.5	11.5	6.0	9.0	10.5	10.0	10.0	12.5	2.5		0.5		8.0
16-17		12.5			8.5	8.0				4.5		1.0	1.5	6.5
17-18				12.0	8.0	6.0	7.0	10.5	8.0	6.5		2.0		
18-19				6.0	7.5				13.0	8.5	3.0	2.5	0.5	
19-20					7.0			11.0		2.0			4.5	
20-21		7.0		12.5	6.5	10.0	10.5		8.5	4.0				
21-22		8.5	6.0	6.5	6.0	7.5		11.5		6.0	12.5		3.5	10.0
22-23		10.5	7.0		5.5	5.5	7.5			8.0	2.0			8.5
23-24		12.0	8.0	13.0				11.5	8.5	1.5			2.5	7.0
24-25			9.5	7.0						3.5				
25-26			10.5			9.5	10.5	12.0		5.5			1.0	
26-27			11.5			7.0			9.0	7.5	1.5			
27-28		6.5		7.5		5.0	7.5	12.5					0.0	
28-29		8.0								3.0			4.0	10.5
29-30		10.0							9.5	5.0				9.0
30-31		12.0		8.0		9.0	11.0			7.0	0.5		3.0	7.5