

Recent Minima of 227 Eclipsing Binary Stars

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Received February 24, 2022; accepted February 24, 2022

Abstract This paper continues the publication of times of minima for eclipsing binary stars. Times of minima were determined from observations received by the AAVSO Eclipsing Binaries Section from August 2021 through January 2022 and are presented.

1. Recent observations

The accompanying list (Table 1) contains times of minima calculated for 227 variables calculated from recent CCD observations made by participants in the AAVSO's eclipsing binary program. These observations were reduced by the observers or the writer using the method of Kwee and van Worden (1956).

The linear elements in the *General Catalogue of Variable Stars* (GCVS; Kholopov *et al.* 1985) were used to compute the O–C values for most stars. For a few exceptions where the GCVS elements are missing or are in significant error, light elements from another source are used: CD Cam (Baldwin and Samolyk 2007), AC CMi (Samolyk 2008), CW Cas (Samolyk 1992), DK Hya (Samolyk 1990), EF Ori (Baldwin and Samolyk 2005), GU Ori (Samolyk 1985).

The light elements used for QX And, EK Aqr, V409 Aql, V889 Aql, VY Cet, LS Del, MR Del, GR Psc, CU Tau, V1123 Tau, V1223 Tau, and V1128 Tau are from Kreiner (2004).

The light elements used for BN Ari, MZ Del, V470 Hya, ET Leo, V740 Per, VZ Psc, ET Psc, V1130 Tau, V1332 Tau, V1370 Tau, and BV Tri are from Paschke (2014).

The light elements used for V731 Cep, and V407 Peg are from Nelson (2014).

The light elements used for V868 Mon are from Watson *et al.* (2014).

The standard error is included when available. Column F indicates the filter used; a “C” indicates a clear filter.

This list will be web-archived and made available through the AAVSO ftp site at:

<ftp://ftp.aavso.org/public/datasets/gsamj501eb227.txt> .

This list, along with the eclipsing binary data from earlier AAVSO publications, is also included in the Lichtenknecker Database administered by the Bundesdeutsche Arbeitsgemeinschaft für Veränderliche Sterne e. V. (BAV) at: <http://www.bav-astro.de/LkDB/index.php?lang=en> (Frank and Lichtenknecker 1987).

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Table 1. Recent times of minima of stars in the AAVSO eclipsing binary program.

<i>Star</i>	<i>JD (min)</i> <i>Hel.</i> <i>2400000+</i>	<i>Cycle</i>	<i>O-C</i> <i>(day)</i>	<i>F</i>	<i>Observer</i>	<i>Standard</i> <i>Error</i> <i>(day)</i>	<i>Star</i>	<i>JD (min)</i> <i>Hel.</i> <i>2400000+</i>	<i>Cycle</i>	<i>O-C</i> <i>(day)</i>	<i>F</i>	<i>Observer</i>	<i>Standard</i> <i>Error</i> <i>(day)</i>
RT And	59549.3845	29268	-0.0135	V	T. Arranz	0.0001	RY Aur	59506.7464	7785	0.0145	V	G. Samolyk	0.0002
RT And	59574.5428	29308	-0.0124	V	G. Samolyk	0.0001	TT Aur	59531.7197	28730	-0.0132	TG	G. Conrad	0.0009
TW And	59514.6492	4971	-0.0708	V	G. Samolyk	0.0001	AP Aur	59504.9319	29965	1.8738	V	G. Samolyk	0.0002
UU And	59521.6829	12024	0.1198	V	G. Samolyk	0.0002	CL Aur	59519.6997	21338	0.1880	V	G. Samolyk	0.0001
UU And	59548.4368	12042	0.1204	V	T. Arranz	0.0001	EM Aur	59488.8833	15641	-1.1415	V	G. Samolyk	0.0005
WZ And	59514.6149	26798	0.0925	V	G. Samolyk	0.0002	EM Aur	59606.4032	15705.5	-1.1395	V	T. Arranz	0.0003
WZ And	59588.3538	26904	0.0917	V	T. Arranz	0.0002	EP Aur	59528.7836	56208	0.0239	V	G. Samolyk	0.0002
XZ And	59441.7172	26129	0.2089	V	L. Hazel	0.0003	EP Aur	59547.6907	56240	0.0188	TG	G. Conrad	0.0009
XZ And	59592.3772	26240	0.2110	V	T. Arranz	0.0001	EP Aur	59582.5636	56299	0.0222	V	G. Samolyk	0.0003
AB And	59464.7779	70370	-0.0520	V	K. Menzies	0.0001	HP Aur	59522.8516	11784	0.0734	V	K. Menzies	0.0001
AB And	59500.2891	70477	-0.0532	V	T. Arranz	0.0002	VW Boo	59367.6864	82362	-0.3160	V	L. Hazel	0.0005
AB And	59500.4551	70477.5	-0.0532	V	T. Arranz	0.0001	VW Boo	59611.9280	83075.5	-0.3235	V	K. Menzies	0.0005
AB And	59504.4372	70489.5	-0.0538	V	L. Corp	0.0003	Y Cam	59546.7630	5017	0.5178	V	G. Samolyk	0.0003
AB And	59511.5742	70511	-0.0525	V	G. Samolyk	0.0001	SV Cam	59589.6908	28656	0.0631	TG	G. Conrad	0.0003
AB And	59511.7384	70511.5	-0.0542	V	G. Samolyk	0.0001	AO Cam	59542.6654	21347.5	-0.0292	V	L. Hazel	0.0006
AB And	59514.3941	70519.5	-0.0537	V	X. Miret	0.0002	AO Cam	59609.3031	21549.5	-0.0317	V	T. Arranz	0.0002
AB And	59528.3338	70561.5	-0.0534	V	T. Arranz	0.0001	CD Cam	59518.8291	8841	-0.0226	V	G. Samolyk	0.0006
AB And	59528.5017	70562	-0.0515	V	T. Arranz	0.0001	CD Cam	59526.8504	8851.5	-0.0252	V	G. Samolyk	0.0005
AB And	59534.4753	70580	-0.0519	V	K. Menzies	0.0002	TZ CMa	59540.8494	16959	-0.2343	V	G. Samolyk	0.0002
AD And	59440.7955	20724.5	-0.0710	V	G. Samolyk	0.0002	XZ CMi	59523.9201	29508	0.0077	V	G. Samolyk	0.0001
AD And	59580.3403	20866	-0.0729	V	T. Arranz	0.0002	AC CMi	59540.8865	8720	0.0066	V	G. Samolyk	0.0002
BD And	59444.8488	52889	0.0091	V	G. Samolyk	0.0002	AK CMi	59565.8683	29094	-0.0256	V	G. Samolyk	0.0001
BD And	59504.5645	53018	0.0104	V	G. Samolyk	0.0001	RW Cap	59459.6860	4951	-0.8461	V	G. Samolyk	0.0002
BD And	59532.3399	53078	0.0116	V	T. Arranz	0.0001	RW Cap	59500.3931	4963	-0.8484	V	T. Arranz	0.0003
BX And	59459.8434	37585	-0.1194	V	G. Samolyk	0.0001	TY Cap	59476.4414	10315	0.1047	V	T. Arranz	0.0003
BX And	59555.6304	37742	-0.1205	V	G. Samolyk	0.0002	RZ Cas	59449.7628	13595	0.0735	V	G. Samolyk	0.0002
BX And	59598.3375	37812	-0.1214	V	T. Arranz	0.0001	RZ Cas	59473.6673	13615	0.0731	TG	G. Conrad	0.0004
CN And	59504.4451	38737	-0.1767	V	L. Corp	0.0004	RZ Cas	59473.6674	13615	0.0732	V	G. Samolyk	0.0002
DS And	59428.8056	23044	0.0048	V	G. Samolyk	0.0002	TW Cas	59565.3713	12292	0.0254	V	T. Arranz	0.0001
DS And	59519.7528	23134	0.0053	V	G. Samolyk	0.0001	ZZ Cas	59465.7816	20931	0.0230	V	K. Menzies	0.0002
DS And	59578.3636	23192	0.0060	V	T. Arranz	0.0002	AB Cas	59465.6512	12255	0.1501	V	G. Samolyk	0.0001
EP And	59591.3246	41951	0.0868	V	T. Arranz	0.0001	AB Cas	59473.8530	12261	0.1506	V	L. Hazel	0.0003
QR And	59559.3518	35975	0.1822	V	T. Arranz	0.0004	AB Cas	59502.5569	12282	0.1502	V	G. Samolyk	0.0001
QX And	59428.8492	16810.5	0.0078	V	G. Samolyk	0.0005	AX Cas	59561.2840	51526	-0.1318	V	T. Arranz	0.0002
QX And	59519.7354	17031	0.0101	V	G. Samolyk	0.0004	BZ Cas	59548.4085	14132	0.3597	V	T. Arranz	0.0001
QX And	59594.3383	17212	0.0098	V	T. Arranz	0.0003	CW Cas	59433.7471	55828.5	-0.1423	V	K. Menzies	0.0001
RY Aqr	59457.7376	9475	-0.1545	V	L. Hazel	0.0006	CW Cas	59476.6316	55963	-0.1450	V	G. Samolyk	0.0002
RY Aqr	59459.7004	9476	-0.1584	V	L. Hazel	0.0003	CW Cas	59511.5471	56072.5	-0.1451	V	G. Samolyk	0.0001
RY Aqr	59477.3994	9485	-0.1587	V	T. Arranz	0.0001	CW Cas	59511.7058	56073	-0.1459	V	G. Samolyk	0.0002
CX Aqr	59464.7315	41388	0.0197	V	G. Samolyk	0.0001	CW Cas	59537.3746	56153.5	-0.1456	V	T. Arranz	0.0001
CX Aqr	59496.4223	41445	0.0192	V	T. Arranz	0.0001	DZ Cas	59465.8063	39536	-0.2240	V	G. Samolyk	0.0003
CX Aqr	59545.3489	41533	0.0191	V	T. Arranz	0.0001	DZ Cas	59595.3139	39701	-0.2235	V	T. Arranz	0.0003
CZ Aqr	59506.6197	18702	-0.0746	V	G. Samolyk	0.0002	GR Cas	59527.6586	3519	-0.0010	V	L. Hazel	0.0006
CZ Aqr	59546.3061	18748	-0.0749	V	T. Arranz	0.0001	IR Cas	59439.7463	25086	0.0184	V	L. Hazel	0.0003
EK Aqr	59488.7257	22799.5	0.0466	V	G. Samolyk	0.0006	IR Cas	59473.7810	25136	0.0188	V	L. Hazel	0.0006
XZ Aql	59498.4052	8225	0.1805	V	T. Arranz	0.0001	IR Cas	59534.3618	25225	0.0186	V	T. Arranz	0.0003
XZ Aql	59515.5176	8233	0.1794	V	L. Hazel	0.0006	IS Cas	59505.6551	16687	0.0747	V	G. Samolyk	0.0001
FK Aql	59459.5895	2647	-0.0640	V	L. Hazel	0.0006	IT Cas	59518.6707	7893	0.0730	V	G. Samolyk	0.0002
KP Aql	59476.6044	5666	-0.0262	V	G. Samolyk	0.0002	IT Cas	59530.3610	7896	0.0734	V	T. Arranz	0.0001
OO Aql	59435.4661	41086.5	0.0790	V	L. Corp	0.0001	KR Cas	59598.3324	9086	-0.1665	V	T. Arranz	0.0002
OO Aql	59443.5748	41102.5	0.0791	V	T. Arranz	0.0001	MM Cas	59474.6217	20780	0.1321	V	L. Hazel	0.0006
OO Aql	59486.6510	41187.5	0.0783	V	G. Samolyk	0.0002	MM Cas	59518.6405	20818	0.1290	V	G. Samolyk	0.0003
V337 Aql	59433.4105	2669	-0.0389	V	T. Arranz	0.0008	MM Cas	59531.3829	20829	0.1283	V	T. Arranz	0.0001
V346 Aql	59436.5199	15834	-0.0158	V	T. Arranz	0.0001	MT Cas	59515.7360	10389.5	-0.0097	V	L. Hazel	0.0006
V409 Aql	59437.4178	3385	-0.0149	V	T. Arranz	0.0002	MW Cas	59515.7673	62752.5	-0.0010	V	L. Hazel	0.0006
V417 Aql	59076.6961	43391	0.0333	C	G. Frey	0.0002	OR Cas	59482.7776	12260	-0.0357	V	L. Hazel	0.0006
V889 Aql	59453.5492	624.5	-1.6086	V	T. Arranz	0.0004	OR Cas	59536.3429	12303	-0.0359	V	T. Arranz	0.0001
RX Ari	59465.8103	20461	0.0630	V	K. Menzies	0.0009	OX Cas	59466.8205	7310	0.0898	V	L. Hazel	0.0006
RX Ari	59528.6157	20522	0.0612	V	G. Samolyk	0.0001	OX Cas	59476.7749	7314	0.0869	V	G. Samolyk	0.0005
RX Ari	59588.3328	20580	0.0600	V	T. Arranz	0.0003	PV Cas	59473.7902	10995	-0.0303	V	G. Samolyk	0.0003
SS Ari	59464.8502	50338	-0.4506	V	K. Menzies	0.0003	V364 Cas	59525.4024	16326	-0.0238	V	T. Arranz	0.0002
SS Ari	59464.8514	50338	-0.4494	V	G. Samolyk	0.0002	V375 Cas	59523.6055	16887	0.3097	V	G. Samolyk	0.0004
SS Ari	59568.3754	50593	-0.4538	V	T. Arranz	0.0001	V375 Cas	59566.3382	16916	0.3142	V	T. Arranz	0.0002
SS Ari	59582.5851	50628	-0.4539	V	G. Samolyk	0.0001	V380 Cas	59457.8130	24912	-0.0770	V	G. Samolyk	0.0002
BN Ari	59594.3508	26952	-0.0482	V	T. Arranz	0.0001	U Cep	59442.7914	5977	0.2434	V	G. Samolyk	0.0003
RY Aur	59209.6818	7676	0.0175	V	G. Samolyk	0.0002	U Cep	59502.6236	6001	0.2425	V	G. Samolyk	0.0006

Table continued on following pages

Table 1. Recent times of minima of stars in the AAVSO eclipsing binary program (cont.).

<i>Star</i>	<i>JD (min)</i> <i>Hel.</i> <i>2400000+</i>	<i>Cycle</i>	<i>O-C</i> <i>(day)</i>	<i>F</i>	<i>Observer</i>	<i>Standard</i> <i>Error</i> <i>(day)</i>	<i>Star</i>	<i>JD (min)</i> <i>Hel.</i> <i>2400000+</i>	<i>Cycle</i>	<i>O-C</i> <i>(day)</i>	<i>F</i>	<i>Observer</i>	<i>Standard</i> <i>Error</i> <i>(day)</i>
U Cep	59507.6141	6003	0.2469	V	L. Hazel	0.0003	V1034 Cyg	59453.5018	16905	0.0242	V	T. Arranz	0.0001
SU Cep	59465.4837	36765	0.0073	V	T. Arranz	0.0002	W Del	59486.6603	3362	0.0026	V	G. Samolyk	0.0001
SU Cep	59503.3416	36807	0.0063	V	T. Arranz	0.0001	W Del	59491.4664	3363	0.0026	V	T. Arranz	0.0001
SU Cep	59519.5678	36825	0.0073	V	G. Samolyk	0.0001	TT Del	59441.4426	4949	-0.1443	V	T. Arranz	0.0001
WZ Cep	59504.5641	75373	-0.2322	V	G. Samolyk	0.0003	TT Del	59487.3816	4965	-0.1432	V	T. Arranz	0.0001
XX Cep	59506.5641	6275	0.0375	V	G. Samolyk	0.0002	TY Del	59474.5061	13865	0.0868	V	T. Arranz	0.0001
XX Cep	59548.6348	6293	0.0363	V	K. Menzies	0.0002	TY Del	59492.3733	13880	0.0871	V	T. Arranz	0.0002
XX Cep	59567.3361	6301	0.0390	V	T. Arranz	0.0001	YY Del	59434.4301	20773	0.0138	V	T. Arranz	0.0001
DK Cep	59466.6921	26246	0.0297	V	L. Hazel	0.0006	YY Del	59488.3607	20841	0.0142	V	T. Arranz	0.0001
DK Cep	59473.5912	26253	0.0275	V	G. Samolyk	0.0001	FZ Del	59449.4633	35910	-0.0302	V	T. Arranz	0.0001
DK Cep	59485.4223	26265	0.0277	V	T. Arranz	0.0001	LS Del	59440.4447	19074.5	-0.0121	V	L. Corp	0.0005
DK Cep	59486.4077	26266	0.0272	V	T. Arranz	0.0001	MR Del	59454.4284	13330	-0.0133	V	L. Corp	0.0005
DL Cep	59540.3380	15697	0.0697	V	T. Arranz	0.0002	MZ Del	59440.3930	14923	-0.0526	V	L. Corp	0.0006
DL Cep	59548.4914	15702	0.0707	V	K. Menzies	0.0003	UZ Dra	59445.4848	5481	0.0033	V	T. Arranz	0.0001
EG Cep	59477.6667	31000	0.0075	V	K. Menzies	0.0003	S Equ	59464.6371	4909	0.0940	V	L. Hazel	0.0003
GI Cep	59466.6243	1756	0.0076	V	L. Hazel	0.0006	S Equ	59488.6890	4916	0.0932	V	G. Samolyk	0.0001
GW Cep	59439.8107	66037.5	0.0428	V	L. Hazel	0.0006	TZ Eri	59609.4613	6598	0.3795	V	T. Arranz	0.0001
NW Cep	59469.5572	655	-0.0108	V	T. Arranz	0.0001	YY Eri	59488.8599	55699.5	0.1725	V	G. Samolyk	0.0002
V731 Cep	59600.3247	594	-0.3903	V	T. Arranz	0.0001	YY Eri	59607.3294	56068	0.1714	V	T. Arranz	0.0001
SS Cet	59560.6898	5753	0.0769	V	G. Samolyk	0.0001	SX Gem	59542.7155	29638	-0.0550	V	L. Hazel	0.0006
SS Cet	59596.3781	5765	0.0775	V	T. Arranz	0.0001	WW Gem	59486.8877	27066	0.0382	V	G. Samolyk	0.0003
TT Cet	59519.7272	55507	-0.0902	V	G. Samolyk	0.0001	AF Gem	59582.8630	26072	-0.0692	V	G. Samolyk	0.0001
TT Cet	59567.3506	55605	-0.0906	V	T. Arranz	0.0001	AL Gem	59521.8939	23860	0.1106	V	G. Samolyk	0.0001
TW Cet	59540.6956	54181	-0.0352	V	G. Samolyk	0.0003	AZ Gem	59306.3240	33101	0.0965	R	J. Coliac	0.0004
TW Cet	59559.3896	54240	-0.0355	V	T. Arranz	0.0001	AZ Gem	59306.3241	33101	0.0966	B	J. Coliac	0.0011
TX Cet	59606.3509	22304	0.0157	V	T. Arranz	0.0002	AZ Gem	59306.3247	33101	0.0972	V	J. Coliac	0.0006
VY Cet	59600.2931	20833	-0.0128	V	T. Arranz	0.0001	AZ Gem	59306.3254	33101	0.0979	I	J. Coliac	0.0006
SW Cyg	59437.4081	3842	-0.3905	V	T. Arranz	0.0003	AZ Gem	59307.3297	33102	0.0960	V	J. Coliac	0.0011
SW Cyg	59446.5556	3844	-0.3892	V	T. Arranz	0.0003	AZ Gem	59307.3304	33102	0.0967	B	J. Coliac	0.0004
SW Cyg	59455.7043	3846	-0.3868	V	L. Hazel	0.0003	AZ Gem	59307.3307	33102	0.0970	R	J. Coliac	0.0004
UW Cyg	59432.5303	4562	0.0341	V	T. Arranz	0.0001	AZ Gem	59307.3315	33102	0.0978	I	J. Coliac	0.0007
UW Cyg	59439.4312	4564	0.0335	V	T. Arranz	0.0001	RX Her	59443.4690	14772	-0.0005	V	T. Arranz	0.0003
WW Cyg	59428.6767	5742	0.1611	V	G. Samolyk	0.0001	SZ Her	59439.4732	21483	-0.0373	V	T. Arranz	0.0001
WW Cyg	59468.4900	5754	0.1612	V	T. Arranz	0.0001	WY Hya	59574.9067	26541.5	0.0447	V	G. Samolyk	0.0001
WW Cyg	59488.3969	5760	0.1615	V	T. Arranz	0.0001	DK Hya	59574.9285	32057	-0.0014	V	G. Samolyk	0.0002
WW Cyg	59511.6196	5767	0.1598	V	L. Hazel	0.0006	FG Hya	59595.4730	44618.5	-0.1754	V	L. Corp	0.0006
ZZ Cyg	59436.4497	22965	-0.0838	V	T. Arranz	0.0001	V470 Hya	59574.9448	17383.5	0.0053	V	G. Samolyk	0.0008
ZZ Cyg	59449.6506	22986	-0.0839	V	G. Samolyk	0.0001	SW Lac	59435.4179	44151	-0.0783	V	L. Corp	0.0001
ZZ Cyg	59497.4259	23062	-0.0834	V	T. Arranz	0.0001	SW Lac	59496.3535	44341	-0.0796	V	T. Arranz	0.0001
AE Cyg	59489.4188	15377	-0.0015	V	T. Arranz	0.0001	SW Lac	59496.5137	44341.5	-0.0798	V	T. Arranz	0.0001
BO Cyg	59451.6556	13099	0.0698	V	L. Hazel	0.0006	SW Lac	59543.4981	44488	-0.0810	V	K. Menzies	0.0002
CG Cyg	59457.6203	31740	0.0829	V	G. Samolyk	0.0001	VX Lac	59469.8162	13226	0.0899	V	K. Menzies	0.0001
CG Cyg	59474.6617	31767	0.0835	V	G. Samolyk	0.0001	VX Lac	59494.5295	13249	0.0898	V	T. Arranz	0.0001
DK Cyg	59464.6243	45603	0.1393	V	G. Samolyk	0.0001	VX Lac	59523.5406	13276	0.0896	V	G. Samolyk	0.0001
DK Cyg	59468.3904	45611	0.1399	V	T. Arranz	0.0001	AW Lac	59459.6624	28731	0.2228	V	G. Samolyk	0.0003
DK Cyg	59501.3377	45681	0.1389	V	T. Arranz	0.0001	AW Lac	59498.5189	28765	0.2224	V	T. Arranz	0.0001
DL Cyg	59501.4261	3191	0.1561	V	T. Arranz	0.0009	CM Lac	59529.3396	20255	-0.0048	V	T. Arranz	0.0001
DL Cyg	59530.4042	3197	0.1518	V	T. Arranz	0.0005	CO Lac	59444.6426	20691.5	-0.0167	V	G. Samolyk	0.0001
DO Cyg	59451.6061	8751	-0.0605	V	L. Hazel	0.0006	CO Lac	59477.8297	20713	0.0130	V	K. Menzies	0.0002
KV Cyg	59442.5470	10558	0.0636	V	T. Arranz	0.0001	CO Lac	59499.4198	20727	0.0121	V	T. Arranz	0.0002
KV Cyg	59479.4534	10571	0.0631	V	T. Arranz	0.0003	DG Lac	59511.3581	6799	-0.2536	V	T. Arranz	0.0001
V346 Cyg	59457.4968	8665	0.2083	V	T. Arranz	0.0002	EM Lac	59429.7271	54403	0.1573	V	L. Hazel	0.0006
V387 Cyg	59429.7938	49086	0.0179	V	G. Samolyk	0.0001	EP Lac	59429.7470	12765	-0.4523	V	L. Hazel	0.0009
V387 Cyg	59487.4469	49176	0.0173	V	T. Arranz	0.0001	EP Lac	59464.6847	12782	-0.4636	V	L. Hazel	0.0009
V387 Cyg	59514.3522	49218	0.0176	V	T. Arranz	0.0001	PP Lac	59466.7957	34578	-0.0565	V	L. Hazel	0.0003
V388 Cyg	59429.4467	20344	-0.1434	V	T. Arranz	0.0007	PP Lac	59477.6249	34605	-0.0587	V	L. Hazel	0.0006
V388 Cyg	59503.3215	20430	-0.1458	V	T. Arranz	0.0001	ET Leo	59602.4682	32041.5	0.0021	V	L. Corp	0.0009
V401 Cyg	59442.4103	26783	0.1080	V	T. Arranz	0.0001	Z Lep	59570.7857	32350	-0.2055	V	G. Samolyk	0.0002
V445 Cyg	59455.6784	9913	0.3376	V	L. Hazel	0.0006	Z Lep	59582.7106	32362	-0.2052	V	G. Samolyk	0.0002
V445 Cyg	59457.6223	9914	0.3337	V	L. Hazel	0.0006	RR Lep	59518.8415	31834	-0.0555	V	G. Samolyk	0.0008
V445 Cyg	59463.4648	9917	0.3330	V	T. Arranz	0.0003	RR Lep	59610.3891	31934	-0.0507	V	T. Arranz	0.0001
V456 Cyg	59449.4252	16313	0.0538	V	T. Arranz	0.0005	RY Lyn	59574.8913	11629	-0.0272	V	G. Samolyk	0.0002
V466 Cyg	59435.4723	22033.5	0.0074	V	T. Arranz	0.0001	RV Lyr	59515.6056	3887	-0.3331	V	L. Hazel	0.0009
V466 Cyg	59451.4757	22045	0.0078	V	T. Arranz	0.0001	UZ Lyr	59457.4243	8337	-0.0577	V	T. Arranz	0.0001
V477 Cyg	59477.5148	6514	-0.0459	V	T. Arranz	0.0002	EW Lyr	59464.6081	16916	0.3128	V	G. Samolyk	0.0001
V836 Cyg	59447.4763	22335	0.0245	V	T. Arranz	0.0001	FL Lyr	59445.4864	9744	-0.0026	V	T. Arranz	0.0001

Table continued on following pages

Table 1. Recent times of minima of stars in the AAVSO eclipsing binary program (cont.)

<i>Star</i>	<i>JD (min)</i> <i>Hel.</i> <i>2400000+</i>	<i>Cycle</i>	<i>O-C</i> <i>(day)</i>	<i>F</i>	<i>Observer</i>	<i>Standard</i> <i>Error</i> <i>(day)</i>	<i>Star</i>	<i>JD (min)</i> <i>Hel.</i> <i>2400000+</i>	<i>Cycle</i>	<i>O-C</i> <i>(day)</i>	<i>F</i>	<i>Observer</i>	<i>Standard</i> <i>Error</i> <i>(day)</i>
FL Lyr	59519.5438	9778	-0.0024	V	G. Samolyk	0.0001	IU Per	59449.8237	16147	0.0034	V	G. Samolyk	0.0002
β Lyr	59376.04	802.5	2.88	B	G. Samolyk	0.02	IU Per	59590.3757	16311	0.0033	V	T. Arranz	0.0002
β Lyr	59376.04	802.5	2.88	V	G. Samolyk	0.02	KW Per	59506.9207	18365	0.0201	V	G. Samolyk	0.0001
β Lyr	59376.15	802.5	2.99	R	G. Samolyk	0.03	KW Per	59595.3898	18460	0.0196	V	T. Arranz	0.0001
β Lyr	59382.51	803	2.88	B	G. Samolyk	0.02	V432 Per	59449.8004	73325.5	0.0296	V	G. Samolyk	0.0002
β Lyr	59382.51	803	2.88	V	G. Samolyk	0.02	V432 Per	59560.5774	73670	0.0440	V	G. Samolyk	0.0001
β Lyr	59382.52	803	2.89	R	G. Samolyk	0.02	V432 Per	59564.4102	73682	0.0186	V	T. Arranz	0.0002
RU Mon	59574.7521	4974.5	-0.7765	V	G. Samolyk	0.0002	V740 Per	59596.3376	21977	-0.0014	V	T. Arranz	0.0001
BB Mon	59565.8137	44881	-0.0039	V	G. Samolyk	0.0001	V740 Per	59609.3939	22012	-0.0016	V	T. Arranz	0.0001
EP Mon	59519.9105	23196	0.0231	V	G. Samolyk	0.0002	V873 Per	59514.4648	27614.5	-0.0340	C	J. Coliac	0.0001
V868 Mon	59595.4870	9173	0.0659	V	L. Corp	0.0005	V873 Per	59514.6126	27615	-0.0336	C	J. Coliac	0.0001
V839 Oph	59457.6378	46477	0.3494	V	G. Samolyk	0.0001	V873 Per	59601.3129	27909	-0.0351	V	T. Arranz	0.0001
EF Ori	59519.8965	4427	0.0109	V	G. Samolyk	0.0004	V873 Per	59601.4590	27909.5	-0.0364	V	T. Arranz	0.0001
EQ Ori	59546.7354	16098	-0.0332	V	G. Samolyk	0.0001	β Per	59579.6342	4861	0.1545	V	S. Dvorak	0.0001
EQ Ori	59604.3550	16131	-0.0335	V	T. Arranz	0.0001	Y Psc	59519.5959	3687	-0.0280	V	G. Samolyk	0.0001
ER Ori	59526.8133	42277.5	0.1598	V	G. Samolyk	0.0001	Y Psc	59538.4250	3692	-0.0278	V	T. Arranz	0.0003
ET Ori	59523.8892	34534	-0.0038	V	G. Samolyk	0.0001	RV Psc	59461.8103	63323	-0.0703	V	K. Menzies	0.0002
FH Ori	59526.8373	15632	-0.4828	V	G. Samolyk	0.0003	RV Psc	59583.4113	63542.5	-0.0704	V	T. Arranz	0.0001
FL Ori	59521.8302	9139	0.0422	V	G. Samolyk	0.0002	UV Psc	59593.3438	18799	-0.0238	V	T. Arranz	0.0001
FR Ori	59544.7688	35874	0.0501	V	G. Samolyk	0.0001	VZ Psc	59454.4413	59796	0.0052	V	L. Corp	0.0004
FZ Ori	59574.7167	38877	-0.0206	V	G. Samolyk	0.0002	VZ Psc	59536.3417	60109.5	0.0008	V	T. Arranz	0.0003
GU Ori	59519.8947	34949.5	-0.0739	V	G. Samolyk	0.0002	VZ Psc	59536.4756	60110	0.0041	V	T. Arranz	0.0005
GU Ori	59574.7300	35066	-0.0729	V	G. Samolyk	0.0003	ET Psc	59511.4047	15670	-0.0050	V	L. Corp	0.0005
U Peg	59428.8127	61148.5	-0.1784	V	G. Samolyk	0.0001	GR Psc	59602.3432	16456	-0.0092	V	T. Arranz	0.0001
U Peg	59464.7915	61244.5	-0.1786	V	G. Samolyk	0.0001	U Sge	59435.5114	12514	0.0297	V	T. Arranz	0.0001
U Peg	59500.5822	61340	-0.1795	V	T. Arranz	0.0001	RW Tau	59505.9203	4992	-0.3110	V	G. Samolyk	0.0001
U Peg	59511.4511	61369	-0.1793	V	L. Corp	0.0002	RZ Tau	59505.8277	52515	0.1038	V	G. Samolyk	0.0001
U Peg	59518.5716	61388	-0.1796	V	G. Samolyk	0.0001	TY Tau	59599.3239	35649	0.2827	V	T. Arranz	0.0001
U Peg	59537.3114	61438	-0.1789	V	X. Miret	0.0002	WY Tau	59588.6067	32026	0.0682	V	K. Menzies	0.0001
U Peg	59590.5293	61580	-0.1799	V	G. Samolyk	0.0001	WY Tau	59607.3106	32053	0.0676	V	T. Arranz	0.0002
TY Peg	59477.7135	6153	-0.5002	V	L. Hazel	0.0006	AC Tau	59582.7124	6825	0.2177	V	G. Samolyk	0.0003
TY Peg	59499.3671	6160	-0.4921	V	T. Arranz	0.0001	AC Tau	59611.3209	6839	0.2192	V	T. Arranz	0.0001
UX Peg	59473.6994	12332	0.0036	V	G. Samolyk	0.0002	AH Tau	59603.3957	85792	-0.0003	V	T. Arranz	0.0002
UX Peg	59504.5918	12352	0.0036	V	G. Samolyk	0.0002	AQ Tau	59528.8398	24569	0.5204	V	G. Samolyk	0.0003
UX Peg	59532.3954	12370	0.0041	V	T. Arranz	0.0001	AQ Tau	59599.3633	24627	0.5215	V	T. Arranz	0.0003
AQ Peg	59505.5958	3295	0.5743	V	G. Samolyk	0.0005	AQ Tau	59606.6567	24633	0.5195	V	K. Menzies	0.0003
BB Peg	59495.4223	43516	-0.0365	V	T. Arranz	0.0001	CT Tau	59523.7484	21174	-0.0754	V	G. Samolyk	0.0002
BB Peg	59511.3281	43560	-0.0368	V	T. Arranz	0.0001	CT Tau	59606.4358	21298	-0.0749	V	T. Arranz	0.0001
BB Peg	59511.5084	43560.5	-0.0372	V	T. Arranz	0.0001	CT Tau	59608.4357	21301	-0.0755	V	T. Arranz	0.0001
BG Peg	59462.6526	7135	-2.5226	V	G. Samolyk	0.0003	CU Tau	59587.3092	17180	-0.0695	V	X. Miret	0.0003
BG Peg	59515.3682	7162	-2.5304	V	T. Arranz	0.0003	CU Tau	59603.3957	17219	-0.0712	V	T. Arranz	0.0001
BX Peg	59498.3558	54572	-0.1452	V	T. Arranz	0.0001	EQ Tau	59466.8636	56404.5	-0.0517	V	G. Samolyk	0.0001
BX Peg	59498.4971	54572.5	-0.1441	V	T. Arranz	0.0002	EQ Tau	59473.8604	56425	-0.0526	V	G. Samolyk	0.0001
BX Peg	59507.3293	54604	-0.1452	V	T. Arranz	0.0001	EQ Tau	59574.5578	56720	-0.0530	V	G. Samolyk	0.0003
BX Peg	59512.3770	54622	-0.1450	V	X. Miret	0.0002	EQ Tau	59592.3084	56772	-0.0525	V	T. Arranz	0.0001
DI Peg	59502.6011	20098	0.0191	V	G. Samolyk	0.0001	EQ Tau	59610.5695	56825.5	-0.0536	V	K. Menzies	0.0001
DI Peg	59525.3795	20130	0.0193	V	T. Arranz	0.0001	V781 Tau	59602.4573	45599	-0.0478	V	L. Corp	0.0002
EU Peg	59509.4062	35400	0.0456	V	T. Arranz	0.0002	V781 Tau	59605.3889	45607.5	-0.0479	V	T. Arranz	0.0002
GP Peg	59428.6635	18645	-0.0602	V	G. Samolyk	0.0004	V1123 Tau	59606.3588	17768	0.0236	V	L. Corp	0.0004
GP Peg	59459.8834	18677	-0.0601	V	G. Samolyk	0.0002	V1128 Tau	59567.5004	23143.5	-0.0086	V	L. Corp	0.0004
GP Peg	59511.5909	18730	-0.0604	V	G. Samolyk	0.0001	V1130 Tau	59567.4410	13853.5	0.0041	V	L. Corp	0.0004
GP Peg	59520.3713	18739	-0.0605	V	T. Arranz	0.0001	V1223 Tau	59603.3783	16420	0.0027	V	T. Arranz	0.0001
KW Peg	59498.3874	13890	0.2461	V	T. Arranz	0.0002	V1332 Tau	59604.3457	21770	0.0289	V	T. Arranz	0.0003
V407 Peg	59496.3749	4029	0.0017	V	L. Corp	0.0005	V1332 Tau	59610.4608	21792.5	0.0279	V	T. Arranz	0.0002
Z Per	59540.5968	4542	-0.3928	V	G. Samolyk	0.0001	V1370 Tau	59605.3816	27536	0.0145	V	T. Arranz	0.0001
Z Per	59580.3270	4555	-0.3946	V	T. Arranz	0.0001	V Tri	59484.8161	59826	-0.0051	V	K. Menzies	0.0005
RT Per	59474.8531	30726	0.1206	V	G. Samolyk	0.0001	V Tri	59581.3750	59991	-0.0051	V	T. Arranz	0.0001
RT Per	59590.3722	30862	0.1212	V	T. Arranz	0.0001	X Tri	59457.8445	17452	-0.1088	V	G. Samolyk	0.0001
RT Per	59600.5653	30874	0.1215	V	G. Samolyk	0.0001	X Tri	59578.3128	17576	-0.1109	V	T. Arranz	0.0001
RV Per	59474.8327	8831	0.0074	V	L. Hazel	0.0006	RS Tri	59593.3517	11343	-0.0564	V	T. Arranz	0.0001
RV Per	59581.4026	8885	0.0087	V	T. Arranz	0.0001	RV Tri	59474.8998	17835	-0.0499	V	G. Samolyk	0.0001
ST Per	59587.3214	6476	0.3255	V	T. Arranz	0.0001	RV Tri	59611.3114	18016	-0.0519	V	T. Arranz	0.0001
XZ Per	59474.8055	13865	-0.0790	V	L. Hazel	0.0006	BV Tri	59611.3691	11354	0.0139	V	T. Arranz	0.0008
XZ Per	59504.7474	13891	-0.0796	V	G. Samolyk	0.0001	RS Vul	59441.4225	5948	0.0230	V	T. Arranz	0.0005
XZ Per	59608.3927	13981	-0.0814	V	T. Arranz	0.0001	XZ Vul	59431.7553	4369	0.6066	V	L. Hazel	0.0006
IT Per	59486.8630	19628	-0.0529	V	G. Samolyk	0.0005	AW Vul	59447.5187	16321	-0.0398	V	T. Arranz	0.0001

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Table 1. Recent times of minima of stars in the AAVSO eclipsing binary program (cont.)

<i>Star</i>	<i>JD (min) Hel. 2400000+</i>	<i>Cycle</i>	<i>O-C (day)</i>	<i>F</i>	<i>Observer</i>	<i>Standard Error (day)</i>	<i>Star</i>	<i>JD (min) Hel. 2400000+</i>	<i>Cycle</i>	<i>O-C (day)</i>	<i>F</i>	<i>Observer</i>	<i>Standard Error (day)</i>
AX Vul	59462.5583	7215	-0.0422	V	T. Arranz	0.0001	BT Vul	59506.6134	21122	0.0070	V	G. Samolyk	0.0003
AX Vul	59468.6325	7218	-0.0425	V	L. Hazel	0.0003	BU Vul	59444.4977	45538	0.0115	V	T. Arranz	0.0001
AY Vul	59444.4500	6947	-0.1949	V	T. Arranz	0.0001	BU Vul	59448.4803	45545	0.0111	V	T. Arranz	0.0001
AY Vul	59485.4552	6964	-0.2013	V	T. Arranz	0.0001	BU Vul	59449.6181	45547	0.0109	V	G. Samolyk	0.0001
BE Vul	59434.4303	12450	0.1015	V	T. Arranz	0.0001	BU Vul	59523.5875	45677	0.0112	V	G. Samolyk	0.0001
BO Vul	59528.6054	12097	-0.0029	V	G. Samolyk	0.0001	CD Vul	59432.5608	19209	-0.0019	V	T. Arranz	0.0001
BS Vul	59473.6101	34040	-0.0367	V	G. Samolyk	0.0003	CD Vul	59469.4828	19263	-0.0021	V	T. Arranz	0.0001
BT Vul	59441.5643	21065	0.0063	V	T. Arranz	0.0001	CD Vul	59488.6279	19291	-0.0019	V	G. Samolyk	0.0001
BT Vul	59474.6583	21094	0.0055	V	L. Hazel	0.0006	ER Vul	59464.3409	27621	0.0219	V	L. Corp	0.0009