Recent Minima of 200 Eclipsing Binary Stars

Gerard Samolyk
P.O. Box 20677, Greenfield, WI 53220; gsamolyk@wi.rr.com

Received August 16, 2019; accepted August 16, 2019

Abstract This paper continues the publication of times of minima for eclipsing binary stars from observations reported to the AAVSO Eclipsing Binaries Section. Times of minima from observations received from February 2019 through July 2019 are presented.

1. Recent observations

The accompanying list contains times of minima calculated from recent CCD observations made by participants in the AAVSO's eclipsing binary program. This list will be web-archived and made available through the AAVSO ftp site at ftp://ftp.aavso.org/public/datasets/gsamj472eb200.txt. This list, along with the eclipsing binary data from earlier AAVSO publications, is also included in the Lichtenknecker database administrated by the Bundesdeutsche Arbeitsgemeinschaft für Veränderliche Sterne e. V. (BAV) at: http://www.bav-astro.de/LkDB/index.php?lang=en. These observations were reduced by the observers or the writer using the method of Kwee and van Worden (1956). The standard error is included when available. Column F in Table 1 indicates the filter used. A "C" indicates a clear filter.

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), CW Cas (Samolyk 1992a), DV Cep (Frank and Lichtenknecker 1987), DF Hya (Samolyk 1992b), DK Hya (Samolyk 1990), GU Ori (Samolyk 1985).

The light elements used for V640 Aur, CI CVn, DN Dra, GX Gem, V1053 Her, KM UMa, FQ Vir, and MS Vir are from Kreiner (2004).

The light elements used for CW CMa, V1297 Cas, V1331 Cas, V1342 Cas, V1173 Her, V1282 Her, V470 Hya, IZ Lac, AL Leo, V1848 Ori, KK Psc, and NN Vir are from Paschke (2014).

The light elements used for V459 Aur are from Nelson (2014).

The light elements used for V868 Mon, V1056 Per, and KU Psc are from the AAVSO VSX site (Watson *et al.* 2014). O–C values listed in this paper can be directly compared with values published in the AAVSO *Observed Minima Timings of Eclipsing Binaries* monograph series.

References

Baldwin, M. E., and Samolyk, G. 2007, *Observed Minima Timings of Eclipsing Binaries No. 12*, AAVSO, Cambridge, MA.

Frank, P., and Lichtenknecker, D. 1987, *BAV Mitt.*, No. 47, 1.

Kholopov, P. N., *et al.* 1985, *General Catalogue of Variable Stars*, 4th ed., Moscow.

Kreiner, J. M. 2004, *Acta Astron.*, **54**, 207 (http://www.as.up.krakow.pl/ephem/).

Kwee, K. K., and van Woerden, H. 1956, *Bull. Astron. Inst. Netherlands*, **12**, 327.

Nelson, R. 2014, Eclipsing Binary O–C Files (http://www.aavso.org/bob-nelsons-o-c-files).

Paschke, A. 2014, "O–C Gateway" (http://var.astro.cz/ocgate/).

Samolyk, G. 1985, *J. Amer. Assoc. Var. Star Obs.*, **14**, 12.

Samolyk, G. 1990, *J. Amer. Assoc. Var. Star Obs.*, **19**, 5.

Samolyk, G. 1992a, *J. Amer. Assoc. Var. Star Obs.*, **21**, 34.

Samolyk, G. 1992b, *J. Amer. Assoc. Var. Star Obs.*, **21**, 111.

Watson, C., Henden, A. A., and Price, C. A. 2014, AAVSO International Variable Star Index VSX (Watson+, 2006–2014; http://www.aavso.org/vsx).

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

Star	JD (min) Hel. 2400000 +	Cycle	O–C (day)	F	Observer	Standard Error (day)
RT And	58694.6712	27909	–0.0116	V	G. Samolyk	0.0001
WZ And	58688.8600	25611	0.0832	V	G. Samolyk	0.0003
AB And	58694.7912	68050	–0.0489	V	G. Samolyk	0.0002
BD And	58664.8642	51204	0.0148	V	G. Samolyk	0.0002
DS And	58460.7304	22086	0.0068	V	S. Cook	0.0007
CX Aqr	58455.6134	39573	0.0165	V	S. Cook	0.0002
KO Aql	58676.6704	5862	0.1076	V	G. Samolyk	0.0001
KP Aql	58676.8319	5428.5	–0.0223	V	G. Samolyk	0.0001
OO Aql	58655.7676	39548	0.0746	V	G. Samolyk	0.0001
V343 Aql	58672.7224	16388	–0.0486	V	G. Samolyk	0.0001
V346 Aql	58690.8325	15160	–0.0146	V	G. Samolyk	0.0001
SX Aur	58567.6734	15210	0.0181	V	S. Cook	0.0004
SX Aur	58567.6771	15210	0.0218	TG	G. Conrad	0.0002
AP Aur	58527.5648	28248.5	1.7316	V	T. Arranz	0.0002
AP Aur	58536.3874	28264	1.7299	V	T. Arranz	0.0001
AP Aur	58554.6089	28296	1.7334	V	G. Samolyk	0.0002
CL Aur	58520.4725	20535	0.1855	V	T. Arranz	0.0001
CL Aur	58530.4282	20543	0.1863	V	T. Arranz	0.0001
CL Aur	58540.3829	20551	0.1861	V	T. Arranz	0.0001
EM Aur	58559.6884	15131	–1.1249	V	G. Samolyk	0.0004
EP Aur	58511.6579	54487	0.0230	V	S. Cook	0.0005
EP Aur	58553.6192	54558	0.0227	V	G. Samolyk	0.0001
HP Aur	58554.6268	11103.5	0.0729	V	G. Samolyk	0.0002
V459 Aur	58488.5499	1361	–0.0044	V	G. Samolyk	0.0006
V459 Aur	58592.6850	1459	–0.0077	V	S. Cook	0.0008
V640 Aur	58121.7586	17139.5	–0.0037	B	K. Alton	0.0004
V640 Aur	58121.7586	17139.5	–0.0037	V	K. Alton	0.0002
V640 Aur	58121.7598	17139.5	–0.0025	Ic	K. Alton	0.0005
V640 Aur	58124.7105	17148.5	–0.0038	B	K. Alton	0.0003
V640 Aur	58124.7105	17148.5	–0.0038	V	K. Alton	0.0003
V640 Aur	58124.7117	17148.5	–0.0026	Ic	K. Alton	0.0004
V640 Aur	58124.8739	17149	–0.0044	V	K. Alton	0.0004
V640 Aur	58124.8741	17149	–0.0042	B	K. Alton	0.0004
V640 Aur	58124.8747	17149	–0.0036	Ic	K. Alton	0.0002
V640 Aur	58130.6130	17166.5	–0.0053	Ic	K. Alton	0.0005
V640 Aur	58130.6141	17166.5	–0.0042	V	K. Alton	0.0001
V640 Aur	58130.6151	17166.5	–0.0032	B	K. Alton	0.0005
V640 Aur	58130.7774	17167	–0.0048	Ic	K. Alton	0.0003
V640 Aur	58130.7785	17167	–0.0037	B	K. Alton	0.0010
V640 Aur	58130.7785	17167	–0.0037	V	K. Alton	0.0001
SS Boo	58593.5623	4982	7.3847	V	G. Samolyk	0.0002
TU Boo	58533.9460	78534.5	–0.1597	V	G. Samolyk	0.0004
TU Boo	58573.8320	78657.5	–0.1610	V	G. Samolyk	0.0001
TY Boo	58542.6436	75870.5	0.0640	V	T. Arranz	0.0001
TY Boo	58568.6509	75952.5	0.0652	V	T. Arranz	0.0001
TZ Boo	58545.6278	63644.5	0.0591	V	T. Arranz	0.0001
TZ Boo	58565.5402	63711.5	0.0616	V	T. Arranz	0.0002
TZ Boo	58565.6887	63712	0.0616	V	T. Arranz	0.0002
TZ Boo	58570.5896	63728.5	0.0593	V	T. Arranz	0.0002
TZ Boo	58594.6623	63809.5	0.0619	V	G. Samolyk	0.0002
UW Boo	58593.6127	16113	–0.0054	V	G. Samolyk	0.0001
UW Boo	58617.7294	16137	–0.0018	V	S. Cook	0.0006
VW Boo	58549.9012	79973	–0.2860	V	K. Menzies	0.0001
VW Boo	58642.6678	80244	–0.2896	V	G. Samolyk	0.0002
ZZ Boo	58597.8690	4013	0.0811	V	G. Samolyk	0.0002
AD Boo	58554.8622	16551	0.0366	V	G. Samolyk	0.0001
SV Cam	58582.6553	26958	0.0604	TG	G. Conrad	0.0002
CD Cam	58514.7013	7527	–0.0122	TG	G. Conrad	0.0003
CD Cam	58527.6904	7544	–0.0143	TG	G. Conrad	0.0005
DN Cam	58577.8160	12196	0.0016	TG	G. Conrad	0.0003
WW Cnc	58526.6223	2314	0.0365	V	T. Arranz	0.0001
WY Cnc	58544.3867	38815	–0.0467	V	T. Arranz	0.0001
XZ Cnc	58537.4286	7574	0.0166	V	T. Arranz	0.0001
XZ Cnc	58557.4406	7602	0.0177	V	T. Arranz	0.0001
CI CVn	57853.7022	6561	–0.0029	V	V. Petriew	0.0002
R CMa	58554.6308	12558	0.1290	V	G. Samolyk	0.0001
SX CMa	58532.4022	18739	0.0244	V	T. Arranz	0.0001
TZ CMa	58535.4352	16433	–0.2279	V	T. Arranz	0.0002
UU CMa	58522.3351	6427	–0.0709	V	T. Arranz	0.0001
CW CMa	58561.6669	7777	–0.0088	V	S. Cook	0.0006
XZ CMi	58528.3652	27788	0.0051	V	L. Corp	0.0002
XZ CMi	58528.3664	27788	0.0063	V	T. Arranz	0.0001
XZ CMi	58530.3897	27791.5	0.0038	V	L. Corp	0.0002
XZ CMi	58539.3631	27807	0.0056	V	T. Arranz	0.0001
XZ CMi	58559.6206	27842	0.0048	V	G. Samolyk	0.0001
YY CMi	58549.5993	27903	0.0206	V	G. Samolyk	0.0004
AK CMi	58531.4099	27266	–0.0233	V	T. Arranz	0.0001
AK CMi	58544.4266	27289	–0.0223	V	T. Arranz	0.0002
RZ Cas	58690.7880	12960	0.0806	V	G. Samolyk	0.0002
TW Cas	58462.6949	11520	0.0151	V	S. Cook	0.0011
CW Cas	58409.5794	52616.5	–0.1185	Ic	G. Lubcke	0.0003
CW Cas	58409.5799	52616.5	–0.1180	V	G. Lubcke	0.0004
CW Cas	58409.5800	52616.5	–0.1179	B	G. Lubcke	0.0003
DZ Cas	58695.8386	38555	–0.2130	V	G. Samolyk	0.0002
PV Cas	58687.8263	10546	–0.0332	V	G. Samolyk	0.0001
V1297 Cas	57657.7265	1076.5	0.0075	V	V. Petriew	0.0001
V1297 Cas	57657.8629	1077	0.0076	V	V. Petriew	0.0001
V1297 Cas	57658.6803	1080	0.0075	V	V. Petriew	0.0001
V1297 Cas	57658.8167	1080.5	0.0076	V	V. Petriew	0.0001
V1297 Cas	57658.9530	1081	0.0076	V	V. Petriew	0.0001
V1297 Cas	58005.8483	2354	–0.0022	V	V. Petriew	0.0001
V1297 Cas	58007.7561	2361	–0.0021	V	V. Petriew	0.0001
V1297 Cas	58007.8926	2361.5	–0.0018	V	V. Petriew	0.0002
V1331 Cas	57683.7352	5701.5	0.0095	V	V. Petriew	0.0003
V1331 Cas	57683.8926	5702	0.0086	V	V. Petriew	0.0002
V1331 Cas	57732.6569	5856	0.0083	V	V. Petriew	0.0002
V1331 Cas	58017.8058	6756.5	0.0104	V	V. Petriew	0.0006
V1331 Cas	58025.7221	6781.5	0.0103	V	V. Petriew	0.0003
V1331 Cas	58025.8808	6782	0.0107	V	V. Petriew	0.0002
V1342 Cas	53659.8738	4.5	0.0011	V	V. Petriew	0.0002
V1342 Cas	53668.8243	8.5	0.0013	V	V. Petriew	0.0001
V1342 Cas	53697.9133	21.5	0.0018	V	V. Petriew	0.0002
SU Cep	58675.8569	35889	0.0078	V	G. Samolyk	0.0001
WZ Cep	58687.8561	73416.5	–0.2049	V	G. Samolyk	0.0001
XX Cep	58655.7672	5911	0.0275	V	G. Samolyk	0.0001
DV Cep	58688.6947	10263	–0.0057	V	G. Samolyk	0.0002
EG Cep	58660.7354	29500	0.0089	V	G. Samolyk	0.0002
EK Cep	58586.8636	4423	0.0129	V	G. Samolyk	0.0001
RW Com	58539.9192	78019	0.0131	V	G. Samolyk	0.0002
RW Com	58543.5979	78034.5	0.0130	V	T. Arranz	0.0001
RW Com	58543.7171	78035	0.0135	V	T. Arranz	0.0001
RW Com	58566.6207	78131.5	0.0132	TG	G. Conrad	0.0004
RW Com	58625.6024	78380	0.0145	V	K. Menzies	0.0001
RZ Com	58523.9297	69973.5	0.0575	V	G. Samolyk	0.0001
RZ Com	58573.6900	70120.5	0.0574	V	G. Samolyk	0.0001
RZ Com	58626.6665	70277	0.0577	TG	G. Conrad	0.0001
SS Com	58546.9424	81260	0.9626	V	G. Samolyk	0.0002
SS Com	58606.3887	81404	0.9669	V	T. Arranz	0.0001
SS Com	58607.4203	81406.5	0.9665	V	T. Arranz	0.0001
SS Com	58636.7328	81477.5	0.9708	V	S. Cook	0.0006
CC Com	58530.7796	86082.5	–0.0301	V	G. Samolyk	0.0002
CC Com	58530.8905	86083	–0.0295	V	G. Samolyk	0.0002
CC Com	58562.8889	86228	–0.0307	V	G. Samolyk	0.0002
CC Com	58571.3861	86266.5	–0.0299	V	G. Coates	0.0001
CC Com	58571.4958	86267	–0.0305	V	G. Coates	0.0001
CC Com	58577.4540	86294	–0.0308	V	T. Arranz	0.0001
CC Com	58627.6602	86521.5	–0.0308	TG	G. Conrad	0.0002
U CrB	58571.5344	12115	0.1435	V	T. Arranz	0.0001
U CrB	58602.6066	12124	0.1459	V	T. Arranz	0.0001
U CrB	58647.4844	12137	0.1451	V	T. Arranz	0.0001
RW CrB	58562.6147	24519	0.0034	V	T. Arranz	0.0001
TW CrB	58593.7894	35144	0.0591	V	G. Samolyk	0.0001

Table continued on following pages

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

Star	JD (min) Hel. 2400000 +	Cycle	O–C (day)	F	Observer	Standard Error (day)
W Crv	58542.8571	48688.5	0.0176	V	G. Samolyk	0.0002
W Crv	58573.5154	48767.5	0.0175	V	T. Arranz	0.0001
W Crv	58603.4010	48844.5	0.0209	V	T. Arranz	0.0001
RV Crv	58598.6679	23512	–0.1075	V	G. Samolyk	0.0003
RV Crv	58602.4079	23517	–0.1037	V	T. Arranz	0.0001
SX Crv	58598.6488	55527.5	–0.9567	V	G. Samolyk	0.0003
SX Crv	58634.7612	55641.5	–0.9412	V	S. Cook	0.0008
V Crt	58562.8162	24451	–0.0008	V	G. Samolyk	0.0002
RV Crt	58581.7743	13707	0.1043	V	S. Cook	0.0006
Y Cyg	58645.8341	16417.5	0.1212	V	G. Samolyk	0.0001
WW Cyg	58688.8042	5519	0.1511	V	G. Samolyk	0.0001
ZZ Cyg	58597.8831	21631	–0.0761	V	G. Samolyk	0.0001
AE Cyg	58694.6821	14557	–0.0047	V	G. Samolyk	0.0001
BR Cyg	58685.5699	12867	0.0016	V	T. Arranz	0.0001
BR Cyg	58689.5677	12870	0.0017	V	T. Arranz	0.0001
BR Cyg	58693.5656	12873	0.0019	V	T. Arranz	0.0001
CG Cyg	58687.6249	30520	0.0795	V	G. Samolyk	0.0001
DK Cyg	58676.6790	43929	0.1300	V	G. Samolyk	0.0001
KV Cyg	58664.6580	10284	0.0588	V	G. Samolyk	0.0004
MY Cyg	58687.7796	6202	0.0010	V	G. Samolyk	0.0001
V346 Cyg	58664.6790	8376	0.1990	V	G. Samolyk	0.0002
V387 Cyg	58695.6725	47940	0.0201	V	G. Samolyk	0.0001
V388 Cyg	58672.6460	19463	–0.1323	V	G. Samolyk	0.0002
V388 Cyg	58690.6852	19484	–0.1329	V	G. Samolyk	0.0001
V401 Cyg	58676.6960	25469	0.0904	V	G. Samolyk	0.0002
V466 Cyg	58675.6770	21487.5	0.0073	V	G. Samolyk	0.0002
V466 Cyg	58694.4639	21501	0.0081	V	T. Arranz	0.0001
V548 Cyg	58645.6513	7860	0.0241	V	G. Samolyk	0.0002
V704 Cyg	58690.8158	36361	0.0387	V	G. Samolyk	0.0002
V1034 Cyg	58676.8360	16110	0.0186	V	G. Samolyk	0.0002
V1425 Cyg	57958.7973	14019.5	0.0137	V	V. Petriew	0.0004
W Del	58664.8283	3191	0.0137	V	G. Samolyk	0.0002
RZ Dra	58586.8318	26157	0.0703	V	G. Samolyk	0.0001
RZ Dra	58686.5406	26338	0.0710	V	T. Arranz	0.0001
TW Dra	58650.4491	5171	–0.0517	V	T. Arranz	0.0001
TW Dra	58664.4866	5176	–0.0485	V	T. Arranz	0.0001
UZ Dra	58600.8073	5222	0.0032	V	G. Samolyk	0.0001
UZ Dra	58672.5559	5244	0.0031	V	T. Arranz	0.0001
AI Dra	58637.6930	12801	0.0403	V	G. Samolyk	0.0002
BH Dra	58653.7597	10254	–0.0028	V	S. Cook	0.0015
BH Dra	58664.6626	10260	–0.0033	V	G. Samolyk	0.0002
RW Gem	58528.5074	14038	0.0027	V	T. Arranz	0.0001
RW Gem	58531.3727	14039	0.0025	V	T. Arranz	0.0001
WW Gem	58521.3781	26286	0.0212	V	T. Arranz	0.0001
AF Gem	58533.3473	25228	–0.0680	V	T. Arranz	0.0001
AF Gem	58559.4608	25249	–0.0681	V	T. Arranz	0.0001
AF Gem	58569.4094	25257	–0.0675	V	T. Arranz	0.0001
GX Gem	58605.6730	1512	0.0171	V	S. Cook	0.0012
SZ Her	58637.7403	20503	–0.0339	V	G. Samolyk	0.0001
SZ Her	58656.5567	20526	–0.0338	V	T. Arranz	0.0001
SZ Her	58661.4656	20532	–0.0335	V	T. Arranz	0.0001
SZ Her	58687.6442	20564	–0.0340	V	G. Samolyk	0.0001
TT Her	58660.6650	20464	0.0448	V	G. Samolyk	0.0001
TU Her	58608.5418	6417	–0.2624	V	T. Arranz	0.0001
TU Her	58676.5494	6447	–0.2648	V	T. Arranz	0.0001
UX Her	58642.8192	12248	0.1516	V	G. Samolyk	0.0001
UX Her	58664.5029	12262	0.1514	V	T. Arranz	0.0001
UX Her	58695.4815	12282	0.1531	V	T. Arranz	0.0001
CC Her	58600.5449	10918	0.3276	V	T. Arranz	0.0001
CC Her	58671.6416	10959	0.3300	V	G. Samolyk	0.0002
CT Her	58623.5380	9013	0.0099	V	T. Arranz	0.0001
CT Her	58637.8305	9021	0.0114	V	G. Samolyk	0.0002
V1053 Her	58247.8951	19971.5	–0.0007	V	K. Alton	0.0001
V1053 Her	58247.8954	19971.5	–0.0004	Ic	K. Alton	0.0002
V1053 Her	58247.8959	19971.5	0.0001	B	K. Alton	0.0003
V1053 Her	58248.9013	19975	–0.0018	V	K. Alton	0.0003
V1053 Her	58248.9022	19975	–0.0009	B	K. Alton	0.0002
V1053 Her	58248.9030	19975	–0.0001	Ic	K. Alton	0.0002
V1053 Her	58251.7796	19985	–0.0015	V	K. Alton	0.0006
V1053 Her	58251.7804	19985	–0.0007	B	K. Alton	0.0006
V1053 Her	58251.7812	19985	0.0001	Ic	K. Alton	0.0003
V1053 Her	58251.9231	19985.5	–0.0019	Ic	K. Alton	0.0003
V1053 Her	58251.9240	19985.5	–0.0010	V	K. Alton	0.0001
V1053 Her	58251.9248	19985.5	–0.0002	B	K. Alton	0.0002
V1053 Her	58255.8082	19999	–0.0020	Ic	K. Alton	0.0004
V1053 Her	58255.8099	19999	–0.0003	B	K. Alton	0.0001
V1053 Her	58255.8103	19999	0.0001	V	K. Alton	0.0002
V1053 Her	58255.9521	19999.5	–0.0020	V	K. Alton	0.0005
V1053 Her	58255.9525	19999.5	–0.0016	Ic	K. Alton	0.0004
V1053 Her	58255.9542	19999.5	0.0001	B	K. Alton	0.0002
V1173 Her	57879.8249	24455.5	–0.0021	V	V. Petriew	0.0001
V1282 Her	58231.8217	19129	–0.0023	B	K. Alton	0.0005
V1282 Her	58231.8238	19129	–0.0002	V	K. Alton	0.0003
V1282 Her	58231.8242	19129	0.0002	Ic	K. Alton	0.0004
V1282 Her	58231.9624	19129.5	–0.0008	B	K. Alton	0.0004
V1282 Her	58231.9633	19129.5	0.0001	Ic	K. Alton	0.0002
V1282 Her	58231.9644	19129.5	0.0012	V	K. Alton	0.0005
V1282 Her	58234.8839	19140	–0.0020	Ic	K. Alton	0.0003
V1282 Her	58234.8849	19140	–0.0010	V	K. Alton	0.0001
V1282 Her	58234.8858	19140	–0.0001	B	K. Alton	0.0003
V1282 Her	58243.9321	19172.5	–0.0001	Ic	K. Alton	0.0001
V1282 Her	58243.9331	19172.5	0.0009	V	K. Alton	0.0002
V1282 Her	58243.9339	19172.5	0.0017	B	K. Alton	0.0004
V1282 Her	58244.9053	19176	–0.0011	Ic	K. Alton	0.0001
V1282 Her	58244.9057	19176	–0.0007	B	K. Alton	0.0003
V1282 Her	58244.9065	19176	0.0001	V	K. Alton	0.0004
TT Hya	58631.7719	2116	0.2099	V	S. Cook	0.0019
WY Hya	58559.6059	25123.5	0.0411	V	G. Samolyk	0.0001
AV Hya	58523.8028	31973	–0.1196	V	G. Samolyk	0.0001
AV Hya	58541.5759	31999	–0.1151	V	T. Arranz	0.0001
AV Hya	58573.6912	32046	–0.1199	V	G. Samolyk	0.0001
AV Hya	58597.6098	32081	–0.1205	V	G. Samolyk	0.0001
DF Hya	58542.6135	47654.5	0.0105	V	G. Samolyk	0.0001
DF Hya	58562.6149	47715	0.0103	V	G. Samolyk	0.0002
DF Hya	58562.7808	47715.5	0.0109	V	G. Samolyk	0.0001
DF Hya	58568.4008	47732.5	0.0106	V	T. Arranz	0.0001
DF Hya	58597.6598	47821	0.0110	V	G. Samolyk	0.0001
DI Hya	58542.6848	44490	–0.0365	V	G. Samolyk	0.0002
DI Hya	58554.3634	44509	–0.0374	V	T. Arranz	0.0001
DK Hya	58523.7824	30043	0.0008	V	G. Samolyk	0.0002
V470 Hya	58559.5905	14815.5	0.0151	V	G. Samolyk	0.0004
CO Lac	58655.8302	20180	0.0100	V	G. Samolyk	0.0001
CO Lac	58672.7940	20191	0.0096	V	G. Samolyk	0.0001
IZ Lac	58045.5954	31639	0.0071	V	V. Petriew	0.0007
Y Leo	58530.6513	7766	–0.0678	V	G. Samolyk	0.0001
Y Leo	58542.4537	7773	–0.0681	V	T. Arranz	0.0001
Y Leo	58552.5703	7779	–0.0682	V	T. Arranz	0.0001
Y Leo	58569.4319	7789	–0.0676	V	T. Arranz	0.0001
UU Leo	58531.5716	7819	0.2215	V	T. Arranz	0.0001
UV Leo	58563.4148	33533	0.0455	V	T. Arranz	0.0001
UV Leo	58566.4161	33538	0.0464	V	T. Arranz	0.0001
UV Leo	58594.6197	33585	0.0460	V	G. Samolyk	0.0001
UZ Leo	58564.4619	30360.5	0.0005	V	T. Arranz	0.0001
UZ Leo	58586.4026	30396	0.0006	V	L. Corp	0.0001
VZ Leo	58528.5405	25107	–0.0454	V	T. Arranz	0.0001
VZ Leo	58540.5288	25118	–0.0461	V	T. Arranz	0.0001
XY Leo	58537.4565	47388	0.1820	V	L. Corp	0.0001
XY Leo	58551.8021	47438.5	0.1807	V	G. Samolyk	0.0003
XY Leo	58576.6650	47526	0.1851	V	G. Samolyk	0.0002
XY Leo	58593.7107	47586	0.1850	TG	G. Conrad	0.0002
XZ Leo	58199.6461	27011	0.0753	B	G. Lubcke	0.0002
XZ Leo	58199.6464	27011	0.0756	Ic	G. Lubcke	0.0001

Table continued on following pages

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

Star	JD (min) Hel. 2400000 +	Cycle	O–C (day)	F	Observer	Standard Error (day)
XZ Leo	58199.6468	27011	0.0760	V	G. Lubcke	0.0001
XZ Leo	58551.7946	27733	0.0791	V	G. Samolyk	0.0006
XZ Leo	58576.6710	27784	0.0810	V	G. Samolyk	0.0002
XZ Leo	58593.7393	27819	0.0785	TG	G. Conrad	0.0002
AL Leo	58537.4245	6672.5	–0.0070	V	L. Corp	0.0002
AM Leo	58570.5632	43951	0.0127	V	L. Corp	0.0002
AP Leo	58567.4011	44221	0.0157	V	L. Corp	0.0002
T LMi	58533.7328	4350	–0.1350	V	G. Samolyk	0.0002
Z Lep	58526.3957	31299	–0.2011	V	T. Arranz	0.0001
Z Lep	58529.3783	31302	–0.1996	V	T. Arranz	0.0001
Z Lep	58530.3728	31303	–0.1988	V	T. Arranz	0.0001
SS Lib	58608.8295	12137	0.1841	V	G. Samolyk	0.0001
SS Lib	58676.4147	12184	0.1834	V	T. Arranz	0.0002
ES Lib	58658.7493	20757	0.1124	V	S. Cook	0.0005
RY Lyn	58551.7531	10916	–0.0189	V	G. Samolyk	0.0003
RY Lyn	58597.6739	10948	–0.0177	V	G. Samolyk	0.0002
UZ Lyr	58674.4405	7923	–0.0546	V	T. Arranz	0.0001
EW Lyr	58671.4639	16509	0.2989	V	T. Arranz	0.0001
FL Lyr	58593.8289	9353	–0.0017	V	G. Samolyk	0.0001
V582 Lyr	58041.6230	21654	–0.008	Ic	K. Alton	0.0008
V582 Lyr	58041.6241	21654	–0.007	V	K. Alton	0.0001
V582 Lyr	58041.6251	21654	–0.006	B	K. Alton	0.0005
V582 Lyr	58042.6468	21658	–0.008	V	K. Alton	0.0004
V582 Lyr	58042.6479	21658	–0.007	B	K. Alton	0.0002
V582 Lyr	58042.6489	21658	–0.006	Ic	K. Alton	0.0009
V582 Lyr	58066.5719	21751.5	–0.010	B	K. Alton	0.0009
V582 Lyr	58066.5735	21751.5	–0.008	V	K. Alton	0.0002
V582 Lyr	58066.5760	21751.5	–0.006	Ic	K. Alton	0.0008
V582 Lyr	58068.6210	21759.5	–0.008	V	K. Alton	0.0004
V582 Lyr	58068.6221	21759.5	–0.007	B	K. Alton	0.0005
V582 Lyr	58068.6230	21759.5	–0.006	Ic	K. Alton	0.0004
V582 Lyr	58072.5871	21775	–0.008	V	K. Alton	0.0006
V582 Lyr	58072.5872	21775	–0.008	Ic	K. Alton	0.0008
V582 Lyr	58072.5881	21775	–0.007	B	K. Alton	0.0003
RU Mon	58542.4005	4686.5	–0.7204	V	T. Arranz	0.0001
RW Mon	58520.5785	13032	–0.0882	V	T. Arranz	0.0002
RW Mon	58539.6384	13042	–0.0892	V	G. Samolyk	0.0001
RW Mon	58543.4506	13044	–0.0892	V	T. Arranz	0.0001
RW Mon	58545.3566	13045	–0.0893	V	T. Arranz	0.0001
BB Mon	58522.4503	43457	–0.0043	V	T. Arranz	0.0001
BB Mon	58536.3730	43476	–0.0028	V	T. Arranz	0.0001
BO Mon	58523.3647	6748	–0.0121	V	T. Arranz	0.0001
BO Mon	58543.3913	6757	–0.0125	V	T. Arranz	0.0001
EP Mon	58533.6942	22337	0.0241	V	G. Samolyk	0.0002
V868 Mon	58540.3815	7518.5	0.0449	V	L. Corp	0.0004
SX Oph	58656.4585	12241	–0.0003	V	T. Arranz	0.0001
SX Oph	58664.7106	12245	–0.0014	V	G. Samolyk	0.0002
V501 Oph	58688.6578	28697	–0.0098	V	G. Samolyk	0.0001
V508 Oph	58683.5314	39447	–0.0267	V	T. Arranz	0.0001
V839 Oph	58661.5117	44530.5	0.3327	V	T. Arranz	0.0001
V839 Oph	58683.3929	44584	0.3327	V	T. Arranz	0.0001
V1010 Oph	58642.7705	29792	–0.2058	V	G. Samolyk	0.0001
V1010 Oph	58695.6825	29872	–0.2079	V	G. Samolyk	0.0001
EQ Ori	58518.3004	15509	–0.0406	V	T. Arranz	0.0001
ER Ori	58549.5935	39969.5	0.1442	V	G. Samolyk	0.0001
ET Ori	58545.3764	33505	–0.0039	V	T. Arranz	0.0001
ET Ori	58559.6402	33520	–0.0041	V	S. Cook	0.0006
FL Ori	58518.3519	8492	0.0422	V	T. Arranz	0.0001
FT Ori	58518.4679	5450	0.0231	V	T. Arranz	0.0001
GU Ori	58521.3510	32828	–0.0679	V	T. Arranz	0.0001
V1848 Ori	57406.5971	12540.5	–0.0015	B	K. Alton	0.0001
V1848 Ori	57406.5971	12540.5	–0.0015	V	K. Alton	0.0001
V1848 Ori	57406.5978	12540.5	–0.0008	Ic	K. Alton	0.0002
V1848 Ori	57417.6505	12582	–0.0017	Ic	K. Alton	0.0002
V1848 Ori	57417.6515	12582	–0.0007	V	K. Alton	0.0002
V1848 Ori	57417.6525	12582	0.0003	B	K. Alton	0.0005
V1848 Ori	57433.4989	12641.5	–0.0011	Ic	K. Alton	0.0001
V1848 Ori	57433.4993	12641.5	–0.0007	B	K. Alton	0.0004
V1848 Ori	57433.4997	12641.5	–0.0003	V	K. Alton	0.0003
BX Peg	58687.6682	51681	–0.1363	V	G. Samolyk	0.0001
KW Peg	58687.7009	12897	0.2289	V	G. Samolyk	0.0002
RV Per	58523.6094	8349	0.0070	V	G. Samolyk	0.0001
XZ Per	58531.6227	13046	–0.0734	V	K. Menzies	0.0001
KW Per	58694.8633	17493	0.0204	V	G. Samolyk	0.0001
V1056 Per	58050.7120	5039.5	0.0720	V	V. Petriew	0.0001
V1056 Per	58050.8967	5040	0.0711	V	V. Petriew	0.0002
KK Psc	58055.6474	15460.5	–0.0095	V	K. Alton	0.0002
KK Psc	58055.6483	15460.5	–0.0086	B	K. Alton	0.0002
KK Psc	58055.6493	15460.5	–0.0076	Ic	K. Alton	0.0005
KK Psc	58055.7917	15461	–0.0092	B	K. Alton	0.0001
KK Psc	58055.7924	15461	–0.0085	V	K. Alton	0.0003
KK Psc	58055.7928	15461	–0.0081	Ic	K. Alton	0.0004
KK Psc	58068.7484	15506	–0.0103	B	K. Alton	0.0003
KK Psc	58068.7494	15506	–0.0093	Ic	K. Alton	0.0002
KK Psc	58068.7504	15506	–0.0083	V	K. Alton	0.0004
KK Psc	58070.7650	15513	–0.0094	Ic	K. Alton	0.0002
KK Psc	58070.7657	15513	–0.0087	B	K. Alton	0.0004
KK Psc	58070.7661	15513	–0.0083	V	K. Alton	0.0003
KK Psc	58072.7796	15520	–0.0104	V	K. Alton	0.0003
KK Psc	58072.7806	15520	–0.0094	B	K. Alton	0.0002
KK Psc	58072.7817	15520	–0.0083	Ic	K. Alton	0.0004
KK Psc	58102.5831	15623.5	–0.0100	Ic	K. Alton	0.0002
KK Psc	58102.5841	15623.5	–0.0090	V	K. Alton	0.0001
KK Psc	58102.5852	15623.5	–0.0079	B	K. Alton	0.0004
KK Psc	58102.7258	15624	–0.0112	Ic	K. Alton	0.0004
KK Psc	58102.7268	15624	–0.0102	V	K. Alton	0.0002
KK Psc	58102.7279	15624	–0.0091	B	K. Alton	0.0003
KU Psc	58439.6342	19243.5	–0.0445	V	K. Alton	0.0004
KU Psc	58439.6351	19243.5	–0.0436	B	K. Alton	0.0001
KU Psc	58439.6360	19243.5	–0.0427	Ic	K. Alton	0.0004
KU Psc	58439.7790	19244	–0.0443	B	K. Alton	0.0002
KU Psc	58439.7799	19244	–0.0434	Ic	K. Alton	0.0001
KU Psc	58439.7809	19244	–0.0424	V	K. Alton	0.0006
KU Psc	58441.6588	19250.5	–0.0448	B	K. Alton	0.0005
KU Psc	58441.6597	19250.5	–0.0439	Ic	K. Alton	0.0001
KU Psc	58441.6607	19250.5	–0.0429	V	K. Alton	0.0003
KU Psc	58441.8034	19251	–0.0449	Ic	K. Alton	0.0003
KU Psc	58441.8044	19251	–0.0439	V	K. Alton	0.0001
KU Psc	58441.8054	19251	–0.0429	B	K. Alton	0.0002
UZ Pup	58530.7364	17509	–0.0116	V	G. Samolyk	0.0001
UZ Pup	58532.3268	17511	–0.0109	V	T. Arranz	0.0001
UZ Pup	58559.3516	17545	–0.0110	V	T. Arranz	0.0001
AV Pup	58554.6984	49208	0.2428	V	G. Samolyk	0.0001
U Sge	58671.4819	12288	0.0202	V	T. Arranz	0.0001
V1968 Sgr	58694.6949	37060	–0.0154	V	G. Samolyk	0.0003
AO Ser	58597.7775	27821	–0.0119	V	G. Samolyk	0.0001
AO Ser	58606.5713	27831	–0.0116	V	T. Arranz	0.0001
AO Ser	58671.6429	27905	–0.0117	V	G. Samolyk	0.0002
CC Ser	58563.6297	40854	1.1424	V	T. Arranz	0.0001
CC Ser	58586.8523	40899	1.1447	V	G. Samolyk	0.0002
CC Ser	58602.5913	40929.5	1.1455	V	T. Arranz	0.0001
CC Ser	58662.7088	41046	1.1483	V	S. Cook	0.0006
Y Sex	58598.6411	40094	–0.0222	V	G. Samolyk	0.0003
AC Tau	58542.6101	6316	0.1836	V	G. Samolyk	0.0002
GR Tau	58487.3786	32370	–0.0539	V	L. Corp	0.0002
HU Tau	58523.6039	8388	0.0401	V	G. Samolyk	0.0002
V781 Tau	58542.3742	42525.5	–0.0500	V	L. Corp	0.0002
X Tri	58520.3224	16487	–0.0994	V	T. Arranz	0.0001
RV Tri	58694.8623	16800	–0.0426	V	G. Samolyk	0.0001
W UMa	58200.6330	37271	–0.1084	Ic	G. Lubcke	0.0002
W UMa	58200.6332	37271	–0.1082	B	G. Lubcke	0.0002
W UMa	58200.6335	37271	–0.1079	V	G. Lubcke	0.0002

Table continued on next page

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

Star	JD (min) Hel. 2400000 +	Cycle	O–C (day)	F	Observer	Standard Error (day)	Star	JD (min) Hel. 2400000 +	Cycle	O–C (day)	F	Observer	Standard Error (day)
W UMa	58516.7505	38218.5	–0.1125	TG	G. Conrad	0.0002	VV Vir	58643.7922	61467	–0.0532	V	S. Cook	0.0009
TY UMa	58546.6490	53629.5	0.4247	V	G. Samolyk	0.0002	AG Vir	58608.6709	20503	–0.0120	V	G. Samolyk	0.0002
TY UMa	58546.8274	53630	0.4258	V	G. Samolyk	0.0001	AH Vir	58600.6576	31375	0.3012	V	G. Samolyk	0.0001
TY UMa	58564.3771	53679.5	0.4258	V	T. Arranz	0.0001	AK Vir	58553.8713	13386	–0.0409	V	G. Samolyk	0.0002
TY UMa	58576.6097	53714	0.4268	V	G. Samolyk	0.0001	AW Vir	58569.6103	38268.5	0.0330	V	T. Arranz	0.0002
UX UMa	58554.7243	107397	–0.0016	V	G. Samolyk	0.0001	AW Vir	58571.5567	38274	0.0324	V	T. Arranz	0.0001
UX UMa	58554.9214	107398	–0.0011	V	G. Samolyk	0.0001	AW Vir	58600.4076	38355.5	0.0326	V	T. Arranz	0.0001
UX UMa	58559.6406	107422	–0.0020	V	T. Arranz	0.0002	AW Vir	58606.4253	38372.5	0.0323	V	T. Arranz	0.0001
UX UMa	58627.6887	107768	–0.0022	V	G. Samolyk	0.0001	AX Vir	58582.7885	44144	0.0279	V	G. Samolyk	0.0001
VV UMa	58516.6614	18478	–0.0827	TG	G. Conrad	0.0002	AZ Vir	58573.8141	41746.5	–0.0204	V	G. Samolyk	0.0001
VV UMa	58545.5296	18520	–0.0845	V	T. Arranz	0.0001	AZ Vir	58608.4304	41845.5	–0.0210	V	T. Arranz	0.0001
XZ UMa	58539.3756	10121	–0.1511	V	T. Arranz	0.0001	BH Vir	58533.8683	18734	–0.0134	V	G. Samolyk	0.0002
XZ UMa	58545.4881	10126	–0.1502	V	T. Arranz	0.0002	BH Vir	58629.4422	18851	–0.0135	V	T. Arranz	0.0001
XZ UMa	58562.5995	10140	–0.1513	V	G. Samolyk	0.0001	FQ Vir	58648.8372	8202	–0.0022	V	S. Cook	0.0006
XZ UMa	58567.4878	10144	–0.1523	V	T. Arranz	0.0001	MS Vir	58647.7092	19676.5	0.0029	V	S. Cook	0.0009
XZ UMa	58572.3772	10148	–0.1522	V	T. Arranz	0.0001	NN Vir	58661.7566	21139	0.0063	V	S. Cook	0.0004
ZZ UMa	58562.4054	9834	–0.0014	V	T. Arranz	0.0001	Z Vul	58693.4085	6414	–0.0159	V	T. Arranz	0.0001
AF UMa	58573.7017	6044	0.6393	V	G. Samolyk	0.0003	AW Vul	58637.8466	15317	–0.0346	V	G. Samolyk	0.0001
KM UMa	57793.7580	15044.5	–0.0077	V	V. Petriew	0.0006	BE Vul	58695.6630	11974	0.1071	V	G. Samolyk	0.0001
KM UMa	57793.9355	15045	–0.0062	V	V. Petriew	0.0001	BO Vul	58660.7382	11651	–0.0125	V	G. Samolyk	0.0001
RU UMi	58576.6342	32348	–0.0144	V	G. Samolyk	0.0001	BS Vul	58676.8353	32366	–0.0353	V	G. Samolyk	0.0001
UW Vir	58657.7266	7904	–0.0559	V	S. Cook	0.0004	BT Vul	58690.6550	20407	0.0066	V	G. Samolyk	0.0002
VV Vir	58570.6283	61303	–0.0508	V	T. Arranz	0.0001	CD Vul	58675.6560	18102	–0.0010	V	G. Samolyk	0.0002