

COMMISSIONS 27 AND 42 OF THE IAU
INFORMATION BULLETIN ON VARIABLE STARS

Number 6128

Konkoly Observatory
Budapest

14 January 2015

HU ISSN 0374 – 0676

MINIMA TIMES OF SOME ECLIPSING BINARY STARS

TERZIOĞLU, Z.; GÜRSOYTRAK, H.; SARAL, G.; BAĞIRAN, N.; GÖKAY, G.; KILIÇ, Y.; DEMİRCAN, Y.; OKAN, A.; DOĞRUEL, M.B.; ALPSOY, M.; CERİT, S.; ŞEMUNİ, M.; YILDIRIM, C.; GÜROL, B.

Ankara University Observatory, Faculty of Science, Astronomy and Space Sciences Department 06100, Tandoğan, Ankara, TÜRKİYE; e-mail: zterzioglu@ankara.edu.tr

We present several CCD minima observations of eclipsing binaries. Observations were done with an Apogee ALTA U47+ back illuminated CCD camera attached to an 16" Schmidt/Cassegrain telescope at Ankara University Observatory. Reduction of the CCD frames was made with the IRAF¹ ccdred and daophot packages.

The minima times were computed with several methods in Minima25b (Nelson 2006) (parabolic fit, tracing paper, bisectors of chords, Kwee and van Woerden method (Kwee & van Woerden 1956), Fourier fit and sliding integrations technique). Then weighted mean minimum-time values were calculated for all filters used.

Table 1: Times of minima of eclipsing binaries

Variable	HJD 24.....	±	Obs	$O - C$		Ref	Fil
V1713 Aql	56132.5218	0.0002	AO-ŞŞŞ-YŞ	-0.0034	p	{12}	BVRI
HH Boo	56091.3859	0.0001	ZT	+0.0012	p	{2}(T ₀), {11}(P)	BVRI
	56092.3429	0.0006	HG-GG	+0.0022	p		BVRI
	56092.5024	0.0008	HG-GG	+0.0024	s		BVRI
V1046 Cas	56161.4792	0.0020	MA	+0.0115	s	{6}(T ₀), {11}(P)	BVRI
	56189.4234	0.0003	MNB	+0.0114	p		BVRI
EF Cep	56156.4346	0.0007	MSH	+0.0010	p	{1}(T ₀), {11}(P)	BVRI
	56173.4064	0.0002	MBD	+0.0017	p		BVRI
	56194.3155	0.0003	MBD	+0.0001	s		BVRI
EG Cep	56197.4147	0.0002	GG-Eİ-BE	+0.0116	p	{9}(T ₀), {11}(P)	BVRI
ASAS J013630+0150.3	56196.5554	0.0005	HG	+0.0203	s	{13}	BVRI
TW CrB	56090.4767	0.0002	AO-ŞŞŞ-YŞ	-0.0004	p	{2}(T ₀), {11}(P)	BVRI
V859 Cyg	56126.3023	0.0004	CY-MA	+0.0038	p	(a)	BVRI
	56126.5052	0.0002	CY-MA	+0.0042	s		BVRI
TYC 3069-1654-1	56094.4952	0.0004	ŞŞŞ	+0.0719	s	{4}	BVRI
	56127.4039	0.0005	GG-Eİ-BE	+0.0730	p		BVRI
GSC 2750-0854	56174.5653	0.0004	AO	-0.1119	p	{7}	BVRI
	56195.5498	0.0077	AO	-0.1160	s		BVRI
TYC 2220-704-1	56169.3903	0.0003	GG	-0.0327	p	{13}	BVRI
	56169.5509	0.0007	GG	-0.0320	s		BVRI
	56175.3059	0.0006	AY-YD	-0.0322	s		BVRI
	56175.4653	0.0004	AY-YD	-0.0326	p		BVRI
ASAS J212915+1604.9	56134.3443	0.0003	GG-Eİ-BE	+0.0005	s	(b)	BVRI
	56134.4846	0.0003	GG-DDİ-KÖÜ	-0.0007	p		BVRI
	56139.2950	0.0002	AO-YŞ	-0.0007	p		BVRI
	56139.4378	0.0005	AO-YŞ	+0.0006	s		BVRI
	56155.4242	0.0002	MA-BE-Eİ	-0.0002	p		BVRI
	56155.5665	0.0002	MA-BE-Eİ	+0.0006	s		BVRI

¹IRAF is distributed by the National Optical Astronomical Observatories, operated by the Association of the Universities for Research in Astronomy, inc., under cooperative agreement with the National Science Foundation

Table 1: cont.

Variable	HJD 24.....	\pm	Obs	$O - C$		Ref	Fil
ASAS J225956+1418.2	56196.4051	0.0005	HG	-0.0599	p	(13)	BVRI
V882 Per	56162.5056	0.0002	GG	+0.0145	p	(8)	BVRI
	56171.5003	0.0005	MNB-MBD	+0.0155	p		BVRI
	56198.4814	0.0009	MNB	+0.0153	p		BVRI
V384 Ser	56087.3527	0.0003	YK-SC	-0.0040	p	(3)(T ₀), (11)(P)	BVRI
	56087.4848	0.0008	YK-SC	-0.0062	s		BVRI
GSC 2140-1485	56111.3167	0.0006	AO-YŞ	-0.0025	p	(c)	BVRI
ASAS J205847+2731.9	56157.3047	0.0003	YK	+0.0076	s	(13)	BVRI
	56157.4380	0.0005	YK	+0.0069	p		BVRI
	56157.5728	0.0007	YK	+0.0076	s		BVRI
	56166.4192	0.0003	MMK	+0.0077	s		BVRI
	56166.5521	0.0002	MMK	+0.0066	p		BVRI
	56195.2359	0.0003	AO	+0.0069	p		BVRI
	56195.3702	0.0005	AO	+0.0071	s		BVRI
ASAS J211538+2454.2	56138.3995	0.0003	MA-MBD	-0.0221	p	(13)	BVRI

(a): New elements: $T_0=2451041.4457$, $P=0.4050062$ d.

(b): New elements: $T_0=2455407.5576$, $P=0.28296136$ d.

(c): New elements: $T_0=2456111.3192$, $P=0.30120202$ d.

Observers:

AO:	Abdullah OKAN	MBD:	Mustafa Burak DOĞRUEL
AY:	Arzu YOLKOLU	MHT:	Mustafa Hayri TÜRKYILMAZ
BE:	Başak ESMER	MMK:	Metehan Metin KEKLİK
CY:	Ceren YILDIRIM	MNB:	Mehmet Naim BAĞIRAN
DDİ:	Didem Dilan İZCİ	MSH:	Muhammed ŞEMUNİ
Eİ:	Elif İMDAT	SC:	Sonay CERİT
GG:	Gökhan GÖKAY	ŞŞŞ:	Şakir Şenol ŞAHİN
GS:	Gözde SARAL	YD:	Yahya DEMİRCAN
HG:	Hande GÜR SOYTRAK	YK:	Yücel KILIÇ
HS:	Hatice SARAÇ	YŞ:	Yunus ŞENDAĞ
KÖÜ:	Kübra Özge ÜNAL	ZT:	Zahide TERZİOĞLU
MA:	Mehmet ALPSOY		

References:

- Diethelm, R., 2012a, *IBVS*, No. 6011 (1)
 Diethelm, R., 2012b, *IBVS*, No. 6029 (2)
 Hübscher, J. et al., 2012, *IBVS*, No. 6026 (3)
 Khruslov, A. V., 2007, *Perem. Zvezdy Prilozh.*, **7**, 6 (4)
 Kwee, K. K., van Woerden, H., 1956, *Bull. Astron. Inst. Neth.*, **12**, 327 (5)
 Locher, K., 2005, *OEJV*, **3**, 1 (6)
 Maciejewski, G. et al., 2004, *IBVS*, No. 5518 (7)
 Nagai, K., 2009, *VSOLJ* 48 (8)
 Nagai, K., 2012, *VSOLJ* 53 (9)
 Nelson, B., 2006, <http://www.members.shaw.ca/bob.nelson/software1.htm> (10)
 Paschke, A., Brat, L., 2006, *OEJV*, **23**, 13, <http://var.astro.cz/ocgate> (11)
 Paschke, A., 2012, *OEJV*, **142**, 1 (12)
 Pojmanski, G., 1997, *Acta Astronomica*, **47**, 467 (13)