

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

Number 6041

Konkoly Observatory
Budapest
29 December 2012

HU ISSN 0374 – 0676

TIMES OF MINIMA OF SOME ECLIPSING BINARY STARS

DEMİRCAN, Y.; GÖKAY, G.; OKAN, A.; GÜRİSOYTRAK, H.; TERZİOĞLU, Z.; SARAL, G.; KILIÇ, Y.; CERİT, S.; ŞEMUNİ, M.; AYDIN, E.; DEMİRHAN, U.; GÜROL, B.

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

Observatory and telescope:

16" Schmidt/Cassegrain telescope at Ankara University Observatory

Detector:

Apogee ALTA U47+ back illuminated CCD camera, Peltier cooling, E2V CCD47-10 chip, 1024 × 1024 pixels.

Method of data reduction:

Reduction of the CCD frames was made with the IRAF ¹ , CCDRED and DAOPHOT packages.
--

Method of minimum determination:

The minimum 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 were used.
--

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

Times of minima:					
Star name	Time of min. HJD 2400000+	Error	Type	Filter	Rem.
TZ Boo	55705.5096	0.0002	I	BVRI	AO
	55732.4022	0.0001	II	BVRI	MMK
	55733.4450	0.0004	I	BVRI	AO-YŞ
	55738.3456	0.0002	II	BVRI	YD-TO-AK
	55742.3592	0.0004	I	BVRI	ZT-MSH-MA
	55743.3972	0.0003	II	BVRI	GS-MD
GK Boo	55735.4284	0.0002	I	BVRI	MSH-MA-CY
	55736.3838	0.0001	I	BVRI	CY-AY-MA
	55737.3393	0.0001	I	BVRI	UD-CY
	55741.3997	0.0002	II	BVRI	YK
GS Boo	55663.4409	0.0015	I	BVRI	AO-YŞ
HH Boo	55678.3929	0.0002	I	BVRI	YK-MSH
	55678.5538	0.0004	II	BVRI	YK-MSH
	55682.3781	0.0004	II	BVRI	YD-SI
	55682.5356	0.0003	I	BVRI	YD-SI
EG Cep	55761.4450	0.0007	II	BVRI	AO-YŞ
	55784.3194	0.0008	II	BVRI	ZT-SC
	55809.3717	0.0003	II	BVRI	AY
	55818.3583	0.0002	I	BVRI	GS
EF Cep	55803.3699	0.0001	II	BVRI	AO
TYC 4589-2999-1	55809.3530	0.0004	I	BVRI	AY
DY CVn	55691.5255	0.0004	I	VRI	AO-YŞ
V1191 Cyg	55753.3880	0.0003	I	BVRI	MMK
	55754.3298	0.0009	I	BVRI	MA-YŞ
	55754.4851	0.0004	II	BVRI	MA-YŞ
V1918 Cyg	55815.3895	0.0002	II	BVRI	AO-TO-AK
ASAS 202521+0425.5	55771.5033	0.0004	I	BVRI	MBD-YK-MA
	55793.3487	0.0004	II	BVRI	CY-MA
HI Dra	55820.5036	0.0014	I	BVRI	AO-GS
V1033 Her	55755.3770	0.0006	II	BVRI	GS-CY
	55755.5253	0.0002	I	BVRI	GS-CY
	55758.3571	0.0002	II	BVRI	CY-MA
	55758.5054	0.0002	I	BVRI	CY-MA
	55770.4272	0.0004	I	BVRI	MSH-MA
	55771.3221	0.0004	I	BVRI	MBD-YK-MA
	55771.3221	0.0004	I	BVRI	MBD-YK-MA
GSC 2751-1007	55764.4106	0.0010	I	BVRI	YK-TO-MD
	55778.3963	0.0006	II	BVRI	YK-AK-TO
	55781.5255	0.0003	I	BVRI	MMK
	55783.4059	0.0009	II	BVRI	GS
	55790.5024	0.0006	II	BVRI	YK-MBD-AK
	55799.2681	0.0004	II	BVRI	YK-MBD-TO
	55799.4769	0.0007	I	BVRI	YK-MBD-TO

Times of minima:					
Star name	Time of min. HJD 2400000+	Error	Type	Filter	Rem.
ASAS 231700+1944.9	55795.3673	0.0007	II	BVRI	CY-MBD
	55795.5467	0.0003	I	BVRI	CY-MBD
CD Tri	55805.3737	0.0004	II	BVRI	MSH
	55805.5521	0.0005	I	BVRI	MSH
	55814.4427	0.0004	II	VRI	CY-MBD
	55816.4709	0.0011	I	BVRI	MBD-MNB
	55817.3930	0.0004	II	I	AO
	55817.5764	0.0007	I	VRI	AO

Explanation of the remarks in the table:

Observers: AK: Altuğ KARADAĞ, AO: Abdullah OKAN, AY: Arzu YOLKOLU, CY: Ceren YILDIRIM, GS: Gözde SARAL, MA: Mehmet ALPSOY, MBD: Mustafa Burak DOĞRUDEL, MD: Mehtap DOĞANAY, MMK: Metehan Metin KEKLİK, MNB: Mehmet Naim BAĞIRAN, MSH: Muhammed ŞEMUNİ, SC: Sonay CERİT, SI: Süleyman İŞILDAK, TO: Tahsin OZUN, UD: Utku DERMİRHAN, YD: Yahya DEMİRCAN, YK: Yücel KILIÇ, YŞ: Yunus ŞENDAG, ZT: Zahide TERZİOĞLU

Remarks:

The times of minima are weighted averages from all filters observed.

Acknowledgements:

We are grateful to Ankara University Observatory for use of the telescope time allocation and other facilities.

References:

- Kwee, K. K., van Woerden, H., 1956, *Bull. Astron. Inst. Neth.*, **12**, 327.
 Nelson, B., 2006, <http://www.members.shaw.ca/bob.nelson/software1.htm>