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MINIMA TIMES OF SOME ECLIPSING BINARY STARS

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Observatory and telescope:

AUG: 16" Schmidt/Cassegrain telescope at Ankara University Observatory

TUG: 16" Meade LX200-GPS Telescope of the TÜBİTAK National Observatory

Detector:

AUG: Apogee ALTA U47+ back illuminated CCD camera, Peltier cooling, E2V CCD47-10 chip, 1024 × 1024 pixels. TUG: ST8-E CCD Camera

Method of data reduction:

Reduction of the CCD frames was made with IRAF¹ CCDRED and DAOPHOT packages.

Method of minimum determination:

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 value calculated for all filters used.

Times of minima:

Star name	Time of min. HJD 2400000+	Error	Type	Filter	Rem.
QX And	55114.4307	0.0001	II	BVRI-AUG	YD
V1073 Cyg	55089.4572	0.0008	II	BVRI-AUG	DÇ-GG
V1191 Cyg	54353.4729	0.0002	II	BVR-TUG	ED-GG
	54356.4476	0.0003	I	BVR-TUG	ED-GG
V566 Oph	55032.3375	0.0002	I	BVRI-AUG	GG-ZT
	55033.3618	0.0001	II	BVRI-AUG	GG-GS
TV UMi	55064.3009	0.0008	II	BVRI-AUG	YD
	55064.5059	0.0002	I	BVRI-AUG	YD
	55075.3133	0.0010	I	BVRI-AUG	GG-GS
	55075.5133	0.0004	II	BVRI-AUG	GG-GS

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.
ASAS 013630+0150.3	54354.5494	0.0001	I	BVR-TUG	ED-GG
	54355.3508	0.0004	I	BVR-TUG	ED-GG
	54355.4833	0.0001	II	BVR-TUG	ED-GG
	54355.6183	0.0005	I	BVR-TUG	ED-GG
ASAS 061245+1134.0	54422.3961	0.0003	II	VRI-TUG	ED-GG
	54426.5140	0.0050	I	VRI-TUG	ED-GG
ASAS 225832+0552.4	54354.3047	0.0001	II	BVR-TUG	ED-GG
	54354.4223	0.0001	I	BVR-TUG	ED-GG
	55092.2714	0.0001	II	BVRI-AUG	ZT-DÇ
	55092.5051	0.0004	II	BVRI-AUG	ZT-DÇ
	55098.3619	0.0003	II	BVRI-AUG	AO-YD
	55098.4792	0.0003	I	BVRI-AUG	AO-YD
	55099.2988	0.0001	II	BVRI-AUG	ZT-HG
	55099.4161	0.0002	I	BVRI-AUG	ZT-HG
	55099.5334	0.0002	II	BVRI-AUG	ZT-HG
	55110.4266	0.0004	I	BVRI-AUG	GS
ASAS 225956+1418.2	55112.3540	0.0002	II	BVRI-AUG	ZT-UD
BD+42 2782	54356.3481	0.0002	I	BVR-AUG	ED-GG
GSC 2331-0731	55108.4808	0.0025	I	BVRI-AUG	HG
GSC 2587-1888	55015.3399	0.0003	I	BVRI-AUG	BG-YD-AO-HG-ZT
	55015.4937	0.0009	II	BVRI-AUG	BG-YD-AO-HG-ZT
	55021.3987	0.0004	II	BVRI-AUG	YD-AO-HG-ZT
GSC 2750-0854	55106.3084	0.0007	I	BVRI-AUG	GG-AMÖ
GSC 3526-2369	55014.4217	0.0002	II	BVRI-AUG	BG-YD-AO-DÇ-HG-ZT
	55022.3478	0.0001	II	BVRI-AUG	BG-YD-AO-DÇ-HG-ZT
GSC 3996-0574	55122.2975	0.0019	I	BVRI-AUG	GG
	55122.5093	0.0002	II	BVRI-AUG	GG
TYC 1761-1246-1	55080.5182	0.0001	I	BVRI-AUG	AO-GS
	55103.4279	0.0003	I	BVRI-AUG	GG
	55103.5887	0.0004	II	BVRI-AUG	GG
	55144.3189	0.0008	II	BVRI-AUG	HG

Explanation of the remarks in the table:

Observers: AMÖ: A.Mithat ÖZ, AO: Abdullah OKAN, BG: Birol GÜROL, DÇ: Deniz ÇOKER, ED: Ethem DERMAN, GG: Gökhan GÖKAY, GS: Gözde SARAL, HG: Hande GÜR SOYTRAK, UD: Utku DEMİRHAN, YD: Yahya DEMİRCAN, ZT: Zahide TERZİOĞLU

Remarks:

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

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References:

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