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**PHOTOELECTRIC MINIMA OF SOME ECLIPSING BINARY STARS**

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<b>Observatory and telescope:</b>	
30-cm Maksutov telescope of the Ankara University Observatory	
<b>Detector:</b>	OPTEC SSP-5A photoelectric photometer (uncooled) containing a side-on R1414 Hamamatsu photomultiplier.
<b>Method of data reduction:</b>	
Reduction of the observations were made in the usual way (Hardie, 1962).	
<b>Method of minimum determination:</b>	
The minima times were calculated using Kwee & van Woerden's (1956) method.	

<b>Times of minima:</b>					
Star name	Time of min. HJD 2400000+	Error	Type	Filter	Rem.
AB And	53555.4740	0.0002	I	BV	Çkr-At
	53644.4205	0.0003	I	BV	Kh-Sp
	53650.3913	0.0002	I	BV	Çf-Bk
	53651.3874	0.0007	I	BV	Sp-Sr
	53666.3254	0.0001	I	BV	Trn-Kly
	53683.2521	0.0003	I	BV	Çl-Blb
	53683.4181	0.0003	II	BV	Ün-Tg
BX And	53339.2474	0.0006	I	UBV	Yld-Sğ
V363 And	53640.3931	0.0005	I	BV	Cv-Çkr
	53649.3501	0.0006	I	BV	Dm-Kl
OO Aql	53544.5103	0.0002	II	BV	Yld-Öz
	53569.3419	0.0003	II	BV	Ak-Ev
	53588.3462	0.0001	I	BV	Ylk-Sp
XZ Aql	53641.2863	0.0004	I	BV	Dm-Cv
AH Aur	53752.4448	0.0006	I	BV	Özg-Blg
AP Aur	54079.4942	0.0006	I	BV	Çl-Ün
AR Aur	54070.4924	0.0003	II	BV	Dv-Şnd
	54093.2344	0.0002	I	BV	Trn-Alt
TT Aur	53073.2932	0.0002	I	UBV	HAK-Blt

<b>Times of minima:</b>					
Star name	Time of min. HJD 2400000+	Error	Type	Filter	Rem.
V410 Aur	53652.5615	0.0005	I	<i>BV</i>	Cv-Kly
	53682.6025	0.0005	I	<i>BV</i>	Öz-Blg
AC Boo	53782.5082	0.0004	I	<i>BV</i>	Dm-Çkn
	53798.5466	0.0004	II	<i>BV</i>	Kh-Tn
	53884.3565	0.0004	I	<i>BV</i>	Trz-At
	53904.4562	0.0004	I	<i>BV</i>	Trn-Sk
CK Boo	53804.5019	0.0004	I	<i>BV</i>	Şn-Pr
	53874.4676	0.0003	I	<i>BV</i>	Ns-Pr
EL Boo	53149.4506	0.0014	I	<i>UBV</i>	El-Gl
	53177.3796	0.0009	I	<i>UBV</i>	Çn-Gl
TZ Boo	53471.3090	0.0005	I	<i>BV</i>	Çrk-Çkr
	53471.4581	0.0004	II	<i>BV</i>	Çrk-Çkr
TX Cnc	54063.5440	0.0004	II	<i>BV</i>	Şn-Bğ
WY Cnc	53702.5370	0.0002	I	<i>BV</i>	At-Av
BI CVn	53729.5475	0.0003	I	<i>BV</i>	Ak-Km
CG Cyg	53568.4154	0.0003	I	<i>BV</i>	Trn-Şn
	53977.3963	0.0002	I	<i>BV</i>	Al-Klç
GO Cyg	53590.3825	0.0018	II	<i>UBV</i>	Ul-Çkr
KR Cyg	53269.3084	0.0002	I	<i>UBV</i>	Trn-Atm
	53978.3920	0.0002	I	<i>BV</i>	Al-Dv
AK Her	53869.3779	0.0009	I	<i>BV</i>	Trn-Sk
	53879.4943	0.0005	I	<i>BV</i>	Çl-Al
	53881.3910	0.0004	II	<i>BV</i>	Pr-Grl
	53885.3941	0.0002	I	<i>BV</i>	Klç-Klç
SZ Her	53197.3994	0.0002	I	<i>UBV</i>	Kr-Ylm
TT Her	53912.3873	0.0002	I	<i>BV</i>	Trz-At
TX Her	53888.3880	0.0006	II	<i>BV</i>	Ns-Şn
UX Her	53164.4420	0.0002	I	<i>UBV</i>	Atm-Blt
SW Lac	53280.2854	0.0002	II	<i>BV</i>	Tn-Cv
	53622.3326	0.0002	I	<i>BV</i>	Bk-Uğ
	53622.4942	0.0002	II	<i>BV</i>	Bk-Tp
	53623.4566	0.0003	II	<i>BV</i>	Tn-Sp
	53624.4171	0.0002	II	<i>UBV</i>	Trn-Şn
	53624.5760	0.0002	I	<i>UBV</i>	Trn-Şn
	53648.4719	0.0001	II	<i>BV</i>	Sl-At
	53658.2549	0.0003	I	<i>BV</i>	Sl-Ak
	53665.3107	0.0002	I	<i>BV</i>	Tn-Sp
	53665.4692	0.0002	II	<i>BV</i>	Ylk-Sp
	53994.3690	0.0002	I	<i>BV</i>	Tn-Erd
	54068.2946	0.0004	II	<i>BV</i>	Çl-Ym
AM Leo	53821.4172	0.0002	I	<i>BV</i>	Ylm
AP Leo	53407.5726	0.0003	II	<i>UBV</i>	Em-Erg
FK Leo	53085.4121	0.0005	I	<i>UBV</i>	Ylm-Kr
	53105.3902	0.0006	II	<i>BV</i>	Sp-Krk
UV Leo	53447.3739	0.0002	II	<i>BV</i>	Tp-At
	53823.3265	0.0005	I	<i>BV</i>	Klç-Al

<b>Times of minima:</b>					
Star name	Time of min. HJD 2400000+	Error	Type	Filter	Rem.
XY Leo	53380.5079	0.0003	I	<i>BV</i>	Kö-Ak
	53783.3590	0.0004	I	<i>BV</i>	Bk-Ns
	53799.4098	0.0003	II	<i>BV</i>	Trn-Erd
	53799.5520	0.0004	I	<i>BV</i>	Trn-Erd
	53814.4676	0.0003	II	<i>BV</i>	Çn-Ak
XZ Leo	53826.3363	0.0005	II	<i>BV</i>	Eld-Çlk
SW Lyn	53739.4319	0.0002	I	<i>BV</i>	Çl-AÇk
V451 Oph	53528.4892	0.0002	I	<i>BV</i>	Sğ-Özy
V456 Oph	53894.4647	0.0002	I	<i>BV</i>	Ylm-Çkn
	53537.4733	0.0003	II	<i>BV</i>	Özg-Klç
V502 Oph	53905.3952	0.0003	I	<i>BV</i>	Dv-Çn
	53549.4226	0.0005	II	<i>UBV</i>	Özg-Erg
V566 Oph	53886.5249	0.0004	I	<i>BV</i>	Çl-Gl
	53893.4883	0.0004	I	<i>BV</i>	Klç-Blg
	53913.3570	0.0002	II	<i>BV</i>	Ay-Gl
	53906.3937	0.0004	II	<i>BV</i>	Klç-Ps
	53533.3896	0.0004	II	<i>BV</i>	Bş-Ylm
V839 Oph	54059.3020	0.0003	I	<i>BV</i>	Sp-Er
	54070.3254	0.0004	II	<i>BV</i>	Bğ-Şnv
U Peg	53963.4420	0.0006	II	<i>BV</i>	Gl-Ay
	53971.4999	0.0003	I	<i>BV</i>	Bb-Çkn
	53995.4867	0.0007	I	<i>BV</i>	Sk-Trn
AQ Psc	53642.5405	0.0013	I	<i>BV</i>	Özg-Öz
	53709.3197	0.0004	II	<i>BV</i>	Ay-Av
VZ Psc	53259.3266	0.0004	I	<i>BV</i>	Çn-Klç
	53259.4661	0.0003	II	<i>BV</i>	Çn-Klç
	53260.3717	0.0005	I	<i>BV</i>	Çn
	53261.2961	0.0006	II	<i>UBV</i>	Çn-At
	53261.4206	0.0005	I	<i>UBV</i>	Çn-At
	53262.3438	0.0004	II	<i>UBV</i>	Çn-Atm
	53262.4650	0.0004	I	<i>UBV</i>	Çn-Atm
	53263.3902	0.0004	II	<i>UBV</i>	Çn-Alp
	53263.5103	0.0004	I	<i>UBV</i>	Çn-Alp
	53264.2935	0.0003	I	<i>UBV</i>	Çn-Öz
	53264.4339	0.0006	II	<i>UBV</i>	Çn-Öz
	53265.3358	0.0005	I	<i>BV</i>	Çn-Sğ
	53265.4764	0.0008	II	<i>BV</i>	Çn-Sğ
	53329.2229	0.0011	II	<i>BV</i>	Çn
	53620.3896	0.0007	II	<i>BV</i>	Çn-Dm
	53620.5187	0.0006	II	<i>BV</i>	Çn-Dm
53621.3176	0.0004	II	<i>BV</i>	Çn-Öz	
53621.4362	0.0007	I	<i>BV</i>	Çn-Öz	
53674.3429	0.0005	II	<i>BV</i>	Çn-Av	

<b>Times of minima:</b>					
Star name	Time of min. HJD 2400000+	Error	Type	Filter	Rem.
V781 Tau	53305.5771	0.0004	II	<i>UBV</i>	Yld-Gr
	53426.3293	0.0007	II	<i>BV</i>	At-Ay
	53666.3886	0.0006	II	<i>BV</i>	Trn-Kly
	53666.5603	0.0002	I	<i>BV</i>	Trn-Kly
	53674.4932	0.0003	I	<i>BV</i>	At-Av
	53708.2940	0.0002	I	<i>BV</i>	Trn-Kly
	53708.4677	0.0002	II	<i>BV</i>	Trn-Kly
	53729.3312	0.0005	I	<i>BV</i>	Trn-Kly
BF Vir	53852.4025	0.0006	I	<i>BV</i>	Ylm-Çkn
ER Vul	53599.2997	0.0006	II	<i>BV</i>	Ko-Cv
Z Vul	53604.3394	0.0004	I	<i>BV</i>	At-Ev

#### **Explanation of the remarks in the table:**

**Observers:** AÇk: A. Çakan, Ak: O. Aksu, Akk: A. Akkaya, Al: N. Alan, Alp: I. Alpay, Alt: B. Altuntaş, Ar: S. Aras, At: Ö. Atlagan, Atm: E. Ataman, Av: Z. Avcı, Ay: G. Aydın, Bb: B. Babaoğlu, Bğ: N. Bağiran, Bk: M. Bakırcı, Blb: B. Bülbül, Blg: D. Bilgiç, Blt: F. Bulut, Bş: G. Başlangıç, Cv: E. Civelek, Çf: N. Çiftçi, Çkn: D. Çakan, Çkr: D. Çoker, Çl: T. Çolak, Çlk: L. Çelik, Çn: D. Çınar, Çrk: C. Çırakoğlu, Dm: U. Demirhan, Dv: O. Deveci, El: A. Elmashı, Eld: Y. Eldemir, Em: B. Eminoğlu, Er: F. Eriş, Erd: E. Erdogan, Erg: İ. Ergün, Ev: B. Evin, Gl: G. Gülnaz, Gr: G. Gürkan, Grl: S. Güral, HAK: H. Ak, Kh: A.S. Kahraman, Kl: C. Kılıç, Klç: T. Kılıçoğlu, Kly: G. Kalyoncu, Km: N. Kemer, Ko: S. Kocazeybek, Kö: S. Kösemen, Kr: A. Kara, Krc: M. Kırca, Krk: T. Karakaş, Ns: M. Nas, Öy: Ö. Yılmaz, Öz: İ. Özavcı, Özg: E. Özgür, Özy: D. Özuyar, Pk: E. Peker, Pr: G. Parmaksız, Ps: Ç. Püsküllü, Sğ: U. Sağır, Sk: S. Sakallı, Sl: G. Salman, Sp: S. Sipahioğlu, Sr: G. Saral, Şn: H.T. Şener, Şnd: Y. Şendağ, Şnv: H. V. Şenavcı, Tg: O. Tagay, Tn: T. Tanrıverdi, Tp: S. Topal, Trn: E. Törün, Trz: Z. Terzioğlu, Uğ: B. Uğurluoğlu, Ul: N.D. Ulus, Ün: B. Ünal, Yld: Y. Yıldırım, Ylk: K. Yelkenci, Ylm: M. Yılmaz, Ym: S. Yaman

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#### References:

- Hardie, R.H., 1962, in *Astronomical Techniques*, Chicago University Press, ed. Hiltner, W.A.  
 Kwee, K.K., van Woerden, H., 1956, *BAN*, **12**, 327