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NEW MINIMA OF SELECTED ECLIPSING CLOSE BINARIES

PRIBULLA, T.[1]; BALUĎANSKÝ, D.[6]; CHOCHOL, D.[1]; CHRASTINA, M.[4,3]; PARIMUCHA, Š.[5]; PETRÍK, K.[2,3]; SZASZ, G.[4,3]; VAŇKO, M.[1]; ZBORIL, M.[1]

[1] Astronomical Institute of the Slovak Academy of Sciences, 059 60 Tatranská Lomnica, Stará Lesná, The Slovak Republic; e-mail: (pribulla,chochol,vanko,mzboril)@ta3.sk

[2] Department of Physics, Faculty of Education, Trnava University, Priemyselná 4, 918 43 Trnava, The Slovak Republic; e-mail: kpetrik@astronyx.sk

[3] Hlohovec Observatory and Planetarium, Sládkovičova 41, 920 01 Hlohovec, The Slovak Republic

[4] Department of Astronomy, Geophysics and Meteorology, Faculty of Mathematics, Physics and Informatics, Comenius University, 842 48 Bratislava, The Slovak Republic; e-mail: chrastina@kozmos.sk, g.szasz@nextra.sk

[5] Institute of Physics, Faculty of Natural Sciences, University of P.J. Šafárik, 040 01 Košice, The Slovak Republic; e-mail: parimuch@ta3.sk

[6] Roztoky Observatory, 090 01 Vyšný Orlík, The Slovak Republic; e-mail: bdaniel@pobox.sk

Observatory and telescope:
50cm Newtonian telescope at Stará Lesná (G1), 60cm Cassegrain telescope at Stará Lesná (G2), 60cm Cassegrain telescope at Skalnaté Pleso Observatory (SP), 40cm Cassegrain telescope at Roztoky Observatory (Ro), 5.6/1000 Zeiss Spiegelobjektiv at Hlohovec Observatory (HL)

Detector:	SBIG ST10 MXE CCD camera (G1), photoelectric photometer (G2,SP), SBIG ST8 CCD camera (Ro), SBIG ST9 XE camera (HL)

Method of data reduction:
At G1 aperture photometry was performed using dedicated scripts written under the MIDAS reduction package (`http://www.eso.org/projects/esomidas/`) by one of the authors (TP) while at Ro and HL the MuniPack package (`http://www.ian.cz/munipack/`) has been used. In the case of photoelectric photometry for all observations a 10 second integration was used. Data reduction, the atmospheric extinction correction and transformation to the standard international UBV system were carried out in the usual way. Part of the photoelectric photometry was performed with neutral filter (N).

Method of minimum determination:
The minima times were computed by Kwee & van Woerden method.

Times of minima:					
Star name	Time of min. HJD 2400000+	Error	Type	Filter	Rem.
RT And	53290.6010	0.0007	I	BV	G1
	53291.5430	0.0007	II	BV	G1
AB And	52896.5031	0.0001	II	BV	G2
BX And	53080.2606	0.0002	II	RI	G1
AH Aur	53407.3154	0.0002	II	BVR	G1
	53410.2824	0.0001	I	NBV	G2
V410 Aur	53251.5808	0.0001	I	$BVRI$	G1
	53283.4556	0.0001	I	$BVRI$	G1
	53355.2632	0.0001	II	VR	G1
	53381.4576	0.0001	I	$BVRI$	G1
	53382.3721	0.0001	I	$BVRI$	G1
	53386.4010	0.0004	I	R	G1
	53388.2363	0.0001	I	$BVRI$	G1
	53400.3240	0.0001	I	VRI	G1
44 Boo	53517.3576	0.0001	II	BV	G2
	53517.4923	0.0001	I	BV	G2
TZ Boo	53111.4506	0.0001	II	$BVRI$	G1
	53146.3643	0.0001	I	$BVRI$	G1
	53516.4783	0.0001	I	VRI	G1
DU Boo	53056.4907	0.0003	I	$UBVRI$	G1
	53149.4121	0.0003	II	BV	G2
	53388.5880	0.0003	I	UBV	G2
	53433.4377	0.0002	I	BV	G2
ET Boo	53450.4854	0.0001	II	$BVRI$	G1
	53451.4519	0.0001	II	$BVRI$	G1
	53460.4806	0.0001	I	$BVRI$	G1
FI Boo	53104.4504	0.0003	II	BV	G2
SV Cam	52657.5748	0.0002	II	BV	G2
	52688.4054	0.0002	I	V	G1
	52694.6407	0.0001	I	UBV	G2
	52938.3898	0.0001	I	$UBVRI$	G1
	52952.6234	0.0001	I	$UBVRI$	G1
DN Cam	52896.5715	0.0001	II	UBV	G2
BI CVn	52763.4517	0.0001	I	BVR	G1
	52764.4114	0.0001	II	$BVRI$	G1
	52765.3727	0.0001	II	$BVRI$	G1
	53490.3770	0.0001	I	$BVRI$	G1
BS Cas	53234.5368	0.0001	II	VR	G1
	53236.5194	0.0001	I	VRI	G1
	53245.5486	0.0001	I	VRI	G1
	53256.5599	0.0001	II	VRI	G1
	53259.4229	0.0001	II	VRI	G1
	53281.4464	0.0001	I	VRI	G1
CW Cas	52931.4268	0.0001	II	BVI	G1
	52931.5863	0.0001	I	$BVRI$	G1
	52956.2980	0.0001	II	$BVRI$	G1

Times of minima:					
Star name	Time of min. HJD 2400000+	Error	Type	Filter	Rem.
V523 Cas	52618.2700	0.0001	I	BV	G2
VW Cep	53518.3729	0.0001	II	BV	G2
WZ Cep	52958.3368	0.0001	II	$BVRI$	G1
	52964.6000	0.0002	II	$BVRI$	G1
	52965.4357	0.0001	I	$BVRI$	G1
	52976.4984	0.0001	II	$BVRI$	G1
GW Cep	52723.2963	0.0001	I	BV	G1
	53491.5213	0.0001	II	VRI	G1
EE Cet	52956.4747	0.0002	I	BV	G2
	53011.3742	0.0002	II	BV	G2
RW Com	53406.4491	0.0001	I	VRI	G1
	53406.5685	0.0001	II	VRI	G1
	53407.6359	0.0001	II	VRI	G1
	53409.5324	0.0001	I	VRI	Ro
	53409.6534	0.0001	II	VRI	Ro
	53410.2565	0.0001	I	I	Ro
	53410.3735	0.0001	I	I	Ro
SS Com	52766.3856	0.0001	II	BV	G1
	52767.4175	0.0001	I	BV	G1
	53104.4859	0.0001	I	BV	G1
	53361.6745	0.0001	I	VRI	G1
CC Com	53504.3365	0.0001	II	VRI	G1
	53504.4465	0.0001	II	VRI	G1
EK Com	53408.4685	0.0001	I	VRI	G1
	53408.6030	0.0001	I	VRI	G1
YY CrB	53466.4141	0.0001	I	BV	G2
CG Cyg	52863.4241	0.0001	II	$BVRI$	G1
	52864.3716	0.0001	II	$BVRI$	G1
	52898.4514	0.0001	II	$BVRI$	G1
V401 Cyg	53520.4389	0.0001	I	VRI	G1
V1191 Cyg	52902.3257	0.0002	II	BVR	G1
	52902.4848	0.0001	II	BVR	G1
	52905.3050	0.0002	I	B	G1
	52905.4591	0.0001	I	BVR	G1
	53156.4815	0.0001	I	$UBVR$	G1
	53512.4895	0.0001	II	VRI	G1
EF Dra	52908.4374	0.0001	I	BVR	G1
	52909.4968	0.0002	I	BVR	G1
	53082.5013	0.0001	II	$BVRI$	G1
	53084.4092	0.0001	II	$BVRI$	G1
	53098.4049	0.0002	II	$BVRI$	G1
	53285.3991	0.0005	II	BV	G2
	53452.4636	0.0003	II	$BVRI$	G1
	53466.4614	0.0002	II	BVR	SP
FU Dra	52721.4555	0.0001	I	$BVRI$	G1
	52721.6081	0.0001	I	$BVRI$	G1

Times of minima:					
Star name	Time of min. HJD 2400000+	Error	Type	Filter	Rem.
FU Dra	53410.4955	0.0001	II	I	Ro
	53410.6499	0.0001	I	I	Ro
	53462.3367	0.0001	I	$UBVRI$	G1
V829 Her	53462.5160	0.0001	I	VRI	G1
V857 Her	52751.4108	0.0001	II	BV	G1
	52755.4240	0.0002	I	BVR	G1
	52761.3478	0.0002	I	BR	G1
V921 Her	52790.5033	0.0001	I	BV	G1
	53463.4610	0.0001	II	$BVRI$	G1
SW Lac	52905.3681	0.0001	I	BV	G2
V344 Lac	52896.5148	0.0001	II	BVR	G1
	52901.4175	0.0001	I	BVR	G1
	52901.6141	0.0002	II	BVR	G1
	52903.3793	0.0001	I	BVR	G1
	52955.3506	0.0003	II	I	Ro
	52956.3321	0.0003	I	I	Ro
	52957.3119	0.0001	II	I	Ro
	52957.5088	0.0002	II	I	Ro
CE Leo	52705.5181	0.0001	II	RI	Ro
	52707.3391	0.0001	II	VI	Ro
	52720.3866	0.0001	I	$BVRI$	G1
	52720.5381	0.0001	I	$BVRI$	G1
	53465.4561	0.0001	I	BVR	G1
EX Leo	52723.3246	0.0002	II	UBV	G2
	52726.3903	0.0002	I	UBV	G2
VW LMi	53461.4592	0.0001	II	BVN	G2
	53465.5195	0.0001	I	BVN	G2
V714 Mon	52999.3580	0.0001	I	$BVRI$	G1
	53306.6591	0.0002	II	VI	G1
	53347.4830	0.0002	II	VRI	G1
V753 Mon	53070.2633	0.0001	I	BV	G1
	53071.2790	0.0001	II	BV	G1
BX Peg	53208.4530	0.0001	I		HL
	53209.4335	0.0001	II		HL
	53209.5743	0.0002	I		HL
	53212.5180	0.0001	I		HL
	53220.3701	0.0001	II		HL
	53220.5099	0.0001	II		HL
	53224.4358	0.0002	I		HL
	53226.5392	0.0001	I		HL
	53236.3538	0.0001	II	V	HL
	53236.4931	0.0001	II	V	HL
	53240.4180	0.0002	I	V	HL
	53240.5597	0.0001	II	V	HL
KW Peg	53208.4209	0.0002	II	V	HL
	53212.5011	0.0002	II	V	HL

Times of minima:					
Star name	Time of min. HJD 2400000+	Error	Type	Filter	Rem.
V432 Per	52927.6188	0.0001	II	*VRI*	G1
	52941.4189	0.0001	I	*VRI*	G1
	52941.6096	0.0001	I	*VR*	G1
	53345.2378	0.0001	I	*VRI*	G1
DV Psc	53284.4221	0.0001	I	*BVRI*	G1
	53285.3479	0.0001	II	*BVRI*	G1
	53285.5025	0.0002	I	*R*	G1
	53344.2782	0.0001	I	*VRI*	G1
V Sge	53217.5102	0.0006	I	*V*	Hl
	53233.4622	0.0005	I	*V*	Hl
	53246.3112	0.0003	I	*V*	Hl
	53265.3322	0.0002	I	*V*	Hl
	53266.3649	0.0007	I	*V*	Hl
	53267.3896	0.0002	I	*V*	Hl
	53282.3009	0.0005	I	*V*	Hl
	53283.3321	0.0002	I	*V*	Hl
	53284.3587	0.0003	I	*V*	Hl
	53285.3871	0.0001	II	*V*	Hl
CW Sge	53519.5063	0.0006	I	*VRI*	G1
OU Ser	52723.5251	0.0002	I	*BV*	G2
AH Tau	52904.5265	0.0001	II	*UBVR*	G1
	52957.2588	0.0001	I	*BRI*	G1
	52957.4246	0.0001	I	*BVRI*	G1
	52971.3916	0.0001	II	*RI*	Ro
	52972.2230	0.0001	I	*RI*	Ro
	52972.3895	0.0001	I	*RI*	Ro
EQ Tau	52902.5862	0.0001	I	*UBVRI*	G1
W UMa	52616.6076	0.0001	I	*UBV*	G2
	53412.3257	0.0001	I	*UBV*	G2
XY UMa	52695.5155	0.0001	I	*RI*	G1
	52697.4310	0.0001	II	*BVRI*	G1
	52697.6320	0.0001	I	*BVRI*	G1
	52706.5325	0.0001	I	*BVRI*	G1
	53399.6394	0.0001	II	*BV*	G1
AA UMa	52745.3655	0.0001	I	*B*	G1
AW UMa	53517.4357	0.0001	I	*BB*	G2
HH UMa	53511.3923	0.0001	I	*VRI*	G1
TV UMi	53452.3801	0.0003	II	*BVN*	G2
AG Vir	53410.6066	0.0001	I	*UBV*	G2
	53411.5647	0.0002	I	*UBV*	G2
HT Vir	53520.4569	0.0001	II	*BV*	G2
ER Vul	52898.4100	0.0001	II	*UBV*	G2

Explanation of the remarks in the table:
Remark gives observatory

Remarks:

Times of minima are weighted averages from all filters used. Ephemerides were markedly improved by new observations of
V410 Aur: Min I = HJD2453364.05523(15) + 0.3663612(15)×E;
DU Boo: Min I = HJD2452256.1254(11) + 1.0558887(9)×E;
BS Cas: Min I = HJD2453194.45421(11) + 0.44046771(14)×E;
EF Dra: Min I = HJD2452340.02549(24) + 0.42402925(31)×E;
BX Peg: Min I = HJD2452653.36492(10) + 0.28041789(2)×E and
DV Psc: Min I = HJD2452379.1787(4) + 0.30853566(13)×E.
In the case of V1191 Cyg the orbital period increases at a very high rate with present ephemeris: Min I = HJD2452552.9001(8) + 0.31338498(71)×E.

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