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PHOTOELECTRIC MINIMA OF ECLIPSING BINARIES

The following Table gives the photoelectric minima obtained in the years 1991-1993 at the N Copernicus Observatory and Planetarium in Brno (Czech Republic) by means of the Nasmyth type 0.4-m telescope.

The telescope was used with a single channel photometer and EMI 6256B photomultiplier. Measurements were made in the UBV-system. The integration time of one measurement was ten second.

The times of minimum brightness and their standard deviation were determined by Kwee-van Woerden's (1956) method. The name of star, the name of the filter, heliocentric time of minima, standard deviation, different values of O–C and abbreviations of the observers's name are given in Table 1. The abbreviations in the column "Observer" means:

DH: Dalibor Hanzl EN: Eva Neureiterová PH: Petr Hájek TH: Tomáš Hudeček MN: Martin Navrátil MZ: Miloslav Zejda

Data for calculating the O–C residuals have been taken from the following literature:

O–C(I): SAC 65, Krakow, 1993

O–C(I): GCVS, Moscow, 1985-1987

Table 1

Name		JD hel	err.	O–C(I)	O–C(II)	Obs.
RT And	V s	48506.3373	0.0016	–0.0035	–0.0017	MN
	V	48600.3639	0.0005	–0.0019	–0.0001	MN
	B	48600.3629	0.0003	–0.0029	–0.0011	MN
	U	48600.3655	0.0004	–0.0003	–0.0015	MN
	V	48646.2751	0.0014	–0.0025	–0.0007	MN
	B	48646.2746	0.0008	–0.0030	–0.0012	MN
	U	48646.2754	0.0004	–0.0022	–0.0004	MN
DS And	V	48537.4321	0.0005	+0.0050	= +0.0050	DH
	B	48537.4293	0.0007	+0.0023	= +0.0023	DH
RX Ari	V	48262.3965	0.0002	–0.0073	+0.0097	DH
	B	48262.3951	0.0005	–0.0087	+0.0083	DH
TT Aur	V	48599.3018	0.0004	+0.0073	–0.0059	DH
	B	48599.3007	0.0002	+0.0062	–0.0070	DH
	U	48599.3016	0.0003	+0.0071	–0.0061	DH
BF Aur	V s	48271.3680	0.0004	+0.0052	= +0.0052	DH/PH
	B s	48271.3694	0.0003	+0.0066	= +0.0066	DH/PH
	U s	48271.3724	0.0011	+0.0096	= +0.0096	DH/PH
VW Cep	V	48276.4159	0.0005	–0.0000	–0.0533	EN
	B	48276.4144	0.0005	–0.0015	–0.0548	EN
GS Cep	V s	48461.4968	0.0012	+0.0006		DH
	B s	48461.4969	0.0020	+0.0007		DH
	V	48500.4957	0.0008	+0.0015		DH
	B	48500.4949	0.0008	+0.0007		DH
	V	48503.4394	0.0011	+0.0019		DH
	B	48503.4397	0.0006	+0.0022		DH

Table 1 (cont.)

Name		JD hel	err.	O–C(I)	O–C(II)	Obs.
GS Cep	V s	48567.4472	0.0013	–0.0060	DH	
	B s	48567.4484	0.0013	–0.0048		DH
V 680 Cyg	V	48445.4665	0.0023	+0.0139	+0.0433	DH/TH
	B	48445.4622	0.0008	+0.0096	+0.0390	DH/TH
TT Her	V	48444.4762	0.0011	–0.0038	+0.0138	DH/TH
	B	48444.4816	0.0008	–0.0016	+0.0192	DH/TH
	V	48839.4120	0.0011	+0.0021	+0.0209	DH
	B	48839.4124	0.0003	+0.0025	+0.0213	DH
V 566 Oph	V	48443.4616	0.0006	+0.0014	+0.0164	DH/TH
	B	48443.4623	0.0007	+0.0021	+0.0170	DH/TH
V 839 Oph	V	48500.3775	0.0009	+0.0018	+0.0741	DH
	B	48500.3772	0.0006	+0.0015	+0.0738	DH
	V	48805.4965	0.0002	+0.0048	+0.0826	DH
	B	48805.4980	0.0002	+0.0063	+0.0841	DH
FT Ori	V	48273.2980	0.0003	+0.0021	= +0.0021	DH/EN
	B	48273.2975	0.0007	+0.0016	= +0.0016	DH/EN
	U	48273.3009	0.0004	+0.0050	= +0.0050	DH/EN
V 392 Ori	V	48272.3628	0.0016	+0.0070	= +0.0070	DH
	B	48272.3601	0.0008	+0.0043	= +0.0043	DH
GP Peg	B	48476.4195	0.0007	+0.0008	–0.0177	MZ/DH
IU Per	V	48567.3246	0.0011	–0.0176	+0.0090	DH
	B	48567.3224	0.0011	–0.0198	+0.0068	DH
	U	48567.3239	0.0028	–0.0183	+0.0083	DH
GR Tau	V	48619.2975	0.0010	+0.0008	–0.0112	DH
	B	49619.2971	0.0011	+0.0004	–0.0016	DH
BU Vul	V	48479.4249	0.0009	+0.0038	+0.0028	DH
	B	48479.4253	0.0005	+0.0042	+0.0032	DH

Moments of the secondary minima are labelled by “s”. As far as the data for calculating the time of the secondary minima are not given in the above mentioned literature, we use the phase 0.5 for calculating the O–C of the secondary minima (the secondary minimum is supposed to be in mid-phase between the primary ones).

In case the elements in both sources are equal, the O–C’s are also equal (this is indicated by the sign “=”). The GCSV period of GS Cep is definitely wrong, so corresponding (O–C) values are not given.

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References:

- GCVS, Moscow, 1985-87
Kwee, K. K. and van Woerden, H., 1956, *Bull. Astron. Inst. Neth.*, **12**, No. 464
SAC 65, Krakow, 1993