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**PHOTOELECTRIC MINIMA OF SELECTED ECLIPSING BINARIES
AND NEW ELEMENTS FOR SEVERAL STARS**

(BAV MITTEILUNGEN NO. 132)

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In this 43rd compilation of BAV results, photoelectric observations obtained in the years 1999 and 2000 are presented on 79 variable stars giving 164 minima. All moments of minima are heliocentric. The errors are tabulated in column ‘±’. The values in column ‘ $O - C$ ’ are determined without incorporation of nonlinear terms. The references are given in the section ‘Remarks’. All information about photometers and filters are specified in the column ‘Rem’. The observations were made at private observatories. The photoelectric measurements and all the lightcurves with evaluations can be obtained from the office of the BAV for inspection.

Table 1: Eclipsing binaries

Variable	Min JD 24. . .	±	Obs	$O - C$		Fil	Rem
UU And	51464.3767	.0002	RAT RCR	+0.0242		GCVS 85	1)
	51467.3489	.0001	RAT RCR	+0.0238		GCVS 85	1)
WZ And	51471.3449	.0001	RAT RCR	+0.0157		GCVS 85	1)
XZ And	51512.3884	.0005	QU	+0.0981		GCVS 85	<i>-Ir</i> 5)
AA And	51468.3842	.0005	AG	-0.0836		GCVS 85	<i>BV</i> 2)
AB And	51518.3213	.0010	ATB	-0.0148		GCVS 85	1)
AD And	51426.4966	.0007	AG	-0.0497		GCVS 85	<i>BV</i> 2)
BL And	51436.32 :		RAT RCR	+0.00		GCVS 85	1)
	51469.5533	.0002	RAT RCR	+0.0004		GCVS 85	1)
LO And	51398.4927	.0014	AG	+0.0061		GCVS 85	<i>BV</i> 2)
	51426.4533	.0005	AG	-0.0259	s	GCVS 85	<i>BV</i> 2)
OT And	51425.4354	.0020	HSR			<i>V</i>	4)
RY Aqr	51487.2327	.0005	KI	-0.0540		GCVS 85	<i>-Ir</i> 1)
EL Aqr	51498.3045	.0009	KI	+0.0016		GCVS 85	<i>-Ir</i> 1)
OO Aql	51393.4238	.0002	KI	+0.0097		GCVS 85	<i>-Ir</i> 1)
V343 Aql	51412.3794	.0004	KI	-0.0342		GCVS 85	<i>-Ir</i> 1)
V417 Aql	51378.4357	.0004	AG	-0.0446		BAVR 2)	<i>BV</i> 2)
	51388.4348	.0003	KI	-0.0440		BAVR 2)	<i>-Ir</i> 1)
HP Aur	51425.5903	.0010	HSR	+0.0420		GCVS 85	<i>V</i> 4)
HW Aur	49643.5194		MS	-0.0006		BAVM 132	1)
	49952.5912	.0022	MS	-0.0007	s	BAVM 132	1)
	49978.4964	.0026	MS	+0.0013	s	BAVM 132	1)
	50034.4235	.0007	MS	+0.0011		BAVM 132	1)
	50043.2526		MS	-0.0004	s	BAVM 132	1)
	50432.3915	.0011	MS	+0.0022		BAVM 132	1)
	50445.3368	.0018	MS	-0.0040		BAVM 132	1)
	50718.5046	.0009	MS	+0.0031		BAVM 132	1)
UW Boo	51317.5015	.0004	AG	-0.0010		GCVS 85	<i>BV</i> 2)

Table 1 (cont.)

Variable	Min JD 24. . .	\pm	Obs	$O - C$		Fil	Rem
AW Cam	51470.2999	.0001	DIE	-0.0024		GCVS 85	7)
FF Cnc	51534.4134	.0021	FR	-0.0723	s	BAVM 65	5)
YZ CVn	51322.4894	.0002	RAT RCR				1)
BO CVn	51362.4360	.0005	AG			BV	2)
SX Cas	51387.497		BRN STK	%-17.139		GCVS 85	4)
TV Cas	51392.4253	.0005	AG	-0.0112		GCVS 85	V 1)
	51430.4889	.0008	AG	-0.0121		GCVS 85	B 1)
AE Cas	51423.5381	.0002	RAT RCR				1)
AX Cas	51430.4630	.0001	RAT RCR	-0.0606		GCVS 85	1)
BH Cas	51430.404 :	.002	AG				1)
CW Cas	51546.2919	.0010	AG	-0.0570		GCVS 85	BV 2)
MM Cas	50719.4197	.0007	FR	-0.5598		BAVR 1)	5)
MS Cas	51464.5446	.0003	RAT RCR				1)
	51471.5801	.0002	RAT RCR				1)
PV Cas	51549.4145	.0007	QU	-0.0118		SAC 69	-Ir 4)
	51557.3136	.0005	QU	+0.0102	s	SAC 69	-Ir 4)
V357 Cas	51468.4013	.0004	AG	+0.0552	s	GCVS 85	1)
V359 Cas	49615.712 :	.001	AG	-0.003		BAVM 132	1)
	49627.4502	.0003	AG	+0.0004		BAVM 132	1)
	49644.3991	.0002	MS	-0.0010		BAVM 132	1)
V384 Cas	51467.2923	.0020	HSR	-0.1357		GCVS 85	4)
V389 Cas	51469.4103	.0005	AG	+0.1509		GCVS 85	BV 2)
V523 Cas	51468.3824	.0001	RAT RCR	+0.0414		GCVS 85	1)
WW Cep	51362.4539	.0007	AG	-0.0023	s	BAVM 71	1)
CM Cep	51470.4793	.0002	RAT RCR				1)
	51498.3660	.0001	RAT RCR				1)
DK Cep	51432.5447	.0001	RAT RCR	+0.0336		GCVS 85	1)
DL Cep	49933.5164	.0033	MS	+0.0031		BAVM 132	1)
	49951.4493	.0017	MS MSR	+0.0007		BAVM 132	1)
	50000.3616	.0011	MS	-0.0016		BAVM 132	1)
	50005.2539	.0016	MS	-0.0007		BAVM 132	1)
	50022.3774	.0022	MS	+0.0027	s	BAVM 132	1)
	50750.3864	.0008	MS	+0.0001		BAVM 132	1)
EF Cep	51435.4214	.0003	RAT RCR	-0.0381		GCVS 85	1)
EG Cep	51472.2818	.0001	DIE	+0.0188		GCVS 85	7)
EM Cep	51435.3868	.0010	AG	-0.0721	s	GCVS 85	V 2)
GW Cep	51391.5409	.0002	RAT RCR	-0.0166	s	BAVR 3)	1)
IO Cep	51472.2880	.0002	RAT RCR	-0.0175		GCVS 85	1)
IP Cep	49909.4297	.0018	MS	-0.0013		BAVM 132	1)
	49912.5798	.0014	MS	+0.0026	s	BAVM 132	1)
	49918.4224	.0010	MS	+0.0024		BAVM 132	1)
	49928.3090	.0008	MS	+0.0010		BAVM 132	1)
	49931.4608	.0005	MS	+0.0067	s	BAVM 132	1)
	49935.4983	.0007	MS	-0.0009		BAVM 132	1)
	49997.5205		MS	-0.0031		BAVM 132	1)
	50224.4978	.0004	MS	+0.0010	s	BAVM 132	1)
	50370.5661	.0003	MS	-0.0025		BAVM 132	1)
	50717.5413	.0006	MS	-0.0041		BAVM 132	1)
NS Cep	51435.4743	.0008	AG	+0.0893	s	GCVS 85	1)
PX Cep	50360.4344	.0005	AG				1)
	50707.5251	.0016	AG				1)
	50904.5165	.0004	AG				1)
V383 Cep	51435.4826	.0010	AG	-0.0035		BAVM 64	BV 2)
V489 Cep	50715.5206	.0017	AG	-0.0059	s	BAVM 94	1)
	50825.3308	.0005	AG	-0.0044	s	BAVM 94	1)
	50904.5054	.0015	AG	+0.0059	s	BAVM 94	1)
	51033.474 :	.002	AG	+0.013		BAVM 94	1)
	51434.4051	.0010	AG	+0.0151		BAVM 94	1)
	51471.4404	.0006	AG	+0.0219	s	BAVM 94	1)
VV Cet	51494.3940	.0007	KI	+0.0898		GCVS 85	-Ir 1)

Table 1 (cont.)

Variable	Min JD 24. . .	\pm	Obs	$O - C$		Fil	Rem
BR Cyg	51468.4016	.0040	MZ	+0.0007		GCVS 85	6)
CV Cyg	51479.401 :	.005	MZ	-0.011	s	SAC 68	6)
GO Cyg	51385.4045	.0016	AG	+0.0594	s	GCVS 85	<i>BV</i> 2)
KR Cyg	51325.4531	.0007	FR	+0.0019		GCVS 85	5)
	51391.3746	.0020	FR	+0.0016		GCVS 85	5)
	51393.4932	.0010	FR	+0.0073	s	GCVS 85	5)
KR Cyg	51434.4798	.0007	AG	+0.0040		GCVS 85	<i>BV</i> 2)
	51459.4121	.0014	FR	+0.0043	s	GCVS 85	5)
	51468.2868	.0010	FR	+0.0050		GCVS 85	5)
V345 Cyg	49930.4594	.0004	AG	+0.0023		BAVM 132	1)
	50700.4823	.0002	FR	-0.0005		BAVM 132	5)
	50750.3096	.0013	FR	+0.0138		BAVM 132	5)
	50949.5456	.0020	FR	-0.0021		BAVM 132	5)
	51416.5439	.0020	FR	-0.0005		BAVM 132	5)
	51468.4288	.0013	FR	-0.0042		BAVM 132	5)
V382 Cyg	51413.4316	.0011	AG	+0.0642	s	GCVS 85	<i>BV</i> 2)
	51429.4568	.0007	AG	+0.0625		GCVS 85	<i>BV</i> 2)
V401 Cyg	51393.4875	.0009	AG	+0.0328	s	GCVS 85	<i>V</i> 2)
V444 Cyg	51413.275	.008	AG				<i>BV</i> 2)
V477 Cyg	51430.4240	.0016	AG	+0.7062		SAC 58	<i>BV</i> 2)
	51434.4127	.0004	AG	+0.0010		SAC 58	<i>BV</i> 2)
	51481.3554	.0005	MZ	+0.0040		SAC 58	6)
V478 Cyg	51429.4777	.0014	AG	+0.0058		GCVS 85	<i>BV</i> 2)
V488 Cyg	51325.4070	.0004	FR	+0.1020	s	GCVS 85	5)
	51391.5439	.0007	FR	+0.0983	s	GCVS 85	5)
	51393.5033	.0015	FR	+0.0960		GCVS 85	5)
	51416.4821	.0015	FR	+0.0937		GCVS 85	5)
	51443.3931	.0010	FR	+0.1001		GCVS 85	5)
	51459.3679	.0005	FR	+0.1002	s	GCVS 85	5)
	51468.3372	.0003	FR	+0.1014	s	GCVS 85	5)
V642 Cyg	51343.5054	.0014	HSR	+0.2503		GCVS 85	4)
V680 Cyg	51467.3046	.0010	AG	+0.0167		BAVR 1)	<i>V</i> 2)
V687 Cyg	51384.53 :	.01	AG	-0.01	s	GCVS 85	<i>V</i> 2)
V753 Cyg	49844.4016	.0005	MS	+0.0021		BAVM 69	1)
	50180.5888	.0005	MS	+0.0002		BAVM 69	1)
	50190.5895	.0002	MS	+0.0009		BAVM 69	1)
	50192.4940	.0007	MS	+0.0006		BAVM 69	1)
	50376.3021	.0031	MS	+0.0000		BAVM 69	1)
	50603.4448	.0011	MS	+0.0007		BAVM 69	1)
	50705.3497	.0004	MS	+0.0013		BAVM 69	1)
V841 Cyg	51393.4595	.0009	AG	+0.0104		GCVS 85	<i>V</i> 2)
V859 Cyg	51393.3926	.0010	AG	-0.0386	s	GCVS 85	<i>V</i> 2)
V885 Cyg	51389.4509	.0022	AG	-0.0683		GCVS 85	<i>BV</i> 2)
V889 Cyg	51384.535 :	.003	AG	-0.130	s	GCVS 85	<i>BV</i> 2)
V1034 Cyg	51430.4209	.0043	AG	-0.0108	s	GCVS 85	<i>BV</i> 2)
V1187 Cyg	51433.4971	.0007	AG	-0.0151		BAVM 73	1)
V1191 Cyg	51433.4949	.0003	AG	+0.0044		GCVS 85	1)
V1196 Cyg	51398.4943	.0012	AG				1)
	51469.3821	.0004	AG				1)
V2181 Cyg	50700.4404	.0012	FR	+0.0130	s	BAVM 105	5)
	50703.5917	.0005	FR	+0.0093		BAVM 105	5)
	50749.4730	.0012	FR	+0.0000		BAVM 105	5)
	50750.3394	.0009	FR	+0.0059	s	BAVM 105	5)
	50754.3519	.0008	FR	+0.0030	s	BAVM 105	5)
	50756.3548	.0001	FR	-0.0018		BAVM 105	5)
	50772.4151	.0004	FR	-0.0032		BAVM 105	5)
	50944.4561	.0002	FR	-0.0521		BAVM 105	5)
	50948.4649	.0005	FR	-0.0588		BAVM 105	5)
	50987.4702	.0010	QU	-0.0605		BAVM 105	- <i>Ir</i> 4)
	51032.4770	.0021	FR	-0.0839	s	BAVM 105	5)

Table 1 (cont.)

Variable	Min JD 24. . .	\pm	Obs	$O - C$		Fil	Rem	
V2181 Cyg	51034.4948	.0005	FR	-0.0738		BAVM 105	5)	
	51036.5038	.0023	FR	-0.0725	s	BAVM 105	5)	
	51040.5025	.0053	FR	-0.0892	s	BAVM 105	5)	
	51103.3132	.0010	QU	-0.0914		BAVM 105	V 4)	
	51315.4987	.0005	FR	+0.1367	s	BAVM 105	5)	
	51391.4804	.0011	FR	+0.1120		BAVM 105	5)	
	51393.4942	.0010	FR	+0.1182	s	BAVM 105	5)	
	51416.4337	.0005	FR	+0.1124	s	BAVM 105	5)	
	51443.3834	.0022	FR	+0.1013	s	BAVM 105	5)	
	51459.4483	.0004	FR	+0.1044	s	BAVM 105	5)	
	51468.3328	.0008	FR	+0.0976		BAVM 105	5)	
	TY Del	51471.2859	.0004	KI	+0.0481		GCVS 85	-Ir 1)
	ET Del	51393.5059	.0006	KI				-Ir 1)
EX Del	51414.4217	.0004	KI	-0.0716		GCVS 85	-Ir 1)	
FZ Del	51469.3052	.0002	KI	-0.0351		GCVS 85	-Ir 1)	
GG Del	51368.4788	.0003	KI	-0.0165		GCVS 85	-Ir 1)	

Remarks:

AG : Agerer, F., Tiefenbach ATB: Achterberg, Dr. H., Norderstedt
BRN: Brauner, B., Herford DIE : Dietrich, M., Radebeul
FR : Frank, P., Velden HSR: Husar, Dr. D., Hamburg
KI : Kleikamp, W., Marl MS : Moschner, W., Lennestadt
MSR: Moschner, J., Lennestadt MZ : Maintz, G., Bonn
QU : Quester, W., Esslingen RAT: Rätz, M., Herges-Hallenberg
RCR: Rätz, Ch., Herges-Hallenberg STK: Strunk, J., Leopoldshöhe

-Ir = filter KG/2

: = uncertain

s = secondary minimum

1) = photometer CCD 375 × 242 uncoated

2) = photometer EMI 9781A, filter V = GG495, 1 mm; B = BG12, 1 mm + GG385, 2 mm

4) = photometer ST-7

5) = photometer OES-LcCCD11

6) = photometer LC14

7) = photometer pictor 1616XT

GCVS *yy* = General Catalogue of Variable Stars, 4th ed. 19yy

SAC *vv* = Rocznik Astronomiczny No. *vv*, Krakow (SAC)

BAVM *nnn* = BAV Mitteilungen No. *nnn*

BAVM 64 = BAV Mitteilungen No. 64= IBVS No. 3837

BAVM 65 = BAV Mitteilungen No. 65= IBVS No. 3859

BAVM 71 = BAV Mitteilungen No. 71= IBVS No. 4131

BAVM 73 = BAV Mitteilungen No. 73= IBVS No. 4133

BAVM 94 = BAV Mitteilungen No. 94= IBVS No. 4406

BAVR 1) = BAV Rundbrief 32, 36f

BAVR 2) = BAV Rundbrief 33, 152f

BAVR 3) = BAV Rundbrief 33, 160f

New elements

$$\text{HW Aur} \quad \text{Min I} = \text{HJD } 2449278.5208 + 1^{\text{d}}1774168 \times E \\ \pm 31 \quad \pm 5$$

$$\text{V359 Cas} \quad \text{Min I} = \text{HJD } 2429079.67261^{\text{d}}3038757 \times E \\ \pm 82 \quad \pm 5$$

$$\text{DL Cep} \quad \text{Min I} = \text{HJD } 2449933.5133 + 1^{\text{d}}6304850 \times E \\ \pm 32 \quad \pm 5$$

$$\text{IP Cep} \quad \text{Min I} = \text{HJD } 2436812.4041 + 0^{\text{d}}8989037 \times E \quad \text{valid from JD } 2435000 \\ \pm 45 \quad \pm 4$$

$$\text{V345 Cyg} \quad \text{Min I} = \text{HJD } 2449930.4571 + 2^{\text{d}}0755410 \times E \quad \text{valid from JD } 2435000 \\ \pm 21 \quad \pm 5$$