

BBSAG Bulletin 119

Nr	Design.	Star	Type	O	e.	O-C	n	Obs	Remarks
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BULLETIN

119

1999 February 15

152. LIST OF MINIMA OF ECLIPSING BINARIES

The following table lists 55 electronically recorded (CCD; underlined) and 148 visual timings of minima of eclipsing binaries obtained primarily between September 1998 and January 1999 by the following observers:

EBI	Ernst Bišttler, Wald, Switzerland
DDa	Davide Dalmazio, Formia, Italy
RD	Roger Diethelm, R. Szafraniec Observatory, Metzerlen, Switzerland
MKo	Michael Kohl, Laupen, Switzerland
KL	Kurt Locher, Grÿt, Switzerland
AMa	Andrea Manna, Minusio, Switzerland
APs	Anton Paschke, Rÿti, Switzerland
JVb	Jacqueline Vandenbroere, Heure, Belgium
JVe	Jean-Paul Verrot, Valence, France

The O-C values given in the table below generally refer to the linear elements of the GCVS 1985, with the remarked exceptions. For the reduction of the minima, the tracing paper method was

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employed. For the reduction of some of the electronic observations, the Kwee-van Woerden algorithm was used. All times are UTC.

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Nr	Design.	Star	Type	O	e.	O-C	n	Obs	Remarks
35436	0058+378	WZ And	p	51185.446	0.005	+0.032	7	MKo	
35437	0139+445	EP And	s	51176.351	0.005	+0.047	6	KL	
35438	2351+453	GSC3639.1081 And	p	<u>51076.3469</u>	<u>0.0005</u>		15	RD	CCD
35439	2202-090	XZ Aqr	p	51129.374	0.008	+0.072	10	KL	
35440	2233-009	CX Aqr	p	51123.248	0.003	-0.003	6	KL	
35441	2319-162	CZ Aqr	p	51123.304	0.004	-0.010	7	KL	
35442	1927+055	V1243 Aql	p	<u>51076.3868</u>	<u>0.0011</u>	<u>0.0278</u>	9	RD	CCD
35443	0201+237	SS Ari	p	<u>51194.2393</u>	<u>0.0006</u>	<u>-0.0311</u>	22	EBI	CCD; elem. JAAVSO 21, 111
35444	0546+316	RZ Aur	p	51163.287	0.006	-0.048	6	KL	
35445	0509+334	CL Aur	p	51076.603	0.004	+0.104	6	KL	
35446	0549+523	IZ Aur	p	<u>51166.3084</u>	<u>0.0003</u>	<u>-0.0551</u>	25	EBI	CCD; elem. IBVS No. 4586
35447			s	<u>51198.312</u>	<u>0.002</u>	<u>-0.061</u>	10	RD	CCD
35448	0624+304	KU Aur	p	51077.583	0.005	+0.029	7	KL	
35449	1402+302	TU Boo	s	51136.709	0.007	-0.010	6	KL	elem. AAS 117, 105
35450	0734+761	Y Cam	p	51140.244	0.006	+0.202	5	KL	
35451			p	51196.428	0.005	+0.190	8	MKo	
35452	0906+097	SW Cnc	p	51177.534	0.004	-0.048	7	MKo	
35453	0909+270	NSV4411 Cnc	s	<u>51199.608</u>	<u>0.002</u>	<u>+0.044</u>	13	RD	CCD; elem. IBVS No. 4393
35454	1300+568	BI CVn	s	50547.324	0.005	-0.007	15	DDa	elem. IBVS 4554
35455			p	50581.340	0.004	+0.007	9	DDa	
35456			p	50599.401	0.004	+0.010	12	AMa	
35457	0620-226	RU CMa	p	51170.418	0.004	+0.045	7	KL	
35458	0719+025	RW CMi	p	<u>50837.609</u>	<u>0.003</u>	<u>+0.033</u>	58	APs	CCD; elem. BBSAG B. 112, 11
35459	0705+063	AG CMi	p	51177.596	0.004	-0.065	11	MKo	
35460	0737+040	AK CMi	p	51138.543	0.005	-0.005	5	KL	
35461			p	51177.577	0.003	-0.019	9	MKo	
35462	0707+020	AO CMi	p	<u>50835.512</u>	<u>0.001</u>	<u>-0.085</u>	62	APs	CCD; see note p. 6
35463	0232+710	AB Cas	p	51197.336	0.004	+0.055	6	KL	
35464	0130+707	AH Cas	p	51196.309	0.006	-0.196	6	KL	
35465	0209+699	AL Cas	p	<u>51165.2695</u>	<u>0.0006</u>	<u>-0.0085</u>	22	EBI	CCD
35466			p	<u>51177.2816</u>	<u>0.0013</u>	<u>-0.0097</u>	12	RD	CCD
35467	0018+588	BH Cas	p	<u>50838.404</u>	<u>0.005</u>	<u>0.000</u>	56	APs	CCDR; elem. IBVS No. 4482;

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35468			s	<u>51107.3113</u>	<u>0.0012</u>	<u>+0.0048</u>	13	RD	CCD; see note p. 6
35469	0125+608	BU Cas	p	<u>51185.272</u>	<u>0.003</u>	<u>-0.017</u>	14	RD	CCD
35470	0135+631	BW Cas	p	51166.222	0.007	-0.018	5	KL	elem. IBVS No. 4531
35471	0243+598	GR Cas	p	<u>51129.335</u>	<u>0.002</u>	<u>-0.033</u>	7	RD	CCD
35472	2304+538	IR Cas	p	51176.234	0.003	+0.027	6	KL	
35473	0048+585	KL Cas	p	51051.483	0.016	+0.008	17	JVe	
35474			p	51078.388	0.009	-0.008	19	JVe	
35475			p	51176.279	0.006	-0.014	6	KL	
35476	0045+605	OR Cas	s	<u>51178.2628</u>	<u>0.0007</u>	<u>-0.014</u>	26	EBI	CCD
35477	2305+571	V344 Cas	p	<u>51076.3406</u>	<u>0.0004</u>	<u>-0.0961</u>	15	RD	CCD
35478			p	<u>51077.3410</u>	<u>0.0006</u>	<u>-0.0965</u>	26	EBI	CCD
35479	2306+538	V345 Cas	s	<u>51156.242</u>	<u>0.002</u>	<u>-0.019</u>	28	EBI	CCD
35480			p	<u>51166.2276</u>	<u>0.0005</u>	<u>-0.0204</u>	20	EBI	CCD
35481	0105+584	V366 Cas	p	<u>51177.3090</u>	<u>0.0013</u>	<u>+0.2018</u>	14	RD	CCD
35482	0037+499	V523 Cas	p	51136.296	0.005	+0.030	5	KL	
35483			s	<u>51142.2632</u>	<u>0.0006</u>	<u>+0.0375</u>	15	EBI	CCD
35484			p	<u>51162.2431</u>	<u>0.0003</u>	<u>+0.0370</u>	26	EBI	CCD
35485	2239+583	BE Cep	p	<u>51156.3698</u>	<u>0.0002</u>	<u>-0.0746</u>	22	EBI	CCD
35486			p	<u>51162.3117</u>	<u>0.0005</u>	<u>-0.0742</u>	19	EBI	CCD
35487	2306+609	DP Cep	p	51103.305	0.004	-0.055	6	KL	
35488	2050+626	DW Cep	s	50752.385	0.008	-0.051	12	JVb	elem. MVS 12, 4
35489	2033+644	FH Cep	p	51019.465	0.006	+0.059	12	JVb	
35490	2109+575	IO Cep	p	51079.315	0.004	-0.004	5	KL	
35491	2134+656	PX Cep	p	51167.227	0.005	-0.013	5	KL	elem. IBVS No. 4373
35492	0158+786	V357 Cep	p	51164.487	0.008	-0.063	5	KL	elem. Brno Contr. 28, 34
35493	0220+809	V358 Cep	p	51146.658	0.008	+0.027	4	KL	elem. BBSAG Bull. 96, 10
35494	0212-124	RW Cet	p	51196.367	0.004	+0.006	9	MKo	
35495	0146-211	TW Cet	s	51163.309	0.005	-0.016	6	KL	
35496	0156-231	AA Cet	p	51058.595	0.004	-0.021	6	KL	
35497	1205-128	W Crv	p	51170.672	0.004	+0.010	7	KL	
35498	1121-164	V Crt	p	51202.675	0.005	+0.004	6	KL	
35499	2021+430	UW Cyg	p	51140.296	0.006	+0.025	7	KL	

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35500	2002+414	WW Cyg	p	51177.247	0.004	+0.023	10	KL	
35501	2051+386	WZ Cyg	p	51120.306	0.006	+0.049	6	KL	
35502			p	51196.288	0.004	+0.050	5	MKo	
35503	2022+467	ZZ Cyg	p	51185.280	0.005	-0.034	7	KL	
35504	1939+466	BR Cyg	p	51123.270	0.004	+0.003	7	KL	
35505	1954+393	PW Cyg	p	<u>51077.3663</u>	<u>0.0007</u>	<u>-0.0403</u>	16	RD	CCD
35506	2105+429	V525 Cyg	p	51103.442	0.005	-0.018	7	KL	
35507	2131+496	V536 Cyg	p	51039.434	0.013	+0.212	23	JVe	
35508			p	51045.460	0.018	+0.228	20	JVe	
35509			p	51051.481	0.007	+0.238	18	JVe	
35510	2131+355	V620 Cyg	p	51051.425	0.009	+0.124	22	JVe	
35511			p	51076.404	0.013	+0.034	25	JVe	
35512	1929+335	V880 Cyg	p	<u>51107.297</u>	<u>0.003</u>	<u>-0.001</u>	7	RD	CCD
35513	2020+594	V1193 Cyg	p	<u>51107.2871</u>	<u>0.0008</u>		13	RD	CCD; GCVS elem. false, see note p. 7
35514	2035+181	W Del	p	50004.283:	0.006	+0.060:	28	JVe	
35515			p	51037.506	0.008	-0.028	20	JVe	
35516	2033+082	TT Del	p	51066.488	0.003	-0.045	6	KL	
35517	2051+044	FZ Del	p	51078.488	0.002	-0.029	8	KL	
35518	1142+725	Z Dra	p	51136.666	0.003	-0.117	7	KL	
35519	1841.626	RR Dra	p	51199.338	0.003	+0.053	7	KL	
35520	1214+651	AR Dra	p	51075.616	0.004	+0.010	6	KL	
35521	1826+689	BE Dra	p	51021.430	0.007	+0.117	16	JVb	
35522	1922+698	DW Dra	p	51163.286	0.007	+0.008	5	KL	elem. BBSAG Bull. 118, 7
35523	2115+096	RZ Equ	p	<u>51013.483</u>	<u>0.010</u>	<u>+0.016</u>	30	APs	CCD; el. BBSAG Bull. 110, 9
35524	0558+231	RW Gem	p	51175.638	0.004	-0.001	9	KL	
35525	0733+170	TX Gem	p	51138.572	0.007	+0.005	6	KL	
35526	0647+214	AF Gem	p	51088.510	0.005	-0.050	6	KL	
35527	0631+155	BD Gem	p	51185.249	0.006	-0.020	6	KL	
35528	0637+218	CX Gem	p	51103.469	0.005	-0.009	6	KL	
35529	0559+274	DP Gem	p	<u>51194.347</u>	<u>0.002</u>		23	EBI	CCD; GCVS elem. need cor.
35530			p	<u>51198.2568</u>	<u>0.0011</u>		26	EBI	CCD
35531	0654+137	FT Gem	p	<u>51198.339</u>	<u>0.002</u>	<u>-0.012</u>	17	EBI	CCD

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35532	0609+247	HR Gem	s	<u>51185.321</u>	0.003	+0.010	22	EBI	CCD
35533			p	<u>51194.4121</u>	0.0010	+0.0146	21	EBI	CCD
35534			s	<u>51200.296</u>	0.003	+0.019	28	EBI	CCD
35535	0601+266	LP Gem	p	51164.554	0.004	+0.002	4	KL	
35536	1737+329	SZ Her	p	51120.248	0.003	-0.021	6	KL	
35537	1711+307	TU Her	p	51195.639	0.003	-0.074	7	KL	
35538	1658+320	IK Her	p	<u>51199.586</u>	0.003	+0.173	8	RD	CCD
35539	1819+144	MT Her	p	51129.295	0.005	+0.008	6	KL	
35540	1341-265	SX Hya	p	51195.688	0.003	-0.076	10	KL	
35541	0827-092	SY Hya	p	51170.566	0.003	-0.055	9	KL	
35542	0928-187	AS Hya	p	51159.648	0.003	-0.040	6	KL	elem. BBSAG Bull. 83, 5
35543	2206+420	EL Lac	p	<u>51075.39</u>	0.02	+0.13	13	RD	CCD
35544	2226+534	MZ Lac	p	51016.502	0.012	-0.001	12	JVb	elem. JAAVSO 19, 12
35545	0933+264	Y Leo	p	51123.683	0.004	+0.009	6	KL	
35546			p	51177.638	0.003	+0.010	8	MKo	
35547	1114-063	UX Leo	p	<u>51199.602</u>	0.002	+0.019	11	RD	CCD; elem. BAV Mitt. 68, 21
35548	1142+250	BL Leo	s	51175.586	0.005	-0.004	7	KL	
35549			s	<u>51177.5554</u>	0.0010	-0.0085	15	EBI	CCD
35550	0507-149	Z Lep	p	51075.578	0.004	+0.040	6	KL	elem. JAAVSO 21, 111
35551	0632+088	RW Mon	p	51199.327	0.005	-0.032	10	KL	
35552	0625+052	TV Mon	p	<u>51180.5694</u>	0.0008	+0.0037	16	RD	CCD
35553	0651-041	XZ Mon	p	51170.445	0.002	+0.023	7	KL	
35554	0757-033	BO Mon	p	51135.570	0.003	-0.079	11	KL	
35555	0635+050	BZ Mon	p	51138.599	0.009	-0.117	5	KL	
35556	1756+135	V508 Oph	s	51180.729	0.005	+0.020	6	KL	
35557	1757+034	V509 Oph	p	50999.475	0.005	+0.025	64	APs	CCD
35558	0602+139	DW Ori		<u>51177.303</u>	0.002		6	RD	CCD; no elements in GCVS
35559	0452+013	ET Ori	p	51177.536	0.004	+0.005	6	MKo	
35560	0502+092	FK Ori	p	51135.558	0.007	+0.017	5	KL	
35561	0505-028	FL Ori	p	51146.566	0.003	+0.022	7	KL	
35562	0533+088	OS Ori	p	51185.436	0.006	-0.029	7	KL	

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35563	0552-093	V640 Ori	p	51129.442	0.007	-0.080	6	KL	
35564	2250+153	BG Peg	p	<u>51012.458</u>	0.008	-1.345	24	APs	CCD
35565	2357+184	DM Peg	p	51018.547	0.003	+0.085	10	JVb	
35566	2205+059	DO Peg	p	<u>51129.3428</u>	0.0008	-0.0300	12	RD	CCD
35567	0236+419	Z Per	p	51203.264	0.003	-0.121	7	KL	
35568	0320+463	RT Per	p	51185.475	0.002	+0.040	9	MKo	
35569	0405+464	XZ Per	p	51177.313	0.005	-0.048	6	KL	
35570	0310+459	BE Per	p	<u>51129.410</u>	0.005	+0.005	13	RD	CCD; elem. MVS 11, 38
35571	0156+529	KW Per	p	51171.222	0.003	+0.019	7	KL	
35572			p	51196.356	0.003	+0.010	11	MKo	
35573	0357+494	MS Per	p	50753.456	0.006	-0.860	18	JVb	
35574	0411+313	NP Per	s	<u>51198.2779</u>	0.0007	-0.0157	12	RD	CCD
35575	0236+454	PS Per	p	<u>51077.3366</u>	0.0006	+0.0531	15	RD	CCD; see note p. 6
35576			p	51088.572	0.003	+0.054	7	KL	
35577	0306+426	V432 Per	p	50799.281	0.003	-0.001	13	JVb	elem. BAV Rb. 43, 104
35578			p	51099.411	0.005	-0.004	16	JVb	
35579			s	<u>51163.2403</u>	0.0009	+0.0037	23	EBI	CCD
35580	0054+120	SX Psc	p	51076.411	0.004	0.000	6	KL	
35581	0811-238	XZ Pup	p	51146.645	0.004	+0.076	8	KL	
35582	0828-229	SW Pyx	p	51146.568	0.006	+0.352	7	KL	elem. BBSAG Bull. 91, 14
35583	1739-138	AK Ser	p	51077.314	0.004	+0.021	5	KL	
35584	1554+224	AU Ser	s	51180.652	0.005	-0.058	6	KL	
35585	0400+279	RW Tau	p	51166.361	0.003	-0.137	10	KL	
35586	0548+281	SV Tau	p	51078.541	0.004	-0.041	7	KL	
35587	0344+249	AH Tau	s	51138.539	0.004	-0.098	6	KL	
35588	0548+240	CR Tau	p	<u>51185.2412</u>	0.0008	-0.2942	12	RD	CCD
35589	0128+301	V Tri	p	51076.594	0.004	+0.008	6	KL	
35590			p	51185.442	0.002	+0.008	8	MKo	
35591	0210+367	RV Tri	p	51065.523	0.004	-0.016	6	KL	
35592	1334+521	UX UMa	p	51175.621	0.001	+0.002	6	KL	
35593	0934+562	VV UMa	p	51177.541	0.004	-0.047	6	MKo	

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35594	0928+496	XZ UMa	p	51200.662	0.008	-0.056	6	KL	
35595	0851+651	AC UMa	p	51076.507	0.005	-0.064	9	KL	
35596	0925+439	NSV4497 UMa	p	<u>51180.5370</u>	<u>0.0011</u>	<u>+0.0075</u>	13	RD	CCD; elem. IBVS No. 4402
35597	1312-172	UW Vir	p	51184.680	0.003	-0.032	11	KL	
35598	1402-099	VV Vir	p	51199.605	0.004	-0.019	6	KL	
35599	1402-181	AK Vir	p	51197.713	0.003	-0.054	8	KL	
35600	1345-003	BF Vir	p	<u>50954.434</u>	<u>0.005</u>	<u>+0.044</u>	25	APs	CCD
35601	1502+045	CG Vir	p	<u>50951.401</u>	<u>0.007</u>	<u>-0.248</u>	20	APs	CCD

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35602	1241-084	HW Vir	p	51123.699	0.001	-0.002	5	KL	elem. IBVS No. 4109
35603			p	51135.722	0.001	-0.001	5	KL	
35604			p	51136.656	0.001	-0.001	6	KL	
35605			p	51159.648	0.001	-0.003	6	KL	
35606			p	51162.683	0.001	-0.002	6	KL	
35607			p	51163.617	0.001	-0.002	6	KL	
35608			p	51164.667	0.001	-0.002	4	KL	
35609			p	51165.718	0.001	-0.002	6	KL	
35610			p	51170.622	0.001	-0.001	6	KL	
35611			p	51175.640	0.001	-0.001	6	KL	
35612			p	51175.756	0.001	-0.002	4	KL	
35613			p	51176.573	0.001	-0.002	6	KL	
35614			p	51176.690	0.001	-0.002	6	KL	
35615			p	51177.624	0.001	-0.001	6	KL	
35616			p	51177.740	0.001	-0.002	6	KL	
35617			p	51178.675	0.001	-0.001	5	KL	
35618			p	51180.658	0.001	-0.002	5	KL	
35619			p	51183.694	0.001	-0.001	5	KL	
35620			p	51184.626	0.001	-0.003	6	KL	
35621			p	51184.743	0.001	-0.002	6	KL	
35622			p	51185.560	0.001	-0.002	6	KL	
35623			p	51185.677	0.001	-0.002	6	KL	
35624			p	51195.715	0.001	-0.002	7	KL	
35625			p	51197.581	0.001	-0.003	5	KL	
35626			p	51197.699	0.001	-0.002	6	KL	
35627			p	51199.567	0.001	-0.002	5	KL	
35628			p	51199.648	0.001	-0.002	6	KL	
35629			p	51200.618	0.001	-0.001	6	KL	
35630			p	51202.718	0.001	-0.002	5	KL	
35631			p	51203.535	0.001	-0.002	5	KL	
35632			p	51203.652	0.001	-0.002	6	KL	
35633			p	51210.655	0.001	-0.002	6	KL	
35634	1336-018	PG1336-018 Vir	p	<u>51177.660</u>	<u>0.002</u>	<u>-0.013</u>	22	EBI	CCD; elem. MNRAS 296, 329
35635			p	<u>51199.5798</u>	<u>0.0021</u>	<u>-0.0138</u>	20	EBI	CCD
35636			s	<u>51199.6302</u>	<u>0.0023</u>	<u>-0.0139</u>	21	EBI	CCD
35637			p	<u>51199.6808</u>	<u>0.0013</u>	<u>-0.0138</u>	19	EBI	CCD
35638	1954+237	BO Vul	p	51167.229	0.005	+0.020	5	KL	

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Nr	Design.	Star	Type	O	e.	O-C	n	Obs	Remarks
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Notes on observations given in table above

RW CMi, AO CMi, BH Cas

The three minima of these stars reported here were observed with the 62cm-Cassegrain-Reflector and a HiSis-22 CCD-camera at Pic du Chateau Renard, St. Veran, France, owned by Astroqueyras. I would like to thank J.-P. Sareyan for the help he provided.

A. Paschke

PS Per

The GCVS contains no information on the amplitude of the primary minimum of this variable. Our CCD photometry shows, that it amounts to at least 1.5 mag.

Diethelm

R.

Erratum

No.	Bulletin	Star	Correction
29669	100	VX Cet	O = 48534.53 instead of 48533.53

Preliminary new elements of variation for V1193 Cygni

We have observed this EW type eclipsing binary during several nights in August and November 1998 with the CCD camera at the R. Szafraniec Observatory, Metzerlen, Switzerland. We find the elements given by Gessner (1966, VSS **7**, 65), which are also stated in the GCVS, to be in error. Our observations yield the following current elements:

$$JD(\text{hel}, \text{min}) = 2451052.3768 + 0.50376 * E.$$

The period of 0.50376 days also fits the times of minimum reported by Gessner (1966) better than her value of 0.674 days. As soon as we have recorded the complete light curve of V1193 Cygni, it will be published in the IBVS.

M. Wolf, R. Diethelm