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

BBSAG

BULLETIN

115

1997 September 15

148. LIST OF MINIMA OF ECLIPSING BINARIES

The following table lists 77 electronically recorded (CCD; underlined) and 367 visual timings of minima of eclipsing binaries obtained primarily between April and August 1997 by the following observers:

EBl	Ernst BlŠttler, Wald, Switzerland
DDa	Davide Dalmazio, Formia, Italy
AD	Antonin Dedoch, Praha, Czech Republic
RD	Roger Diethelm, R. Szafraniec Observatory, Metzerlen, Switzerland
BK	Bruce Krobusek, Farmington, USA
KL	Kurt Locher, GrŸt, Switzerland
MMa	Massimiliano Martignoni, Busto Arsizio, Italy
APs	Anton Paschke, RŸti, Switzerland
HP	Hermann Peter, Otelfingen, Switzerland
JVb	Jacqueline Vandenbroere, Bruxelles, Belgium

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

The O-C values 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 employed. For the reduction of some of the electronic observations the Kwee-van Woerden algorithm was used.

Nr	Design.	Star	Type	O	e.	O-C	n	Obs	Remarks
34121	0042+284	**WX And**	p	50380.544	0.007	+0.035	54	APs	CCD
34122	0153+418	**XZ And**	p	50673.560	0.002	+0.068	7	KL	
34123			p	50684.418	0.004	+0.067	8	HP	
34124	2309+366	**AB And**	p	50631.500	0.005	-0.020	16	AD	
34125			p	50632.502	0.007	-0.014	8	AD	
34126			p	50633.496	0.002	-0.016	17	AD	
34127	2334+483	**AD And**	p	50645.421	0.004	-0.058	8	HP	
34128			s	50684.394	0.005	-0.040	10	HP	
34129	2347+455	**AP And**	p	50314.506	0.003	-0.003	15	JVb	elem. GEOS Circ. EB No. 22
34130	2308+516	**BL And**	p	50642.425	0.004	-0.007	7	HP	
34131	0139+445	**EP And**	s	50587.560	0.006	+0.041	5	KL	
34132	2324+452	**LO And**	p	50681.374	0.005	+0.064	7	HP	elem. GEOS EB No. 11
34133	2233-009	**CX Aqr**	p	50692.362	0.005	0.000	8	HP	
34134	2243+007	**DD Aqr**	p	50390.315	0.005	+0.001	24	APs	CCD; elem. BBSAG Bull. 90, 7
34135			p	50692.436	0.005	+0.018	7	HP	
34136	2112+022	**EX Aqr**	p	50684.344:	0.003	+0.025	29	EBI	CCD
34137	1914-006	**YZ Aql**	p	50665.205	0.007	+0.742	15	HP	
34138	1901+027	**FK Aql**	p	50645.447	0.006	-0.031	11	HP	
34139			p	50645.452	0.006	-0.027	6	KL	
34140	1914+092	**V342 Aql**	p	50681.355	0.005	-0.072	9	HP	
34141	1936+126	**V343 Aql**	p	50652.419	0.005	-0.018	9	HP	
34142	1948+163	**V602 Aql**	p	50652.432	0.005	+0.182	12	HP	
34143			p	50658.465	0.004	+0.190	10	HP	
34144	1945+092	**V926 Aql**	p	50639.4831	0.0004	+0.6917	19	RD	CCD
34145	1956+116	**V1168 Aql**	p	50639.430	0.006	+0.003	10	HP	
34146			p	50681.512	0.006	-0.009	8	HP	
34147	2002+148	**V1299 Aql**	p	50638.3999	0.0009	-0.0325	25	EBI	CCD
34148	1922+159	**V1353 Aql**	s	50599.454	0.005	+0.033	10	HP	
34149			p	50679.365	0.005	+0.008	9	HP	
34150	1931+158	**V1355 Aql**	p	50607.462	0.008	-0.158	16	AD	
34151			p	50639.446	0.002	-0.153	13	AD	
34152	0542+411	**ZZ Aur**	p	50555.349	0.005	+0.016	8	HP	
34153	0642+304	**KU Aur**	p	50556.355	0.006	+0.034	8	HP	
34154	1427+323	**SU Boo**	p	50541.513	0.009	-0.001	20	AD	

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

Nr	Design.	Star	Type	O	e.	O-C	n	Obs	Remarks
34155	1402+302	**TU Boo**	s	50548.460	0.004	-0.083	5	KL	
34156			p	50557.393	0.005	-0.069	7	HP	
34157			p	50570.369	0.004	-0.064	7	HP	
34158			p	50639.442	0.004	-0.064	7	HP	
34159			p	50665.379	0.004	-0.070	7	HP	
34160	1458+353	**TY Boo**	p	50556.388	0.005	-0.008	10	HP	elem. BAV Mitt. 68, 21
34161			p	50595.403	0.004	-0.003	7	HP	
34162			p	50629.6520	0.0007	-0.0049	13	BK	CCD
34163	1419+473	**UW Boo**	p	50658.404	0.005	-0.008	11	HP	
34164			p	50665.427	0.005	-0.019	9	HP	
34165	1345+251	**AR Boo**	s	50551.4936	0.0018	+0.0912	14	RD	CCD; elem. PASP 98. 461
34166	1358+253	**BG Boo**	p	50599.427	0.002	+0.021	12	RD	CCD
34167	0837+200	**RY Cnc**	p	50478.597	0.003	+0.034	32	APs	CCD
34168	0906+306	**WW Cnc**	p	50546.450	0.005	-0.394	9	HP	
34169	0843+330	**WX Cnc**	p	50560.370	0.004	+0.018	11	HP	
34170			p	50571.386	0.006	+0.012	11	HP	
34171	0843+105	**AD Cnc**	s	50520.5746	0.0027	-0.0065	8	BK	CCD
34172	1300+568	**BI CVn**	p	50516.408	0.002	-0.014	9	JVb	elem GEOS EB 23
34173			s	50517.380	0.006	-0.002	14	JVb	
34174			p	50517.572	0.003	-0.002	14	JVb	
34175			p	50546.3702	0.0014	-0.0197	11	RD	CCD
34176	0719+025	**RW CMi**	p	50533.415	0.007	+0.030	54	APs	CCD; el. BBSAG Bull. 112, 11
34177	0734+079	**TU CMi**	p	50545.383:	0.010	-0.114	10	RD	CCD
34178	0737+048	**TX CMi**	p	50547.382	0.005	+0.001	21	APs	CCD; el. BBSAG Bull. 106. 7
34179	0737+040	**AK CMi**	p	50557.361	0.005	-0.011	7	HP	
34180			p	50557.370	0.004	-0.002	6	KL	
34181	0747+020	**AM CMi**	p	50464.53	0.01	+0.12	68	APs	CCD
34182	0748+050	**BB CMi**	p	50525.415	0.010	+0.021	38	APs	CCD; elem. AJ 109, 1239
34183	0232+710	**AB Cas**	p	50557.629	0.005	+0.044	5	KL	
34184			p	50672.455	0.005	+0.053	7	HP	
34185	0123+698	**AE Cas**	p	50670.493	0.004	+0.068	6	KL	
34186	0130+707	**AH Cas**	p	50642.411	0.008	-0.199	5	KL	
34187	0042+628	**CW Cas**	p	50639.448	0.005	-0.010	5	HP	elem. JAAVSO 21, 34
34188			p	50692.363	0.004	-0.026	7	HP	
34189	2350+572	**EP Cas**	p	50672.388	0.005	-0.020	8	HP	
34190	2304+538	**IR Cas**	p	50604.445	0.005	+0.014	5	KL	

Nr	Design.	Star	Type	O	e.	O-C	n	Obs	Remarks
34191			p	50681.377	0.004	+0.028	7	HP	
34192	2326+602	**IS Cas**	p	50642.428	0.005	+0.047	7	HP	
34193	2307+589	**PV Cas**	p	50658.4280	0.0007	-0.0263	13	RD	CCD
34194	0049+501	**V364 Cas**	s	50684.398	0.004	-0.020	9	HP	
34195	2354+558	**V374 Cas**	p	50642.474	0.005	+0.034	7	HP	
34196			p	50665.456	0.004	+0.031	7	HP	
34197	0037+499	**V523 Cas**	s	50586.539	0.005	+0.030	5	KL	
34198			p	50639.478	0.005	+0.037	5	HP	
34199			p	50658.405	0.005	+0.036	7	HP	
34200			s	50678.387	0.004	+0.037	6	HP	
34201	2145+570	**SU Cep**	p	50671.409	0.004	+0.002	8	HP	
34202	2038+754	**VW Cep**	s	50595.410	0.019	+0.006	14	DDa	elem. IBVS No. 4117
34203			p	50596.384	0.011	+0.006	14	DDa	
34204			p	50611.415	0.003	+0.008	9	DDa	
34205			p	50616.417	0.005	+0.001	12	DDa	
34206			p	50623.382	0.005	+0.008	14	DDa	
34207			p	50630.349	0.011	+0.017	13	DDa	
34208			s	50639.379	0.012	+0.002	16	DDa	
34209			p	50640.360	0.005	+0.009	13	DDa	
34210			s	50644.381	0.012	-0.005	14	DDa	
34211			p	50655.380	0.011	0.000	15	DDa	
34212			p	50660.390	0.008	+0.001	13	DDa	
34213	2217+696	**WW Cep**	p	50642.437	0.004	+0.013	7	HP	elem. IBVS No. 4131
34214			p	50665.434	0.004	+0.006	8	HP	
34215	2225+659	**BR Cep**	p	50658.529	0.006	-0.047	6	KL	
34216	2320+650	**CM Cep**	p	50639.540	0.005	-0.029	5	KL	
34217	2157+607	**DK Cep**	p	50671.429	0.006	+0.038	10	HP	
34218	2306+609	**DP Cep**	p	50671.528	0.008	-0.043	6	KL	
34219	2127+649	**GI Cep**	p	50645.422	0.005	-0.020	9	HP	
34220			p	50671.363	0.004	-0.021	8	HP	
34221	2249+567	**GS Cep**	p	50681.454	0.005	+0.012	7	HP	elem. IBVS No. 3596
34222	0140+798	**GW Cep**	s	50684.379	0.005	-0.006	7	HP	elem. IBVS No. 4293
34223			p	50673.387	0.004	+0.002	6	HP	
34224			p	50688.368	0.005	-0.002	6	HP	
34225	2024+614	**HI Cep**	p	50555.612	0.005	-0.003	6	KL	elem. BBSAG Bull. 114. 12
34226			p	50620.473	0.008	0.000	22	AD	
34227	2109+575	**IO Cep**	p	50681.378	0.005	-0.011	9	HP	
34228	0023+691	**NR Cep**	p	50675.5113	0.0015	-0.0210	12	RD	CCD
34229	0158+786	**V357 Cep**	p	50664.353	0.006	-0.055	4	KL	elem. Brno Contr. 28, 34

Nr	Design.	Star	Type	O	e.	O-C	n	Obs	Remarks
34230	0220+809	**V358 Cep**	p	50577.365	0.007	+0.020	6	KL	elem. BBSAG Bull. 96, 10
34231	0146-211	**TW Cet**	s	50670.602	0.003	-0.018	6	KL	
34232	0147-198	**VY Cet**	s	50671.563	0.007	-0.001	6	KL	
34233	0156-231	**AA Cet**	p	50672.568	0.004	-0.006	6	KL	

Nr	Design.	Star	Type	O	e.	O-C	n	Obs	Remarks
34234	1230+269	**RW Com**	p	50555.332	0.005	-0.021	6	HP	
34235			p	50577.405	0.004	-0.021	7	HP	
34236			p	50595.439	0.005	-0.026	7	HP	
34237	1232+236	**RZ Com**	p	50557.330	0.004	+0.028	7	HP	
34238			s	50578.478	0.006	+0.020	23	AD	
34239	1209+228	**CC Com**	p	50571.417	0.004	-0.011	9	HP	
34240			s	50598.457	0.004	-0.005	7	HP	
34241			p	50599.4455	0.0008	-0.0096	20	EBI	CCD
34242	1226+220	**DD Com**	p	50488.677	0.008	+0.047	17	APs	CCD
34243			s	50546.425	0.006	+0.051	14	RD	CCD
34244			s	50599.447	0.002	+0.039	17	EBI	CCD
34245	1604+274	**TW CrB**	p	50557.394	0.004	+0.021	7	HP	
34246			p	50570.356	0.005	+0.024	6	HP	
34247			p	50660.450	0.004	+0.021	6	HP	
34248			p	50673.395	0.004	+0.010	6	HP	
34249	1205-128	**W Crv**	p	50599.412	0.004	+0.005	5	KL	
34250	2021+430	**UW Cyg**	p	50598.529	0.006	+0.031	8	KL	
34251	2051+386	**WZ Cyg**	p	50551.621	0.003	+0.049	6	KL	
34252			p	50671.437	0.004	+0.049	9	HP	
34253			p	50688.386	0.005	+0.049	7	HP	
34254	2022+467	**ZZ Cyg**	p	50570.492	0.004	-0.035	5	KL	
34255			p	50599.420	0.004	-0.023	7	HP	
34256			p	50660.396	0.004	-0.024	8	HP	
34257			p	50665.427	0.005	-0.022	8	HP	
34258	2111+305	**AE Cyg**	p	50681.445	0.004	-0.002	7	HP	
34259	2147+409	**BO Cyg**	p	50670.4908	0.0015	-0.0033	15	RD	CCD; elem. P. Z. 23, 266
34260	1939+466	**BR Cyg**	p	50571.586	0.004	+0.001	10	KL	
34261	2056+349	**CG Cyg**	p	50642.428	0.004	+0.037	7	HP	
34262			p	50671.467	0.005	+0.043	7	HP	
34263	1952+379	**CV Cyg**	p	50678.393	0.005	-0.188	10	HP	
34264	1928+342	**HK Cyg**	p	50605.460	0.007	-0.109	6	KL	
34265			p	50651.4278	0.0013	-0.1054	12	RD	CCD
34266	1950+385	**NZ Cyg**	p	50681.3839	0.0018	+0.0967	12	RD	CCD
34267	1941+326	**V370 Cyg**	p	50597.450	0.003	-0.009	6	KL	
34268			p	50652.452	0.006	+0.001	6	HP	
34269	2113+372	**V387 Cyg**	p	50598.522	0.005	+0.008	10	HP	
34270			p	50675.388	0.005	+0.003	8	HP	
34271	2025+385	**V443 Cyg**	p	50583.499	0.008	+0.014	16	AD	

Nr	Design.	Star	Type	O	e.	O-C	n	Obs	Remarks
34272	2004+357	**V447 Cyg**	p	50684.390:	0.003	+0.273	13	RD	CCD; see note page 12
34273	2014+373	**V454 Cyg**	p	50659.4962	0.0011	-0.0055	13	EBI	CCD

Nr	Design.	Star	Type	O	e.	O-C	n	Obs	Remarks
34274	2027+389	**V456 Cyg**	p	50595.407	0.004	+0.030	7	HP	
34275			p	50652.436	0.005	+0.023	7	HP	
34276	2012+345	**V469 Cyg**	p	50645.398	0.002	-0.077	10	RD	CCD
34277	2022+347	**V500 Cyg**	p	50601.480	0.008	+0.055	24	AD	
34278	2132+470	**V628 Cyg**	p	50685.3429	0.0011	-0.0022	28	EBI	CCD; elem. IBVS No. 4381
34279	2151+535	**V680 Cyg**	p	50679.424	0.005	+0.006	10	HP	
34280	2011+404	**V726 Cyg**	p	50638.526	0.005	+0.030	5	KL	
34281	2025+586	**V728 Cyg**	p	50562.475	0.007	+0.010	6	KL	
34282			p	50595.428	0.005	+0.001	11	HP	
34283	2040+531	**V749 Cyg**	p	50664.565	0.002	-0.010	7	KL	
34284			p	50642.4290	0.0014	-0.0097	12	RD	CCD
34285	2014+478	**V787 Cyg**	p	50679.358	0.005	+0.010	5	HP	
34286			p	50682.420	0.005	+0.014	7	HP	
34287	1927+316	**V873 Cyg**	p	50638.4754	0.0008	+0.0146	12	RD	CCD
34288	1937+301	**V934 Cyg**	s	50659.376:	0.005	-0.055	13	RD	CCD
34289	1943+324	**V974 Cyg**	p	50330.429	0.010	+0.210	10	JVb	
34290			s	50658.4491	0.0009	-0.2247	14	RD	CCD; displ. secondary
34291	1947+461	**V995 Cyg**	p	50282.587	0.021	+0.163	12	JVb	
34292			p	50300.411	0.009	+0.205	25	JVb	norm. minimum
34293			p	50364.378	0.021	+0.159	9	JVb	
34294	2003+308	**V1034 Cyg**	p	50645.463	0.005	-0.005	6	HP	
34295			p	50692.346	0.004	-0.014	8	HP	
34296	1932+396	**V1130 Cyg**	p	50605.455	0.002	-0.033	22	AD	
34297	1935+287	**V1136 Cyg**	p	50599.4321	0.0008	+0.0587	13	RD	CCD
34298	2021+413	**V1321 Cyg**	p	50670.4283	0.0021	+0.0479	17	EBI	CCD
34299	2123+388	**SVS2365 Cyg**	p	50664.453	0.008	-0.013	7	KL	elem. Per. Zv. 23, 330
34300	2051+044	**FZ Del**	p	50652.420	0.004	-0.029	6	HP	
34301			p	50692.365	0.005	-0.029	7	HP	
34302	2012+151	**GG Del**	p	50312.439	0.006	-0.007	19	MMa	elem. IBVS No. 3406
34303	1142+725	**Z Dra**	p	50577.409	0.002	-0.102	7	KL	
34304			p	50577.411	0.006	-0.101	12	HP	
34305	1841+626	**RR Dra**	p	50678.377	0.005	+0.055	11	HP	
34306			p	50692.539	0.004	+0.060	9	KL	
34307	1822+588	**RZ Dra**	p	50645.400	0.004	+0.035	7	HP	
34308			p	50672.383	0.005	+0.025	7	HP	

Nr	Design.	Star	Type	O	e.	O-C	n	Obs	Remarks
34309			p	50688.364	0.005	+0.032	7	HP	
34310	1820+475	**TZ Dra**	p	50679.390	0.004	+0.003	8	HP	
34311	1926+688	**UZ Dra**	s	50553.542	0.004	+0.002	28	APs	CCD
34312	1214+651	**AR Dra**	p	50540.340	0.003	-0.003	5	KL	
34313			p	50546.431	0.004	+0.005	7	HP	
34314			p	50571.429	0.006	-0.002	13	HP	
34315			p	50598.466	0.004	+0.001	10	HP	
34316	1735+686	**AU Dra**	p	50599.496	0.005	-0.203	12	RD	CCD; normal minimum
34317	1922+698	**DW Dra**	p	50606.509	0.005	+0.010	6	KL	elem. BBSAG Bull. 84, 6
34318	0409-119	**BL Eri**	s	50480.322	0.003	-0.014	16	APs	CCD; elem. IBVS No. 4104
34319	0625+205	**SX Gem**	p	50547.308	0.005	-0.045	7	HP	
34320	0647+214	**AF Gem**	p	50546.334	0.004	-0.058	7	HP	
34321	0642+172	**EY Gem**	p	50539.3133	0.0011	-0.1752	26	EBI	CCD
34322	0749+272	**GW Gem**	p	50557.407	0.006	+0.011	14	HP	
34323	1737+329	**SZ Her**	p	50547.576	0.003	-0.025	5	KL	
34324			p	50579.487	0.002	-0.019	15	AD	
34325			p	50642.482	0.004	-0.017	7	HP	
34326			p	50665.392	0.005	-0.015	7	HP	
34327	1711+307	**TU Her**	p	50583.557	0.003	-0.065	6	KL	
34328			p	50599.428	0.005	-0.064	11	HP	
34329			p	50642.503	0.005	-0.062	6	HP	
34330			p	50692.372	0.005	-0.067	8	HP	
34331	1717+419	**TX Her**	p	50616.380	0.006	-0.003	15	DDa	
34332	1711+164	**AK Her**	s	50635.6645	0.0011	+0.0065	17	BK	CCD
34333	1848+124	**BC Her**	p	50598.485	0.005	-0.303	14	HP	
34334	1838+248	**BO Her**	p	50682.395	0.007	-0.001	6	HP	
34335	1848+256	**BV Her**	p	50651.402	0.002	-0.042	12	RD	CCD
34336	1615+090	**CC Her**	p	50594.395	0.005	+0.083	6	KL	
34337			p	50639.480	0.006	+0.084	7	HP	
34338			p	50672.432	0.005	+0.089	8	HP	
34339			p	50679.366	0.005	+0.088	7	HP	
34340	1618+185	**CT Her**	p	50563.407	0.005	+0.002	8	KL	
34341			p	50638.432	0.005	0.000	11	HP	
34342	1845+227	**DH Her**	p	50638.510	0.004	-0.021	9	KL	
34343	1732+151	**DP Her**	p	50598.376	0.003	+0.053	6	KL	
34344	1754+329	**ES Her**	p	50586.457	0.002	-0.016	20	EBI	CCD

Nr	Design.	Star	Type	O	e.	O-C	n	Obs	Remarks
34345			p	50597.4066	0.0008	-0.0139	20	EBI	CCD
34346	1757+257	**FW Her**	p	50642.4554	0.0011	+0.0458	14	RD	CCD; see note page 12
34347	1848+235	**GL Her**	p	50638.444	0.005	+0.046	11	HP	
34348			p	50638.446	0.004	+0.047	7	KL	
34349			p	50692.373	0.006	+0.041	10	HP	
34350	1819+144	**MT Her**	p	50545.499	0.005	+0.009	5	KL	
34351	1749+500	**MX Her**	p	50642.503	0.005	-0.383	8	HP	
34352	1654+377	**V359 Her**	p	50675.402	0.005	+0.108	8	HP	
34353	1704+277	**V366 Her**	p	50672.357:	0.003	-0.080	11	RD	CCD
34354	1733+323	**V502 Her**	p	50585.497	0.008	+0.001	20	AD	
34355			p	50641.6272	0.0008	+0.0012	15	BK	CCD
34356	1612+238	**V687 Her**	p	50635.7273	0.0011	-0.0331	14	BK	CCD
34357			p	50637.6530	0.0009	-0.0361	18	BK	CCD
34358	1706+465	**V718 Her**	s	50570.385	0.002	-0.129	13	RD	CCD; note page 12
34359	1716+418	**V728 Her**	s	50649.675:	0.003	+0.013	18	BK	CCD; elem. IBVS No. 3234
34360	1719+479	**V733 Her**	p	50587.4022	0.0010	+0.1086	13	RD	CCD; see note p. 12
34361	1604+503	**V842 Her**	p	50200.535	0.003	+0.013	12	JVb	elem. IBVS No. 3946
34362			s	50538.486	0.006	+0.015	13	JVb	
34363	0811+006	**WY Hya**	s	50560.355	0.004	+0.014	9	HP	
34364	2228+543	**TW Lac**	p	50658.468	0.004	+0.122	12	HP	
34365	2238+380	**VX Lac**	p	50638.482	0.005	+0.023	8	HP	
34366	2247+447	**VY Lac**	p	50642.476	0.005	-0.127	8	HP	
34367			p	50671.485	0.005	-0.132	7	HP	
34368	2206+454	**AR Lac**	p	49990.464	0.015	-0.083	34	MMa	
34369	2216+542	**AW Lac**	p	50642.493	0.005	+0.140	7	HP	
34370			p	50658.475	0.004	+0.122	10	HP	
34371	2202+494	**EK Lac**	p	50300.472	0.005	+0.011	16	JVb	
34372	2227+494	**NR Lac**	p	50642.4846	0.0012	+0.0565	28	EBI	CCD
34373	2231+558	**OO Lac**	p	50598.445	0.004	+0.119	7	KL	
34374	2240+531	**PP Lac**	p	50638.441	0.005	-0.017	9	HP	
34375			p	50658.498	0.005	-0.019	10	HP	
34376	2249+384	**V364 Lac**	p	50638.440	0.006	+0.032	11	RD	CCD
34377	0933+264	**Y Leo**	p	50577.383	0.002	+0.007	8	KL	

Nr	Design.	Star	Type	O	e.	O-C	n	Obs	Remarks
34378			p	50577.383	0.006	+0.007	10	HP	
34379	1037+092	**RW Leo**	p	50571.4637	0.0009	-0.0380	37	EBI	CCD
34380	0931+191	**WZ Leo**	p	50516.437	0.007	+0.007	27	APs	CCD; Brno Contr. 31, 93
34381	0956+140	**XX Leo**	p	50570.406	0.004	-0.047	10	HP	elem. BBSAG Bull. 105, 8
34382			p	50571.374	0.004	-0.050	11	HP	
34383	0959+172	**XZ Leo**	p	50570.440	0.004	+0.021	11	HP	
34384			p	50571.409	0.006	+0.015	10	HP	

Nr	Design.	Star	Type	O	e.	O-C	n	Obs	Remarks
34385	1059+101	**AM Leo**	s	50491.364	0.008	-0.002	10	DDa	
34386			p	50512.400	0.006	0.000	10	DDa	
34387			p	50515.319	0.019	-0.007	14	DDa	
34388			p	50519.348	0.004	-0.002	11	DDa	
34389			p	50534.343	0.009	-0.004	10	DDa	
34390			s	50547.330	0.013	-0.003	16	DDa	
34391			s	50596.340	0.008	-0.010	10	DDa	
34392	1102+054	**AP Leo**	p	50512.350	0.004	-0.032	17	DDa	
34393			p	50515.360	0.007	-0.035	14	DDa	
34394			s	50520.310	0.004	-0.034	15	DDa	
34395			p	50549.355	0.006	-0.038	17	DDa	
34396	1142+250	**BL Leo**	s	50540.393	0.003	-0.008	5	KL	
34397			s	50549.4114	0.0016	-0.0111	12	RD	CCD
34398	0945+335	**T LMi**	p	50570.387	0.004	-0.044	9	HP	
34399	1519-080	**TY Lib**	p	50599.493	0.007	-0.002	7	KL	
34400	0851+466	**RY Lyn**	p	50557.418	0.006	-0.035	7	HP	
34401	0933+415	**RZ Lyn**	p	50570.430	0.004	+0.004	8	HP	
34402	0809+574	**SX Lyn**	p	50570.423	0.004	-0.011	9	HP	
34403	0912+429	**UU Lyn**	p	50557.433	0.005	-0.006	7	HP	
34404	1914+323	**RV Lyr**	p	50579.443	0.005	-0.054	6	KL	
34405			p	50597.423	0.003	-0.069	16	RD	CCD
34406	1925+415	**TT Lyr**	p	50660.589	0.007	-0.004	7	KL	
34407	1814+410	**TZ Lyr**	p	50599.402	0.004	+0.013	8	HP	
34408			p	50645.399	0.005	+0.001	7	HP	
34409			p	50672.376	0.004	+0.008	7	HP	
34410	1919+378	**UZ Lyr**	p	50585.522	0.007	0.000	5	KL	
34411			p	50638.468	0.004	-0.010	7	HP	
34412	1851+280	**DF Lyr**	p	50637.674	0.005	+0.034	18	BK	CCD
34413	1901+300	**DU Lyr**	p	50669.4426	0.0009	+0.1486	14	RD	CCD
34414	1831+377	**EW Lyr**	p	50570.557	0.004	+0.233	6	KL	
34415			p	50652.417	0.006	+0.247	9	HP	
34416	1821+331	**IP Lyr**	p	50659.4178	0.0015	-0.0032	13	RD	CCD
34417	1841+350	**MN Lyr**	p	50597.4648	0.0016	+0.0341	15	RD	CCD
34418	1913+337	**NV Lyr**	p	50692.3775	0.0010	-0.0554	12	RD	CCD
34419	1914+343	**NY Lyr**	s	50642.3965	0.0008	+0.0521	18	BK	CCD
34420	1916+271	**PS Lyr**	p	50599.369	0.006	+0.003	8	HP	
34421			p	50638.442	0.004	+0.007	8	HP	

Nr	Design.	Star	Type	O	e.	O-C	n	Obs	Remarks
34422	1901+469	**V361 Lyr**	p	50598.563	0.002	+0.002	7	KL	elem. IBVS No. 4177
34423			p	50664.507	0.003	-0.001	6	KL	
34424	1830+418	**V406 Lyr**	s	50649.6528	0.0014	-0.0095	19	BK	CCD; elem. IBVS No. 4132
34425	1904+345	**V411 Lyr**	p	50649.691:	0.002	-0.107	19	BK	CCD
34426	0632+088	**RW Mon**	p	50549.351	0.006	-0.030	9	KL	
34427	0755-070	**FW Mon**	p	50540.342	0.007	-0.015	8	KL	
34428	1732+072	**RV Oph**	p	50570.471	0.004	-0.002	6	KL	
34429	1724+130	**AL Oph**	p	50669.4453	0.0019	+0.0113	12	RD	CCD; elem. IBVS No. 4452
34430	1728+106	**V449 Oph**	p	50563.528	0.005	+0.034	8	KL	
34431			p	50665.463	0.005	+0.037	7	HP	
34432	1816+142	**V501 Oph**	p	50692.428	0.005	-0.002	8	HP	
34433	1738+078	**V506 Oph**	p	50599.446	0.004	+0.036	7	HP	
34434			p	50652.458	0.005	+0.027	7	HP	
34435	1756+135	**V508 Oph**	p	50560.601	0.006	+0.001	6	KL	
34436			p	50645.440	0.005	+0.021	6	HP	
34437			p	50673.359	0.004	+0.011	7	HP	
34438	1752+141	**V913 Oph**	p	50570.430	0.008	+0.109	6	KL	
34439			p	50639.462	0.006	+0.117	8	HP	
34440	1820+040	**V916 Oph**	p	50615.517	0.007	+0.149	6	KL	
34441	0602+125	**V343 Ori**	p	50560.3825	0.0009	+0.1043	23	EBI	CCD
34442	2226+177	**UX Peg**	p	50638.48	0.004	-0.007	7	HP	
34443	2220+160	**BB Peg**	p	50682.215	0.005	+0.016	7	HP	
34444	2125+047	**BN Peg**	p	50587.544	0.003	+0.005	6	KL	
34445	2128+117	**BO Peg**	p	50639.405	0.005	-0.024	6	HP	
34446			p	50675.411	0.005	-0.004	8	HP	
34447	2136+278	**BY Peg**	s	50646.4842	0.0006	-0.0496	23	EBI	CCD
34448	2146+278	**CW Peg**	p	50672.415	0.005	+0.049	6	HP	
34449	2205+059	**DO Peg**	p	50682.385	0.006	-0.012	8	HP	
34450	0236+419	**Z Per**	p	50671.467	0.005	-0.121	11	HP	
34451	0320+463	**RT Per**	p	50643.558	0.003	+0.041	6	KL	
34452	0405+464	**XZ Per**	p	50692.476	0.005	-0.046	6	KL	
34453	0220+577	**DK Per**	p	50615.530	0.007	-0.019	6	KL	

Nr	Design.	Star	Type	O	e.	O-C	n	Obs	Remarks
34454	0156+529	**KW Per**	p	50597.557	0.004	+0.009	6	KL	
34455	0054+120	**SX Psc**	p	50658.500	0.003	-0.016	6	KL	
34456	2010+191	**UZ Sge**	p	50319.481	0.004	+0.013	28	MMa	
34457	1922+163	**CU Sge**	p	50598.516	0.005	+0.002	9	HP	
34458			p	50682.434	0.005	+0.003	9	HP	

Nr	Design.	Star	Type	O	e.	O-C	n	Obs	Remarks
34459	1905+188	**DL Sge**	p	50638.454	0.004	+0.100	8	HP	
34460			p	50650.4507	0.0008	+0.0950	15	RD	CCD
34461			p	50692.452	0.005	+0.090	9	HP	
34462	1756-173	**WX Sgr**	p	50560.554	0.009	-0.099	5	KL	
34463	1808-164	**XY Sgr**	p	50606.422	0.009	+0.002	5	KL	
34464	1846-102	**RS Sct**	p	50290.432	0.003	-0.002	18	MMa	
34465			p	50672.370	0.004	-0.002	7	HP	
34466	1843-103	**GM Sct**	s	50290.422	0.005	+0.003	16	MMa	
34467	1739-138	**AK Ser**	p	50598.587	0.009	+0.017	7	KL	
34468	1556+173	**AO Ser**	p	50597.502	0.005	+0.015	6	KL	
34469			p	50671.371	0.005	+0.020	7	HP	
34470			p	50678.405	0.005	+0.019	8	HP	
34471	1536+034	**AS Ser**	p	50587.406	0.003	-0.003	12	RD	CCD
34472	1554+224	**AU Ser**	s	50546.417	0.005	-0.046	8	HP	
34473			p	50560.511	0.004	-0.059	5	KL	
34474			s	50638.402	0.004	-0.048	7	HP	
34475			p	50671.445	0.005	-0.051	7	HP	
34476	1553+176	**BI Ser**	p	50545.540	0.002	-0.548	10	JVb	
34477	1534+156	**CC Ser**	p	50642.478	0.004	+0.170	7	HP	
34478			p	50658.469	0.005	+0.164	7	HP	
34479			p	50671.357	0.005	+0.152	6	HP	
34480	1521+027	**CX Ser**	s	50515.500	0.010	-0.074	44	APs	CCD; see note page 11
34481	0548+281	**SV Tau**	p	50556.316	0.003	-0.041	5	KL	
34482	0344+249	**AH Tau**	p	50691.597	0.003	-0.089	6	KL	
34483	0553+252	**EN Tau**	p	50464.355	0.003	+0.010	12	JVb	
34484	0128+301	**V Tri**	p	50643.532	0.005	-0.001	6	KL	
34485	0210+367	**RV Tri**	p	50646.493	0.007	-0.008	6	KL	
34486	1206+563	**TY UMa**	p	50597.411	0.004	+0.007	9	HP	elem. JAAVSO 21, 111
34487	1334+521	**UX UMa**	p	50551.583	0.002	+0.002	4	KL	
34488	0934+562	**VV UMa**	p	50597.396	0.004	-0.043	7	HP	
34489	0906+546	**XY UMa**	p	50555.350	0.005	+0.006	9	HP	
34490			p	50577.379	0.004	+0.001	10	HP	
34491			p	50598.456	0.005	+0.001	9	HP	
34492	0928+496	**XZ UMa**	p	50605.407	0.004	-0.041	5	KL	
34493	1026+620	**ZZ UMa**	p	50556.384	0.004	0.000	10	HP	

Nr	Design.	Star	Type	O	e.	O-C	n	Obs	Remarks
34494			p	50556.386	0.005	+0.003	5	KL	
34495	0943+459	**AA UMa**	p	50556.388	0.005	+0.003	10	HP	
34496			p	50571.376	0.006	+0.011	12	HP	

Nr	Design.	Star	Type	O	e.	O-C	n	Obs	Remarks
34497	0851+651	**AC UMa**	p	50555.493	0.009	-0.103	5	KL	
34498	1108+467	**BM UMa**	p	50549.4130	0.0017	+0.0011	12	RD	CCD
34499	1707+803	**RT UMi**	p	50595.409	0.004	+0.105	7	HP	
34500	1402-099	**VV Vir**	p	50546.450	0.005	-0.031	5	KL	
34501	1158+132	**AG Vir**	p	50591.6126	0.0020	-0.0220	19	BK	CCD
34502	1402-181	**AK Vir**	p	50548.421	0.005	-0.029	5	KL	
34503	1325+033	**AW Vir**	p	50546.425	0.004	+0.012	9	HP	
34504			p	50597.407	0.005	+0.018	8	HP	
34505			s	50615.6310	0.0011	+0.0111	11	BK	CCD
34506	1325+041	**AX Vir**	p	50556.401	0.005	+0.003	9	HP	
34507	1340+048	**AZ Vir**	p	50546.388	0.005	-0.010	9	HP	
34508			s	50591.6658	0.0002	-0.0136	19	BK	CCD
34509			p	50597.436	0.005	-0.013	9	HP	
34510	1355-014	**BH Vir**	s	50571.417	0.006	-0.009	13	HP	
34511	1216+096	**DY Vir**	p	50557.3889	0.0009	-0.0993	12	RD	CCD
34512	1241-084	**HW Vir**	p	50502.635	0.001	-0.001	5	KL	elem. IBVS No. 4109
34513			p	50540.335	0.001	-0.002	5	KL	
34514			p	50540.453	0.001	-0.001	8	KL	
34515			p	50541.386	0.001	-0.001	5	KL	
34516			p	50545.471	0.001	-0.002	6	KL	
34517			p	50546.405	0.001	-0.001	6	KL	
34518			p	50547.339	0.001	-0.001	6	KL	
34519			p	50547.572	0.001	-0.001	5	KL	
34520			p	50548.506	0.001	-0.001	5	KL	
34521			p	50549.321	0.001	-0.003	6	KL	
34522			p	50549.558	0.001	0.000	4	KL	
34523			p	50551.540	0.001	-0.002	5	KL	
34524			p	50552.357	0.001	-0.002	6	KL	
34525			p	50555.394	0.001	0.000	6	KL	
34526			p	50555.508	0.001	-0.002	6	KL	
34527			p	50556.326	0.001	-0.002	5	KL	
34528			p	50556.442	0.001	-0.002	5	KL	
34529			p	50557.377	0.001	-0.001	6	KL	
34530			p	50557.494	0.001	-0.001	5	KL	
34531			p	50562.395	0.001	-0.002	6	KL	
34532			p	50570.449	0.001	-0.001	6	KL	
34533			p	50570.565	0.001	-0.002	7	KL	
34534			p	50571.382	0.001	-0.002	6	KL	
34535			p	50571.499	0.001	-0.002	5	KL	
34536			p	50577.335	0.001	-0.002	6	KL	
34537			p	50577.452	0.001	-0.002	7	KL	
34538			p	50579.439	0.001	+0.001	5	KL	
34539			p	50582.354	0.001	-0.001	6	KL	
34540			p	50583.523	0.001	0.000	4	KL	
34541			p	50594.377	0.001	-0.001	5	KL	
34542			p	50597.411	0.001	-0.002	6	KL	

Nr	Design.	Star	Type	O	e.	O-C	n	Obs	Remarks
34543			p	50599.396	0.001	-0.001	8	KL	
34544			p	50604.415	0.001	-0.001	5	KL	
34545			p	50605.347	0.001	-0.002	4	KL	
34546			p	50605.465	0.001	-0.001	5	KL	
34547			p	50606.398	0.001	-0.002	6	KL	
34548	1241-084	**HW Vir**	p	50638.381	0.001	-0.001	5	KL	
34549	1927+273	**XZ Vul**	p	50551.644	0.008	+0.096	7	KL	
34550	2026+246	**AW Vul**	p	50652.403	0.005	+0.004	8	HP	
34551			p	50681.431	0.004	0.000	8	HP	
34552	2033+224	**AY Vul**	p	50658.516	0.005	+0.003	6	KL	
34553			p	50675.391	0.006	-0.010	7	HP	
34554	2023+272	**BE Vul**	p	50682.377	0.005	+0.024	7	HP	
34555	1954+237	**BO Vul**	p	50583.478	0.003	+0.029	6	KL	
34556			p	50692.442	0.005	+0.025	8	HP	
34557	2023+208	**BP Vul**	p	50547.551	0.009	+0.005	5	KL	
34558			p	50681.418	0.005	-0.012	7	HP	
34559	1935+218	**BS Vul**	p	50672.457	0.005	-0.002	6	HP	
34560	2044+280	**BU Vul**	p	50652.424	0.004	+0.018	9	HP	
34561			p	50681.435	0.004	+0.010	9	HP	
34562	2023+263	**CD Vul**	p	50585.584	0.004	-0.002	5	KL	
34563			p	50672.433	0.004	+0.012	7	HP	
34564	2013+217	**DN Vul**	p	50651.528	0.003	+0.881	17	RD	CCD

Erratum BBSAG Bulletin 114

Due to an error in the editing process of Bulletin 114, observations No. 34111 and 34112 are identical. Therefore, the numbering for observations 34112 to 34121 must be reduced by one and this Bulletin starts with observation No. 34121.

R. Diethelm

Notes on stars in table above

V447 Cyg

From our CCD data we find a duration of totality of d = $0.088^d \pm 0.005^d$.

FW Her

The observed amplitude of the primary minimum is considerably larger (1.1 mag) than given in the GCVS (unfiltered CCD).

V718 Her

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

The CCD light curve shows a duration of totality of d = $0.080^{d} \pm 0.003^{d}$.

V733 Her

This variable turns out to be about 1.6 mag brighter than given in the GCVS (unfiltered CCD).

R. Diethelm

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

Preliminary elements for AR CMi

According to the GCVS, AR CMi is an eclipsing binary of about 15th magnitude. It was discovered by C. Hoffmeister. Due to its large amplitude, it is well observable, but because of a close neighbour difficult to measure. In the POSS this neighbour is clearly resolved as a triple system.

AR CMi was found to be faint or invisible on our CCD frames on the following dates:

JD2450045.576,
JD2450460.416 and
JD2450480.525.

The small time difference between the last two dates encourages the derivation of preliminary elements:

JD(min,hel) = 2450045.576 + 1.686 á E .

A confirmation of these elements was given by an observation on JD2450551.405. Changing weather conditions allowed only the observation of a rapid descent of the brightness. A complete light curve has not yet been secured and the period given above might be an alias. Further observations are needed and will be performed in the comming season.

A. Paschke

Notes on some variables in CMi

RS CMi

The elements published in BBSAG Bulletin 112 did predict the occurance of the minimum correctly. An exact timing of a minimum was not possible, as the descending part of the light curve was not recorded. For more than an hour, the variable was below the limit of our CCD detector and therefore, the amplitude must be larger than given in the GCVS.

UY CMi

According to the GCVS, this eclipsing binary has the elements JD(min,hel) = 2425532.63 + 22.242/n á E. The star was found to be faint on JD2449375.48, JD2450194.33 and JD2450425.64; thus n = 5 seems to be a good guess. A precise timing of a minimum has not been obtained.

New variable in CMi

E. Schmidt (AJ 109, 1239) reported the discovery of a new variable near AL CMi. It is supposed to show rapid irregular changes in brightness. With my instrumentation no significant variation was detected, but the object had a slightly non-stellar appearance. In the POSS it is a clearly resolved double star. The reported variability therefore might be the result of confused photometry software.

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