BBSAG

BULLETIN

96

1990 December 15

129. List of Minima of Eclipsing Binaries

The following table lists 10 photoelectric (**bold**), 21 CCD-measured and 507 visual heliocentric minima of eclipsing binaries obtained primarily from June to November of 1990 by the following observers:

FAc	Francesco Acerbi, Codogno, Italy
GB	Guy Boistel, Sautron, France
RB	Roland Boninsegnia, Dourbes, Belgium
RCr	Robert E. Crumrine, Fairport, USA
RD	Roger Diethelm, Rodersdorf, Switzerland
MKo	Michael Kohl, Wald, Switzerland
KL	Kurt Locher, Grüt, Switzerland
EN	Edmond Nezry, Toulouse, France
APs	Anton Paschke, Rüti, Switzerland
HP	Hermann Peter, Otelfingen, Switzerland
JVb	Jacqueline Vandenbroere, Bruxelles, Belgium
OW	Olivier Walas, Nantes, France

The O-C values generally refer to the linear elements of the GCVS 1985, with the remarked exceptions. For the reduction of the visual minima, the tracing paper method was employed, while the photoelectric observations were reduced with the Kwee-van Woerden algorithm.

Nr	Design.	Star	Type	O	O-C	n	Obs	Remarks
27902	2308+527	**RT And**	p	48101.631	0.008	10	RCr	
27903			p	48127.419	0.010	8	FAc	
27904	2311+458	**TT And**	p	48176.472	-0.022	7	HP	
27905	0000+325	**TW And**	p	48123.471	-0.025	12	HP	
27906			p	48189.414	-0.046	6	KL	
27907			p	48189.435	-0.025	13	HP	
27908	0041+306	**UU And**	p	48148.431	0.005	6	KL	
27909	0058+378	**WZ And**	p	48175.320	0.017	10	HP	
27910	0153+418	**XZ And**	p	48101.461	0.011	6	KL	
27911	2334+483	**AD And**	s	48106.470	-0.048	12	HP	
27912			s	48108.461	-0.030	10	HP	
27913			s	48112.429	-0.006	13	HP	
27914			s	48113.434	0.012	7	HP	
27915			s	48115.396	0.002	8	HP	
27916			p	48146.435	-0.024	9	HP	
27917			s	48187.390	0.004	9	HP	
27918			s	48189.357	-0.002	8	HP	
27919	2308+516	**BL And**	p	48092.464	0.019	11	HP	
27920			p	48112.408	0.011	9	HP	
27921			p	48178.434	0.026	8	HP	
27922	0205+405	**BX And**	p	48126.460	-0.001	6	FAc	
27923	0008+418	**DO And**	p	48116.393	-0.009	6	KL	elem. MVS 11, p. 106
27924	0139+445	**EP And**	s	48103.498	0.028	6	KL	
27925	2337+474	**EX And**	p	48123.526	-0.006	6	KL	
27926	2324+452	**LO And**	s	48084.488	-0.014	6	HP	
27927			p	48085.430	-0.025	7	HP	
27928			s	48089.444	-0.010	8	HP	
27929			s	48108.455	-0.041	10	HP	
27930			p	48112.453	-0.043	8	HP	
27931			p	48123.451	-0.089	8	HP	
27932			p	48123.520	-0.020	10	FAc	
27933			p	48125.384	-0.060	11	HP	
27934			p	48163.443	-0.087	9	HP	
27935			s	48174.276	-0.108	8	HP	
27936			p	48187.403	-0.120	8	HP	
27937	2117-110	**RY Aqr**	p	48126.416	0.039	7	HP	
27938	2217-203	**AT Aqr**	s	48119.535	0.006	6	KL	
27939	2233-009	**CX Aqr**	p	48101.467	0.001	6	KL	
27940			p	48170.412	0.004	8	HP	
27941	2319-162	**CZ Aqr**	p	48098.491	-0.007	6	KL	

Nr	Design.	Star	Type	O	O-C	n	Obs	Remarks
27942	2243+007	**DD Aqr**	p	48144.388	0.022	7	HP	elem. BBSAG Bull. 90, p. 7
27943			p	48162.403	0.012	7	HP	
27944			p	48170.322	-0.001	9	HP	
27945			p	48175.374	0.004	8	HP	
27946			p	48178.260	0.007	5	HP	
27947	2019-075	**XZ Aql**	p	48096.470	0.080	5	KL	
27948			p	48126.402	0.063	11	HP	
27949	1901+027	**FK Aql**	p	48071.437	-0.041	8	KL	
27950	1844+107	**KO Aql**	p	48125.402	0.018	14	HP	
27951	1900+157	**KP Aql**	p	48175.360	-0.009	10	HP	
27952	1945+091	**OO Aql**	p	48112.447	-0.018	12	OW	
27953			s	48121.342	0.008	9	OW	
27954			s	48122.346	-0.002	10	OW	
27955			s	48123.361	0.000	9	OW	
27956			s	48127.407	-0.008	12	OW	
27957	1953+157	**V340 Aql**	p	48154.313	0.040	5	KL	
27958	1936+126	**V343 Aql**	p	48088.420	-0.019	6	MKo	
27959			p	48088.425	-0.014	9	HP	
27960			p	48099.483	-0.024	34	APs	CCD
27961			p	48112.380	-0.039	7	KL	
27962			p	48112.406	-0.013	10	HP	
27963			p	48123.470	-0.017	10	HP	
27964	2007+102	**V346 Aql**	p	48107.386	0.007	7	HP	
27965	1932+057	**V417 Aql**	p	48163.382	-0.033	42	APs	CCD
27966	1948+163	**V602 Aql**	s	48126.390	0.102	10	HP	
27967	1946+154	**V688 Aql**	p	48176.428	0.016	10	HP	
27968	1658-075	**V803 Aql**	p	48119.466	-0.003	4	KL	
27969	1904-096	**V808 Aql**	p	48116.407	-0.051	6	KL	
27970	1944+033	**V829 Aql**	p	48127.371	0.062	7	HP	
27971			p	48167.313	0.027	8	HP	
27972	1916+161	**V889 Aql**	p	**48106.536**	**-0.018**	14	RD	pe, B
27973	1922+159	**V1353 Aql**	p	48187.449	0.001	11	JVb	
27974			p	48087.480	0.030	30	APs	CCD, weather unfavorable
27975			s	48092.414	0.015	9	HP	
27976			p	48094.507	-0.014	13	JVb	
27977			p	48121.401	-0.002	7	HP	
27978			s	48126.359	0.005	7	HP	
27979			p	48179.416	0.006	12	HP	

Nr	Design.	Star	Type	O	O-C	n	Obs	Remarks
27980	0201+237	**SS Ari**	s	**48163.352**	**-0.102**	8	RD	pe, B
27981			s	48176.360	-0.085	8	HP	
27982	0302+283	**TX Ari**	p	48174.362	-0.217	11	HP	
27983			p	48190.643	-0.084	7	KL	
27984	0546+316	**RZ Aur**	p	48131.549	-0.068	6	KL	
27985	0509+334	**CL Aur**	p	48178.451	0.077	10	HP	
27986	1458+353	**TY Boo**	p	48086.427	0.048	8	HP	
27987			p	48106.409	0.050	7	HP	
27988	1419+473	**UW Boo**	p	48093.398	0.013	6	MKo	
27989	0906+306	**WW Cnc**	p	48190.654	-0.313	5	KL	
27990	0620-226	**RU CMa**	p	48162.654	0.009	7	KL	
27991	2021-131	**TY Cap**	p	48094.437	0.005	10	MKo	
27992	0244+694	**RZ Cas**	p	47412.376	0.020	16	EN	
27993			p	48092.463	0.010	10	GB	
27994			p	48098.438	0.010	12	GB	
27995			p	48099.629	0.006	10	RCr	
27996			p	48122.334	0.001	23	EN	
27997			p	48123.537	0.008	14	FAc	
27998			p	48147.440	0.006	8	FAc	
27999	0016+588	**TV Cas**	p	48153.326	-0.002	6	FAc	
28000	0241+655	**TW Cas**	p	48167.316	-0.005	8	HP	
28001	0232+710	**AB Cas**	p	48094.497	0.019	9	MKo	
28002			p	48146.442	0.023	8	HP	
28003			p	48187.445	0.020	6	KL	
28004	0123+698	**AE Cas**	p	48127.453	0.076	6	KL	
28005	0042+628	**CW Cas**	s	48086.479	0.076	8	HP	
28006			p	48091.405	0.059	7	HP	
28007			p	48112.465	0.075	7	HP	
28008			s	48115.432	0.013	8	HP	
28009			p	48126.476	0.057	8	HP	
28010			s	48132.385	0.067	10	HP	
28011			p	48143.392	0.074	12	HP	
28012			p	48163.459	0.054	9	HP	
28013			p	48178.446	0.055	8	HP	
28014	2350+572	**EP Cas**	p	48086.468	-0.016	9	HP	
28015			p	48121.434	-0.028	7	HP	
28016			p	48143.405	-0.020	7	HP	
28017			p	48174.309	-0.027	8	HP	
28018			p	48187.328	-0.023	7	HP	

Nr	Design.	Star	Type	O	O-C	n	Obs	Remarks
28019	0145+560	**GH Cas**	p	48179.313	-0.165	6	KL	
28020	2304+538	**IR Cas**	p	48112.447	0.005	6	KL	
28021			p	48108.376	0.018	7	HP	
28022			s	48126.399	0.003	7	HP	
28023			p	48144.449	0.014	8	HP	
28024			p	48174.404	0.020	9	HP	
28025			p	48187.344	0.026	8	HP	
28026	0048+585	**KL Cas**	p	48146.372	-0.008	7	KL	
28027	0051+542	**KR Cas**	p	48171.452	-0.079	5	KL	
28028	0045+605	**OR Cas**	p	48114.442	-0.007	8	HP	
28029			p	48144.347	0.001	7	HP	
28030			s	48162.395	-0.014	8	HP	
28031	2309+534	**V350 Cas**	p	48189.294	0.038	6	KL	
28032	2332+560	**V359 Cas**	p	48096.532	-0.023	14	JVb	
28033	0049+501	**V364 Cas**	s	48121.368	-0.014	8	HP	
28034			s	48175.374	-0.015	10	HP	
28035	2354+558	**V374 Cas**	p	48101.457	-0.005	11	JVb	
28036			p	48126.521	-0.017	13	JVb	
28037	0037+499	**V523 Cas**	s	48091.409	0.015	5	HP	
28038			s	48093.510	0.013	6	MKo	
28039			s	48106.482	0.015	8	HP	
28040			s	48112.450	0.024	6	KL	
28041			s	48175.311	0.022	8	HP	
28042	0057+816	**U Cep**	p	48171.534	0.054	5	KL	
28043	2145+570	**SU Cep**	p	48084.398	0.012	8	HP	
28044			p	48121.348	0.004	8	HP	
28045			p	48167.331	0.016	7	HP	
28046	2038+754	**VW Cep**	s	48112.372	-0.031	7	RD	
28047			p	48123.385	-0.011	6	FAc	
28048			s	48123.472	-0.063	7	FAc	
28049			p	48126.425	-0.032	7	FAc	
28050			s	48126.538	-0.059	6	FAc	
28051			s	48127.373	-0.058	8	FAc	
28052			p	48127.534	-0.037	7	FAc	
28053			p	48128.377	-0.029	6	FAc	
28054			s	48128.506	-0.039	8	FAc	
28055	2217+696	**WW Cep**	p	48125.455	-0.056	8	HP	
28056	2244+674	**WY Cep**	s	48086.381	0.031	6	HP	
28057			s	48121.358	0.035	9	HP	
28058			p	48179.427	0.022	8	HP	
28059	2336+640	**XX Cep**	p	48114.398	0.002	9	HP	

Nr	Design.	Star	Type	O	O-C	n	Obs	Remarks
28060	2246+647	AH Cep	p	**48163.385**	**0.010**	33	RD	pe, B
28061	2225+659	BR Cep	p	48162.397	-0.021	6	KL	
28062	2320+650	CM Cep	p	48178.330	-0.020	6	KL	
28063	2127+649	GI Cep	p	48084.438	0.001	8	HP	
28064	2130+706	GK Cep	p	48127.359	-0.065	6	FAc	
28065	0140+798	GW Cep	s	48125.450	0.074	9	HP	
28066			p	48146.339	0.078	7	HP	
28067			p	48167.384	0.080	8	HP	
28068			p	48174.400	0.080	7	HP	
28069			s	48187.299	0.067	7	HP	
28070	2109+575	IO Cep	p	48092.380	0.008	7	HP	
28071			p	48113.406	0.025	8	HP	
28072			p	48176.440	0.032	8	HP	
28073	2130+621	NU Cep	p	48085.508	0.090	11	JVb	
28074	0158+786	V357 Cep	p	48179.369	-0.037	7	KL	elem. Brno Contr. 28, p. 4
28075	0220+809	V358 Cep	p	48148.450	0.816	7	KL	elem. BBSAG Bull. 63, p. 5
28076	0246+015	SS Cet	p	48131.602	-0.019	5	KL	
28077	0146-211	TW Cet	s	48126.603	-0.013	7	KL	
28078	0147-198	VY Cet	p	48126.560	-0.008	6	KL	
28079	0156-231	AA Cet	p	48123.627	0.005	6	KL	
28080	1904+274	TW CrB	p	48086.469	0.005	6	HP	
28081			p	48089.423	0.014	6	HP	
28082			p	48125.354	0.024	8	HP	
28083			p	48132.412	0.015	8	HP	
28084	1944+325	SY Cyg	p	48143.422	0.058	18	KL	
28085	2157+441	UZ Cyg	p	48176.7	0.1	7	HP	
28086	2002+414	WW Cyg	p	48088.385	0.004	7	HP	
28087			p	48171.329	0.004	9	KL	
28088	2051+386	WZ Cyg	p	48083.402	0.030	6	HP	
28089			p	48107.373	0.038	7	HP	
28090			p	48114.383	0.033	6	HP	
28091			p	48176.322	0.020	5	KL	
28092			p	48176.348	0.045	9	HP	
28093	2022+467	ZZ Cyg	p	48094.408	0.001	8	MKo	
28094			p	48121.425	-0.013	7	HP	
28095			p	48128.344	-0.008	6	HP	
28096			p	48143.427	-0.012	8	HP	
28097	2111+305	AE Cyg	p	48170.297	0.014	7	KL	
28098	1939+466	BR Cyg	p	48174.287	-0.015	4	KL	
28099	2056+349	CG Cyg	p	48084.409	0.032	8	HP	
28100			p	48106.494	0.028	8	HP	
28101			p	48132.368	0.024	7	HP	
28102			p	48144.360	0.025	7	HP	
28103			p	48175.284	0.024	7	HP	
28104	1952+379	CV Cyg	p	48132.381	-0.098	6	HP	
28105			s	48163.364	-0.094	9	HP	
28106	2156+523	DO Cyg	p	48167.316	-0.001	8	HP	
28107	1933+281	FR Cyg	p	48162.356	0.172	6	KL	
28108	1928+342	HK Cyg	p	48123.452	-0.062	10	KL	
28109	2007+304	KR Cyg	p	48127.404	0.007	6	HP	
28110			p	48143.466	0.011	8	HP	
28111	1941+326	V370 Cyg	p	48148.348	-0.003	6	KL	
28112	2016+361	V382 Cyg	s	48085.450	0.015	8	HP	displaced secondary
28113	2113+372	V387 Cyg	p	48085.464	0.010	9	HP	
28114			p	48094.427	0.005	9	MKo	
28115			p	48126.464	0.012	8	HP	
28116			p	48176.429	0.010	9	HP	
28117	1927+302	V401 Cyg	p	48084.489	0.021	7	HP	
28118			s	48089.436	0.015	5	HP	
28119			p	48091.483	0.022	6	HP	
28120			p	48108.387	0.027	8	HP	
28121			p	48115.370	0.018	7	HP	
28122			p	48175.378	0.006	6	HP	
28123			p	48489.378	0.020	9	HP	
28124	2025+306	V442 Cyg	s	**48108.361**	**-0.046**	7	RD	pe, B
28125	2026+381	V445 Cyg	p	48127.432	0.135	6	KL	
28126	2027+389	V456 Cyg	p	48113.424	0.018	8	HP	
28127			p	48163.332	0.019	8	HP	
28128			p	48163.333	0.020	6	KL	
28129			p	48179.381	0.026	9	HP	
28130			p	48187.394	0.018	8	HP	
28131	1952+328	V466 Cyg	s	48084.469	0.010	6	HP	
28132			p	48107.423	0.004	6	HP	
28133			p	48114.384	0.007	6	HP	
28134			p	48178.394	0.004	7	HP	
28135	2022+347	V500 Cyg	p	48101.456	0.029	12	JVb	

Nr	Design.	Star	Type	O	O-C	n	Obs	Remarks
28136	2105+429	**V525 Cyg**	p	48147.362	-0.015	6	KL	
28137	2128+499	**V616 Cyg**	p	48119.571	-0.208	6	KL	
28138	2151+535	**V680 Cyg**	p	48114.465	0.004	9	HP	
28139			p	48144.446	0.006	8	HP	
281401924++298		**V687 Cyg**	s	48178.343	-0.014	9	HP	
28141	2025+586	**V728 Cyg**	p	48096.435	-0.034	6	KL	
28142			p	48127.378	0.006	8	HP	
28143			p	48162.380	-0.014	11	HP	
28144	2040+531	**V749 Cyg**	p	48178.274	0.009	5	KL	
28145	2014+478	**V787 Cyg**	p	48163.437	0.025	13	HP	
28146			p	48189.412	0.015	10	HP	
28147	1952+362	**V822 Cyg**	p	48147.357	-0.066	6	KL	
28148	2003+308	**V1034 Cyg**	p	48107.413	0.012	8	HP	
28149	2021+523	**V1048 Cyg**	p	48127.429	0.001	6	KL	
28150	2122+334	**V1073 Cyg**	s	**48106.401**	**-0.033**	8	RD	pe, B
28151	2129+336	**V1908 Cyg**	p	48147.412	-0.091	4	KL	elem. Perem. Zv. 22, p. 359
28152	2035+181	**W Del**	p	48115.400	-0.025	13	HP	
28153			p	48163.455	-0.031	8	KL	
28154	2041+137	**RR Del**	p	48163.427	0.236	8	KL	
28155	2033+082	**TT Del**	p	48103.526	-0.012	6	KL	
28156			p	48175.287	-0.029	11	HP	
28157	2101+130	**TY Del**	p	48094.420	0.027	9	MKo	
28158			p	48144.453	0.033	8	HP	
28159	2027+138	**YY Del**	p	48088.442	0.002	6	HP	
28160			p	48092.410	0.005	7	HP	
28161			p	48100.347	0.012	7	KL	
28162			p	48115.404	-0.001	7	HP	
28163			p	48146.342	0.007	7	HP	
28164	2025+135	**BH Del**	p	48146.497	0.059	41	APs	CCD
28165	2025+141	**BI Del**	p	48114.42	-0.10	64	APs	CCD, normal minimum
28166			p	48143.40	-0.13	50	APs	CCD
28167	2037+142	**DM Del**	p	48127.543	-0.041	12	FAc	
28168	2051+044	**FZ Del**	p	48087.417	-0.011	6	HP	
28169			p	48094.457	-0.021	8	MKo	
28170			p	48123.435	-0.021	7	HP	
28171			p	48127.356	-0.016	7	HP	
28172			p	48163.386	-0.014	5	HP	
28173			p	48174.346	-0.018	6	HP	
28174	1142+725	**Z Dra**	p	48116.388	-0.056	6	KL	
28175	1841+626	**RR Dra**	p	48144.332	0.043	6	KL	
28176			p	48144.339	0.049	11	HP	
28177			p	48178.314	0.048	15	HP	
28178	1822+588	**RZ Dra**	p	48085.468	0.013	7	HP	
28179			p	48106.404	0.017	6	HP	
28180			p	48143.326	0.030	8	HP	
28181			p	48170.302	0.013	7	HP	
28182	1803+583	**SX Dra**	p	48179.380	0.004	6	KL	
28183	1820+475	**TZ Dra**	p	48106.411	0.013	8	HP	
28184			p	48112.467	0.007	6	HP	
28185			p	48178.284	0.005	10	HP	
28186	1926+688	**UZ Dra**	p	48112.459	0.004	7	HP	
28187			s	48143.429	-0.009	8	HP	secondary pss. slightly displ
28188	1655+527	**AI Dra**	p	48084.492	0.004	16	GB	
28189			p	48102.467	-0.003	11	GB	
28190	1214+651	**AR Dra**	p	48088.411	0.007	8	HP	
28191			p	48113.414	0.003	8	HP	
28192	1238+665	**AX Dra**	p	48091.413	-0.040	8	HP	
28193	1731+572	**CV Dra**	p	48124.382	-0.016	8	FAc	elem. IBVS No. 3213
28194			p	48127.460	-0.025	8	FAc	
28195	1922+698	**DW Dra**	p	48147.648	-0.001	4	KL	elem. BBSAG Bull. 84, p. 8
28196	2054+048	**S Equ**	p	48187.316	0.043	11	HP	
28197	0427-123	**AM Eri**	s	48162.610	-0.044	10	KL	
28198	0622+180	**BO Gem**	p	48183.60	0.23	8	KL	
28199	1737+329	**SZ Her**	p	48088.388	-0.009	8	HP	
28200			p	48088.390	-0.007	5	MKo	
28201			p	48106.390	-0.005	6	HP	
28202			p	48174.290	-0.007	7	HP	
28203	1711+307	**TU Her**	p	48094.443	-0.013	7	MKo	
28204			p	48103.504	-0.020	6	KL	
28205			p	48178.316	-0.019	9	HP	
28206	1751+169	**UX Her**	p	**48107.4213**	**0.0171**	8	RD	pe, B

Nr	Design.	Star	Type	O	O-C	n	Obs	Remarks
28207	1838+248	BO Her	p	48084.499	-0.009	12	HP	
28208	1615+090	CC Her	p	48097.372	0.028	7	KL	
28209	1618+185	CT Her	p	48094.637	0.002	7	RCr	
28210	1845+227	DH Her	p	48086.444	-0.016	9	HP	
28211	1806+458	DQ Her	p	48123.488	0.000	6	KL	
28212	1622+114	FN Her	p	48114.426	0.150	7	HP	
28213	1848+235	GL Her	p	48081.432	0.018	9	HP	
28214			p	48143.355	0.007	9	HP	
28215	1819+144	MT Her	p	48148.357	0.001	6	KL	
28216	1808+333	PW Her	p	48176.406	0.051	8	HP	
28217	1751+437	V338 Her	p	48091.469	0.004	7	HP	
28218			p	48108.440	0.001	7	HP	
28219			p	48125.411	-0.003	7	HP	
28220			p	48146.309	0.003	7	HP	
28221			p	48176.342	0.005	8	HP	
28222	1822+250	V342 Her	p	48084.394	-0.014	8	HP	
28223			p	48107.391	-0.014	7	HP	
28224			p	**48107.406**	**0.001**	8	RD	pe, B
28225			p	48176.378	-0.016	6	HP	
28226	1654+377	V359 Her	p	48087.426	0.076	7	HP	
28227	1714+209	V381 Her	p	48113.354	0.093	4	KL	
28228	1716+418	V728 Her	s	48085.415	0.017	7	HP	elem. IBVS No. 3234
28229			p	48089.429	0.024	6	HP	
28230			p	48113.426	-0.014	8	HP	
28231			p	48114.400	0.017	7	HP	
28232			p	48163.402	0.006	7	HP	
28233	1715+331	u Her	p	48128.368	0.006	6	FAc	
28234	0827-092	SY Hya	p	48189.635	-0.028	6	KL	
28235	2228+543	TW Lac	p	48143.406	0.041	15	HP	
28236			p	48143.410	0.045	7	KL	
28237			p	48146.449	0.046	7	HP	
28238	2238+380	VX Lac	p	48085.467	0.007	9	HP	
28239			p	48113.407	0.010	8	HP	
28240			p	48127.372	0.006	7	HP	
28241			p	48143.494	0.012	7	HP	
28242			p	48170.354	0.008	10	HP	
28243	2247+447	VY Lac	p	48125.436	-0.114	10	HP	
28244			p	48178.281	-0.119	9	HP	

Nr	Design.	Star	Type	O	O-C	n	Obs	Remarks
28245	2213+484	AU Lac	p	48146.309	-0.002	6	KL	
28246	2158+443	CM Lac	s	**48093.5063**	**-0.003310**		RD	pe, B
28247	2226+535	DG Lac	p	48143.470	-0.078	6	KL	
28248			p	48163.357	-0.051	8	HP	
28249	2231+558	OO Lac	p	48136.609	0.106	6	KL	
28250	0933+264	Y Leo	p	48174.670	-0.010	5	KL	
28251	0557-202	RS Lep	p	48174.615	0.008	10	KL	
28252	1529-155	VZ Lib	s	48085.460	-0.048	7	OW	
28253			s	48094.418	-0.047	9	OW	
28254			s	48122.361	-0.049	11	OW	
28255	0652+509	RV Lyn	p	48123.562	0.519	7	KL	
28256	0851+466	RY Lyn	p	48179.662	-0.017	6	KL	
28257	1914+324	RV Lyr	p	48175.282	-0.049	8	HP	
28258	1814+410	TZ Lyr	p	48086.410	0.006	7	HP	
28259			p	48113.378	0.004	6	HP	
28260			p	48167.314	0.000	7	HP	
28261	1919+378	UZ Lyr	p	48170.362	-0.004	9	HP	
28262			p	48187.388	0.000	8	HP	
28263	1831+377	EW Lyr	p	48107.393	0.255	8	HP	
28264			p	48144.417	0.254	10	HP	
28265			p	48144.418	0.255	6	KL	
28266			p	48146.369	0.257	8	HP	
28267			p	48187.286	0.251	10	HP	
28268	1909+365	FH Lyr	p	48189.289	-0.071	6	KL	
28269	1913+337	NV Lyr	p	48127.464	-0.036	5	KL	
28270	0632+088	RW Mon	p	48189.623	-0.013	7	KL	
28271	0700+003	HM Mon	p	48183.628	-0.008	6	KL	
28272	0635+036	V396 Mon	p	48153.587	-0.004	6	KL	
28273	1713+012	U Oph	s	**48107.3977**	**0.0111**	8	RD	pe, B
28274	1732+072	RV Oph	p	48096.409	-0.005	6	KL	
28275			p	48144.338	-0.009	12	HP	
28276	1704+078	WZ Oph	s	48088.453	0.023	7	HP	
28277	1728+106	V449 Oph	p	48093.530	0.026	11	MKo	
28278			p	48098.493	0.017	32	APs	CCD
28279			p	48123.361	0.023	6	KL	

Nr	Design.	Star	Type	O	O-C	n	Obs	Remarks
28280	1826+108	V451 Oph	s	48108.3891	-0.0021	7	RD	pe, B
28281	1840+087	V456 Oph	p	48113.421	0.003	41	APs	CCD
28282	1816+142	V501 Oph	p	48093.487	0.004	6	MKo	
28283			p	48094.441	-0.010	31	APs	CCD
28284			p	48123.486	-0.003	7	HP	
28285			p	48126.395	0.002	8	HP	
28286	1638+006	V502 Oph	p	48093.415	-0.051	31	APs	CCD
28287	1738+078	V506 Oph	p	48089.409	0.027	6	HP	
28288			p	48107.430	0.021	7	HP	
28289			s	48115.374	0.012	8	HP	
28290			s	48115.390	0.028	44	APs	CCD
28291	1756+135	V508 Oph	s	48085.518	0.008	8	HP	
28292			p	48096.387	0.016	5	KL	
28293			p	48107.411	0.007	30	APs	CCD
28294	1757+034	V509 Oph	p	48092.490	-0.027	44	APs	CCD
28295	1754+049	V566 Oph	p	48151.382	0.013	60	APs	CCD
28296	1625-041	V709 Oph	p	48092.4	-1.1	25	APs	CCD, normal minimum
28297	1719+106	V752 Oph	p	48084.44	-0.02	25	APs	CCD
28298	1806+091	V839 Oph	p	48108.55	0.06	65	APs	CCD, normal minimum
28299	1752+141	V913 Oph	p	48085.498	0.037	9	HP	
28300			p	48087.418	0.039	9	HP	
28301	1613-052	V1016 Oph	s	48086.500	-0.094	43	APs	CCD, n.m., el.BBSAG 83, 7
28302	1747+044	V2203 Oph	p	48123.409	-0.025	10	OW	elem. GEOS Circ.
28303			s	48136.381	-0.021	13	OW	
28304	0454-036	EQ Ori	p	48174.663	-0.036	6	KL	
28305	0502+092	FK Ori	p	48126.601	-0.008	5	KL	
28306	0533+088	OS Ori	p	48153.611	-0.010	7	KL	
28307	2355+156	U Peg	s	48107.548	-0.045	28	APs	CCD
28308	2226+178	UX Peg	p	48094.499	-0.033	9	MKo	
28309			p	48108.393	-0.011	8	HP	
28310			p	48125.400	0.005	8	HP	
28311			p	48176.371	0.004	9	HP	
28312	2220+160	BB Peg	s	48092.425	0.008	9	HP	
28313			s	48114.471	0.002	8	HP	
28314			p	48115.378	0.005	7	HP	
28315			p	48162.371	0.003	8	HP	
28316			p	48170.328	0.007	9	HP	
28317			p	48187.314	0.003	10	HP	
28318	2125+047	BN Peg	p	48087.443	0.013	7	HP	
28319			p	48092.430	0.007	7	HP	
28320			p	48127.384	0.010	7	HP	
28321			p	48147.342	-0.004	8	HP	
28322			p	48179.449	0.004	8	HP	
28323	2128+117	BO Peg	p	48189.423	-0.009	7	HP	
28324	2136+264	BX Peg	s	48121.419	0.011	7	HP	
28325			s	48126.459	0.003	9	HP	
28326			p	48147.330	-0.018	8	HP	
28327			p	48174.274	0.006	8	HP	
28328			s	48187.285	-0.022	7	HP	
28329			p	48189.384	-0.016	7	HP	
28330	2146+278	CW Peg	p	48112.460	0.039	7	KL	
28331	2339+099	DK Peg	p	48123.435	0.021	13	HP	
28332	2205+059	DO Peg	p	48123.402	0.011	8	HP	
28333	2312+165	EY Peg	p	48122.390	0.666	4	KL	elem. BBSAG Bull. 85, p. 5
28334	0320+463	RT Per	p	48162.449	0.030	8	HP	
28335			p	48174.348	0.037	6	HP	
28336			p	48179.439	0.032	6	HP	
28337	0256+389	ST Per	p	48146.400	0.044	8	HP	
28338			p	48175.538	0.051	5	KL	
28339	0150+545	BY Per	p	48147.547	-0.001	4	KL	
28340	0256+437	IU Per	p	48189.385	0.018	9	HP	
28341	0433+441	KR Per	p	48189.394	0.012	9	HP	
28342	0156+529	KW Per	p	48106.437	0.007	6	HP	
28343			p	48131.576	0.002	5	KL	
28344			p	48174.413	0.001	6	HP	
28345	0236+454	PS Per	p	48136.597	0.033	6	KL	
28346	0306+426	V432 Per	s	48128.548	0.034	11	JVb	
28347			p	48163.451	0.052	11	JVb	
28348			s	48176.474	0.053	15	JVb	
28349			p	48189.435	-0.006	6	HP	
28350	0116+309	RV Psc	s	48187.274	-0.049	8	HP	

Nr	Design.	Star	Type	O	O-C	n	Obs	Remarks
28351	2325+045	VZ Psc	p	48122.476	0.020	9	OW	
28352	1916+195	U Sge	p	48093.511	0.007	15	MKo	
28353	2010+191	UZ Sge	p	48121.453	-0.008	11	HP	
28354	1922+163	CU Sge	p	48086.534	0.004	11	HP	
28355			p	48113.452	0.006	10	HP	
28356			p	48144.342	0.020	10	HP	
28357			p	48163.326	0.004	9	HP	
28358			p	48167.298	0.017	9	HP	
28359			p	48178.373	0.009	8	HP	
28360	1957+190	CW Sge	s	48084.536	0.013	7	HP	
28361			p	48091.459	0.002	8	HP	
28362			s	48123.506	0.021	7	HP	
28363			s	48143.314	0.019	8	HP	
28364			p	48167.390	-0.007	6	HP	
28365			s	48170.382	0.013	8	HP	
28366			s	48178.298	0.005	7	HP	
28367	1905+188	DL Sge	p	48085.499	0.088	13	JVb	
28368			p	48127.489	0.080	11	JVb	
28369			p	48163.374	-0.040	8	HP	
28370	1912+183	DM Sge	p	48126.550	0.008	14	RB	
28371			p	48126.556	0.014	17	JVb	
28372	1950-147	V505 Sgr	p	48102.472	0.002	13	GB	
28373	1851-126	U Sct	p	48123.399	0.003	7	HP	
28374			p	48146.319	0.003	7	HP	
28375	1846-102	RS Sct	p	48094.465	0.003	8	MKo	
28376			p	48112.400	0.003	32	APs	CCD
28377			p	48126.360	0.014	7	HP	
28378	1536+024	AS Ser	p	48084.422	0.026	6	HP	
28379			s	48088.405	0.049	7	HP	
28380			p	48091.409	0.025	8	HP	
28381	1554+224	AU Ser	p	48085.408	-0.011	6	HP	
28382			p	48121.350	-0.013	8	HP	
28383			s	48163.279	-0.020	6	KL	
28384	1553+176	BI Ser	p	48092.478	-0.470	10	HP	
28385			p	48121.391	-0.475	9	HP	
28386	1534+156	CC Ser	s	48091.441	0.010	7	HP	
28387			s	48091.47	0.04	36	APs	CCD, min. incomplete
28388			p	48113.375	0.013	7	HP	
28389			s	48121.400	0.040	10	HP	
28390			p	48144.333	0.011	7	HP	
28391	0434+015	AC Tau	p	48178.561	0.036	9	KL	
28392	0344+249	AH Tau	p	48153.642	-0.065	6	KL	
28393			s	48179.427	-0.062	8	HP	
28394	0526+287	ES Tau	p	48179.610	0.005	6	KL	
28395	0128+301	V Tri	p	48146.452	-0.009	10	HP	
28396	0157+276	X Tri	p	48108.462	-0.017	6	HP	
28397			p	48146.349	-0.020	7	HP	
28398			p	48179.386	-0.015	8	HP	
28399	0210+367	RV Tri	p	48162.406	-0.010	9	HP	
28400	0222+278	RW Tri	p	48123.428	-0.001	5	KL	
28401	1339+596	TW UMa	p	48071.536	-0.024	5	KL	
28402	1206+563	TY UMa	s	47946.470	0.033	8	MKo	
28403	1334+521	UX UMa	p	48183.658	-0.001	5	KL	
28404	0851+651	AC UMa	p	48190.584	-0.058	7	KL	
28405	1707+803	RT UMi	p	48112.434	0.094	13	HP	
28406			p	48123.548	0.156	11	FAc	
28407	2026+246	AW Vul	p	48085.466	0.001	9	HP	
28408			p	48106.438	0.005	7	HP	
28409			p	48127.400	0.000	7	HP	
28410			p	48144.334	-0.001	7	HP	
28411	2030+246	AX Vul	p	48113.368	-0.012	6	KL	
28412			p	48115.395	-0.010	7	HP	
28413			p	48121.465	-0.014	8	HP	
28414	2033+224	AY Vul	p	48084.441	0.008	6	HP	
28415			p	48113.375	-0.007	6	KL	
28416			p	48125.442	-0.003	13	HP	
28417	2023+272	BE Vul	p	48132.362	0.018	9	HP	
28418			p	48146.326	0.013	8	HP	
28419			p	48163.396	0.011	6	HP	
28420	1954+237	BO Vul	p	48106.396	0.039	7	HP	
28421			p	48143.359	0.031	6	KL	
28422			p	48143.362	0.034	11	HP	
28423			p	48176.440	0.032	8	HP	
28424			p	48178.388	0.034	8	HP	
28425	2023+208	BP Vul	p	48112.405	-0.002	5	KL	
28426			p	48112.412	0.004	8	HP	
28427			p	48147.327	-0.006	9	HP	
28428			p	48176.432	-0.007	6	HP	

Nr	Design.	Star	Type	O	O-C	n	Obs	Remarks
28429	1935+218	**BS Vul**	p	48086.508	0.002	8	HP	
28430			p	48108.410	0.010	7	HP	
28431			p	48178.373	0.005	7	HP	
28432	2020+273	**BT Vul**	p	48013.569	-0.012	11	JVb	
28433			p	48037.521	-0.026	12	JVb	
28434	2044+280	**BU Vul**	p	48084.551	0.001	6	HP	
28435	2023+263	**CD Vul**	p	48086.501	0.003	7	HP	
28436			p	48123.417	-0.003	7	HP	
28437			p	48147.354	0.002	8	HP	
28438			p	48175.387	0.002	8	HP	
28439	2100+276	**ER Vul**	p	48126.577	0.004	10	FAc	

Errata

Page 5 of the BBSAG Bulletin No. 95 contains a note on "The True Period of AP Canis Majoris" by J. Borovicka. **Actually, the star to which this note refers is AP Canis Minoris!** The editor whishes to express his regret for this typographical error.

Minimum No. 27600 of TY UMa in BBSAG Bulletin No. 94 was observed by **MKo** rather than by HP.

On the Correct Position of V926 Aquilae (=S5341) and Two Possible New Variables

The discovery of V926 Aql was reported by H. Gessner in MVS 391. In this publication, the position of the variable was given as: $19^h\ 43.5^m$, +9° 13' (1900.0). From this, the coordinates in the GCVS for 1950.0 were calculated as $19^h\ 45^m\ 54^s$ and +9° 20'. Comparing the original identification chart with the Guide Star Catalogue, we find a difference of about 5 minutes of arc; the correct position for V926 Aql for 1950.0 should read: $19^h\ 45^m\ 00^s$ and +9° 15' (see chart below for identification).

152 red sensitive CCD images of the field around V926 Aql have been secured during the last observing season. After consecutive images were added together in order to reduce the noise level, 32 frames showing stars down to 15th magnitude remained, from which the following observations can be deduced.

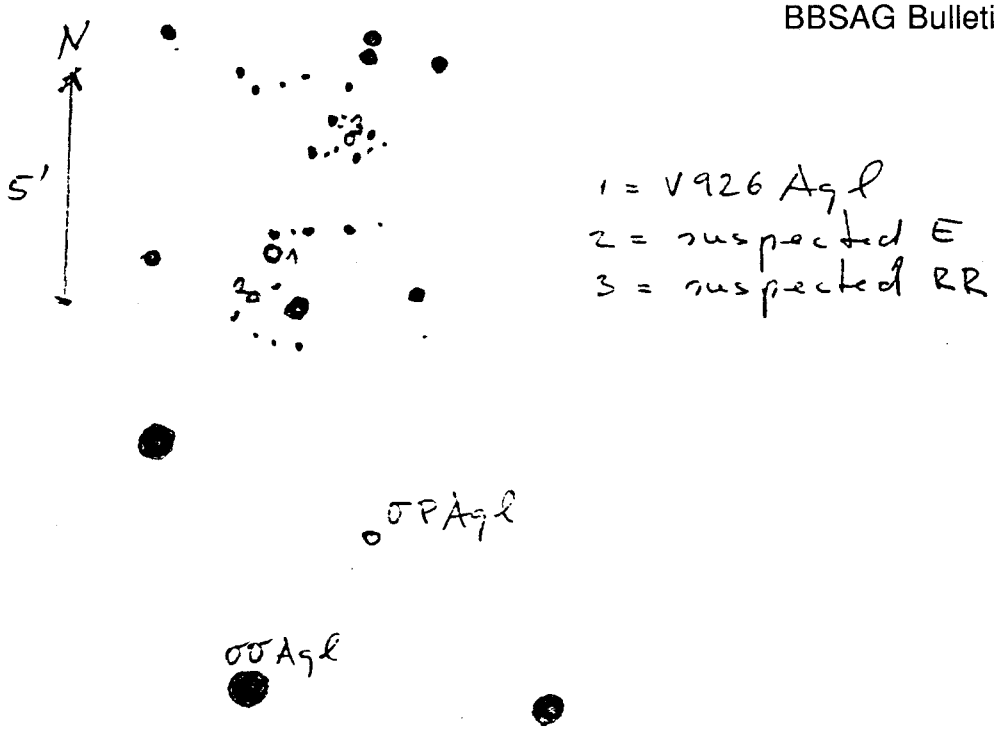
Close to the marked position in the original finder chart, two stars varying with a period around 3 days were found. One of them, probably the original V926 Aql, is comparable to OP Aql in brightness (12.6 mag at normal light). This star is very faint on an image taken at JD 48091.524. On the images exposed at JD 48088.446 and JD 48094.537, this star is about 0.6 mag. fainter than usual.

About 1 minute of arc to the southeast of V926 Aql we find a star of about 14th magnitude at normal light, which seems to vary also. It was found to be faint on the images taken at JD 48071.411, JD 48089.448, JD 48092.537, JD 48095.453, JD 48116.366, JD 48125.354 and JD 48133.319. These times all correspond to about phase 0.5 of the elements of V926 Aql in the GCVS.

Near the original (wrong) position of V926 Aql, there is another possible variable, which was at about magnitude 14.5 on JD 48108.588 and JD 48125.354, fairly visible and of equal brightness as a nearby comparison star. On most images, the star was not visible while the same comparison star can be seen. An inspection of the Palomar Star Survey shows the star to be of about equal brightness in the blue and in the red. Therefore, this star might be a RR Lyrae variable.

As the newly suspected variable star are close to the limiting magnitude of the CCD images, the reality of their variability should be checked by other means. The chart shown on the next page shows the field around V926 Aql.

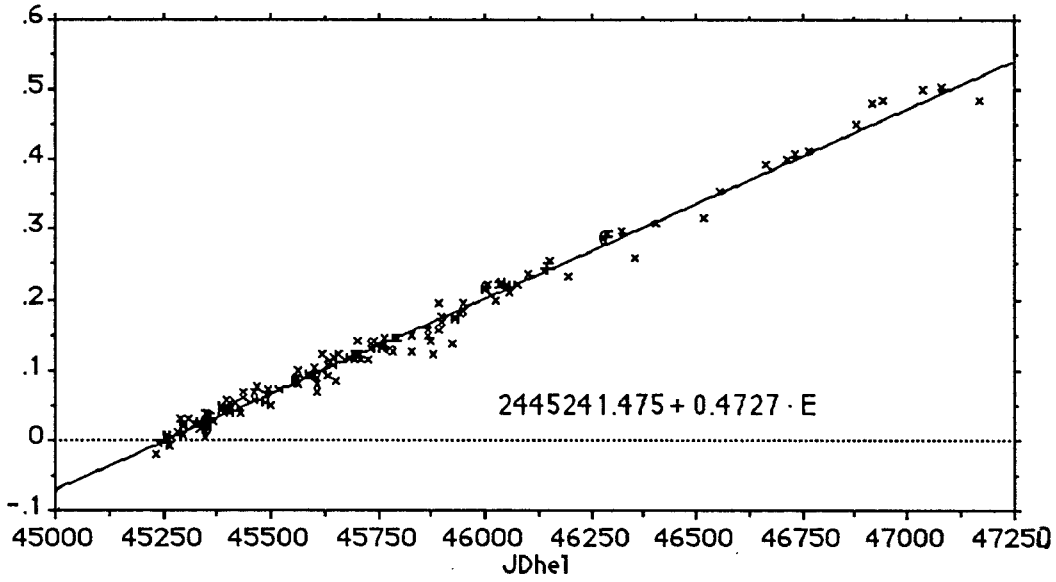
A. Pasche



New Elements for V358 Cepei = NSV 817

In BBSAG Bulletin No. 63, K. Locher gave the elements of variation of NSV817 as found from his visual survey. In the meantime, this star has been included in the GCVS and has been named V358 Cephei. Over the last years, more than 150 determinations of the time of minimum light of this EB variable have been published in the BBSAG Bulltins, from which refined elements can be deduced. A least squares analysis of all our data (shown in the O-C-diagram below) yields:

$$JD_{min,hel} = 2445241.471 + 0.4728289 \cdot E$$
$$\pm.003 \quad \pm.0000012$$



O-C-diagram of the BBSAG observations for V358 Cephei.

R. Diethelm

V749 Cygni: The Minimum Brightness and Duration

The GCVS edition for 1985 states >14 for the magnitude at minimum light and gives no information on the duration of totality of this EA/SD type binary. My few minima observed visually during the last two years yield:

$m_{v,min\ I} = 14.6 \pm 0.2$ and $d/p = 0.01 \pm 0.01$.

K. Locher

Note on NSV9538 Ophiuchi (= KZP3382 = S4176)

The discovery of the variability was reported by C. Hoffmeister in 1949 and confirmed by W. Goetz in 1957.
238 CCD images were obtained in 43 nights by the author. The star was faint on JD 2448095.39, 248113.52 and 2448122.33 but not on JD 2448086.54 and 2448131.31. The amplitude of variation is rather small, about 0.5 mag, as catalogued.

A. Paschke

A CCD Light Curve of DD Aquarii

The figure shown below shows the CCD light curve of DD Aquarii as determined by the author from observations during 7 nights in the past observing season. The elements used in the reduction procedure are given in the heading of the graph.

A. Paschke