

# BBSAG Bulletin 50

1980 October 2

## 83<sup>rd</sup> List of Minima of Eclipsing Binaries

The following table lists 251 visual and 8 photoelectric minima obtained mainly during 1980 September by the observers

MA	Maria Andrakakou, Athens, Greece
RD	Roger Diethelm, Flüh, Switzerland
(DE)	Demetrius P. Elias, Penteli, Greece, photoelectric
DE	" " " " visual
RG	Robert Germann, Wald, Switzerland
MFi	Maurizio Franchini, Cerro Maggiore, Italy
KL	Kurt Locher, Grüt, Switzerland
DM	Dimosthenis Mourikis, Pireas, Greece
IN	Ioulia Nikolaou, Pireas, Greece
CPa	Carlo Pampaloni, Firenze, Italy
APa	Aristos Parris, Larisa, Greece
HP	Hermann Peter, Stelfingen, Switzerland
NS	Nikolaos Stoikidis, Larisa, Greece

The  $G - C$  values refer to the linear elements of the GCVS 1969, disregarding improved elements in the 1971, 1974, and 1976 supplements to the GCVS. Reductions were made mainly using the tracing paper method.

- - - - -

(footnotes to page 2 :)

- \* in teamwork with MA, IN, and DM
- \*\* GCVS 1969 period erroneous,  $G - C$  according to the GCVS 1976:  $+ .006$
- \*\*\* not contained in the GCVS 1969,  $G - C$  according to the GCVS 1976:  $+ .060$
- \*\*\*\*  $G - C$  according to the GCVS 1969 exceeds one period,  $G - C$  according to the elements of BBSAG Bulletin 38, page 6:  $- .001 + .013$
- \*\*\*\*\* not contained in the GCVS 1969,  $G - C$  according to the GCVS 1976:  $+ .002 + .004$
- § GCVS period erroneous,  $G - C$  according to the elements of BBSAG Bulletin 49, page 6:  $.000 + .001 - .002$
- §§ not contained in the GCVS 1969,  $G - C$  according to the GCVS 1974:  $- .024 - .027$
- §§§ not contained in the GCVS 1969,  $G - C$  according to the GCVS 1976:  $- .005$

current no.	star	minimum or-der	JD hel 244...	O-C	n	ob-serve	current no.	star	minimum or-der	JD hel 244...	O-C	n	ob-serve
15900	RT And	I	4490.294	-.032	8	RG	15948	TV Cas	I	4466.507	-.023	24	CPa
15901		I	4507.294	-.012	9	RG	15949		I	4497.326	-.028	7	RG
15902	WX And	I	4486.408	-.348	7	KL	15950	AB Cas	I	4502.332	.000	7	KL
15903		I	4489.391	-.366	6	KL	15951	AL Cas	I	4486.370	-.006	7	RD
15904		I	4498.371	-.390	7	KL	15952		I	4489.372	-.007	6	RD
15905	WZ And	I	4497.374	-.015	6	KL	15953	<u>neu</u>	I	4490.366	-.015	7	RD
15906		I	4503.618	-.031	7	KL	15954		I	4498.364	-.026	8	RD
15907	AB And	II	4486.377	+.030	6	RG	15955	CW Cas	II	4498.368	+.067	8	RD
15908		II	4491.349	+.024	7	RG	15956	EP Cas	I	4485.367	-.021	9	RD
15909		II	4491.354	+.029	7	HP	15957		I	4489.433	-.023	6	RD
15910		II	4497.328	+.029	7	RG	15958		I	4498.360	-.043	8	RD
15911		II	4498.320	+.025	8	RG	15959	<u>neu</u> KT Cas	I	4489.362	-.042	7	RD
15912		II	4502.312	+.034	8	RG	15960	OR Cas	I	4489.423	+.029	7	RD
15913	BL And	I	4486.334	-.041	6	RD	15961	V 523 Cas	II	4503.306	*****	7	KL
15914		I	4496.451	-.038	8	HP	15962		I	4512.305	*****	6	KL
15915	EP And	II	4509.334	**	6	KL	15963	SU Cep	I	4509.436	+.006	6	KL
15916	EX And	I	4499.353	-.448	6	KL	15964		I	4510.328	-.003	6	KL
15917	GZ And	I	4489.428	***	7	RD	15965	DP Cep	I	4485.524	§§§	12	KL
15918	AT Aqr	II	4487.427	+.060	6	KL	15966		I	4489.337	§§§	6	KL
15919		I	4487.562	+.041	6	KL	15967	<u>neu</u>	I	4504.582	§§§	7	KL
15920	AU Aqr	II	4498.453	+.032	7	KL	15968	EG Cep	I	4486.400	+.020	11	HP
15921	CX Aqr	I	4485.340	+.021	6	KL	15969		I	4491.308	+.027	6	RG
15922	CZ Aqr	I	4484.419	+.011	7	KL	15970		I	4503.288	+.025	7	KL
15923		I	4489.596	+.011	6	KL	15971		I	4510.368	+.025	12	HP
15924		I	4497.356	+.006	6	KL	15972	SS Cet	I	4485.533	-.054	6	KL
15925	KO Aql	I	4502.337	+.158	13	RG	15973	AA Cet	I	4484.632	§§§	7	KL
15926	LT Aql	I	4491.380	+.041	7	KL	15974		I	4506.613	§§§	7	KL
15927	OO Aql	I	4485.384	-.051	8	RD	15975	U CrB	I	4486.346	-.078	6	HP
15928		I	4486.385	-.064	8	RD	15976	TW CrB	II	4502.289	§§§	8	KL
15929		I	4486.398	-.051	7	RG	15977	SW Cyg	I	4497.356	+.232	6	KL
15930		II	4498.322	-.037	8	RG	15978	WZ Cyg <u>neu</u>	I	4485.385	-.006	7	RD
15931		II	4502.360	-.053	8	RG	15979	ZZ Cyg	I	4487.409	-.031	8	HP
15932	V 346 Aql	I	4487.352	-.020	7	RG	15980		I	4499.347	-.037	8	HP
15933		I	4497.314	-.015	7	RG	15981	AE Cyg	I	4484.460	+.004	9	HP
15934		I	4507.278	-.008	7	HP	15982		I	4485.428	+.003	9	HP
15935	V 417 Aql	II	4486.367	+.067	10	RD	15983	CG Cyg	I	4489.405	-.024	4	NS
15936	V 803 Aql	I	4487.359	****	6	KL	15984		I	4489.406	-.023	7	RD
15937		I	4487.373	****	39	DE	15985		I	4489.413	-.016	8	HP
15938	V 1168 Aql	I	4490.367	-.016	8	RD	15986		I	4491.301	-.020	9	NS
15939	XZ Cam	I	4485.453	+.021	6	KL	15987		I	4491.304	-.018	7	RG
15940	TY Cap	I	4487.405	-.106	13	HP	15988		I	4496.345	-.026	8	HP
15941		I	4497.375	-.101	6	KL	15989		I	4506.4520	-.0174	24	DE*
15942		I	4507.363	-.077	7	KL	15990	DB Cyg	I	4487.380	-.026	11	HP
15943	RZ Cas	I	4443.369	+.005	43	MFi	15991		I	4499.334	-.042	8	HP
15944		I	4462.489	+.001	30	CPa	15992	MY Cyg	I	4489.389	+.002	8	RD
15945		I	4486.380	-.012	9	RG	15993	V 370 Cyg	I	4489.395	+.039	9	RD
15946		I	4498.344	-.001	9	RG	15994	V 387 Cyg	I	4490.427	+.062	9	HP
15947		I	4510.297	.000	9	RG							

cur- rent no.	star	minimum or- der	JD hel 244...	O-C	n ser- ver	ob- ser- ver	cur- rent no.	star	minimum or- der	JD hel 244...	O-C	n ser- ver	ob- ser- ver
15995		I	4499.400	+.067	10	HP	16029	AM Eri	I	4489.583	****	6	KL
15996	V 456 Cyg	I	4502.290	+.014	8	HP	16030		II	4497.650	****	6	KL
15997	V 477 Cyg	I	4487.338	-.014	9	HP	16031		I	4501.596	****	7	KL
15998		I	4487.350	-.003	8	RG	16032		II	4504.609	****	6	KL
15999	V 548 Cyg	I	4485.363	-.095	8	HP	16033	RW Gem	I	4487.561	-.007	8	KL
16000	V 687 Cyg	I	4510.374	+.011	12	HP	16034	BT Gem	I	4501.628	-.072	6	KL
16001	V 700 Cyg	II	4490.372	-.060	7	RD	16035	SZ Her	I	4486.310	+.037	6	HP
16002		I	4498.366	-.058	8	RD	16036		I	4486.311	+.038	6	KL
16003	V 728 Cyg	I	4499.448	+.071	15	HP	16037		I	4486.312	+.039	7	RG
16004	V 1034 Cyg	I	4503.503	-.006	9	KL	16038		I	4490.399	+.035	6	NS
16005		I	4504.461	-.024	6	KL	16039		I	4490.400	+.036	10	HP
16006	<u>new</u>	I	4507.407	-.010	9	KL	16040		I	4499.398	+.036	6	HP
16007		I	4509.372	+.002	8	KL	16041		I	4504.305	+.034	7	KL
16008	W Del	I	4496.423	+.149	16	HP	16042	TU Her	I	4485.385	-.084	8	KL
16009	TT Del	I	4497.405	+.055	6	KL	16043		I	4485.387	-.083	12	HP
16010	TY Del	I	4486.469	+.013	9	HP	16044	UX Her	I	4492.3899	-.0615	34	DE
16011		I	4498.383	+.016	7	RD	16045	AK Her	I	4491.3392	-.0404	24	DE**
16012	YY Del	I	4512.382	+.024	8	KL	16046		I	4494.2919	-.0384	30	DE
16013	DM Del	I	4485.343	+.055	8	RD	16047		I	4502.2990	-.0403	22	DE
16014		I	4490.4111	+.0553	24	DE	16048		II	4506.2976	-.0461	9	DE*
16015		I	4501.3913	+.0547	40	DE	16049	DP Her	I	4485.371	-.193	6	KL
16016	FZ Del	I	4489.346	-.004	7	HP	16050	DQ Her	I	4487.483	+.010	7	KL
16017		I	4507.354	-.011	6	KL	16051	ES Her	I	4491.333	-.124	6	KL
16018	Z Dra	I	4497.468	+.016	6	KL	16052		I	4498.379	-.116	6	KL
16019	RZ Dra	I	4489.353	-.020	9	HP	16053	MT Her	I	4497.304	+.036	7	KL
16020	TW Dra	I	4484.357	-.029	8	KL	16054	MX Her	I	4489.504	-.181	10	HP
16021		I	4498.380	-.041	6	KL	16055	V 338 Her	I	4499.376	+.102	9	HP
16022		I	4512.400	-.055	8	KL	16056	u Her	I	4510.323	-.022	8	RG
16023	UZ Dra	II	4510.353	+.007	10	HP	16057	SW Lac	I	4484.451	-.133	11	HP
16024	AI Dra	I	4466.477	+.018	26	CPa	16058		I	4486.377	-.131	6	RG
16025	<u>BF Dra</u> <u>new</u>	I	4490.321	-.004	6	RD	16059		II	4491.358	-.122	7	RG
16026	CM Dra	I	4486.400	***	6	KL	16060	TW Lac	I	4489.347	-.118	12	HP
16027		I	4498.448	***	6	KL	16061		I	4498.451	-.126	6	KL
16028	WX Eri	I	4512.467	+.013	5	KL	16062	CM Lac	I	4485.361	+.004	8	HP
							16063		I	4509.427	-.004	8	HP
							16064	DG Lac	I	4509.387	+.228	12	HP

\* in teamwork with MA, IN, and DM  
 \*\* in teamwork with MA and DM  
 \*\*\* GCVS elements incomplete, O-C according to Martins' elements PASP 87, p.168, 1975: -.431 -.434  
 \*\*\*\* O - C according to the GCVS exceeds many periods, O - C according to the elements on page 5 of this issue: +.003 -.003 -.014 -.009

cur- rent no.	star	minimum or- der	JD hel 244...	0-C	n ser- ver	ob- ser- ver	cur- rent no.	star	minimum or- der	JD hel 244...	0-C	n ser- ver	ob- ser- ver
16065	RS Lep	I	4499.673	-.016	8	KL	16101		I	4504.319	+.040	7	KL
16066	TZ Lyr	I	4489.325	+.035	6	HP	16102	Y Psc	I	4490.449	+.164	12	HP
16067		I	4490.385	+.037	8	RD	16103	RW Psa	II	4486.500	-.058	6	KL
16068		I	4498.305	+.025	6	RD	16104		II	4489.382	-.060	6	KL
16069		I	4507.303	+.032	9	HP	16105		II	4498.382	-.071	6	KL
16070	UZ Lyr	I	4499.420	+.035	9	HP	16106	U Sge	I	4486.386	+.010	13	HP
16071	EW Lyr	I	4490.498	+.078	6	HP	16107	UZ Sge	I	4485.447	+.053	12	HP
16072		I	4496.341	+.075	8	HP	16108	CU Sge	II	4490.335	-.042	6	RD
16073	FL Lyr	I	4503.347	-.003	10	HP	16109	<u>TTV-8 Sge</u>	I	4485.363	***	9	RD
16074	GZ Lyr	I	4486.395	*	10	RD	16110	V 505 Sgr	I	4499.429	-.044	12	HP
16075		I	4490.379	*	8	RD	16111	U Sct	I	4496.360	+.024	12	HP
16076	BM Mon	I	4503.648	+.017	8	KL	16112	RS Sct	I	4484.330	+.013	7	KL
16077	U Oph	I	4510.318	+.003	7	RG	16113		I	4486.329	+.019	7	RG
16078	RV Oph	I	4490.407	-.001	10	HP	16114		I	4490.307	+.012	7	RG
16079	<u>V 487 Oph</u>	I	4486.334	-.342	6	KL	16115		I	4490.314	+.019	5	KL
16080	V 752 Oph	I	4486.420	**	6	KL	16116	AO Ser	I	4491.297	-.001	6	KL
16081	U Peg	I	4502.380	-.014	7	RG	16117	AU Ser	II	4425.444	****	9	DE
16082	UX Peg	I	4489.375	-.010	9	HP	16118		II	4480.328	****	7	MA
16083	BN Peg	I	4487.420	-.283	9	HP	16119		II	4480.333	****	7	DM
16084		I	4502.397	-.285	10	HP	16120		I	4491.349	****	8	HP
16085	BO Peg	I	4490.354	-.020	8	RD	16121	X Tri	I	4484.652	-.042	6	KL
16086		I	4490.355	-.019	8	HP	16122		I	4489.510	-.041	13	HP
16087	DI Peg	I	4490.364	-.021	7	RD	16123		I	4490.481	-.042	12	HP
16088		I	4490.366	-.021	8	HP	16124		I	4494.365	-.044	5	DE
16089		I	4502.469	-.017	16	DM	16125	RW Tri	I	4484.487	.000	15	DE
16090		I	4512.434	-.018	10	HP	16126		I	4487.500	-.002	15	DE
16091	DK Peg	I	4489.385	+.054	6	RD	16127		I	4489.586	-.002	6	KL
16092	DO Peg	I	4487.480	+.187	6	KL	16128		I	4490.515	-.001	36	DE
16093	EE Peg	I	4486.337	+.070	7	RG	16129		I	4491.439	-.004	23	MA
16094	RT Per	I	4506.598	-.074	6	KL	16130		I	4491.442	-.002	20	DM
16095	KW Per	I	4489.424	+.045	7	NS	16131		I	4491.442	-.002	46	DE
16096		I	4489.426	+.047	6	KL	16132		I	4497.471	-.001	6	KL
16097		I	4490.350	+.040	7	NS	16133		I	4497.472	-.001	45	DE
16098		I	4490.357	+.047	6	KL	16134		I	4499.558	-.001	16	DM
16099		I	4499.669	+.046	9	KL	16135		I	4499.558	-.001	18	MA
16100		I	4503.393	+.045	6	KL	16136		I	4499.559	.000	10	IN
							16137		I	4499.559	.000	34	DE
							16138		I	4504.429	.000	32	DE
							16139	<u>RW UMa</u>	I	4504.393	+.091	7	KL

\* no period given by the GCVS 1969, 0 - C according to the GCVS 1976 :  
+.023 +.018

\*\* no period given by the GCVS, 0 - C according to the elements of BBSAG  
Bulletin 27, page 4, footnote 1 : +.031

\*\*\* not contained in the GCVS, 0 - C according to Kalv's elements, Tartu  
Astrofüüsika Observatoorium, 1979 : -.009

\*\*\*\* GCVS 1969 period too inaccurate for reasonable reeuction, 0 - C ac-  
cording to the GCVS 1974 : -.008 -.008 -.003 -.001

cur- rent no.	star	minimum or- der	JD hel 244...	O-C	ob- n ser- ver	cur- rent no.	star	minimum or- der	JD hel 244...	O-C	ob- n ser- ver
16140	TW UMa	I	4485.464	-.105	6 KL	16151	BU Vul	I	4487.368	+.008	10 HP
16141	UX UMa	I	4490.368	-.001	5 KL	16152		I	4491.354	+.010	8 HP
16142	RR Vul	I	4495.374	-.024	11 KL	16153		I	4499.309	.000	7 HP
16143	AW Vul	I	4498.362	-.026	9 RD	16154	CS Vul	II	4486.372	+.016	10 RD
16144		I	4502.399	-.022	8 HP	16155	GP Vul	I	4507.298	-.028	7 KL
16145	AY Vul	I	4487.476	+.032	6 KL	16156		I	4509.360	-.031	9 KL
16146	BO Vul	I	4475.359	-.090	11 NS	16157	NO Vul	II	4486.341	*	7 RD
16147		I	4475.363	-.086	15 AP	16158	NP Vul	I	4497.462	**	6 KL
16148		I	4510.389	-.085	12 HP	* not contained in the GCVS 1969, O-C according to the GCVS 1976:+.003					
16149		I	4512.337	-.083	9 HP	** not contained in the GCVS 1969,-O-C according to the GCVS 1976:+.072					
16150		I	4512.339	-.081	6 KL						

A M E r i d a n i  
T h e D e f i n i t e P e r i o d

Small discordances with the GCVS period of this EW binary led me to utter suppositions in BBSAG Bulletins 41, page 4, and 45, page 4, footnote 1. New observations during the present third apparition have manifested that the O-C against the GCVS elements increases by roughly one half period in a year and that the corrected elements are

$$43890.302 + .316576 E$$

Figure 53 plots the O-C values against the GCVS elements as deviations from the horizontal line, whereas the O-C values against the new elements are recognizable as vertical offsets from the oblique lines.

K. Locher

