BBSAG Bulletin 54

1981 June 9

87th List of Minima of Eclipsing Binaries

The following table lists 133 visual and 7 photoelectric minima obtained mainly during 1981 April and May by the observers

MA	Maria Andrakakou, Athens, Greece
RB	Roland Boninsegna, Dourbes, Belgium
(RD)	Roger Diethelm, Flüh, Switzerland, photoelectric
(DE)	Demetrius P. Elias, Penteli, Greece, photoelectric
RG	Robert Germann, Wald, Switzerland
KL	Kurt Locher, Grüt, Switzerland
GM	George Mavrofridis, Athens, Greece
DM	Dimosthenis Mourikis, Pireas, Greece
IN	Ioulia Nikolaou, Glifada, Greece
CPa	Carlo Pampaloni, Firenze, Italy
HP	Hermann Peter, Otelfingen, Switzerland
EP	Ennio Poretti, Arconate, Italy

The O - 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.

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(footnotes to page 2 :)

* not contained in the GCVS 1969, O - C according to the GCVS 1976 : +.073

** O - C according to the GCVS 1969 exceeds one period, O-C according to the elements of BBSAG Bulletin 38, p.6 : +.006 +.013 +.012 +.014

*** no period given by the GCVS, O - C according to the elements of BBSAG Bulletin 27, page 7 : +.083 +.095 +.086

**** GCVS period erroneous, O - C according to the elements of BBSAG Bulletin 53, page 5 : -.014 -.034

***** GCVS period erroneous, see page 4 of this issue

§ not contained in the GCVS 1969, O - C according to the GCVS 1976 : +.002 +.005

§§ GCVS elements incomplete, O - C according to Martins' elements PASP 87, page 168, 1975 : -.481

§§§ no period given by the GCVS, O - C according to the elements of Samolyk and Wedemayer, JAAVSO 6, page 49 , 1977 : -.003 +.007

(n) not disturbed according to the criteria of Crawford and Olson, PASP 91, page 413, 1979

current no.	star	minimum order	JD hel 244...	O-C	n	observer
17023	GZ And	II	4755.561	*	6	KL
17024	CR Aqr	I	4731.614	+.184	5	KL
17025	OO Aql	II	4707.608	-.057	7	RG
17026	V 479 Aql	I	4704.548	+.018	6	KL
17027		I	4754.564	+.018	7	KL
17028	V 760 Aql	I	4704.626	+.017	9	KL
17029	V 803 Aql	I	4708.643	**	9	KL
17030		II	4734.597	**	6	KL
17031		I	4755.539	**	6	KL
17032		I	4755.541	**	6	MA
17033	AR Aur	I	4641.390	:+.010:	14	CPa
17034	TU Boo	I	4695.338	+.010	10	GM
17035		II	4695.500	+.009	8	GM
17036		II	4733.443	+.011	6	KL
17037		II	4757.427	-.003	7	RG
17038	XY Boo	I	4716.390	+.162	7	(RD)
17039	AC Boo	II	4713.335	-.014	7	RG
17040		I	4742.403	-.021	7	RG
17041		II	4757.401	-.001	7	RG
17042	AL Cam	I	4705.322	-.008	7	RG
17043	TU Cnc	I	4731.341	-.028	6	KL
17044	WW Cnc	I	4705.492	-.306	10	KL
17045	WY Cnc	I	4716.335	+.008	7	RG
17046	VZ CVn	I	4705.365	-.025	7	RG
17047		I	4716.318	-.024	7	RG
17048	YZ CVn	I	4707.625	***	6	KL
17049		I	4726.445	***	6	KL
17050		I	4733.489	***	8	KL
17051	EG CMa	I	4663.315	****	7	KL
17052		I	4685.348	****	6	KL
17053	RZ Cas	I	4590.379	.000	22	RB
17054		I	4651.337	:+.001:	8	CPa
17055	U Cep	(n)I	4646.317	+.053	10	GM
17056		(n)I	4733.578	+.058	7	KL
17057	DP Cep	I	4734.442	*****	13	KL
17058	EK Cep	I	4484.326	-.001	10	EP
17059	RW Com	I	4701.440	-.059	7	RG
17060		I	4744.420	-.044	8	RG
17061	CC Com	I	4744.426	+.147	6	RG
17062		I	4757.440	+.141	7	RG
17063	U CrB	I	4731.527	-.004	11	(RD)
17064	TW CrB	I	4701.623	§	7	KL
17065		I	4711.637	§	6	KL
17066	W Crv	I	4704.453	-.010	7	KL
17067		I	4731.433	-.002	6	HP
17068	V Crt	I	4705.338	+.050	6	KL
17069		I	4726.407	+.058	9	KL
17070		I	4733.424	+.054	6	KL
17071	UW Cyg	I	4704.566	.000	9	KL
17072	ZZ Cyg	I	4720.618	-.039	6	KL
17073		I	4754.568	-.034	7	KL
17074	CG Cyg	I	4711.570	-.021	6	KL
17075		I	4740.602	-.021	6	KL
17076	Z Dra	I	4717.376	+.019	6	KL
17077		I	4725.518	+.016	12	HP
17078		I	4736.378	+.017	11	KL
17079	RZ Dra	I	4744.412	-.017	8	RG
17080	SX Dra	I	4705.459	+.257	8	KL
17081	CM Dra	I	4756.563	§§	8	KL
17082	RW Gem	I	4705.350	+.006	8	KL
17083	TX Gem	I	4701.341	+.005	6	KL
17084	SZ Her	I	4742.363	+.026	9	RG
17085		I	4742.371	+.034	6	KL
17086		I	4755.465	+.041	7	HP
17087	TU Her	I	4707.554	-.079	8	KL
17088	TX Her	I	4484.330	-.006	9	EP
17089		I	4731.524	+.011	12	(RD)
17090	CC Her	I	4705.630	+.095	6	KL
17091		I	4726.442	+.100	6	KL
17092	DH Her	I	4707.588	-.050	6	KL
17093	DP Her	I	4707.503	-.192	7	KL
17094		I	4755.480	-.195	7	MA
17095		I	4755.483	-.192	7	KL
17096	DQ Her	I	4704.532	+.010	6	KL
17097	ES Her	I	4705.609	-.127	6	KL
17098	GL Her	I	4705.617	+.085	5	KL
17099	MT Her	I	4703.609	+.038	6	KL
17100	EE Hya	I	4731.401	:-.027:	6	KL
17101	Y Leo	I	4711.433	+.132	9	KL
17102		I	4716.492	+.133	6	KL
17103	UV Leo	I	4716.412	-.009	9	(RD)
17104	AM Leo	I	4705.379	-.028	6	RG
17105	RY Lyn	I	4695.514	§§§	10	MA
17106		I	4695.525	§§§	10	GM
17107	SX Lyn	I	4713.332	:-.384:	6	IN
17108		I	4713.346	-.370	6	KL
17109		I	4713.372	-.344	8	RG
17110		I	4717.388	-.373	9	KL
17111	EW Lyr	I	4755.528	+.080	11	HP

* ** *** **** ***** § §§ §§§ (n) see preceeding page

current no.	star	minimum order	JD hel 244...	O-C	n	observer
17112		I	4755.529	+.082	6	KL
17113		I	4755.534	+.086	6	MA
17114	V 449 Oph	I	4708.615	+.062	7	KL
17115	V 501 Oph	I	4707.590	-.002	8	RG
17116	V 508 Oph	II	4707.593	+.024	8	RG
17117		I	4711.542	+.006	6	KL
17118		I	4757.416	+.023	7	RG
17119	V 752 Oph	I	4734.384	*	8	KL
17120	V 916 Oph	I	4731.602	+.057	6	KL
17121	CW Peg	I	4731.579	-.263	6	KL
17122	DI Peg	I	4502.4654	-.0206	30	DE
17123	RZ Pyx	II	4712.337	+.202	6	KL
17124	XY Sgr	I	4707.583	+.005	7	KL
17125	V 505 Sgr	I	4707.604	-.054	7	RG
17126	AK Ser	I	4711.627	-.006	6	KL
17127	AC Ser	I	4693.538	-.009	11	DM
17128		I	4693.548	.000	11	MA
17129	AU Ser	II	4707.616	**	7	RG
17130		I	4708.572	**	7	KL
17131		II	4711.462	**	6	KL
17132		I	4734.448	**	7	HP
17133	LX Ser	I	4707.648	***	6	KL
17134		I	4731.406	***	6	KL
17135		I	4755.488	***	11	KL
17136		I	4755.489	***	10	MA
17137	TX UMa	I	4716.324	-.013	6	RG
17138	UX UMa	I	4693.334	.000	14	MA
17139		I	4693.334	.000	13	DM
17140		I	4731.488	.000	7	KL
17141	VV UMa	I	4744.409	+.122	9	RG
17142	XY UMa	I	4716.409	-.007	9	RD
17143	XZ UMa	I	4705.313	-.074	6	KL
17144		I	4711.420	-.078	7	KL
17145		I	4733.429	-.071	6	KL
17146		I	4744.418	-.082	8	RG
17147		I	4755.430	-.071	10	HP
17148	ZZ UMa	I	4709.364	-.002	12	HP
17149	AC UMa	I	4701.481	+.305	6	KL
17150	AH Vir	I	4701.441	+.057	6	RG
17151		II	4705.322	+.067	6	RG
17152		II	4742.390	+.050	8	RG
17153	BF Vir	I	4736.386	-.016	6	KL
17154	BH Vir	I	4707.516	+.008	9	HP
17155		I	4725.483	+.003	7	HP
17156	RR Vul	I	4712.560	-.018	7	KL
17157	AW Vul	I	4705.626	-.020	6	KL
17158	AY Vul	I	4704.596	+.034	6	KL
17159	BO Vul	I	4755.571	-.085	6	KL
17160	DR Vul	§II	4731.595:	+.174:	10	RD
17161	GP Vul	I	4736.516	-.027	6	KL
17162	NO Vul	I	4733.467	****	6	KL

§ displaced secondary

* no period given by the GCVS, O - C according to the elements of BBSAG Bulletin 27, page 4, footnote 1: +.054

** GCVS 1969 elements too inaccurate for reasonable reduction, O - C according to the GCVS 1974: +.017 +.008 -.001 -.012

*** not contained in the GCVS, O - C according to the elements of Africano, Horne and Margon IBVS 3466: +.014 +.008 +.008 +.009

**** not contained in the GCVS 1969, O - C according to the GCVS 1976: +.013

T W Ursae Maioris

Duration and Brightness of the Minimum

are given as $0^{P}.02?$ and 13.8:v by the GCVS 1969-71-74-76. Our visual surveys of BBSAG minima 15400 and 16999 yeald the following refinements:

$$d/p = .002 \pm .002$$

$$m_{v\ min_I} = 14.5 \pm .3$$

R. Diethelm and K. Locher

E G Sagittarii

Confirmation of the Halved Period

Recently Berthold (IBVS 1942, 1981) reported that a final decision whether the period is $4^d.97$ or $2^d.49$ is still outstanding. In BBSAG Bulletin 42 page 4 I claimed the 2^d case to be obvious, but I concede now that the material presented there was not able to destroy the last doubts.

However, several further minima meanwhile observed show clearly that all minima are at least $1^m.6$ deep visually, and part of them would be secondary ones in the 4^d case. Since this double depth is physically inconsistent, the 4^d case can now be considered as excluded.

K. Locher

D P Cephei

Further Note on the Period and the Totality Duration

In BBSAG Bulletin 49 page 6 I showed the GCVS period to be erroneous and to be replaced vy 1.906 days. The recently observed minimum (no. 17057, page 2 of this issue) causes a correction of at least .004 day to this value, but a further minimum must be waited for to be unambiguous.

Better time resolution of this recent minimum refines also the d value, now being $0^P.026 \pm .004$ instead of zero as formerly.

K. Locher

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COMPLETE ERRATA LIST, BBSAG Bulletin 1 through 54

A recent computer reprocessing of all BBSAG results has revealed more errata than the total of all already published ones. It is therefore serviceable to recompile all those already published errata together with the new ones, so that the previous errata lists need not to be reconsulted.

The observing and reducing staff is very indebted to N.Hasler for this reprocessing of all data, the same N.Hasler who had also been the main promoter of the BBSAG idea around 1964.

LISTED IN THE GCVS ALPHABETIC ORDER OF THE STARS :

recompiled from Errata List in Bulletin	page	erroneously printed in Bulletin	page		corrections underlined		
		24	1	8796 TW And	I 2710.296	+.031	6 KL
32	5	12	1	5539 UU And	I 1983.245:	+.086:	4 KL
		44	2	14321 UU And	I 4117.590	+.119	7 KL
		52	2	16489 WZ And	I 4598.226	-.033	7 KL
32	5	6	1	4093 XZ And	I 1616.374	-.007	7 KL
32	5	6	1	4094 XZ And	I 1616.374	-.007	15 HP
		29	1	10383 AB And	I 2975.432	+.021	11 KL
		20	1	7291 CN And	I 2417.267	-.044	7 RD
		24	1	8825 EP And	I 2664.569	*	6 KL
		18	1	6860 GZ And	I 2373.551	*	7 KL
7	5	6	1	4143 FK Aql	I 1595.342:	-.082:	7 RD

		17	2	6541	OO Aql	II	2267.419	-.033	11	RD
		40	2	13670	OO Aql	II	3824.278	-.045	10	RG
44	6	38	2	12907	V 342 Aql	I	3740.344	-.039	7	KL
7	5	6	2	4158	V 346 Aql	I	1606.392	-.005	8	HP
40	3	39	2	13308	SS Ari	I	3790.300	+.122	6	RD
40	3	39	2	13309	SS Ari	I	3795.573	+.117	11	RD
		52	2	16523	TX Ari	I	4581.533	-.129	5	KL
		53	2	16813	RZ Aur	I	4669.388	+.072	6	KL
		20	1	7301	TT Aur	I	2439.401	+.022	14	HP
40	3	37	1	12585	WW Aur	II	3544.311	+.004	13	AB
		33	1	11371	WW Aur	I	3222.370	+.002	9	HP
		33	1	11374	ZZ Aur	I	3213.289	-.019	8	HP
		53	2	16829	XY Boo	II	4691.386:	+.170:	7	RD
3	4	2	1	3265	SV Cam	I	1353.320	-.004	7	RD
3	4	2	1	3266	SV Cam	I	1353.327	+.003	7	RG
		17	2	6562	SV Cam	I	2271.386:	-.013:	7	KL
		5	2	3860	WW Cam	I	1582.400	+.434	10	RD
		6	2	4168	WW Cam	I	1607.418:	+.434:	10	HP
		17	2	6572	WW Cam	I	2303.365	+.427	8	RD
		19	2	7059	WW Cam	II	2402.288	+.415	9	RD
		26	2	9298	AZ Cam	I	2783.381	+.292	9	RD
		42	2	14010	WX Cnc	I	3957.372	+.134	11	HP
		6	2	4170	AG CMi	I	1596.642	-.018	7	KL
47	4	46	2	15026	TX Cnc	I	4298.322	+.036	9	RD
		53	2	16838	WY Cnc	I	4662.428	+.010	7	HP
36	5	32	2	11210	RZ Cas	I	3230.308	±.002	23	EP
36	5	34	2	11654	RZ Cas	I	3182.381	+.004	18	SW
36	5	35	2	11913	RZ Cas	I	3139.347	-.002	18	CPa
36	5	35	2	11925	RZ Cas	I	3372.420	-.002	10	CPa
44	6	40	2	13692	RZ Cas	I	3812.284	+.011	12	NZ
44	6	40	2	13695	RZ Cas	I	3818.256	+.007	11	NZ
		49	3	15671	RZ Cas	I	4413.476	-.006	8	GM
		49	3	15683	V 523 Cas	II	4442.531	**	11	KL
10	6	4	2	3679	U Cep	I	1512.532	+.021	14	HP
32	5	31	2	11021	EG Cep	I	3088.340	+.001	9	RG
4	3	3	1	3486	EK Cep	I	1473.434	+.006	10	RD
4	3	3	1	3488	GK Cep	I	1471.389	-.002	7	RD
5	6	4	2	3691	GK Cep	I	1515.432:	+.042:	15	HP
		31	2	11032	TW Cet	I	3145.371	-.036	10	RG
		39	3	13422	V 456 Cyg	I	3764.392	+.022	10	HP
		23	3	8489	V 477 Cyg	I	2600.392	+.026	8	RG
		23	3	8490	V 477 Cyg	I	2607.422	+.015	11	RG
40	3	39	3	13428	V 498 Cyg	I	3769.44	±.07	13	RD
46	5	34	3	11717	TT Del	I	3360.429	+.029	6	RD
36	5	32	2	11237	AI Dra	I	3200.508	-.004	20	EP
		34	3	11730	AI Dra	I	3380.335	+.001	10	EP
		39	4	13471	ZZ Eri	I	3807.606	-.011	6	KL
		53	3	16903	BD Gem	I	4642.379	+.056	9	HP
47	4	46	3	15128	GW Gem	I	4291.354	-.033	10	RD
		10	2	5059	RX Her	I	1869.394	-.001	8	RG
47	4	37	3	12717	TU Her	I	3662.476	-.083	6	KL
40	3	39	4	13492	DQ Her	I	3808.261	+.010	11	KL
30	3	29	3	10580	V 342 Her	I	3011.482	-.023	9	HP
10	6	8	2	4682	RX Hya	I	1743,319	+.008	10	KL
		40	3	13766	CM Lac	I	3832.250	-.001	12	RG
		47	3	15365	XZ Leo	I	4303.515	+.036	7	RD
47	4	43	3	14249	TY Lib	I	4010.460	.000	10	KL
		10	2	5101	U Oph	I	1853.393	-.017	12	HP
23	7	22	3	8177	V 502 Oph	I	2551.415	-.034	9	JR
23	7	22	3	8178	V 502 Oph	II	2553.453	-.036	11	JR
46	5	44	3	14505	V 508 Oph	II	4099.369	+.010	6	RG

3	4	2	2	3384	V 1010	Oph	I	1401.592	-.035	8	RD
5	6	4	2	3768	V 1010	Oph	I	1507.410	-.047	10	HP
		31	3	11083	FL	Ori	I	3123.372	+.090	5	KL
46	5	45	4	14880	UX	Peg	I	4143.373	-.016	9	HP
20	5	12	3	5712	BY	Peg	II	1900.464	+.055	7	KL
20	5	12	3	5713	BY	Peg	II	1901.481	+.046	7	KL
38	5	36	4	12496	DI	Peg	I	3517.318	-.023	10	RG
		49	5	15835	GP	Peg	I	4476.387	*	8	RD*AII,1013
		11	4	5478	XZ	Per	I	1913.614	+.005	7	KL
		53	3	16959	XZ	Per	I	4683.291	+.005	6	KL
		26	4	9526	UV	Psc	I	2806.368	+.013	13	HP
		23	5	8713	UZ	Sge	I	2606.506	+.059	13	HP
		28	4	10270	AO	Ser	I	2915.507	.000	6	KL
22	5	21	4	7910	AU	Ser	I	2455.652	*	8	KL*GCVS 74
22	5	21	4	7911	AU	Ser	II	2461.640	*	8	KL*GCVS 74
22	5	21	4	7912	AU	Ser	II	2466.666	*	8	KL*GCVS 74
22	5	21	4	7913	AU	Ser	I	2491.596	*	6	KL*GCVS 74
10	6	7	3	4568	RW	Tau	I	1694.324:	-.069:	8	RD
2	5	1	3	3247	X	Tri	I	1319.400	=.022	4	KL
2	5	1	3	3248	X	Tri	I	1324.257	=.023	10	KL
		53	4	17015	AW	UMa	II	4691.348	-.001	7	RD
47	4	46	4	15248	BH	UMa	I	4299.318	-.009	9	RD
4	3	3	2	3605	RU	UMi	I	1460.386	-.004	8	RD
4	3	3	2	3606	RU	UMi	I	1471.403	-.010	10	RD
4	3	3	2	3613	AH	Vir	II	1443.470	+.020	10	KL
7	5	6	4	4395	BE	Vul	I	1615.319:	+.018:	6	RD