BBSAG Bulletin 48

1980 July 9

81st List of Minima of Eclipsing Binaries

The following table lists 143 visual and 3 photoelectric minima obtained mainly during 1980 May and June by the observers

MA	Μαρία 'Ανδρακάκου, 'Αθήνα, Greece
TA	Τόνια 'Αντωνιάδου, 'Αθήνα, Greece
RB	Roland Boninsegna, Dourbes, Belgium
(RD)	Roger Diethelm, Flüh, Switzerland, photoelectric
RD	" " " " visual
(DE)	Δημήτριος 'Ηλίας, Πεντέλη, Greece, photoelectric
DE	" " " " visual
RG	Robert Germann, Wald, Switzerland
KL	Kurt Locher, Grüt, Switzerland
DM	Δημοσθένης Μουρίκης, Πειραιάς, Greece
CPa	Carlo Pampaloni, Firenze, Italy
HP	Hermann Peter, Otelfingen, Switzerland

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 :)

* GCVS 1969 period erroneous, O-C according to the GCVS 1976 : +.006

** not contained in the GCVS 1969, O-C according to the GCVS 1976 : +.058

*** not contained in the GCVS, O-C according to Romano's elements Pubblicazioni Padova 120, 1960 : -.276

**** O-C according to the GCVS 1969 exceeds 1 period, O-C according to the elements of BBSAG Bulletin 38, page 6 : +.009

***** no period given by the GCVS, O-C according to the elements of BBSAG Bulletin 27, page 7 : +.092 +.063

§ not contained in the GCVS 1969, O-C according to the GCVS 1976 : +.001 -.001 -.002 -.003

§§ not contained in the GCVS 1969, O-C according to the GCVS 1976: -.006

§§§ GCVS elements incomplete, O-C according to Martins' elements PASP 87, page 168, 1975 : -.418

(v) very slightly
(n) not
) disturbed according to the criteria of Crawford and Olson, PASP 91, page 413, 1979, but no correction applied to the symmetric tracing paper solution

current no.	star	minimum order	JD hel 244...	O-C	n	observer
15428	EP And	I	4395.578	*	8	KL
15429	GZ And	II	4370.624	**	7	KL
15430	GR 59 And	I	4396.514	***	5	KL
15431	OO Aql	II	4402.526	-.048	10	HP
15432	V 343 Aql	I	4371.563	-.001	6	KL
15433	V 346 Aql	I	4385.584	-.003	6	KL
15434	V 416 Aql	I	4396.499	-.018	6	KL
15435	V 479 Aql	I	4404.459	+.023	6	KL
15436	V 760 Aql	I	4403.534	+.033	4	KL
15437	V 803 Aql	II	4370.539	****	6	KL
15438	AR Aur	II	4271.332	+.005	35	CPa
15439	TU Boo	I	4371.366	.000	6	KL
15440		I	4376.557	+.002	6	KL
15441		I	4402.503	+.005	9	HP
15442	AC Boo	I	4385.410	-.003	7	RG
15443	SV Cam	I	4361.368	-.016	6	KL
15444	YZ CVn	I	4371.441	*****	8	KL
15445		I	4385.518	*****	7	KL
15446	RZ Cas	I	4241.368	+.002	8	CPa
15447		I	4345.350	-.003	13	RB
15448	V 523 Cas	I	4375.594	§§§	6	KL
15449		II	4388.562	§§§	6	KL
15450		II	4406.555	§§§	6	KL
15451		II	4421.510	§§§	8	KL
15452	U Cep (v)	I	4379.556	+.048	9	KL
15453	(n)	I	4404.494	+.055	8	KL
15454	XX Cep	I	4421.415	-.007	6	KL
15455	RW Com	II	4371.446	-.027	7	RD
15456		II	4395.398	-.047	7	RG
15457		I	4402.391	-.056	8	RG
15458	RZ Com	I	4370.420	-.007	10	HP
15459		II	4382.428	-.016	10	HP
15460		II	4402.415	-.001	7	HP
15461	CC Com	I	4362.424	+.142	8	HP
15462		II	4371.358	+.139	6	RG
15463		I	4371.467	+.137	7	RD
15464		II	4372.463	+.140	9	HP
15465	RW CrB	I	4371.439	-.006	7	RD
15466	TW CrB	I	4382.452	§§	6	KL
15467	W Crv	II	4372.455	-.005	9	HP
15468	ZZ Cyg	I	4375.516	-.030	6	KL
15469		I	4380.545	-.030	6	KL
15470		I	4382.428	-.033	6	KL
15471	CG Cyg	I	4379.578	-.031	6	KL
15472		I	4388.420	-.026	7	KL
15473	W Del	I	4395.499	+.152	10	KL
15474	TT Del	I	4382.560	+.053	8	KL
15475	Z Dra	I	4383.442	+.015	11	KL
15476		I	4402.447	+.016	11	HP
15477		I	4421.444	+.009	11	KL
15478	RZ Dra	I	4359.352	-.014	7	RG
15479		I	4403.417	-.020	8	HP
15480	AI Dra	I	4345.391	+.013	8	RB
15481	CM Dra	I	4371.604	§§§	6	KL
15482	SZ Her	I	4377.503	+.036	6	KL
15483		I	4382.411	+.036	8	HP
15484		I	4382.412	+.037	6	KL
15485		I	4395.500	+.035	6	KL
15486	TU Her	I	4376.577	-.078	6	KL
15487	AK Her	I	4372.4713	-.0383	10	RD
15488	DP Her	I	4396.525	-.188	6	KL
15489	DQ Her	I	4370.537	+.011	6	KL
15490		I	4396.482	+.011	6	KL
15491	ES Her	I	4372.454	-.134	6	KL
15492	MT Her	I	4372.444	+.031	6	KL
15493		I	4406.575	+.022	5	KL
15494	Y Leo	I	4362.406	+.121	9	HP
15495		I	4362.412	+.127	6	KL
15496		I	4367.458	+.115	6	KL
15497	UV Leo	I	4362.366	-.005	10	RG
15498		I	4362.367	-.004	8	HP
15499		I	4371.366	-.006	6	RG
15500		I	4401.364	-.013	9	DM
15501		I	4401.367	-.010	7	MA
15502		I	4401.369	-.008	7	DE
15503		I	4404.362	-.016	11	DE
15504		I	4404.3702	-.0070	20	DE
15505	AM Leo	II	4362.434	-.037	7	HP
15506	UZ Lyr	I	4395.386	+.021	8	RG
15507	EW Lyr	I	4375.516	+.072	8	KL
15508	U Oph	I	4342.584	+.004	8	RB
15509		I	4374.451	+.001	11	RB
15510		II	4395.408	-.008	7	RG
15511	RV Oph	I	4372.424	+.003	6	KL
15512	SZ Oph	I	4402.589	+.271	6	KL

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

current no.	star	minimum order	JD hel 244...	O-C	n	observer
15513	V 449 Oph	I	4370.497	+.061	7	KL
15514	V 501 Oph	I	4376.554	+.001	6	KL
15515	V 502 Oph	I	4402.402	-.036	7	RG
15516	V 508 Oph	II	4372.448	+.014	8	HP
15517		I	4379.511	+.009	6	KL
15518		II	4402.440	+.009	7	RG
15519	V 586 Oph	I	4403.444	+.006	6	KL
15520	V 752 Oph	I	4372.583	*	6	KL
15521		I	4383.584	*	5	KL
15522	V 913 Oph	I	4371.544	-.106	7	KL
15523		I	4396.529	-.096	7	KL
15524	BN Peg	I	4382.566	-.282	6	KL
15525	BY Peg	I	4375.565	+.066	6	KL
15526	KW Per	I	4379.532	+.041	6	KL
15527	UZ Sge	I	4383.517	+.047	6	KL
15528		I	4403.461	+.049	5	KL
15529	AO Ser	I	4380.501	+.001	6	KL
15530		I	4395.447	-.002	7	KL
15531		I	4395.449	.000	9	HP
15532	AU Ser	I	4370.372	**	5	MA
15533		I	4370.376	**	4	DM
15534		I	4370.377	**	4	TA
15535		II	4377.527	**	6	KL
15536		I	4385.443	**	9	HP
15537		II	4401.488	**	7	DM
15538		II	4401.490	**	8	MA
15539		II	4401.492	**	7	DE
15540		I	4402.456	**	7	RG
15541		II	4403.410	**	9	HP
15542		I	4409.420	**	9	DE
15543	TX UMa	I	4382.420	-.023	10	HP
15544		I	4388.536	-.034	6	KL
15545	UX UMa	I	4362.338	+.002	6	KL
15546		I	4370.398	-.002	7	KL
15547		I	4370.595	-.002	6	KL
15548		I	4375.514	.000	5	KL
15549		I	4376.498	+.001	6	KL
15550	VV UMa	I	4370.470	+.109	14	HP
15551	XZ UMa	I	4370.397	-.075	10	HP
15552		I	4403.397	-.077	8	HP
15553	ZZ UMa	I	4371.383	+.008	6	RG
15554	AA UMa	I	4371.448	***	7	RD
15555	AC UMa	I	4372.434	+.290	6	KL
15556	VV Vir	I	4372.415	****	6	KL
15557	AH Vir	I	4362.385	+.060	10	RG
15558		II	4385.405	+.055	8	RG
15559		I	4395.384	+.049	6	RG
15560		I	4406.398	+.061	14	DE
15561		I	4406.3989	+.0612	28	DE
15562	AK Vir	I	4395.444	+.036	10	HP
15563	AW Vir	II	4371.467	+.007	8	RD
15564	AZ Vir	I	4402.435	*****	7	RG
15565	AW Vul	I	4385.472	-.013	6	KL
15566		I	4402.401	-.020	6	KL
15567	AX Vul	I	4375.532	.000	6	KL
15568		I	4379.572	-.010	5	KL
15569	BE Vul	I	4421.420	+.017	8	HP
15570	BO Vul	I	4395.583	-.084	7	KL
15571	NO Vul	I	4370.494	******	6	KL
15572		II	4382.547	******	6	KL
15573		II	4402.559	******	6	KL

* no period given by the GCVS, O-C according to the elenets of BBSAG Bulletin 27, page 4, footnote 1: +.063 +.045

** GCVS 1969 elements too inaccurate for reasonable reduction, O-C according to the GCVS 1974: -.003 +.001 +.001 +.001 -.006 -.001 +.001 +.003 .000 -.012 +.008

*** GCVS period erroneous, O-C according to the elements of the Rocznik Astronomiczny Obserwatorium Krakowskiego 51, 1980: +.020

**** O-C according to the GCVS exceeds 2 periods, O-C according to the elements of BBSAG Bulletin 31, page 5: +.007

***** GCVS 1969 period erroneous, O-C according to the GCVS 1976: +.019

****** not contained in the GCVS 1969, O-C according to the GCVS 1976: +.022 +.024 +.015

V 527 Cassiopeiae

The Probable Period

The GCVS 1976 states for this eclipsing variable an amplitude $0^m.9$, a single minimum epoch but no period. I surveyed it visually during 19 nights May to July 1980 and found 2 distinct fadings near JD 44372.47 and 44406.51, i.e. 34.04 days from each other. From the observed behaviour in the following 3 hours I conclude that they were either minima (then contradicting the GCVS amplitude and reducing it to $0^m.5$) or points of nearly equal phase within larger ascending branches. In any case of the hypothesis

$$p = 34.04 / n$$

all n are excluded by the other observations except 1, 2, and 4.

K. Locher

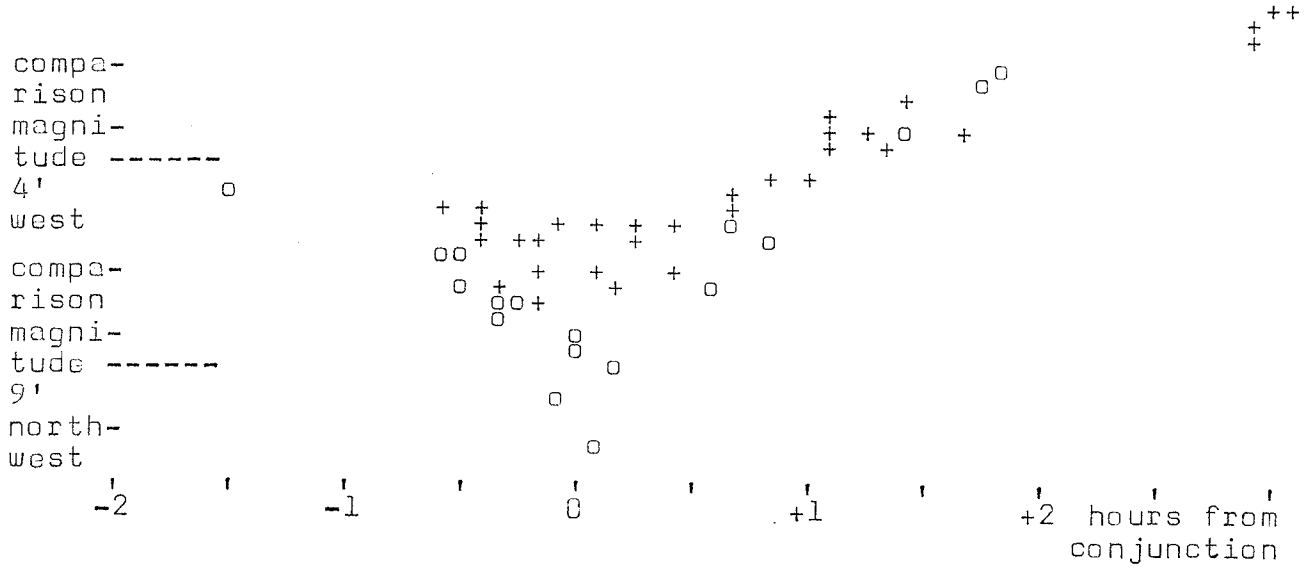
S Z Ophiuchi

Probable Recent Decrease of the Orbital Inclination

Our last observed minimum of this EA binary was found to be amazingly deep and narrow and thus suggested us to reexamine all our earlier observations. A significant change in the shape of the lightcurve during the past few years became manifest, which is well interpretable as an orbital inclination change towards a value very close to 90^o. Figure 51 superposes all our observations and makes a distinction of epochs with its plotted symbols.

R. Diethelm and K. Locher

Fig. 51



\+ observations 1974 - 1978 JD 42295 Diethelm
42993 "
43349 Locher
43627 "

o observations 1979 - 1980 43983 "
44087 "
44402 "