

BBSAG Bulletin 52

1981 February 5

85th List of Minima of Eclipsing Binaries

The following table lists 319 visual and 2 photoelectric minima obtained mainly during 1980/1 December and January by the observers

GB	Guy Boistel, Sautron, France
RB	Roland Boninsegna, Dourbes, Belgium
RD	Roger Diethelm, Flüh, Switzerland, photoelectric
RD	" " " " visual
RG	Robert Germann, Wald, Switzerland
KL	Kurt Locher, Grüt, Switzerland
TM	Anthony Mallama, Greenbelt, USA
GM	George Mavrofridis, Athens, Greece
HP	Hermann Peter, Stelfingen, Switzerland
GS	George Stefanopoulos, Aghia Paraskevi, Greece
NS	Nikolaos Stoikidis, Larisa, Greece

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.

(footnotes to page 2 :)

- * GCVS 1969 period erroneous, O-C according to the GCVS 1976: +.011 +.006 +.008 -.001 -.006
 - ** not contained in the GCVS 1969, O-C according to the GCVS 1976: +.063 +.071
 - *** no period given by the GCVS, O-C according to the elements of BBSAG Bulletin 27, page 7: +.086
 - **** not contained in the GCVS 1969, O-C according to the GCVS 1976: +.005
- | | | |
|-----|---------------|---|
| (n) | not | } |
| (v) | very slightly | |
| (s) | slightly | |
| (m) | moderately | |
- disturbed according to the criteria of Crawford and Olson, PASP 91, page 413, 1979, but no correction applied to the symmetric tracing paper solution

cur- rent	star	minimum or- JD hel	O-C	or- n ser-	cur- rent	star	minimum or- JD hel	O-C	or- n ser-
16478	RT And	I 4417.370	.000	7 GS	16528	WW Aur	I 4545.481	+.003	17 RB
16479		I 4429.316	-.003	7 GS	16529		II 4607.364	+.023	9 HP
16480		I 4483.387	-.020	6 GS	16530		I 4636.372	-.006	13 HP
16481		I 4585.280	-.015	10 GM	16531	ZZ Aur	I 4583.462	-.018	11 HP
16482		I 4602.256	-.020	8 RG	16532		I 4627.352	-.017	8 HP
16483		I 4629.288	-.032	11 RG	16533		I 4633.360	-.020	8 HP
16484	TW And	I 4590.286	+.046	10 NS	16534		I 4636.371	-.015	12 HP
16485	UU And	I 4575.365	+.116	7 KL	16535	CL Aur	I 4583.445	+.040	8 HP
16486		I 4581.322	+.128	11 HP	16536		I 4613.291	+.022	9 RD
16487	WZ And	I 4575.275	-.027	6 KL	16537	HL Aur	I 4605.363	+.006	7 HP
16488		I 4582.241	-.018	6 KL	16538		I 4633.372	+.002	9 HP
16489		I 4598.226	-.033	7 KL	16539	TU Boo	II 4581.671	+.004	7 KL
16490	XZ And	I 4575.247	-.040	6 KL	16540		II 4618.635	.000	7 KL
16491		I 4583.385	-.046	7 HP	16541		II 4633.550	-.002	6 KL
16492		I 4583.385	-.045	6 KL	16542	SV Cam	I 4603.347	-.010	6 RG
16493		I 4598.314	-.047	6 KL	16543		I 4622.326	-.009	8 GM
16494		I 4602.384	-.048	10 HP	16544	Y Cam	I 4581.703	+.163	6 KL
16495		I 4606.460	-.045	9 HP	16545	AQ Cam	I 4583.395	+.021	7 KL
16496		I 4610.532	-.045	10 TM	16546	WX Cnc	I 4633.350	+.144	7 HP
16497		I 4613.248	-.043	8 RD	16547	WY Cnc	I 4633.407	+.017	9 HP
16498		I 4613.249	-.042	9 RG	16548	YZ CVn	I 4633.571	***	6 KL
16499		I 4636.315	-.050	8 RG	16549	R CMa	I 4607.443	+.030	12 HP
16500		I 4636.320	-.046	12 HP	16550	UU CMa	I 4598.412	-.331	6 KL
16501	AB And	II 4582.295	+.031	8 RG	16551	EE CMa	I 4636.515	+.011	8 KL
16502		II 4586.273	+.027	7 RG	16552	AK CMi	I 4602.427	+.018	6 KL
16503		I 4629.255	+.029	7 RG	16553		I 4603.564	+.022	5 KL
16504	EP And	II 4590.565	*	5 KL	16554		I 4636.382	+.018	10 HP
16505		II 4591.368	*	6 KL	16555	RZ Cas	I 4547.353	+.003	29 GB
16506		I 4626.326	*	6 KL	16556		I 4602.317	-.014	25 GB
16507		II 4627.326	*	7 KL	16557		I 4602.336	+.005	7 GM
16508		II 4631.362	*	6 KL	16558		I 4602.338	+.007	9 RG
16509	GZ And	I 4613.265	**	8 RD	16559		I 4608.311	+.004	11 GM
16510		II 4629.285	**	6 KL	16560	AB Cas	I 4607.589	+.007	11 TM
16511	RY Aqr	I 4602.228	-.149	6 HP	16561		I 4636.290	+.003	9 HP
16512	CZ Aqr	I 4586.229	+.016	6 KL	16562	CW Cas	I 4628.312	+.074	9 RD
16513		I 4598.302	+.010	6 KL	16563	V 523 Cas	I 4626.348	****	6 KL
16514	OO Aql	I 4483.364	-.044	6 GS	16564	U Cep	(v)I 4429.421	+.052	8 GS
16515		I 4484.375	-.047	5 GS	16565		(n)I 4459.340	+.055	6 GS
16516		II 4565.201	-.054	7 RG	16566		(n)I 4586.476	+.045	9 GM
16517		II 4605.235	-.057	9 RG	16567		(n)I 4591.473	+.057	12 KL
16518	SS Ari	II 4602.245	-.115	8 RG	16568		(s)I 4601.434	+.045	12 GM
16519		I 4605.289	-.117	8 RG	16569		(n)I 4611.404	+.043	14 GM
16520		I 4629.258	-.101	7 RG	16570		(m)I 4626.365	+.046	11 KL
16521		I 4635.319	-.130	7 RG	16571		(n)I 4631.361	+.056	8 KL
16522		II 4636.342	-.122	7 RG	16572		(v)I 4636.333	+.041	13 RG
16523	TX Ari	I 4581.533	+.129	5 KL	16573		(v)I 4636.338	+.047	8 KL
16524	RY Aur	I 4582.504	+.006	6 KL	16574		(v)I 4636.344	+.052	10 HP
16525		I 4612.473	-.004	6 KL	16575	SU Cep	I 4591.466	+.009	8 KL
16526	RZ Aur	I 4636.271	+.072	7 KL					
16527	TT Aur	I 4606.444	+.041	11 HP					

* ** *** **** (n) (v) (s) (m) see preceding page

current no.	star	minimum or-der	JD hel 244...	O-C	n ser-ver	ob-serve	current no.	star	minimum or-der	JD hel 244...	O-C	n ser-ver	ob-serve
6576	AH Cep	II	4634.35	+.22	9	RD	16617	Z Dra	I	4604.705	+.015	11	KL
6577	EG Cep	I	4582.254	+.021	9	HP	16618		I	4626.427	+.019	6	KL
6578	EK Cep	I	4608.311	+.007	10	HP	16619	AI Dra	I	4556.373	+.003	32	GB
6579	GI Cep	I	4582.250	-.005	8	HP	16620	CM Dra	I	4612.602	***	7	KL
6580	TW Cet	I	4582.310	-.024	6	KL	16621	S Equ	I	4586.248	+.029	9	HP
6581		I	4595.301	-.023	11	KL	16622	TZ Eri	I	4582.516	-.075	14	HP
6582		I	4602.269	-.027	7	RG	16623		I	4590.335	-.074	12	NS
6583		I	4602.272	-.023	11	KL	16624		I	4603.364	-.075	14	HP
6584		II	4605.282	-.024	7	RG	16625		I	4603.365	-.075	6	KL
6585		I	4613.351	-.033	5	KL	16626	WX Eri	I	4582.447	+.016	6	KL
6586	TX Cet	I	4598.399	+.014	8	KL	16627		I	4601.386	+.020	9	HP
6587	VY Cet	II	4582.328	*	6	KL	16628		I	4606.308	+.002	10	HP
6588		II	4583.334	*	6	KL	16629	YY Eri	I	4586.327	-.001	8	RG
6589		II	4598.337	*	7	KL	16630		I	4595.319	-.010	10	KL
6590		II	4613.319	*	4	KL	16631		II	4595.485	-.006	6	KL
6591	AA Cet	I	4583.312	**	6	KL	16632		I	4605.285	-.011	7	RG
6592		I	4591.331	**	8	KL	16633		II	4605.422	-.034	8	HP
6593		II	4595.350	**	14	KL	16634		II	4635.334	-.022	7	RG
6594		I	4598.311	**	7	KL	16635		II	4636.302	-.018	6	RG
6595		II	4602.317	**	11	KL	16636	ZZ Eri	II	4629.264	+.028	6	KL
6596		I	4613.317	**	7	KL	16637	AM Eri	I	4586.435	****	5	KL
6597		I	4627.256	**	7	KL	16638		I	4604.493	****	7	KL
6598		I	4635.293	**	6	KL	16639		II	4629.333	****	6	KL
6599	RZ Com	II	4595.701	.000	6	KL	16640		II	4636.312	****	7	KL
6600	W Crv	I	4629.558	-.005	7	KL	16641	RW Gem	I	4613.648	.000	15	TM
6601	Z Crv	I	4636.682	-.013	7	KL	16642	RX Gem	II	4633.484	+.076	8	KL
6602	AE Cyg	I	4582.354	+.011	12	HP	16643	BO Gem	I	4627.451	+.037	6	KL
6603		I	4586.229	+.009	8	HP	16644	CX Gem	I	4586.426	-.026	6	KL
6604	CG Cyg	I	4561.353	-.026	8	NS	16645	FG Gem	I	4633.397	-.087	9	HP
6605		I	4568.303	-.019	10	NS	16646	WY Hya	I	4595.648	+.009	7	KL
6606		I	4575.243	-.021	9	HP	16647		II	4602.465	+.024	6	KL
6607		I	4587.231	-.027	8	NS	16648	XZ Hya	I	4636.476	+.105	6	KL
6608		I	4604.269	-.028	10	NS	16649	SW Lac	I	4582.271	-.135	9	GM
6609		I	4604.271	-.026	8	HP	16650		I	4582.280	-.126	7	RG
6610	KR Cyg	I	4569.297	-.027	7	GS	16651		II	4585.299	-.154	9	GM
6611		I	4569.299	-.025	7	GM	16652		II	4586.291	-.124	7	RG
6612	V 387 Cyg	I	4581.385	+.055	6	HP	16653		II	4587.230	-.157	10	GM
6613		I	4585.230	+.056	7	HP	16654		I	4587.398	-.140	11	GM
6614		I	4601.246	+.058	7	HP	16655		II	4603.281	-.133	8	RG
6615	V 687 Cyg	I	4575.243	+.005	9	HP	16656		II	4613.218	-.139	6	RG
6616	FZ Del	I	4605.255	-.010	9	HP	16657		II	4629.261	-.132	5	RG

* GCVS 1969 period erroneous, O-C according to the GCVS 1976 : +.005
-.011 -.004 -.018

** not contained in the GCVS 1969, O-C according to the GCVS 1974 : .000
-.023 -.026 -.015 -.029 -.020 -.022 -.027

*** GCVS elements incomplete, O-C according to Martins' elements PASP
87, p.168, 1975 : -.454

**** O-C according to the GCVS amounts to several entire periods, O-C ac-
cording to the elements of BBSAG Bulletin 50, page 5 : -.005 -.018

current no.	star	minimum or-der	JD hel 244...	O-C	n ser-der	ob-serve	current no.	star	minimum or-der	JD hel 244...	O-C	n ser-der	ob-serve
16658	CM Lac	I	4607.315	-.002	10	HP	16698	BN Peg	I	4567.313	-.279	9	HP
16659	DG Lac	I	4604.269	+.233	10	HP	16699		I	4582.290	-.281	11	HP
16660	Y Leo	I	4618.699	+.132	6	KL	16700		I	4582.294	-.278	8	RG
16661	UU Leo	I	4631.502	-.021	6	KL	16701		I	4602.265	-.279	9	HP
16662	UV Leo	II	4595.507	+.002	6	KL	16702	BY Peg	I	4575.271	+.083	6	KL
16663	T LMi	I	4636.363	-.123	6	KL	16703		II	4582.269	+.071	6	KL
16664	RS Lep	I	4583.437	-.007	6	KL	16704	DI Peg	I	4517.419	-.015	7	GS
16665		I	4601.465	-.018	11	GM	16705		I	4636.287	-.021	6	RG
16666		I	4601.476	-.007	10	HP	16706	DK Peg	I	4605.242	+.053	10	RG
16667		I	4605.335	-.014	9	GM	16707		I	4605.256	+.067	9	HP
16668		I	4627.249	-.006	7	RG	16708	Z Per	I	4580.365	+.024	8	GM
16669	RY Lyn	I	4636.691	*	7	KL	16709		I	4583.421	+.024	8	GM
16670	EW Lyr	I	4636.647	+.072	6	KL	16710		I	4586.477	+.023	10	GM
16671	RW Mon	I	4598.558	-.002	9	KL	16711	RT Per	I	4575.397	-.078	4	KL
16672		I	4602.371	-.001	7	KL	16712		I	4575.402	-.073	8	HP
16673		I	4617.615	-.005	11	TM	16713		I	4603.435	-.069	7	HP
16674	AN Mon	I	4636.467	+.060	6	KL	16714	XZ Per	I	4608.443	+.013	10	HP
16675	BO Mon	I	4604.626	+.163	6	KL	16715	AG Per	II	4634.352	+.033	RD	
16676	HM Mon	I	4604.451	+.115	6	KL	16716	KW Per	I	4559.263	+.040	7	NS
16677		I	4631.334	+.093	6	KL	16717		I	4586.267	+.038	6	KL
16678	V 752 Oph	I	4629.697	**	7	KL	16718		I	4598.381	+.045	6	KL
16679	EQ Ori	I	4607.500	-.079	17	HP	16719		I	4613.274	+.038	6	KL
16680	ER Ori	II	4595.495	-.036	6	KL	16720		I	4626.313	+.040	7	KL
16681		II	4602.273	-.032	7	RG	16721		I	4627.246	+.041	6	KL
16682		I	4603.331	-.033	6	RG	16722	β Per	I	4583.481	-.121	9	HP
16683		II	4627.260	-.026	7	RG	16723		I	4586.340	-.128	11	RG
16684		I	4628.316	-.028	9	RD	16724		I	4606.417	-.123	17	HP
16685		II	4635.299	-.032	8	RG	16725	Y Psc	I	4588.370	+.176	12	GM
16686	FK Ori	I	4603.539	+.312	12	HP	16726	SX Psc	I	4602.329	-.035	9	HP
16687		I	4607.424	+.302	15	HP	16727		I	4607.293	-.026	9	HP
16688		I	4613.264	+.300	9	RD	16728	UV Psc	I	4603.386	+.028	6	HP
16689	FL Ori	I	4598.349	+.094	6	KL	16729	RW PsA	II	4598.232	-.067	7	KL
16690		I	4601.448	+.091	11	HP	16730	UZ Pup	I	4591.448	-.031	6	KL
16691	OS Ori	I	4609.354	-.001	15	GM	16731		I	4602.579	-.027	6	KL
16692	V 341 Ori	I	4629.322	-.011	7	KL	16732		I	4626.416	-.036	7	KL
16693	V 640 Ori	I	4586.363	-.003	6	KL	16733	XZ Pup	I	4604.562	-.025	8	KL
16694		I	4598.478	-.013	7	KL	16734		I	4626.488	-.024	11	KL
16695		I	4602.517	-.016	7	KL	16735	AY Pup	I	4590.562	+.065	4	KL
16696	UX Peg	I	4608.296	-.026	9	HP	16736		I	4591.487	+.052	6	KL
16697	AT Peg	I	4603.249	-.123	7	HP	16737		I	4598.526	+.056	9	KL
							16738		II	4602.520	+.064	8	KL
							16739		II	4633.467	+.060	6	KL

continued on page 6

* no period given by the GCVS, O-C according to the elements of Samolyk and Wedemayer, JAAVSO preprint 1977: +.008

** no period given by the GCVS, O-C according to the elements of BBSAG Bulletin 27, page 4, footnote 1: +.053

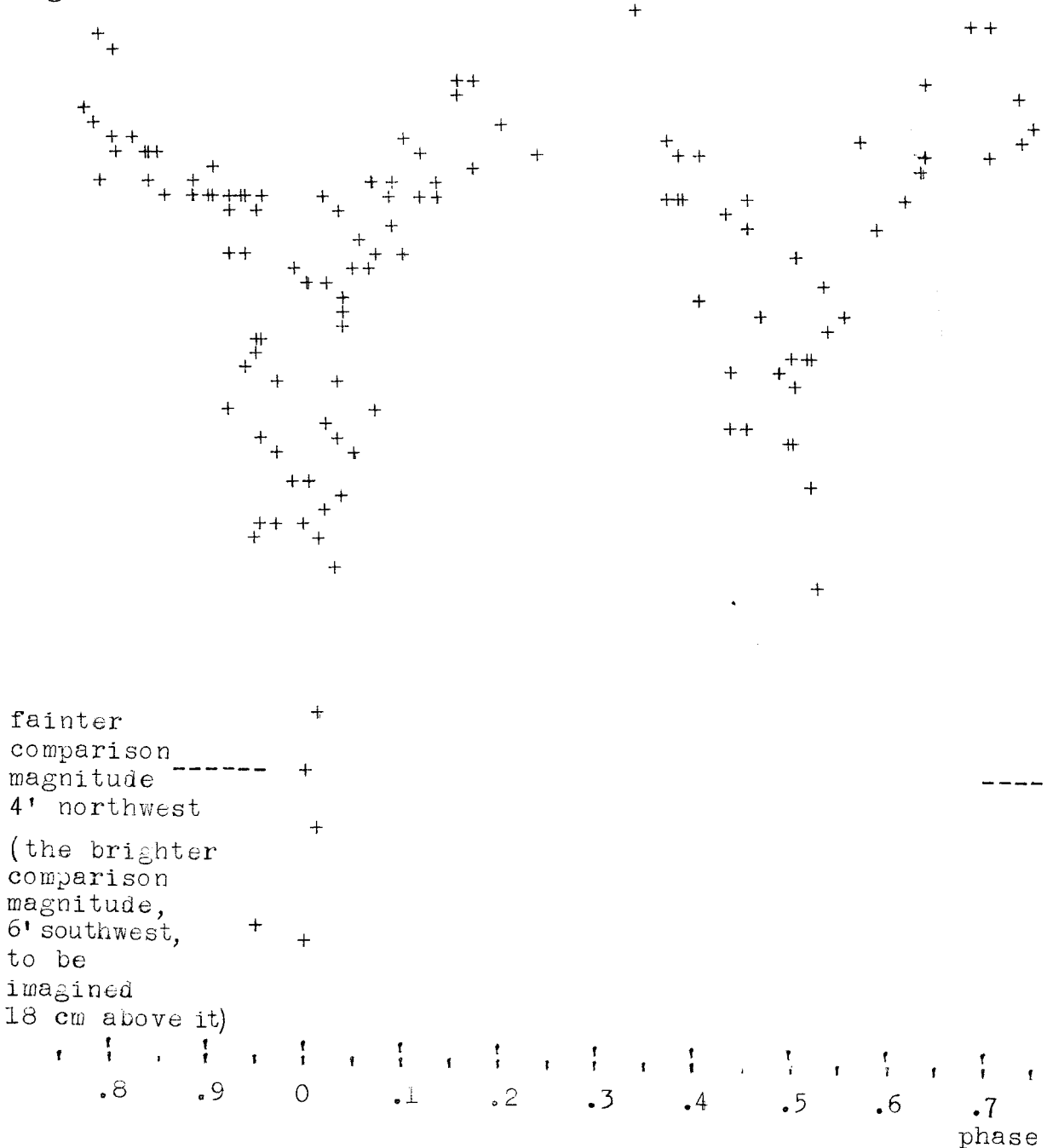
B Y P e g a s i

The Secondary Amplitude

The GCVS 1969-71-74-76 tacitly pretends equal amplitudes for this contact binary designing it EW. However, a remarkable tendency towards EB characteristics is shown in figure 54, where I plot all my visual estimations obtained 1973 through 1980.

K. Locher

Figure 54



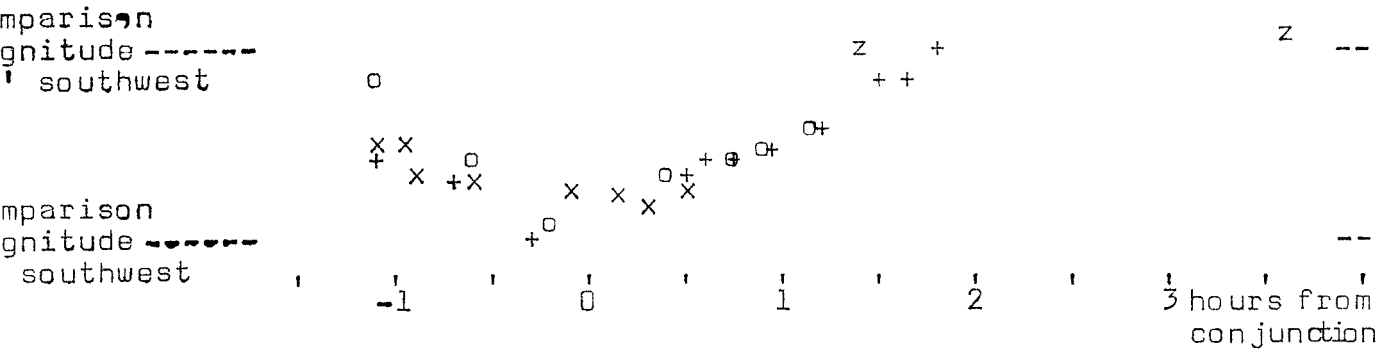
R R V u l p e c u l a e

The Totality Duration

According to the GCVS 1969-71-74-76 this EA binary should show a total eclipse lasting 3 hours. It had not been surveyed by BBSAG prior to 1980, but my 1980 observations reveal that this value is or has meanwhile become zero. They are all plotted in figure 55.

g. 55

sporadic, JD 4510 4551 4555 4561 4585
 JD 4495
 JD 4586
 JD 4591



continued from page 4

current no.	star	minimum order	JD hel 244...	G-C	n ser-	ob-ver	current no.	star	minimum order	JD hel 244...	G-C	n ser-	ob-ver
							16769		I	4568.201	-.045	6	GM
							16770		I	4590.550	-.042	6	KL
740	DF Pup	I	4604.489	+.141	6	KL	16771		I	4595.408	-.042	8	KL
741		I	4631.474	+.125	6	KL	16772		I	4601.238	-.041	9	HP
742	GK Pup	I	4629.355	+.015	7	KL	16773		I	4633.298	-.041	7	KL
743	RZ Pyx	II	4591.597	+.216	6	KL	16774		I	4635.241	-.041	6	KL
744		II	4595.520	+.202	7	KL	16775	RV Tri	I	4586.276	-.021	9	HP
745	RT Scl	I	4583.260	-.119	8	KL	16776		I	4601.351	-.019	9	HP
746		I	4586.307	-.142	6	KL	16777		I	4604.365	-.020	10	HP
747	U Sge	I	4459.357	+.027	6	GS	16778		I	4607.379	-.021	10	HP
748	AO Ser	I	4612.648	.000	4	KL	16779		I	4635.257	-.028	6	KL
749		I	4626.720	+.002	6	KL	16780	RW Tri	I	4636.369	-.002	6	KL
750	AU Ser	I	4595.698	*	6	KL	16781	TW UMA	I	4591.640	-.104	7	KL
751	RW Tau	I	4604.362	-.089	10	HP	16782	UX UMA	I	4591.656	+.001	6	KL
752		I	4626.513	-.089	6	KL	16783		I	4604.635	-.001	6	KL
753		I	4629.284	-.086	13	RG	16784	ZZ UMA	I	4626.598	+.006	6	KL
754	RZ Tau	I	4628.308	+.015	9	RD	16785	AC UMA	I	4598.649	+.295	7	KL
755	AC Tau	I	4586.310	+.064	6	KL	16786	UW Vir	I	4629.700	+.338	7	KL
756		I	4633.315	+.072	6	KL	16787	BF Vir	I	4607.636	-.011	6	KL
757	AH Tau	I	4628.323	-.039	10	RD	16788	RR Vul	I	4586.295	-.015	8	KL
758	AM Tau	I	4601.408	-.158	6	HP	16789		I	4591.362	.000	7	KL
759		I	4603.444	-.166	10	HP	16790	AW Vul	I	4582.245	-.015	7	HP
760	AS Tau	I	4591.489	+.246	6	KL	16791		I	4582.246	-.014	6	KL
761	CD Tau	I	4587.374	-.056	7	GM	16792		I	4586.273	-.019	7	HP
762	HU Tau	I	4602.434	+.034	14	HP	16793	AY Vul	I	4603.270	+.030	7	HP
763		I	4635.327	+.027	12	RG	16794	BE Vul	I	4581.283	+.020	8	HP
764	V Tri	I	4581.386	+.016	6	HP	16795	B. Vul	I	4586.279	-.085	10	HP
765		I	4591.341	+.022	6	KL	16796		I	4586.281	-.083	6	KL
766		I	4601.289	+.022	9	HP	16797	BU Vul	I	4585.236	+.008	7	HP
767		I	4605.382	+.018	10	HP	16798		I	4606.287	+.007	11	HP
768	X Tri	I	4494.372	-.037	7	GS	* GCVS 1969 period too inaccurate for reasonable reduction, G-C according to the GCVS 1974: -.008						

S A O 7 7 6 1 5 T a u r i :
P r e l i m i n a r y E l e m e n t s

SAO 77615 Tau ($\alpha_{1950} = 5^h 47^m 06^s$ $\delta_{1950} = +26^{\circ} 56' 58''$) was discovered as an EW variable by A.W. Harris (IBVS 1556, 1979). The discoverer was not able to distinguish between the two possible periods $p_1 = 0.^d 3394$ and $p_2 = 0.^d 3449$. Photoelectric observations on JD 44634, 44636, and 44637 indicate the correctness of the period p_2 . From Harris' Figure 1 and my observations the following preliminary elements have been deduced:

$$\text{Min}_I \text{ JD hel} = 2443875.90 + .344949 E$$

R. Diethelm

V 3 4 1 O r i o n i s :
T h e M i n i m u m B r i g h t n e s s

is unknown according to the GCVS 1969-71-74-76 but fainter than 17.0 photographic magnitude. My rough visual method described in BBSAG Bulletin 51 p.5 for GO Mon now applied to the minimum JD 2444629 of V 341 Ori yields

$$m_v \text{ min}_I = 16.4 \pm .3$$

K. Locher

