

# BBSAG Bulletin 58

1982 February 8

## 91<sup>st</sup> List of Minima of Eclipsing Binaries

The following table lists 1 photoelectric and 214 visual minima obtained mainly during 1981 December and 1982 January by the observers

SA	Sandra Amsler, Binz, Switzerland
MA	Maria Andrakakou, Athens, Greece
RB	Roland Boninsegna, Dourbes, Belgium
RC	Roland Cadalbert, Mönchaltorf, Switzerland
DD	Daniel Delhaye, Leval-Trahegnies, Belgium
PDo	Predrag Dokic, Rüti, Switzerland
ⒸDE	Demetrius P.Elias, Penteli, Greece, photoelectric
DE	" " " " visual
RG	Robert Germann, Wald, Switzerland
TGr	Thomas Gruebler, Greifensee, Switzerland
MHä	Martin Häfliger, Auslikon, Switzerland
LH	Liz Horowitz, Russikon, Switzerland
JKu	Jiri Kukan, Volketswil, Switzerland
JL	Jean-François Le Borgne, Bagnères, France
DL	Didier Leyman, Leval-Trahegnies, Belgium
RLe	Robert Leyman, Leval-Trahegnies, Belgium
KL	Kurt Locher, Grüt, Switzerland
SM	Salvatore Mammoliti, Reggio Calabria, Italy
GM	George Mavrofridis, Athens, Greece
CMo	Charles Mouillard, Leval-Trahegnies, Belgium
GMo	Guillaume Mouillard, Leval-Trahegnies, Belgium
DM	Dimosthenis Mourikis, Pireas, Greece
IN	Ioulia Nikolaou, Glifada, Greece
HP	Hermann Peter, Otelfingen, Switzerland
BS	Beat Staub, Wald, Switzerland
ASt	Andreas Stucky, Pfäffikon, Switzerland
GS	George Stefanopoulos, Aghia Paraskevi, Greece
NS	Nikolaos Stoikidis, Larisa, Greece
WZ	Wolfgang Zwing, Wetzikon, 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.

cur- rent no.	star	minimum or- der	JD hel 244...	O-C n	ob- ser- ver	cur- ren no.	star	minimum or- der	JD hel 244...	O-C n	ob- ser- ver
17997	RT And	I	4907.297	-.010	9 GM	18025	Y Cam	I	4968.444	+.157	6 KL
17998		I	4912.332	-.006	9 GM	18026		I	4988.280	+.160	9 RG
17999		I	4929.292	-.028	6 GS	18027		I	4988.287	+.167	7 KL
18000		I	4929.298	-.021	8 GM	18028	SV Cam	I	4912.337	-.010	6 GM
18001		I	4963.279	-.003	5 GS	18029		I	4928.355	-.005	5 GS
18002		I	4985.266	-.028	9 RG	18030		I	4928.356	-.004	7 GM
18003	TW And	I	4928.324	+.019	5 NS	18031		I	4966.315	-.002	6 GS
18004	XZ And	I	4989.215	-.047	6 KL	18032	YZ CVn	I	5001.511	****	7 KL
18005		I	4993.287	-.047	8 KL	18033	RX CMa	I	5001.469	-.033	6 KL
18006	BO And	I	4984.312	+.135	6 KL	18034	UU CMa	I	5001.360	-.356	9 KL
18007	EP And	II	4956.287	*	6 KL	18035	EE CMa	I	4987.498	+.010	7 KL
18008	GZ And	II	4973.345	**	8 KL	18036	EG CMa	I	4968.408	*****	9 KL
18009		II	4984.322	**	7 KL	18037	AK CMi	I	4933.485	+.026	14 DE
18010		I	4985.393	**	6 BS	18038		I	5001.384	+.018	6 KL
18011		I	4985.394	**	6 TGr	18039	TY Cap	I	4927.252	-.110	4 NS
18012		I	4985.395	**	6 SA	18040	RZ Cas	I	4811.500	+.001	18 JL
18013		I	4985.396	**	6 PDo	18041		I	4853.333	.000	15 RLe
18014	CX Aqr	I	4956.255	+.017	8 KL	18042		I	4853.334	+.001	32 DD
18015	V 803 Aql	I	4879.339	***	8 DE	18043		I	4853.335	+.002	52 GMb
18016	RX Ari	I	4959.354	+.007	13 GM	18044		I	4853.341	+.008	22 CMb
18017	<u>V 803</u>	I	4959.355	+.008	5 GS	18045		I	4853.346	+.013	45 DL
18018	SS Ari	I	4985.298	-.114	7 RG	18046		I	4970.469	+.002	9 GM
18019	TX Ari	I	4993.244	-.191	7 KL	18047	TV Cas	I	4852.595	-.031	15 RB
18020	RY Aur	I	4969.507	+.004	8 KL	18048	AB Cas	I	4934.267	+.002	5 NS
18021	RZ Aur	I	4958.419	+.083	6 KL	18049		I	4990.313	+.006	8 RG
18022	TT Aur	I	4958.271	+.026	8 HP	18050	IV Cas	I	4989.498	+.131	6 KL
18023		I	4990.276	+.046	7 RG	18051	V 345 Cas	I	4989.450	-.008	6 KL
18024	FW Aur	I	4984.349	-.022	7 KL	18052	<u>new</u> V 355 Cas	I	4956.283	-.003	8 KL

\* GCVS 1969 period erroneous, O - C according to the GCVS 1976 : +.017

\*\* not contained in the GCVS 1969, O - C according to the GCVS 1976 :  
+.079 +.076 +.079 +.081 +.081 +.083

\*\*\* O - C according to the GCVS exceeds one entire period, O - C accord-  
ing to the elements of BBSAG Bulletin 38, page 6 : +.002

\*\*\*\* no period given by the GCVS, O - C according to the elements of  
BBSAG Bulletin 27, page 7 : +.094

\*\*\*\*\* GCVS period erroneous, O - C according to the elements of BBSAG  
Bulletin 53, page 5 : -.001

further footnote to page 3 :

(n) not )  
(v) very slightly ) 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 no.	star	minimum or- der	JD hel 244...	O-C n	ob- ser- ver	cur- rent no.	star	minimum or- der	JD hel 244...	O-C n	ob- ser- ver
18053	V 389 Cas	I	4995.359	+.282	6 KL	18093	TX Gem	I	4995.327	-.011	7 KL
18054	U Cep	(v) I	4970.407	+.048	7 GS	18094	TZ Gem	I	4984.292	-.041	6 KL
18055		(v) I	4970.412	+.053	7 GM	18095		I	4989.316	-.050	6 KL
18056		(v) I	4985.367	+.050	12 GM	18096	<del>AE</del> Gem	I	5001.477	+.041	9 KL
18057		(n) I	4995.345	+.055	7 KL	18097	$\Lambda$ V Gem	I	4989.532	+.002	6 KL
18058	SU Cep	I	4958.323	-.004	7 KL	18098	BH Gem <u>new</u>	I	4994.437	-.138	6 KL
18059	SS Cet	I	4958.391	-.060	10 KL	18099	BO Gem	I	4973.274	+.029	6 KL
18060		I	4958.395	-.057	12 HP	18100		I	4985.515	+.065	9 TGr
18061		I	4973.268	-.053	6 KL	18101		I	4985.521	+.070	8 RC
18062	TW Cet	II	4990.262	-.020	7 RG	18102		I	4985.522	+.071	8 $\Lambda$ St
18063	TX Cet	I	4987.326	.000	6 KL	18103		I	4985.526	+.076	8 MHa
18064		I	4990.291	+.001	6 KL	18104	CK Gem	I	4987.580	-.003	6 KL
18065	V Crt	I	5001.581	+.034	6 KL	18105	DD Gem <u>new</u>	I	4989.450	-.424	6 KL
18066	SW Cyg	I	4927.254	+.269	5 NS	18106	EF Gem	I	4987.383	+.152	6 KL
18067	WZ Cyg	I	4958.248	+.024	7 KL	18107	SZ Her	I	4927.260	+.034	4 NS
18068	ZZ Cyg	I	4929.323	-.035	5 NS	18108		I	5001.706	+.033	8 KL
18069		I	4934.349	-.038	6 NS	18109	$\Lambda$ K Her	I	4826.4477	-.0391	45 (DE)
18070	CG Cyg	I	4965.287	-.024	8 RG	18110	DQ Her	I	4895.249	+.010	21 DE
18071	KR Cyg	I	4913.280	-.022	7 GS	18111	MX Her	I	4989.537	-.199	6 KL
18072		I	4913.292	-.010	12 GM	18112	RX Hya	I	4969.557	+.070	7 KL
18073	TW Dra	I	4989.578	-.045	7 KL	18113		I	5001.493	+.064	6 KL
18074	AI Dra	I	4761.376	+.009	16 SM	18114	SY Hya	I	4987.502	-.126	6 KL
18075		I	4767.364	+.003	16 SM	18115	EX Hya <u>new</u>	I	4987.729	+.003	21 KL
18076		I	4809.323	+.003	14 SM	18116	SW Lac	I	4926.408	-.139	7 GM
18077		I	4852.476	-.001	33 RB	18117		I	4927.362	-.148	4 GS
18078	WX Eri	I	4988.316	+.013	6 KL	18118		I	4927.370	-.139	11 GM
18079	YY Eri	I	4985.283	-.021	7 RG	18119		I	4928.330	-.141	6 GS
18080	ZZ Eri	I	4989.315	+.013	6 KL	18120		I	4928.334	-.137	12 GM
18081	AM Eri	II	4965.230	*	6 KL	18121		I	4929.290	-.142	7 GS
18082		II	4989.275	*	6 KL	18122		I	4929.295	-.138	8 GM
18083	BZ Eri	I	4908.391	+.006	6 GM	18123		I	4930.258	-.138	7 GM
18084		I	4910.361	-.016	6 GM	18124		I	4988.299	-.148	9 RG
18085		I	4912.370	.000	7 GM	18125	VX Lac	I	4911.402	-.080	10 HP
18086		I	4914.368	+.014	5 GM	18126	Y Leo	I	4974.461	+.133	6 MA
18087		I	4928.313	+.003	7 GM	18127		I	4974.466	+.138	8 DM
18088		I	4930.301	-.002	5 GM	18128		I	5001.442	+.137	6 KL
18089	U Gem	I	4913.562	+.010	25 DE	18129	BL Leo	I	4969.590	-.014	7 KL
18090		I	4932.493	+.013	14 DE	18130		I	4972.700	-.004	8 KL
18091		I	4933.553	+.011	17 DE	18131	T LMi	I	4968.545	-.134	6 KL
18092		I	4940.452	+.010	22 DE	18132	RY Lyn	I	4965.318	**	6 KL

\* O - C according to the GCVS amounts to several entire periods, O-C according to the elements of BBSAG Bulletin 50, page 5: -.006 -.021

\*\* no period given by the GCVS, O - C according to the elements of Samolyk and Wedemayer, JAAVS 6, page 49, 1977: +.024

(n)(v) see preceding page

cur- rent no.	star	minimum or- der	JD hel 244...	O-C	n	ob- ser- ver	cur- rent no.	star	minimum or- der	JD hel 244...	O-C	n	ob- ser- ver
18133	SX Lyn	I	4986.383	-.379	9	GM	18170	XZ Pup	I	4968.505	-.018	9	KL
18134	EW Lyr	I	4965.242	+.074	6	KL	18171		I	5001.385	-.024	7	KL
18135	BO Mon	I	4969.558	+.166	7	KL	18172	AY Pup	I	4968.540	+.061	4	KL
18136		I	4987.357	+.165	8	RG	18173		I	4969.481	+.064	6	KL
18137		I	4987.358	+.166	5	KL	18174	DF Pup	I	4989.436	+.134	8	KL
18138	FH Mon <u>new</u>	I	4989.358	-.152	6	KL	18175	RZ Pyx	I	5001.420	+.199	6	KL
18139	FN Mon <u>new</u>	I	4989.644	+.092	10	KL	18176	VZ Scl	I	4912.436	-.030	21	DE
18140	GO Mon	I	4965.361	-.243	4	KL	18177		I	4913.447	-.031	39	DE
18141	V 508 Oph II		4972.721	+.005	7	KL	18178		I	4914.456	-.035	24	DE
18142	V 1010 Oph I		4748.417	-.076	16	SM	18179	LX Ser	I	4987.592	**	6	KL
18143		I	4750.400	-.078	17	SM	18180		I	4994.721	**	9	KL
18144		I	4758.338	-.077	12	SM	18181	RW Tau	I	4914.478	-.084	17	GM
18145	EQ Ori	I	4958.455	-.085	10	HP	18182		I	4928.323	-.083	5	NS
18146		I	4958.455	-.085	6	KL	18183		I	4964.320	-.080	10	GM
18147	ER Ori	I	4987.359	-.030	6	RG	18184	AC Tau	I	4968.417	+.065	8	KL
18148		I	4990.318	-.034	7	RG	18185	CT Tau	II	4987.250	+.024	10	RG
18149	FL Ori	I	4995.399	+.095	6	KL	18186		I	4990.267	+.041	7	RG
18150	OS Ori	I	4995.449	-.039	4	KL	18187	ES Tau	I	4965.303	***	6	KL
18151	U Peg	I	4909.398	-.010	9	GM	18188		I	4973.503	***	12	KL
18152		I	4911.260	-.021	6	GM	18189		I	4984.409	***	15	KL
18153	TY Peg	I	4929.320	-.029	6	NS	18190		I	4985.317	***	6	KL
18154	AT Peg	I	4956.243	-.130	7	RG	18191	V Tri	I	4958.262	+.019	10	HP
18155	Z Per	I	4956.275	+.009	6	KL	18192		I	4965.287	+.022	8	RG
18156		I	4959.348	+.026	12	GM	18193	X Tri	I	4906.300	-.041	11	GM
18157	RT Per	I	4958.486	-.071	6	KL	18194		I	4942.244	-.044	5	LH
18158		I	4987.329	-.108	6	RG	18195		I	4942.248	-.041	5	PDo
18159	RV Per	I	4995.321	+.024	6	KL	18196		I	4942.249	-.039	5	WZ
18160	ST Per	I	4907.427	-.020	7	DM	18197		I	4942.250	-.038	5	JKu
18161	WY Per	I	4984.248	-.032	7	KL	18198		I	4970.419	-.043	11	GM
18162	XZ Per	I	4934.348	+.006	7	NS	18199		I	4971.386	-.049	9	GM
18163	BY Per	I	4989.324	+.166	7	KL	18200	RV Tri	I	4968.376	-.031	7	KL
18164	QU Per	I	4973.262	*	6	KL	18201	RW Tri	I	4910.455	-.002	27	DE
18165	$\beta$ Per	I	4910.361	-.123	9	GM	18202		I	4984.425	-.003	6	KL
18166		I	4956.226	-.136	10	RG	18203	RW UMa	I	4995.334	+.041	6	KL
18167	$\gamma$ Psc	I	4927.278	+.164	6	NS	18204	UX UMa	I	4973.591	.000	7	KL
18168	X PsA	I	4874.397:+.028:		9	DE	18205	XZ UMa	I	4986.440	-.079	8	MA
18169		I	4876.380:+.022:		19	DE	18206		I	4986.440	-.078	8	IN
							18207		I	4986.445	-.074	6	GM
							18208	AC UMa	I	4989.404	+.325	6	KL
							18209	BM UMa	II	4987.626	****	6	KL

\* no period given by the GCVS, O - C according to the elements of BBSAG Bulletin 42, page 3: -.173

\*\* not contained in the GCVS, O - C according to the elements of Africano, Horne, and Margon IAUC 3466: +.013 +.013

\*\*\* GCVS period erroneous, O - C according to the elements on page 6 of this issue: +.001 +.012 .000 -.001

\*\*\*\* same as next page

current no.	star	minimum or-der	JD hel 244...	O-C	ob- n ser-ver
18210		II	4994.682	****	7 KL
18211	NO Vu1	II	4879.358	*****	12 DE

\*\*\*\* misinterpreted type in the GCVS 1969, O-C according to the GCVS 1976:  $+0.057$  (refers to the preceding page),  $+0.061$

\*\*\*\*\* not contained in the GCVS 1969, O-C according to the GCVS 1976:  $+0.007$

E R R A T A

( 1<sup>st</sup> list after the general one in BBSAG Bulletin 54, pages 4 to 6 )

Corrections are underlined

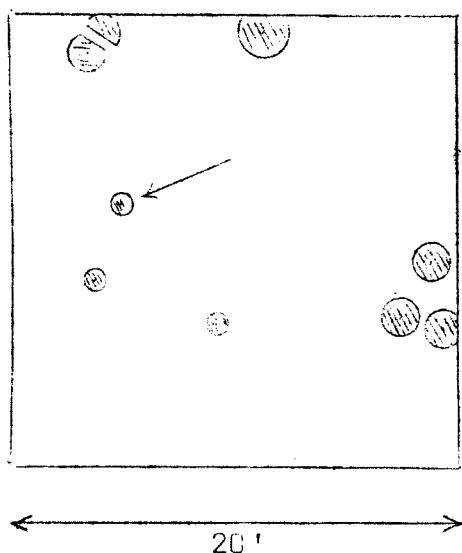
Bulletin page no.

10	2	5102	U Oph	I	185 <u>3</u> .398	.000	7	RD
22	3	8144	XY Leo	I	2528.499	-0.020	6	RD
56	2	17315	V 803 Aql	I	4874. <u>335</u>	+0.009	4	DE
57	5	17968	ES Tau	I	<u>49</u> 12.536	- 115	6	KL

A F i n d e r C h a r t f o r X Z A q u a r i i

Occasionally we continue our tradition to publish charts for stars with a blank in the GCVS chart reference column.

K. Locher



D D G e m i n o r u m

A m p l i t u d e m u c h L a r g e r t h a n C a t a l o g u e d

The GCVS 1969-71-74-76 states a photographic range 13.2...15.2 for this EA binary, originating from Hoffmeister's study in Veröffentlichungen der Sternwarte Sonneberg 1, no. 2, 1947. In this photographic study it seems that the visual duplicity of the variable had been overlooked, and that 15.2 is the photographic magnitude of the companion, which dominates enormously near mid-eclipse.

My visual estimate gives

$$m_v \min_I > 16.8$$

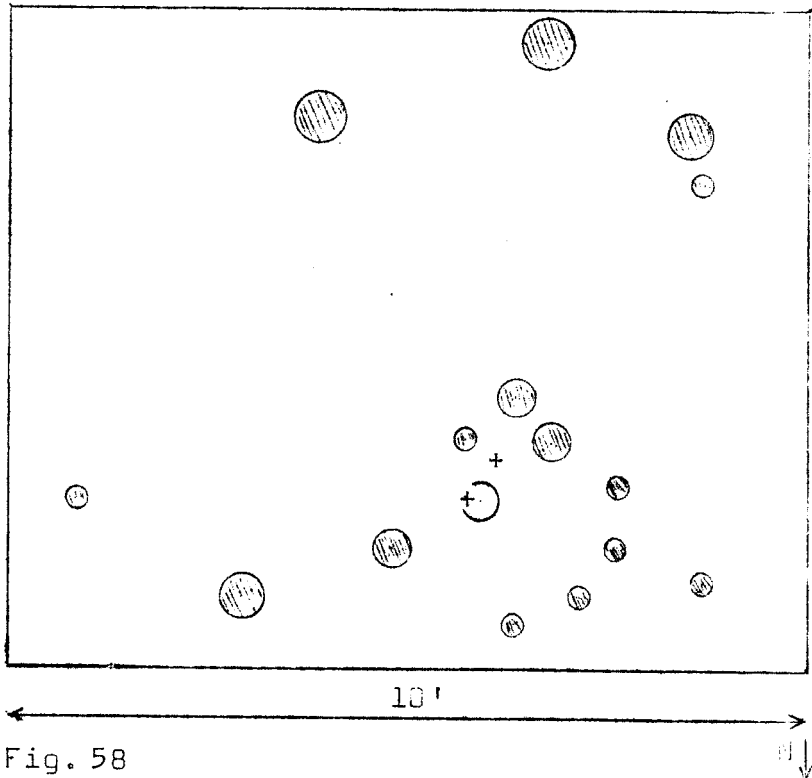


Fig. 58

so that the star may have one of the largest amplitudes known, since

the photographic range is always larger with this type of binary, and since the slope of the lightcurve is about 0,05 mag/minute near the observed limit of brightness.

Figure 58 is an enlarged reproduction of the one in Mitteilungen über Veränderliche Sterne Sonneberg no. 278, 1957, completed by two + symbols to design the mentioned visual companion, some 12" apart, and another notable 15th magnitude star.

K. Locher

E S T a u r i

N e w , T o t a l l y D i f f e r e n t P e r i o d

Until now I was able to survey visually 6 minima of this binary, the first 2 of which had been planned with the GCVS ephemeris

$$2433184.47 + 3.453528 E$$

But later it turned out that mere chance had led me to find it near eclipse in these planned evenings, and that the true period is roughly 1 day. My new interpretation

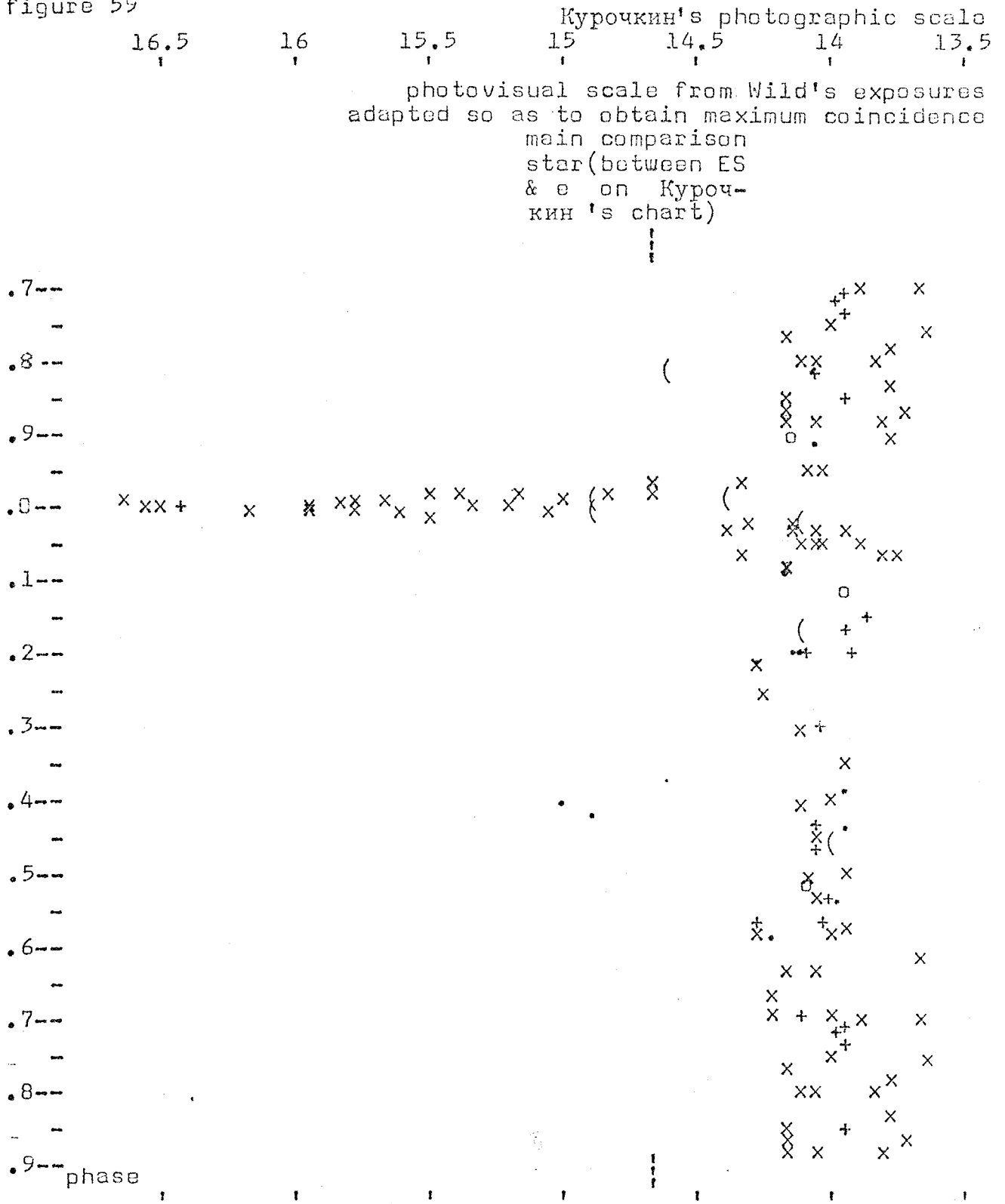
$$2433184.38 \pm 1 + .909794 E \pm 1$$

is very certain, since the last two of the four minima reported above in this issue have  $\Delta E = 1$ .

The misinterpretation originates from Н.Е. Курочкин, Переменные Звёзды 8, page 293, 1952, where he fortunately compiles all data used, which now turn out to agree at least as well with my new elements, as they show replotted in figure 59. The symbols are:

- + • ( | Курочкин's certain, uncertain(:), and "fainter than" observations, respectively
- o | asteroid patrol exposures by P. Wild (JD 2442753, 2442758 and 2444012)

figure 59



As an accessory this plot yields also

$$D/p = .09 \pm .01$$

$$d/p = .005 \pm .005$$

$$|m_{\max} - m_{\min II}| = .05 \pm .05$$