

COMMISSIONS 27 AND 42 OF THE IAU
INFORMATION BULLETIN ON VARIABLE STARS

Number 5613

Konkoly Observatory
Budapest

11 March 2005

HU ISSN 0374 – 0676

NEW GCVS DATA FOR SELECTED VOLUME III VARIABLES

ANTIPIN, S. V.^{1,2}; PASTUKHOVA, E. N.²; SAMUS, N. N.^{2,1}

¹ Sternberg Astronomical Institute, 13, University Ave., Moscow 119992, Russia

² Institute of Astronomy, Russian Academy of Sciences, 48, Pyatnitskaya Str., Moscow 119017, Russia

Finishing our work on revision of positional information for all stars of the GCVS (Samus et al., 2002, 2003), we identified variables in GCVS Volume III constellations with positional catalogs. Having accurate coordinates for these stars, we were able to retrieve their observations from the ASAS-3 (Pojmanski, 2002) and ROTSE-I/NSVS (Woźniak et al., 2004) data bases, often the only sources of data making it possible to study sufficiently bright variables. These observations were analyzed using the period-search software developed by Dr. V.P. Goranskij for Windows environment, in a search for information significantly appending or improving that in the GCVS and especially for new periods. For the present paper, we retained only the stars not included into the ASAS-3 web variable-star catalog or into the ROTSE1 catalog (Akerlof *et al.*, 2000), or stars present in these catalogs but with our results significantly different from those presented there. In Table 1, we collect the relevant data for 49 stars in seven constellations. For a half of all cases, even the variability types were significantly modified or completely changed. The epochs in Table 1 are minima for eclipsing stars and maxima for other variables. Though both ASAS-3 and ROTSE-I/NSVS data were used to derive the tabulated variability types and light elements, the magnitudes in maximum and minimum, with the labeled exceptional case of old photographic magnitudes (HK TrA, for which the ASAS-3 data do not reveal its really large variability amplitude), are *V*-band magnitudes from ASAS-3. Figure 1 presents sample light curves, plotted using ASAS-3 *V*-band observations, for some of the variables.

Of special interest are several red variables in Triangulum Australe, earlier erroneously announced by Hoffleit (1931) as RR Lyrae stars; some of them even had absolutely wrong periods published. Additional cases of similar misclassifications by Hoffleit (1931) can be found among stars included into the ASAS-3 variable-star web catalog.

The information presented in this paper will be incorporated in the GCVS on-line version in April, 2005. By the same time, accurate coordinates will be presented for all GCVS Volume III stars.

We wish to express our sincere thanks to Dr. V.P. Goranskij for providing us with his excellent period-search software. Thanks are due to Dr. M.L. Hazen for sending us many unpublished finding charts for Harvard variables. The work of the GCVS team is supported, in part, by grants from the Russian Foundation for Basic Research, The Federal Scientific and Technological Program “Astronomy”, the program “Non-Stationary Processes in Astronomy” of the Presidium of Russian Academy of Sciences, and the program of support for leading scientific schools of Russia (grant NSh-389-2003-2).

Table 1. New data on GCVS Volume III variable stars

Star	RA (J2000)	Dec	Type	V	Epoch, JD 24...	P, days	Remark
SAGITTARIUS							
V2012	18 37 12.4	-26 10 22	M	12.7-(14.0)	52490	490	
V2142	19 22 36.7	-18 29 12	SRA	11.7-(12.6)	52086	243	
V2168	19 42 37.5	-38 39 56	EA	13.0-14.6	52439.740	2.06888	
V2187	19 47 24.0	-45 03 55	RRAB	13.3-14.2	52192.527	0.59310	
V2195	19 48 48.7	-42 40 55	SRA	13.2-(14.6)	52071	136	
V2201	19 52 50.3	-43 01 42	EA	11.3-12.8	52039.794	4.8151	
V2219	19 59 58.4	-39 22 55	RRAB	13.5-14.7	52743.871	0.47738	
V2246	20 12 30.5	-37 44 06	RRAB	13.2-14.2	52721.853	0.60654	
V2248	20 13 13.5	-37 59 42	EW	13.5-14.5	52470.639	0.31480	DSCCT in ASAS-3
V3812	18 23 41.4	-23 29 15	M	12.7-(13.8)	52527	240	
V3813	18 24 10.2	-27 19 44	SRA	11.8-13.1	52758	246:	
V3866	18 42 03.2	-19 46 36	EA	12.2-13.0	52184.519	3.08201	
V3958	19 29 50.0	-44 49 14	SRA	10.8-12.4	52902	111	
TRIANGULUM AUSTRALE							
TU	15 50 07.2	-61 16 38	M	12.7-(14.2)	52732	376:	
VV	15 56 07.2	-60 25 18	SRB	12.0-13.7		230:	
AC	16 07 55.9	-64 25 05	SR	12.5-13.8		165:	
AH	16 10 59.8	-62 31 03	EA	13.1-14.0	52052.633	1.399562	
AX	16 15 48.2	-61 58 54	M	12.4-(14.4)	52527	312	
BQ	16 21 24.9	-64 42 17	M	12.7-(14.6)	52720	139.4	
BX	16 22 03.8	-60 23 04	SRA	12.8-14.8	52698	165	
CN	16 28 29.6	-61 55 51	CWA	12.1-12.6	53074.9	12.232	
HK	15 42 30.8	-65 38 47	M	11.0-(18p)	52714	263	
HN	16 36 09.8	-65 11 12	M	11.8-(15.0)	52638:	382	
HU	16 23 15.0	-61 45 26	SRA:	11.6-12.9:	53115	369	
IQ	15 36 59.1	-64 53 49	EA	10.8-11.4	51963.763	3.1942	D = 0 ^h 12
IV	16 43 14.9	-62 02 55	M:	12.8-(13.9)	52198	350:	
KV	15 45 32.5	-66 50 22	M	11.0-(14.0)	52564	352	
TUCANA							
X	22 49 48.8	-64 59 31	RRAB	13.4-14.2	52032.88	0.57307	
ZZ	22 16 54.0	-63 48 15	M	10.6-(14.9)	52055	304	
CC	01 02 42.9	-65 27 22	SRS	6.22- 6.37	53048	20.5	
VELA							
TX	09 13 57.9	-54 50 12	SRD	11.2-11.5	52932	55.5	
DV	09 49 21.1	-45 29 40	SRB	11.9-12.7		147	
HO	10 24 56.1	-51 14 59	M	11.4-(14.0)	52986	299	
VIRGO							
TU	13 56 53.2	-12 33 20	RRAB	13.6-14.6	52388.66	0.65655	
AP	14 28 30.3	+07 17 37	M	11.0-(14.7)	52795	283	
CQ	14 21 25.2	+06 26 33	SRA	8.7- 9.5	53071	74	
NX	13 35 25.8	-22 23 17	M	11.5-(15.1)	52820	324	
OO	15 01 31.5	+02 26 20	SR	12.0-12.7	53133	109	
VOLANS							
RV	08 32 52.6	-70 04 24	RRAB	13.0-13.9	53132.599	0.64991	
RW	08 36 02.1	-65 05 17	EA	13.4-15.0	52140.927	2.8624	
SW	08 50 10.5	-66 23 12	RRAB	12.1-13.1	53003.783	0.60111	
TT	08 58 00.5	-65 34 05	M	12.3-(14.5)	52194	168	
TZ	08 12 54.3	-72 30 08	M	12.2-(15.0)	52863	324	
UU	08 16 00.2	-68 28 21	SRB	8.5- 9.9		134	
VULPECULA							
XX	19 21 01.2	+24 59 32	M	13.2-(14.8)	51330	300:	
BB	20 32 19.5	+27 39 44	EA/RS	12.0-12.7	51345.913	0.93892	1RXS source
DZ	21 10 09.0	+25 56 23	EA	11.8-12.5	51353.847	1.5941	
EL	20 35 42.4	+25 29 12	SRA	12.5-13.8	51383	230	
IM	20 43 06.0	+22 28 55	EW	11.5-12.0	51442.693	0.45428	

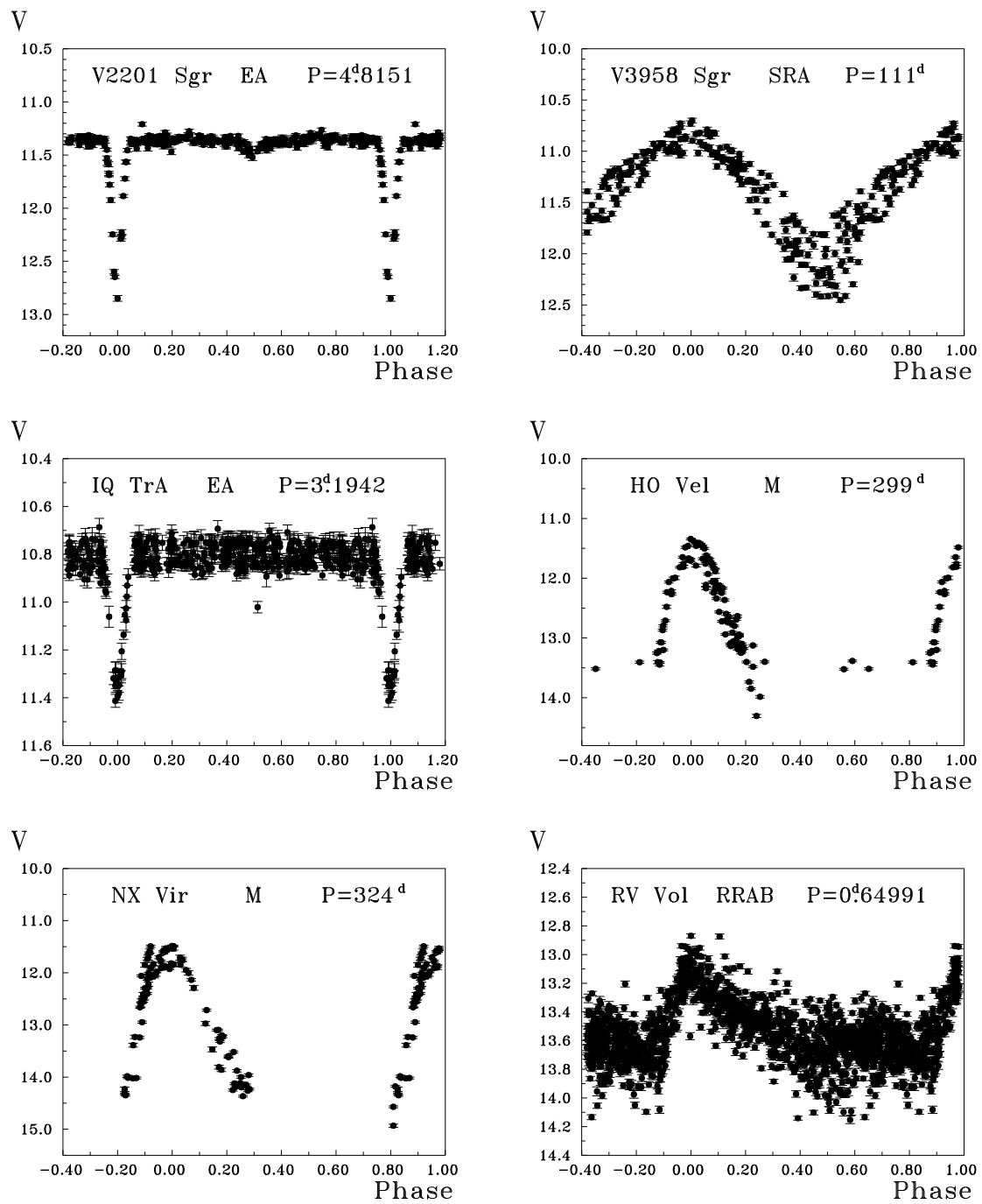


Figure 1. The sample light curves for six GCVS Volume III variables.

References:

- Akerlof, C., Amrose, S., Balsano, R. et al., 2000, *Astron. J.*, **119**, 1901
Hoffleit, D., 1931, *Harvard Obs. Bull.*, No. 884
Pojmanski, G., 2002, *Acta Astronomica*, **52**, 397
Samus, N.N., Goranskii, V.P., Durlevich, O.V. et al., 2002, *Astronomy Letters*, **28**, 174
Samus, N.N., Goranskii, V.P., Durlevich, O.V. et al., 2003, *Astronomy Letters*, **29**, 468
Woźniak, P.R., Westrand, W.T., Akerlof, C.W. et al., 2004, *Astron. J.*, **127**, 2436