COMMISSIONS 27 AND 42 OF THE IAU
INFORMATION BULLETIN ON VARIABLE STARS
Number 4252

Konkoly Observatory
Budapest
27 September 1995
HU ISSN 0374 – 0676

ON NEW VARIABLES IN THE SCULPTOR GALAXY

Recently Kaluzny et al. (1995; KKSUKM) reported their discovery of 231 variable stars, mostly RR Lyraes, in the Sculptor dwarf galaxy. They found it impossible to cross-identify the bulk of their variables with those discovered by van Agt (1978; vA) because of large errors in coordinates published by van Agt. Moreover, Kaluzny et al. claim that five randomly selected stars from the van Agt list — V4, V103, V195, V458, and V475 — turn out to be non-variable according to the newly acquired CCD photometry.

We have made an attempt to cross-identify the KKSUKM and vA lists using the equatorial coordinates from the 5th volume of the General Catalogue of Variable Stars (Samus, 1995) published earlier this year and presently being sent to users. First, we note that the KKSUKM list contains five pairs of stars with completely identical coordinates. Namely, ID 406 = ID 1926, ID 1439 = ID 3345, ID 2058 = ID 2558, ID 2059 = ID 2559, ID 2423 = ID 4233. So we reduce their list to 226 objects. Of these, we are able to identify, by coordinates, 161 stars with the vA list. The identifications are presented in Table 1. The columns contain: KKSUKM number; GCVS number (coinciding with vA number); positional difference between KKSUKM and GCVS, in seconds of arc. One can see from the last column of the table that the difference between two published positions exceeds $2''$ only in exceptional cases.

Table 2 presents data on variable stars for which the GCVS contains period values (mostly from vA). The columns contain: KKSUKM number; KKSUKM type (BLBoo for anomalous Cepheids); KKSUKS period; GCVS type; GCVS period (mostly from vA). Asterisks denote 5 cases of disagreement in periods. For V101, the two periods are one-day aliases. In our opinion, Table 2 confirms the reliability of our identifications.

Note that the star V4 from the vA list was actually rediscovered by KKSUKS, contrary to their claim (p. 409). It is also interesting to note that, of the five above-mentioned pairs of identical stars in KKSUKS, the period values presented by them for ID 2423 and ID 4233 do not agree but are one-day aliases. The light curve gives the impression that one should prefer the RRc type and the period value $0^{\rm d}.35852$.

Thanks are due to Dr. V.P. Goranskij for permission to use software developed by him. This work was partially supported by the Russian Foundation for Basic Research through grant 95-02-05189-a.

S.V. ANTIPIN
Sternberg Astronomical Institute
13, Universitetskij Prosp.,
Moscow 119899, Russia

N.N. SAMUS
Institute of Astronomy
of Russian Academy of Sciences
48, Pyatnitskaya Str.
Moscow 109017, Russia

Table 1. Cross-Identifications of Variables

ID	Var		ID	Var		ID	Var		ID	Var	
33	V112	0.″8	1823	V293	1.″0	3004	V188	0.″0	4785	V68	0.″5
37	V110	0.4	1830	V8	1.5	3016	V449	1.3	4786	V61	0.4
38	V523	0.9	1838	V183	0.5	3024	V102	0.7	4793	V64	0.3
321	V552	1.0	1873	V95	0.4	3026	V233	0.8	4812	V66	0.7
356	V17	0.4	1874	V454	0.4	3039	V3	1.1	5000	V44	1.5
357	V111	1.2	1877	V96	0.7	3043	V16	1.1	5011	V24	1.2
361	V387	1.1	1890	V384	1.0	3104	V576	1.2	5032	V342	0.7
366	V518	0.0	1899	V94	0.7	3113	V93	1.0	5049	V146	1.3
368	V508	0.2	1910	V79	0.6	3125	V77	0.5	5065	V153	0.2
377	V191	0.7	1914	V82	0.7	3126	V180	1.5	5068	V468	0.2
385	V116	1.2	1930	V368	1.0	3143	V462	2.2	5105	V148	0.5
406	V99	1.4	1932	V6	0.1	3302	V26	0.2	5141	V225	0.7
411	V234	0.2	1940	V229	1.1	3319	V55	3.2	5155	V51	1.3
416	V203	3.4	1941	V85	1.0	3346	V365	0.6	5330	V154	0.3
439	V104	1.2	1943	V108	0.8	3365	V385	0.1	5343	V41	0.8
462	V549	0.7	2004	V78	0.2	3397	V351	1.2	5344	V235	0.2
463	V113	0.8	2012	V179	0.4	3410	V63	0.5	5359	V159	0.8
734	V119	0.5	2048	V427	0.5	3413	V223	0.9	5375	V574	0.9
737	V115	0.1	2058	V75	0.9	3468	V69	1.5	5376	V312	0.2
753	V105	0.8	2059	V87	0.5	3760	V72	0.9	5382	V42	1.2
786	V4	0.3	2410	V83	0.7	3761	V166	0.3	5384	V467	1.1
803	V199	0.6	2421	V453	0.3	3801	V20	0.5	5390	V53	0.8
811	V197	1.0	2422	V5	0.3	3810	V70	0.6	5397	V43	1.0
853	V206	0.7	2423	V406	0.8	3827	V21	1.1	5492	V147	1.1
860	V388	1.6	2424	V190	1.0	3862	V59	1.1	5496	V408	1.5
1142	V15	1.1	2450	V91	0.7	3888	V163	0.5	5714	V157	1.5
1168	V597	1.6	2458	V383	0.9	3907	V171	0.3	5721	V409	0.7
1256	V118	2.0	2470	V236	0.6	3916	V381	1.0	5723	V56	1.2
1411	V90	0.3	2502	V101	0.9	3931	V346	0.2	5747	V224	0.4
1424	V176	1.5	2528	V446	0.3	3934	V71	0.3	5773	V156	0.4
1446	V366	1.1	2545	V241	0.7	3938	V62	0.8	5778	V46	0.9
1457	V84	0.5	2552	V231	0.6	4235	V602	1.2	5802	V160	0.4
1462	V11	0.4	2555	V92	0.8	4263	V7	1.4	5828	V49	1.3
1470	V10	0.4	2566	V498	3.7	4272	V170	0.8	5845	V106	0.9
1491	V367	0.3	2575	V189	0.6	4277	V107	0.8	6032	V396	0.4
1519	V386	0.8	2606	V507	0.7	4291	V169	3.4	6048	V380	0.5
1546	V86	2.5	2627	V100	0.8	4308	V447	0.3	6050	V58	1.0
1553	V268	0.7	2639	V18	0.7	4309	V466	1.8	6085	V545	0.6
1555	V89	0.7	2689	V88	0.7	4385	V74	1.4			
1558	V98	1.0	2699	V186	1.2	4689	V19	0.6			
1566	V9	1.1	2991	V237	0.5	4747	V60	0.6			

Table 2. Classifications and Periods of Variables

ID	Type(KKSUKS)	P(KKSUKS), d	Var	Type(GCVS)	P(GCVS), d	
411	RRc	0.22499	V234	RRab	0.642	⋆
734	BLBoo	1.15776	V119	BLBoo	1.15	
803	RRab	0.57363	V199	RRab	0.573	
1462	RRab	0.56113	V11	RR	0.561	
1470	RRab	0.50565	V10	RRab	0.515	⋆
1914	RRab	0.57051	V82	RRab	0.570	
2004	RRab	0.58735	V78	RRab	0.587	
2012	RRab	0.71475	V179	RRab	0.715	
2058	RRab	0.50350	V75	RRab	0.504:	
2410	RRab	0.53183	V83	RRab	0.531	
2422	RRab	0.48446	V5	RRab	0.484	
2450	RRab	0.61802	V91	RRab	0.618	
2502	RRc	0.32769	V101	RRab	0.487	⋆
2555	RRab	0.50272	V92	RRab	0.503	
2639	RRc:	0.28961	V18	RRc	0.289	
2689	RRab	0.51136	V88	RRab	0.836	⋆
3125	RRab	0.53310	V77	RRab	0.533	
3302	BLBoo	1.34607	V26	BLBoo	1.346	
3410	RRab	0.54146	V63	RRab	0.542	
3760	RRab	0.54851	V72	RRab	0.548	
3810	RRab	0.66197	V70	RRab	0.663	
3827	RRab	0.58776	V21	RRab	0.588	
3934	RRab	0.51980	V71	RRab	0.519	
4263	RRc	0.28478	V7	RRc	0.285:	
4277	RRc	0.30630	V107	RRc	0.307	
4385	RRab	0.48740	V74	RRab	0.488	
4689	RRab	0.63920	V19	RRab	0.639	
4747	RRab	0.59194	V60	RRab	0.593	
4785	RRab	0.50611	V68	RRab	0.506	
4812	RRab	0.48232	V66	RRab	0.482	
5343	RRab	0.54694	V41	RRab	0.547	
5344	RRab	0.64249	V235	RRc	0.379	⋆
5359	RRab	0.67099	V159	RRab	0.672	
5382	RRab	0.59593	V42	RRab	0.596	
5390	RRab	0.65970	V53	RRab	0.660	
5397	RRab	0.61731	V43	RRab	0.617	
5714	RRc	0.29291	V157	RRc	0.293	
5723	RRab	0.56602	V56	RRab	0.567	
5773	RRab	0.50878	V156	RRab	0.509	
5802	RRab	0.51458	V160	RRab	0.515	

References:

Kaluzny, J., Kubiak, M., Szymański, M., Udalski, A., Krzemiński, W., and Mateo, M., 1995, *Astron. Astrophys. Suppl.*, **112**, 407

Samus, N.N. (ed.), 1995, General Catalogue of Variable Stars, Vol. V, Moscow: Kosmosinform

van Agt, S.L.Th., 1978, *Publ. David Dunlap Observ.*, **3**, 205