

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

Number 4129

Konkoly Observatory
Budapest
27 December 1994

HU ISSN 0374 – 0676

**THE IDENTIFICATION OF VARIABLE STARS
DISCOVERED WITH THE HUBBLE SPACE TELESCOPE
IN THE GLOBULAR CLUSTER MESSIER 3**

Recently Guhathakurta *et al.* (1994) published a list of 40 variable stars detected in the core of the globular cluster M3 using HST images. The stars have relative astrometric positions. In another list, by Evstigneeva *et al.* (1994), accurate astrometric positions are given for all known variable stars in this cluster, except 4 objects which the authors could not identify. The examination of these lists shows that they contain common objects. I have reduced the relative positions by Guhathakurta *et al.* to equatorial co-ordinates in the system by Evstigneeva *et al.* using 26 common objects. The agreement between the positions is very good, the r.m.s. deviation being 0''09.

As a result, 20 variables were identified with 19 ones from the list by Sawyer Hogg (1973), two variables being close components of one earlier known variable V4. V201, a variable lost by Evstigneeva *et al.*, was identified with ID 1600 using a chart by Kholopov (1977). 6 variables were discovered earlier by Kholopov (1977) and 3 variables by Kadla and Gerashchenko (1980).

The identifications are given in the Table. Two identifications, ID 9019 with V156 and ID 9012 with X23, are marginal, because their positions measured with a ground-based telescope may be not accurate. So 11 variables may be new discoveries with the HST. The equatorial co-ordinates are those reduced from relative astrometry by Guhathakurta *et al.*

V.P.GORANSKIJ
Sternberg Astronomical Institute,
13, Universitetskij Prospekt,
119899, Moscow, Russia

References:

- Evstigneeva, N.M., Samus', N.N., Tsvetkova, T.M., and Shokin, Yu.A.: 1994, *Pis'ma v Astron. Zhurn.* (Russian Astronomy Letters), **20**, No. 8–9, 693
Guhathakurta, P., Yanny, B., Bahcall, J.N., and Schneider, D.P.: 1994, *Astron. J.*, **108**, No. 5, 1786
Kadla, Z.I. and Gerashchenko, A.N.: 1980, *Astron. Circ.* (Russia), No. 1923, 1
Kholopov, P.N.: 1977, *Variable Stars*, **20**, No. 4, 313
Sawyer-Hogg, H.: 1973, *David Dunlap Obs. Publ.*, **3**, No.6

ID No.	Desig.	RA(2000)	Decl(2000)	Deviation	Remarks
9001	V132	13 ^h 42 ^m 07 ^s .443	28° 22' 19".85	0".1	
9002	V168	13 42 08.078	28 22 49.36	0.1	
9003	V4n	13 42 08.193	28 22 33.21	0.2	
9004	V4s	13 42 08.216	28 22 32.86	0.3	
9005	V143	13 42 08.904	28 22 58.93	0.1	
9006	X40	13 42 08.999	28 21 56.60	0.1	
9007	V122	13 42 09.046	28 21 55.05	0.1	
9008	new	13 42 09.197	28 22 28.75		
9009	V142	13 42 09.259	28 21 43.58	0.0	
9010	X14	13 42 09.458	28 22 34.79	0.2	
9012	new?	13 42 09.550	28 22 43.82	1.7	from X23
9011	V213	13 42 09.569	28 22 12.30	0.1	
9013	V184	13 42 09.570	28 22 27.36	0.1	
9014	V189	13 42 09.591	28 22 21.54	0.1	
9015	X36	13 42 09.667	28 22 49.23	0.1	
9016	new	13 42 09.780	28 22 47.53		SX Phe type var.
9017	V212	13 42 09.868	28 22 03.90	0.1	
9018	X13	13 42 09.877	28 22 15.33	0.1	
9019	new?	13 42 09.992	28 21 59.90	1.3	from V156
32	new	13 42 10.082	28 22 39.96		
85	V221	13 42 10.217	28 22 28.50	0.1	
238	V215	13 42 10.439	28 22 41.25	0.1	
9020	V195	13 42 10.492	28 22 14.33	0.1	
9021	V160	13 42 10.807	28 21 58.94	0.0	
507	X17	13 42 10.767	28 22 37.50	0.2	
552	new?	13 42 10.818	28 22 37.00	0.7	from X17
9022	V174	13 42 10.841	28 22 08.38	0.1	
576	new	13 42 10.867	28 22 24.23		SX Phe type var.
586	new	13 42 10.867	28 22 29.74		
684	KG3	13 42 10.958	28 22 33.51	0.4	
734	KG4	13 42 11.000	28 22 43.51	0.1	
9023	V217	13 42 11.467	28 22 15.34	0.0	
9024	V154	13 42 11.647	28 22 13.56	0.1	Cepheid.
9025	new	13 42 11.699	28 22 14.02		
1489	new	13 42 11.709	28 22 15.69		
1600	V201	13 42 11.792	28 22 33.56	-	
1711	new	13 42 11.881	28 22 37.45		Var RGB star.
2042	KG7	13 42 12.149	28 22 32.35	0.1	
9026	X22	13 42 12.255	28 22 15.13	0.1	
2538	V193	13 42 12.614	28 22 35.35	0.1	

Catalogues: V – Sawyer-Hogg (1973); X – Kholopov (1977); KG – Kadla and Gerashchenko (1980).