

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

Number 4814

Konkoly Observatory
Budapest
29 November 1999

HU ISSN 0374 – 0676

**ASTROMETRY AND CONFIRMATION OF VARIABILITY
OF 21 NSV OBJECTS**

YOSHIDA, S.¹; KADOTA, K.²; KATO, T.³

¹ MISAO Project, 1065-16 Miyawada Fujishiro-machi Kitasoma-gun Ibaraki 300-1514, Japan,
e-mail: seiichi@muraoka.info.waseda.ac.jp

² MISAO Project, 77-1-3-12-204 Koshikiya Ageo City Saitama 362-0064, Japan,
e-mail: kenic-k@astroarts.co.jp

³ Dept. of Astronomy, Kyoto University, Kyoto 606-8502, Japan, e-mail: tkato@kusastro.kyoto-u.ac.jp

This report describes the astrometry and confirmation of variability of 21 suspected variable stars in the NSV catalog (New Catalogue of Suspected Variable Stars) discovered in the course of variable star survey based on the MISAO Project observations.

The astrometry and photometry of these objects were obtained automatically by the PIXY system from unfiltered CCD images taken by Kadota between 1999 April and August. Further details are the same as described in Yoshida and Kadota (1999).

Table 1 shows the astrometry, photometry and identifications. The positions and magnitudes are measured using USNO-A1.0 catalog. The magnitude is based on a preliminary V magnitude calculated from R and B magnitude in the catalog based on Kato's (1998) equation:

$$V = R + 0.375(B - R).$$

No other variable stars were found on our CCD images within 5 arcmin of the catalog positions of NSV 08100, NSV 09883, NSV 09955, NSV 11617, NSV 12626, NSV 12708, and NSV 12736, except for the stars in Table 1. Therefore, we concluded that our objects are identified with these NSV objects.

At the catalog position of NSV 12621, there is a star USNO-A2.0 1200.13947075. But it was nonvariable at 12.5 mag on our images. Our variable star at R.A. $19^{\text{h}}57^{\text{m}}29^{\text{s}}.99$, Decl. $+36^{\circ}00'38''.0$ (2000.0) is only 23 arcsec from USNO-A2.0 1200.13947075. Therefore, we concluded that our variable object is the true NSV 12621.

The variable star at R.A. $17^{\text{h}}59^{\text{m}}00^{\text{s}}.73$, Decl. $-11^{\circ}33'23''.0$ (2000.0) is 4.0 arcmin from the catalog position of NSV 09938. No other variable stars were found on our CCD images within 5 arcmin of the catalog position. Our object is identified with an S-type star GCSS 1011 (Stephenson 1984). The spectral type S given for NSV 09938 indicates this star is indeed NSV 09938.

V1462 Cyg is within 2 arcmin from NSV 12600. No other variable stars were found on our CCD images within 5 arcmin of the catalog position of NSV 12600. Therefore, we concluded that NSV 12600 is identified with V1462 Cyg.

NSV 24955 is identified with LD 11 (Dahlmark 1982).

Table 1: Astrometry and Identifications

Star	R.A. (J2000.0)	Decl.	Unfiltered		Identified with
			CCD Mag. Max	Mag. Min	
NSV 08100	17 ^h 00 ^m 41 ^s .19	−24°20′05″.3	10.2	11.4	
NSV 08134	17 03 11.389	−26 00 42.17	11.8	13.1	USNO-A2.0 0600.23365400
NSV 09883	17 56 59.097	−17 28 35.84	12.6	13.5	USNO-A2.0 0675.23531725
NSV 09938	17 59 00.73	−11 33 23.0	11.2	12.6	GCSS 1011
NSV 09955	18 00 06.57	−16 01 26.1	12.0	13.7	
NSV 09956	17 59 59.759	−10 40 21.96	11.5	12.3	GSC 5678.0922 USNO-A2.0 0750.12477306
NSV 09966	18 00 09.828	+01 44 40.89	11.6	12.6	GSC 0430.0454 USNO-A2.0 0900.11191505
NSV 11594	18 58 03.436	−08 17 11.10	10.8	11.6	USNO-A1.0 0750.15900167
NSV 11612	18 59 12.08	−05 36 27.6	11.5	[14.7	
NSV 11617	18 59 09.171	+10 23 39.55	11.2	12.0	USNO-A2.0 0975.13787358
NSV 12600	19 56 45.987	+36 42 52.52	11.3	12.5	USNO-A2.0 1200.13896449
NSV 12621	19 57 29.99	+36 00 38.0	13.7	[15.1	
NSV 12626	19 57 41.076	+35 47 09.14	11.7	14.0	USNO-A2.0 1200.13959781
NSV 12669	19 59 46.62	+37 02 02.1	11.8	14.1	
NSV 12708	20 01 18.002	+36 47 42.80	13.1	[15.5	USNO-A2.0 1200.14186977
NSV 12730	20 02 08.46	+37 16 34.4	11.2	12.0	GSC 2682.2437
NSV 12736	20 02 41.160	+36 03 30.00	13.3	14.7	USNO-A2.0 1200.14267998
NSV 14012	22 03 31.385	+60 09 33.97	12.3	13.3	USNO-A2.0 1500.08723858
NSV 24955	19 58 28.24	+47 06 11.0	11.3	13.2	LD 11
NSV 24959	19 59 29.77	+22 45 13.7	13.1	15.1	
NSV 25407	20 57 21.47	+37 55 19.3	12.7	14.7	

References:

Dahlmark, L., 1982, *IBVS*, No. 2157

Kato, T., 1998,

<http://www.kusastro.kyoto-u.ac.jp/vsnet/Mail/vsnet-chat/msg00700.html>

Yoshida, S., Kadota, K., 1999, *IBVS*, No. 4746

Stephenson, C. B., 1984, General Catalogue of Galactic S Stars