

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

Number 5308

Konkoly Observatory
Budapest

2 September 2002

HU ISSN 0374 – 0676

PHOTOMETRIC VARIABILITY OF FIRST J142643.2+315214

MACIEJEWSKI, GRACJAN; NIEDZIELSKI, ANDRZEJ

Toruń Centre for Astronomy, N. Copernicus University, ul. Gagarina 11, 87-100 Toruń, Poland, email: gm,aniedzi@astri.uni.torun.pl

Name of the object:	
GSC 02553-00316 = TYC 2553 316 1	
Equatorial coordinates:	Equinox:
R.A. = 14 ^h 26 ^m 43 ^s .21 DEC. = +31°52'16".1	J2000

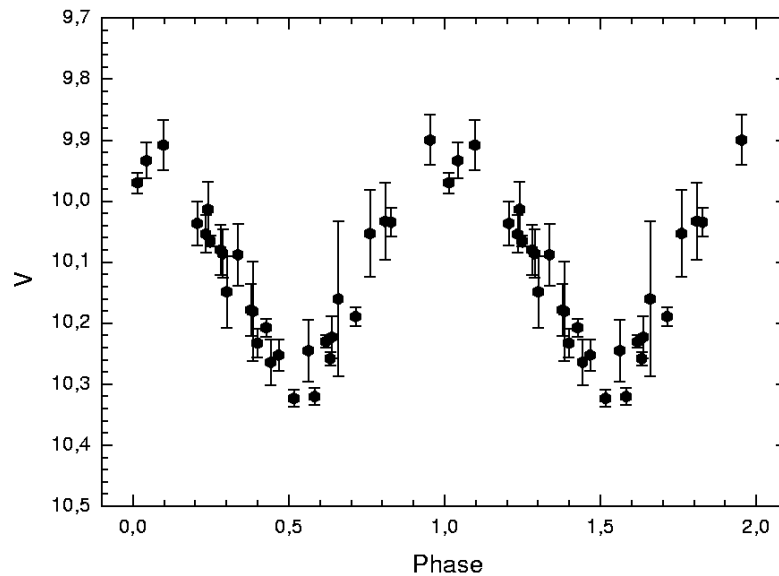


Figure 1. Observed optical light curve of FIRST J142643.2+315214

Observatory and telescope:	
Piwnice Observatory 135mm semi-automatic CCD camera	
Detector:	KAF 400 CCD

Filter(s):	V
-------------------	---

Transformed to a standard system:	No
--	----

Availability of the data:
Upon request

Remarks:
<p>FIRST J142643.2+315214 was found to coincide with optical object TYC 2553 316 1 (GSC 02553-00316) by Helfand et al. (1999). It is a 9.92 photographic magnitude star according to GSC Catalogue (Morrison et al. 2001) and a 10.344 (V_T) magnitude according to TYCHO (Høg et al. 2000). This object was found to be optically variable during a semi-automatic CCD sky survey program in Piwnice Observatory. Observations were obtained during 29 nights between April 21 and August 20, 2002. 142 individual observations obtained in total were averaged within 29 one-hour intervals before analysis. Period search was performed with ANOVA method of Schwarzenberg-Czerny (1996). Following results were obtained:</p> $\begin{aligned} \text{HJD of minimum} &= 2452468.69 \pm 0.16 \\ \text{Period} &= 20^{\text{d}}83 \pm 0^{\text{d}}04 \\ \text{Total variation} &= 0.35 \pm 0.05 \text{ mag} \end{aligned}$ <p>According to SIMBAD there is another star BD+32°2472 (= RBS 1394 = 1RXSJ142643.5+315221) in the nearest optical neighbourhood of FIRST J142643.2+315214. Since FIRST J142643.2+315214 is the brightest local star and there is no real star at the position of BD+32°2472 we suggest that FIRST J142643.2+315214 = BD+32°2472. The $(B-V)_T=1.24$ for FIRST J1426 43.2+315214 is also adequate for the K2III spectral type of BD+32°2472.</p>

References:

- Helfand, D.J., Schnee, S., Becker, R.H., White, R.L., McMahon, R. 1999, *AJ*, **117**, 1568
Høg, E., Fabricius, C., Makarov, V. V., Urban, S., Corbin, T., Wycoff, G., Bastian, U., Schwekendiek, P., Wicenec, A. 2000, *A&A*, **355**, L27
Morrison, J. E., Rser, S.; McLean, B., Bucciarelli, B., Lasker, B. 2001, *AJ*, **121**, 1752
Schwarzenberg-Czerny, A. 1996, *ApJ*, **460**, L107