

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

Number 4939

Konkoly Observatory
 Budapest
 10 August 2000

HU ISSN 0374 – 0676

**A NEW HIGH AMPLITUDE SHORT PERIOD VARIABLE STAR
 IN CASSIOPEIA**

ANTIPIN, S.V.

Sternberg Astronomical Institute, 13, Universitetskij Prosp., Moscow 119899, Russia
 e-mail: antipin@sai.msu.ru

Name of the object:	
Var 71	
Equatorial coordinates:	Equinox:
R.A. = 0 ^h 00 ^m 52 ^s .8 DEC. = +62°25'15"	J2000.0
Observatory and telescope:	
40-cm astrograph in Crimea	
Detector:	Photoplate

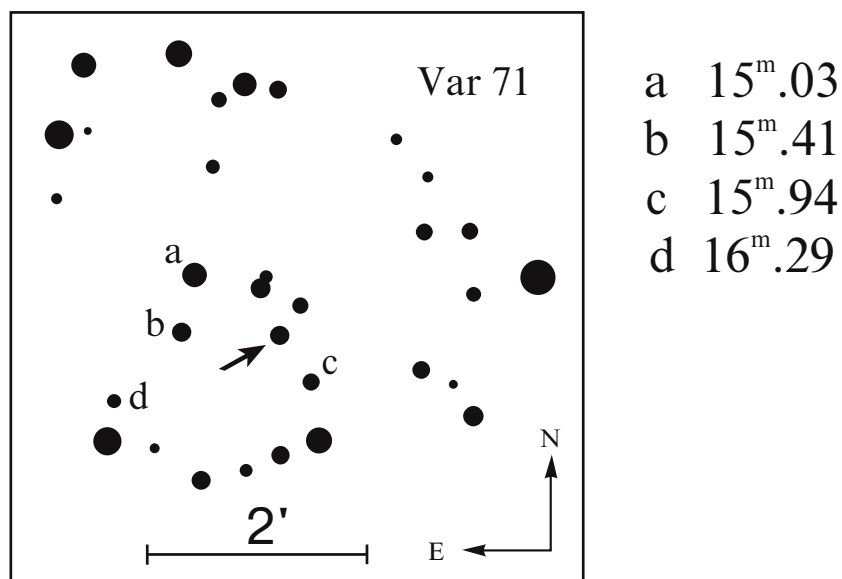


Figure 1. The finding chart and the comparison stars.

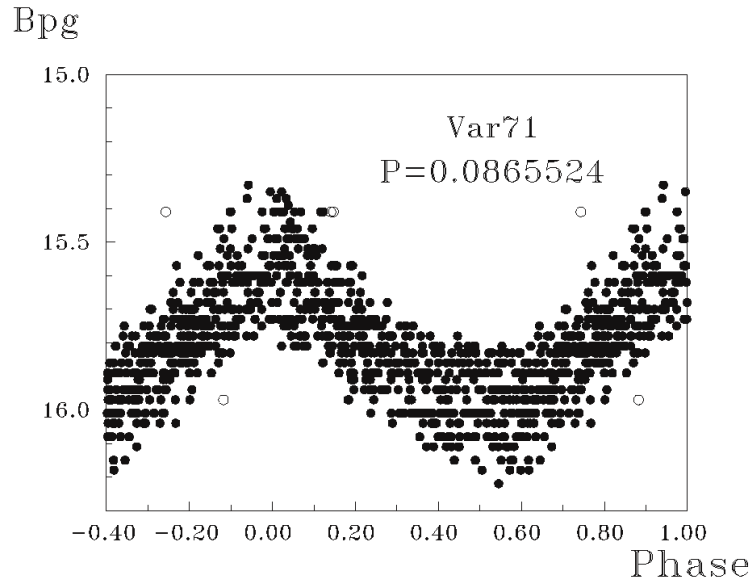


Figure 2. The phased light curve. Uncertain estimates are shown as open circles.

Filter(s):	None
Comparison star(s):	See Fig. 1
Check star(s):	None
Transformed to a standard system:	B_{pg}
Standard stars (field) used:	B_{pg} -band standard sequence in NGC 7790 (Pedreros et al., 1984)
Availability of the data:	
Upon request	
Type of variability:	High amplitude DSCT or SXPHE
Remarks:	
<p>The star was estimated on 856 plates taken from JD 2432853 to 2449633. Variability with a very short period, $P = 0^d0865524$, was found. The exposure time of most plates from Moscow collection is 45 minutes (0^d03125). So one plate accumulated the light of one third part of the period. The situation results in the following inaccuracies. Firstly, the amplitude of variability taken from the photographic phased light curve is noticeably understated. The range of variability in Figure 2 does not represent the real one. Secondly, the shape of the phased light curve is distorted, it looks more symmetric. The apparent max – min value is higher than the real one. The zero phase $HJD_0 = 2441186.463$, that was used to construct Figure 2, is not the real moment of maximum brightness. The maximum happened slightly earlier than we see from the photographic observations. As to classification, the variable is a new high amplitude ($amp_B > 0^m45$) short period pulsator of DSCT or SXPHE type. It is necessary to note that the period of the variation is stable for the investigated time interval. Further CCD observations are strongly encouraged to determine the real amplitude of variability, light curve shape and time of maximum brightness of the star.</p>	

Acknowledgements:

This study was supported in part by the Russian Foundation for Basic Research and the Council of the Program for the Support of Leading Scientific Schools through grants Nos. 99-02-16333 and 00-15-96627.

Reference:

Pedreras, M., Madore, B.F., Freedman, W.L., 1984, *ApJ*, **286**, 563