

COMMISSIONS 27 AND 42 OF THE IAU  
INFORMATION BULLETIN ON VARIABLE STARS  
Number 4535

Konkoly Observatory  
Budapest  
2 December 1997  
*HU ISSN 0374 – 0676*

**NSV 04493: AN RR LYRAE STAR IN LEO MINOR**

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The variability of NSV 04493 (=CSV 006721 =GSC 2500.0189) was announced by Rigollet (1953), who indicated that this object was a Cepheid with a photographic magnitude variation from 13<sup>m</sup>.2 to 14<sup>m</sup>.2. In the NSV catalogue (Kholopov, 1982), no further information is given about this star.

As part of a surveillance program of poorly studied variable stars, NSV 04493 was occasionally observed in the B, V, R<sub>c</sub>, and I<sub>c</sub> bands with several different CCD and PEP systems (cf. Henden 1996 for details) from 3 May 1986 to 23 May 1993. In a collaborative observational program between the U.S. Naval Observatory Flagstaff Station and the Grup d'Estudis Astronòmics, this object was intensely observed in the V band with the 0.4m Newtonian telescope at Monegrillo Observatory from 4 January to 9 February 1997, and in UBVR<sub>I</sub> bands with the 1.0m Ritchey-Cretien telescope at the USNO Flagstaff Station from 9 to 14 March 1997. Figure 1 shows the field of NSV 04493, and Table 1 lists the standard V magnitudes and color indices of comparison stars near the variable.

Table 1

Star	GSC	V	(U–B)	(B–V)	(V–R)	(R–I)
A	2500.0125	14.882±0.008	0.191±0.010	0.723±0.009	0.377±0.010	0.364±0.007
B	2500.0275	14.398±0.003	0.441±0.012	0.835±0.004	0.464±0.003	0.444±0.003
C	2500.0375	14.401±0.003	0.685±0.013	1.115±0.007	0.613±0.004	0.589±0.004
D	2500.0413	14.491±0.002	0.130±0.006	0.666±0.003	0.382±0.003	0.359±0.004
E	2500.0557	14.953±0.005	0.112±0.008	0.636±0.006	0.371±0.005	0.340±0.005
F	2500.1161	15.003±0.004	0.154±0.007	0.671±0.006	0.369±0.004	0.341±0.005
G	2500.1185	14.723±0.006	0.038±0.005	0.672±0.007	0.384±0.006	0.364±0.008

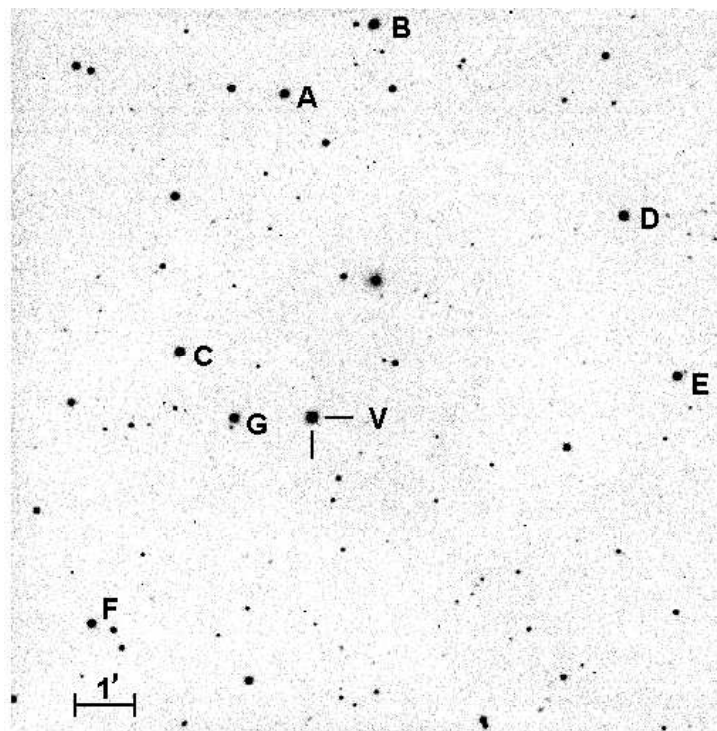


Figure 1. V=NSV 04493. North is on top

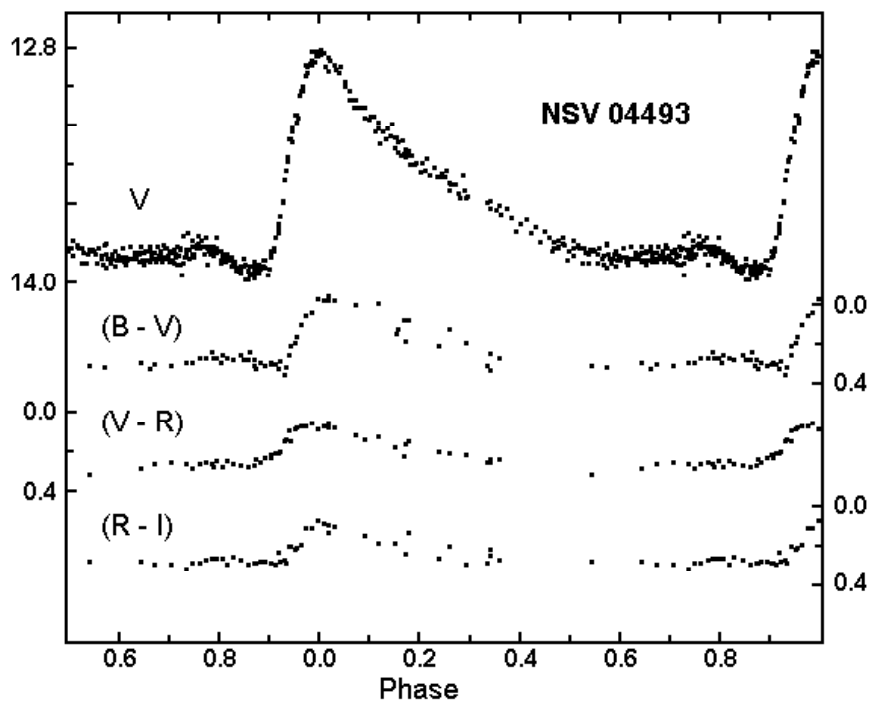


Figure 2.

The observations show that NSV 04493 is not a Cepheid but an RR Lyrae star with an asymmetric light curve ( $\epsilon=0.13$ ) and an amplitude of  $1^m1$  in V, from  $12^m85 \pm 0.03$  to  $13^m95 \pm 0.04$ . Figure 2 displays V, B-V, V-R, and R-I light curves, and Table 2 lists B-V, V-R, and R-I amplitudes.

Table 2

	B-V	V-R	R-I
Amplitude	$0.34 \pm 0.04$	$0.21 \pm 0.04$	$0.18 \pm 0.06$

The following ephemeris in the V band was also computed:

$$\text{Max.} = \text{HJD } 2450487.507 + 0^d526146 \times E \\ \pm 0.006 \pm 0.000002$$

#### References:

- Henden, A.A., 1996, *AJ*, **111**, 902  
 Kholopov, P.N., editor, 1982, *New Catalogue of Suspected Variable Stars*, Moscow  
 Rigollet, R., 1953, *IAU Cir.*, 1387