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NSV 02733, AN ECLIPSING VARIABLE STAR IN AURIGA

NSV 02733 (WR 123, CSV 006411), was catalogued as a suspected variable star (Kholopov, 1982) after the observations made by Weber (1963). It was originally recorded as a probable cepheid without any reference to spectral type and photometric elements. Just a photographic range from $12\overset{m}{.}3$ to $13\overset{m}{.}3$ was given. NSV 02733 can unambiguously be identified with star GSC 2924.1750.

During nearly two and a half month period, from February 5 to April 16, 1995, photometry of this star was performed in the V band using LYNXX-2, Starlight Xpress and ST-4 CCD cameras attached to the respectively four 0.4-m telescopes at Observatorio de Piera, Observatorio de Hostalets de Pierola, Observatorio de Monegrillo and the 0.3-m telescope at Observatorio de Sant Quinti de Mediona (Spain). GSC 2924.1971 was used as comparison star, and GSC 2924.2126 and GSC 2924.1868 as check stars (see Figure 1).

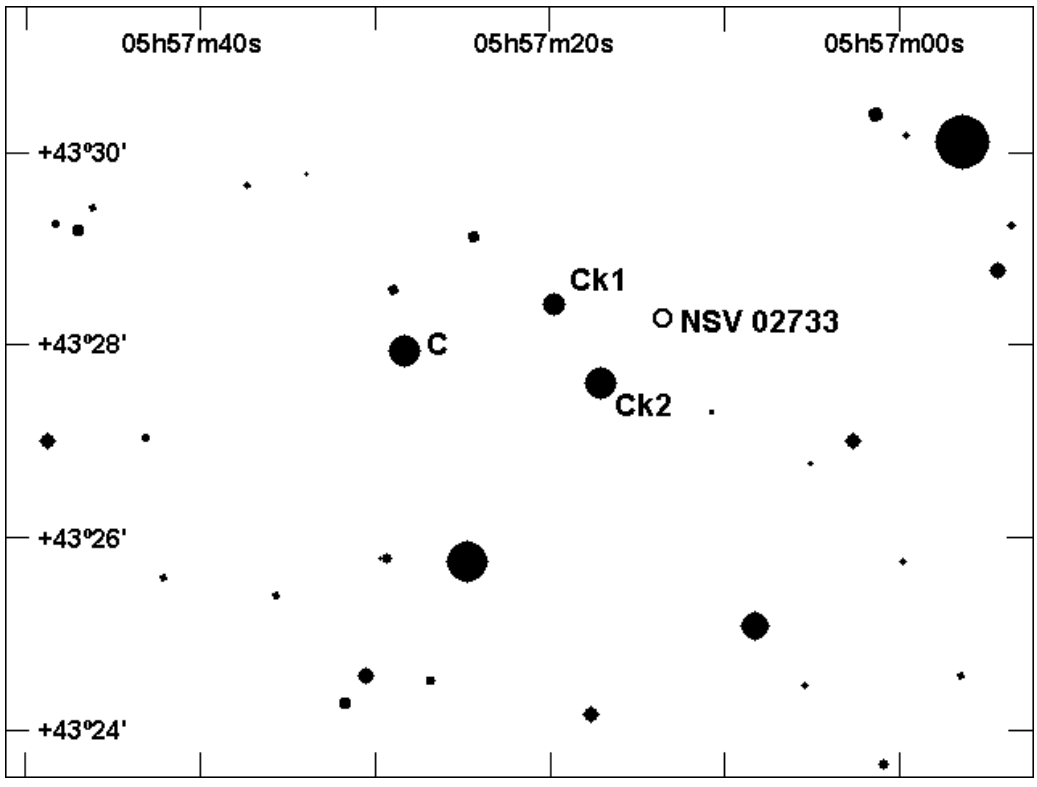

Figure 1. C = Comparison star, Ck1 and Ck2 = Check stars.

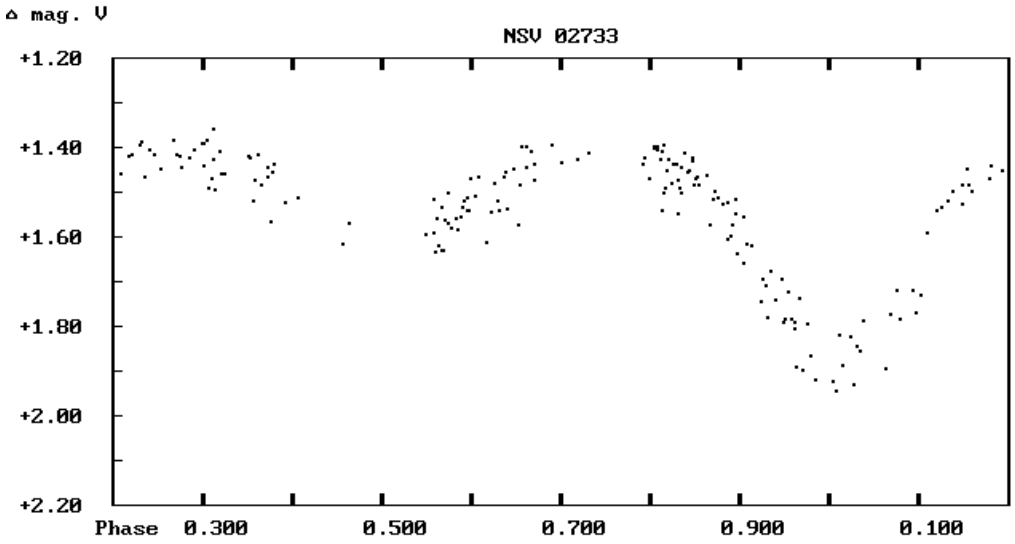

Figure 2

Observations show (Figure 2), that NSV 02733 is not a cepheid but an eclipsing binary star with a Beta Lyr type light curve. Due to light curve dispersion and incompleteness, it is not possible to derive exact information about the physical parameters of the system, but we can give the following preliminary ephemeris for the primary minimum:

$$\begin{array}{c} \text{Min. I} = \text{HJD } 2449825.476 \; + \; 0\overset{\text{d}}{.}7544 \times \text{E} \\ \qquad\qquad\qquad\qquad\qquad\quad \pm 1 \qquad\quad \pm 2 \end{array}$$

The star fades 0.45 magnitudes at primary minimum. The secondary is incomplete, but the light curve suggests that it may be about 0.2 magnitude deep.

More photometric and spectroscopic observations are needed in order to determine the physical parameters of this star.

Joan GUARRO-FLO
Enrique GARCIA-MELENDO
Jordi JUAN-SAMSO
Joaquin VIDAL-SAINZ
Justi POCH-CREIXELL
Grup d'Estudis Astronomics
Apartado 9481
08080 Barcelona
Spain
e-mail: gea@astro.gea.cesca.es

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Weber, R., 1963, *IBVS*, No. 21