COMMISSION 27 OF THE I. A. U.
INFORMATION BULLETIN ON VARIABLE STARS

Number 2080

Konkoly Observatory
Budapest
1982 February 1

*HU ISSN 0374-0676*

# HD 13831 A NEW BETA CEPHEI STAR

In the course of a photometric survey of the Hill's variables in the h & χ Persei galactic cluster the star HD 13831 (=BD + 56° 469, V= $8^{m}.26$), which Hill (1967) found photometrically constant and used as a photometric standard, was chosen as comparison star.

However when we carried out the photometric reduction of the data with this star as comparison constant star a periodic variation appeared.

Observations were made with the 1.2 m telescope at Calar Alto in Almería (Spain) and a cooled standard photon-counting photometer with the Strömgren uvby system was used.

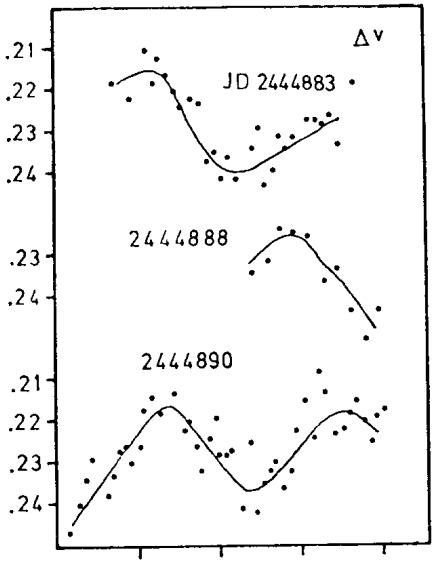


Figure 1

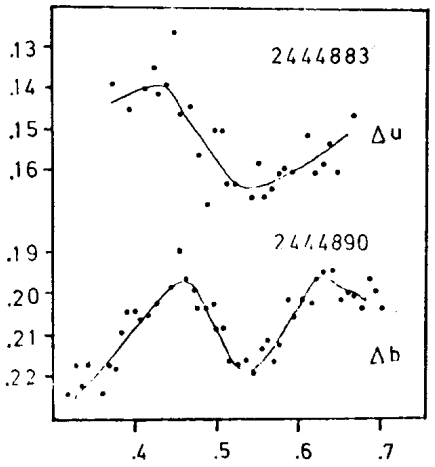


Figure 2

New reductions were made with the star HD 13621(=BD + 54°494, V=$8^m.10$, B O.5 IV) in order to find reliable photometric measurement of the variable. In the figures the magnitude differences between both stars during the three observation nights are represented.

Due to the scarcity of the data we can only say that apparently there is no colour variation along the cycle of about 4.6 hours and that the range of variation is over $0^m.03$ peak to peak in the three bands measured (u, v and b).

With these properties and its spectral type, BO IV, we think that HD 13831 is a β Cephei star. Nevertheless its great vsini (340 km $s^{-1}$ is the adopted value by Hill) makes it different from the "classical" β Cephei stars whose projected rotational velocities are in average very much smaller.

R. GARRIDO

A.J. DELGADO

Instituto de Astrofísica de Andalucía
Apdo. 2144. Granada, Spain
Visiting Astronomers, Centro Astronómico Hispano-Alemán. Calar Alto, operated by the Max-Planck-Institut für Astronomie-Heidelberg.

Reference:

Hill, G. 1967, Ap.J. Suppl. Series, 14, 263.