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THE FIRST GROUND-BASED PHOTOMETRIC OBSERVATIONS OF V397 CEPHEI

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Name of the object:
V397 Cep = BD +72°1136 = HIP 270 = HD 225093

Equatorial coordinates:	**Equinox:**
R.A.= $00^{\rm h}03^{\rm m}24\overset{\rm s}{.}01$ **DEC.**= $+73°10'28\overset{''}{.}2$	2000

Observatory and telescope:
TÜBİTAK National Observatory, 40-cm Cassegrain telescope

Detector:	Hamamatsu, R 4457 (PMT)

Filter(s):	Johnson U, B and V

Comparison star(s):	BD +72°1135 = HIP 128

Check star(s):	BD +72°12 = HD 1176

Transformed to a standard system:	No

Availability of the data:
Upon request

Type of variability:	EA

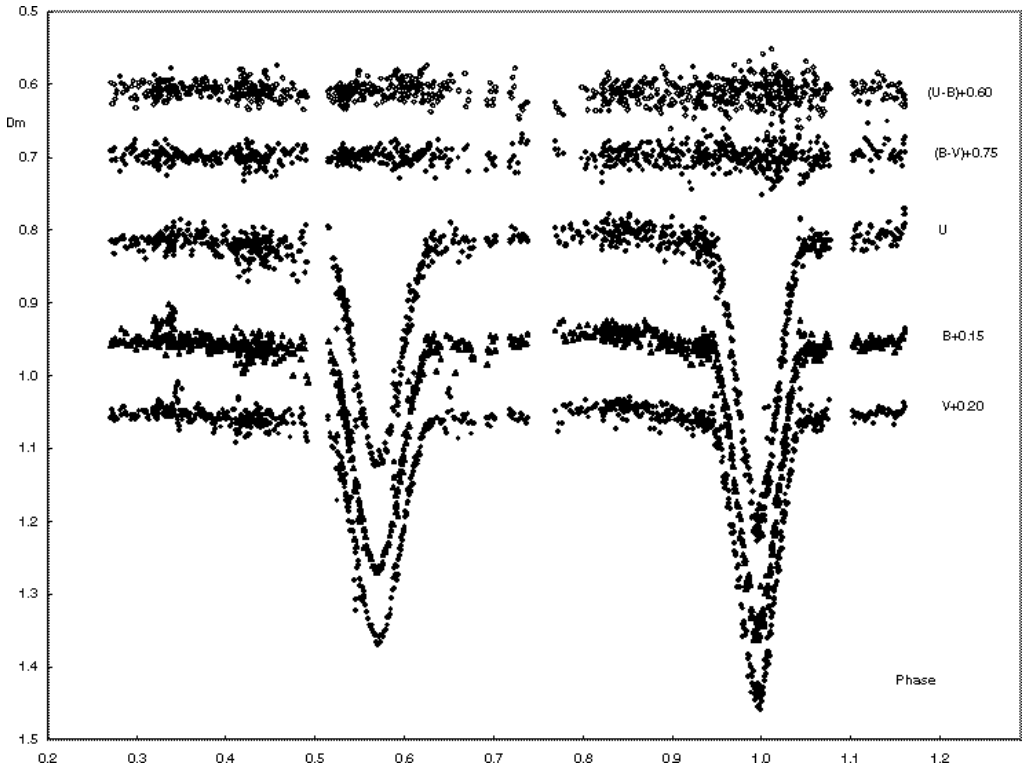

Figure 1. U, B and V light, and $U-B$ and $B-V$ color curves of V397 Cep. The color curves do not seem to have any variation

Remarks:

The variability of V397 Cep was discovered by HIPPARCOS (ESA, 1997). The photometric observations of the system by HIPPARCOS show an Algol type light curve with an amplitude of $0\overset{m}{.}418$. The visual magnitude of the system varies between $7\overset{m}{.}393$ and $7\overset{m}{.}811$. The mean orbital period derived from the best HIPPARCOS light curve fit is $2\overset{d}{.}08684$ and the epoch of minimum light is given as HJD 2448501.1800 (ESA, 1997). The spectral type of the system is given as A2. The first ground-based photometric observations were made over 11 nights during 2000 observing season at the TÜBİTAK (Scientific and Technical Research Council of Turkey) National Observatory. The light and color curves, which were obtained by these observations, are given in Figure 1. New light curves show that the secondary minimum clearly lies not at the phase of 0.5 as usually expected, but shifted to the phase of 0.573. The asymmetry and duration of both minima are quite different. Therefore, the orbit of the binary should be quite eccentric and the system should be a good candidate for eclipsing binaries with apsidal motion. Further observations of the system are needed in finding the apsidal motion parameters.

Acknowledgements:

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Reference:

ESA, 1997, The Hipparcos and Tycho Catalogues, SP–1200