

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

Number 3664

Konkoly Observatory
Budapest
23 September 1991
HU ISSN 0374 - 0676

Z APODIS IS A PULSATING - NOT A CATAclySMIC - VARIABLE STAR

Z Apodis is described in the Fourth Edition of the GCVS as a cataclysmic variable of the Z Cam type (UGZ), and possibly an eclipsing binary. In the earlier third edition it had been described as a long period (L) star. None of these descriptions appear to be correct.

This star was measured photo-electrically on 57 occasions at Auckland Observatory using the 50cm Edith Winstone Blackwell telescope and standard UBV filters, during the period 1975 to 1983. Because it was faint and appeared relatively uninteresting, observations then ceased.

The light curves and period are similar to a cepheid, although more symmetrical than normal. When a complete cycle is plotted on the U-B,B-V diagram this resemblance continues. The large colour changes, compared to the low amplitude, do not indicate a binary system. The 1975 observations are best fitted by a period of 18.89 days, which appears to have persisted up to the beginning of the second data set. The observations of 1977 to 1981 are best fitted by a longer period of 18.975 days and an epoch of JD 2443239.05.

We are puzzled by its reclassification. There is no photometric evidence of a hot star in the system. Even allowing for the possibility of substantial reddening the colours are unusually red for a CV. When more than one observation was made on a night there was no evidence of variations greater than ± 0.03 magnitudes in V. The pulsation period is typical of a giant star, very rare for CVs. We have not observed any of the normal features of a CV on Z Apodis.

The observations are shown in Figures 1 and 2. The U-B light curve is very noisy, but shows no suppression of amplitude indicating a blue companion. We cannot exclude a red companion star, but there is no evidence for such an object. The amplitude of variation appears greater in the 1977 - 81 data. Two observations in 1983 appear as crosses. The amplitude or the period

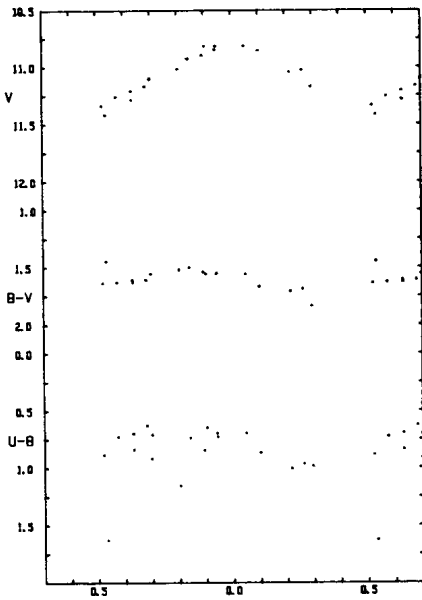


Figure 1 Z AP0015 J D 2442422 - 2442623

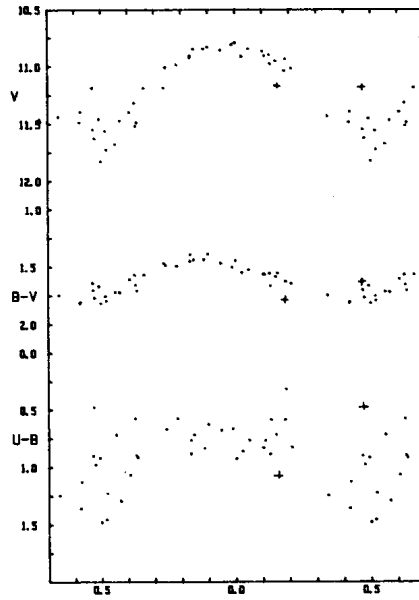


Figure 2 Z AP0015 J D 2443255 - 2445518

has changed again. The period is either erratic, or is changing quickly. Unfortunately, we have not measured the star since 1983.

BRIAN F. MARINO

W.S.G. WALKER

Auckland Observatory
P.O. Box 18 229, Auckland, 6, N.Z.