

# GEOS Results for PX Cephei

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This star's variation was discovered photographically by Romano in 1957. It was included in the GCVS in 1978 as PX Cep, and I started to observe it in 1983.

The star is usually at maximum, but on several occasions I was able to observe either a rise or the start of a fall. Finally on 1984 October 21, the first minimum was observed, and then a second one ten days later.

The star's constant behavior, outside the minima, indicated that it was an EA type of eclipsing binary. The amplitude of the eclipses is about 2.6 mag. Secondary minimum therefore has an amplitude of 0.11 mag., which is undetectable visually.

The first minima observed, 9.376 days apart, were a multiple of the true period  $P$ . As the period is obviously longer than one observing night, there are few possible periods: 9.376 days; 4.688; 3.125; 2.344, etc. An ephemeris was calculated for all the possible periods and attempts were made to observe the predicted minima. Finally only the 3.125-day period remained in the running. Using it, an initial ephemeris was calculated, and this was confirmed by the use of the 76-cm photometric telescope at the Jungfrauoch on the trips organised by the Palais de la Découverte in 1985 and 1986.

Photoelectric observations show that PX Cep varies between 12.25 and 14.65. The  $B-V$  index varies from 0.32 to 0.95: the pair probably consists of a main-sequence A star and a K giant. The secondary minimum was not detected.

My visual estimates over several years have allowed me to determine a fairly accurate period:  $P = 3.126993 \text{ days} \pm 0.000006 \text{ day}$ .