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PHOTOMETRIC OBSERVATIONS OF THE INTERMEDIATE POLAR  
AO PISCUM

In this note we present the results of photometric observations of the intermediate polar AO Psc (H2252-035) obtained by one of us (JK\*) on the night of September 14, 1986 at the Cerro Tololo Inter-American Observatory (CTIO).

The observations were carried out with the 1.0 m telescope of the CTIO equipped with a one channel photometer used in pulse counting mode. The observations were made in the B filter with a 27 arcsec diaphragm. The integration time usually was 10 seconds. The sky and the comparison star were measured every 14 min on the average. The comparison star was the star located approximately 5'2 South and 6' West (see the chart of Griffiths et al. 1980).

During the observations we made one UBV measurement of the comparison star and two UBV measurements of the variable. They are given in Table I. The transformation to the standard UBV system was performed using the procedure and the formulae described in the paper by Semeniuk and Kaluzny (1988).

Table I  
UBV measurements

Star	JDHel.	V	B - V	U - B
Comp.	2446688.+ 0.5386	9.72	0.58	0.07
AO Psc	0.5404	13.34	0.02	-0.94
AO Psc	0.6872	13.26	0.00	-1.05

Figure 1 presents the light curve of AO Psc.  $\Delta B$  denotes the difference between the variable and comparison star in the instrumental B magnitude.

Using our observations we calculated the moments of maximum light for three periodicities present in the object. The orbital maximum was determined by fitting a sinusoid of the fixed orbital period to the observations. To derive the mean times of maximum light of the 859 s and 805 s pulsations we have applied the same analysis as for the 20.9 min and 22.9 min periodicities of FO Aqr (Semeniuk and Kaluzny 1988).

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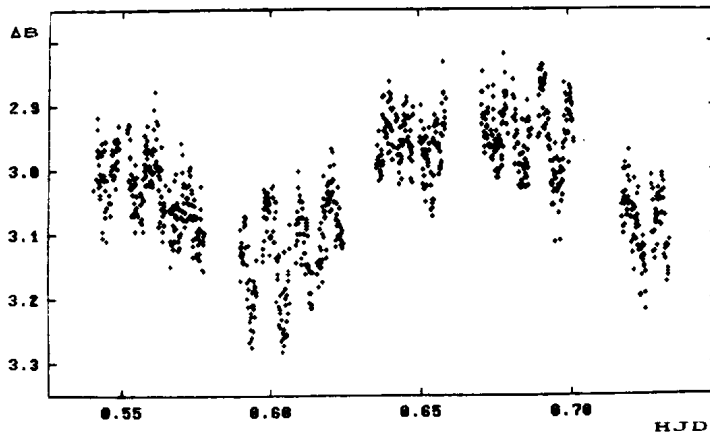


Figure 1

Table II

Times of maximum light

Periodicity	JD Hel	$\sigma$	E
	2446688.+		
Orbital	0.6710		12194
859 s	0.6098	$\pm 0.0004$	152381
805 s	0.6094	$\pm 0.0007$	193648

Table III

Ephemerides for times of maximum light.

$$\text{HJD Max} = M_o + P_o E + BE^2.$$

Periodicity	$M_o$	$P_o$	$B \cdot 10^{13}$
	2440000.+		
Orbital	4864.1428	0.1496252	-
	$\pm 0.0028$	$\pm 0.0000005$	
859 s	5174.18142	0.009938493	-3.87
	$\pm 0.00016$	$\pm 0.000000002$	$\pm 0.25$
805 s	4883.92074	0.009319484	-2.87
	$\pm 0.00037$	$\pm 0.000000004$	$\pm 0.30$

Our times of maximum light are listed in Table II where  $\sigma$  denotes the r.m.s. error. We added these times to the samples collected by van Amerongen et al. (1985) and we obtained the ephemerides given in Table III. The epochs E of maximum light in Table II are calculated with these ephemerides.

The ephemerides of Table III are, within the error limits, the same as obtained by van Amerongen et al. (1985) and confirm the conclusion of these authors : there is no evidence for a change in the orbital period, while the periods of the 859 s and 805 s pulsations are decreasing.

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