

COMMISSION 27 OF THE I. A. U.  
 INFORMATION BULLETIN ON VARIABLE STARS  
 Number 1107

Konkoly Observatory  
 Budapest  
 1976 March 1

THE PERIOD OF THE CEPHEID VARIABLE BD+56<sup>o</sup> 2806

The variability of the star BD+56<sup>o</sup> 2806 (=HD 239994) was discovered by Fernie and Hube (1971). The type of the light variation could not be determined on the basis of the observations. Nevertheless, this star was suspected to be a cepheid variable according to its location on the HR diagram.

Afterwards Percy (1975) reobserved this variable during six consecutive nights. The star showed short period small amplitude light variation with period about three days.

In order to determine a more correct value of the period, this star was observed in 1975-76. The observations were made in B and V colours close to the Johnson's system using the 24 in. and 20 in. telescopes of the Konkoly Observatory at Budapest and at the Piszkestető Mountain Station, respectively. After transforming to the Johnson's system the magnitudes are totally independent of the telescope used.

BD+56<sup>o</sup> 2815 was the comparison star. Its constancy was checked by the star BD+56<sup>o</sup> 2808. Their adopted magnitudes are as follow:

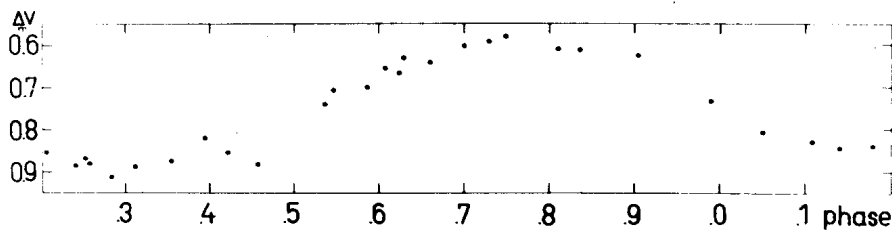
		V	B-V
comparison	BD+56 <sup>o</sup> 2815	8 <sup>m</sup> .67	0 <sup>m</sup> .15
check	BD+56 <sup>o</sup> 2808	9.38	0.11

The new observations made the determination of the period possible with accuracy of four decimal places. An improvement of the value of the period could be reached taking Percy's observations into account. The correct value of the period is 2<sup>d</sup>.80591, thus the elements are:

$$\text{Max}_{\text{hel}} = \text{JD } 2442676.397 + 2<sup>d</sup>.80591 \cdot E$$

The observations are listed in the Table. The Figure shows the V light curve. The starting epoch of the phase computation is JD 2430000. The amplitude of the light variation in V is 0<sup>m</sup>.30, and that of the B-V colour index is 0<sup>m</sup>.15. The observed light

curve is almost complete. Unfortunately, there are fairly few observations at the lower part of the rising branch, where one can suspect a small bump. The presence of the post-minimum bump seems to be a common feature of the small amplitude cepheids (Szabados 1976).



JD 2442000+	ΔV	Δ(B-V)	JD 2442000+	ΔV	Δ(B-V)
634.479	0.609	0.642	715.330	0.666	0.692
635.405	.845	.699	.433	.643	.662
636.519	.741	.662	720.376	.855	.739
639.355	.709	.705	728.315	.869	.823
640.358	.626	.677	738.372	.611	.648
642.393	.633	.689	743.344	.656	.734
645.477	.591	.642	756.239	.856	.815
646.379	.807	.646	767.190	.831	.700
669.406	.883	.794	770.195	.840	.791
675.413	.822	.791	776.185	.887	.827
676.397	.580	.682	.305	.875	.808
685.490	.733	.667	777.271	.602	.678
712.420	.700	.718	782.204	.882	.694
714.374	.912	.767	787.202	0.885	0.720

L. SZABADOS  
Konkoly Observatory  
Budapest, Hungary

References:

- Fernie, J.D., Hube, J.O., ApJ. 168. 437, 1971.  
Percy, J.R., IBVS No. 983, 1975.  
Szabados, L., Budapest Mitteilungen (in preparation) 1976.