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THE FIRST PHOTOELECTRIC LIGHT CURVE OF V 456 OPHIUCHI

The detached eclipsing binary V 456 Oph (=BD+08<sup>o</sup>3814) seems to be observed first photographically by Kapko in 1949 (see the 1958 and 1969 editions of the General Catalogue of Variable Stars). Kapko found that the photographic light curve is of Algol type with partial eclipses ( $d=0$ ), and the range of light variation being  $m_{ph}=10^m.2-10^m.7$  at the primary minimum and  $10^m.2-10^m.5$  at the secondary minimum. The GCVS 1958, 1969 gave the light elements as

$$\text{Min I} = \text{Hel. J.D. } 2428422.341 + 1^d.015986 \text{ E.}$$

No other observations of this neglected binary system have appeared in the literature until 1973 when one of us (O.D) observed the primary and secondary eclipses of the system in BV filters (c.f. Kizilirmak and Pohl, 1974, 1975). The minimum times were delayed, with respect to the given ephemeris, by about four hours. Times of eclipse minima were determined as

$$\text{Prim. Min.} = \text{Hel. J.D. } 2441897.534 \text{ and } 2441951.383$$

$$\text{Sec. Min.} = \text{Hel. J.D. } 2442239.410$$

Such a big delay in the eclipse minima suggests an increase in the orbital period of the system. The new period is estimated roughly as  $P=1^d.0159989$ . Such a delay in the eclipse minima could also be caused by the probable errors in the light elements given by Kapko, because his photographic observations could not be as accurate as the present observations. However, Diethelm (1981) reported the new light elements as

$$\text{Min I} = \text{Hel. J.D. } 2441897.532 + 1^d.0159996 \text{ E}$$

which were determined by using mostly our observations. The GCVS 1985 cited Diethelm's light elements for V 456 Oph, and noted a variable period.

We included V 456 Oph in our program and observed it in BV filters on twelve nights between May 20 and July 19, 1988. Thus, we secured the first whole photoelectric light curves of the system in two colours. The differential observations were made with respect to the comparison star BD+08<sup>o</sup>3824 by checking against the nearby check stars BD+08<sup>o</sup>3813 and BD+08<sup>o</sup>3809. The compa-

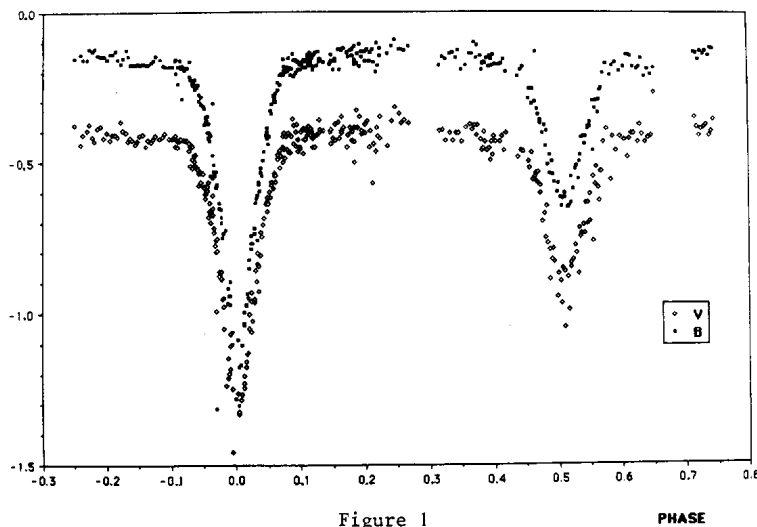


Figure 1

PHASE

ri-son was found to be constant during the observations. The observations were made by using an EMI 9789 photomultiplier attached to the Maksutov telescope of the Ankara University Observatory. 365 differential observations have been secured in each colour. The observations were corrected for differential extinction and are shown in Figure 1. The phases were calculated by using the above cited Diethelm's light elements.

We thank to G. Kahraman, for the generous help during the observations. The period and light curve analysis of the system is in progress and will be published elsewhere in the future.

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