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VW HYA - ULTRAVIOLET ECLIPSE OF THE SECONDARY  
AND NEW EPHEMERIS

The eclipsing binary VW Hya (not in HD, BD, CPD, discovery number 72.1929) was discovered by Hoffmeister (1929) as an eclipsing binary with a very deep minimum, with a brightness outside minimum of 10.5 magnitude. The star has been observed with the 70cm reflecting Swiss telescope at La Silla Observatory in Chile with the P7 photoelectric photometer (see Burnet 1976 and Burnet, Rufener 1979) in the Geneva photometric system. The observations continue and we publish the preliminary results because of the rather unusual behaviour of the system during secondary eclipse.

Generally the shape of the light curve is typical of a double star with red and blue components, however the secondary eclipse in the U colour is unexpectedly too deep. Obviously a source of ultraviolet radiation is eclipsed during the secondary eclipse. Fig. 1 shows the light curve in the V filter. Fig. 2 shows the detailed secondary minimum in the U filter. Measurements in the B1 filter, which is closest to U, do not show the secondary minimum - Fig. 3. For readers not familiar with the Geneva photometric system, Fig. 4 shows the response curves for filters U and B1 (see Rufener 1963,1981 or Golay 1974,1980).

The observation is based on only one observation of the secondary minimum. The effect may be transient and observers are advised to monitor the secondary eclipse in colour U. Obviously spectroscopic observations may finally reveal more details concerning UV emission on the secondary star. The new ephemeris is as follows:

$$T(\text{minI}) = 2446083.7665 + 2.6964378.E \quad (\text{in HJD})$$

These are provisional results. More details will be published later after reduction of all observations for a complete light curve.

Coordinates 1950.0: RA = 8:31:31, Dec. = -14:29.8.

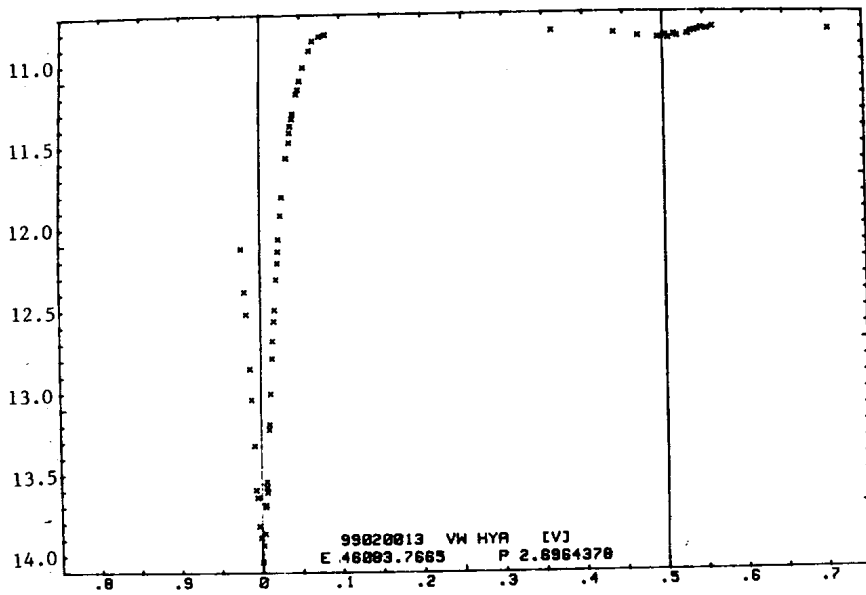


Fig. 1. Light curve of VW Hya. Magnitude [V] against phase. Filter [V] of the Geneva photometric system corresponds to V of the UBV system.

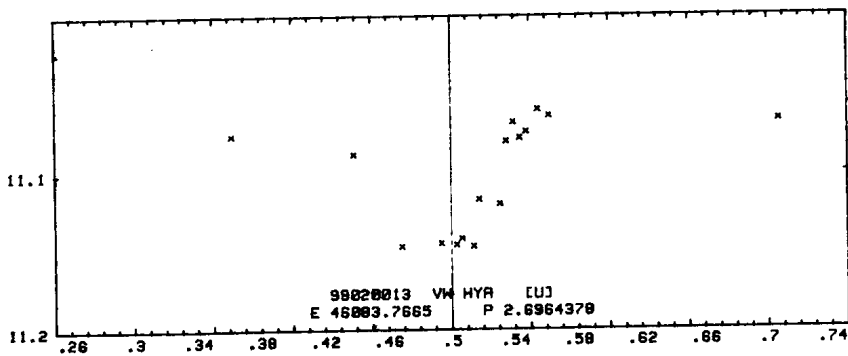


Fig. 2. Secondary minimum of VW Hya in filter [U]. Ordinates: Magnitude [U]. Abscissae: Phase.

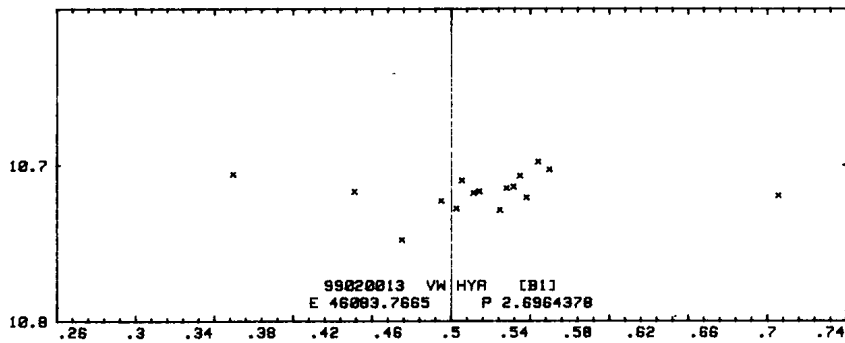


Fig. 3. Secondary minimum of VW Hya in filter [B1].  
Ordinates: Magnitude [B1]. Abscissae: Phase.

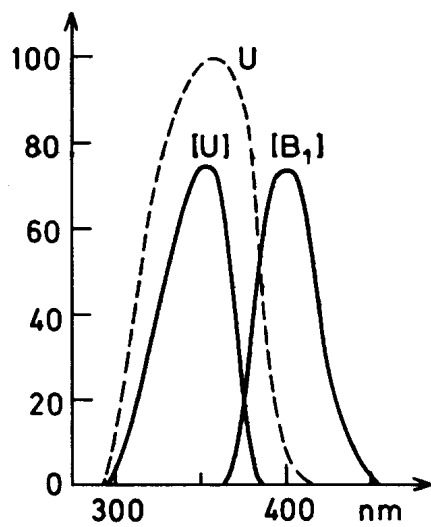


Fig. 4. Response curves for filter [U] and [B1]. For comparison response curve of filter U from UVB system as dashed line.

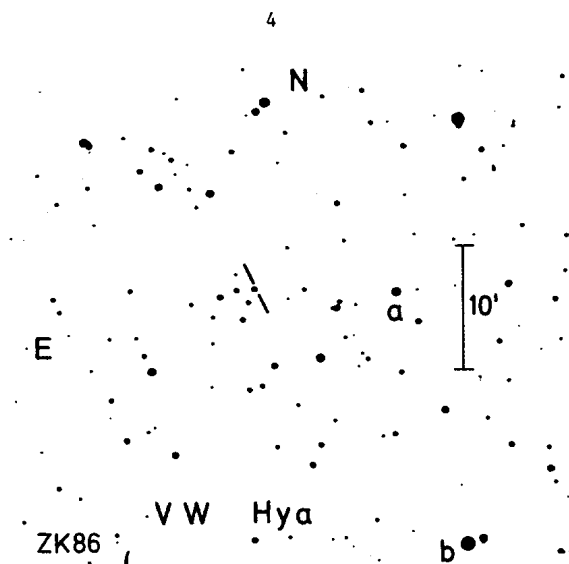


Fig. 5. Finding chart for VW Hya. Two brighter nearby stars marked a and b are marked on the chart too. Star a is HD72530,  $V = 9.14$  mag. and b is HD72462  $V = 6.38$  mag. The chart is based on the atlas by Papadopoulos (1979).

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