

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

Number 3277

Konkoly Observatory  
Budapest  
30 December 1988  
HU ISSN 0374-0676

PHOTOELECTRIC OBSERVATIONS OF ST AQUARI

The eclipsing binary ST Aquarii (BD-7<sup>o</sup>5753, HD 211965, SAO 146035) was discovered by Miss Leavitt at Harvard (Pickering, 1908). She classified the system to be an Algol type. Zacharov (1928) estimated the period to be 0.<sup>d</sup>390455. Later on Mergentaler (1928) discovered that the period should be much longer than that estimated by Zacharov. Zacharov (1930) reclassified the system to be  $\beta$ -Lyrae type, and he found the period about twice the original value, or 0.<sup>d</sup>7810161. The system consists of a bright A7 component accompanied with a faint G8IV component (Roman, 1956).

The eclipsing binary ST Aqr was observed photoelectrically at Kottamia observatory (Egypt) on 5 nights during October to December 1978. The cassegrain focus of the 74-inch reflector was equipped with a cooled two-channel photometer. The detector was an EMI 9862B/350 photomultiplier tube, powered by an Isotopes Development Ltd. type 1388 D.C. amplifier and then fed to a Honeywell chart recorder. Two wide - band filters (B, V) have been used in this work. The blue filter was a BG12 1mm + GG385 2mm, and the yellow filter was a BG18 1mm + GG495 2mm Schott Glass B filter. The effective wavelength for B and V filters were 4258 Å and 5385 Å, respectively, and the bandwidth for the filters was 982 Å for B and 981 Å for V.

For comparison and check, the stars BD-7<sup>o</sup> 5751 and BD-7<sup>o</sup>5755 were used, respectively. A total of 386 and 370 observation points were obtained in B and V filters. The phases of the observations have been computed from the light elements given by Gleim (1973):

$$\text{Min I (Hel.)} = 2441\ 236.316 + 0.<sup>d</sup>78099525 E$$

The light curves for V and B are shown in Figure 1 and 2. Table I shows the times of minima and O-C values derived from the light curves.

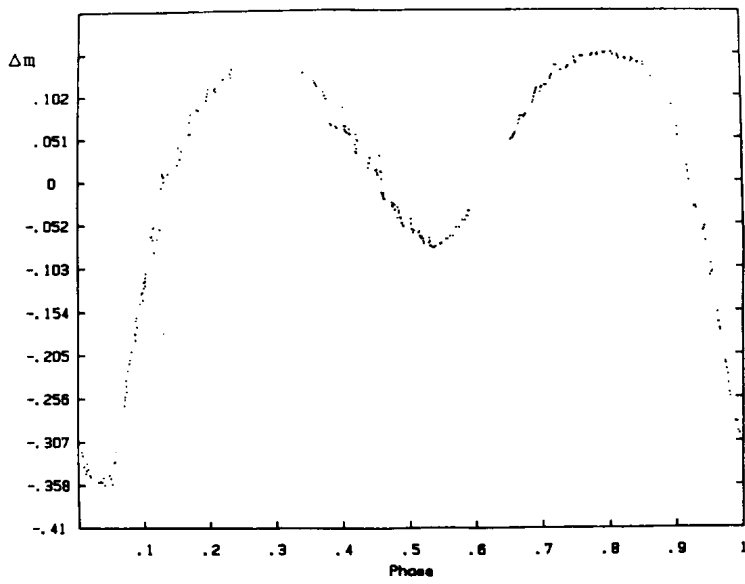


Figure 1

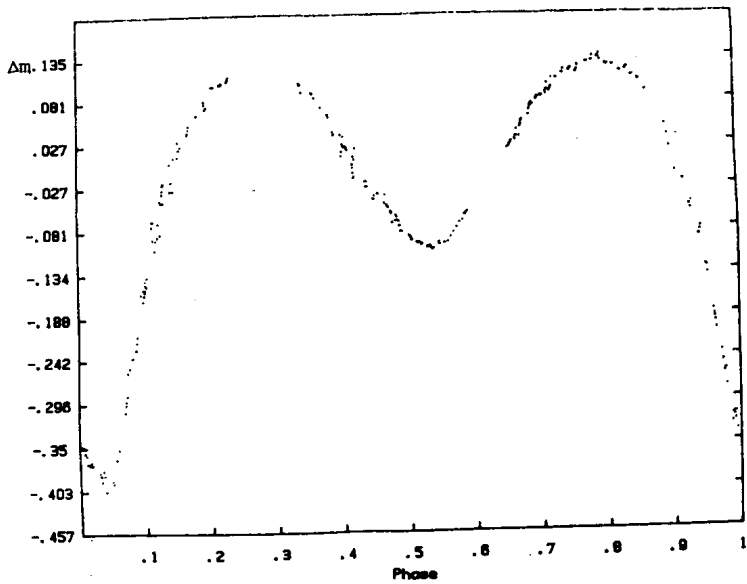


Figure 2

Table I  
Times of minima and O-C values

Minimum	Observed (Hel.J.D.)	Calculated (Hel.J.D.)	O-C
I	2443801.9104	2443801.8854	0.0250
II	2443835.8877	2443835.8587	0.0290

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