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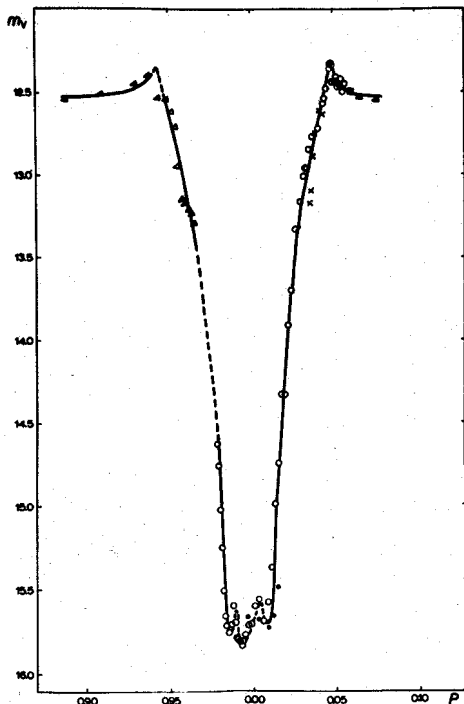
Konkoly Observatory
Budapest
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THE LIGHT CURVE OF 442 CAS (S 9484)
DURING THE ECLIPSE OBTAINED BY T.V. OBSERVATIONS

The variable 442 Cas (S 9484) of the Algol-type was discovered by Hoffmeister in 1966. Its magnitudes at maximum and minimum and its elements were found to be 12^m5, 17^m0 and

$$T_{\min} = 2430262^{\circ}430 + 3^{\circ}59225E$$

respectively (1). The minimum of the light curve is narrow and covers 0,09 of the period. To measure the minimum brightness by the method of photography is difficult owing to long exposures.



Light curve of 442 Cas during the eclipse. The different marks corresponds to different nights:
■ - J.D.2440213, X - 38, △ - 41, ○ - 45, ● - 63, ▲ - 74.

The television observations of 442 Cas were made with the 0,5-meter telescope at the Crimean Astrophysical Observatory in the winter of 1968-1969. A new pick-up tube of high sensitivity with a multialkali photocathode and yellow filter was used (2). The effective wavelength for stars of the spectral type G2 is 5500 Å. The colour system is near that of the V. The exposure time of T.V. photographs was 1-4 minutes. 290 photographs of the variable in the phases 0,9-0,0-0,1 were taken during 6 nights. About 100 photographs in the maximum brightness were taken. The open cluster NGC 188 and NGC 7789 were observed as standards. The magnitudes of 32 stars in the neighbourhood of the variable were determined. The mean square error of a single observation is 0^m.1. The maximum and minimum brightnesses of 442 Cas are 12^m.53 and 15^m.73, respectively. The light curve of the variable during the eclipse, drawn from the elements mentioned above, is shown in the figure. Each mark is a normal point consisting of 3-6 observations. The variations of the minimum brightness are possibly real. It is interesting to note the peaks in the light curve before and after the minimum.

The epoch of the minimum observed is

$$T_{\min} = 2440245^{\text{d}}289 \pm 0^{\text{h}}002$$

Crimean Astrophysical Observatory, USSR
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V.V.PROKOFJEVA, V.P.EPISHEV

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