COMMISSION 27 OF THE I. A. U.
INFORMATION BULLETIN ON VARIABLE STARS
Number 2074

Konkoly Observatory
Budapest
1982 January 21
HU ISSN 0374-0676

PHOTOELECTRIC LIGHT CURVE OF 44 BOOTIS

A complete light curve of the W UMa-type eclipsing binary 44 Boo was obtained on the night of 8-9 May, 1982. The observations were made on the No. 3 40 cm telescope at Kitt Peak National Observatory. A dry-ice cooled 1P21 photomultiplier and pulse - counting system were used to make the observations in the V band of the UBV system. Observations were made relative to the comparison star 47 Boo.

Observations of the close pair 27/28 LMi provided data for transformation to the standard UBV system. Analysis of the comparison star magnitude versus air mass provided a measure of extinction. Observational times were calibrated with respect to radio station WWV to within 0.1 seconds. All integrations were of 10 seconds duration, and the observations were made in the following order: 6 of the comparison star; 3 of the comparison star background; 60 of the variable star; and 3 of the variable star background; etc. A neutral density filter was used to limit the maximum counts to approximately 200,000 for the 10-second integrations.

The data were reduced at the Fairborn Observatory using the BASIC program described by Genet (1980). This included correction for differential extinction, transformation to the standard system and heliocentric correction of the observational times. Approximately 1500 10-second observations of the variable star were made in about seven hours. These data were grouped and mean counts for each seven observations were used in the analysis.

The phase was calculated using the ephemeris of van't Veer (1972).

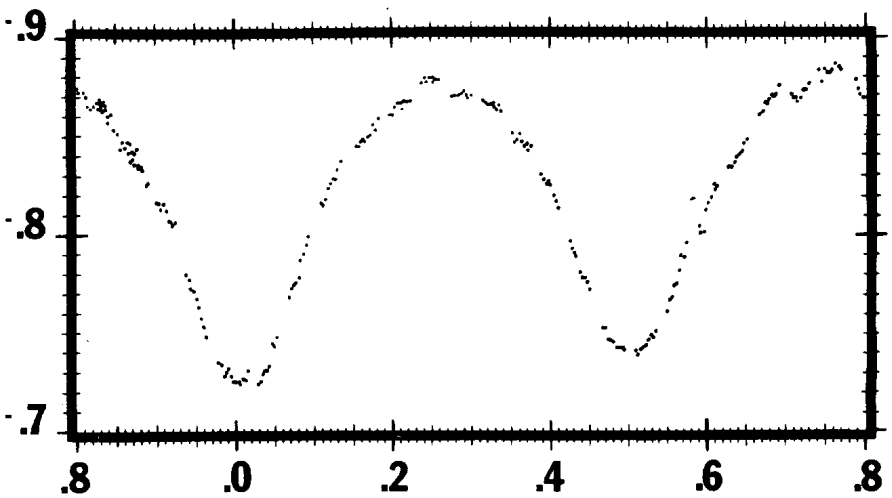

Figure 1

Pr. Min. = Hel. J.D. 2439370.4222 + 0.2678160 E

The resultant light curve is shown in the figure. The data are available as IAU 27 File No. 89. The persistance of certain irregularities in the light curve are being examined with respect to observations made on nights prior to and subsequent to the night's observations reported herein.

R. M. GENET
Fairborn Observatory
1247 Folk Road
Fairborn, Ohio
45324 USA

K. E. KISSELL
2202 Malton Ave.
Simi Valley
California
93063 USA

G. C. ROBERTS
9625 Bellanca Ave.
Los Angeles
California
90045 USA

References:

Genet, R. M.: 1980 IAPPP Communications, 2, 23.
van't Veer, F.: 1972, Astron. & Astrophys., 20, 131.