COMMISSION 27 OF THE I. A. U.
INFORMATION BULLETIN ON VARIABLE STARS
Number 3230

Konkoly Observatory
Budapest
22 August 1988
HU ISSN 0374-0676

1976 LIGHT CURVES OF BX ANDROMEDAE

BX And (SVS 995, HD 13078, BD +40° 442) is the brighter companion of the visual binary ADS 1671 (Σ 215). The GCVS (1985) lists its spectral class to be F2 V. Its variability was discovered by Soloviev (1945), who reported it to be of Algol type. Ashbrook (1951), by studying 200 Harvard patrol plates, confirmed the binary nature of BX And and stated it to be of ß-Lyrae type. Svolopoulos (1957) published normal points and began a Russell-Merrill (1952) analysis which he abandoned due to complications in the rectified light curve. Todoran (1965) completed the solution and determined preliminary orbital elements for the system. Additional light curves have been published by Castelaz (1979) and Rovithis and Rovithis-Livaniou (1984). Sets of light elements have been determined by Ashbrook (1951), Svolopoulos (1957), Chou (1959), and Castelaz (1979). Chou (1959) and Ahnert (1975) determined that BX And has undergone a major period change of about $0^{s}.25$. Using all available epochs of minimum light we have confirmed this. A least squares fit of the photoelectric data shows that this occurred in 1946.

The present observations were made on three nights in September and two nights in November, 1976 using the 41 cm Cassegrainian telescope of the Morgan-Monroe station of the Goethe Link Observatory of Indiana University. Standard U,B,V filters were used with a dry-ice-cooled 1P21 photomultiplier tube. The comparison and check stars were BD +39° 476 and BD +39° 480, respectively. Standard magnitudes were determined for the comparison and variable star. They are listed in Table I. Over 1000 observations in B and V wavelengths and over 900 observations in U were obtained.

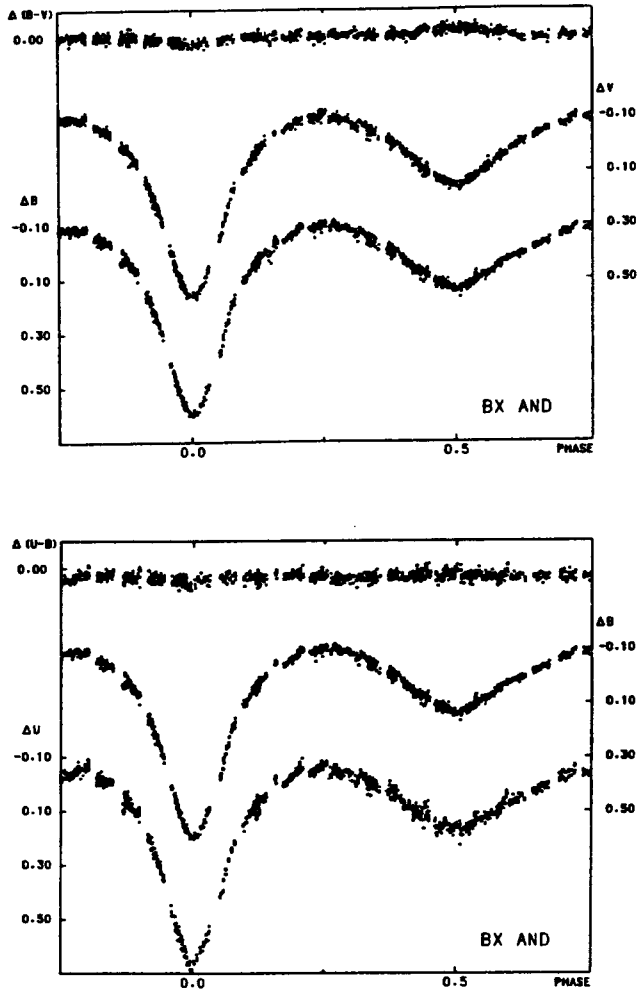

FIG. 1 - Light curves of BX And defined by the individual observations.

Table I

Standard Magnitudes of the Comparison Star and Variable

Star	V	B-V	U-B	Phase
Comparison	8.96	0.44	-0.01	----
BX And	8.65	0.45	0.04	0.25

Kaitchuck and Faulkner (1977) published four epochs of minimum light from these observations. The rather large O-C's obtained from these and other photoelectric epochs indicate that the system is very active and may be undergoing erratic and continuing minor period changes.

The U, B and V light curves of BX And defined by the individual observations are shown in Figure I as Δm versus phase. The analysis of the observations is underway.

RONALD G. SAMEC

RITA E. FULLER

Dept. of Physics & Astronomy
Butler University
Indianapolis, IN 46208 USA

and

RONALD H. KAITCHUCK

Department of Astronomy
Ohio State University
Columbus, OH 43210 USA

References:
Ahnert, P. 1975, Mitteilungen über Veränderliche Sterne 6, 189
Ashbrook, J. 1951, Astron. Journal 56, 54
Castelaz, M. 1979, I.B.V.S. No. 1554
Chou, K.C. 1959, Astron. Journal 64, 468
GCVS 1985, 4(1)
Kaitchuck, R.H. and Faulkner, D.R. 1983, I.B.V.S. No. 2321
Rovithis P. and Rovithis-Livaniou H. 1984, Astr. and Sp. Sci. 105, 171
Russell, H.N. and Merrill, J.E. 1952, Contr. Princeton Univ. Obs. No. 26
Soloviev, A. 1945, Astr. Circ. Acad. Sci. U.S.S.R., No. 44
Svolopoulos, S.N., 1957, Astron. Journal 62, 330
Todoran, I. 1965, St. Cerc. Astron. 10, 71