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BV OBSERVATIONS OF IU AURIGAE

The light variability of IU Aur (HD 35 652) was observed photoelectrically by Mayer (1965) who first found it to be an eclipsing binary. Since then, this star has been observed photoelectrically by various authors (e.g. Eaton 1979, Papousek and Vetesnik 1982, and Hui-song 1988), even though none of these observations could cover the whole light curve satisfactorily. In these previous observations some curiosity has been reported, such as temporal changes of the light curve, changes in the maximum brightness and increasing depth of the eclipse with time.

With the purpose to obtain a complete light curve, photoelectric observations in BV were carried out with the 40-cm reflector at the Science Museum

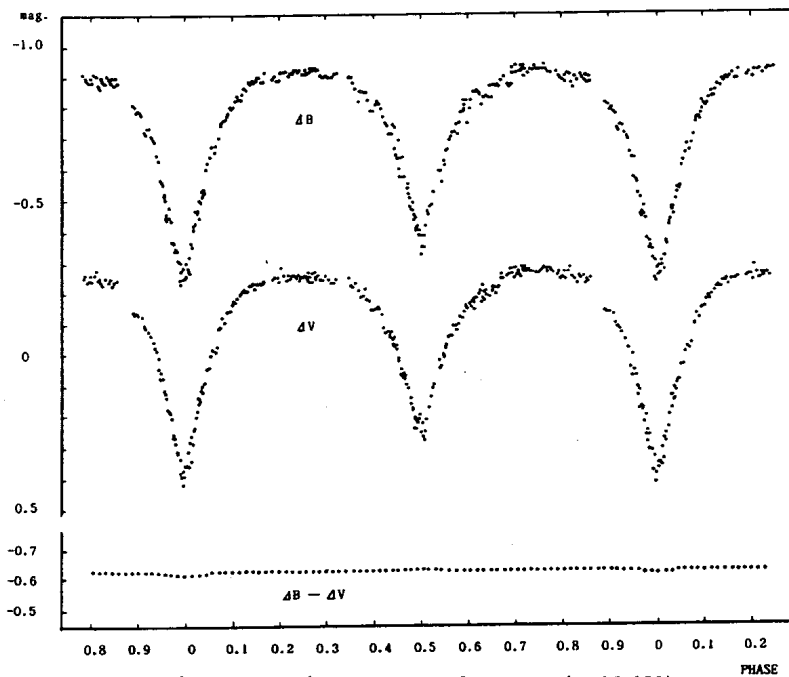


Figure 1. Light curves of IU Aur (HD 35 652)

of Kawasaki City during ten clear nights in 1987-88 . The photoelectric photometer was furnished with a Hamamatsu 1P21 photomultiplier tube. HD 35 619 was used as the comparison star, which is the same one as used by the previous photoelectric observers. In the present observations a total of 644 measurements were obtained in each colour.

During the present observations two primary minima could be covered as shown in Table I, where the O-C values are calculated with Mayer's (1987) ephemeris: J.D. 2438 448.4068 + 1.<sup>d</sup>811475.E .

Table I. Times of observed minima

Hel.J.D.	Epoch	O-C
2447156.1688	4807	+0. <sup>d</sup> 0017
2447167.0369	4813	+0.0009

Table II. Observed depths of both minima

Observer	Mayer (1964)	Eaton (1979)	Papousek and Vetesnik (1982)	Hui-song (1988)	present paper
Minimum					
Primary B	0. <sup>m</sup> 48	-	0. <sup>m</sup> 67	0. <sup>m</sup> 74	0. <sup>m</sup> 66
Primary V	0.48	0. <sup>m</sup> 68	0.63	0.73	0.64
Secondary B	0.37	-	-	0.58	0.52
Secondary V	0.37	0.54	-	0.58	0.54

Taking into account the above O-C values, the ephemeris has been revised as:

$$\text{Primary min.} = \text{Hel.J.D. } 2438448.4068 + 1.<sup>d</sup>8114754.E .$$

All the measurements in  $m_{\text{var}} - m_{\text{comp}}$  are plotted in Figure 1 and the depths of both minima are listed in Table II. In Table II, the corresponding values obtained from the previous light curves are also shown for comparison.

As is seen from Table II, the depths of minima in the present observations are decreased as compared with Hui-song's observations. In order to confirm this curious feature, further observations are highly desirable. The data of the present observations given in  $m_{\text{var}} - m_{\text{comp}}$  (B,V) are available upon request.

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