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OUTBURST PHOTOMETRY OF IZ And

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IZ And (= S 10794) is a dwarf nova discovered by Meinunger (1975), who recorded two outbursts. The object was later rediscovered by Stepanian (1982), who spectroscopically observed one of its outburst, and gave a classification as an O-B star. This classification is consistent with a low-resolution spectrum of dwarf nova at maximum. Meinunger and Andronov (1987) reported another outburst detection, and gave a discussion on its outburst cycle length. The star, however, has been largely neglected.

In the course of CCD survey of dwarf novae, the author detected another outburst at $V = 15.6$ on 1996 September 15.678 (Kato 1996). We performed time-resolved CCD photometry during this outburst.

The observations were done on three nights between 1996 September 15 and 17, using a CCD camera (Thomson TH 7882, 576×384 pixels, on-chip 2×2 binning adopted) attached to the Cassegrain focus of the 60-cm reflector (focal length = 4.8 m) at Ouda Station, Kyoto University (Ohtani et al. 1992). An interference filter was used which had been designed to reproduce the Johnson V band. The exposure time was 60 s. The frames were first corrected for standard de-biasing and flat fielding, and were then processed by a microcomputer-based PSF photometry package developed by the author. The magnitudes were determined relative to GSC 2807.1784 ($V = 12.03$), whose constancy during the run was confirmed using the check stars GSC 2807.1974 ($V = 12.86$). The magnitudes of comparison stars were determined using the RX And sequence (Misselt 1996). Barycentric corrections to observed times were applied before the following analysis. Table 1 lists the log of observations, together with nightly averaged magnitudes.

Figure 1 shows the overall light curve of the 1996 September outburst. The object gradually faded, at a maximum rate of $0.48 \pm 0.11 \text{ mag d}^{-1}$. This rate of decline is a typical value for an SS Cyg-type dwarf nova. Using Bailey's relation (e.g. Warner 1995), this rate of decline correspond to an orbital period of 5 h. Figure 2 shows the result of time-series photometry on September 15. Although there seem to exist low-amplitude irregular variations (flickering), no evidence of superhumps was detected. Power spectrum of the data did not reveal any significant periodicity between $0^{\text{d}}002$ and $0^{\text{d}}1$. The overall behavior is consistent with the suggested orbital period from the decline rate, and supports the classification as an SS Cyg-type (UGSS in GCVS) star.

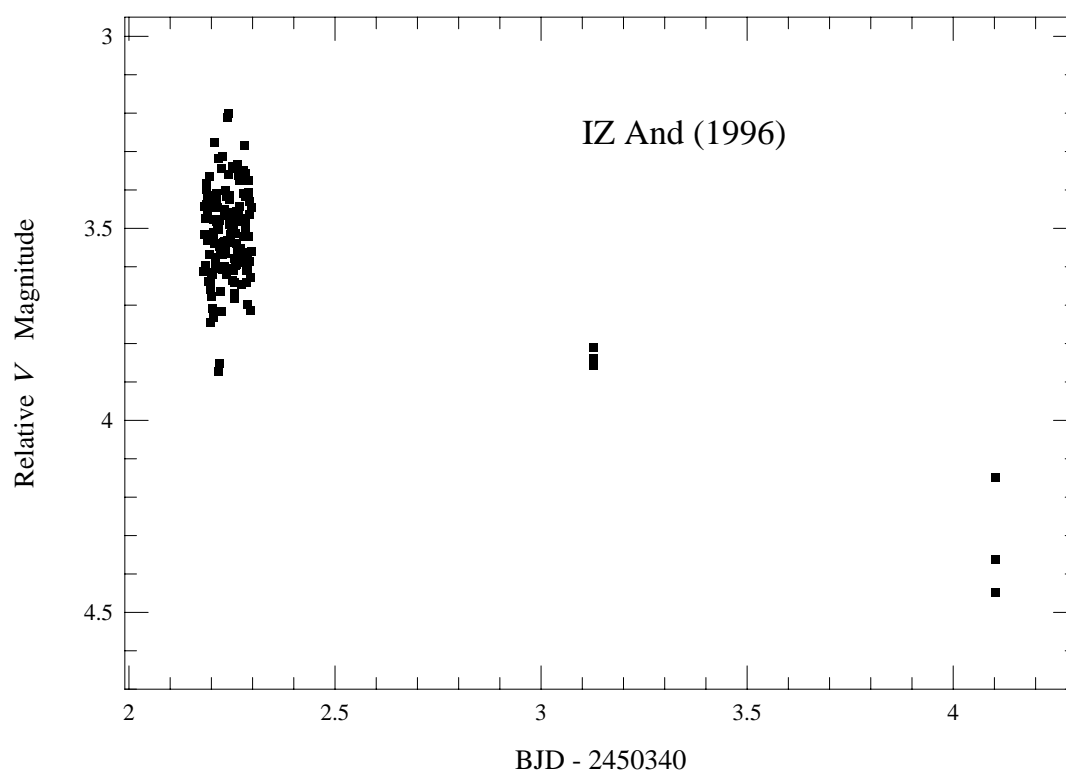


Figure 1. Light curve of the 1996 September outburst of IZ And

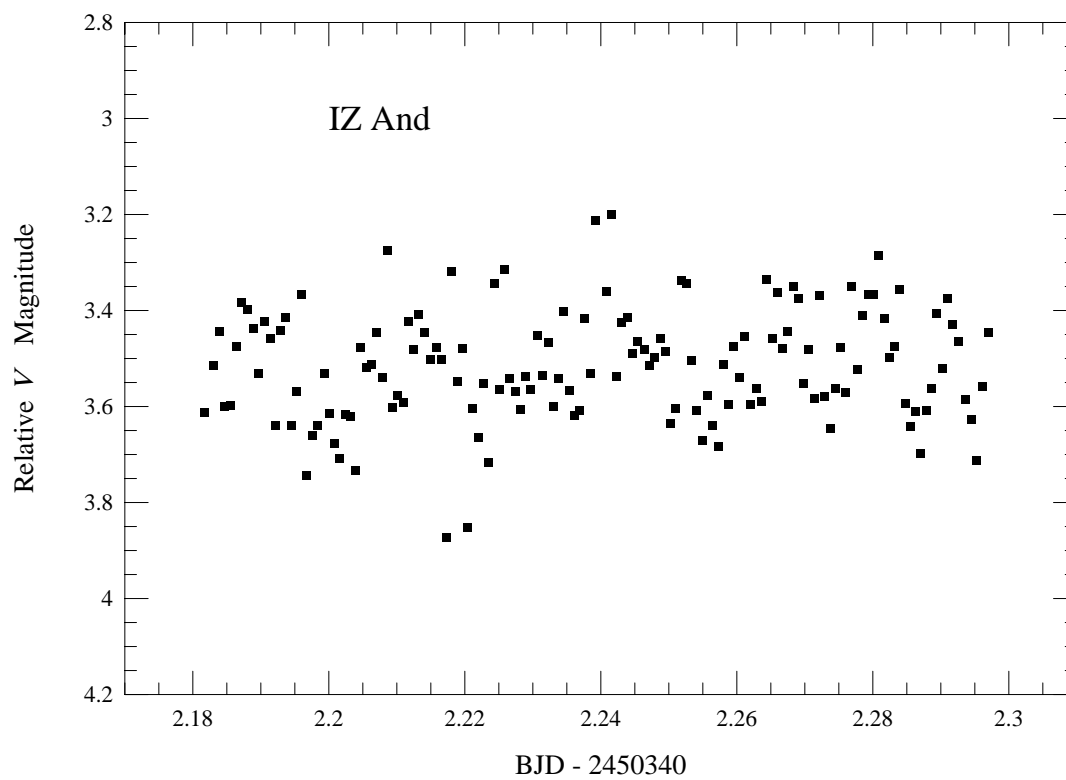


Figure 2. Light curve of IZ And on 1996 September 15. Only low-amplitude irregular variations were present

Table 1: Nightly averaged magnitudes of IZ And

start ^a	end ^a	mean mag ^b	error ^c	N ^d
50342.182	50342.297	3.509	0.010	145
50343.127	50343.128	3.835	0.016	3
50344.102	50344.104	4.312	0.112	3

^a BJD – 2400000^b Magnitude relative to GSC 2807.1784^c Standard error of nightly average^d Number of frames

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