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PHOTOGRAPHIC OBSERVATIONS OF V651 Mon

The central star of NGC 2346 was observed from October, 1982 until the end of last observing season, 1986, during which 270 photographs were taken with 25cm camera of 120cm focal length and Tri-X emulsion. A yellow-green filter was used to get the brightness very close to visual magnitude.

All the measurements are shown in Figure 1 in smaller scale, and the drastic change of the star in four observational periods is shown in Figure 2, obtaining mean light curves in appropriate periods, usually one or two months. In Figure 2, the first light curve by L. Kohoutek (1982) is shown as curve 1. The others are all from the results of the writer. The values fainter than about $14^m.5$ are not reliable because of interference by the faint nebulosity. There would be much possibility that the real brightness is more or less below $15^m.0$, as was pointed out by Kohoutek (1983).

Since February, 1986, the brightness variation seems to be ceased and stays at maximum brightness having not more than $0^m.1$ amplitude. This suggests the end of the drastic change in last five years.

I determined the time of some maxima which had enough observations around them. The observations by L. Kohoutek, (1982, 1983) R.H. Mendes et al. (1985), B.F. Marino and H.O. Williams, (1983, 1984) were also used. The mean period in these years is obtained as follows.

$$\text{Max.} = \text{J.D. } 2445001 + 16^d.089\text{E}$$

The O-C values are shown in Figure 3. It seems to have cyclic change of roughly four year period. However, this would not be regarded as the O-C changes in normal eclipsing binaries, considering the nature of the obscuring cloud of this system. This change might have caused by irregular movement of dark cloud, or by uneven distribution of the cloud surrounding the system.

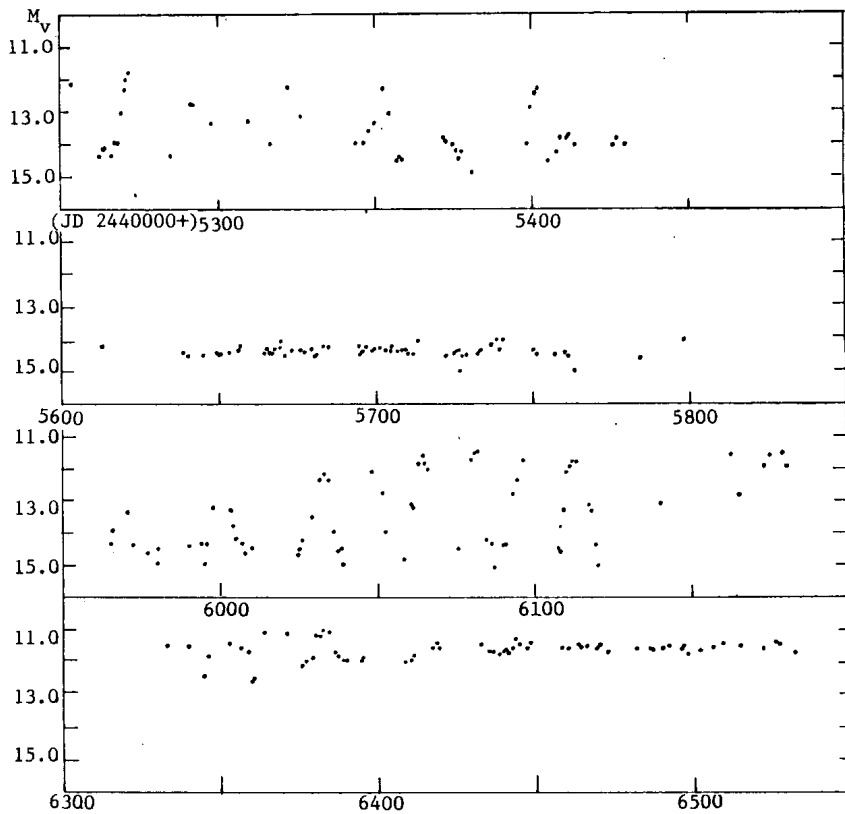


Figure 1

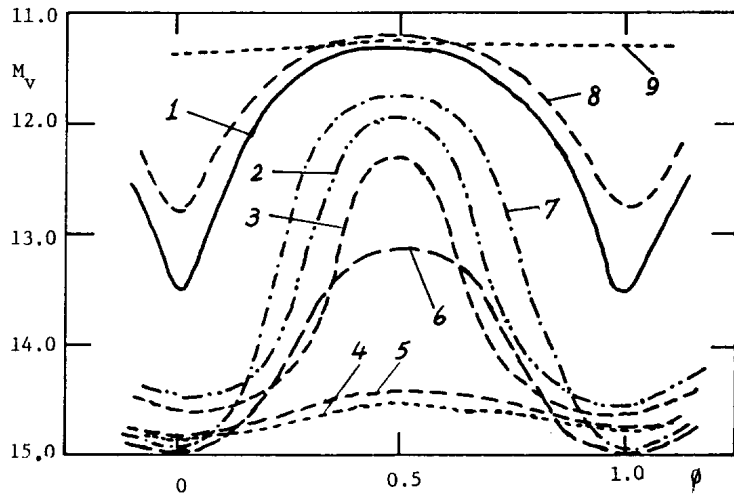


Figure 2. Mean light curves in appropriate periods

Curve No.	Period	Curve No.	Period
1 (kohoutek)	1982 Feb	6	1984 Oct
2	82 Oct-Nov	7	85 Jan-Feb
3	83 Jan-Feb	8	85 Oct-Nov
4	83 Nov-Dec	9	86 Feb-Mar
5	84 Jan-Feb		

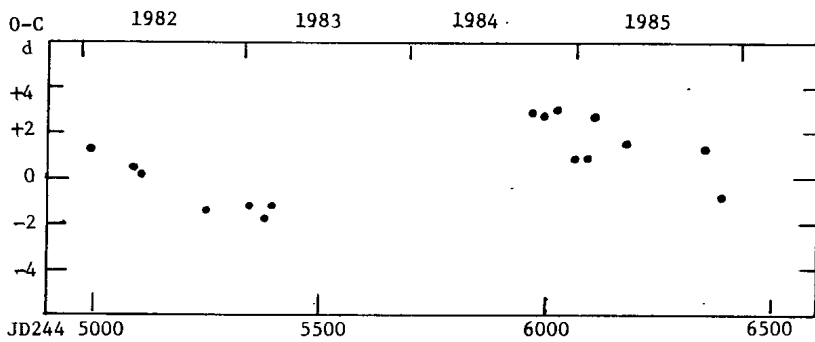


Figure 3. O-C values

The detailed report will be published elsewhere.

MASAAKI HURUHATA

Hodozawa 88
Gotemba-shi
412 Japan

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