

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

Number 2496

Konkoly Observatory
Budapest
23 March 1984
HU ISSN 0374-0676

AN UV ACTIVE PHENOMENON OF EPSILON AURIGAE

We have continuously observed Epsilon Aurigae by three colour (U,B and V) photometry with a 20 cm reflecting telescope at Fukushima University. The results obtained at the ingress phase have already been reported in I.B.V.S. No. 2371 and "Epsilon Aurigae Campaign Newsletter", No. 9.

Continuing these reports we show our results in Figure 1 obtained till the

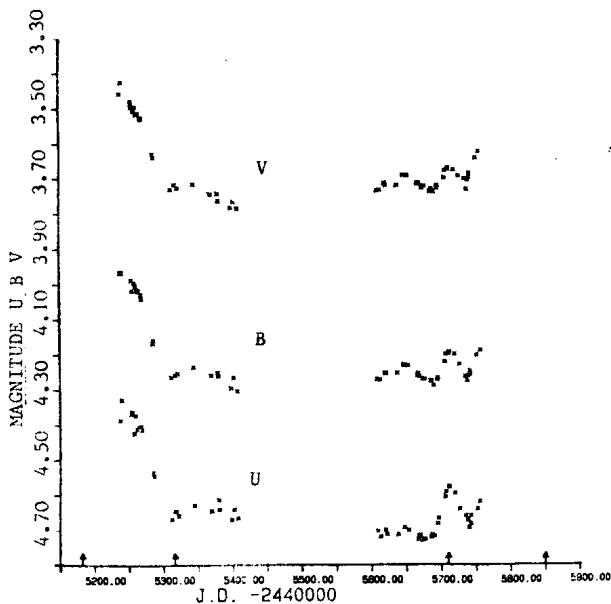


Figure 1

Light curve of ϵ Aur in U,B and V magnitudes. The small arrows along the abscissa represent the predicted dates of 1st, 2nd, 3rd and 4th contacts, respectively, by Gyldenkerne. Note the anomalous brightening near the 3rd contact.

period of the third contact. It is pointed out readily that the anomalous brightening occurred near the end of the totality. It continued for about 40

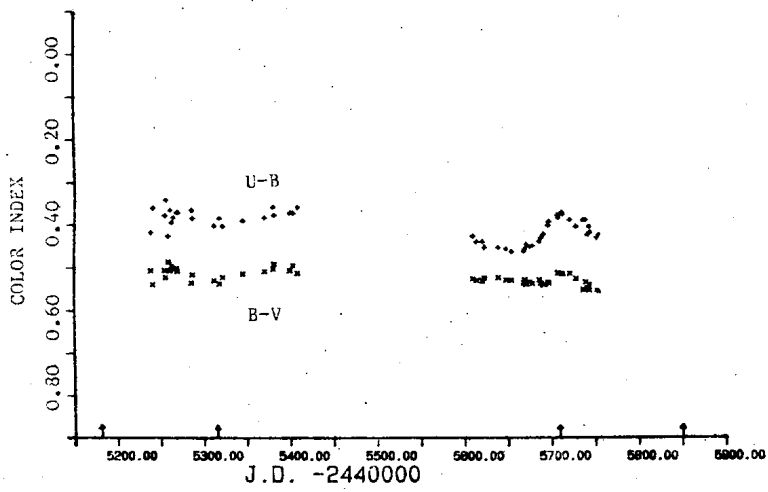


Figure 2

Colour variation at the same period as Figure 1. The colours are almost constant within the measured period except the anomalous brightening phase.

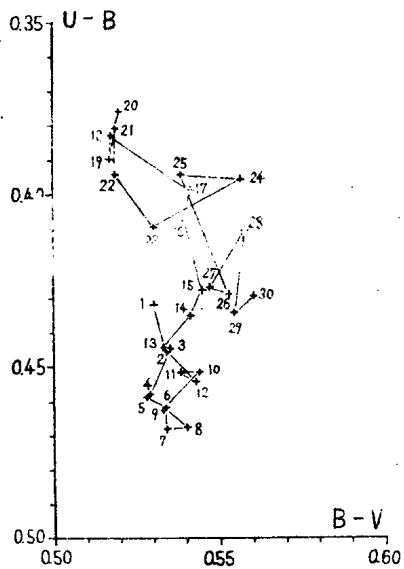


Figure 3

The two-colour diagram of the star after J.D. 2445600. The points are numbered successively and connected by thin lines.

days (J.D. 2445700 - 5740), and its peak coincides with the time of the third contact (J.D. 2445709) predicted by Gyldenkerne (1970). Although the brightening appeared in all colours, it was conspicuous in ultraviolet region. As already known the colour variation of the star is small, but during the period of this brightening it varies appreciably, especially in U-B. The colour change is illustrated in Figure 2. The two-colour diagram around this variation is shown in Figure 3.

The meaning of this phenomenon cannot be clarified from the photometric data only, so the spectroscopic observations around its epoch are highly desirable.

TOSIO OKI, IKUO SEKIYA and KATSUNORI HIRAYAMA

Department of Earth Science
Fukushima University
2, Sugumichi Asakawa, Matsukawa-Machi
Fukushima, Japan 960-12

Reference:

Gyldenkerne, K., 1970., *Vistas in Astronomy*, 12, 199