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# UBV PHOTOMETRY OF EPSILON AURIGAE OUTSIDE ECLIPSE

We made photoelectric photometry of Epsilon Aurigae on ten nights in March and April 1986 with the 50-cm reflector of Hyogo University of Teacher Education. Observations were carried out with UBV filters and an uncooled 1P21 photomultiplier tube. Every night we observed about ten standard stars from Arizona-Tonantzintla Catalogue (Iriarte et al., 1965) to determine the atmospheric extinction coefficients. One night during the observing period twenty standard stars were observed and the transformation coefficients for converting the instrumental system to the Johnson's system were estimated to be $\varepsilon = 0.0026$, $\mu = 0.918$ and $\phi = 1.015$, where the notations are the same as those

TABLE I

MAGNITUDES AND COLORS OF $\varepsilon$ AURIGAE

| Date (1986) | JD(Hel) -2440000 | V | B | U | B-V | U-B |
|---|---|---|---|---|---|---|
| Mar. 4 | 6494.098 | 2.94 | 3.50 | 3.97 | 0.56 | 0.47 |
| Mar. 5 | 6494.957 | 2.93 | 3.49 | 3.98 | 0.56 | 0.49 |
| Mar. 7 | 6497.019 | 2.95 | 3.51 | 3.97 | 0.56 | 0.46 |
| Mar.17 | 6507.030 | 2.95 | 3.53 | 3.94 | 0.58 | 0.41 |
| Mar.24 | 6514.029 | 2.94 | 3.48 | 3.95 | 0.54 | 0.47 |
| Apr. 2 | 6523.014 | 2.95 | 3.51 | 3.93 | 0.56 | 0.42 |
| Apr. 6 | 6526.996 | 2.97 | 3.52 | 3.97 | 0.55 | 0.45 |
| Apr. 7 | 6527.978 | 3.00 | 3.56 | 3.98 | 0.56 | 0.42 |
| Apr.23 | 6544.000 | 3.08 | 3.67 | 4.07 | 0.59 | 0.40 |
| Apr.29 | 6549.964 | 3.21 | 3.69 | 4.14 | 0.48 | 0.45 |

of Henden and Kaitchuck (1982). We used η Aur and λ Aur as comparison stars. The results are listed in Table I. From March 4 to April 2, 1986, the brightness of ε Aur was approximately constant. After that, the star darkened by $\Delta V = 0.27$ mag in about a month.

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References:

Henden, A. A., and Kaitchuck, R. H. 1982, Astronomical Photometry (Van Nostrand Reinhold Co., New York), p. 37.

Iriarte, B., Johnson, H. L., Mitchell, R. I., and Wisniewski, W. K. 1965, Sky and Telescope, 30, 25.