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EPSILON AURIGAE

The eclipsing variable  $\epsilon$  Aurigae (period 27.06 years) began fading from its normal magnitude ( $V=2.99$ ) in August 1982, reached its minimum in December 1982 ( $V \approx 3.8$ ) and it will reach its former brightness from mid-December 1983 through June 1984.

This supergiant star (A8 Ia), at maximum, has its  $H_{\alpha}$ -line contaminated by two strong emissions. However, the outcome equivalent width is only  $-0.04 \text{ \AA}$  (Mendoza and Johnson, 1979). Yet, this faint equivalent width is very easily detected with the  $H_{\alpha}$ -index, measured in the  $\alpha(16)\Lambda(9)$  photometric system (cf. Mendoza et al., 1983).

We have secured data for  $\epsilon$  Aur in the  $\alpha(16)\Lambda(9)$  photometric system with the Tonantzintla 1.0-m telescope (1977), and with the San Pedro Mártir 2.1 m telescope (1982 and 1983). The results are given in Table I,

TABLE I

NARROW BAND PHOTOMETRY OF $\epsilon$ AUR (in magnitudes)		
$\alpha(16)$	$\Lambda(9)$	Date (U.T.)
0.911	0.542	Jan 3,5,7,29; 1977*
0.964	0.546	Sep 13 (11:47); 1982
0.952	0.546	Sep 14 (12:10); 1982
0.964	0.545	Sep 15 (11:15); 1982
1.058	0.562	Nov 6 (11:54); 1983
1.059	0.560	Nov 14 (09:53); 1983
* $\sigma(\alpha, \Lambda) = \pm 0.002$ mag.		

The  $\alpha(16)$ -index clearly indicates that the  $H_{\alpha}$ -line of  $\epsilon$  Aur at minimum is less contaminated by emission. In particular, this index yielded an equivalent width,  $W(H_{\alpha}) \approx 0$  in September 1982, and  $W(H_{\alpha}) \geq 2\text{\AA}$  in November 1983 (see Table I and *loc. cit.*). The  $\Lambda(9)$ -index shows that  $\epsilon$  Aur remains with its extended atmosphere at maximum and at minimum light (as indicated by the strength of its OI-7774  $\text{\AA}$  line). Most likely, its luminosity was slightly higher in November 1983 (see Table I).

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