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SPECTROSCOPIC MEASUREMENTS OF THE YELLOW SUPERGIANT CO Aur

CO Aur is a moderately bright ( $7^m.5$ - $8^m$ ) SRd or RV Tau star with a spectral type of F5Ib, as classified by Preston (Smak, 1964). Photometry has been published by Kurochkin (1950), Smak (1964), and Dawson (1979).

Since radial velocity observations of this kind of objects are rare, this brighter object has been selected and observed spectroscopically in March and April, 1976. Eight spectra have been taken with the Cassegrain spectrograph at the 106 cm telescope of Hoher List Observatory. The dispersion was 47Å/mm with a spectral range from 3800 to 4800Å. The results of the spectra are summarized in Table I.

Table I

JD	RV (km/s)	weight	Ca II emissions
2442867.35	-25.2	7	weak
2442869.35	-25.3	11	weak or absent
2442874.35	-28.3	12	weak or absent
2442877.35	-30.2	10	strong
2442879.40	-24.5	7	?
2442886.40	-27.0	5	?
2442890.40	-25.4	5	?
2442891.40	-27.8	7	weak or absent

The mean error of the radial velocity determinations is 1.5 to 2.0 km/s. They are based exclusively on Fe lines. The radial velocity zero point has not been calibrated during the observations, but earlier and later measurements showed systematical displacements of the zero point of less than 1 km/s.

The amplitude of the variations is not improbable for stars of this type (cf. DuPuy, 1973). The photometric measurements by Smak show eight maxima within 120 days, so there was on the average one maximum in 15 days. Within the 25 days of these

spectroscopic observations also two cycles are indicated. CaII emission is present in the spectra of CO Aur, but it is usually weak. Only at the time of the most negative radial velocity measurement, an enhanced CaII emission has been observed.

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