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PHOTOMETRY OF FK COMAE

The 8th magnitude star FK Com (BD+24<sup>o</sup>2592) is the prototype of the small group of single, fast rotating giants of late spectral type. It was first observed photometrically by Chugainov (1976) and later investigated by Ruciński (1981). In this paper we present new observations of FK Com, obtained during 12 nights in May and June 1982.

The observations of FK Com were made using a single channel photometer with the 60 cm Cassegrain telescope at Ostrowik station of Warsaw University Observatory, equipped with an uncooled EMI 6256 A photomultiplier. The variable was monitored through the B and V filters. BD +24<sup>o</sup>2593 with magnitudes  $V = 7.621$  and  $B - V = 0.427$  (Ruciński, 1981) served as the comparison star and BD +25<sup>o</sup>2643 with  $V = 6.091$  and  $B - V = 0.959$  (Rucinski, 1981) as the supplementary comparison. The absolute photometry of the comparison star was not done, but the stability of BD +24<sup>o</sup>2593 relative to BD +25<sup>o</sup>2643 was better than 0.01 mag during the period of the observations.

Table I lists all our data. The first and second columns give heliocentric julian day and phase, two next columns - differences  $\Delta V$  and  $\Delta(B-V)$  in the sense variable minus comparison. The values in third and fourth columns are the mean values of several readings in interval less than 0.05 of the period. The accuracy of each averaged observation is about 0.010 and 0.015 in B-V and V, respectively.

Figure 1 shows the V and B-V light curves constructed using data from Table I and the ephemeris given by Chugainov (1976):

$$JD_{\odot} = 2442192.345 + 2^d.400E$$

The V light curve obtained by us is quite similar to that of Ruciński (1981): maximum light in phase 0.4 - 0.5 and steeper declining branch than the rising one characterize this light

Table I  
The observations of FK Com

Hel. J.D. 2440000 +	Phase	$\Delta V$	$\Delta(B-V)$
5116.454	0.379	0.541	0.363
5117.440	0.790	0.616	0.390
5119.423	0.616	0.560	0.377
5119.503	0.649	0.576	0.385
5120.428	0.035	0.626	0.394
5121.446	0.459	0.540	0.365
5122.437	0.872	0.627	0.387
5123.382	0.265	0.573	0.384
5123.478	0.305	0.557	0.371
5124.447	0.709	0.590	0.388
5125.410	0.110	0.609	-
5126.421	0.532	0.525	0.367
5137.433	0.120	0.613	0.378
5139.427	0.951	0.633	0.386

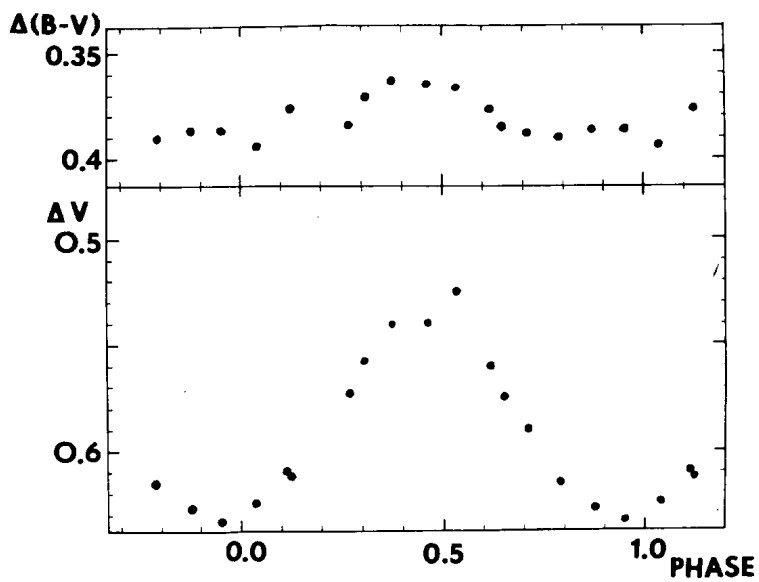


Figure 1

curve. The phase of the maximum light would suggest that the region of the star responsible for optical light variations (dark or bright spot) did not move on the stellar surface during the period 1974 (Chugainov's observations) - 1982. It should be also noted that the B-V colour indicates that the star is redder at minimum light than during maximum.

EWA BOHUSZ

ANDRZEJ UDALSKI

Warsaw University Observatory  
Al. Ujazdowskie 4  
00-478 Warszawa, Poland

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