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THE SPECTRUM OF BC DRACONIS

BC Draconis = Bamberg Variable No.222, found by Strohmeier (Kl.Ver.Bamberg, No.23.,1958) and identified as a cepheid with $P = 2.566033$ days by Strohmeier and Knigge (Veröff.Bamberg No.5, No. 11, p.5,1961), has been reported to have a late B spectral type (Götz and Wenzel, Mitt.Ver.St.,2,85,1964). Its galactic latitude is $+28.5$.

In an effort to resolve the apparent discrepancy between the spectral type and variable class the star was observed with the 36-inch Cassegrain grating spectrograph and Westinghouse image tube. A spectrogram at 100 Å/mm was obtained on each of three nights; October 23, 24 and 27, 1973. The epoch of maximum and the period given by Strohmeier and Knigge indicate that the observations were made at phases .178, .550, and .731 respectively. The low resolution of the spectrograms does not permit a luminosity classification but all three show the temperature class of the star to be about F5, consistent with the cepheid interpretation of the light curve.

For $\log P = 0.4$ the period-luminosity relation for classical cepheids (Allén, Astrophys.Quantities,2nd.ed.,p.210,1963) gives $M_B = -2.2$. The photographic interstellar extinction in the region of BC Draconis is approximately 1.1 magnitudes (Shane and Wirtanen, Pub.Lick Obs.,22,part 1,1967). Therefore, from its mean apparent photographic magnitude of 11.7 the star is found to be at a distance of 3630 pc and 1730 pc above the galactic plane. From the period-luminosity relation for W Virginis stars ($M_B = -0.9$) the corresponding distances are 2000 pc and 950 pc. It appears that the star is a Population II cepheid although this has not been confirmed spectroscopically.

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