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UBV PHOTOMETRY OF DN CASSIOPEIAE

Hoffmeister (1947) first described the system as Algol type and assigned it a period of 1.55479 days. Hiltner (1956) has classified the spectrum as 08V. The last study of the system known to us was by Frazier and Hall (1974) whose comparison star was found to be variable thereby compromising the usefulness of the light curve.

Observations were made on 9 nights during the fall of 1979 with the 40 cm reflector at the Rothney Astrophysical Observatory. An RCA 1P21 photomultiplier tube cooled to -75°C was used with standard UBV filters. The comparison and check stars were chosen to be BD $60^{\circ}467$ and BD $60^{\circ}471$ respectively. The mean square errors of the mean differential magnitudes in V, B, and U were ± 0.010 , ± 0.005 , and ± 0.007 magnitudes respectively.

In the light curves (Figures 1-3) curvature of the maxima is apparent, indicative of a β Lyrae type light curve. Study of primary minimum revealed that $0-C = +0.0056$ at JD 2444191.765.

Of particular interest is the asymmetry in the maxima apparent in the B light curve (figure 2). The secondary eclipse also appears to be asymmetric in all three wavelengths.

The color curves generally reveal little change from the minima suggesting that both components are of approximately equal temperature.

Further photometric and spectroscopic observations are being carried out at RAO and a more complete study will appear elsewhere.

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3. Hoffmeister, C. 1947, Veröff. Sternw. Sonneberg 1, 81.

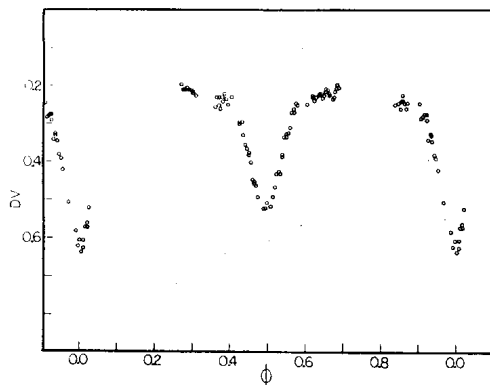


Figure 1. V light curve.

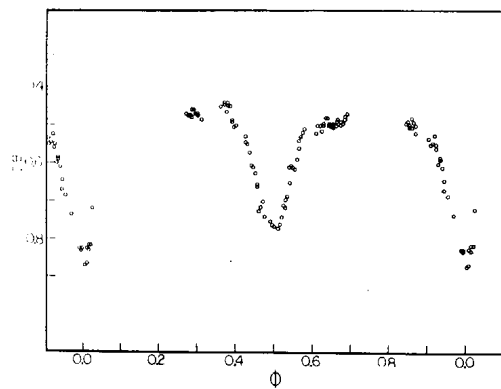


Figure 2. B light curve.

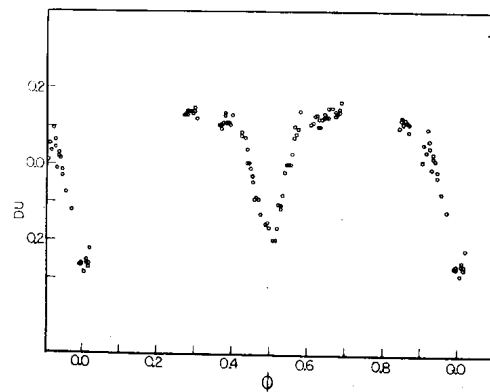


Figure 3. U light curve.