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THE ABSOLUTE MAGNITUDE OF THE FLARE STAR
AZ CANCRI (LHS2034).

AZ Cancri (LP425-140, LHS2034, G1316.1, Y2067.01), listed as a flare star by Haro and Chavira (1966), was discussed as a possible very low luminosity M dwarf by Bidelman and Hoffleit (1983). On the basis of a trigonometric parallax (0"139) determined by Luyten (1965) from 21 Palomar Schmidt plates, the estimated M would make the star one of the intrinsically faintest known. We report three kinds of new observational data which provide a much more accurate absolute magnitude estimate for this star.

First, a preliminary U.S. Naval Observatory trigonometric parallax of 0.0608 + 0.067 (m.e.) is in conflict with the earlier value. Secondly, a single photometric measurement with the USNO 1.5 meter reflector gives V = 17.68, B-V = 2.02, V-I = 4.34 with I on the Kron-Mayall system. These yield an absolute visual magnitude $M_v = 16.60 \pm 0.24$, and suggest that the star may be about 0.5 magnitude above the mean $M_{_{\mathrm{U}}}$, V-I main sequence for old disk stars (Pesch and Dahn 1982). Finally, two excellent red CCD spectra obtained with the KPNO Mayall 4 meter telescope and cryogenic camera in 1984 permit the object to be classified as M6.5Ve, in agreement with the parallax and colors. Spectra and VRI colors reported in Hartwick et al. (1984) are consistent with the above conclusions. Strong hydrogen line emission was present in our CCD spectra. The estimated tangential velocity is 71 km/s. The above results are consistent with the star being either (1) a young object approaching the main sequence, or (2) an unresolved double, where the contributions to the visual light of both components account for the M. value being overluminous and possibly for the vigorous flaring activity.

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