

SPECTROSCOPIC AND PHOTOMETRIC OBSERVATIONS OF THE SOUTHERN,
INTERMEDIATE-AGE CLUSTERS NGC 2477 AND NGC 2660

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47 A mm^{-1} image-tube spectra show that the turnoff region and blue straggler stars in NGC 2477 are not, in general, rapid rotators, as postulated by Hartwick and Hesser (1974) to explain, via mixing induced by meridional circulation, the widely differing photometric metallicity estimates based upon $uvby\beta$ photometry of the main-sequence stars and *DDO* photometry of the giant stars. However, the discrepant metallicity estimates are largely reconciled by recent revisions in the reddening corrections for the *DDO* system (Boyle 1979, Janes 1979); and by small color corrections of the type described by Muzzio (1978) and Schmidt and Taylor (1979) applied to the β -photometry. The mean radial velocity is found to be 5.6 km s^{-1} while the mean V_{sini} is 105 km s^{-1} . Star "m" is spectroscopically confirmed to be an Am star.

DDO photometry of the giants in NGC 2660 [see Hartwick and Hesser (1973), for the color-magnitude diagram] yields an $E(B-V)$ in accord with earlier studies, and a $\langle\delta(\text{CN})\rangle\sim 0$. Since this intermediate-age cluster does not have high CN strengths, we conclude that meridional circulation leading to enhanced CN via mixing is not a universal phenomenon in this mass range (cf. discussion by Demarque and McClure 1973).

* Based on observations obtained at Cerro Tololo Inter-American Observatory, which is operated by the U.S. National Science Foundation.

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