

THE STELLAR CONTENT OF THE NUCLEI OF SPIRAL GALAXIES

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Widened, image-tube spectra at a dispersion of 120 \AA mm^{-1} were obtained of the nuclei of 36 spiral (Shapley-Ames) galaxies. Spectral features in the region $\lambda\lambda 3800 - 4300 \text{ \AA}$ were used to assign a spectral index to each galaxy and to estimate the luminosity classes of the stars contributing the majority of the light at these wavelengths. Bulge magnitudes were either estimated or determined from published aperture photometry, and converted to absolute magnitudes, M_N , assuming $H = 100 \text{ km s}^{-1} \text{ kpc}^{-1}$. A correlation was found between the spectral index and M_N such that the luminosities of galaxies can be estimated to an accuracy of $\sim 1 \text{ mag}$.

The nuclei of late type spirals have spectra which resemble those of A and F stars, and it has been assumed that this indicated that these nuclei contain younger stars than those of early type spirals and elliptical galaxies. However, inspection of the luminosity sensitive features in the spectra indicate a preponderance of giant stars, and since A giants are relatively rare, it is probable that these blue stars are metal poor horizontal branch stars which are spectroscopically similar in appearance. The spectral index variation is thus due to metal abundance rather than age.

Complete details are to be published in the *Astrophysical Journal* by McClure, Cowley, and Crampton (1979).