

FUNDAMENTAL TEMPERATURES AND SURFACE GRAVITIES FOR HB STARS
IN THE FIELD AND IN GLOBULAR CLUSTERS

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Scans have been made of ten BHB stars in the globular clusters M92, M13 and M5 and of eight stars in 1 HLF 2 with the multi-channel spectrometer on the Hale 5 meter telescope during July 1979. Twenty-four additional stars are being scanned at CTIO and KPNO using the Harvard scanner. Four-color observations were made of most of the BHB stars on the Steward Observatory 90" telescope and these measures indicated that there were stars, at the same (b-y) color on the horizontal branch, with quite different values of the c_1 index. The scans confirm these results, showing that the shape of the intensity vs wavelength curve for $\lambda < 4210$ is related to the c_1 index. These features are illustrated in the two figures, where it can be seen that a c_1 value formed from the scans $[(u-v)-(v-b)]$ is greater for the star in Figure 1.

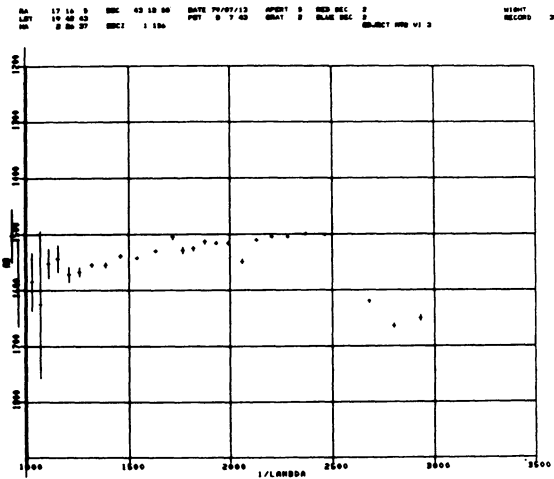


Figure 1. Scan of M92 VI 3, a high c_1 star.

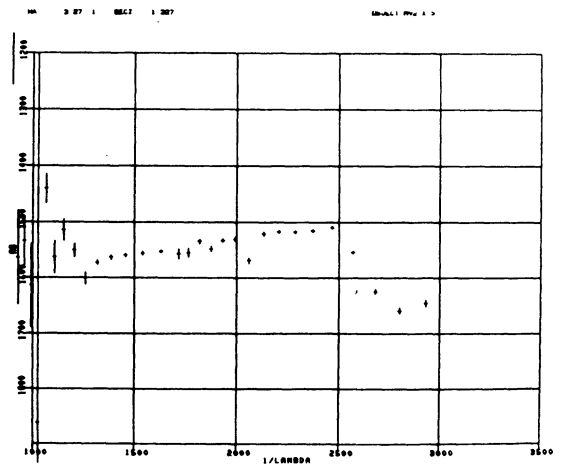


Figure 2. Scan of M92 X 5, a low c_1 star.

The scans will be matched to atmospheric models in order to derive values of effective temperature and $\log g$ for each star. The field HB stars are being set up as four-color and $H\beta$ standards. Once the photometric data and the derived atmospheric parameters are known the theoretical grids of Relyea and Kurucz (1978) can be calibrated empirically using the stellar observations. In the future accurate values of T_{eff} and $\log g$ can be derived from four-color photometry alone, greatly facilitating the study of the nature and evolution of early-type Population II stars.

REFERENCE

Relyea, L.J. and Kurucz, R.L.: 1978, *Ap. J. Suppl.* 37, 45.