

NARROW BAND PHOTOMETRY OF SUPERGIANT STARS*

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Abstract. At the National Astronomical Observatory in San Pedro Mártir, B. C. (Mexico), we have performed photoelectric photometry for 31 stars in a narrow-band system. The system allows the measurements of total absorptions of neutral oxygen at 7774 Å through three interference filters (20–25 Å half-width), one for the OI lines and two for the continuum.

The preliminary results are very encouraging: Supergiant stars, ranging in spectrum from the later subdivisions of type B to early G, can be clearly separated from other luminosity classes. The total absorptions depend strongly on the stellar luminosity and, to a lesser degree on the effective temperature (spectral type) of the star. The system may be improved by using narrower filters and detectors with a higher quantum efficiency, already in existence.

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