

THE DISTANCE AND REDDENING OF THE OPEN CLUSTER  
NGC7790 AND THE LUMINOSITY OF ITS THREE CEPHEIDS.

J.M. Alcalá and A. Arellano Ferro

Instituto de Astronomía, UNAM

**ABSTRACT.** Photoelectric UBVRI (Kron-Cousins) photometry is reported for thirty stars in the field of the galactic cluster NGC7790. The photometry was obtained with a pulse counting photometer coupled with the 1.5 m telescope at San Pedro Mártir Observatory of National University of Mexico.

An analysis of the color-color and color-magnitude diagrams permitted the identification of some peculiar stars that may not be members of the cluster. By computing the  $Q$ -parameter for each cluster member, an average reddening was estimated to be  $E(B-V)=0.62\pm0.08$ . No evidence of differential reddening was found. The Main Sequence fitting method was employed to estimate the true distance modulus  $(V-M_V)_0 = 12.40\pm0.30$ .

The adopted Main Sequence was that of Pedreros (1984, Ph. D. Thesis University of Toronto). Our results are in good agreement with those of Pedreros et al. (1984, Ap. J., 286, 563).

The absolute magnitudes of the cluster member cepheids CE CAS, CE CASa, CE CASb have been determined from the obtained color excess and the true distance modulus. Our results are:

Cepheid	$M_V$
CE CASa	-3.43
CE CASb	-3.36
CE CAS	-3.23

These values of the absolute magnitudes are reproduced by the period-luminosity and period-luminosity-color relationships of Schmidt (1984, Ap. J. 285, 501) within 0.1 magnitudes.

Details and further discussion will be published as a paper elsewhere.

*Key words:* CLUSTERS-OPEN -- DISTANCES -- STARS-CEPHEID