

FAR-UV PHOTOMETRY OF MAGELLANIC CLOUD GLOBULAR CLUSTERS

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The International Ultraviolet Explorer (IUE) has been used by me since January 1979 to observe globular clusters in the LMC, under various IUE programs in collaboration with Art Code. A first report was presented at the NASA 2nd IUE conference in 1980 (de Boer 1981a). A comparison of the UV colors for 11 MC clusters with the colors of galactic globular clusters was presented during IAU Colloquium 68 (de Boer 1981b), in a review which accumulates also all references to literature on far-UV photometry of galactic globular clusters. Using the VILSPA data base Cacciari et al (1982) repeated the comparison. The spectra of three clusters with good signal were presented by Code (1982). Data for a few other clusters were reported by Cacciari and Fusi-Pecchi (1981) and by Cassatella and Geyer (1982; and this symposium).

Spectra of the redder clusters are extremely weak, in part due to the limited extent of the IUE aperture (see de Boer 1981b), and in spite of hours long integration times. Special extraction methods, working on the original image, are needed to address the noise problem properly (de Boer et al 1981), to get the best spectral resolution from these wide spectra (de Boer et al 1982), and to solve for spatial structure (de Boer et al 1981; Cacciari in this symposium).

Various spectral features can be seen in the spectra of the MC clusters. The resonance lines in part are of interstellar origin (see for average Magellanic Cloud interstellar line strengths de Boer and Savage 1980); the MgII blend at 2800Å surely is interstellar in the spectra of the bluest (hottest-youngest) clusters, but becomes gradually dominated by stellar absorption when going to spectra of the reddest clusters. The bluest clusters show easily recognizable stellar lines at the shortest wavelength range (SiIII, CIV, etc) while towards the redder clusters lower ionization stages become noticeable, but for those the spectra unfortunately but not unexpectedly have much smaller S/N.

Full details of the spectral analysis will be reported elsewhere.

References

- Cacciari, C., Fusi-Pecci, F. 1981, in "Astrophysical Parameters for Globular Clusters", IAU Coll.68, p 217, Ed A.G.D. Philip and D.S. Hayes, Davis Press, Schenectady NY
- Cacciari, C. et 9 altera. 1982, in "Third European IUE Conference", ESA SP-176, p 519
- Cassatella, A., Geyer, G.H. 1982, in "Third European IUE Conference", ESA SP-176, p 523
- Code, A.D. 1982, COSPAR XVIII, in press
- de Boer, K.S. 1981a, in "The Universe at Ultraviolet Wavelengths", NASA-CP 2171, p 527, Ed R.D. Chapman
- de Boer, K.S. 1981b, in "Astrophysical Parameters for Globular Clusters", IAU Coll. 68, p 3, Ed A.G.D. Philip and D.S. Hayes, Davis Press, Schenectady NY
- de Boer, K.S., Koornneef, J., Meade, M.R. 1981, in "The Universe at Ultraviolet Wavelengths", NASA-CP 2171, p 771, Ed R.D. Chapman
- de Boer, K.S., Preussner, P.-R., Grewing, M. 1982, A. Ap. 115, p 128
- de Boer, K.S., Savage, B.D. 1980, Ap. J. 238, p 86