MEASURING THE ANGULAR CORRELATION FUNCTION FOR FAINT GALAXIES AT HIGH GALACTIC LATITUDES

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The angular correlation function ($\omega(\theta)$) for faint, magnitude-limited samples is an important test of large scale structure formation scenarios, as well as being a valuable probe of galaxy evolution. By measuring $\omega(\theta)$ one hopes to better understand the mechanism or galaxy species responsible for the number counts excess (relative to "no-evolution" models of galaxies) typically observed at blue wavelengths. Images of three 'blank' fields were obtained at the prime focus of the CFHT with sub-arcsecond seeing in V, R and I, to magnitude limits of 25, 24.5 and 24, respectively. The angular correlation functions calculated for one field, NF1, in V is shown in Figure 1. Clearly the amplitude of $\omega(\theta)$ is decreasing at fainter magnitude limits. Note the number of objects detected are not sufficient to accurately measure $\omega(\theta)$ for an individual field, in a given colour, to significantly small angular separations. In order to do this we must combine the data from our three fields and perform a multi-field fit. A full summary of this analysis will be presented in Woods *et al.* (1995, in prep.) including determinations of $\omega(\theta)$ using galaxy samples culled from all our fields and selected by magnitude, colour and surface brightness.

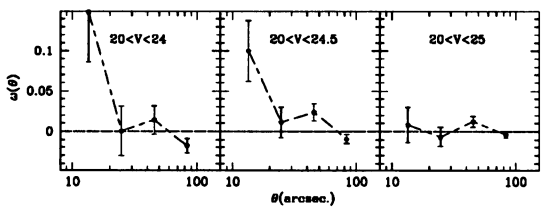

Figure 1. Angular correlation functions calculated for listed magnitude limits for NF1.

https://doi.org/10.1017/S0074180900233883 Published online by Cambridge University Press