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USING EXTRAGALACTIC DATABASES TO MAP AND ANALYSE THE LARGE VOIDS IN THE SPATIAL DISTRIBUTION OF GALAXY CLUSTERS

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Abstract. Combined data, extracted from extragalactic databases and redshift compilations, have been used to map and analyse the large voids in the spatial distribution of galaxy clusters in the Northern Galactic Hemisphere to a limiting distance of 400 h-1 Mpc. The voids are identified by the help of an automated procedure as systems of intersecting empty spheres. Void catalogues corresponding to tracers of the large-scale structure of different richness (rich and poor clusters, groups, galaxies) have been generated and used to derive estimates of the mean void characteristics - dimension, volume and sphericity. The constructed radial density profiles of the voids of rich clusters confirm the presence of a void hierarchy.