

**The statistical properties of the very weak radio source population in
the GOODS/ACS HDF-N region**

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Abstract

We present a statistical investigation into the properties of the very weak radio source population in a field 8.5 arcminutes square centred on the Hubble Deep Field North. The radio observations were made with MERLIN and the VLA and represent one of the most sensitive high-resolution radio images ever made at 1.4 GHz. This field overlays a region of the GOOD/ACS survey field and encloses in excess of 13000 optically identified galaxies. Muxlow et al (2005) have previously studied the individual radio source population in this field to a limiting flux density of 40 microJy. This new study extends the investigation to significantly weaker radio sources with flux densities down to a few microJy.