

Radio-Optical Analysis of Extended Radio Sources in the First Look Survey Field

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We combine 610 MHz GMRT data, 1.4 GHz VLA data, and 1.4 GHz WSRT observations, encompassing a ~ 4 square degree field centered on the verification strip of the *Spitzer* First Look Survey field, to study radio sources down to fluxes of about 0.1 mJy. The spectral index (Figure 1) analysis shows that the majority of multi-component sources are steep-spectrum sources. Nevertheless the spread in the spectral distribution is wide, with a significant number of ultra-steep, flat or inverted sources, possibly indicating a wider range of accretion modes in fainter samples. By cross-correlating 107 multi-component radio sources with the optical catalogues of Marleau *et al.* (2007) and Papovich *et al.* (2006), 23 objects were identified. The measured redshifts span the range $0 < z < 1.8$ and peak at $z \sim 0.2$. According to their radio power, six of the identified objects are in the range of FR II sources while 17 are in the range of FR I sources. Further optical follow-up will allow a more complete census of the sub-mJy population and more information on AGN feedback from such sources.

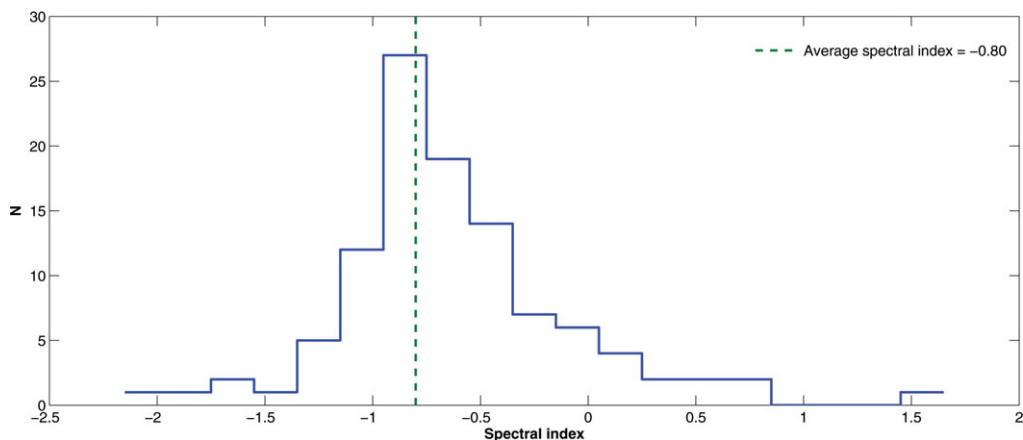


Figure 1. Spectral index distribution. The vertical dashed line indicates the average spectral index value of the sample.

References

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