RZF SURVEY

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The completed second version of the RZF catalog at 7.6 cm wavelength is presented. A reality of faint and new objects of the catalog is evaluated. Radio spectra of NVSS objects are plotted and a new distribution of spectral indices is found.

New information about a contribution of background of the faint radio sources with inverted spectrum and about a "sub-mJy" population of the background radio sources in the cm range is found. It is shown that an average spectral index of radio sources at the mJy level is flatter, a percentage of classical radio galaxies FRII type drops, but the population of objects with inversion spectra is negligible.

Candidates of the most distant radio galaxies ($z > 4 - 5$) catalog are selected by colors from the SDSS counterparts.

A decrease of white noise of radiometers is achieved by a large integration time at pixel that is below the level of WMAP experiment.

The synchrotron component of the foreground Galaxy emission with high accuracy at earlier unstudied angular scales was removed.