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The radio properties of FR0 radio galaxies

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There is compelling observational evidence that an emerging group of compact radio galaxies, which lack of extended radio emission, dominate in number the radio-loud AGN population in the local Universe. We call these sources 'FR0' in opposition to the other Fanaroff-Riley classes to emphasize their lack of prominent extended radio emission. They are compact on a scale of < 5 kpc, within the host galaxy. Their host and nuclear properties are indistinguishable from the FRI radio galaxies, but more abundant and with smaller jets than classical FRIs. I will present high and low-resolution observations down to low radio frequencies (from EVN, eMERLIN, VLA, LOFAR and GMRT) to reconstruct the radio spectral properties and then the history of this abundant population. Considering the whole properties of the FR0s, we speculate their possible origins (young radio sources or more exotic nature) and the possible cosmological scenarios they imply.

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