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Hosts and environments of radio-active AGN - 15'

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Investigations of the population of radio-active AGN up to z=3.5 not only show that these sources are hosted by galaxies of very large, M*>10^10.5 Msun, stellar masses, but also that at all redshifts they reside in very massive dark matter halos, comparable to those associated with groups-to-clusters of galaxies. This result is found both via clustering studies and by directly pinpointing such sources to the cosmological structures they belong to. We also show how intense star-forming activity is encountered in the overwhelming majority of z>1 (massive) galaxies hosts of radio-active AGN, and how this activity is only halted by nuclear feedbacks in the relatively local universe. What emerges from our work is a scenario whereby physical processes at sub-pc/pc (e.g. AGN emission) and kpc scales strongly influence the large-scale structure behavior of the AGN and its host. Within this context, wider and deeper radio surveys are strongly foreseen in order to beat the uncertainties associated to studies confined to small regions of the sky, so to provide the ultimate answer on how these sources evolve with cosmic epoch.

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