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Tullia Sbarrato: Jets from (cosmic) dawn to noon: how to find the hidden young jets

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Radio-loud Active Galactic Nuclei represent about one tenth of the known active supermassive black hole population. The most luminous among them are visible up to extremely high-redshift, thanks to their intrinsic bright and strongly beamed emission. They are generally considered 1:1 tracers of the jetted AGN population, but in the last years this identity revealed to be not always true. The two extremes of the jetted population in terms of power are in fact interestingly different than expected: both the lowest and the highest power relativistic jets can hide among radio-quiet AGN, under different conditions. Particularly at the highest redshifts, the occurrence of relativistic jets appears to be larger than in the local Universe, without affecting the radio-loud fraction. Radio-loudness as a tracer of jet presence can be faulty, and other approaches are needed at high redshift. We will explore this issue, and evaluate if other viable jet tracers can be considered.