Peering into the heart of darkness: Radio VLBI survey of the NEP deep field

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Abstract. Active Galactic Nuclei (AGN), accreting supermassive black holes at the centers of galaxies, are believed to produce powerful outflows – often observed as radio jets – which significantly influence the evolution of the surrounding galaxy and inter-galactic medium. However, how these jets – which are produced in the central parsecs of the AGN – impact gas on scales thousands to millions times larger is poorly understood. Doing so requires measuring the properties on all the relevant size scales. In this talk I will present initial results from the deepest-ever radio VLBI survey of an extragalactic field, whose milli-arcsecond angular resolution allows us to probe the central parsecs around these AGN. By comparing the radio properties of the detected radio jets with the multi-wavelength properties of their host galaxies, we are better to understand what galaxies generate powerful radio jets, and how do these outflows affect their host galaxies.

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