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The physical properties of candidate neutrino-emitter blazars

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High-energy neutrinos detected by the IceCube Observatory provide a unique opportunity to study the origin of cosmic rays and the nature of the sources producing them. Among the putative birthplaces of astrophysical high-energy neutrinos, blazar jets stand out due to their capability of accelerating particles and providing intense external radiation fields. Blazars are Active Galactic Nuclei (AGN), a class of luminous extra-galactic objects powered by a central supermassive black hole, with the jets pointing in the observer's line of sight.

In this contribution, we focus on a selected sample of 52 blazars that have been put forward as candidate IceCube neutrino counterparts (post-trial statistical significance 5σ). We use multi-wavelength data, both archival and proprietary, in the radio, optical, and γ-ray bands and characterize the sources' nature and their central engine's peculiarities. Properties such as redshift, black hole mass, accretion regime, radiation field, and jet power are crucial to investigate the properties of these blazars and the potential link with the acceleration of cosmic rays. We will present our findings, providing new insights into the intrinsic properties of these neutrino-emitter candidates, and interpreting our results in the context of the properties displayed by the general blazar population.

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