

UNVEILING GAMMA-RAY-EMITTING FR0 RADIO GALAXIES

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Fanaroff-Riley type 0 (FR0) radio galaxies are the latest entry in the jetted active galactic nuclei family. They are characterized by their compact radio morphology and similarities to host galaxy properties of FR I sources. We have recently identified, for the first time, seven gamma-ray emitting FR0s by leveraging the high-resolution radio and optical spectroscopic datasets provided by the ongoing wide-field sky surveys, e.g., the Very Large Array Sky Survey. The subsequent analysis of the multi-wavelength observations reveals the gamma rays to be produced by misaligned jets similar to more common FR I and II radio galaxies. While parsec-scale radio structures vary among FR0s, gamma-ray-detected ones often showcase dominant core emission with core-jet configurations. Further details of the findings will be presented.

Unified Astronomy Thesaurus concepts: Fanaroff-Riley radio galaxies (526); BL Lac-ertae objects (158); Relativistic jets (1390); Gamma-ray sources (633)