

Characterizing the multi-wavelength emission of FR 0 radio-galaxies with a leptohadronic model

Margot Boughelilba¹, Anita Reimer¹

¹ *Universität Innsbruck, Institut für Astro- und Teilchenphysik, Technikerstraße 25, 6020 Innsbruck, Austria*

margot.boughelilba@uibk.ac.at

Fanaroff-Riley (FR) 0 radio galaxies are a new class of radio galaxies. These sources are usually weaker but much more numerous than the well-established class of FR 1 and FR 2 galaxies. In particular, they are observationally very close to the FR 1 radio galaxies, with the exception of the lack of extended radio emission. We propose a leptohadronic jet model, focusing on the core emission region, with parameters close to equipartition, combined with an accretion flow model. This model was successfully used for the FR 1 galaxy M87 in order to explain its quiet core emission. This combined model is able to reproduce the multi-wavelength FR 0 data, both for the gamma-ray undetected sources, as well as the two sources recently associated with a Fermi-LAT detection.