Contribution ID: **25** Type: **not specified**

Radio-galaxies as Ultra-High Energy Cosmic Rays sources

Ultra-high energy cosmic rays (over 1 EeV) are astrophysical phenomena with no defined source. Near-Earth radio-galaxies (< 50Mpc distance), in particular Centaurus A, M87 and Fornax A, are considered to be one of the main group of ultra-high energy cosmic rays sources, according to data collected from the Pierre Auger Collaboration. Cosmic rays are deflected throughout the Universe, because of interactions with electromagnetic fields and/or other particles. In this work we study, in detail, radio-galaxies and describe the influence of their characteristics as plausible sources of cosmic rays using CRPropa3 software. We compare our results with data from the Pierre Auger Observatory to understand which mechanisms are involved in the acceleration of particles and the impact of interactions between particles from these sources on their propagation in the Universe.

Primary authors: OHTUKA, Augusto; Prof. DOS ANJOS, Rita de Cassia

Presenter: OHTUKA, Augusto