

High Energy emission sites and processes in Fermi-LAT Misaligned Active Galactic Nuclei (MAGNs) .

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In 8 years of monitoring, the Fermi-LAT has detected more than 40 radio galaxies, leading to the opportunity to investigate the high energy emission in a much better detail than the one achievable with blazars. A handful fo these sources have also been detected at TeV energies. Despite their intensive study the physical processes responsible for their high-energy emission still remain unclear.We performed here a multi-wavelength correlation study of the GeV detected radio galaxies to probe gamma-ray emitting sites and emission processes in these sources. We also assess the possibility of direct investigation of the Very High Energy (VHE) emission and of its connection to the production of high-energy particles, comparing models based on Fermi-LAT data with the performances of current and future ground Cherenkov telescope facilities.

For the sources in our sample, we tested the correlation between the observed radio and gamma-ray luminosity. We compared flux at the following three radio frequencies with gamma-ray fluxes: 230 GHz (1mm), 86 GHz (3mm), and 1.4 GHz. Figures illustrates the radio (at 1mm, 3mm and 1.4 GHz radio bands from left to right) versus gamma-ray flux-flux plots.



Gamma1.pdf



Gamma3.pdf



Gamma14ghz.pdf

we also tested the correlation between the observed x-ray and gamma-ray luminosity



X-ray_1.4.eps



X-ray_86.eps



X-ray_230.eps