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Jet contribution to the γ -ray Flux in NGC 1068

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NGC1068 is a Seyfert II starburst galaxy emitting in a very broad range of frequencies, from radio up until gamma-ray energies. Since the observed high-energy neutrinos and gamma-rays fluxes are different by at least 2 orders of magnitude, it becomes necessary to account for a multi-component model to describe the multimessenger emission by NGC1068. The neutrinos signal can be explained through hadronic processes in the corona of the AGN and the gamma-rays observed by Fermi-LAT can originate from the circumnuclear starburst ring.

In this presentation, the pc-to-kpc scale radio jet of NGC1068 is investigated in terms of its potential gamma-ray contribution via hadronic or leptonic processes. Moreover, the radio data provided by VLBA and ALMA observations at different distances from the central engine is taken into account. So, it can be clearly shown that it is very unlikely that these gamma-rays can be explained by this radio jet.

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