

# Modeling the non-flaring VHE emission from M87 as detected by the HAWC gamma ray observatory

*Tuesday, July 13, 2021 7:18 PM (12 minutes)*

M87 is a giant radio galaxy located in the Virgo Cluster, known to be a very high energy (VHE) gamma-ray source. As radio galaxies are considered the misaligned low-redshift counterparts of blazars, they are excellent laboratories for testing AGN emission models. M87 has been detected and monitored by Fermi-LAT and several atmospheric Cherenkov telescopes. Recently, the HAWC Collaboration has reported weak evidence of long-term TeV gamma-ray emission from this source. However, HAWC data has the potential to constrain the average VHE emission of sources of complex behavior, like M87, for which the physical origin of the VHE gamma-ray emission is still uncertain. We fitted a lepto-hadronic scenario to the broadband spectral energy distribution of M87 to model its non-flaring VHE emission using HAWC data

## Keywords

Active galactic nuclei; Gamma rays; M87; Radiation mechanisms

## Collaboration

HAWC

## other Collaboration

## Subcategory

Experimental Results

**Primary authors:** UREÑA MENA, Fernando (Instituto Nacional de Astrofísica, Óptica y Electrónica, Tonantzintla, Puebla, Mexico); Dr CARRAMIÑANA, Alberto (Instituto Nacional de Astrofísica, Óptica y Electrónica, Tonantzintla, Puebla, Mexico); Dr LONGINOTTI, Anna Lia (Instituto de Astronomía, Universidad Nacional Autónoma de México, Ciudad de México, Mexico); Dr ROSA GONZÁLEZ, Daniel (Instituto Nacional de Astrofísica, Óptica y Electrónica, Tonantzintla, Puebla, Mexico); FOR THE HAWC COLLABORATION

**Presenter:** UREÑA MENA, Fernando (Instituto Nacional de Astrofísica, Óptica y Electrónica, Tonantzintla, Puebla, Mexico)

**Session Classification:** Discussion

**Track Classification:** Scientific Field: GAI | Gamma Ray Indirect