

Analysis of the W 44 Supernova Remnant and its surroundings with *Fermi*-LAT and MAGIC



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- Detailed analysis of the W 44 region as seen by Fermi-LAT, focusing on the spatial and spectral characteristics of both the W 44 SNR and its surroundings
- Spatial analysis limited to energies above 1 GeV in order to exploit the improved angular resolution of the Fermi-LAT; several spatial template tested to describe the W 44 morphology
- In the surrounding region, two small extended sources found and modelled as spatial disks; an additional large disk was added to the model to describe a residual background emission, likely associated with CO gas distribution in the surroundings of W44
- Observations of the north-western region of W 44 were conducted with the MAGIC telescopes in the very high-energy gamma-ray band
- Search for a VHE signal coincident with the North-western source derived in our Fermi-LAT analysis at GeV energies
- No signal was found in this case and upper limits were derived, providing useful information to constrain the diffusion of escaped CRs.

