

A GeV to TeV view of shell-type SNRs

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Shock acceleration by the shells of supernova remnants (SNRs) has been hypothesized to be the mechanism that produces the bulk of Galactic Cosmic Rays, possibly up to PeV energies. Some SNRs have been shown to accelerate cosmic rays to TeV energies and above. But which SNRs are indeed efficient accelerators of protons and nuclei? And what is the maximum energy up to which they can efficiently accelerate particles? Measurements of non-thermal emission, especially in the gamma-ray regime, are essential to answer these questions.

The High-Altitude Water Cherenkov (HAWC) observatory, surveying the northern TeV gamma-ray sky, is currently the most sensitive wide field-of-view survey instrument in the VHE (very-high-energy, >100 GeV) range and has recorded more than five years of data. The Large Area Telescope (LAT) onboard the Fermi satellite has been surveying the GeV gamma-ray sky for more than ten years. Combining measurements from both instruments allows the study of gamma-ray emission from SNRs over many orders of magnitude in energy. In this presentation, I will show measurements of VHE gamma-ray emission from Fermi-LAT-detected SNRs with the HAWC Observatory.

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Experimental Results

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