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High-energy observations of Supernova remnants

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n recent years gamma-ray observations have significantly advanced our understanding of acceleration processes at work in Supernova remnants. Unprecedented morphological studies of TeV gamma-ray emission from shell-type Supernova remnants have shown a striking correlation to X ray emission. Energy spectra of up to 100~TeV confirm particle acceleration close to the "knee" in the Cosmic ray spectrum. The Fermi-LAT has been contributing to our understanding of these objects through observations in range between 20 MeV and 300 GeV. All these observations allow for the first time to severely constrain gamma-ray emission models and allow for studies of the parent population accelerated in these objects. I will review the current observational status of gamma-ray emission and our understanding of the origin of cosmic rays.

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