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Gamma-ray observations of Cosmic ray accelerators

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The past decade has brought significant advances in our understanding of acceleration processes at work in shell-type as well as in plerionic Supernova remnants through observations from X-rays to VHE Gamma-rays. Unprecedented morphological studies of gamma-ray emission from shell-type Supernova remnants show a striking correlation to X ray emission. Gamma-ray energy spectra of up to 100$\sim$TeV confirm particle acceleration close to the "knee" in the Cosmic ray spectrum at 1$\sim$PeV in these objects. The Fermi-LAT is 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.