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Measurement of the Cosmic-ray Electron Spectrum with VERITAS (15' + 5')

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Cosmic-ray electrons and positrons (CREs) at GeV-TeV energies are a unique probe of our local Galactic neighbourhood. CREs lose energy rapidly via inverse Compton scattering and synchrotron processes while propagating in the Galaxy, effectively placing a maximal propagation distance for TeV electrons of order ~ 1 kpc. Within this window, production of CREs can come from a handful of known, nearby astrophysical sources capable of exciting CREs to that energy or from more exotic production mechanisms, like particle dark matter. VERITAS is an array of four imaging atmospheric Cherenkov telescopes in southern Arizona and is one of the world's most sensitive detectors of very high energy (VHE: >100 GeV) gamma rays and cosmic rays. In this presentation, we'll discuss the VERITAS measurement of an electron plus positron cosmic ray spectrum to TeV energies.

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