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The VERITAS View of the TeV Gamma-ray Universe¹

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The study of the universe in TeV gamma-rays is the study of the sources and distribution of very high energy particles (electrons and hadrons). The advent of advanced systems of atmospheric Cherenkov imaging telescope arrays has opened this extreme universe to observations with high sensitivity. Somewhat surprisingly these ground-based techniques match, or exceed, the sensitivity of space telescopes at lower energies and hence provide complementary observations to the upcoming AGILE and GLAST missions. VERITAS (the Very Energetic Radiation Imaging Telescope Array System) in southern Arizona is one such system which has recently come on-line. It consists of four telescopes of 12 m aperture and cameras with 499 pixels. It has a sophisticated triggering and recording system which includes 500 MHz FADCs. In the first two years of operation, the Key Science Projects include a Sky Survey, the study of Northern Hemisphere Supernova Remnants and bright TeV-gamma-ray-emitting Blazars, and the search for signatures of Dark Matter. There is now evidence that the emission of very high energy gamma rays is ubiquitous with a wide variety of both galactic and extragalactic sources; hence TeV gamma-ray astronomy promises to be a fertile new discipline in high energy astrophysics.

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