

Observations of the Crab Nebula and Pulsar with VERITAS*

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Observations of the Crab Nebula, the standard candle in TeV astronomy, provide a convenient method to calibrate and to characterize the performance of a Cherenkov telescope. Scientifically, it is interesting to measure the energy spectrum of the Crab Nebula close to the inverse-Compton peak where a deviation from the power law seen at energies above 300 GeV is expected. Additionally, it is important to search for pulsed emission from the Crab Pulsar at energies beyond 10 GeV, the highest energy at which EGRET detected pulsed emission from the Crab. With these motivations, the Crab has been observed extensively during the 2-, 3-, and 4-telescope phases of the commissioning of VERITAS, a ground-based gamma-ray observatory sensitive to the very-high-energy (VHE) gamma-rays. The energy spectrum of the Crab Nebula between 200 GeV and 7 TeV is constructed from these data sets. A search for pulsed emission from the Crab Pulsar at gamma-ray energies above 100 GeV is also performed. The Crab data set from these observations does not show any significant pulsed excess, so an upper limit on the pulsed emission is obtained. These spectral and pulsed analysis results will be presented at the conference.

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