



Contribution ID : 525

Type : **Oral presentation**

Recent Highlights from VERITAS

Friday, 4 July 2014 16:50 (20)

VERITAS is a ground-based gamma-ray observatory consisting of an array of four atmospheric Cherenkov telescopes located in southern Arizona, USA. VERITAS carries out an extensive observation program of the gamma-ray sky at energies above 0.1 TeV. Observations of Galactic and extragalactic sources in the TeV band are sensitive probes of the highly energetic processes occurring in these objects. Observations by VERITAS of the Galactic center and nearby dwarf spheroidal galaxies provide constraints on particle dark matter with masses above a few hundred GeV. VERITAS observations also provide constraints on fundamental physics and cosmology, such as probing the history of galaxy formation and studying Lorentz-invariance violation. The majority of the sources detected by VERITAS are active galactic nuclei (AGN), with gamma-ray emission originating in their relativistic jets. TeV observations of AGN help us constrain models of particle acceleration and energy dissipation in relativistic jets, and the size and location of the gamma-ray emission region. Galactic sources at TeV energies include supernova remnants, pulsar wind nebulae, and binary systems, and TeV emission is a key diagnostic of the highly energetic particles in these objects. VERITAS observations provide important clues on the origin of cosmic rays and on particle acceleration in supernova blast shocks, and relativistic pulsar wind-termination shocks. In this talk I will present some highlights of particle-astrophysics measurements made with VERITAS.

Summary

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Session Classification : Astroparticle Physics and Cosmology

Track Classification : Astroparticle Physics and Cosmology