ICRC2015

ICRC
The Astroparticle Physics Conference
34th International Cosmic Ray Conference
July 30 - August 6, 2015
The Hague, The Netherlands

Contribution ID: **1070** Type: **Poster contribution**

Observing the Cosmic Ray Moon Shadow with VERITAS

Tuesday, August 4, 2015 4:00 PM (1 hour)

The Earth is subjected to an isotropic flux of very-high-energy cosmic rays (VHE, E > 100 GeV) unless they are obscured by an object, such as the Moon. The Moon creates a deficit in the uniform flux and, since cosmic rays are charged, this deficit is deflected by the Earth's magnetic field, enabling the rigidity of the obstructed cosmic rays to be determined. Measurement of the relative deficits of different species enables the positron fraction and the antiproton ratio to be measured. The April 15, 2014 lunar eclipse was visible with the VERITAS Cherenkov telescopes, which allowed (with special UV bandpass filters installed) 74 minutes of direct observations of the Moon and the associated deficit in the cosmic-ray flux. The results of this observation will be presented. Additionally VERITAS has been conducting a series of observations by pointing close to a partially illuminated Moon and observing with a reduced high voltage applied to the photo-multiplier-tubes and also using UV bandpass filters. We present the technique developed for these observations and their current status.

Collaboration

VERITAS

Registration number following "ICRC2015-I/"

884

Primary author: BIRD, Ralph (UCD Dublin)

Presenter: BIRD, Ralph (UCD Dublin)

Session Classification: Poster 3 GA

Track Classification: GA-EX