ICRC2015

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

Contribution ID: **867** Type: **Poster contribution**

Prospects for Measuring the Isotropic Diffuse Gamma-Ray Emission in HAWC above 1 TeV

Tuesday 4 August 2015 16:00 (1 hour)

Isotropic diffuse gamma-ray emission above 100 GeV is produced by unresolved extragalactic objects such as active galactic nuclei, as well as source of truly diffuse emission such as the electromagnetic cascades produced by very high energy gamma rays and cosmic rays. Isotropic diffuse gamma-ray emission has been observed up to nearly 1 TeV. An Observation or limit above this energy can substantially constrain the origin of the astrophysical neutrino signal observed in IceCube. The High Altitude Water Cherenkov (HAWC) observatory, with superior sensitivity to gamma rays between 100 GeV and 100 TeV, continuously observes the overhead sky and will measure or constrain isotropic emission above 1 TeV. The measurement is challenging because the background estimation typically employed fails in the presence of a truly isotropic signal. This paper will use the current HAWC performance on known gamma-ray sources to estimate HAWC's sensitivity to the IDGE.

Collaboration

HAWC

Registration number following "ICRC2015-I/"

748

Primary author: PRETZ, John (Pennsylvania State University)

Presenter: PRETZ, John (Pennsylvania State University)

Session Classification: Poster 3 GA

Track Classification: GA-EX