Abstract Submitted
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Analysis of Near Horizontal Muons at HAWC AHRON BARBER, University of Utah , HAWC COLLABORATION[1] — The HAWC (High Altitude Water Cherenkov) gamma ray observatory observes muons with nearly horizontal trajectories. HAWC is located at an altitude of 4100 meters a.s.l. on Sierra Negra in Mexico. The Gamma and Cosmic Ray detector is composed of 300 water tanks, 7.3 m in diameter and 4.5 m tall, spread over a physical area of 22,000 m2. Due to its thickness of 4.5 m, HAWC acts as a hodoscope capable of observing muons with trajectories at zenith angles greater than 75 degrees to just over 90 degrees. These muon trajectories have a unique signal in that they are linear and travel at nearly the speed of light. CORSIKA simulations indicate that these muons originate from high zenith angle cosmic ray events, where the air shower core is located at great distance from HAWC. I will present the angular distribution and rate at which HAWC observes these muon events.

[1]High Altitude Water Cherenkov Observatory

Ahron Barber
University of Utah

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