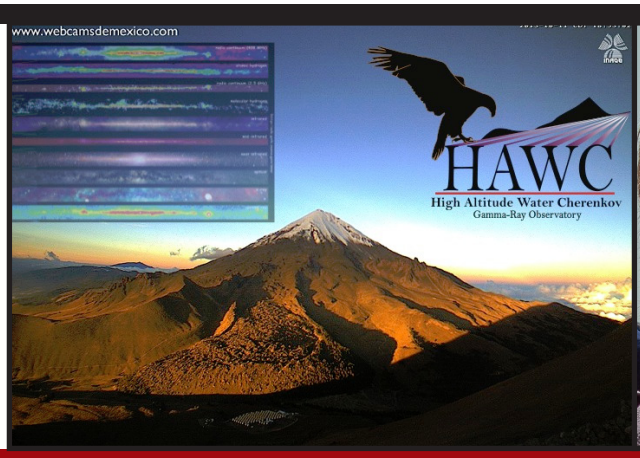
3:30 pm • Friday October 25, 2013 • 2241 Chamberlin Hall • Coffee at 4:30 pm

Petra Hüntemeyer

Michigan Technological University



Multiwavelength Astronomy, the Origin of Cosmic Rays, and the HAWC Observatory

Department of Physics Colloquium

WISCONSIN

Currently, the High-Altitude Water Cherenkov or HAWC Observatory is being built at a site about a two hours drive east of Puebla, Mexico, on the Sierra Negra plateau (4100 m a.s.l.). As an all-sky instrument HAWC is particularly well suited to measure extended and large scale structures in the sky like galactic diffuse gamma-ray emission, or large and small-scale anisotropies. In addition, discoveries of other extended unidentified objects at TeV energies, for example collocated with the “Fermi Bubbles”, are possible. In recent years, researchers have focused their attention increasingly on the combination of sky measurements in different wavebands of the electromagnetic spectrum. The construction of HAWC funded through NSF, DoE, and CONACyT is expected to be completed by Fall 2014. Data is already being collected during construction with an increasingly sensitive detector allowing for synchronous observations with instruments at other wavebands such as the Fermi Space Telescopes. I will present scientific potential - especially within the context of multiwavelength astronomy and its relevance to the cosmic-ray origin - and first results of the experiment.

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