



PHYSICS COLLOQUIUM

H.T. Richards Lecture

The Highest Energy Gamma-Rays Probing Nature's Highest Energy Accelerators



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Abstract: TeV gamma rays point to Nature's astrophysical accelerators. Many of these accelerators output most of their electromagnetic energy in gamma rays, and their output may flare by more than an order of magnitude. In order to study these TeV accelerators, a new type of detector was developed with a large field of view and >90% duty factor. This detector, called Milagro, used a 5000 square meter pond of water to detect Cherenkov light from extensive air showers. Milagro surveyed the 2π sr of the Northern Hemisphere and discovered new sources of TeV gamma rays as well as diffuse emission from the plane of the Milky Way galaxy. The High Altitude Water Cherenkov (HAWC) observatory is a next-generation version of the Milagro observatory that will be built in Mexico at an altitude of 13500' and will have over 10 times the sensitivity of Milagro.



2241 Chamberlin Hall • Friday, October 31, 2008 • 4:00 P.M.
cookies & coffee served at 3:30 p.m.