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WEEKLY CALENDAR

August 29, 2011

Departmental Colloquium

Thursday, 3:40 PM, September 1, 2011
109 Nicholson Hall

"Recent Results from the Pierre Auger Observatory"

James Matthews

LSU – Department of Physics and Astronomy

Host: Juhan Frank

• Refreshments served at 3:15 PM in 232 (Library) Nicholson Hall •

The Pierre Auger Observatory in western Argentina is the largest cosmic-ray experiment ever conducted. Its purpose is to study the highest energy particles in the universe, those arriving at earth with energy in excess of 10^{20} eV. Such energy exceeds that which will ever be possible with earthly particle accelerators. Their origin, their identity, and the means by which they are accelerated are unknown. I will discuss some recent results: (i) the energy spectrum, (ii) correlations of the arrival directions with AGN (iii) evidence that either the particles are heavy nuclei or that protons interact differently than expected, and (iv) limits on how many of the particles can be photons or neutrinos. Plans for the future operation and expansion of the observatory will be discussed.