Physics Colloquium
Monday October 31st, 2005 4:15 PM
428 Pupin Hall

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"The Mystery of Ultra-high Energy Cosmic Rays"

The origin of the highest energy particles ever to be observed is still a mystery. They are messengers of an extreme universe and they test the limits of physical laws. The largest cosmic ray experiments are starting to probe the extremely high-energy region where pointing to cosmic ray sources is feasible and a long awaited Greisen-Zatsepin-Kuzmin feature in the spectrum is expected. Past experiments have claimed opposing results: AGASA sees an intriguing excess of cosmic rays above 10^20 eV that challenges most theoretical models while HiRes does not confirm the excess.

The mystery of ultra-high energy cosmic rays will be reviewed in light of the first results from the Pierre Auger Observatory. Auger is under construction, yet first results have already challenged previous views on the physics of ultra-high energy cosmic rays

Host: Ruderman