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# WEEKLY CALENDAR

September 9 - 13, 2013

## DEPARTMENTAL COLLOQUIUM

### "Measurements of the Highest Energy Cosmic Rays from the Pierre Auger Observatory"

3:30 PM September 12, 2013  
109 Nicholson Hall

#### **James Matthews**

LSU – Department of Physics & Astronomy and  
Co-Spokesperson, Pierre Auger Observatory

#### **Host: Juhan Frank**

• Refreshments served at 3:10 PM in 232 (Library) Nicholson Hall •

The Pierre Auger Observatory in western Argentina is the largest cosmic-ray observatory ever constructed. It was built by an international collaboration of scientists to study the highest energy cosmic rays. These are subatomic particles with energies up to and above  $10^{20}$  eV -- far beyond what will ever be available from accelerators on earth. They are messengers from the most extreme neighborhoods in the universe. As Auger approaches ten years of successful data-taking, I will review what we have learned about ultra-high energy cosmic rays: the types of particles they are, their acceleration mechanisms and locations, and where we aim to go from this point onward.

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#### PUBLICATIONS:

1. "A quantum gravitational inflationary scenario in Bianchi-I spacetime", **Brajesh Gupt and Parampreet Singh**, Class. Quantum Grav. 30 (2013) 145013 (34 pp).
2. "Loop Quantization of the Schwarzschild Black Hole", Rodolfo Gambini and **Jorge Pullin**, Physical Review Letters 110, 211301 (2013).
3. "Spherically symmetric gravity coupled to a scalar field with a local Hamiltonian: the complete initial-boundary value problem using metric variables", Rodolfo Gambini and **Jorge Pullin**, Class. Quantum Grav. 30 (2013) 025012 (7 pp).
4. "Faint UBVRI Standard Star Fields", James L. Clem and **Arlo U. Landolt**, 2013, Astronomical Journal, 146, 88 [<http://stacks.iop.org/1538-3881/146/88>].