

# Physics Colloquium

Michigan Technological University

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Room 139 Fisher Hall



## Recent Results from the Pierre Auger Observatory

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**Abstract:** The Pierre Auger Observatory is the largest cosmic ray observatory in the world. Completed in 2008 and located in the Mendoza province of Argentina, it covers 3000 sq. km. It is instrumented with 1660 water Cherenkov surface detectors overlooked by 4 fluorescence detector telescopes.

The data set for science results has been accumulating since January, 2004. The integrated exposure now corresponds to about 4 years of operation with the full detector.

The presentation will discuss high energy cosmic ray physics, the apparatus of the observatory, and science results. Current results including updates of anisotropy measurements, the energy spectrum of the cosmic rays, and composition studies will be presented.

**Bio:** Prof. Nitz received his Ph.D in Experimental Elementary Particle Physics from the University of Rochester in 1978. From 1978 to 1998 he was a researcher in the University of Michigan Physics Department, starting as a Post Doc and finishing as a Senior Research Scientist. He joined Michigan Tech in Fall 1998, and became Full Professor in 2005.

Over the years his research interests have migrated from particle physics to particle astrophysics, and in particular the study of high energy cosmic rays. Since 1992 he has been one of the leading members of the Pierre Auger Collaboration. His work is funded by the U.S. Department of Energy.