Abstract Submitted
for the APR11 Meeting of
The American Physical Society

Super atmospheric test beam for the Pierre Auger Observatory LAWRENCE WIENCKE, MICHAEL COCO, DAVID STARBUCK, Colorado School of Mines, VINCENZO RIZI, University of L'Aquila, MARTIN WILL, Karlsruhe Institute of Technology, PIERRE AUGER COLLABORATION — The Pierre Auger Observatory uses the atmosphere as a giant calorimeter to measure the highest energy particles known to exist. Atmospheric clarity is the largest and most variable calibration term, especially for the highest energy air showers because they tend to land farthest from the fluorescence detectors and are consequently viewed through the most atmosphere. To refine measurements of aerosol optical depth, an R&D program in south east Colorado has developed a "super atmospheric test beam system." This new instrument combines a Raman LIDAR receiver with a calibrated UV laser system. This system and first comparisons between measurements of the laser light by the Raman receiver and by a simplified optical cosmic ray detector located 39 km away will be presented. This new instrument is intended for a major upgrade of the Pierre Auger Central Laser Facility in Argentina.

Lawrence Wiencke
Colorado School of Mines

Date submitted: 18 Jan 2011 Electronic form version 1.4