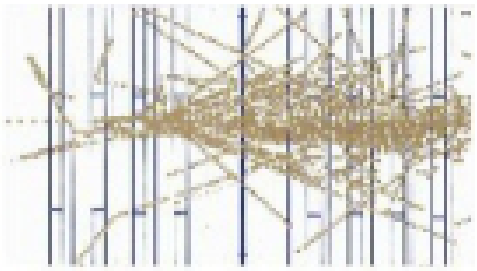

Contribution ID: **101** Type: **oral presentation**

Atmospheric Calorimetry above 10^19 eV: Shooting Lasers at the Pierre Auger Cosmic-Ray Observatory

Wednesday, May 28, 2008 11:30 AM (15 minutes)

Summary

The Pierre Auger Cosmic-Ray Observatory uses the earth's atmosphere as a calorimeter to measure extensive air-showers created by particles of astrophysical origin. Some of these particles carry joules of energy. At these extreme energies, test beams are not available in the conventional sense. Yet understanding the energy response of the observatory is important because the distance the highest energy cosmic-rays propagate through the cosmic microwave background radiation is predicted to be strong function of energy. This talk will discuss recently reported results from the observatory and the use of calibrated laser "test-beams" that simulate the optical signatures of ultra-high energy cosmic rays. The status of the much larger (200,000 km^3) companion detector planned for the northern hemisphere will also be outlined.

Primary author: Prof. WIENCKE, Lawrence (Colorado School of Mines)

Presenter: Prof. WIENCKE, Lawrence (Colorado School of Mines)

Session Classification: Astrophysics and neutrinos

Track Classification: Astrophysics and neutrinos