

Abstract Submitted
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Comparison between Raman Backscatter and Elastic Side Scatter Methods for Measuring Aerosol Optical Depth¹ MICHAEL COCO, DAVID STARBUCK, LAWRENCE WIENCKE, Colorado School of Mines, PIERRE AUGER OBSERVATORY COLLABORATION — Raman backscatter LIDAR is the standard method in atmospheric physics for measuring atmospheric aerosol optical depth profiles. In contrast, high energy cosmic ray observatories, including HiRes and Pierre Auger, measure this parameter using elastic side scattering. We present a comparison between the techniques using 200 hours of data collected at the Pierre Auger Colorado R&D site. Data was acquired by two detectors that measure scattered light from a 355nm pulse laser fired vertically into the atmosphere. A Raman backscatter detector was located at the base of the laser. A simplified fluorescence detector was located 40km from the laser. Alternate LIDAR signal processing methods will also be discussed.

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