

ATMOSPHERIC MONITOR BY BACK SCATTER LIDAR METHOD IN UTAH

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We have installed a back scatter lidar (laser radar) system in HiRes1 Observatory, Utah to measure the atmospheric transmittance in Utah desert area for evaluating the atmospheric effect on UHE cosmic ray energy estimation. This system is designed for measuring the back scattered ultra violet laser light at long distance and low elevation angles. The observed data are evaluated using Fernald's method. In this paper, we discuss the performance of the back scatter lidar system, the atmospheric transmittance in Utah, and their time variation.