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Title: Design and Data Analysis Method of High Spectral
Resolution Lidar for Atmospheric Monitoring in Ultra High Energy
Cosmic Ray Experiments

Abstract (less than 10 lines):

In this work the design method of a prototype bi-static High Spectral Resolution Lidar is presented, while a novel analysis method of the data recorded by the receivers is proposed. This lidar could be used for measuring the aerosol phase function in Ultra High Energy Cosmic Ray Experiments useful for correcting the air-fluorescence light mixed by the scattered Cherenkov radiation during EAS events. Laboratory tests using a CW SLM laser 532 nm have been done in order evaluate the performance of the receivers which are Fabry-Perot etalons. Using a low pressure Hg spectral lamp we are able to characterize the etalons based on the line structure of the Hg isotopes known from the literature.