

Raman Lidar observations of the vertical profiles of aerosol optical properties and water vapour at the Pierre Auger Observatory

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The observations of a Raman Lidar at the Pierre Auger Observatory in the Argentinian Pampa are reported. The Raman Lidar is utilized for real-time atmospheric monitoring along the detection of cosmic-ray air showers. The vertical profiles of the water vapor mixing ratio, aerosol optical depth, and the aerosol backscatter are presented and discussed, for an observation time of 7 years (2016-2022). The results could give insights into regional climate dynamics over the Argentinian Pampa.

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