

# AtmoHEAD: Atmospheric Monitoring for High-Energy Astroparticle Detectors



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## Aerosol concentration measurements and analysis of air mass backward trajectories at the Pierre Auger Observatory

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Aerosols play an important role in the attenuation of UV fluorescence light originated when cosmic rays cross the atmosphere, interacting with the atmospheric nitrogen molecules. This light is recorded by the fluorescence detector (FD) of the Pierre Auger Observatory ([www.auger.org](http://www.auger.org)), composed of 27 telescopes distributed in 4 stations. In one of these stations, named Coihueco ( $35^{\circ} 06'52.9''S$ ,  $69^{\circ} 36'02.7''W$ , 1712 m a.s.l.), an Aerosolspectrometer and Dust Monitor Grimm 1.109 was installed to register aerosol mass concentrations in different size intervals, at surface level. In this work we analyze the aerosol concentrations measured with Grimm 1.109 at surface level and correlate them with air masses trajectories obtained from HYSPLIT (NOAA) model calculations.

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