



Follow up of the Eyjafjallajökull volcano over Athens, Greece in the frame of the EARLINET project

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Almost one week after the major eruption of the volcano Eyjafjallajökull on April 14, 2010, the volcanic ash plume was observed over Athens, Greece, with a multi-wavelength Raman lidar system, member of the EARLINET network and a sun photometer, part of the AERONET network. Intensive lidar measurements were performed throughout the event to derive the optical properties of the ash aerosols in the troposphere. The volcanic ash was observed over Athens, after passing over Southern Italy, during April and May 2010, in two height regions: between 6-10 km height and between 4 km and the ground level. We found that this was directly linked to the maximum height of the emitted volcanic ash. The most intensive period for ash presence over Athens was between May 21 and 23. In most cases, ash layers were very well stratified in the form of filaments starting around 3-4 km down to 1.5 km height. Mixing of ash with locally produced aerosols was frequently observed during the measuring period resulting to enhanced PM10 concentrations at ground level. Volcanic ash was also observed during May 10 and 11, 2010, after being transported over Spain and Northern Italy. Furthermore, Saharan dust particles were mixed with volcanic ones on certain days of May 2010, which resulted to more complicated structures of the aerosol layers observed over Athens, Greece.

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