



Contribution ID: 43

Type: **Oral**

Multi-wavelength polarization Lidar characterization of mineral dust at Dunhuang (China)

Monday, 19 May 2014 17:35 (35 minutes)

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The Gobi desert is the major source of mineral dust in China, that is one of the most interesting regions for aerosol study being surrounded by the main sources of anthropogenic and natural aerosol. In order to characterize the chemical and physical properties of atmospheric aerosols, their spatial and temporal distribution and the main transport mechanisms a new, versatile and portable Raman scanning lidar system has been designed and developed at Physics Department of University of Napoli "Federico II" in the frame of the AM-PLÉ project, the first action of the recently founded China-Italy Laser Remote Sensing Joint Research Center between the National Consortium of Italian Universities for the Physical Science of the Matter (CNISM) and the Beijing Research Institute for Telemetry (BRIT). A first demonstrative measurement campaign has been performed on May 2013 in Beijing, while on August 2013 AMPLÉ has been carried in Dunhuang close to the Gobi desert and far away from the urban area, in order to study sand dust directly at source. Results of those measurements will be described.

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Session Classification: Highlights