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STUDY OF TROPOSPHERIC AEROSOL TYPES OVER IASI, ROMANIA, DURING SUMMER OF 2012

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Abstract

This research has been performed during summer time at Iasi Atmosphere Optics, Spectroscopy and Lasers Laboratory site (LOA-SL), aerosol monitoring station (47.19N, 27.55E). In order to properly identify and characterize the aerosol types, Aerosol Robotic Network (AERONET) data and sun-photometer measurements were analysed using parameters such as: optical thickness, spectral dependence of Ångström exponent (α), spectral dependence of Single Scattering Albedo and the dominating size mode. Several cases to highlight the presence of Saharan dust and biomass were presented, too. An event on the 6th of July, 2012 shows that the LIDAR ratios are between 60~70 sr, with an Ångström exponent between 1.5~1.8 for urban/industrial aerosol and a LIDAR ratios between 40~50 sr with an Ångström exponent between 1.7~1.9 for biomass burning. A major presence of urban / industrial dust was evidenced here.

Key words: AERONET, LIDAR, meteorological data, tropospheric aerosols

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