EMS7/ECAM8 Abstracts,
Vol. 4, EMS2007-A-00504, 2007
7th EMS Annual Meeting / 8th ECAM

Saharan Dust Intrusion over Romania , a case study

S. Stefan (1), D. Nicolae (2), C.Talianu (2), A.Nemuc (2)

(1) University of Bucharest, Faculty of Physics, Dept. of Atmospheric PhysicsP.O.BOX MG-11, Bucharest, Romania, (2) National Institute of Research and Development for Optoelectronics, Magurele, Romania (sabina_stefan@yahoo.com)

This work focuses on two Saharan dust intrusion events. The vertical profiles of the backscattering coefficient obtained by the measurements with an elastic-backscatter lidar were used to detect the Saharan dust plume. Studies on meteorological conditions, affecting atmospheric transport of the dust and the variation of the atmospheric boundary layer (ABL) height, for these cases were performed. In the study cases the three derivative methods suggested in European project EARLINET to determine mixed layer of PBL were tested. The results were compared to the values of the mixed layer depth calculated by using a thermodynamic sounding, and the bulk-Richardson number. In addition, the dust transport was analyzed in synoptic context, using geopotential height and sea level pressure maps and air mass back-trajectories obtained by using HYSPLIT4 model.