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Thesis Title	<i>Study of the atmosphere by using Lidar techniques, sun-photometer and WRF model data</i>
Supervisor	M. Tombrou, Associate Professor
Summary	<p>The aim of this master thesis is to compare actual experimental data from the terrestrial lidar measurements of National technical University of Athens and from a sun photometer CIMEL, member of the AERONET network of NASA, with simulations by WRF-Chem model (National and Kapodistrian University of Athens) in order to get conclusions of model's evaluation.</p> <p>The geographical area of the application is Athens and the selected time period coincides with the conduction of the experimental campaign HYGRA-CD, during May-Joune 2014. Six different cases were examined in total. For the demands of this thesis the algorithm LIRIC (Lidar Radiometer Inversion Code) was used and programs in Matlab were also developed for generating results.</p> <p>Chapter 1 is an introduction and deals with airborne particles in the atmosphere (sources, chemical composition, properties). In chapter 2 there is an extensive description of the instruments used from which data were drawn, the algorithm, the model and the entire analysis of the measurements and retrieved results. In Chapter 3, the experimental results are analyzed for selected dates of interest in terms of the presence of aerosols. This thesis is completed in the fourth chapter, presenting our conclusions and discussions.</p>
Key words	aerosols, LIRIC, Lidar, WRF-chem, distribution
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