Università Tor Vergata, Roma

Dipartimento di Informatica, Sistemi e Produzione

GeoInformation Doctorate

Earth Observation Laboratory

Yearly presentations by PhD candidates

DISP meeting room, Ingegneria dell'Informazione ground floor, Via del Politecnico, 1
20 January 2011, starting at 15:00

Antonio Di Noia

Monitoring tropospheric ozone from space: recent advances and possible developments

ABSTRACT

This seminar illustrates recent advances in the development of a neural network algorithm for tropospheric ozone retrievals from NASA Aura OMI (Ozone Monitoring Instrument) data. The whole processing chain is reviewed and the results of an extended validation of the algorithm is presented.

The usefulness of the current definition of tropospheric ozone column as an air quality indicator is critically discussed, and new actions aimed at improving the sensitivity of satellite retrievals to air quality parameters is proposed.

Antonio Di Noia received the Master's degree, cum laude, in Telecommunications Engineering, from the Tor Vergata University, Rome, in February 2009, defending his thesis on ozone profile retrieval from SCIAMACHY data by neural networks.

He worked with GEO-K on the ESA DUE Innovators-II APOLLO project, dedicated to the exploitation of satellite data for air quality monitoring. He is now pursuing his PhD in Geoinformation at Tor Vergata. His research project is focused on retrieval of atmospheric ozone and aerosols from satellite data.

Fabio A. Scanzani

Boundary-layer temperature profiles estimated with Multiangle Microwave Radiometer and their use in air quality monitoring applications

ABSTRACT

Ground-based passive microwave radiometer (MWR) measurements are presently used in a variety of applications including micrometeorological observations and air quality monitoring and forecasting.

Investigations on data collected since April 2009 by a multi-angle scanning radiometer operating at 60 GHz at the Tor Vergata **CNR ISAC** experimental area in Rome, are carried out with the aim of improving the performance of the boundary-layer temperature profile algorithm. Some preliminary results from an experiment aimed at assessing the performance of a scanning MWR in relating boundary-layer temperature profiles and strength of low-level temperature inversions to the *PM 10* ground pollutant concentration during nocturnal inversions will be shown.

Fabio A. Scanzani graduated with top grades in Electronics Engineering from La Sapienza University, Rome, in 1985 and gained a long experience in environmental monitoring systems as a manager of well known systems engineering companies.

Since December 2008 he has pursued his Ph.D. in Geoinformation at the Tor Vergata University, Rome. Since September 2009, he has been a research associate with the Tor Vergata ISAC CNR in Rome, involved in the project entitled "Study and analysis of the lower layers of the troposphere by passive microwave radiometry" in the frame of the project *Processes exchange and atmospheric boundary layer*.

You are cordially invited to attend.

http://www.disp.uniroma2.it/geoinformation/