Press release

Materials Science & Technology

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European Union project GEOMON for the observation of air quality and climatic change

Europe observes the atmosphere

The GEOMON project to be financed over the next four years in the amount of 6.6 million Euro by the European Union, creates a network connecting 38 research establishments in the European Union, Norway, Russia and Switzerland. The goal of this network is to collect detailed data pertaining to air quality and climate and detect any changes in good time. The collected data will make it possible to have more exact forecasts about the climatic development and its effects. The project will be coordinated by the French «Laboratoire des Sciences de l'Environnement et du Climat», a CNRS institute («Centre national de la recherche scientifique»), located in Gif sur Yvette. Swiss entities taking part are Empa, the Paul Scherrer Institute and the Institute for applied physics at the University of Berne.

Much data is necessary in order to understand terrestrial atmosphere and its changes. GEOMON combines the most modern methods in order to receive as comprehensive a picture of air composition and atmospheric chemistry, as possible. The data come from a world-wide network of observation instruments on the ground, in such places, among others, as the research station on the Jungfraujoch, as well as from measuring instruments installed on board of airlines, and from satellite observations and measurements. The GEOMON project is also part of the «Global Earth Observation System of Systems» (GEOSS), which was created in February 2005 in Brussels by 40 states.

GEOMON, whose kick-off-meeting took place in Paris on February 12–14 is expected to deliver an abundance of new data during the next four years and will bring about a harmonization of existing networks for atmosphere observation. All data will be summarized in a central GEOMON data base, in order to facilitate access as well as processing and interpretation.

GEOMON's six areas of activities are:

- Greenhouse gases such as carbon dioxide and methane and the associated climatic warm up
- Pollutants, reactive gases such as ozones and nitrogen oxides and their changes, as well as their effects on the climate
- Fine dust (aerosols) and their effects on the climate
- Stratospheric ozone
- Simulations and model studies
- the GEOMON data center, dissemination of results and public relations

The results will serve as a basis for environmental-political decisions in all of Europe; in addition, with the help of the GEOMON data, efficiency and adherence to international environmental agreements may be closely examined, such as for example the Montreal Protocol for the protection of the ozone layer, or the Kyoto Agreement for the reduction of the output of greenhouse gases. «GEOMON offers us the unique chance to bring together the measurements of atmosphere chemistry from the ground, from airplanes and from satellites. This helps us to understand the processes, occuring in the atmosphere, and to recognize possible changes promptly», said Empa researcher Brigitte Buchmann, who leads the activity field «Pollutants/Reactive Gases» within the GEOMON project.

Further information may be found on the GEOMON Internet site:
http://geomon.ipsl.jussieu.fr

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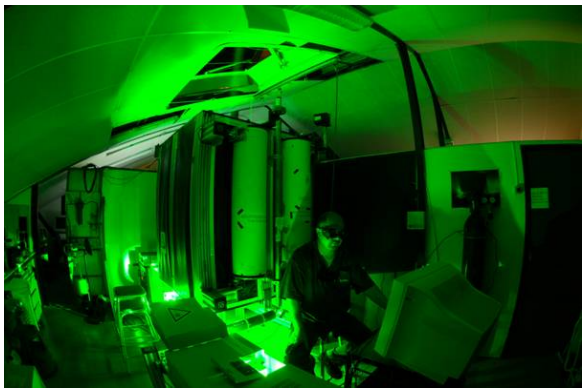

With the help of a LIDAR system, a laser radar, GEOMON researchers determine the vertical distribution of fine dust in the atmosphere.

An ozone probe for atmospheric measurements is carried by a weather balloon to heights of as much as 35 kilometers; the balloon ascends from the measuring station at Haute- Provence in France. (CNRS)

The research station Jungfraujoch houses the measuring station for reactive gases (like ozone, nitrogen oxides and carbon monoxide) and for greenhouse gases.