

## M E M O

For the visit of Dr. Ivan Kostadinov, from CNR-ISAC, Bologna - Italy  
in CSEM/ Division O, Neuchâtel, Switzerland

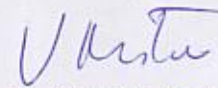
During the period from 9 October till 29 October Dr. Ivan Kostadinov visited CSEM/Division O, Neuchâtel -Switzerland. During the visit Dr. Kostadinov worked together with Dr. Valentin Mitev  
The joint activities and discussions were on the following topics:

1. Discussion and mutual information on the participation in the space mission JEM-EUSO, organised by JAXA, Japan. The joint participation will be in the "Atmospheric Monitoring System". In the presently ongoing Phase A, CSEM/ Division O will participate with evaluation and concept design for the Atmospheric Lidar. The contribution of ISAC will be in the simulations by means of radiative transfer model, based on Monte Carlo approach of the impact of the multiple scattering in the determination of the altitude of the cloud-top from the lidar signal. Contribution of optical atmospheric phenomena on the JEM-EUSO detector signal will be studied too.

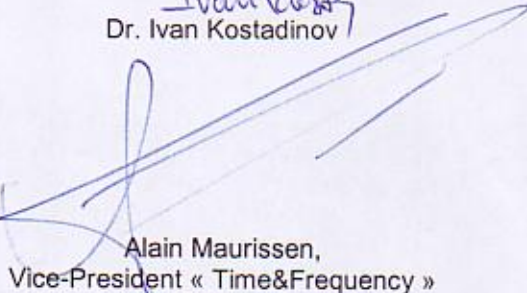
Both parts will submit national proposal for financial support of this activity.

2. Discussion on the possibility for joint participation in EC/FP7. This possibility is in the perspective activity within ARMONIA proposal. Independently of this, both parts are interested in to continue the collaboration aimed to develop a mock-up of regional network for environmental monitoring. Such network will consists a number of in-situ and remote sensing instruments for gas and aerosol detection feeding common database. The remote sensing probing such network may be carried out by means of GASCOD instrument (ISAC-Bologna) for gases and by Miniature Aerosol Lidar (MAL), (CSEM - Neuchâtel), for aerosol measurements.
3. Field experiment on the combined detection of pollution gases NO<sub>2</sub> and O<sub>3</sub>, aerosol, and rainfall characterisation. The measurements in this pilot -experiment were performed by means of GASCDO/A instrument, sun-looking photometer and MW pluviometer provided by CNR-ISAC and MAL provided by CSEM. The measurements performed in this period could be considered as a part of feasibility study for combined aerosol and gas pollutants measurements aimed for air quality evaluation.
4. Overview of the results obtained during the joint participation in EC projects TROCCINOX, and ESA/ENVISAT Validation program. Case studies will be performed using experimental data obtained aboard M55 Geophysica stratospheric aircraft by Neuchâtel group and ISAC group regarding the impact of the cloud cover on UV actinic fluxes in the lower stratosphere and related NO<sub>2</sub> photodissociation processes.

Neuchâtel, 29 Oct. 2007

  
Dr. Valentin Mitev  
Senior Expert  
CSEM

  
Dr. Ivan Kostadinov

  
Alain Maurissen,  
Vice-President « Time&Frequency »  
CSEM