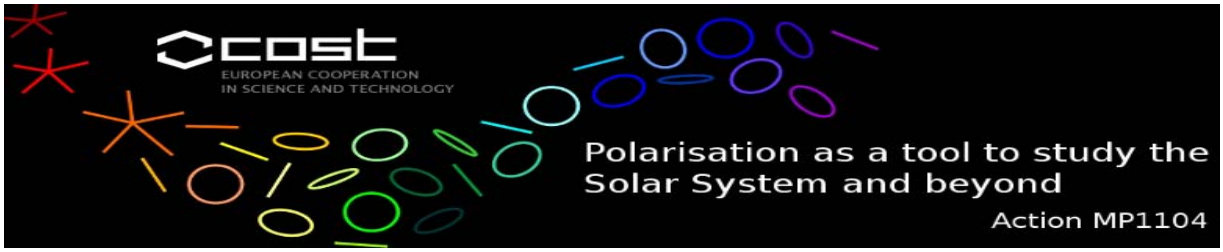

STSM Scientific Report

Applicant and home institution : Dr. Alexander Kokhanovsky, Institute of Environmental Physics, University of Bremen, O. Hahn Allee 1, D-28334 Bremen, Germany

Visited scientist and host institution : Dr. Otto Hasekamp, SRON Netherlands Institute for Space Research, Sorbonnelaan 2, 3584 CA Utrecht, The Netherlands

Dates of STSM : 12.08.2013 to 30.08.2013

The STSM helped us to strengthen current collaborative projects. They are:

1)The development of the retrieval algorithms (aerosol and cloud remote sensing from space) for the SPEX (Spectropolarimeter for Planetary Exploration) instrument. The respective project “SPEX: Multiangle spectro-polarimetry for aerosol and cloud characterization” was founded by the SRON. The money for the collaborative work has not been provided. Therefore, the support from COST is very much appreciated.

2) The development of the aerosol remote sensing algorithm based on the intensity and polarization measurements. The project was funded by the International Space Science Institute in Bern. However, only travel to Bern for the joint group meeting

is funded (not the travel between locations of various participanted group). Therefore, the support from COST was very important and timely as well.

The visit was also of importance to obtain necessary knowledge for the application of new techniques. In particular, Alexander Kokhanovsky received important insights in polarimetric aerosol remote sensing from space. Otto Hasekamp was informed on the possibilities of polarimetric cloud remote sensing from space. The corresponding retrieval code was prepared by A. Kokhanovsky and transferred to the SPEX team.

The main results of the visit were:

1) The necessary knowledge on aerosol and cloud remote sensing using polarimetry was transferred between both parties;
2) The respective code for the cloud remote sensing using space-borne observations was prepared and transferred to SRON for the case of vertically homogeneous clouds;
3) The possibility of cloud vertical profiling using spaceborne polarimetric measurements was investigated.