

## **O1-01 SPATIALLY RESOLVED DOAS MEASUREMENTS OF TRACE GASES AND AEROSOL**

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Since the last DOAS workshop in 2003 a host of new DOAS applications were developed. In particular techniques allowing spatially resolved measurements of trace gas abundances or the aerosol optical density were proposed, developed, or actually tested in the atmosphere:

- Active-DOAS tomographic measurements of 2-dimensional trace gas distributions.
- Passive-DOAS tomographic measurements of 2-dimensional trace gas distributions using Topographic Targets Light scattering (ToTal-DOAS).
- Observation of vertical distributions of gases and aerosols with Multi-Axis DOAS (airborne and ground-based).
- Imaging DOAS observation of trace gas column densities.

An important future area of application of these DOAS variants is to provide data for initialisation and validation of multi-dimensional chemistry-transport models.

Requirements and possibilities are presented. In addition common features of the techniques and associated evaluation procedures, hardware requirements, as well as novel scientific applications of the above techniques will be discussed.

Obviously development and success of future applications of spatially resolved DOAS measurements will as much depend on our imagination as on scientific requirements, some hints in this direction will be given.