

## **Aerosol characteristics in stratosphere from SCIAMACHY-Limb measurements**

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Aerosols in the stratosphere affect crucially not only the radiative budget of the Earth by changing the way radiation is transmitted through the atmosphere, but also play an important role in the chemical processes which lead to the ozone layer depletion. It is well known, that the background stratospheric aerosol composition is determined by the tropical injections of SO<sub>2</sub>, COS and sulfate particles from the troposphere, but this background composition is occasionally perturbed by vast SO<sub>2</sub> emissions, caused by strong volcanic eruptions. Most commonly stratospheric aerosol is characterized by a particle size distribution (modal radius and distribution width) and particles number density. A reliable knowledge on these parameters is important among other for various modeling activities related to stratospheric processes. Measurements of the transmitted or scattered solar light in visible and near infrared spectral region performed by satellite instruments in occultation and limb viewing geometry, serve as one of the most important sources of global information on the spatial and vertical distribution of the stratospheric aerosol characteristics. In this study limb measurements from space borne spectrometer SCIAMACHY, operated on board the ENVISAT satellite from August 2002 to April 2012, are used. A retrieval method, sensitivity studies and first results of the aerosol particle size distribution parameters as well as aerosol particle number density retrieved from SCIAMACHY limb measurements will be presented.