



Tomographic Retrieval of MIPAS Measurements in the UTLS Region

T. Steck (1) for the IMK/IAA MIPAS-ENVISAT TEAM

(1) Forschungszentrum Karlsruhe, Institut für Meteorologie und Klimaforschung, Postfach 3640, 76021 Karlsruhe, Germany (tilman.steck@imk.fzk.de)

The Fourier transform spectrometer MIPAS (Michelson Interferometer for Passive Atmospheric Sounding) on Envisat measures infrared emission of the Earth's atmosphere in a limb viewing mode. Due to the long ray path, limb sounders are sensitive to even little abundant species. However, horizontal gradients cause systematic errors within the retrieval if a horizontally homogeneous atmosphere is assumed.

A dedicated method of taking full 2-dimensional (2d) fields of state parameters into account is presented. The diagnostics comprise estimated random error and vertical and horizontal resolution. The method is applied to measurements of MIPAS in the special mode S6. The derived 2d ozone distribution show small-scale stratospheric intrusions into the troposphere similar to ECMWF analysis.