Geophysical Research Abstracts
Vol. 13, EGU2011-10843, 2011
EGU General Assembly 2011

First Retrieval Results of the CRISTA-NF Measurements during RECONCILE

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The CRISTA-NF (Cryogenic Infrared Spectrometers and Telescope for the Atmosphere - New Frontiers) instrument measures limb-emissions in the mid-infrared region with a high vertical (up to 250m) and horizontal (15 km) sampling onboard the Russian research aircraft M55-Geophysica. The instrument participated successfully in the RECONCILE campaign in Kiruna in January and March 2010.
The first retrieval results of the CRISTA-NF measurements during the RECONCILE local flight No. 11 from Spitsbergen to Kiruna on March 2 are presented.
Volume mixing ratios of several trace gases like $ClONO_2$, HNO_3 and CFC-11 with for limb sounding unprecedented high vertical resolution (e.g. Full Width of Half Maximum (FWHM) of the Averaging Kernel $<$ 500m for CFC-11) will be shown to illustrate the capability of the instrument to measure small scale structures in the lower stratosphere.
Comparisons with the 3D tracer fields of the Chemical Lagrangian Model of the Stratosphere (CLaMS) have been performed to obtain further information about the observed structures and the origin of the corresponding air masses.