

Methane retrievals from FTIR emission spectroscopy in the Arctic

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Abstract

Retrievals of methane from FTIR emission spectroscopy measurements in Ny-Ålesund, Svalbard and from the MOSAiC campaign in the central Arctic are presented. In Ny-Ålesund a zenith viewing Bruker Vertex 80 FTIR spectrometer is deployed by our group. For maximum resolution it is operated in one sided interferogram mode. Total power calibration developed by Revercomb et al. (1988) for double-sided interferograms is modified and applied to our measurements.

Resulting spectra and spectra measured by the AERI instrument deployed on the Polarstern vessel during the MOSAiC campaign are used for retrievals of methane and results are compared to the CAMS model and ground based in situ data.