



Validation of CO measurements from MIPAS-ENVISAT with SMR and ground based microwave measurements

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Due to its long chemical lifetime and variable volume mixing ratio in the middle atmosphere, carbon monoxide serves as an excellent tracer for stratospheric and mesospheric dynamics. Spectrally resolved non-LTE emissions of CO are measured by the Michelson Interferometer for Passive Atmospheric Sounding (MIPAS) aboard the environmental satellite Envisat. Vertical profiles of CO volume mixing ratio are retrieved with the scientific IMK/IAA data processor under consideration of non-LTE. In this paper we report on recent validation activities. MIPAS CO results are intercompared with those obtained by the microwave limb sounder SMR on Odin, as well as a ground-based microwave sounder at Thule, Greenland (76.3N/68.4W). These correlative measurements are "non-LTE free" which allows for verification of the non-LTE retrieval approach applied to MIPAS data.