



Multi-technique comparison of MIPAS O₃ measurements with correlative data obtained by FIR-FTS measurements during the ENVISAT Stratospheric Aircraft and Balloon Campaigns (ESABC)

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In the frame of ESA ESABC (ENVISAT Stratospheric Aircraft and Balloon Campaigns) activities in 2002-2003, two Fourier transform Far-Infrared limb sounders - namely, IBEX (Infrared Balloon Experiment) and SAFIRE-A (Spectroscopy of the Atmosphere by using Far Infrared Emission - Airborne) - were deployed in mid and high latitude flights, aiming at the validation of MIPAS L2 products for Ozone and other target species. For Ozone, in particular, a thorough comparison was performed by using traditional correlative analyses (comparing O₃ mixing ratio profiles collocated within a chosen spatial-temporal vicinity), trajectory matching technique, quasi-conservative coordinate analyses and chemical assimilation in a Chemical Transport Model. We report details of the adopted validation strategy and show how complementary information derived from different validation techniques and tools contributed to the quality assessment of MIPAS O₃ data retrieved from observations during the instrument full spectral resolution mission.