



Tropospheric Ozone from limb nadir matching of MIPAS and SCIAMACHY

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The tropospheric total ozone column (TTOC) is retrieved by applying the limb nadir matching method (LNM) for two different sensors on board the Envisat satellite. Each sensor provides independent information of the total ozone column (TOC, nadir) and stratospheric ozone column (SOC, limb). The latter is derived from the limb viewing geometry of MIPAS (Michelson Interferometer for Passive Atmospheric Sounding), while total ozone column (TOC) from the nadir viewing SCIAMACHY (SCanning Imaging spectrometer for AtMospheric CHartrographY) measurements. The residual ozone column or tropospheric total ozone column (TTOC) is then derived by subtraction of the SOC from the collocated TOC. Although this method is straightforward, the underlying difficulties are the exact knowledge of the tropopause height, matching/collocation of the two measurements, and instrumental differences between two sensors. Our results are compared with available tropospheric ozone columns derived from the SCIAMACHY - SCIAMACHY limb-nadir combination in order to understand the differences and the potential of LNM method for different sensor combination.