



Retrieval of CO from SCIAMACHY onboard ENVISAT: study seasonal variability and cloud effect

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We present monthly mean CO VCD (Vertical Column Density) data of 2004~2005 retrieved from SCIAMACHY observations using IMPA-DOAS algorithm. SCIAMACHY is the first instrument that allows retrieval of CO by measuring absorption in the near infrared observing reflected and scattered sunlight instead of thermal emission. Thus, in contrast to thermal-infrared satellites (MOPITT), SCIAMACHY is highly sensitive to lower layers of the troposphere where the sources are located and the bulk of the CO VCD is usually found. High values of CO are found over regions with strong biomass burning and also industrial activities, especially over China.

In specific case studies we investigate the convective up lifting effect of clouds on the observed CO VCD by making use of the FRSCO cloud algorithm which is based on simultaneous SCIAMACHY observations. In our SCIAMACHY CO data sets, not only cloud shielding effect but also cloud convective uplifting effect could be clearly seen