



GOSAT BESD XCO₂ Retrieval: First Results

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Carbon dioxide (CO₂) is the most important anthropogenic greenhouse gas contributing to global climate change. Column-averaged dry air mole fractions of CO₂ (XCO₂) as retrieved from near-surface sensitive measurements of satellite instruments such as SCIAMACHY onboard ENVISAT have the potential to provide important missing global information on the sources and sinks of CO₂. This however requires to meet challenging accuracy requirements.

In order to retrieve XCO₂ from SCIAMACHY, the Bremen Optimal Estimation - DOAS (BESD) retrieval algorithm has been developed. After the end of the ENVISAT mission in March 2012, the only satellite instrument with high sensitivity near the surface is TANSO onboard GOSAT (launched 2009). To obtain a consistent global long-term XCO₂ data set from these two instruments, a modified version of the BESD algorithm is also used for the retrieval of XCO₂ from GOSAT. Here, first GOSAT BESD XCO₂ retrieval results are presented.