



## **Investigating CO<sub>2</sub> fluxes over North America using Sciamachy retrievals.**

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A two year data set of atmospheric CO<sub>2</sub> concentrations has been retrieved from measurements made in the near infrared by the SCIAMACHY instrument, using the Full Spectral Initiation (FSI) WFM-DOAS algorithm. These data sets show a good correlation to vegetation indices, indicative of the biological modulation of the atmospheric CO<sub>2</sub> column. SCIAMACHY/FSI CO<sub>2</sub> has been validated against several independent data sets. From these comparisons, the overall precision of the monthly gridded CO<sub>2</sub> columns retrieved by the FSI algorithm is approaching 1.0%.

Here we will discuss our investigation into North American CO<sub>2</sub> fluxes using SCIAMACHY/FSI CO<sub>2</sub>. The satellite derived CO<sub>2</sub> fields will be compared to those produced from feeding flux values into the UK Met Office Lagrangian dispersion model, NAME (Numerical Atmospheric-dispersion Modeling Environment).

The applicability and feasibility of inverse CO<sub>2</sub> flux estimates using the NAME model will be assessed.