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Global greenhouse gas (CO₂, CH₄) and carbon monoxide column data products retrieved from SCIAMACHY/ENVISAT

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Carbon dioxide (CO₂) and methane (CH₄) are the two most important anthropogenic greenhouse gases and carbon monoxide (CO) is an important air pollutant. SCIAMACHY on ENVISAT is the first satellite instrument whose measurements are sensitive to concentration changes of these "carbon gases" at all atmospheric altitude levels down to the Earth's surface where their source/sink signals are largest. Data products for all three gases covering the first three years of ENVISAT (2003-2005) have been generated using the WFM-DOAS scientific retrieval algorithm developed at the University of Bremen. These data products form part of the ESA PROMOTE and EU GEMS climate change and air quality related services. The data sets will be presented and discussed focusing on a comparison with global model simulations.