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## **Methane and water spectroscopic database for TROPOMI/Sentinel-5 Precursor in the 2.3 $\mu\text{m}$ region**

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The ESA project „SEOM-Improved Atmospheric Spectroscopy Databases (IAS)“ will improve the spectroscopic database for retrieval of the data products CO, CH<sub>4</sub>, O<sub>3</sub> and SO<sub>2</sub> column amounts measured by the TROPOMI instrument (TROPOspheric Monitoring Instrument) aboard the Sentinel-5 Precursor. The project was launched in February 2014 with 3 years duration extended to 4 years recently. The spectroscopy of CO, CH<sub>4</sub> and O<sub>3</sub> in the 2.3  $\mu\text{m}$  region is covered first while UV measurements of SO<sub>2</sub> and UV/FIR/IR measurements of ozone will be carried out later.

Measurements were mainly taken with a high resolution Fourier Transform spectrometer combined with a coolable multi reflection cell. Cavity ring down measurements served for validation. The analysis has been completed. A clear improvement can be seen when using the new data for CH<sub>4</sub>, H<sub>2</sub>O and CO retrieval from ground-based high resolution solar occultation measurements obtained with instrumentation in the TCCON and NDACC network.