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First results from TROPOMI shortwave infrared measurements: The methane and carbon monoxide total column data product

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The European Copernicus Space component comprises several satellite missions to measure atmospheric trace gases like carbon dioxide, methane and carbon monoxide from the shortwave infrared spectral range. Recently, on October 13th 2017, ESA's Sentinel 5 Precursor mission was successfully launched with the TROPOMI instrument as its single payload. In the near future, it will be followed up by the Sentinel 5 mission scheduled for launch 2021 and the Sentinel 7 candidate mission for anthropogenic CO_2 monitoring. These missions will provide the operational backbone of European's Earth observatory of climate relevant trace gases. In this presentation, we will present first results of the TROPOMI methane and carbon monoxide data product and discuss the preliminary achievements also in the perspective of the future Copernicus missions.