TROPOMI on the EU Sentinel 5 Precursor: what we learned from the first 9 months in-orbit

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On 13 October 2017 the Copernicus Sentinel 5 Precursor (S5P), the first of the European Sentinels satellites dedicated to monitoring of the atmospheric composition, was launched. The mission objectives of S5P are to globally monitor air quality, climate and the ozone layer, in the time period between 2017 and 2023. The single payload of the S5P mission is TROPOspheric Monitoring Instrument (TROPOMI), which is developed by The Netherlands in cooperation with the European Space Agency (ESA). TROPOMI is a nadir viewing shortwave spectrometer that measures in the UV-visible wavelength range (270-500 nm), the near infrared (710-770 nm) and the shortwave infrared (2314-2382 nm). A major step forward of TROPOMI compared to its predecessors OMI (Ozone Monitoring Instrument) and SCIAMACHY (Scanning Imaging Absorption Spectrometer for Atmospheric Chartography) is the spatial resolution. For most of the UV-visible bands TROPOMI has a spatial resolution of 3.5x7 km² at nadir and 7x7 km² for the shortwave infrared.

In this presentation an overview of the results from the first 9 months in orbit will be discussed. In addition, lessons-learned on technical and data exploitation will be covered.