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## Surface and aerosol retrieval from S5P/TROPOMI: new possibilities and expected performance

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Sentinel-5p/TROPOMI instrument provides hyperspectral measurements in UV, VIS and infrared spectral range. Though the main purpose of the satellite is trace gases characterization, it is capable of aerosol and surface studies. In particular, S5p/TROPOMI measurements in UV provide unique information about absorption and elevation properties of aerosol. Moreover, measurements in wide spectral range are very sensitive to aerosol size and surface type.

In the framework of ESA S5P+I AOD/BRDF project an innovative algorithm for aerosol and surface retrieval from S5p/TROPOMI instrument is being developed. It integrates the advanced GRASP algorithm with the heritage AOD and DLER algorithm previously applied to TOMS, GOME(-2), SCIAMACHY and OMI sensors. The innovative algorithm is expected to provide surface BRDF and AOD with the accuracy required by most trace gas retrieval algorithms.

Here we present the results of aerosol and surface validation and inter-comparison obtained within ESA S5p+I project. New advanced possibility of aerosol and surface characterization from S5p/TROPOMI instrument will be discussed.