

A novel approach to synergistic exploitation of Ozone data from multiple sources onboard MTG and MetOp-SG: first outcomes of the AURORA project

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In this work, we will show preliminary results achieved at the middle of the AURORA (Advanced Ultraviolet Radiation and Ozone Retrieval for Applications) project period (2016-2019). AURORA is a research project supported by the European Union in the frame of the Horizon 2020 Call (EO-2-2015) for “Stimulating wider research use of Copernicus Sentinel Data”.

The overarching objective of AURORA is to simulate the provision of synergistic data products for the vertical profile of atmospheric ozone and to assess their quality with respect to the one expected for the operational products of the geostationary (GEO) mission Sentinel-4 (Meteosat Third Generation Sounder, MTG-S) and of the Low Earth Orbit (LEO) mission Sentinel-5 (MetOp - Second Generation, MetOp-SG).

The main outcomes of a dedicated study conducted to consolidate the capabilities of the Complete Data Fusion algorithm, when applied to TIR, UV and Visible synthetic measurements from the different sounders operating on board the LEO and GEO satellites and acquiring data for the atmospheric Sentinel missions, will be displayed.

A first insight into the expected performance of the novel system based on assimilation of output data from this a posteriori synergistic analysis combining Level-2 ozone products from the UVNS spectrometer and IASI-NG on the LEO platform, as well as from the UVN spectrometer and the IRS on the GEO platform will be offered.

A synthetic description will follow of the adopted strategies for implementation of the data processing chain for assimilation of fused data and comparison with assimilation of standard retrieval products from the same payloads.