



Aerosol Measurements from Current and Future EUMETSAT Satellites

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EUMETSAT supports the operational monitoring and forecasting of atmospheric composition including various aerosol optical properties through specific products from its geostationary and polar-orbiting satellites. Meteosat imagery is used to characterise aerosols in the atmosphere, including volcanic ash and dust storms at high temporal resolution, while the GOME-2, AVHRR and IASI and instruments on Metop observe aerosol optical properties from the UV/vis to the infra-red spectral region from a polar morning orbit.

The role of EUMETSAT in observing aerosol optical properties will expand further towards the 2020 time-frame when EUMETSAT also becomes the operator of the Copernicus Sentinel-3, 4 and 5 missions. This expanding role will be realised through additional atmospheric composition sounding instruments such as the UVN/Sentinel-4 on the Meteosat Third Generation (MTG) geostationary platforms and the 3MI, METimage, and Sentinel-5 instruments on the EPS Second Generation (EPS-SG) satellites.

The synergistic use of imager, spectrometer and interferometer data will, with the availability of this new generation of instrumentation and with the need for measuring aerosol optical properties at short-time scales, high spatial resolution and over a broad spectra region, play an increasingly important role in the field of aerosol remote sensing.

With its new Polar Multi-mission Aerosol optical properties (PMAp) product, providing aerosol and cloud optical depth information, as well as fine mode, dust and volcanic ash characterisation over ocean and in the future also over land, EUMETSAT has recently been implementing the first framework for such synergistic retrievals for the remote sensing of aerosol optical properties from GOME-2, AVHRR and IASI instruments on Metop.

We will present an overview of the ongoing and the future developments at EUMETSAT concerning aerosol remote sensing from Metop as well as from the current MSG geostationary platforms and from the future EUMETSAT missions.