Level 2 validation and monitoring activities at EUMETSAT for future IASI-NG mission

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ABSTRACT

The upcoming Infrared Atmospheric sounding Instrument – new generation (IASI-NG) instrument onboard EUMETSAT's EPS-SG satellite, will provide essential data for NWP and the Atmospheric Composition/Air Quality user communities, building on the existing IASI data. Its unprecedented low radiometric noise (half of the one of IASI) and spectral sampling of 0.25cm-1 in 4 spectral bands from 645-2760cm-1 represents a significant advancement over its predecessor IASI, thereby enhancing the value for NWP and Atmospheric Composition/Air quality user communities.

This paper presents an overview of the upcoming level 2 (L2) validation and commissioning activities, with a focus on the tools developed to facilitate effective IASI-NG L2 commissioning and to ensure the quality maintenance during the routine operations. The tool IMOEN-NG (IASI MOnitoring ENvironement - New Generation) encompasses the comparison with satellite data and NWP models as well as self-sanity checks. Moreover, the MONALiSA (MONitoring of Atmospheric Level 2 SAtellite products) tool is designed to compare IASI-NG L2 products with ground-based and in-situ measurements as well as campaign data and routine sonde measurements.

In addition, the paper covers tools for comparison with aircraft measurements (AMDAR, Aircraft Meteorological Data Relay) and validation against other satellite data (MAP_GII), completing the full L2 validation and monitoring activities at EUMETSAT.