

Overview of geometry in IASI-NG processing

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ABSTRACT

IASI-NG instrument is made of 16 sounding pixels and a TIR 2D imager (IMA). Using a scanning mirror, the 16 pixels and the IMA imager are acquiring the signal from the Earth surface and atmosphere on 14 different Earth Views in a global swath of 2200 km. Onboard the same Metop-SG satellite, METimage instrument serves as a reference for the geometric alignment of IASI-NG acquisitions, leading to an accurate co-registration between instruments and a good geolocation performance of the IASI-NG sounding pixels.

The proposed paper will focus on the geometric characteristics of the instrument and the corresponding modelling used in the processing. To insure the best possible geolocation of each sounding measurement on ground, the following corresponding geometric calibrations are foreseen:

- A dynamic calibration of the geometric modelling is done in the L1CPOP (L1C operational ground processor), on each Earth View, by comparing the acquisition of METimage with the one of IMA to detect and correct potential non-systematic biases (for instance thermo-elastic effects);
- A static calibration of the main geometric parameters will be performed via IASTEC (CalVal centre of IASI-NG mission), in particular the estimation of each sounding pixel line of sight in the IMA reference frame.

Finally, some figures about the geolocation budget will be exposed.