



Meteosat Third Generation Lightning Imager: a discussion on user requirements and instrument features.

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For the next generation of earth observation geostationary satellite, major operating agencies are planning to insert an optical imaging mission, that continuously observes lightning pulses in the atmosphere; EUMETSAT has decided at the end of 2008 that one of the mission to be flown on MTG is LI, a Lightning Imager.

The Centro Nazionale di Meteorologia e Climatologia Aeronautica recently hosted a fellowship sponsored by Selex Galileo, with the intent to study and perform a simulation of Meteosat Third Generation - Lightning Imager (MTG-LI) sensor behavior through Tropical Rainfall Measuring Mission - Lightning Imaging Sensor data (TRMM-LIS).

MTG-LI mission has no Meteosat Second Generation heritage, but users need to evaluate the possible real time data output of the instrument to agree in inserting it on MTG payload. Authors took the expected LI design from MTG Mission Requirement Document, and reprocess real lightning dataset, acquired from space by TRMM-LIS instrument, to produce a simulated MTG-LI lightning dataset. The simulation is performed in several run, varying Minimum Detectable Energy, taking into account processing steps from event detection to final lightning information.

A discussion on user requirements and instrument features is presented.