6.107 Tracking pollutants from space: 10 years of IASI satellite observation.

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Abstract:

The IASI instrument is a Fourier Transform Spectrometer sounding the atmosphere using the thermal infrared spectral range from a polar orbiting satellite. It was designed by CNES (Centre National d'Etudes Spatiales) and launched by Eumetsat on the MetOp series of satellites. The mission has been providing global observations of the air composition with an excellent spatial resolution, twice a day since 2007 (MetOp-A) and 4 times per day since 2012 (Metop-A and MetOp-B).

From the atmospheric spectra recorded by the instrument, concentrations of several trace gases can be monitored, enhanced levels of pollution can be detected, and particle types can be determined to some extent. This paper recalls the historical context for the IASI remote sensor, reviews its capability to observe some key species for global and regional pollution monitoring, and reports on information services that benefit from the mission. On the longer term the continuity of the program is ensured with the IASI-NG mission that will extend the IASI observation for 15-20 more years.