Noveltis

Simulation of the MTG/IRS spectra and analysis of the potential of the sounder to characterise atmospheric pollution

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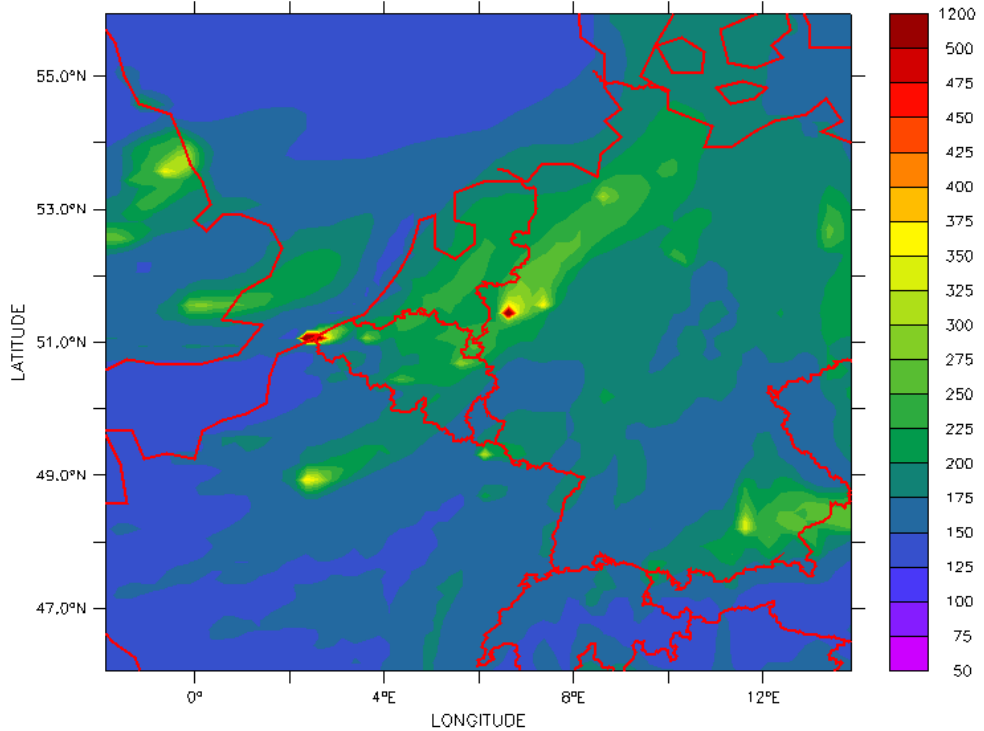(1) NOVELTIS - (2) LPMAA - (3) KNMI - (4) CNES- (5) LATMOS

MTG/IRS objectives

- The first IRS infrared sounder will be launched on the MTG-S platform in 2018. Its main objective is to support meteorological applications in Europe.

- Question that is currently asked: will this instrument contribute as well to air quality and chemistry type applications?

Monitoring of pollution plumes of CO with IRS/MTG

- Is the pollution signal due to the presence of strong pollution plumes near the surface present in IRS/MTG spectra?

- Under what conditions can this pollution signal be captured?

- How can the signal corresponding to the pollutants be extracted from the measured spectra?

CO (ppbv), surface, KNMI, CHIMERE (0.125°x0.25°) 6-8 January, 2008

TIME : 06-JAN-2009 00:00

Analysis

- **IRS/MTG spectra were simulated on a chosen spatio-temporal grid**
- **Retrieval of the CO signal from the generated spectra with a simple method based on spectral indicators.**

black contours–

CO column in the PBL

PERIOD: 2 Time: 2006 26 - 00 UTC NOISE = 0.
Model PBL Carbon Monoxyd Contours (10**17 mol/cm**-2)

CO indicator (unitless, plotted using colors)

0.0026   0.0028   0.003   0.0032   0.0034   0.0036   0.0038