



Global and local ozone measurements from the thermal infrared IASI/METOP sounder

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Global monitoring of tropospheric ozone is essential as it plays a role in much of the oxidation chemistry and is a main greenhouse gas and air pollutant. Tropospheric as well as stratospheric ozone are highly variable in both space and time. It is therefore necessary to perform accurate global measurements in order to quantify the effect of tropospheric ozone on our environment, and to analyze its spatial distribution, transport pathways, and trends. The IASI instrument launched onboard the METOP platform in October 2006 is a nadir looking Fourier transform spectrometer that probes the Earth's atmosphere in the thermal infrared spectral range, with a spectral resolution of 0.5 cm⁻¹ (apodized). IASI monitors the atmospheric composition at any location two times per day, and measures many of the chemical components which play a key role in the climate system and in several aspects of atmospheric pollution.

In this study, we will present global and regional maps that will show the temporal and seasonal evolution of the tropospheric and total ozone. We will use the data retrieved from the IASI Level 1 radiance data using a near-real time retrieval algorithm (FORLI) that allows the derivation of global distributions and profiles of ozone. We will discuss the current performances in terms of vertical resolution and accuracy and for the first time the maps of the vertical profile of ozone during the year of 2011 will be presented.