



Tropospheric ozone distributions over Europe during summer 2007 observed by IASI and simulated by CHIMERE

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Tropospheric ozone (O_3) is a key species for tropospheric chemistry and air quality. Its monitoring is a key element to quantify sources, transport, chemical transformation and sinks of atmospheric pollution. Accurate data are required for understanding and predicting chemical weather. Space-borne observations are very promising for these concerns, especially in terms of model validation and data assimilation.

We present tropospheric ozone columns observed by the IASI instrument aboard the MetOp-A platform over Europe during summer 2007 with a specific focus on the East European heat wave in July. First ozone observations derived using altitude dependent regularization retrieval show the ability of IASI in representing the lower tropospheric O_3 variability. Preliminary validation results obtained comparing observations with available sonde data show a good agreement. On the other hand, first comparisons with the CHIMERE air quality model are presented. The observations show high tropospheric ozone amounts over southern Europe, in particular in areas with high surface temperatures, in agreement with the model predictions. The observed tropospheric ozone columns are generally slightly higher (about 7%) than those predicted by the model, but show a good general agreement concerning the spatial distribution.