



## **Ozone tropospheric and stratospheric trends (1995-2008) over Western Europe from ground-based FTIR network observations**

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Five ground-based stations in Western Europe, from 79°N to 28°N, all part of the Network for the Detection of Atmospheric Composition Change (NDACC), have joined their efforts to homogenize and optimize the retrievals of ozone profiles from FTIR (Fourier transform infrared) solar absorption spectra. Using the optimal estimation method, distinct vertical information can be obtained in four layers: ground—10 km, 10—18 km, 18—27 km, and 27—42 km, in addition to total column amounts. A bootstrap resampling method has been implemented to determine annual partial and total column trends<sup>1</sup>. Vigouroux et al. (2008)<sup>2</sup> applied this method to the ozone data and discussed the trends of the total columns and of the partial columns in the above four layers, over the period 1995-2004. Here, we present and discuss an update of this analysis for the 1995-2008 period. We obtain, among others, that at all the stations, the ozone total columns trends are non significant while the trends in the upper stratospheric layer (27–42 km) are significantly positive.

<sup>1</sup> Gardiner, T., Forbes, A., Woods, P., De Mazière, M., Vigouroux, C., Mahieu, E., Demoulin, P., Velazco, V., Notholt, J., Blumenstock, T., Hase, F., Kramer, I., Sussmann, R., Stremme, W., Mellqvist, J., Strandberg, A., Ellingsen, K., and Gauss, M.: Method for evaluating trends in greenhouse gases from ground-based remote FTIR measurements over Europe, *ACP*, 8, 6719-6727, 2008.

<sup>2</sup> Vigouroux, C., De Mazière, M., Demoulin, P., Servais, C., Hase, F., Blumenstock, T., Kramer, I., Schneider, M., Mellqvist, J., Strandberg, A., Velazco, V., Notholt, J., Sussmann, R., Stremme, W., Rockmann, A., Gardiner, T., Coleman, M., and Woods, P.: Evaluation of tropospheric and stratospheric ozone trends over Western Europe from ground-based FTIR network observations, *ACP*, 8, 6865-6886, 2008.