



Evolution of tropospheric NO₂ over megacities and world regions

Granier, C., (1,2,3), **A. Richter** (4), **X.X. Tie** (5), **G. Pétron** (5), **J. Burrows** (4), **L. Emmons** (5), **H. Nuess** (4), **A. Heckel** (4)

(1) Service d'Aéronomie/IPSL, Paris, France, (2) Max Planck Institute for Meteorology, Hamburg, Germany (3) CIRES/NOAA Aeronomy Laboratory, Boulder, USA, (4) Institute of Environmental Physics, University of Bremen, Bremen, Germany, (5) National Center for Atmospheric Research, Boulder, USA

NO₂ tropospheric columns have been measured by satellite since 1996, first from the GOME (Global Ozone Monitoring Experiment) and, since 2002 from the SCIAMACHY (Scanning Imaging Spectrometer for Atmospheric Chartography) instrument. The observations obtained by these two satellites have been combined and changes in tropospheric NO₂ over several world megacities in different continents have been detected. The presentation will discuss the results of this study, as well as results from simulations using the MOZART chemistry-transport model.

The changes in NO₂ tropospheric columns in different areas of the world have been analyzed together with observations of carbon monoxide from the MOPITT instrument. First results of this study will also be discussed.