



Automated FTS measurements at the site Bialystok in comparison with in-situ measurements and model data

Janina Messerschmidt (1), Huilin Chen (4), Christoph Gerbig (2), Krzysztof Katrynski (5), Frank-Thomas Koch (2), Jost Valentin Lavric (2), Justus Notholt (1), Wouter Peters (3), Christian Rödenbeck (2), and Thorsten Warneke (1)

(1) IUP, University Bremen, Institute of Environmental Physics, Germany (messerschmidt@iup.physik.uni-bremen.de), (2) Max Planck Institute for Biogeochemistry, Jena, Germany, (3) Dept. of Meteorology and Air Quality, Wageningen University, Netherlands, (4) National Oceanic and Atmospheric Administration (NOAA), Boulder, USA, (5) AeroMeteo Service, Bialystok, Poland

The Institute of Environmental Physics in Bremen, Germany is operating an automated Fourier Transform Spectrometer (FTS) at the site Bialystok, Poland since March 2009. Bialystok is one of European sites with a wide range of on-site measurement facilities. Besides tall tower measurements at heights of up to 300 m, low aircraft profiles are conducted on a regular base.

In addition to the automation concept, the first comparison of the FTS dataset with the on-site in-situ facilities will be described. Furthermore the first analysis of CarbonTracker Europe predictions and the Jena CO₂ inversions with FTS measurements is presented. Both models identify monthly variations in the CO₂ total column. The Jena CO₂ inversion seasonal amplitude is in good agreement with the FTS seasonal amplitude.