QOS2016-102, 2016
Quadrennial Ozone Symposium of the International Ozone Commission

Comparison of tropospheric ozone profiles at Brussels, measured with MOZAIC aircraft and ozonesondes

R. Van Malderen (1), N. Pateraki (2), H. De Backer (1), H.G.J. Smit (3), V. Thouret (4,5)

(1) Royal Meteorological Institute of Belgium, Brussels, Belgium (roeland.vanmalderen@meteo.be), (2) University of Patras, Greece, (3) Forschungszentrum Jülich GmbH, Institut für Energie and Klimaforschung, IEK-8 Troposphäre, Jülich, Germany, (4) Université Paul Sabatier de Toulouse, France, (5) CNRS - Laboratoire d'Aérologie UMR 5560, Toulouse, France

Since 1969, at Uccle (Brussels) ozonesondes attached to weather balloons, are launched 3 times a week, providing an ozone profile at high vertical resolution. Between 1997 and 2001, a commercial airplane landing and taking off regularly at Brussels Airport was equipped with an instrument measuring ozone, based on the dual-beam UV absorbing principle. As a consequence, a 5-years dataset consisting of 560+ same-day tropospheric ozone profiles measured by both devices exists at Brussels, which enables us to assess the accuracy of the tropospheric ozone measurements by both techniques. In this analysis the spatial co-location will be taken into account by calculating the trajectories of the weather balloons, based on the wind observations of the carried radiosondes.
In a next step, as the Uccle station is in the Upper Troposphere (UT) also often in the flight track of MOZAIC/IAGOS aircrafts which land or take off at Frankfurt Airport, the study can be extended with more coincidences in time and space in the UT over the entire period from 1994 up to now.