



Airplane measurements above a patchy, agricultural dominated landscape in Central Europe

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During the FLUXPAT campaign in 2008 the MetAir Dimona research aircraft performed several flights above a patchy, agricultural dominated landscape near Juelich/Germany. Main focus of the measurements are variability of water vapor and CO₂ and their turbulent fluxes in the atmospheric boundary layer close to the ground. Flights took place at changing levels between 80m and 400m above ground in legs parallel and perpendicular to the prevailing wind. Agriculture in the region is dominated by two different crops: sugar beet and wheat. Simultaneous to the flights measurements at the ground took place to determine evapotranspiration and CO₂ uptake of the crops, single plants and the soil below.

We will present analyses of the airborne concentration and flux measurements, identify organized structures or at least parameters characterizing them. These parameters are related to external parameters as wind, stability, boundary layer depth and surface fluxes and their distribution on the ground.