



First results from GPS tomography during the COPS field experiment

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The COPS (Convective and Orographically-Induced Precipitation Study: www.cops2007.de) field experiment took place in June-August 2007 in the Vosges (France) and Black Forest (Germany) mountains. A large amount of data from GPS, radio-soundings, LIDAR was collected to document the 4D field of water vapour. A GPS network both with mesoscale (250 by 150 km) and local (5 by 50 km) extension was setup for case studies, data assimilation and IASI water vapour products validation. The standard GPS products (Zenith Total Delay) and IWV (Integrated Water Vapour) are calculated with the latest processing procedures and validated with radiosoundings and radiometers. First GPS tomography products will be shown along the high resolution profile between the "super-sites" and in the whole COPS area. GPS tomography will provide the 4D field of water vapour for the three months of the field experiment. Validation of the GPS tomography will be achieved by using radiosoundings and LIDAR as a reference. Airborne LIDAR provides a quasi-instantaneous view of the water vapour and are especially well suited for the GPS tomography validation. Inter-comparisons will be done also between the IASI water vapour products and the GPS tomography. The GPS products such as slant delay or tomography will be used for assimilation and case studies.