



A comparison of selected vertical wind measurement techniques on basis of the EUCAARI IMPACT observations

S. Arabas (1), C. Baehr (2), M. Boquet (3), Y. Dufournet (4), H. Pawlowska (1), H. Siebert (5), and C. Unal (4)

(1) Institute of Geophysics, University of Warsaw, Poland (sarabas@igf.fuw.edu.pl), (2) GAME/CNRM (CNRS, Météo-France), Toulouse, France, (3) Leosphere, Orsay, France, (4) IRCTR, Delft University of Technology, The Netherlands, (5) Leibniz-Institute for Tropospheric Research, Leipzig, Germany

The poster presents a comparison of selected methods for determination of the vertical wind in the boundary layer used during the EUCAARI IMPACT campaign that took place in May 2008 in The Netherlands. The campaign covered a monthlong intensified ground-based and airborne measurements in the vicinity of the CESAR observatory in Cabauw.

Ground-based vertical wind remote sensing was carried out using the Leosphere WindCube WLS70 IR Doppler lidar, Vaisala LAP3000 radar wind-profiler and the TUDelft TARA S-band radar. In-situ airborne measurements were performed using an ultrasonic anemometer (on the ACTOS helicopter underhung platform) and a 5-hole pressure probe (on the SAFIRE ATR-42 airplane radome). Several in-situ anemometers were deployed on the 200-meter high tower of the CESAR observatory.

A summary of the characteristics and principles of the considered techniques is presented. A comparison of the results obtained from different platforms depicts the capabilities of each technique and highlights the time, space and velocity resolutions.