

High-resolution large-eddy simulation of urban atmospheric boundary layer

Antti Hellsten (antti.hellsten@fmi.fi)

Finnish Meteorological Institute, Atmospheric Composition Research

High-resolution Large-Eddy Simulation (LES) system for real urban environment (central Helsinki, Finland) is presented. The PALM LES model (<https://palm.muk.uni-hannover.de/trac>) forms the core of our modeling system. The grid resolution allows resolving the most important turbulent phenomena within the urban canopy including the street canyons. The system includes realistic model for the urban geometry including terrain shape and buildings and also trees. Some applications are also discussed.