COMPARISON OF DIFFERENT SUBGRID TURBULENCE MODELS AND BOUNDARY CONDITIONS FOR LARGE-EDDY-SIMULATIONS OF ROOM AIR FLOWS

D. Müller¹, L. Davidson²

¹Lehrstuhl für Wärmeübertragung und Klimatechnik (Institute of Heat Transfer and Air-Conditioning) Aachen University of Technology (RWTH Aachen), Germany

> ²Department of Thermo and Fluid Dynamics Chalmers University of Technology, Sweden

ABSTRACT

The calculation results applying two equation turbulence models for the time average Navier-Stokes equations suffer sometimes from large difference to measurements of complex room air flows. Using less modelling assumptions the Large-Eddy-Simulation (LES) becomes practical to calculate room air flows because of more powerful CFD codes and computers. This paper focus on different LES-Models and its boundary conditions.