

Lothar-Collatz-Seminar

Wed, 17. Feb · 4:15 pm · online

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Multiscale methods application to Canopies in Earth System

Abstract:

Multiscale Finite Element Methods (MsFEM) are able to capture subgrid features not representable by classical methods. They were originally developed to solve stationary porous media problems. In my talk I will give an introduction to the application of MsFEM for transient advection dominated problems motivated by climate simulations. The idea is based on works by Simon and Behrens (2020). The presentation will give some details on the implementation, using the parallelized C++ library deal.II. Results are shown for two and three dimensional test cases.

In an outlook I will demonstrate a possible application to urban canopies. These consist of buildings and trees that may be aligned and therefore influence the flow on the large scale. We intend to conduct wind tunnel experiments to validate our model

For further information please contact

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www.c3s.uni-hamburg.de/news-events/seminar-c3s.html