

MG - A Toolbox for Parallel Grid Adaption and Implementing Unstructured Multigrid Solve

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Abstract

We investigate parallel grid adaption and multigrid solvers based on the software system MG. Our results demonstrate the scalability of parallel grid adaption up to 512 processors and multigrids consisting of more than 10^8 tetrahedral elements.

For the first time, we also present results obtained with a finite element multigrid solver based on MG. Though still under development, this solver proves to be an efficient tool for solving advection-diffusion problems.