Johann Radon Institute for Computational and Applied Mathematics
der
Österreichischen Akademie der Wissenschaften

Group Seminar

Group: Computational Methods for Direct Field Problems

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Max Planck Institute for Mathematics in the Sciences

"The Parallel Toolbox: Design and Applications"

The presentation introduces the Parallel Toolbox, a software package under development, that provides tools to build parallel solvers for the numerical solution of partial differential equations. The main design goals of the Parallel Toolbox are easy to use components, robust implementations, and algorithms with at most almost linear computational complexity.

To achieve these goals some new ideas for the software design process are introduced that are based on category theory. The algebraic multigrid algorithm is used as a test case to validate the design methodology.

Website: http://paralleltoolbox.sourceforge.net/

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Johannes Kepler Universität, HF136