The Parallel Toolbox: Recent Developments

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ABSTRACT

The *Parallel Toolbox* is a high performance parallel linear algebra toolbox written in the C++ programming language. The toolbox provides building blocks for the construction of advanced parallel solver components. The object-oriented design of the toolbox is based on ideas from abstract category theory leading to an easy to use plug-and-play framework.

The presentation gives an overview on parallelization strategies used for the components of the algebraic multigrid solver. Benchmarks on high performance computing clusters are presented for various applications in fluid dynamics, biomedical engineering, and multi-phase flows to validate the parallelization approach.

REFERENCES

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