

Advanced Linear-equation Solver for Fluid Mechanics and Fluids/Structure Interaction Modeling

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BACKGROUND

This is a software library intended for solving the linear system of equations resulting from the discretization of incompressible fluid flow equations.

TECHNOLOGY DESCRIPTION

This solver is appropriate for the use in general purpose finite element computational fluid dynamics (CFD) and fluid structure interaction (FSI) solvers. This library also covers two other standard linear solvers, *i.e.* Generalized Minimum Residual (GMRES) for non-symmetric systems and Conjugate Gradient (CG) for symmetric systems of equations.

APPLICATIONS

Applications of this technology include compressible flow, blood flow, single and multi-fluid flow, heat conduction, and structural mechanics.

ADVANTAGES

This library can be efficiently run on multiple cores, which makes it a practical option for problems with a large number of elements.

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OTHER INFORMATION

KEYWORDS

modeling software, CAD, analytics,
software

CATEGORIZED AS

- ▶ **Computer**
 - ▶ Software
- ▶ **Engineering**
 - ▶ Engineering

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