

Numerical Analysis and PDE

Cut Finite Element Methods

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In this talk I will present a new type of finite element methods that we refer to as Cut Finite Element Methods (CutFEM). CutFEM provides an efficient strategy for solving Partial Differential Equations (PDEs) in dynamic geometries. Such PDEs occur for example in multiphase flow problems. In CutFEM the dynamic geometry is allowed to cut through the background grid in an arbitrary fashion and remeshing processes are avoided.

This is joint work with Erik Burman, Peter Hansbo, and Mats G. Larson.