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Extended finite element method

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Abstrak

Extended finite element method provides an introduction to the extended finite element method (XFEM), a novel computational method which has been proposed to solve complex crack propagation problems. The book helps readers understand the method and make effective use of the XFEM code and software plugins now available to model and simulate these complex problems.

The book explores the governing equation behind XFEM, including level set method and enrichment shape function. The authors outline a new XFEM algorithm based on the continuum-based shell and consider numerous practical problems, including planar discontinuities, arbitrary crack propagation in shells and dynamic response in 3D composite materials.