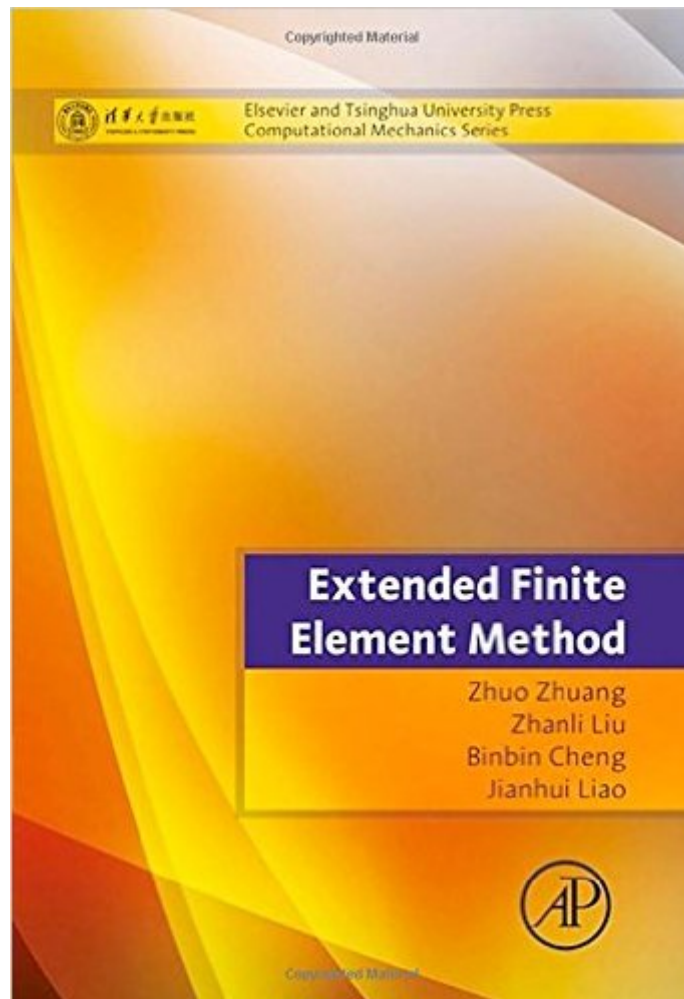# Extended Finite Element Method: Tsinghua University Press Computational Mechanics Series

Extended Finite Element Method

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Synopsis

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.Authored by an expert team from one of China's leading academic and research institutionsOffers complete coverage of XFEM, from fundamentals to applications, with numerous examplesProvides the understanding needed to effectively use the latest XFEM code and software tools to model and simulate dynamic crack problems

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