Talk announcement

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Modeling and simulation of phase-field fracture

In this presentation we explain basic modeling of fracture propagation using a phase-eld technique. The resulting formulation has two unknowns: displacements and a smoothed indicator function. This phase-eld indicator function is subject to an irreversibility constraint. Based on this model we then discuss all steps to design robust and ecient numerical methods. These algorithmic techniques are substantiated with numerical examples that show current achievements but also highlight open questions.