Phase-field Modeling of Brittle Fracture and its Adaptive Moving Mesh Solution

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ABSTRACT

The phase-fieldmodeling and its adaptive moving mesh solution for studying initiation and propagation of brittle fracture will be presented. Challenges such as non-smoothness of the energy functional, violation of fracture boundary conditions, and the need for mesh adaptation, and possible remedies for these challenges will be discussed. In particular, a moving mesh finite element method will be presented for the numerical solution of the phase-field model for brittle fracture.

REFERENCES

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