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

Weizhang Huang^{*}, Xianping Li[†], Fei Zhang[§] and Shicheng Zhang[§]

^{*} Department of Mathematics, University of Kansas, Lawrence, Kansas 66049, USA
e-mail:whuang@ku.edu, web page: <https://whuang.ku.edu>

[†] College of Integrative Sciences and Arts, Arizona State University, Mesa, Arizona 85212, USA

[§] College of Petroleum Engineering, China University of Petroleum, Changping, Beijing 102249, China

ABSTRACT

The phase-field modeling 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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