

LME-MPM applied to quasi-brittle fracture

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June 30, 2020

Highlights

- Fracture mechanics within the Material Point Method is a challenging research fields that is being improved day-to-day.
- Eigenerosion is one of the fracture models that has been validated within dynamic problems with excellent results. The Eigensoftening algorithm is an interesting improvement of Eigenerosion for quasi-brittle materials.
- The Local Maximum Entropy shape functions together with a Predictor-Corrector time integration scheme enhance the traditional MPM scheme.
- Several results of the enhanced MPM with eigenerosion and eigensoftening models are provided in order to compare the performance of the proposed methodology against analytical and experimental solutions with excellent results.