

The WED Principle and the Evolution of Microstructures

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Abstract

I shall report on the use of so-called weighted energy-dissipation (WED) functionals for the description of dissipative evolution.

The WED functional approach has been advanced by A. Mielke and M. Ortiz as a suitable tool for describing effective problems related to microstructure evolution in the rate-independent context. Later, S. Conti and M. Ortiz carried this program further to the rate-dependent realm by providing two specific examples of WED functionals relaxations arising in microstructure evolution.

I will comment on the underlying basic convergence issue and show applications to the aforementioned examples.

This is a joint project with G. Akagi (Shibaura) and A. Mielke (Berlin).