

A new Visco-Energetic incremental minimization scheme for rate-independent evolution problems

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We study the asymptotic properties of a modified incremental minimization algorithm for rate-independent evolution problems driven by a time-dependent energy. The main novelty of the scheme concerns the dissipation term, typically a distance in the energetic approach, which is perturbed by a suitably rescaled viscous correction.

As in the energetic setting, the limit curves (called *Vico-Energetic* solutions) have bounded variation and can be characterized by the combination of energy balance and stability: both take into account the viscous term in the jump characterization and combine the robust stability properties of energetic solutions with a more localized jump behaviour.

The study of the classical example of a linearly perturbed bistable energy clarifies the role of the viscous perturbation and exhibits a one-parameter family of solutions, ranging from the Energetic to the Balanced Viscosity case.

(In collaboration with Luca Minotti)