

Problems with Inertia and Their Variational Limits

Malte Kampschulte

Department of Mathematical Analysis, Faculty of Mathematics and Physics,
Charles University Prague
KAMPSCHULTE@KARLIN.MFF.CUNI.CZ

Abstract

The aim of this talk is to present some recent results on the variational characterisation of problems involving inertia in terms of energy and dissipation. Not only can we directly show existence of weak solutions from this characterisation in a straightforward approach, but also we can consider variational limits of a sequences of such problems, far extending the well-known idea of Γ -convergence.

This will be illustrated at classical examples, such as the limit from non-linear to linearized elasticity, highlighting its usefulness for continuum mechanics.