

# A variational approach to rate-independent problems

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The course will present a concise overview of the variational theory for rate-independent processes. Starting from some basic examples, we will discuss the link with gradient flows and doubly-nonlinear differential equations in Hilbert/Banach spaces. The method of incremental minimizations and Mielke's "Energetic formulation" will be considered and compared with the recent notion of "BV-solution" related to viscous approximation. Some general existence, approximation, and stability results will be derived, with applications to various kind of models governed by ordinary or partial differential equations.