DK Seminar

Apr 26, 2017, 14:15 - 15:45
University of Vienna,
Oskar-Morgenstern-Platz 1, HS 2

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Dynamic perfect plasticity as convex minimization

We present a novel approximation of solutions to the equations of dynamic linearized perfect plasticity, based on a global variational formulation of the problem by means of the Weighted-Intertia-Dissipation-Energy (WIDE) approach. Solutions to the system of dynamic Prandtl-Reuss perfect plasticity are identified as limit of minimizers of parameter-dependent energy functionals evaluated on trajectories (the WIDE functionals). Compactness is achieved by means of time-discretization, uniform energy estimate on minimizers of discretized WIDE-functionals, and passage to the limit in a parameter-dependent energy inequality. This is a joint work with Ulisse Stefanelli.