JOHANNES KEPLER UNIVERSITY LINZ

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INSTITUTE OF NUMERICAL MATHEMATICS

Talk announcement

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Tuesday, June 6, 2023
13:45, S2 416-1

On energy based vector-hysteresis models

The modeling of hysteresis with energy based vector hysteresis models has the potential to provide results, that are both accurate and efficient to calculate. In the talk two models will be presented, both draw analogies to dry friction models and have a thermodynamic rational behind them, that other models often lack. The first one establishes a unrestricted non-smooth optimization problem. The second model proposes a smooth restricted optimization problem. With the assumption that models have strictly convex objective functions it can be shown, that the both models are indeed equivalent. After the equivalence is established some numerical experiments will be shown, that show that the models are not just equivalent in theory. The proximal gradient method and the newton method will be methods of interest in these experiments.