



# Lothar-Collatz-Kolloquium für Angewandte Mathematik

**Donnerstag, den 22. Juni 2017, um 17:15 Uhr, im Hörsaal 5**

**Prof. Dr. Daniel Wachsmuth\***  
(Universität Würzburg, Lehrstuhl für Mathematik VII)

## ***Optimal control of a rate-independent evolution equation via viscous regularization***

### **Zusammenfassung/Abstract:**

We study the optimal control of a rate-independent system that is driven by a convex quadratic energy. Since the associated solution mapping is non-smooth, the analysis of such control problems is challenging. In order to derive optimality conditions, we study the regularization of the problem via a smoothing of the dissipation potential and via the addition of some viscosity. The resulting regularized optimal control problem is analyzed. By driving the regularization parameter to zero, we obtain a necessary optimality condition for the original, non-smooth problem.

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