

# Regularization and finite element error estimates for distributed control problems with energy regularization

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In this talk we present a general concept for distributed optimal control problems with energy regularizations. Applications include the Poisson equation, the heat equation, and the wave equation. We derive error estimates between the state and the target with respect to the regularization parameter, and in combination with finite element error estimates we end up with an optimal choice for the relaxation parameter. Numerical examples are given.

This talk is based on joint work with U. Langer, H. Yang, and R. Löscher.

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