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Numerical Analysis for PDE-Constrained Optimal Control Problems

## Regularization in Sobolev spaces with fractional order

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**Abstract:** Fractional derivatives and Sobolev spaces with fractional order became more and more popular in the last years. The talk is devoted to problems with least squares functional where the Tikhonov term is an  $H^s$ -norm with  $s \in (0, 1)$ . Theoretical results and numerical experiments are presented.

This is joint work with Ute Aßmann (Universität Duisburg-Essen).