

## ON OPTIMAL APPROACHES FOR MESH ADAPTATION

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The talk will deal with the development and analysis of optimal approaches for mesh adaptation for the discretization of classical boundary-value problems. One can mathematically show that some greedy adaptive methods are optimal with respect to the energy norm or some quantity of interest for simple problems such as those given in terms of symmetric positive-definite boundary-value problems [1, 2, 3]. Performance of the methods for general problems is far less clear. The objective of the talk will be to reformulate mesh adaptivity in terms of minimization problems with constraints, based either on classical optimization theories [4, 5] or on concepts from optimal transport [6]. The performance of the different formulations will be compared on classical model problems.

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