

PDE constrained shape optimization in the Lipschitz topology

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We propose to perform PDE constrained shape optimization using the method of mappings with descent realized in the Lipschitz topology. We present numerical analysis, and also conduct numerical examples which indicate that minimization in the Lipschitz topology seems to be superior over the classical minimization in Hilbert spaces, in particular when the optimal shape has sharp corners. Moreover, on the implementation level, mesh degeneration during the minimization procedure is avoided with our approach.

References:

[1] <https://www.esaim-cocv.org/articles/cocv/abs/2022/01/cocv210048/cocv210048.html>

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