

Approximation of a Wanted Flow via Topological Sensitivity Analysis

Authors : Mohamed Abdelwahed

Abstract : We propose an optimization algorithm for the geometric control of fluid flow. The used approach is based on the topological sensitivity analysis method. It consists in studying the variation of a cost function with respect to the insertion of a small obstacle in the domain. Some theoretical and numerical results are presented in 2D and 3D.

Keywords : sensitivity analysis, topological gradient, shape optimization, stokes equations

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