

A mass optimization problem with convex cost

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Talk Abstract

We consider a mass optimization problem where instead of imposing a constraint on the total mass of the competitors, we penalize the classical compliance by a convex functional defined on the space of measures. We obtain a characterization of optimal solutions to the problem through a suitable PDE. This generalizes the case considered in the literature of a linear cost (see [1]) and applies to the optimization of a conductor where very low and very high conductivities have both a high cost, and then the study of nonlinear models becomes relevant. The results are obtained in collaboration with G. Buttazzo and D. Lučić .

Keywords: Mass optimization problems, convex functionals on measures, Sobolev spaces with respect to measures, Fenchel duality.

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References

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