Solving Regularized OED Problems by Primal-Dual Algorithms

Roland Herzog[*]   Eric Legler[†]

Numerical algorithms for the solution of OED problems in various formulations have been proposed and discussed in many papers. In this talk we consider a regularized formulation utilizing a design weight of L^2 type in order to obtain a convex problem in a Hilbert space setting. We discuss the application of primal-dual algorithms for this problem, in particular the celebrated method due to Chambolle and Pock (2011). The main effort in each iteration is the evaluation of two proximal mappings. We will present how these calculations can be carried out and which results can be achieved with the Chambolle-Pock and related algorithms.

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[*]Technische Universität Chemnitz, Faculty of Mathematics, `roland.herzog@mathematik.tu-chemnitz.de`
[†]Technische Universität Chemnitz, Faculty of Mathematics, `eric.legler@mathematik.tu-chemnitz.de`