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Vortragsankündigung

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A sequential homotopy method for mathematical programming problems

Abstract:
We propose a sequential homotopy method for the solution of mathematical programming problems in Hilbert spaces under the Guignard constraint qualification. The method is equivalent to projected backward Euler timestepping on a projected gradient/antigradient flow of the augmented Lagrangian.
The projected backward Euler equations can be interpreted as the necessary optimality conditions of a primal-dual proximal regularization of the original problem. The regularized problems are always feasible, satisfy a strong constraint qualification guaranteeing uniqueness of Lagrange multipliers, yield unique primal solutions provided that the stepsize is sufficiently small, and can be solved by a continuation in the stepsize.
We demonstrate its efficiency for challenging PDE optimization problems using a semismooth Newton method.

Montag 10.01.2022   16:00 Uhr   Raum C311

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Alle Interessierten sind herzlich eingeladen.