Solution of the trust region problem via a smooth Unconstrained reformulation*

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Abstract

In this paper, we consider the minimization of a quadratic function subject to a quadratic equality constraint. We transform the original constrained problem into the unconstrained minimization of a twice continuosly differentiable exact penalty function. We show that, by means of this transformation, we can define a new class of algorithms for locating the global solution of large scale trust region problems.

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