

An Algorithm for Minimization Problems in l_0 -Regularization for Nonlinear Inverse Problems

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Abstract: In this paper, we study the minimization problem in l_0 -regularization for nonlinear inverse problems. We propose sufficient conditions for the solution existence as well as the first order condition equation for solutions of the minimization problem. After that we propose and proof the convergence of a gradient-type method for this minimization problem under the conditions of stepsizes. Finally, the gradient-type method is applied to some numerical examples in order to show its performance in real situations.

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