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On the Regularity of Trust Region Algorithm for Nonlinear Ill-posed Inverse Problems [¤]

Abstract. This paper develops a trust region method for solving nonlinear ill-posed problems. This method is di®erent from the traditional regularization method, because it does not need introduce a penelty term, called the stable functional, hence the determing of the so-called regularization parameter is avoided. The choice of such a parameter is a subtle thing. Theoretical analys is of the trust region method is presented, convergency and regularity of the trust region algorithm are proved, numerical tests are also given.

Key Words. Nonlinear ill-posed problems, trust region method, convergence, regularity

AMS Subject Classi¯cations: 65J15, 65J20, 65K10