A Gradient Scheme for the Signorini Problem

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Abstract: In this report, we study a gradient scheme for the Signorini problem. Gradient schemes are nonconforming methods written in discrete variational formulation which are based on independent approximations of the functions and the gradients. We prove the existence and uniqueness of the discrete solution as well as its convergence to the weak solution of the Signorini problem. Finally we introduce a numerical scheme based upon the SUSHI discretization and present numerical results.

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