Iterative methods for the obstacle problem of a Naghdi's shell

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Abstract

In this work we consider some iterative methods for solving a kind of variational inequalities arises when we consedring the finite element approximation of the obstacle problem of a Naghdi's shell formulated in Cartesian coordinates. The solution of the variational inequality is sought in a convex and not necessarily linear subset and it must satisfy another constraint, namely, a tangency requirement on the rotation field. In order to handle theses constraints we purpose mixed formulation which leads to " systems " with double saddle point structure. Both Uzawa-type methods and preconditioned Krylov subspace methods are discussed.

References

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