Bermúdez, A.; **Saguez, C.**

Optimality conditions for optimal control problems of variational inequalities. (English)

Zbl 0627.49011

Control problems for systems described by partial differential equations and applications, Proc. IFIP-WG 7.2 Work. Conf., Gainesville/Fla. 1986, Lect. Notes Control Inf. Sci. 97, 143-153 (1987).

[For the entire collection see Zbl 0619.00014.]

An optimal control problem governed by an elliptic variational inequality is transformed into a minimization problem, in which the functional to be minimized is convex along two special directions. By using these facts the authors derive some optimality condition for the optimal control and suggest an algorithm for the numerical solution of the problem. The state variational inequality is similar to that modelling the elastic-plastic torsion of a cylindrical bar.

Reviewer: P.Quittner

MSC:

49K20	Optimality conditions for problems involving partial differential equations	Cited in **1** Document
35J85	Unilateral problems; variational inequalities (elliptic type) (MSC2000)	
49M05	Numerical methods based on necessary conditions	
49J40	Variational inequalities	
49M20	Numerical methods of relaxation type	

Keywords:

elliptic variational inequality; optimality condition; algorithm