ELLIPTIC-PARABOLIC VARIATIONAL INEQUALITIES WITH TIME-DEPENDENT CONSTRAINTS

MASAHIRO KUBO
Department of Mathematics, Faculty of Science and Engineering
Saga University, Saga, Japan
E-mail: kubo@ms.saga-u.ac.jp

NORIAKI YAMAZAKI
Department of Mathematical Science, Common Subject Division
Muroran Institute of Technology, Muroran, Japan
E-mail: noriaki@mmm.muroran-it.ac.jp

Abstract

We study variational inequalities for elliptic-parabolic equations with time-dependent constraints. Introducing a general condition for the time-dependence of convex sets defining the constraints, we establish theorems concerning existence, uniqueness as well as order property of solution. Some applications of the general results are given.