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Minimax control of nonlinear evolution equations

Comment.Math.Univ.Carolinae 36,1 (1995) 39-57.

Abstract: In this paper we study the minimax control of systems governed by a nonlinear evolution inclusion of the subdifferential type. Using some continuity and lower semicontinuity results for the solution map and the cost functional respectively, we are able to establish the existence of an optimal control. The abstract results are then applied to obstacle problems, semilinear systems with weakly varying coefficients (e.g. oscillating coefficients) and differential variational inequalities.

Keywords: minimax problem, optimal control, subdifferential, strong solution, Mosco convergence, obstacle problems, differential variational inequalities
AMS Subject Classification: 49J35, 49J20