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EXISTENCE RESULTS FOR A CLASS OF SEMILINEAR DIFFERENTIAL VARIATIONAL INEQUALITIES WITH NONLOCAL BOUNDARY CONDITIONS

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Abstract. In the paper we study a class of semilinear differential variational systems with nonlocal boundary conditions, which are obtained by mixing evolution equations and generalized variational inequalities. Firstly, we show the properties of the solution set for generalized variational inequalities. Then, the existence results are established and proved mainly by the topological degree theory and the Yosida approximations of the generator of C_0-semigroup.

1. Introduction

In 2008, differential variational inequalities (DVIs, for short) were formally introduced and systematically studied by Pang and Stewart [28]. DVIs are useful for representing models involving both dynamics and constraints in the form

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