

DECAY MILD SOLUTIONS OF FRACTIONAL DIFFERENTIAL HEMIVARIATIONAL INEQUALITIES

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ABSTRACT. The goal of this paper is to consider fractional differential hemivariational inequalities (FDHVI, for short) in the framework of Banach spaces. Our first aim is to investigate the existence of mild solutions to FDHVI by means of a fixed point technique avoiding the hypothesis of compactness on the semigroup. The second step of the paper is to study the existence of decay mild solutions to FDHVI via giving asymptotic behavior of Mittag-Leffler function.

1. Introduction and problem formulation

As we known, differential variational inequalities (DVI, for short) were firstly systematically discussed by Pang–Stewart [32] in Euclidean spaces. Some scholars have found that DVI provide excellent tools to describe various models in mechanical impact problems in engineering, operations research, and physical sciences such as electrical circuits with ideal diodes, Coulomb friction problems

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