

SEVERAL VARIATIONAL INCLUSIONS FOR A FRACTIONAL DIFFERENTIAL INCLUSION OF CAPUTO-FABRIZIO TYPE*

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Dedicated to Dr. Dan Tiba on the occasion of his 70th anniversary

Abstract

We establish several fractional variational inclusions for solutions of a nonconvex fractional differential inclusion involving Caputo-Fabrizio fractional derivative.

MSC: 34A60, 26A33, 34A08.

keywords: fractional derivative; differential inclusion; tangent cone.

1 Introduction

Recently, a new fractional order derivative with regular kernel has been introduced by Caputo and Fabrizio [3]. This new definition is able to describe better heterogeneousness, systems with different scales with memory effects, the wave movement on surface of shallow water, the heat transfer model, mass-spring-damper model etc.. Another good property of this new

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