

An Application of Banach Contraction Principle for a Class of Hybrid Fractional Differential Equations

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The subject that we are willing to present is concerned with a class of n -fractional hybrid differential equations. This type of equations is the result of some perturbation techniques. Our study was concerned with solving a system of hybrid differential equations of fractional order which are non-linear equations. By solving, we mean finding the necessary conditions to assure that the solution exists and it is unique according to the famous fixed point theorem "Banach Contraction Principle". To apply that theorem, some transformations of the initial problem were needed like finding the integral equations of the said problem. You will find all details in [2].

This work is a contribution to the study of non-linear systems and the ways used to solve them or at least prove that the solution exists.

Keywords: Hybrid differential equation, Caputo derivative, Fixed point.

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