

A study of some systems of implicit differential equations of fractional order

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Abstract: In this presentation, we study the existence and uniqueness of solutions and the Ulam-type stability of some classes of fractional implicit differential equations with derivatives of Caputo, Hadamard, Caputo-Fabrizio, Katugampola sense. The problems studied are with initial and boundary conditions. The results obtained are based on some fixed point theorems and the measure of non-compactness in the Banach, Fréchet and b-metric spaces.

Keywords: : Differential equation, fractional order, solution, stability, implicit, fixed, finite delay, infinite delay, state-dependent delay, measure of non compactness, Fréchet space, Banach space, b-Metric space.

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