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Initial value problems of nonlinear fractional differential equations with two orders. (English)

Zbl 1487.34021
Ann. Univ. Ferrara, Sez. VII, Sci. Mat. 67, No. 2, 369-386 (2021).

Summary: In this paper, we use the fixed point theory to obtain the existence and uniqueness of solutions for a class of nonlinear fractional differential equations. Two examples are given to illustrate this work.

MSC:

34A08 Fractional ordinary differential equations
34A12 Initial value problems, existence, uniqueness, continuous dependence and continuation of solutions to ordinary differential equations
47N20 Applications of operator theory to differential and integral equations

Keywords:

fractional differential equations; Caputo fractional derivatives; fixed point theorem; existence; uniqueness

Full Text: DOI

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