

On resonant mixed Caputo fractional differential equations

ABSTRACT

The purpose of this study is to discuss the existence of solutions for a boundary value problem at resonance generated by a nonlinear differential equation involving both right and left Caputo fractional derivatives. The proofs of the existence of solutions are mainly based on Mawhin's coincidence degree theory. We provide an example to illustrate the main result.

Keyword: Boundary value problems (BVPs); Mawhin's coincidence degree; Fractional derivatives; Existence of solution; Resonance