EXISTENCE RESULTS FOR NONLOCAL BOUNDARY VALUE PROBLEMS FOR FRACTIONAL DIFFERENTIAL EQUATIONS AND INCLUSIONS WITH FRACTIONAL INTEGRAL BOUNDARY CONDITIONS

Sotiris K. Ntouyas
Department of Mathematics
University of Ioannina
451 10 Ioannina, Greece
e-mail: sntouyas@uoi.gr

Abstract

This paper studies a new class of nonlocal boundary value problems of nonlinear differential equations and inclusions of fractional order with fractional integral boundary conditions. Some new existence results are obtained by using standard fixed point theorems and Leray-Schauder degree theory. Some illustrative examples are also discussed.

Keywords: fractional differential equations, fractional differential inclusions, nonlocal boundary conditions, fixed point theorems, Leray-Schauder degree.

2010 Mathematics Subject Classification: 34A08, 26A33, 34A60.

References


BVP for fractional differential equations and inclusions


Received 25 April 2012