### KINGDOM OF SAUDI ARABIA

Ministry of Higher Education

## KING ABDULAZIZ UNIVERSITY

### **Faculty of Science**



Ahmad, B., Sivasundaram, S.

# Existence results for nonlinear impulsive hybrid boundary value problems involving fractional differential equations

(2009) Nonlinear Analysis: Hybrid Systems, 3 (3), pp. 251-258.

- <sup>a</sup> Department of Mathematics, Faculty of Science, King Abdulaziz University, P.O. Box 80203, Jeddah, 21589, Saudi Arabia
- <sup>b</sup> Department of Mathematics, Embry-Riddle Aeronautical University, Daytona Beach, FL 32114, United States

#### **Abstract**

In this paper, we discuss some existence results for a two-point boundary value problem involving nonlinear impulsive hybrid differential equation of fractional order  $q \in (1, 2]$ . Our results are based on contraction mapping principle and Krasnoselskii's fixed point theorem. © 2009 Elsevier Ltd. All rights reserved.

### **Author Keywords**

Existence; Fixed point theorem; Impulse; Nonlinear fractional differential equations; Two-point boundary conditions

**ISSN:** 1751570X