

EXISTENCE RESULTS FOR A SYSTEM OF BOUNDARY VALUE PROBLEMS FOR HYBRID FRACTIONAL DIFFERENTIAL EQUATIONS

SHAISTA GUL AND RAHMAT ALI KHAN*

Abstract. In this paper, we study a system of nonlinear boundary value problems (BVPs) consisting of more general class of sequential hybrid fractional equations (SHFDEs) together with a class of nonlinear boundary conditions at both end points of the domain. The nonlinear functions involved depend explicitly on the fractional derivatives. We study necessary conditions required for existence of solutions to the suggested system of BVPs under the Caratheodory conditions using the technique of measure of noncompactness and degree theory. We also develop conditions for uniqueness results and also on stability analysis.

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