EXISTENCE OF SOLUTIONS FOR A COUPLED SYSTEM OF CAPUTO TYPE FRACTIONAL–ORDER DIFFERENTIAL INCLUSIONS WITH NON–SEPARATED BOUNDARY CONDITIONS ON MULTIVALUED MAPS

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Abstract. Sufficient conditions for the existence of solutions to a coupled system of fractional-order differential inclusions associated with fractional non-separated boundary conditions for multivalued maps are established, by employing the nonlinear alternative of Leray–Schauder type. We emphasize that the methods of fixed point theory used in our analysis are standard, although their application to a system of fractional-order differential inclusions is new.

Mathematics subject classification (2010): 34A08, 34A60, 34B15.
Keywords and phrases: Fractional derivative, differential inclusions, boundary value problem, multivalued maps, system.

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