## A sufficient condition for existence of solutions for fractional ODE optimal control problem with convexity assumption

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**Abstract:** In this talk a sufficient condition for the existence of optimal solutions for the Lagrange problem with fractional Cauchy problem will be presented. The proof of the main result is based on the assumption of convexity of the value of a certain multivalued mapping, we use the Lower Closure Theorem and the Implicit Function Theorem for a multivalued mapping (Fillipov's lemma).