



Systems and Control Group Seminar

28 February, 2024, 14:00

Mathematics Department, University of Aveiro

Room Sousa Pinto (11.2.6)

Boundary regional controllability of a class of time-fractional semi-linear systems

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Abstract

In this talk, we investigate the boundary regional controllability of a class of fractional semi-linear diffusion systems with Neumann boundary conditions. Utilizing semi-group theory, the fractional Hilbert Uniqueness Method (HUM), and Schauder's fixed point theorem, we establish conditions on the order of derivative, internal region, and nonlinear part, that ensure the regional controllability of fractional system and, consequently, boundary regional controllability. An example of growth population system with diffusion is presented to illustrate the theoretical results.

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