Existence results for abstract functional differential equations with infinite state–dependent delay and applications

Jaqueline Godoy Mesquita[1]

[1] UnB

This work is devoted to the investigation of the existence of mild solutions of abstract retarded functional differential equations with infinite state–dependent delay. We obtain the result concerning the existence of mild solutions for the equations with state–dependent delays as a fixed point of the solution operator of an associated abstract retarded functional differential equation with time–varying delays. We are concerned with equations that present a phenomenon of lacunary memory. We apply our results to study the existence of solutions of a state–dependent partial differential equation with infinite state–dependent delay. Joint work with Hernan Henriquez and Henrique Costa dos Reis.