



Functional Differential Equations with Nonlocal Conditions in Banach Spaces

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Abstract: In this paper we consider a nonlocal initial boundary value problem for a parabolic integro-differential equation. We reformulate this problem as an abstract functional differential equation in a Banach space with a nonlocal history condition. We establish the existence, uniqueness and continuation of mild, strong and classical solutions of the abstract functional differential equation under different conditions.

Keywords: *functional differential equation; mild solution; classical solution; continuation of solution; semigroup of operator; nonlocal condition.*

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