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Existence and uniqueness of the solutions for a nonlinear time-conformable fractional reaction-diffusion equations with delay

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Abstract. In this talk, we study the existence and the uniqueness of the solutions of the nonlinear time-conformable fractional reaction-diffusion equations with delay. This equation is defined by a fractional derivative in terms of time, called the Conformable derivative (see [1],[2]). Using Lebesgue dominated convergence theorem [5], Leray–Schauder fixed point theorem and Banach contraction mapping theorem [3],[4]. We obtain some sufficient conditions for the existence of the solutions of the above conformable fractional order partial differential equations.

Keywords: 35R11, 35K57, 33E12.

 $\textbf{2020 Mathematics Subject Classification Numbers:} \ \ \text{Conformable derivative }, \textbf{Reaction-diffusion equations}, \ \textbf{Fixed point theorems.}$

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CERTIFICATE OF PRESENTATION

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