Fractional Differential Calculus
Volume 12, Number 1 (2022), 1–12 doi:10.7153/fdc-2022-12-01

EXISTENCE OF MILD SOLUTIONS FOR SEMILINEAR EVOLUTION EQUATION USING HILFER FRACTIONAL DERIVATIVES

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Abstract. In this article, we discuss the existence of solutions of a class of Cauchy-type fractional semilinear evolution equation involving Hilfer fractional derivative. A nonlocal Cauchy problem is also discussed for evolution equations. The results are obtained by using various results of fractional calculus and fixed point theorems in the weighted space of continuous functions. Examples are presented to illustrate the derived theory.

Mathematics subject classification (2020): 26A33, 34A08, 34G20.
Keywords and phrases: Fractional derivative, Hilfer derivative, existence of solution, fixed point theorems.

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Paper FDC-12-01

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