A Study of Nonlocal History-Valued Retarded Differential Equations Using Analytic Semigroups

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Abstract: In this paper we study a semi-linear retarded differential equation with a nonlocal history condition considered in an arbitrary Banach space. Using the theory of analytic semigroups we establish the existence, uniqueness and regularity of solutions. We also give an example to illustrate the applications of the abstract results.

Keywords: *Retarded differential equation; analytic semigroup; mild solution; regularity of a mild solution.*

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