# THE EXISTENCE AND UNIQUENESS OF THE MILD SOLUTION TO A NONLINEAR CAUCHY PROBLEM ASSOCIATED WITH A NONLOCAL REACTION-DIFFUSION SYSTEM

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| **Abstract** | We study the existence and uniqueness of a mild solution to a nonlinear Cauchy problem associated with a nonlocal reaction diffusion system by employing the properties of analytic semigroup operator generated by the linear part of the problem which is sectorial and then applying Banach Fixed Point Theorem to the problem. We show that the problem has a unique mild solution under a Lipschitz condition on the nonlinear part of the problem. An example as an application of the result obtained is also given. |
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