Euler Solutions for Integro Differential Equations with Retardation and Anticipation

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Abstract: In this paper, we obtain results for Euler solution for integro differential equation with retardation and anticipation.

1 Introduction

Integro differential equations arise quite frequently as mathematical models in diverse disciplines. The study of integro differential equations has been attracting the attention of many scientific researchers due to its potential as a better model to represent physical phenomena in various disciplines. Much work has been done in the existence and uniqueness of solutions for integro differential equations see [2, 3, 6, 7, 8, 12]. All these results are abstract in the sense that there is no specific procedure to obtain a solution of the considered equations, so the Euler solutions for integro differential equations are studied [4].

In many physical phenomena the both past history and future play an important role along with the present state and hence an appropriate model of the phenomena will be one that involves past history and future expectation also. This led to the study of systems involving both retardation and anticipation, for example, see [1]. The existence of Euler solutions have been studied for set differential equations [11], for causal differential equations [10], for delay differential equations [5], due to the inherited simplicity in its idea which paves a path for obtaining a solution of the given system. In this paper,

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