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ANALYSIS OF DYNAMIC BEHAVIOUR OF FRACTIONAL ORDER SIR EPIDEMIC MODEL OF CHILDHOOD DISEASES USING RVIM

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Abstract: In the given article, the solution of a Mathematical Model of epidemic in childhood diseases is presented. Reconstruction of Variational Iteration Method (RVIM) is used to analyze the model which inculcates the Laplace Transform to reconstruct VIM. This technique is generally used to get solutions of fractional differential equations of linear and non linear form. The result obtained has been simulated and discussed through graphs.

Keywords and Phrases: Epidemics, Caputo fractional derivative, RVIM, Laplace Transform, Convolution.

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1. Introduction

Study of Epidemics is very important to understand the effect of infectious disease in a community. Generally young children are exposed to various types of bacterial or viral infections. Some of them are Bronchitis (generally effecting children up to 1 year), hand/foot/mouth disease, Diarrhea, chicken pox, measles,