

Abstract

The main aim of this research is to find the analytic solution of the initial

.value problem to simple harmonic oscillator

-The basic functions of this object are Gamma function, Beta function and Mittag

Leffler function. The definition of Caputo differintegral with properties and

.Laplace Transform of the Caputo derivative had studied

We applied the Laplace Transform Method to the fractional initial value problem

.to the simple harmonic oscillator with illustrated examples