Abstract

The prevailing work is about study of vibrating systems using the Constant Proportional Caputo derivative operator approach. We discussed about different vibrating systems i.e. Scott-Blair oscillator and Fractional relaxation oscillator. Constant Propotional Caputo fractional operator is used to get the fractional model. Laplace transform method is used to get the solution of the vibrating models with respective initial and boundary conditions and we make use of Gracer-Stehfest algorithm to obtain the inverse laplace transform. The graphical discussion shows the influence of various parameters. At the end, we compare the influence of different parameters on the vibrating systems. Fractional approach is extremely helpful in experimental data handling by theoretical information. Lastly, the current results are an improvement of the outcomes that have been published.