

1116-34-316

Bhuvaneswari Sambandham*, Department of Mathematics, University of Louisiana at Lafayette, Lafayette, LA 70504, and **Aghalaya S. Vatsala**. *Numerical Results for Linear Caputo Fractional Differential Equations with Variable Coefficients and Applications*. Preliminary report.

Recently, we published results which includes the symbolic representation for the linear Caputo fractional differential equations in the journal “Mathematics.” Also, we obtained numerical results by iterative methods. In this paper, we derive numerical results by direct numerical method using the symbolic representation we have obtained earlier. This direct numerical method is useful in developing monotone method and quasilinearization method for nonlinear problems. As an application of this result, we have obtained the numerical solution for a special Ricatti, type of differential equation which blows up in finite time. (Received August 24, 2015)