

1046-65-435

S. Pederson and **M. Sambandham*** (msambandham@yahoo.com), Department of Mathematics, 830 Westview Dr, Morehouse College, Atlanta, GA 30314. *Numerical Solution of Hybrid Fractional Differential Equations*. Preliminary report.

We discuss the numerical solution of hybrid fractional differential equations. The method given uses piecewise application of a numerical method for fractional differential equations. A convergence result is proven when the underlying numerical method for fractional differential equations is one-step explicit and numerically stable. A numerical example is presented by solving a hybrid relaxation-oscillation equation which is under Grunwald-Letnikov fractional differentiation. The numerical solution is compared to the exact solution. (Received September 02, 2008)