1077-34-1038 **Aghalaya S Vatsala*** (Vatsala@Louisiana.edu), Department of Mathematics, University of Louisiana at Lafayette, Lafayette, LA 70504-1010, and **Donna Stutson**. *Generalized Monotone Method and Gauss Seidel Method for Caputo and Riemann Liouville Fractional Differential Systems.* Preliminary report.

Generalized monotone method is a useful technique to compute solutions of nonlinear differential equations when the forcing function is the sum of an increasing and decreasing functions. In addition, this method has the special advantage for Caputo or Riemann Liouville fractional differential equations since we do not need to compute Mittag-Leffler function in each iterates. In this work we show that the generalized monotone method can be used in conjunction with Gauss-Seidel technique. This will accelerate the convergence process. (Received September 15, 2011)