1046-34-490   **Aghalaya S Vatsala***, Professor Aghalaya S. Vatsala, Department of Mathematics, University of Louisiana at Lafayette, Lafayette, LA 70504-1010. *Fractional Differential and Integral Equations of Riemann-Liouville versus Caputo type.* Preliminary report.

In mathematical modeling, nonlinear fractional differential and integral equations occur naturally in various areas of science and engineering. It is also established these models yield better results than their counter part with integer derivatives. In this work, we develop the theory of fractional differential and integral inequalities for Rieman-Liouville as well as with Caputo derivative. This will be used to obtain the qualitative behavior of fractional differential, and integral equations of both type. We will also compare their relative advantages. (Received September 04, 2008)