1125-34-1385 **Aghalaya S. Vatsala*** (vatsala@louisiana.edu), Department of Mathematics, University of Louisiana at Lafayette, Lafayette, LA 70504. *Riemann Liouville Versus Caputo Fractional Dynamic equations Via Laplace Transform Methods.* Preliminary report.

Qualitative study such as existence and uniqueness of solutions of nonlinear sequential fractional differential equations with initial conditions are vital due to its application in science and engineering fields. Amongst them, fractional dynamic equations of Riemann-Lioville type and Caputo type are studied vastly because of its close relation to integer dynamic equation. In this work, we apply the Laplace transform method to linear sequential Riemann Liouville and Caputo dynamic equations. We demonstrate that all our results yield the integer dynamic equation results as a special case. This is not true if the corresponding fractional dynamic equation are not sequential. (Received September 16, 2016)