1092-34-97　　　　　　**M N Islam*** (`mislam1@udayton.edu`), Department of Mathematics, University of Dayton, Dayton, OH 45469-2316. *Fractional differential equations of Caputo type and asymptotically stable solutions.* Preliminary report.

The existence of asymptotically stable solutions of a fractional differential equation of Caputo type has been studied in this paper. The results are obtained from an equivalent Volterra integral equation which is derived by inverting the fractional differential equation. The kernel function of this integral equation is weakly singular and hence the standard techniques that are normally applied on Volterra integral equations do not apply here. This hurdle is overcomed using a resolvent equation and then applying some known properties of the resolvent. In addition to the resolvent, the fixed point theorem of Schauder has been employed in the analysis. (Received August 01, 2013)