Meeting: 1006, Lubbock, Texas, SS 9A, Special Session on Theory and Application of Stochastic Differential Equations

1006-60-55 **Rachel C. Koskodan*** (`rachel.c.koskodan@ttu.edu`), 701 N. Indiana #823, Lubbock, TX 79415. *Extrapolation for Stochastic Theta Numerical Methods.* Preliminary report.

The error expansion is analyzed for a family of stochastic theta methods(implicit Euler schemes) used in approximating solutions to Ito stochastic differential equations. It is proved that the error expansion is of the correct form for applying extrapolation to increase the accuracy of the approximations. Two examples of stiff stochastic systems are computationally examined. (Received January 31, 2005)