1067-92-1297   **Linda J. S. Allen*** (`linda.j.allen@ttu.edu`), Department of Mathematics and Statistics, Texas Tech University, Lubbock, TX 79409-1042, **Yuan Yuan**, University of Texas MD Anderson Cancer Center, Houston, TX 77230-1402, and **Sukhitha Vidurupola**, Department of Mathematics and Statistics, Texas Tech University, Lubbock, TX 79409-1042. *Stochastic Viral Kinetics.*

Ito stochastic differential equation (SDE) models are derived for viral kinetics. Estimates for mean and variance of the distribution over time are obtained from the moment differential equations. In addition, the SDEs and theory from branching processes are used to make predictions about the probability of a successful viral transmission. (Received September 20, 2010)