1073-92-179   **Karen A Yokley*** (`kyokley@elon.edu`), Elon University, Department of Mathematics & Statistics, 2320 Campus Box, Elon, NC 27244. *Sensitivity Investigations on a Mathematical Model for the Simulation of Epileptic Seizures.* Preliminary report.

Epileptic seizures are believed to arise in the CA3 region of the hippocampus, but the generation of these seizures is not well understood. A previous ordinary differential equation model of a subnetwork of excitatory and inhibitory pathways is slightly modified to be more consistent with previous model literature and to more fully incorporate a time delay. The modification of this model involves two key parameters: (1) the membrane capacitance of the cells and (2) the delay which represents the time it takes for surrounding cells to communicate via the diffusion of extracellular potassium. The sensitivity of the o.d.e. model to these two parameters is investigated in order to determine their importance in the model predictions. (Received August 01, 2011)