1038-60-233 **John J. Coffey*** (coffey@calumet.purdue.edu), Department of Mathematics, Computer Science, and Statistics, Purdue University Calumet, Hammond, IN 46323. *A population-process model for HIV infection.*

A continuous-time Markov chain is defined to model the status of an HIV infection in an individual. This model is of the type of model described variously as a competition process or a population process. Healthy T-cells and infected T-cells are considered to be interacting populations. The model is shown to be regular. In the case in which the infection has no reservoir, it is proven that the infected cells eventually become extinct. In the case in which there is a reservoir, it is proven that the process is positively recurrent. (Received February 11, 2008)