

Meeting: 1006, Lubbock, Texas, SS 10A, Special Session on Extinction, Periodicity, and Chaos in Population and Epidemic Models

1006-92-130 **Fabio Augusto Milner*** (milner@purdue.edu), Department of Mathematics, Purdue University, 150 North University Street, West Lafayette, IN 47907-2067, and **Daniel Maxin** (dmaxin@math.purdue.edu), Department of Mathematics, Purdue University, 150 North University Street, West Lafayette, IN 47907-2067. *The impact of isolation on population growth and epidemic propagation.*

A 2-sex demographic model of a population with non-reproductive groups in either or both genders will be described and analyzed. The impact of the non-reproductive groups on population growth and extinction will be discussed and examples from numerical simulations will be presented.

A second model will be described for the propagation of a sexually transmitted disease in a 2-sex population with non-reproductive groups in either or both genders. Isolation of a fraction of the infected individuals will then be introduced and the impact on the spread of infection will be analyzed. Results from numerical simulations will finally be presented. (Received February 11, 2005)