

1077-34-295

**Eric José Avila\*** ([avila@uady.mx](mailto:avila@uady.mx)), 97204 Merida, Mexico. *Stability and bifurcations in an epidemic model with nonlinear incidence rate and varying immunity period.* Preliminary report.

In this paper a SIR model with distributed delay and nonlinear incidence rate is considered, in order to model the dynamics of infectious diseases with varying immunity period. We will present results about stability and bifurcation analysis. Numerical simulations to support our analytical findings are carried out. (Received August 18, 2011)