Meeting: 1002, Pittsburgh, Pennsylvania, SS 4A, Special Session on Partial Differential Equations and Applications

1002-35-114 **Yuan Lou*** (lou@math.ohio-state.edu), 231 West 18th Ave., Math Tower, Columbus, OH 43210. *Lotka-Volterra competition model with small or intermediate diffusion coeffcients.*

It is well known that for reaction-diffusion two-species Lotka-Volterra competition models with spatially independent reaction terms, global stability of an equilibrium for the kinetic system implies global stability for the reaction-diffusion system. For spatially inhomogeneous reaction terms, we show that for small enough diffusion coefficients, global convergence to an equilibrium still holds for the reaction-diffusion system, if for each point in space the kinetic system has a globally attracting hyperbolic equilibrium. We also illurstrate some new phenomenon when one or two diffusion coefficients are of intermediate value. (Received September 09, 2004)