Meeting: 1003, Atlanta, Georgia, SS 18A, AMS-SIAM Special Session on Recent Advances in Mathematical Ecology, I

1003-92-890 **Azmy S Ackleh** (ackleh@louisiana.edu), Lafayette, LA 70504-1010, and **Keng Deng*** (deng@louisiana.edu), Lafayette, LA 70504-1010. *Monotone Approximation for a Hierarchical Age-structured Population Model.*

We study a nonlinear hierarchical age-structured population model with time dependent individual vital rates. We establish a comparison principle and construct monotone sequences to show the existence and uniqueness of the solution to the model. We also provide conditions on the model parameters which result in extinction or persistence of the population. (Received September 30, 2004)