1023-92-772 **Azmy S Ackleh*** (ackleh@louisiana.edu), Department of Mathematics, University of Louisiana at Lafayette, Lafayette, LA 70504, and **Kazufumi Ito**, Department of Mathematics, North Carolina State University, Raleigh, NC 27695. *Difference Approximation for Measure-Valued Solutions to a Hierarchically Size-Structured Population Model.* Preliminary report.

The quasilinear hierarchically size-structured population model presented by Ackleh and Ito (2005) is considered. In this model the growth, mortality and reproduction rates are assumed to depend on a function of the population density. Ackleh and Ito (2005) showed that solutions to this model can become singular (measure-valued) in finite time even if all the individual vital rates are smooth. In this talk a finite difference scheme to compute such measure-valued solutions is developed. Convergence analysis and numerical results for this method are provided. (Received September 21, 2006)