1063-39-82 **J. M. Cushing*** (cushing@math.arizona.edu), University of Arizona, Department of Mathematics, 617 N Santa Rita, Tucson, AZ 85721. *A dynamic dichotomy for matrix equations with non-primitive projection matrices.* Preliminary report.

I will describe a dynamic dichotomy present in matrix difference equations with non-primitive projection matrices. These kinds of equations arise as (discrete time) models for the dynamics of biological populations that have a semelparous life history. The dichotomy is between stable positive equilibria versus attracting synchronous cycles. In biological applications this is a dichotomy between populations that equilibrate with overlapping generations and those with periodic oscillations with non-overlapping generations. I will focus on monotone and on hierarchical type of nonlinearities. As an application, I will show some experimental observations that, together with the well known LPA model, corroborate the theory. (Received August 06, 2010)