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Sarah Day* (sday@math.wm.edu), College of William and Mary, Department of Mathematics, P. O. Box 8795, Williamsburg, VA 23187-8795. *Computer-assisted proofs for the Kot-Schaffer model.*

The Kot-Schaffer integrodifference equation models populations exhibiting distinct growth and dispersal phases. I will discuss numerical studies of specific Kot-Schaffer models. These studies are based on topological tools that enable the rigorous detection of structures of various stability types in discrete-time dynamical systems. Applying these techniques to the studied models uncovers (unstable) fixed points, periodic orbits, and chaotic dynamics in the form of subshifts of finite-type. (Received February 03, 2008)