Daniel Hadley* (dhadley@uri.edu), Department of Mathematics, University of Rhode Island, kingston, RI 02881. Local and Global Dynamics of Difference Equation

\[ x_{n+1} = \frac{x_{n-1}}{ax_n^2 + cx_{n-1}^2 + x_{n-1}}, \quad n = 0, 1, \ldots \]

Preliminary report.

We present the local and global dynamics of difference equation

\[ x_{n+1} = \frac{x_{n-1}}{ax_n^2 + cx_{n-1}^2 + x_{n-1}}, \quad n = 0, 1, \ldots \]

where all coefficients and the initial conditions are non-negative and such that the denominator is always positive. This difference equation exhibits the period doubling bifurcation. (Received July 19, 2016)