

1062-39-12

Ran Pang* (rxp1957@rit.edu), Rochester Institute of Technology, School of Mathematical Sciences, College of Science, Rochester, NY 14623, and **Michael A Radin** (michael.radin@rit.edu), Rochester Institute of Technology, School of Mathematical Sciences, College of Science, Rochester, NY 14623. *Monotonic and Periodic Character of non-negative solutions of a delayed third order non-autonomous rational difference equation.* Preliminary report.

Our goal is to investigate the convergence nature of the non-negative solutions and the existence and patterns of periodic solutions of a third order rational difference equation. In fact, we will discover the patterns of the periodic cycles depending on which initial conditions are 0 and the rearrangements of the terms of the periodic sequence. (Received May 20, 2010)