1077-39-1340

Youssef N Raffoul* (`youssef.raffoul@notes.udayton.edu`),
youssef.raffoul@notes.udayton.edu, Dayton, OH 45469-2316. *Periodicity In General Delay
Nonlinear Difference Equations Using Fixed Point Theory.*

Using Schaefer's fixed-point theorem, enabling us to show that if there is an a priori bound on all possible T-periodic
solutions of

$$\Delta x(n) = F(n, \ x_n),$$

then there is a T-periodic solution. The a priori bound will be established by different methods including non-negative
Lyapunov functionals. Examples illustrating the developed theory are provided.

(Received September 19, 2011)