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Asymptotically Constant Or Periodic Solutions*. Preliminary report.

Given an initial function we show by means of fixed point theory that the unique solution of nonlinear difference equations of the form

$$\Delta x(t) = g(x(t)) - g(x(t - L))$$

converges to a pre-determined constant or to a periodic solution. Then, we show the solution is stable and that its limit function serves as a global attractor. (Received August 19, 2008)