1086-39-921 Youssef N Raffoul* (yraffoul1@udayton.edu), yraffoul1@udayton.edu, Dayton, OH 45469-2316. Stability in Highly Nonlinear Delay Difference Systems. Preliminary report.

We use fixed point theory and obtain stability results concerning the nonlinear functional difference system

$$\Delta x(n) = -a(n)g(x(n-r)) \tag{1}$$

with initial function $\psi: [-r, 0] \to \mathbb{R}$, where g is continuous, locally Lipschitz , and odd, while x - g(x) is nondecreasing and g(x) is increasing on an interval [0, L].

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