Meeting: 1004, Bowling Green, Kentucky, SS 3A, Special Session on Dynamic Equations on Time Scales and Applications

1004-34-43   **Eric R Kaufmann** (`erkaufmann@ualr.edu`), Department of Mathematics and Statistics, Little Rock, AR 72204-1099, and **Youssef Naim Raffoul*** (`youssef.raffoul@notes.udayton.edu`), Department of Mathematics, Dayton, OH 45469-2316. *Stability In Neutral Nonlinear Dynamic Equations on a Time Scale With Functional Delay.*

Let $\mathbb{T}$ be a time scale that is unbounded above and below and such that $0 \in \mathbb{T}$. We use fixed point theorems to obtain stability results about the zero solution of the nonlinear neutral dynamic equation with functional delay

$$x^{\Delta}(t) = -a(t)x^{\sigma}(t) + c(t)x^{\Delta}(t - g(t)) + q(x(t), x(t - g(t))), t \in \mathbb{T}.$$

The theory will be illustrated by several examples.

(Received January 10, 2005)