

1025-34-99

Eric Kaufmann (erkaufmann@ualr.edu), Department of Mathematics and Statistics, Little Rock, AA 72204, and **Youssef Raffoul*** (youssef.raffoul@notes.udayton.edu), 300 College Park, 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 $0 \in \mathbb{T}$. Let $\tau : \mathbb{T} \rightarrow \mathbb{T}$ be such that $\tau(\mathbb{T})$ is a time scale. We use fixed point theorems to obtain stability results about the zero solution of the nonlinear neutral dynamic equation with functional delay

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

where f^Δ is the Δ -derivative on \mathbb{T} and $f^{\tilde{\Delta}}$ is the Δ -derivative on $\tau(\mathbb{T})$.

(Received January 17, 2007)