1067-34-379 **A Peterson*** (apeterso@math.unl.edu), Department of Mathematics, University of Nebraska-Lincoln, Lincoln, NE 68588. *Asymptotic behavior of an n-th order sublinear dynamic equation.*

In this paper, we study the asymptotic behavior of the following n-th order sublinear dynamic equation

$$x^{\Delta^n}(t) + p(t)x^{\alpha}(t) = 0, \quad 0 < \alpha < 1,$$

where $p \geq 0$, on an isolated time scale $\mathbb{T}$, and α is a ratio of odd positive integers. As an application, we obtain

(i) when n is even, every solution $x(k)$ of the difference equation

$$\Delta^n x(k) + p(k)x^{\alpha}(k) = 0, \quad 0 < \alpha < 1,$$

where $p(k) \geq 0$, is oscillatory if and only if

$$\sum_{k=1}^{\infty} k^{\alpha(n-1)} p(k) = \infty.$$

(ii) when n is odd, every solution $x(k)$ of the difference equation is either oscillatory or $\lim_{k\to\infty} x(k) = 0$ if and only if the above sum diverges. (Received August 30, 2010)