

Essentially Nonlinear Functional Differential Equations with Delay Argument

Koplatadze Roman

E-mail: roman.koplatadze@tsu.ge

Department of Mathematics of Iv. Javakishvili Tbilisi State University

University Str., 2, Tbilisi 0143, Georgia

Consider the following differential equation

$$u^{(n)}(t) + p(t)|u(\sigma(t))|^{\mu(t)} \operatorname{sign} u(\sigma(t)) = 0,$$

where $p \in L_{loc}(R_+; R)$, $\mu \in C(R_+; (0, +\infty))$, $\sigma \in C(R_+; R_+)$, $\sigma(t) \leq t$ and $\lim_{t \rightarrow +\infty} \sigma(t) = +\infty$.

Sufficient conditions are established for this equation to have Properties A and B.