Essentially Nonlinear Functional Differential Equation with Advanced Argument

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Consider the functional differential equation

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

where $n \geq 2$, $\mu(t) > 0$ for $t \geq 0$, $p \in L_{loc}(R_+; R)$.

Sufficient (necessary and sufficient) conditions of new type for oscillation of solutions of the above equation are established.