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Oscillation of higher-order nonlinear delay differential equations with oscillatory coefficients

Oscillation of higher-order nonlinear delay differential equations
with oscillatory coefficients

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Abstract: A criterion is established on the bounded solutions of type higher-order nonlinear neutral differential equations of type oscillatory or tending to zero at infinity $[a(t) [x(t)+r(t)x(\kappa(t))]^{(n-1)} + p(t)F(x(\tau(t)))+q(t)G(x(\sigma(t))) = \phi(t)$, where $t \geq t_0$, $n \geq 2$, a, p are positive, r, q, ϕ are allowed to alternate in sign infinitely many times, F, G are continuous functions, and κ, τ, σ are strictly increasing unbounded continuous delay functions.

Key Words: Neutral differential equations, positive and oscillating coefficients

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