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Oscillation criteria for a class of the third order nonlinear dynamic equations with distributed delays. (Chinese. English summary) [Zbl 1438.34346]

Summary: In the paper, oscillatory behaviors for a class of the third order nonlinear dynamic equations with distributed delays are studied. Using methods such as generalized Riccati transformation and integral averaging technique, some new sufficient criteria are established under which any solution of the equations will be either oscillatory or convergent to zero. The results extend the respective studies in recent literature, and a number of examples are given to prove the efficiency.

MSC:
34N05 Dynamic equations on time scales or measure chains
34K11 Oscillation theory of functional-differential equations

Keywords:
oscillation criteria; nonlinear dynamic equations; distributed delay; Riccati transformation

Full Text: DOI