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NEW CRITERIA FOR OSCILLATION OF SECOND ORDER NONLINEAR DYNAMIC EQUATIONS WITH DAMPING ON TIME SCALES

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ABSTRACT

The oscillation of solutions of the second order nonlinear damped dynamic equation $(r(t)\psi(x(t))x^{\Delta}(t))^{\Delta} + p(t)x^{\Delta}(t) + f(t, x(\tau(t))) = 0$ on an arbitrary time scale T is investigated. A generalized Riccati transformation is applied for the study of the Kamenev-type oscillation criteria for this nonlinear dynamic equation. Several new sufficient conditions for the oscillation of solutions are obtained to extend some known results in the literature.

KEYWORDS: Damped Delay Dynamic Equations, Oscillation Criteria, Time Scales