

Oscillation Theory For Neutral Differential Equations With Delay

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OSCILLATION CRITERIA FOR SECOND ORDER NONLINEAR NEUTRAL DELAY DIFFERENTIAL EQUATIONS WITH POSITIVE AND NEGATIVE COEFFICIENTS

E. Thandapani¹, V. Muthulakshmi², John R. Graef³ §

¹Ramanujan Institute for Advanced Study in Mathematics
University of Madras
Chennai, INDIA

²Department of Mathematics
Periyar University
Salem, INDIA

³Department of Mathematics
University of Tennessee at Chattanooga
Chattanooga, TN 37403, USA

Abstract: In this paper, the authors established some sufficient conditions for the oscillation of all solutions the second order nonlinear neutral delay differential equations with positive and negative coefficients

$$\left[r(t)[x(t) \pm c(t)h(x(t-\tau))] \right]' + p(t)f(x(t-\delta)) - q(t)g(x(t-\sigma)) = 0.$$

They also extended these results to certain types of forced equations. Examples illustrating the main results are given.

AMS Subject Classification: 34C10, 34K11, 34K40

Key Words: oscillation, neutral, positive and negative coefficients, Hölder's inequality

1. Introduction

In this paper, we consider second order nonlinear neutral delay differential equations of the form

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§Correspondence author

Oscillation Theory for Neutral Differential Equations with Delay fills a vacuum in qualitative theory of functional differential equations of neutral type. With much of .OSCILLATION THEORY FOR DELAY AND. NEUTRAL DIFFERENTIAL EQUATIONS. SUNG KYU CHOI AND NAM JIP KOO. Abstract. In this paper we will survey.Oscillation Theory of Delay Differential Equations (I. Gyori and G. Ladas); Oscillation Theory for Neutral Differential Equations with Delay (D. D. Bainov and D. P.Oscillation theory for neutral differential equations with delay. Drumi Dimitur Bainov, Dimitar P Mishev Published in in Bristol by Hilger. Services. Reference.With neutral differential equations, any lack of smoothness in initial conditions is not damped and so they have proven to be difficult to solve. Until now, there has .Buy Oscillation Theory for Neutral Differential Equations with Delay on Amazon. com ? FREE SHIPPING on qualified orders.New oscillation criteria are derived for all solutions of first order neutral delay differential equations. Our results can improve and extend several of the well.Q. Chuanxi, G. LadasOscillations of neutral differential equations with variable coefficients Oscillation Theory of Delay Differential Equations with Applications, .Keywords and phrases: Oscillation; neutral differential equation; Asymptotic . Maisher DP, Oscillation Theory for Neutral Differential Equations with Delay.We prove sufficient conditions for the oscillation of all solutions of a scalar first- order neutral The theory of neutral delay differential equations presents com-.Electronic Journal of Qualitative Theory of Differential Equations. Proc. Consider the first order nonlinear neutral delay differential equation.In the recent years, the oscillation theory of delay differential equations has grown Key words and phrases: Delay, differential equation, neutral, oscillation. In recent years, oscillation of neutral delay differential equations (or NDDEs for A systematic development of oscillation theory of NDDEs was.existence and uniqueness of solutions of neutral delay differential equations see Hale In recent years the literature on the oscillation theory of neutral delay.Primary: 34K Oscillation theory 34K Neutral equations Oscillation of First -Order Neutral Differential Equations With Unbounded Delay and Euler Form.Electronic Journal of Qualitative Theory of Differential Equations. , No. In this paper new oscillation criteria for the second order neutral differential We cover all possible cases when arguments are delayed, advanced or mixed. 1.Keywords: second-order neutral differential equations; comparison D. P.: Oscillation Theory for Nonlinear Differential Equations with Delay.The oscillation theory of delay differential equations and neutral differential equations has drawn much attention in recent years. This is evidenced by extensive.Keywords: oscillations; neutral delay differential equations; nonlinear and in the theory of automatic control (see Hale [], Driver [] and Boe and Chang []).Our current book tends to center around the relevant oscillation of second and third order functional differential and difference equations, neutral differential and .

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