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Original Articles

Nonoscillation for a Second Order Linear Delay Differential Equation with Impulses

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摘要 A group of necessary and sufficient conditions for the

nonoscillation of a second order linear delay equation with

impulses $$ \left(r(t)u^{\prime}\right)^{\prime}=-p(t)u(t-\tau)

$$

are obtained in this paper, where

$p(t)=\sum\limits_{n=1}^{\infty}a_n\delta(t-t_{n}),$ $\delta(t) $ is a

Dirac

$\delta-$function, and for each $n \in \bf N$, $a_n>0,\hskip 0.1cm

t_{n}\rightarrow{\infty} $ as $n\rightarrow{\infty}$. Furthermore,

the boundedness of the solutions is also investigated if the

equation is nonoscillatory. An example is given to illustrate the

use of the main theorems.

关键词 nonoscillation, impulse, linear delay differential equation, boundedness

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Abstract

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