

**OSCILLATION OF NONLINEAR NEUTRAL
PARTIAL DIFFERENTIAL EQUATIONS
WITH DAMPING TERM**

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Abstract: In this paper, we consider the oscillation of forced solutions of nonlinear impulsive neutral partial differential equations with damping term. Sufficient conditions are obtained for the oscillation of solutions using impulsive differential inequalities with two boundary conditions. Example is given to illustrate our main result.

Keywords and Phrases: Neutral partial differential equations, Oscillation, Impulse, Damping term.

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1. Introduction

The theory of partial functional differential equations can be applied to many fields, such as biology, population growth, engineering, control theory, physics and chemistry. Oscillation theory of differential equations originated by C. Sturm [20] in 1836, and for partial differential equations by P. Hartman and A. Wintner [7] in 1955. Pioneer work on oscillation of impulsive delay differential equations [6] was published in 1989 and its results were included in monograph [8]. In 1991, the first work done in [2] on impulsive partial differential equations.

Many authors studied the oscillation of partial differential equations with or without impulsive neutral type, see [1,3-5,9-14,16-19,21,23-25,27] and monographs [22,26]. To the best of our knowledge, there is little work reported on the oscillation of second order impulsive partial functional differential equation with damping. Motivated by this observation, in this paper we focus our attention on oscillation