



# Frequent Oscillatory Solutions of a Nonlinear Partial Difference Equation

Zhang Yu Jing<sup>1,2\*</sup>, Yang Jun<sup>2,3</sup> and Bu Shu Hong<sup>1</sup>

<sup>1</sup> *Baoding University of Science and Technology, Baoding Hebei 071000, P.R. China*

<sup>2</sup> *College of Science, Yanshan University, Qinhuangdao Hebei 066004, P.R. China*

<sup>3</sup> *Mathematics Research Center in Hebei Province, Shijiazhuang Hebei 050000, P.R. China*

Received: April 2, 2007; Revised: November 9, 2008

**Abstract:** This paper is concerned with a class of nonlinear delay partial difference equations with variable coefficients, which may change sign. By making use of frequency measures, some new oscillatory criteria are established.

**Keywords:** *partial difference equations; frequency oscillatory; frequency measures; nonlinear.*

**Mathematics Subject Classification (2000):** 39A11.