

Multi- g base index of anti-symmetric matrices

Yanting Liang
West Virginia University

Abstract

For ages, the economists have been confident and hoped that the theory of economics can be described in qualitative form. Therefore, the mathematicians are intrigued in sign pattern matrices.

In *Linear Algebra and its Applications* 212/213(1994) 101-120, Z. Li, F. Hall and C. Eschenbach extended the concepts of base and period from nonnegative matrices to powerful sign pattern matrices. In *Discrete Mathematics* (to appear), J. Shao and L. You extended the concept of base from powerful sign pattern matrices to non-powerful generalized sign pattern matrices. In *Graph and Combinatorics* (to appear), Q. Li and B. Liu extended the concept of k^{th} multi- g base index from nonnegative pattern matrices to non-powerful generalized sign pattern matrices. In this paper, we mainly study the bounds on k^{th} multi- g base index, extreme graph of generalized base index for anti-symmetric matrices.