

INEQUALITIES FOR THE MINIMUM EIGENVALUE OF M -MATRICES*

GUI-XIAN TIAN[†] AND TING-ZHU HUANG[‡]

Abstract. Let A be a nonsingular M -matrix, and $\tau(A)$ denote its minimum eigenvalue. Shivakumar et al. [*SIAM J. Matrix Anal. Appl.*, 17(2):298-312, 1996] presented some bounds of $\tau(A)$ when A is a weakly chained diagonally dominant M -matrix. The present paper establishes some new bounds of $\tau(A)$ for a general nonsingular M -matrix A . Numerical examples show that the results obtained are an improvement over some known results in certain cases.

Key words. M -matrix, Hadamard product, Minimum eigenvalue, Eigenvector.

AMS subject classifications. 15A06, 15A42, 15A48.

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[†]College of Mathematics Physics and Information Engineering, Zhejiang Normal University, Jinhua, Zhejiang, 321004, P.R. China (guixiantian@163.com). Supported by Youth Foundation of Zhejiang Normal University (KJ20090105).

[‡]School of Mathematical Sciences, University of Electronic Science and Technology of China, Chengdu, Sichuan, 611731, P. R. China (tingzhuhuang@126.com). Supported by NSFC (10926190, 60973015), Sichuan Province Sci. & Tech. Research Project (2009GZ0004, 2009HH0025).