THE ROOTS AND LINKS IN A CLASS OF $M$-MATRICES

XIAO-DONG ZHANG

This paper is dedicated to Professor Tsuyoshi Ando

Communicated by Q.-W. Wang

ABSTRACT. In this paper, we discuss exiting roots of sub-kernel transient matrices $P$ associated with a class of $M$—matrices which are related to generalized ultrametric matrices. Then the results are used to describe completely all links of the class of matrices in terms of structure of the supporting tree.

Department of Mathematics and MOE-LSC, Shanghai Jiao Tong University, Shanghai 200240, P.R.China.

E-mail address: xiaodong@sjtu.edu.cn

Date: Received: September 23, 2013; Accepted: December 4, 2013.

2010 Mathematics Subject Classification. Primary 15B48; Secondary 47B99, 60J10.

Key words and phrases. Inverse $M$ matrix, tree, exiting root, link.