ON THE INVERSE EIGENVALUE PROBLEMS: THE CASE OF SUPERSTARS∗

ROSÁRIO FERNANDES†

Abstract. Let $T$ be a tree and let $x_0$ be a vertex of $T$. $T$ is called a superstar with central vertex $x_0$ if $T - x_0$ is a union of paths. The General Inverse Eigenvalue Problem for certain trees is partially answered. Using this description, some superstars are presented for which the problem of ordered multiplicity lists and the Inverse Eigenvalue Problem are not equivalent.

Key words. Eigenvalues, Tree, Graph, Symmetric matrices.

AMS subject classifications. 15A18, 05C38, 05C50.

---

∗Received by the editors September 16, 2007. Accepted for publication July 27, 2009. Handling Editor: Stephen J. Kirkland.
†Departamento de Matemática, Faculdade de Ciências e Tecnologia, Universidade Nova de Lisboa, Quinta da Torre, 2829-516 Caparica, Portugal (mrff@fct.unl.pt). This research was done within the activities of “Centro de Estruturas Lineares e Combinatórias”.

---