THE ALGEBRAIC CONNECTIVITY OF GRAPHS
WITH GIVEN STABILITY NUMBER

SHUNZHE ZHANG†, QIN ZHAO‡, AND HUIQING LIU§

Abstract. In this paper, the authors investigate the algebraic connectivity of connected graphs, and determine the graph which has the minimum algebraic connectivity among all connected graphs of order \( n \) with given stability number \( \alpha \geq \lceil \frac{n}{2} \rceil \), or covering number, respectively.

Key words. Graph, Laplacian matrix, Algebraic connectivity, Stability number.

AMS subject classifications. 05C50, 15A18.