

## THE MINIMUM SPECTRAL RADIUS OF GRAPHS WITH A GIVEN CLIQUE NUMBER\*

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**Abstract.** In this paper, it is shown that among connected graphs with maximum clique size  $\omega$ , the minimum value of the spectral radius of adjacency matrix is attained for a kite graph  $PK_{n-\omega, \omega}$ , which consists of a complete graph  $K_\omega$  to a vertex of which a path  $P_{n-\omega}$  is attached. For any fixed  $\omega$ , a small interval to which the spectral radii of kites  $PK_{m, \omega}$ ,  $m \geq 1$ , belong is exhibited.

**Key words.** Adjacency matrix, Largest eigenvalue, Spectral radius, Clique number, Kite graph.

**AMS subject classifications.** 05C35, 05C50, 05C69.

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