



ON THE DISTANCE SIGNLESS LAPLACIAN SPECTRAL RADIUS OF GRAPHS AND DIGRAPHS*

DAN LI[†], GUOPING WANG[‡], AND JIXIANG MENG[†]

Abstract. Let $\eta(G)$ denote the distance signless Laplacian spectral radius of a connected graph G . In this paper, bounds for the distance signless Laplacian spectral radius of connected graphs are given, and the extremal graph with the minimal distance signless Laplacian spectral radius among the graphs with given vertex connectivity and minimum degree is determined. Furthermore, the digraph that minimizes the distance signless Laplacian spectral radius with given vertex connectivity is characterized.

Key words. Distance signless Laplacian spectral radius, Bound, Extremal graph, Digraph, Vertex connectivity.

AMS subject classifications. 05C50.

*Received by the editors on June 7, 2017. Accepted for publication on November 13, 2017. Handling Editor: Ravi Bapat.

[†]College of Mathematics and System Sciences, Xinjiang University, Urumqi, Xinjiang 830046, China (ldxjedu@163.com, mjxxju@sina.com).

[‡]School of Mathematical Sciences, Xinjiang Normal University, Urumqi, Xinjiang 830054, China (xj.wgp@163.com).