On ordering bicyclic graphs with respect to the Laplacian spectral radius

S. Li, S. Simić, D. Tošić, Q. Zhao

References:


Abstract:

A connected graph of order n is bicyclic if it has n+1 edges. He et al. [C.X. He, J.Y. Shao, J.L. He, On the Laplacian spectral radii of bicyclic graphs, Discrete Math. 308 (2008) 5981–5995] determined, among the n-vertex bicyclic graphs, the first four largest Laplacian spectral radii together with the corresponding graphs (six in total). It turns that all these graphs have the spectral radius greater than n−1. In this paper, we first identify the remaining n-vertex bicyclic graphs (five in total) whose Laplacian spectral radius is greater than or equal to n−1. The complete ordering of all eleven graphs in question was obtained by determining the next four largest Laplacian spectral radii together with the corresponding graphs.

Keywords:

Spectral ordering, Bicyclic graph, Laplacian spectral radius