Extremal Laplacian Energy of Threshold Graphs

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Abstract : Let G be a connected threshold graph of order n with m edges and trace T. In this talk we give a lower bound on Laplacian energy in terms of n, m, and T of G. From this we determine the threshold graphs with the first four minimal Laplacian energies. We also list the first 20 minimal Laplacian energies among threshold graphs. Let $\sigma = \sigma(G)$ be the number of Laplacian eigenvalues greater than or equal to average degree of graph G. Using this concept, we obtain the threshold graphs with the largest and the second largest Laplacian energies.

Keywords : Laplacian eigenvalues, Laplacian energy, threshold graphs, extremal graphs

Conference Title : ICMCE 2016 : International Conference on Mathematics, Computing and Engineering

Conference Location : Singapore, Singapore

Conference Dates : January 07-08, 2016