CENTROSYMMETRIC GRAPHS AND A LOWER BOUND FOR GRAPH ENERGY OF FULLERENES

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Abstract

The energy of a molecular graph G is defined as the summation of the absolute values of the eigenvalues of adjacency matrix of a graph G. In this paper, an infinite class of fullerene graphs with $10n$ vertices, $n \geq 2$, is considered. By proving centrosymmetricity of the adjacency matrix of these fullerene graphs, a lower bound for its energy is given. Our method is general and can be extended to other class of fullerene graphs.

Keywords: centrosymmetric matrix, fullerene graph, energy.

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