

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 centrosymmetry 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.

2010 Mathematics Subject Classification: 05C35, 05C50, 92E10.

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Received 9 April 2013
Revised 13 September 2013
Accepted 10 November 2013