CENTROSYMMETRIC GRAPHS AND A LOWER BOUND FOR GRAPH ENERGY OF FULLERENES

GYULA Y. KATONA

Department of Computer Science and Information Theory
Budapest University of Technology and Economics
Budapest, Hungary
and
MTA-ELTE Numerical Analysis and Large Networks
Research Group, Budapest, Hungary
e-mail: gyula.katona@gmail.com

MORTEZA FAGHANI

Department of Mathematics, Payam-e Noor University
Tehran, I. R. Iran
e-mail: m_faghani@pnu.ac.ir

AND

ALI REZA ASHRAFI

Department of Pure Mathematics
Faculty of Mathematical Sciences
University of Kashan, Kashan 87317-51167, I. R. Iran
e-mail: ashrafi@kashanu.ac.ir

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.

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