HAMILTONIAN AND PANCYCLIC GRAPHS IN THE CLASS OF SELF-CENTERED GRAPHS WITH RADIUS TWO

PAVEL HRNČIAR

AND

GABRIELA MONOSZOVÁ

Department of Mathematics, Faculty of Natural Sciences
Matej Bel University, Tajovského 40, 974 01 Banská Bystrica, Slovakia

e-mail: Pavel.Hrnciar@umb.sk
Gabriela.Monoszova@umb.sk

Abstract

The paper deals with Hamiltonian and pancyclic graphs in the class of all self-centered graphs of radius 2. For both of the two considered classes of graphs we have done the following. For a given number n of vertices, we have found an upper bound of the minimum size of such graphs. For $n \leq 12$ we have found the exact values of the minimum size. On the other hand, the exact value of the maximum size has been found for every n . Moreover, we have shown that such a graph (of order n and) of size m exists for every m between the minimum and the maximum size. For $n \leq 10$ we have found all nonisomorphic graphs of the minimum size, and for $n = 11$ only for Hamiltonian graphs.

Keywords: self-centered graph with radius 2, Hamiltonian graph, pancyclic graph, size of graph.

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