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

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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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References

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