



HAMILTONIAN CYCLES IN THE SQUARE OF A GRAPH WITH BLOCK GRAPH HOMEOMORPHIC TO A STAR

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Let G be a simple undirected graph. The *square of G* is the graph G^2 with the same vertex set as G , in which two vertices are adjacent if and only if their distance in G is at most 2.

We show that under certain conditions the square of the graph obtained by identifying a vertex in two graphs with hamiltonian square is also hamiltonian. We present (polynomially verifiable) necessary and sufficient conditions for hamiltonicity of the square of a connected graph whose block graph is homeomorphic to a star in which the center corresponds to a cut vertex, and sufficient conditions for hamiltonicity of the square of a connected graph whose block graph is homeomorphic to a star in which the center corresponds to a block.