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PRODUCTS OF GEODESIC GRAPHS AND THE GEODETIC NUMBER OF PRODUCTS

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Abstract

Given a connected graph and a vertex $x \in V(G)$, the geodesic graph $P_x(G)$ has the same vertex set as G with edges uv iff either v is on an $x-u$ geodesic path or u is on an $x-v$ geodesic path. A characterization is given of those graphs all of whose geodesic graphs are complete bipartite. It is also shown that the geodetic number of the Cartesian product of $K_{m,n}$ with itself, where $m, n \geq 4$, is equal to the minimum of m, n and eight.

Keywords: geodesic graph, geodetic number, Cartesian products.

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