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Summary: The strong isometric dimension and the adjacent isometric dimension of graphs are compared. The concepts are equivalent for graphs of diameter 2 in which case the problem of determining these dimensions can be reduced to a covering problem with complete bipartite graphs. Using this approach several exact strong and adjacent dimensions are computed (for instance of the Petersen graph) and a positive answer is given to the Problem 4.1 of S. L. Fitzpatrick and R. J. Nowakowski [Discuss. Math. Graph Theory 20, 23-38 (2000; Zbl 0966.05026)] whether there is a graph $G$ with the strong isometric dimension bigger than $\lceil|V(G)|/2\rceil$.

MSC:
05C12 Distance in graphs

Keywords:
strong product of graphs; adjacent isometric dimension; strong isometric dimension

Full Text: DOI

References:

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