GOAL-MINIMALLY k-ELONGATED GRAPHS

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Let k be an integer. A 2-edge connected graph G is said to be goal-minimally k-elongated if for every edge $uv \in E(G)$ the distance $d_{G-uv}(x, y) > k$ holds if and only if $\{u, v\} = \{x, y\}$. In particular, if the integer k is equal to the diameter of graph G, we get the class of goal-minimally k-diametric graphs introduced by Kyš in [2] and studied by Gliviak and Plesník in [1] and [3]. We construct some infinite families of goal-minimally k-elongated graphs and explore the goal-minimally properties of cages and symmetric cubic graphs.

References

[1] Gliviak F., Plesník J.: *Some examples of goal-minimally 3-diametric graphs*, J. Appl. Math. Stat. Inform. 1 (2005), No. 2, 87–94.

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[3] Plesník J.: *Examples of goal-minimally k-diametric graphs for some small values of k*, submitted 2006.