



UDC 519.17

Minimal Vertex 1-extensions of Palm Trees

D. D. Komarov

Saratov State University, 83, Astrakhanskaya str., 410012, Saratov, Russia, KomarovDD@gmail.com

Minimal vertex 1-extension of graphs can be regarded as a model of optimal 1-node fault tolerant implementation of a system. This paper is about of the 1-vertex extensions of a graphs from a special class named palm trees. This article presents a solution to the problem of finding the minimal vertex 1-extension of palm trees with two leafs.

Key words: graphs, minimal extensions of graphs, fault tolerance, palm trees, star-like trees.

References

1. Hayes J. P. A graph model for fault-tolerant computing system. *IEEE Trans. Comput.*, 1976, vol.C.-25, no. 9, pp. 875–884.
2. Abrosimov M. B. Complexity of some problems associated with the extension of graphs. *Math. Notes*, 2010, vol. 88, no. 5, pp. 619–625. DOI: 10.1134/S0001434610110015.
3. Abrosimov M. B. *Graph models of fault tolerance*. Saratov, Saratov Univ. Press, 2012, 192 p. (in Russian).
4. Harary F., Khurum M. One node fault tolerance for caterpillars and starlike trees. *Internet J. Comput. Math.*, 1995, vol. 56, pp. 135–143.
5. Abrosimov M. B. On the number of additional edges of a minimal vertex 1-extension of a starlike tree. *Izv. Saratov Univ. (N.S.)*, Ser. Math. Mech. Inform., 2012, vol. 12, iss. 2, pp. 103–113 (in Russian).