

Component (edge) connectivity of pancake graphs*

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Abstract

The l -component (edge) connectivity of a graph G , denoted by $c\kappa_l(G)$ ($c\lambda_l(G)$), is the minimum number of vertices (edges) whose removal from G results in a disconnected graph with at least l components. The pancake graph P_n is a popular underlying topology for distributed systems. In the paper, we determine the $c\kappa_l(P_n)$ and $c\lambda_l(P_n)$ for $3 \leq l \leq 5$.

Keywords: Component connectivity, component edge connectivity, pancake graphs, fault tolerance.

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Komponentna (povezavna) povezanost palačinkastih grafov*

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Povzetek

l -komponentna (povezavna) povezanost grafa G , označena s $c\kappa_l(G)$ ($c\lambda_l(G)$), je najmanjše število vozlišč (povezav), katerih odstranitev iz grafa G naredi nepovezan graf z najmanj l komponentami. Palačinkast graf P_n je priljubljena osnovna topologija porazdeljenih sistemov. V tem članku določimo $c\kappa_l(P_n)$ in $c\lambda_l(P_n)$ za $3 \leq l \leq 5$.

Ključne besede: Komponentna povezanost, komponentna povezavna povezanost, palačinkasti grafi, toleranca napak.

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