

Toughness threshold for the existence of 2-walks in K_4 -minor free graphs

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joint work with Zdeněk Dvořák² and Daniel Král'²

Abstract

A 2-walk is a closed spanning trail which uses every vertex at most twice. The toughness of a non-complete graph is $t(G) = \min(\frac{|S|}{c(G-S)})$, where the minimum is taken over all nonempty vertex sets S , for which $c(G-S) \geq 2$ and $c(G-S)$ denotes the number of components of the graph $G-S$. We show that every K_4 -minor free graph with toughness $t(G) > \frac{4}{7}$ has a 2-walk. We also give an example of a $\frac{4}{7}$ -tough K_4 -minor free graph with no 2-walk.

References

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