

A note on the 4-girth-thickness of $K_{n,n,n}^*$

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Abstract

The 4-girth-thickness $\theta(4, G)$ of a graph G is the minimum number of planar subgraphs of girth at least four whose union is G . In this paper, we obtain that the 4-girth-thickness of complete tripartite graph $K_{n,n,n}$ is $\lceil \frac{n+1}{2} \rceil$ except for $\theta(4, K_{1,1,1}) = 2$. And we also show that the 4-girth-thickness of the complete graph K_{10} is three which disprove the conjecture posed by Rubio-Montiel concerning to $\theta(4, K_{10})$.

Keywords: Thickness, 4-girth-thickness, complete tripartite graph.

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Opomba o 4-ožinski-debelini grafa $K_{n,n,n}^*$

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Povzetek

4-ožinska-debelina $\theta(4, G)$ grafa G je minimalno število ravninskih podgrafov ožine najmanj štiri, katerih unija je G . V tem članku pokažemo, da je 4-ožinska-debelina polnega tridelnega grafa $K_{n,n,n}$ enaka $\lceil \frac{n+1}{2} \rceil$ razen za $\theta(4, K_{1,1,1}) = 2$. Pokažemo tudi, da je 4-ožinska-debelina polnega grafa K_{10} enaka tri, kar ovrže domnevo, ki jo je postavil Rubio-Montiel v zvezi z $\theta(4, K_{10})$.

Ključne besede: Debelina, 4-ožinska debelina, polni tridelni graf.

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