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Facial parity edge colouring

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Abstract

A *facial parity edge colouring* of a connected bridgeless plane graph is an edge colouring in which no two face-adjacent edges (consecutive edges of a facial walk of some face) receive the same colour, in addition, for each face α and each colour c, either no edge or an odd number of edges incident with α is coloured with c. From Vizing's theorem it follows that every 3-connected plane graph has a such colouring with at most Δ^*+1 colours, where Δ^* is the size of the largest face. In this paper we prove that any connected bridgeless plane graph has a facial parity edge colouring with at most 92 colours.

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Lično parnostno barvanje povezav

Povzetek

Lično parnostno barvanje povezav povezanega ravninskega grafa brez mostov je tako barvanje povezav, v katerem nobeni dve lično-sosednji povezavi (tj. zaporedni povezavi sprehoda po robu kakega lica) nista enake barve, poleg tega pa je za vsako lice α in vsako barvo c število povezav incidenčnih z α in pobarvanih z barvo c bodisi nič bodisi liho. Iz Vizingovega izreka sledi, da ima vsak 3-povezan ravninski graf barvanje z največ $\Delta^* + 1$ barvami, kjer je Δ^* velikost največjega lica. V članku dokažemo, da ima vsak povezan ravninski graf brez mostov lično parnostno barvanje povezav z največ 92 barvami.