

The polynomial method for list-colouring extendability of outerplanar graphs

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Abstract

We restate theorems of Hutchinson [4] on list-colouring extendability for outerplanar graphs in terms of non-vanishing monomials in a graph polynomial, which yields an Alon-Tarsi equivalent for her work. This allows to simplify her proofs as well as obtain more general results.

Keywords: Outerplanar graph, list colouring, paintability, Alon-Tarsi number.

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Polinomska metoda razširitve barvanja zunanje ravninskih grafov z izbranim naborom barv

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Povzetek

V članku reformulirava izreke Hutchinsonove [4] o razširljivosti barvanja zunanje ravninskih grafov z izbranim naborom barv na ta način, da jih izraziva s pomočjo neizginjajočih monomov v grafovskem polinomu, to pa nama omogoči dobiti rezultate, ekvivalentne njenim, in sicer z uporabo Alon-Tarsijevega števila. Tako poenostaviva njene dokaze, dobiva pa tudi splošnejše rezultate.

Ključne besede: Zunanje ravninski graf, barvanje z izbranim naborom barv, barvnost, Alon-Tarsijevo število.

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