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Every triangle-free induced subgraph of the triangular lattice is $(5m, 2m)$ -choosable. (English)

Zbl 1283.05182

Discrete Appl. Math. 166, 51-58 (2014).

Summary: A graph G is (a, b) -choosable if for any color list of size a associated with each vertex, one can choose a subset of b colors such that adjacent vertices are colored with disjoint color sets. This paper proves that for any integer $m \geq 1$, every finite triangle-free induced subgraph of the triangular lattice is $(5m, 2m)$ -choosable.

MSC:

05C60 Isomorphism problems in graph theory (reconstruction conjecture, etc.)
and homomorphisms (subgraph embedding, etc.)

Cited in 1 Document

05C22 Signed and weighted graphs

94A12 Signal theory (characterization, reconstruction, filtering, etc.)

Keywords:

radio channel assignment; triangular lattice; choosability; weighted graph

Full Text: DOI

References:

- [1] Alon, N.; Tuza, Zs.; Voigt, M., Choosability and fractional chromatic number, Discrete Math., 165-166, 31-38, (1997) · Zbl 0877.05020
- [2] Borodin, O. V.; Kostochka, A. V.; Woodall, D. R., List edge and List colourings of multigraph, J. Combin. Theory Ser. B, 71, 184-204, (1997) · Zbl 0876.05032
- [3] Cropper, M. M.; Goldwasser, J. L.; Hilton, A. J.W.; Hoffman, D. G.; Johnson, P. D., Extending the disjoint-representatives theorems of Hall, halmos, and vaughan to List-multicolorings of graphs, J. Graph Theory, 33, 4, 199-219, (2000) · Zbl 0944.05040
- [4] Erdős, P.; Rubin, A. L.; Taylor, H., Choosability in graphs, (Proc. West-Coast Conf. on Combinatorics, Graph Theory and Computing, Congressus Numerantium, vol. XXVI, (1979)), 125-157
- [5] J.-C. Godin, Coloration et choisissabilité des graphes et applications, Ph.D. Thesis, Université du Sud Toulon-Var, France, 2009 (in French).
- [6] Gravier, S., A hajós-like theorem for List coloring, Discrete Math., 152, 299-302, (1996) · Zbl 0853.05037
- [7] Gutner, S.; Tarsi, M., Some results on $(a : b)$ -choosability, Discrete Math., 309, 2260-2270, (2009) · Zbl 1198.05049
- [8] Havet, F., Channel assignment and multicolouring of the induced subgraphs of the triangular lattice, Discrete Math., 233, 219-233, (2001) · Zbl 0983.05031
- [9] Havet, F., Choosability of the square of planar subcubic graphs with large girth, Discrete Math., 309, 3553-3563, (2009) · Zbl 1213.05084
- [10] Havet, F.; Zerovnik, J., Finding a five bicolouring of a triangle-free subgraph of the triangular lattice, Discrete Math., 244, 103-108, (2002) · Zbl 0997.05033
- [11] Kchikech, M.; Togni, O., Approximation algorithms for multicoloring powers of square and triangular meshes, Discrete Math. Theor. Comput. Sci., 8, 1, 159-172, (2006) · Zbl 1153.05026
- [12] McDiarmid, C.; Reed, B., Channel assignment and weighted coloring, Networks, 36, 114-117, (2000) · Zbl 0971.90100
- [13] Sudeep, K. S.; Vishwanathan, S., A technique for multicoloring triangle-free hexagonal graphs, Discrete Math., 300, 256-259, (2005) · Zbl 1076.05037
- [14] Thomassen, C., The chromatic number of a graph of girth 5 on a fixed surface, J. Combin. Theory, 38-71, (2003) · Zbl 1020.05030
- [15] Tuza, Zs.; Voigt, M., Every 2-choosable graph is $(2m, m)$ -choosable, J. Graph Theory, 22, 245-252, (1996) · Zbl 0853.05034
- [16] V.G. Vizing, Coloring the vertices of a graph in prescribed colors, in: Diskret. Analiz., No. 29, Metody Diskret. Anal. v Teorii Kodov i Shem 101 (1976) 3-10 (in Russian).
- [17] Voigt, M., Choosability of planar graphs, Discrete Math., 150, 457-460, (1996) · Zbl 0852.05048

[18] M. Voigt, On list colourings and choosability of graphs, in: Abilitationsschrift, TU Ilmenau, 1998.

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