

Borodin, O. V.; Kostochka, A. V.; Raspaud, A.; Sopena, E.
Acyclic coloring of 1-planar graphs. (Russian) [Zbl 0931.05032](#)
Diskretn. Anal. Issled. Oper., Ser. 1 6, No. 4, 20-35 (1999).

A graph is said to be 1-planar if it can be embedded into the plane so that each of its edges is crossed by at most one other edge. A coloring of the vertices of a graph is said to be acyclic if every cycle contains at least three colors. The acyclic chromatic number $a(G)$ of a graph G is the minimal k such that G admits an acyclic k -coloring. *O. Borodin* [Discrete Math. 25, No. 3, 211-236 (1979; [Zbl 0406.05031](#))] proved the conjecture of Grünbaum that every planar graph is acyclically 5-colorable. The main result of the article under review states that every 1-planar graph can be colored in 20 colors. Note that the largest known value among the acyclic chromatic numbers of 1-planar graphs is 7.

Reviewer: [A.Yu.Vesnina](#) (Novosibirsk)

MSC:

[05C15](#) Coloring of graphs and hypergraphs

Cited in **1** Review
Cited in **7** Documents

Keywords:

1-planar graph; acyclic coloring