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List supermodular coloring with shorter lists. (English) [Zbl 1438.05108](#)
Combinatorica 39, No. 2, 459-475 (2019).

F. Galvin [*J. Comb. Theory, Ser. B* 63, No. 1, 153–158 (1995; [Zbl 0826.05026](#))] proved that a bipartite graph G admits a list edge coloring if every edge is assigned a color list of length $\Delta(G)$, the maximum degree of the graph G . This result was improved by *O. V. Borodin* et al. [*J. Comb. Theory, Ser. B* 71, No. 2, 184–204 (1997; [Zbl 0876.05032](#))], who proved that G still admits a list edge coloring if every edge st is assigned a list of $\max\{d_G(s), d_G(t)\}$ colors. Recently, *S. Iwata* and *Y. Yokoi* [*Combinatorica* 38, No. 6, 1437–1456 (2018; [Zbl 1424.05089](#))] provided the list supermodular coloring theorem that extends Galvin’s result to the setting of Schrijver’s supermodular coloring. In this work the author provides a common generalization of these two extensions of Galvin’s result [loc. cit.].

Reviewer: [Mirko Lepović \(Kragujevac\)](#)

MSC:

[05C15](#) Coloring of graphs and hypergraphs
[68R05](#) Combinatorics in computer science

Keywords:

bipartite graph; edge coloring; supermodular coloring

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