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A HARMONIOUS COLORING AND THE LOCAL CUT LEMMA

A *harmonious coloring* of a hypergraph H is a vertex coloring such that it is a *rainbow coloring*, i.e. no two vertices on the same edge have the same color, and each subset of colors occurs on at most one edge. We present the application of the local cut lemma to the harmonious coloring of a hypergraph, see [2]. The local cut lemma is a generalization of the Lovász local lemma, the LCL was obtained by A. Bernshteyn, see [1].

References

- [1] A. Bernshteyn, *The Local Cut Lemma*, European Journal of Combinatorics 63, 2017, pp. 95-114.
- [2] B. Bosek, S. Czerwiński, J. Grytczuk, P. Rzażewski, *Harmonious coloring of uniform hypergraphs*, Applicable Analysis and Discrete Mathematics 10(1), 2016, pp. 73-87