Fon-Der-Flaass, D. G.

Perfect 2-colorings of a hypercube. (Russian, English) Zbl 1164.05348

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Summary: A coloring of the vertices of a graph is called perfect if the multiset of colors of all neighbors of a vertex depends only on its own color. We study the possible parameters of perfect 2-colorings of the n-dimensional cube. Some necessary conditions are obtained for existence of such colorings. A new recursive construction of such colorings is found, which produces colorings for all known and infinitely many new parameter sets.

MSC:

05C15 Coloring of graphs and hypergraphs

Keywords:

hypercube; coloring; perfect code

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