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The search for chromatically unique graphs. (English) Zbl 0727.05023
Graphs Comb. 6, No. 3, 259-285 (1990).

Authors' abstract: "The number of vertex-colourings of a simple graph G in not more than λ colours is a polynomial in λ . This polynomial, denoted by $P(G, \lambda)$, is called the chromatic polynomial of G . A graph G is said to be chromatically unique, in short χ -unique, if $H \cong G$ for any graph H with $P(H, \lambda) = P(G, \lambda)$. Since the appearance of the first paper on χ -unique graphs by *C.-Y. Chao* and *E. J. Whitehead* jun. [Theor. Appl. Graphs, Proc. Kalamazoo 1976, Lect. Notes Math. 642, 121-131 (1978; Zbl 0369.05032)], various families of and several results on such graphs have been obtained successively, especially during the last five years. It is the aim of this expository paper to give a survey on most of the works done on χ -unique graphs. A number of related problems and conjectures are also included."

Reviewer: [I. Tomescu \(București\)](#)

MSC:

[05C15](#) Coloring of graphs and hypergraphs
[05C35](#) Extremal problems in graph theory

Cited in **13** Reviews
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Keywords:

chromatically unique graphs; complete bipartite graphs; chromatic polynomial

Full Text: [DOI](#)

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