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**Universal point sets for 2-coloured trees.** (English) [Zbl 1243.05089]

Summary: Let \( R \) and \( B \) be two sets of distinct points such that the points of \( R \) are coloured red and the points of \( B \) are coloured blue. Let \( G \) be a family of planar graphs such that for each graph in the family \(|R|\) vertices are red and \(|B|\) vertices are blue. The set \( R \cup B \) is a universal point set for \( G \) if every graph \( G \in G \) has a straight-line planar drawing such that the blue vertices of \( G \) are mapped to the points of \( B \) and the red vertices of \( G \) are mapped to the points of \( R \). In this paper we describe universal point sets for meaningful classes of 2-coloured trees and show applications of these results to the coloured simultaneous geometric embeddability problem.

MSC:
- 05C15 Coloring of graphs and hypergraphs
- 68U05 Computer graphics; computational geometry (digital and algorithmic aspects)
- 05C10 Planar graphs; geometric and topological aspects of graph theory
- 05C05 Trees
- 05C62 Graph representations (geometric and intersection representations, etc.)

Keywords:
- graph drawing
- universal point sets
- coloured simultaneous embeddability
- computational geometry

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