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Chromatic Uniqueness of Mixed Graphs

For simple graphs G and H with chromatic polynomials $P(G, \lambda)$ and $P(H, \lambda)$, G and H are said to be *chromatically equivalent* if $P(G, \lambda) = P(H, \lambda)$ for all values of λ . If the only graphs which are chromatically equivalent to G are also isomorphic to G , then G is said to be *chromatically unique*. In this talk we will consider the problem of chromatic uniqueness for mixed graphs and directed graphs. In particular we will present several classes of directed graphs which are chromatically unique, as well as classify mixed graphs which are chromatically equivalent to their underlying graph.