TREES WITH DISTINGUISHING INDEX EQUAL DISTINGUISHING NUMBER PLUS ONE

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Abstract

The distinguishing number (index) $D(G)$ ($D'(G)$) of a graph $G$ is the least integer $d$ such that $G$ has an vertex (edge) labeling with $d$ labels that is preserved only by the trivial automorphism. It is known that for every graph $G$ we have $D'(G) \leq D(G) + 1$. In this note we characterize finite trees for which this inequality is sharp. We also show that if $G$ is a connected unicyclic graph, then $D'(G) = D(G)$.

Keywords: automorphism group, distinguishing index, distinguishing number, tree, unicyclic graph.

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References


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