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CHARACTERIZATION OF CUBIC GRAPHS G WITH $ir_t(G) = IR_t(G) = 2$

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Abstract

A subset S of vertices in a graph G is called a *total irredundant set* if, for each vertex v in G, v or one of its neighbors has no neighbor in $S - \{v\}$. The *total irredundance number*, $ir(G)$, is the minimum cardinality of a maximal total irredundant set of G, while the upper total irredundance number, $IR(G)$, is the maximum cardinality of a such set. In this paper we characterize all cubic graphs G with $ir_t(G) = IR_t(G) = 2$.

Keywords: total domination, total irredundance, cubic.

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