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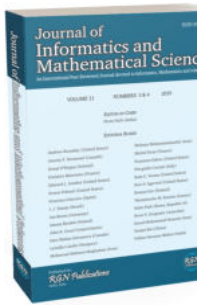

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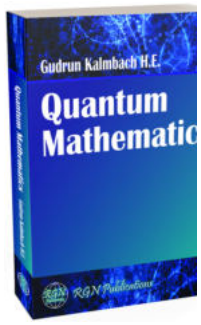

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A Study on Arithmetic Integer Additive Set-Indexers of Graphs

Sudev Naduvath

Abstract

Let $\N$ be the set of all non-negative integers and $\cP(\N)$ be its power set. An integer additive set-indexer (IASI) of a graph G is an injective function $f:V(G)\to \cP(\N)$ such that the induced function $f^+:E(G) \to \cP(\N)$ defined by $f^+ (uv) = f(u)+ f(v)$ is also injective. A graph G which admits an IASI is called an IASI-graph. An IASI f is said to be a {\em weak IASI} if $|f^+(uv)|=\max(|f(u)|,|f(v)|)$ and an IASI f is said to be a {\em strong IASI} if $|f^+(uv)|=|f(u)|\,|f(v)|$ for all $uv\in E(G)$. In this paper, we introduce the notion of arithmetic integer additive set-indexers of a given graph G as an IASI with respect to which all elements of G have arithmetic progressions as their set-labels and study the characteristics of this type of IASIs.

Keywords

Integer additive set-indexers; set-indexing number; arithmetic integer additive set-indexers; deterministic index; deterministic ratio.

Full Text:

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