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On the Weak-Integrity of Trees

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Abstract: In this paper the concept of {\em weak-integrity} is introduced as a new measure of the stability of a graph $\(G \)$ and it is defined as $I_w(G)=\{\min_{S\subset V(G)}\{|S|+m_e(G-S)\}\}$, where $m_e(G-S)$ denotes the number of edges of a largest component of G-S. We investigate the weak-integrity of trees and compute the weak-integrity of a binomial tree and all the trees with at most 7 vertices. We also give some results about the weak-integrity of graphs obtained from binary operations.

Key Words: Stability; Connectivity; Integrity