

The Graceful Tree Conjecture and Functions with an Attractive Fixed Point

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A graceful labeling of a simple graph $G = (V, E)$ is an injective map $f : V(G) \rightarrow \{0, 1, \dots, |E(G)|\}$ such that the induced map $g : E(G) \rightarrow \{1, 2, \dots, |E(G)|\}$ defined by $g(uv) = |f(u) - f(v)|$ is a bijection. The Graceful Tree Conjecture (GLC) proposes that all trees are graceful; this talk reviews the current status of the conjecture and related known results, and also discusses a new approach to studying the GLC that reformulates the problem in terms of functions with an attractive fixed point.

Keywords: Graceful Tree Conjecture, vertex labeling, functional directed graph

This abstract is for a talk to be given in the session on research from the GRWC.