Functions of degrees and distances as graph invariants in trees

Rachel Bass*, Georgia Southern University

Graph invariants are functions defined on the graph structures that stay the same under taking graph isomorphism. Many such graph invariants, including some commonly used graph indices in Chemical Graph Theory, are defined on vertex degrees and distances between vertices. We explore generalizations of such graph indices and the corresponding extremal problems in trees. We will also briefly mention the applications of our result.

Keywords: Graph invariants, trees, degree sequence