Strong Branch Weight Centroids of a Tree

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Abstract: The distance sum and the branch weight are two well known measures of centrality of vertices in trees. In this talk we consider another measure of centrality of vertices in trees which unifies the above two measures in some sense, and we name the vertices which are the most central with respect to this centrality measure as strong branch weight centroids. We study the structure of the set of strong branch weight centroids of a tree and prove that it consists of one vertex or two adjacent vertices We also present an algorithm which computes the strong branch weight centroids of a given tree in linear time.

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