

Convex and quasiconvex functions on trees

Abstract

The center, the median and the centroid are classical notions that identify central vertices in a tree. These can be defined as vertices where certain functions defined on the vertex set of a tree are minimized. We define a broader class of functions, called convex and quasiconvex functions, on the vertex set of a tree. We present several examples of such functions, some of which arise from matrices associated with the tree such as the distance matrix and the Laplacian matrix.