Edge-Deleted Eccentricities of Graphs

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Abstract

A graph G is 2-*edge-connected* if the removal of any edge of G never results in a disconnected graph. For a vertex v in a 2-edge-connected graph G, we define the *edge-deleted eccentricity* $g(v)$ of v as the maximum eccentricity of v in $G - e$ over all edges e of G. We will show that the edge-deleted eccentricity set for graphs may not be a set of consecutive integers and we will classify graphs that have large "gaps" in their edge-deleted eccentricity set.