

Tour Sets and Tour Vertices of a Graph

Garry L. Johns, William R. Vautaw*, Saginaw Valley State University

Let G be a connected, simple graph, and let u and v be vertices. We define a $u - v$ *tour* to be a $u - v$ trail of maximum length, and for any subset $S \subseteq V(G)$, we denote by $I_T[S]$ the set of all vertices lying on any tour between any pair of vertices in S . We say that S is a *tour set* if $I_T[S] = V(G)$, and that a vertex v is a *tour vertex* if v lies within every minimum tour set of G . In this talk, we present some basic result concerning tour sets and tour vertices, including some comparisons of these concepts to geodetic sets, geodetic vertices, detour sets, and detour vertices.

Keywords: trail, tour, detour, geodetic