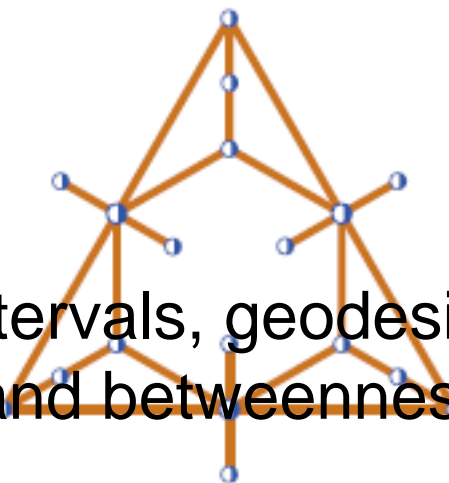


Bled'11 - 7th Slovenian International Conference on Graph Theory



Contribution ID : 144

Steiner intervals, geodesic intervals and betweenness

Content :

The concept of the k -Steiner interval is a natural generalization of the geodesic (binary) interval. It is defined as a mapping $S: V \times V \rightarrow 2^V$ such that $S(u_1, \dots, u_k)$ consists of all vertices in G that lie on some Steiner tree with respect to a multiset $W = (u_1, \dots, u_k)$ of vertices from G . We will focus on the the following three axioms for the k -Steiner interval: (i) a graph has the k -union property if every k -multiset W satisfies $S(W) = \cup_{u,v \in W} I(u,v)$, (ii) a graph satisfies the betweenness axiom (b2) if $x \in S(u_1, u_2, \dots, u_k)$ implies $S(x, u_2, \dots, u_k) \subseteq S(u_1, u_2, \dots, u_k)$, (iii) a graph satisfies the monotone axiom (m) if $x_1, x_2, \dots, x_k \in S(u_1, u_2, \dots, u_k)$ implies $S(x_1, x_2, \dots, x_k) \subseteq S(u_1, u_2, \dots, u_k)$. Structural characterizations of graphs that satisfy the above axioms will be presented.

Primary authors : TEPEH, Aleksandra (University of Maribor and IMFM)

Co-authors : BREŠAR, Boštjan (University of Maribor and IMFM) ; PETERIN, Iztok (University of Maribor and IMFM) ; CHANGAT, Manoj (University of Kerala) ; MATHEWS, Joseph (University of Kerala) ; NARASIMHA-SHENOI, Prasanth G. (Government College, Chittur) ; LAKSHMIKUTTYAMMA, Anandavally K (University of Kerala)

Presenter : TEPEH, Aleksandra (University of Maribor and IMFM)

Session classification : --not yet classified--

Track classification : Metric Graph Theory

Type : Oral presentation