VARIETY OF MUTUAL VISIBILITY PROBLEMS IN GRAPHS

Sandi Klavžar

University of Ljubljana, Slovenia
Institute of Mathematics, Physics and Mechanics, Slovenia
University of Maribor, Slovenia
e-mail: sandi.klavzar@fmf.uni-lj.si

If X is a subset of vertices of a graph G, then vertices u and v are X-visible if there exists a shortest u, v-path P such that $V(P) \cap X \subseteq \{u, v\}$. If each two vertices from X are X-visible, then X is a mutual-visibility set. The mutual-visibility number of G is the cardinality of a largest mutual-visibility set of G and has been already well investigated. In this talk, a variety of mutual-visibility problems based on which natural pairs of vertices are required to be X-visible will be presented. This yields the total, the dual, and the outer mutual-visibility numbers.

The talk will be based on a join work with Serafino Cicerone, Gabriele Di Stefano, Lara Drožđek, Jaka Hedžet, and Ismael Yero.