



FLOWS AND CIRCUIT COVERS IN SIGNED GRAPHS

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Venue: Room 2201, East Main Guanghua Tower, Handan Campus

Abstract: A signed graph G is a graph associated with a mapping $\sigma : E(G) \rightarrow \{-1, 1\}$. Signed graphs can be used to present surface duals of digraphs embedded in non-orientable surfaces. The edges of a signed circuit in a signed graph correspond to a minimal dependent set in the signed graphic matroid. A signed graph is coverable if each edge is contained in some signed circuit. An oriented signed graph (bidirected graph) has a nowhere-zero integer flow if and only if it is coverable. A signed circuit cover of G is a collection of signed circuits which covers all the edges of G . The length of a signed circuit cover is the sum of the lengths (number of edges) of the signed circuits in the cover. The minimum length of a signed circuit cover of G is denoted by $scc(G)$. In this talk, we give a brief survey of recent results on $scc(G)$.