On judicious bipartitions of directed graphs

侯建鋒

福州大學

Many classical partition problems in Combinatorics and Computer Science seek a partition of a combinatorial object (e.g., a graph, directed graph, hypergraph, etc.) which optimizes a single parameter. One such problem are the Max-Cut problem, where one seeks to partition the vertex set $V(G)$ of a graph G into two disjoint parts V_1 and V_2 so that the number of edges of G crossing between V_1 and V_2 is maximal. Judicious partition problem is to partition the vertex set of a graph such that several quantities are optimized simultaneously. In 2002, Bollobás and Scott studied the graph and digraph partition problems from several different angles and proposed many problems. In this talk, we will investigate some of them through combinatorial and probabilistic arguments.