LEVENT TUNCEL, University of Waterloo

Geometric and analytic properties of MaxCut SDP

Given a simple undirected graph with weights on the edges, finding a cut of maximum weight in the graph is a fundamental, and hard combinatorial optimization problem (called MaxCut). Since the early 1990's, one of the most intriguing approaches for solving the MaxCut problem (both in practice and in terms of computational complexity) has been the utilization of convex relaxations based on Semidefinite Programming (SDP). We study some goemetric and analytic properties of the most commonly used SDP relaxation of the MaxCut problem (the MaxCut SDP).

This talk is based on joint work with Marcel de Carli Silva.