

The integrality gap of the MAXCUT semidefinite programming formulation

Fernando Mario de Oliveira Filho

I will show how approximation algorithms for the maximum-cut problem based on semidefinite programming (SDP) can be understood in terms of a certain infinite-dimensional convex optimization problem over an extension of the cut polytope. Here, orthogonal group symmetry plays an essential role. The resulting infinite-dimensional problem can be used to compute bounds on the integrality gap of the SDP formulation for MAXCUT.

(Joint work with Frank Vallentin.)