REINFORCEMENT SEMIDEFINITE RELAXATIONS FOR SOME NP-HARD COMBINATORIAL OPTIMIZATION PROBLEMS[1]

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Here we consider a set of popular NP-hard optimization problems, such as Max-Cut, Max-k-Cut, Correlation clustering and other (ref. [1,3]). Semidefinite programming relaxation is a popular and widely used tool to produce an effective approximation. In some cases SDP based methods gives the best possible approximation ratio (under extra hypothesis, e.g. Unique Games Conjecture [5]).

One prowed here, that using of parametrical methods [2] could strengthen classical results(in non-asymptotic case). Here we provide some theoretical guarantees, compare our method with the known ones [3,6,7,8] and give results of numerical experiments for a certain problems of Boolean circuit design.

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