Max-3-Cut with Limited Unbalance and Application via Complex Semidefinite Programming

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Abstract. The use of linear programming for designing approximation algorithms for combinatorial optimization problems has a long tradition. Recently, researchers have investigated the use of nonlinear programming, particularly semidefinite programming, motivated by the seminal paper by Lovász. Semidefinite programs can be solved up to any prescribed accuracy in polynomial time. In this talk, we introduce our recent progress on the problem of Max-3-Cut with limited unbalance, which has application in Scheduling problems via the randomized approximation technique based on complex semidefinite programming relaxation.

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