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Convex Formulation for Planted Quasi-Clique Recovery

In this talk, we consider the planted quasi-clique or γ-clique problem. This problem is an extension of the well known planted clique problem which is NP-hard. The maximum quasi-clique problem is applicable in community detection, information retrieval and biology. We propose a convex formulation using nuclear norm minimization for planted quasi-clique recovery. We carry out numerical experiments using our convex formulation and the existing mixed integer programming formulations. Results show that the convex formulation performs better than the mixed integer formulations when γ is greater than a particular threshold.