

Abstract

We study Semidefinite Programming, *SDP*, relaxations for Sensor Network Localization, *SNL*, with anchors and with noisy distance information. The main point of the paper is to view *SNL* as a (nearest) Euclidean Distance Matrix, *EDM*, completion problem and to show the advantages for using this latter, well studied model. We first show that the current popular *SDP* relaxation is equivalent to known relaxations in the literature for *EDM* completions. The existence of anchors in the problem is *not* special. The set of anchors simply corresponds to a given fixed clique for the graph of the *EDM* problem. We next propose a method of projection when a large clique or a dense subgraph is identified in the underlying graph. This projection reduces the size, and improves the stability, of the relaxation.