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Bi-Lipschitz Invariant Theory and Quantum Channels

Given an affine variety in a high dimensional Euclidean space, a random projection onto a subspace of smaller dimension is often preserves the norm up to a small perturbation and is bi-Lipschitz with small distortion. This has applications in Bi-Lipschitz Invariant Theory and counterexamples for the additivity of quantum channels. I will discuss the problem of finding such projections with bounds for the distortion without using randomization.