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Compression of uniform embeddings into Hilbert space

The notion of uniform embedding of metric spaces plays an important role in study of large scale properties of finitely generated groups. A map $f\colon X \to Y$ of metric spaces (X, d_X) and (Y, d_Y) is called a *uniform embedding* if there are two real functions ρ_- and ρ_+ with $\lim_{r\to\infty} \rho_-(r) = +\infty$ such that $\rho_-(d_X(x,z)) \le d_Y(f(x), f(z)) \le \rho_+(d_X(x,z))$ for all $x, z \in X$. For example, a bi-Lipschitz map is a uniform embedding with linear functions ρ_- and ρ_+. If one tries to embed a given space X uniformly into Hilbert space, how close to bi-Lipschitz could the embedding be? We answer this question for finite dimensional CAT(0) cube complexes and for hyperbolic groups with word metric.