Title: Extending Lipschitz Mappings Continuously Speaker: Eva Kopecka

Abstract: We consider the space L(K) of bounded contractive mappings from a subset K of a Hilbert H space into that space. By Kirszbraun's theorem, any contractive mapping can be extended to the entire space to be a contraction again. In general, the extension is not unique. We show that there are single-valued extension operators from L(K) to L(H) which are continuous in the supremum norm.

When K is a compact subset of a Euclidean space H, this implies that the restriction to K of the set of those Lipschitz isometries of H which, moreover, preserve the lengths of curves is residual in L(K).