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Euclidean sets contained in good surfaces

Abstract: Let A be a set in the n-dimensional Euclidean space E^n. Given a positive integer m less than n, when is it possible to construct a nice map $f : E^m \to E^n$ so that A is contained in its image? In this talk we present sufficient conditions in terms of the geometry of A and its metric dimension which ensure that A is contained in a quasisymmetric m-plane, a bi-Lipschitz m-plane, a Hölder m-plane or a bi-Hölder line. The conditions on dimension are sharp.