

ON BI-LIPSCHITZ EMBEDDINGS

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Abstract

Let μ be a finite Borel regular measure on a compact metric space (X, ρ) , nontrivial on nonempty open sets. It is shown that whenever the map $\iota_\rho: X \rightarrow L^p(\mu)$ given by $\iota_\rho(x) = \rho(x, \cdot)$ is lower Lipschitz for some $1 < p < \infty$, then there is a bi-Lipschitz embedding of (X, ρ) into some \mathbb{R}^N .