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Vidhu S Prasad* (vidhu_prasad@uml.edu), Dept of Mathematics, One University Ave.,
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theorems on cubes.* Preliminary report.

Every “good” measure μ (nonatomic Borel probability measure positive on open sets and zero on boundary), is homeomorphic to product Lebesgue measure λ (for some homeomorphism h of I^n , $\mu = \lambda h$.)

For the space of good measures with the weak topology and the space of homeomorphisms with uniform convergence, the mapping $\pi : H(I^n) \rightarrow M(I^n)$ defined by $\pi(h) = \lambda h$ is continuous onto. If π has continuous cross section over $\mathcal{K} \subset M(I^n)$ then we say the measures \mathcal{K} are represented by homeomorphisms.

We show that for finite n , $2 \leq n < \infty$, the n -dimensional good measures in I^{n+1} (measures of the form $\mu \times \lambda_1$ where $\mu \in M(I^n)$ and λ_1 is one dimensional Lebesgue measure on the unit interval I) can be represented by homeomorphisms of I^{n+1} .

For the case of the Hilbert cube I^∞ the infinite dimensional good measures (those in $M(I^\infty) \times \lambda \subset M(I^\infty \times I^\infty)$ where $\lambda \in M(I^\infty)$ is infinite product Lebesgue measure) can be represented by homeomorphisms of $I^\infty \times I^\infty$.

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