

Title: Tight embeddings of subspaces of L_p into ℓ_p^n

Abstract: Given $k < n$ what are the k dimensional subspaces of ℓ_1^n ? Geometrically, What are the k dimensional central sections of the set $\{(x_1, \dots, x_n); x_i \in \mathbb{R}, \sum |x_i| \leq 1\}$?

This question as well as its analogues for ℓ_p^n for other values of $1 < p < \infty$ has its roots in a 1960 theorem of Dvoretzky on Euclidean sections of convex bodies. I'll describe some of the history of the problem as well as some recent results.