

Some remarks on discretization

V.N. Temlyakov*

Abstract

The talk is devoted to discretization of integral norms of functions from a given finite dimensional subspace or from a given function class. This problem is very important in applications but its systematic study has begun only recently. We present some results, which were obtained with the aid of a new technique, based on a combination of probabilistic technique (chaining technique) with results on the entropy numbers in the uniform norm. Special attention is paid to the problem of universal discretization – discretization of integral norms of functions from a given collection of finite dimensional subspaces.

*University of South Carolina, Steklov Institute of Mathematics, and Lomonosov Moscow State University.