

5005-C1-5

Evgeny D. Livshits* (livshitz@rambler.ru), Vorobyevy Gory, 1, Moscow, 119899, Russia.

Greedy Approximation of class $\mathcal{L}_0(\mathcal{D})$.

Greedy algorithms are widely used for approximation of target functions by finite linear combinations of basis functions from redundant dictionary $\mathcal{D} \subset H$. A lot of upper estimates on the rate of convergence were obtained for different greedy algorithms and different classes of target functions. But in the general case even for target functions from very restricted class one can not provide an arbitrary rate of convergence of greedy algorithms: we construct a dictionary \mathcal{D} and a target function $f \in \mathcal{L}_0(\mathcal{D})$ (set of finite linear combinations of elements from \mathcal{D}) such that the rate of convergence Orthogonal Greedy Algorithm for target function f is not faster than $n^{-1/2}$. In the talk we consider particular dictionaries \mathcal{D} that provides the fast rate of convergence of Pure Greedy Algorithm and Orthogonal Greedy Algorithm for target functions from $\mathcal{L}_0(\mathcal{D})$. (Received February 07, 2007)