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J. H. Friedman presents the new recursive method of regression estimation for high dimensional data. This method is very interesting and has very good perspective. The main idea is an adaptive and recursive construction of the system of basis functions. The proposed estimation method has good flexibility and it is convenient for computer realization. We think that this approach is applicable for other nonparametrical estimation problems, for instance in the spectral density estimation for stationary Gaussian data.

The interesting problem connected with the proposed method is the theoretical study of quality of this method for different classes of smooth regression functions. (The reasons for consideration of the classes of smooth functions lie not only in practical importance of such constraints. From our point of view the most important theoretical results are established for these functional classes.) Let us recall some known results in this direction.

1. The best in minimax sense order of the rate of convergence of the L_p , $1 \leq p < \infty$, risks to zero for the regression function of the smoothness of β in \mathbb{R}^k is equal to $n^{-\beta/(2\beta+k)}$ [Ibragimov and Hasminskii (1980) and Stone (1982)].
2. Speckman (1985) and Nussbaum (1985) found regression estimators which cannot be improved, not only in the sense of order of the rate of convergence but also in the sense of constant. Impossibility of improvement (in minimax sense) of this constant for special case ellipsoids in the Sobolev spaces and integrated mean-squared error was proved by Nussbaum (1985), who used the results of Pinsker (1980).