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99b:62045 [62G05](#) ([62B15](#) [62G20](#) [62M05](#))

[Brown, Lawrence D.](#) (1-PAWH-S); [Low, Mark G.](#) (1-PAWH-S);

[Zhao, Linda H.](#) (1-PAWH-S)

Superefficiency in nonparametric function estimation. (English summary)

Ann. Statist. **25** (1997), *no. 6*, 2607–2625.

Superefficiency is well known in regular parametric problems [L. LeCam, Univ. California Publ. Statist. 1 (1953), 277–329; [MR 14998b](#); P. J. Huber, Ann. Math. Statist. 37 (1996), 1425; per bibl.]. However, this does not lead to serious problems, since the set of superefficiency has measure zero and since further the superefficient estimators behave badly for uniform (say minimax) criteria. In this paper superefficiency is studied in terms of nonparametric function estimation [I. S. Abramson, Ann. Statist. 10 (1982), no. 4, 1217–1223; [MR 84a:62053](#)]. In various models (in particular, in the quite general white noise model) the following is shown: In fixed asymptotics (estimating a density at a point, for example), every parameter point can become a point of superefficiency. It is shown that some superefficient estimators have even acceptable minimax behaviour. These results imply that fixed asymptotic arguments should be considered with caution in this context.

Reviewed by [Theo Gasser](#) (Zürich)

Doc. Deliv.

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