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Regression function estimation as a partly inverse problem

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Abstract
This paper is about nonparametric regression function estimation. Our estimator is a one-step projection estimator obtained by least-squares contrast minimization. The specificity of our work is to consider a new model selection procedure including a cutoff for the underlying matrix inversion, and to provide theoretical risk bounds that apply to non-compactly supported bases, a case which was specifically excluded of most previous results. Upper and lower bounds for resulting rates are provided.

Keywords Hermite basis · Laguerre basis · Model selection · Nonparametric estimation · Regression function

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