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Model checking of dimension-reduction type for regression. (English) Zbl 1015.62042
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Summary: Residual analysis is a commonly used technique for model checking in regression. However, the problem gets more complicated when the dimension of covariates is high because it is difficult to see what the residuals should be plotted against. We propose a simple search for a good projection direction for plotting and for constructing a lack-of-fit test. We also investigate the bootstrap approximation for computing p -values.

MSC:

62G08 Nonparametric regression and quantile regression
62G09 Nonparametric statistical resampling methods
62G20 Asymptotic properties of nonparametric inference

Cited in **18** Documents

Keywords:

bootstrap approximation; dimension-reduction; empirical processes; model checking; residual plots