Valid Inference for L_2-Boosting: Supplemetary material

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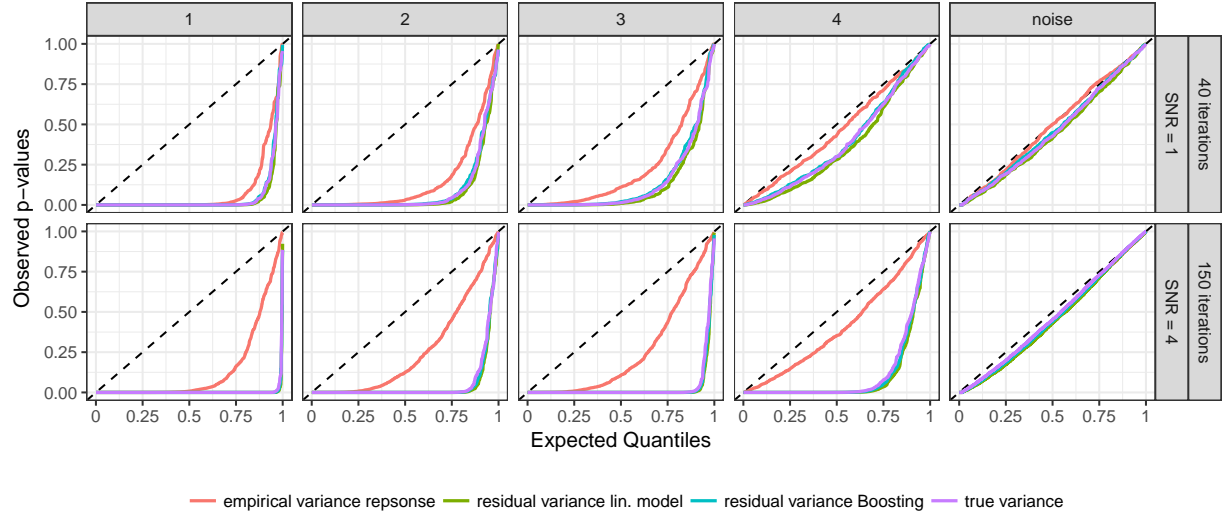# 1   Further Simulation Results

Linear base-learners

Figure 1: Observed p-values vs. expected quantiles across different covariates (columns) as well as different number of boosting iterations and SNR (rows) after boosting with different variance types (colours), a step-length of 0.1, 26 variables including 22 noise variables, 100 observations and a total of 1000 simulation iterations in four selected settings. p-values are shown for simulation iterations, in which either the true model or a model larger than the true model is selected.
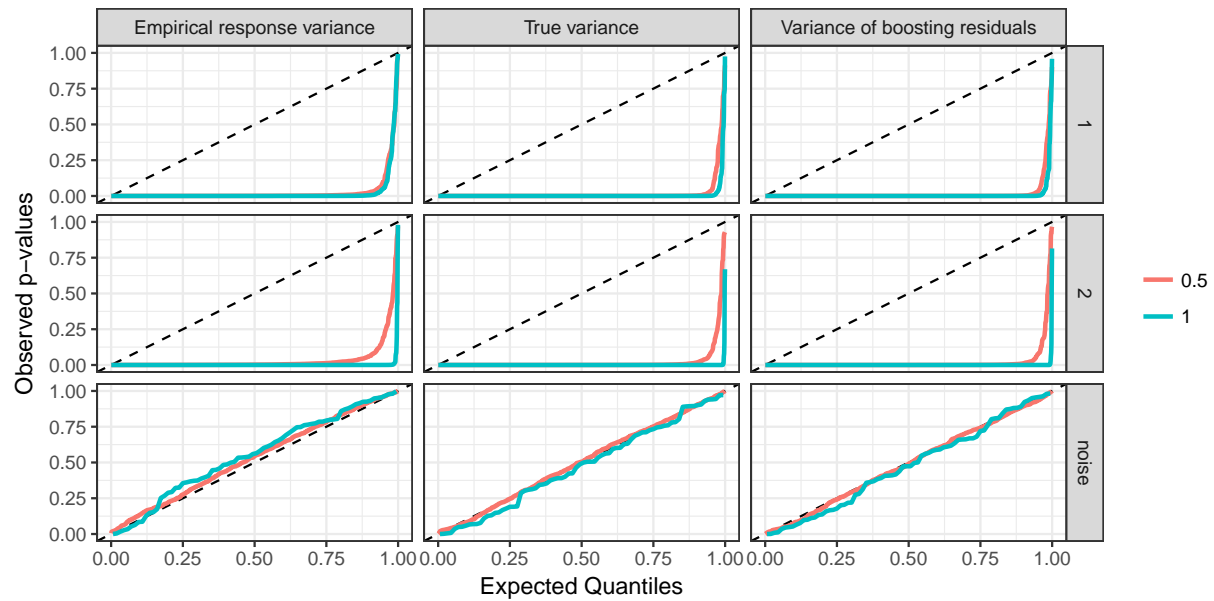
P-spline base-learners

Figure 2: Observed p-values vs. expected quantiles across different covariates (rows) as well as different variance types (columns) for two different SNR (colours) for testing boosted P-spline baselearners after 8 iterations and a step-length of 0.8, using a total of 1000 simulation iterations. p-values are shown for simulation iterations, in which either the true model or a model larger than the true model is selected.
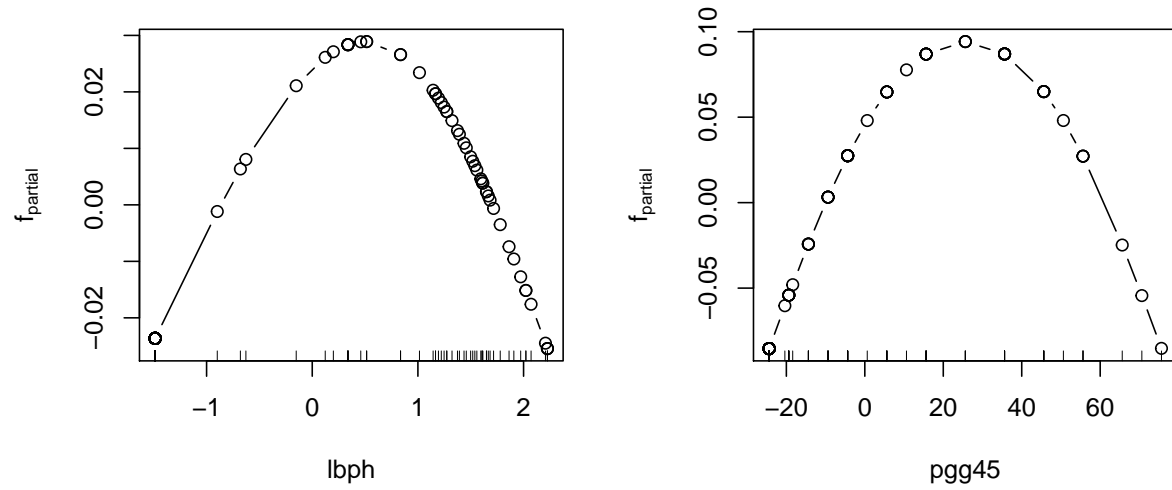
2   Application results

Figure 3: Partial effects of estimated non-linear deviations for the covariates lbph and pgg45.