Mathematisches Kolloquium

Tuning Parameter Calibration and Inference for the Lasso

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One of the most prominent methods in high-dimensional statistics is the lasso. Much of the theory for the lasso in the high-dimensional linear model hinges on the so-called effective noise. Among other things, the effective noise plays an important role in finite-sample bounds for the lasso, the calibration of the lasso's tuning parameter, and inference on the unknown parameter vector. In the talk, we develop a bootstrap-based estimator of the quantiles of the effective noise. Based on this estimator, we derive novel methods for tuning parameter calibration and inference for the lasso.