

## Estimating large covariance matrices

### **Abstract:**

We construct an estimator for high-dimensional covariance matrices when the number of available data points is low with respect to the number of variables. We only require the estimation of a small number of parameters, which are easy to interpret and which can be selected using standard model-choice procedures such as the BIC and the inclusion of interaction effects. The estimator is consistent under no assumptions on the covariance structure, and asymptotically normal with available confidence regions.