

Supplementary Materials: The Use of Cross-Validation in the Analysis of Designed Experiments

Maria L. Weese¹, Byran J. Smucker², and David J. Edwards³

¹Department of Information Systems & Analytics, Miami University, Oxford, OH

²Department of Public Health Sciences, Division of Biostatistics, Henry Ford Health, Detroit, MI

³Department of Mathematical Sciences, The Citadel, Charleston, SC

1 Designs

The following files contain the sets of designs used in the paper.

1. The response surface designs are contained in the file “prediction_designs.zip”
2. The $n = 20$ screening designs are contained in the file “screening_designs.zip”
3. The supersaturated designs are contained in the file “supersaturated_designs.zip”

2 Code

The file code.R contains the following functions:

1. Gauss-lasso
2. Best subsets using CV
3. Best subsets using LB

3 Supersaturated Screening

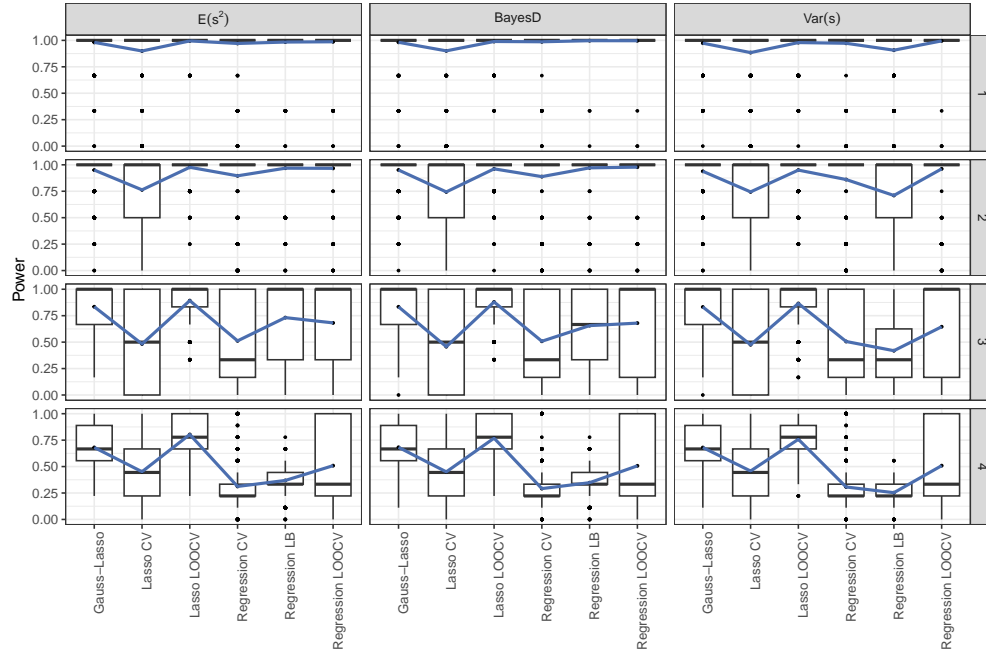


Figure 1: Power for each of the simulation scenarios (1-4) for each analysis method and each SSD type. The blue line indicates the average value.

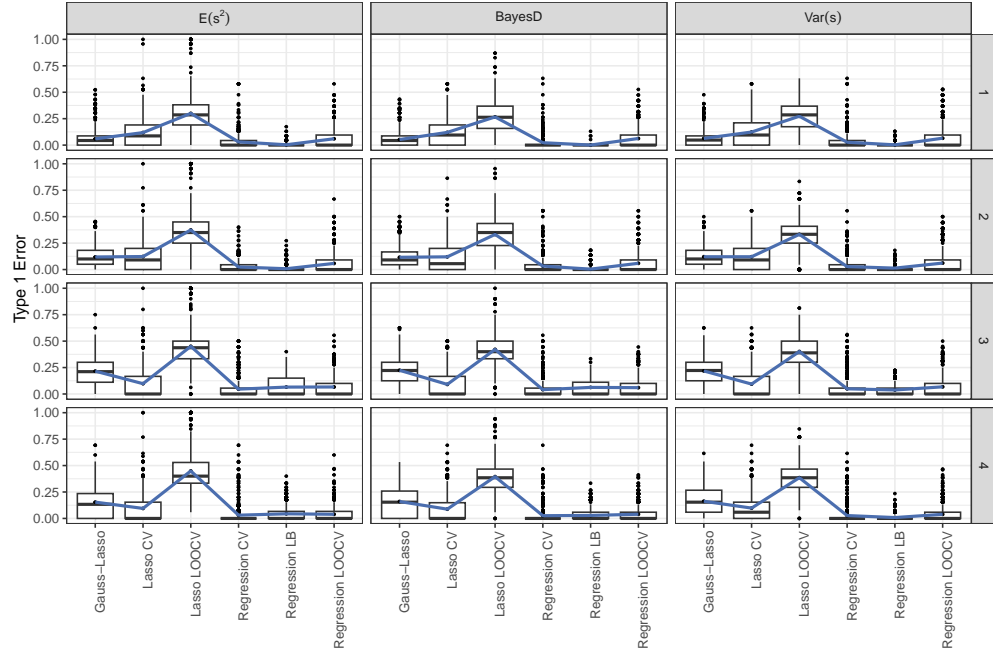


Figure 2: Type 1 error rate for each of the simulation scenarios (1-4) for each analysis method and each SSD type. The blue line indicates the average value.