i_optimal_book

Stu and Company

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I-optimal Design of Experiments Using R

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1 A Short Introduction to R

R is a powerful language and environment for statistical computing and graphics. It is a GNU project which is similar to the S language and environment which was developed at Bell Laboratories (formerly AT&T, now Lucent Technologies) by John Chambers and colleagues. R can be considered as a different implementation of S. There are some important differences, but much code written for S runs unaltered under R.

2 Response Surface Models

Response Surface Models (RSM) are used to predict the response of a system to different input variables. The RSM is a mathematical model that describes the relationship between the response and the input variables. The RSM is used to optimize the system by finding the input variables that will produce the desired response. The RSM is a useful tool for engineers and scientists who need to optimize a system with multiple input variables.