

Optimal Experimental Design: Basic theory and some applications

Víctor Manuel Casero Alonso

Universidad de Castilla-La Mancha

The optimal experimental design (OED) can be applied in a wide variety of contexts, from agricultural experiments, medical trials, pharmaceutical experiments to experimental economy. In fact, wherever there is a variable under the control of the experimenter there is an opportunity to look for an experimental design in order to optimize the results (try to find the design that reaches maximum information with minimum number of total experiments). This optimal design depends on the statistical model used to characterize the nature of the data, which will be forthcoming from the experiment. I will try to apply OED theory to this talk, that is, I will try to explain the minimum OED theory to understand some applications, especially for models with simultaneous equations.