Minimum Aberration and Related Criteria for Selecting Fractional Factorial Designs: A Review and Extensions

Ching-Shui Cheng
cheng@stat.sinica.edu.tw
Academia Sinica, Taiwan

Minimum aberration is a popular criterion for selecting fractional factorial designs with unstructured experimental units under the hierarchical assumption that the lower-order effects are more important than higher-order effects and effects of the same order are equally important. There is a rich theory on the construction of minimum aberration designs derived by using coding theoretic and finite geometric tools. I will present some sample results and extensions, including an extension to the case where there are multiple error terms arising from complicated structures of the experimental units.