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OPTIMAL DESIGN PROBLEMS FOR TRIGONOMETRIC REGRESSION MODELS

Abstract:

The problems of optimally designing experiments for trigonometric regression models over an interval on the real line are considered for the situation where estimation of the differences between responses at two points in the factor space is of primary interest. Minimization of the variance of the difference between estimated responses at two points maximized over all pairs of points in the region of interest is taken as the design criterion. Optimal designs under the minimax criterion are derived for various set-ups for the first-order model. Some comparisons with the traditional D-optimal designs are also provided. Open problems for further research are indicated.

Keywords:

Minimax designs, Optimal designs, Response surface designs,