

Designs for the first order trigonometric regression model 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. Some comparisons with the traditional D-optimal designs are also provided.

Key words: D-optimal designs, Minimax designs, Response surface designs, Trigonometric Regression

AMS Subject Classification: 62K99