

The Idle Column Method: Construction, Properties and Comparisons

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Abstract

Taguchi's idle column method has the advantages of run size economy and flexibility in factor level combination. A general construction method is proposed via a necessary and sufficient condition on two-level orthogonal arrays to which the method is applicable. A method is developed for identifying the idle column and pairs of columns in the arrays. Mixed two- and three-level idle column arrays with 64 or fewer runs are tabulated. Some guidelines are offered on when the idle column arrays should be used and when they should be replaced by orthogonal main-effect plans with larger runs.