

KRONECKER FACTORIAL DESIGNS FOR MULTIWAY ELIMINATION OF HETEROGENEITY

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Abstract. This paper considers the application of Kronecker product for the construction of factorial designs, with orthogonal factorial structure, in a set-up for multiway elimination of heterogeneity. A technique involving the use of projection operators has been employed to show how a control can be achieved over the interaction efficiencies. A modification of the ordinary Kronecker product yielding smaller designs has also been considered. The results appear to have a fairly wide coverage.

Key words and phrases: Efficiency, Kronecker product, orthogonal array, orthogonal factorial structure, projection.