Orthogonal families for one and two tier prime basis factorials

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Abstract

When the experiments in a family have the same structure and correspond to the treatments of an orthogonal design, we have an orthogonal family of experiments.

The aim of this paper is to show how Jordan algebras (Seely, 1970a, b, 1971; Seely and Zyskind, 1971; Fonseca et al., 2006; Jesus et al., 2009) can be used to derive the appropriate analysis of variance for certain classes of linear regression model, namely to carry out joint analysis for orthogonal families of experiments. The case in which the individual experiments are one and two strata prime basis factorials is singled out.

Keywords

Commutative Jordan algebras, Double tier, Factorial designs, Families of models, Orthogonal models.

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