

ORTHOGONAL MODELS: ALGEBRAIC STRUCTURE AND EXPLICIT ESTIMATORS FOR ESTIMABLE VECTORS

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Abstract

We study the algebraic structure of orthogonal models thus of mixed models whose variance covariance matrices are all positive semi definite, linear combinations of known pairwise orthogonal orthogonal projection matrices, POOPM, and whose least square estimators, LSE, of estimable vectors are best linear unbiased estimator, BLUE, whatever the variance components, so they are uniformly BLUE, UBLUE. From the results of the algebraic structure we will get explicit expression for the LSE of these models.

Keywords: linear models, mixed models, inference, orthogonal models, UBLUE.

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