

Orthogonality and linear sufficiency in partitioned and reduced linear models

Paweł R. Pordzik

Poznań University of Life Sciences, Poland

Abstract

The partitioned linear model \mathcal{M}_{12} is considered together with its reduced versions \mathcal{M}_2 and $\mathcal{M}_{(2)}$, which are free of nuisance parameters occurring in \mathcal{M}_{12} . The objective is to establish the condition under which the Best Linear Unbiased Estimator of parametric function in the reduced model \mathcal{M}_2 ($\mathcal{M}_{(2)}$) preserves its optimality in the partitioned model \mathcal{M}_{12} . In terms of linear sufficiency and orthogonality of data, the characterization is extended for the case where the support for observations in the reduced model \mathcal{M}_2 ($\mathcal{M}_{(2)}$) is a subset of the one in \mathcal{M}_{12} .

Keywords

Best linear unbiased estimation, Gauss-Markov model, Nuisance parameters, Linear sufficiency, Orthogonality of data.

References

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