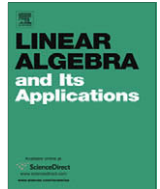




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On the equivalence of estimations under a general linear model and its transformed models

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ABSTRACT

Some necessary and sufficient conditions are given for two equalities of ordinary least-squares estimators and best linear unbiased estimators of an estimable vector of parametric functions under a general linear model and its transformed linear model to hold.

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1. Introduction

Throughout this paper, $\mathbb{R}^{m \times n}$ stands for the set of all $m \times n$ real matrices. The symbols \mathbf{M}' , $r(\mathbf{M})$ and $\mathcal{R}(\mathbf{M})$ and $\mathcal{N}(\mathbf{M})$ stand for the transpose, the rank, the range (column space) and the null space of a matrix $\mathbf{M} \in \mathbb{R}^{m \times n}$, respectively. The Moore–Penrose inverse of $\mathbf{M} \in \mathbb{R}^{m \times n}$, denoted by \mathbf{M}^+ , is defined to be the unique solution \mathbf{G} to the four matrix equations

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