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LINEAR ESTIMATORS OF THE MEAN VECTOR IN LINEAR MODELS: PROBLEM OF ADMISSIBILITY

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Abstract: In this paper we consider linear estimators in linear models with a general covariance structure. Necessary conditions for admissibility of the linear estimators with quadratic loss function are given and they are shown to be sufficient when only positive definite covariance matrices are admitted. In the case where the set of admitted covariance matrices coincides with all nonnegative definite matrices, it is shown that LY is admissible for the expected value EY if and only if the eigenvalues of the matrix L are in the closed interval [0, 1].

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