ESTIMATING THE COVARIANCE MATRIX AND THE GENERALIZED VARIANCE UNDER A SYMMETRIC LOSS

TATSUYA KUBOKAWA* AND YOSHIHIKO KONNO

Institute of Mathematics, University of Tsukuba, Tsukuba, Ibaraki 305, Japan

Abstract. For estimating the power of a generalized variance under a multivariate normal distribution with unknown means, the inadmissibility of the best affine equivariant estimator relative to the symmetric loss is shown, and a class of improved estimators is given. The problem of estimating the covariance matrix is also discussed.

Key words and phrases: Covariance matrix, generalized variance, Wishart distribution, affine equivariant estimators, Stein's truncated estimator, inadmissibility.