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A Test of Equality of Mean Vectors of Several Heteroscedastic Multivariate Populations

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Abstract: This paper deals with a test of equality of mean vectors of several heteroscedastic multivariate populations. We derive not only the asymptotic expansion up to N^{-1} of the nonnull distribution of James's (1954) statistic, but also those of two corrected statistics due to Cordeiro and Ferrari (1991) and Kakizawa (1996). The derivation we considered here is based on the differential operator method developed in Kakizawa and Iwashita (2005).

Key words: asymptotic expansion, Bartlett's type adjustment, differential operator, heteroscedasticity, local power, nonnormality, nonnull distribution, one-way MANOVA

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