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Test for assessing multivariate normality available for high-dimensional data

We proposed a test for assessing multivariate normality of the high-dimensional data which the dimension is larger than the sample size. The classical tests based on the sample measures of multivariate skewness and kurtosis defined by Mardia (1970) or Srivastava (1984) do not work for the high-dimensional case. The proposed test does not require explicit conditions on the relationship between the data dimension and sample size. An application of the proposed test is assessing multivariate normality of gene data, which we demonstrate as an numerical study.