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micompm: A MATLAB/Octave toolbox for multivariate independent comparison of observations

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Software

- Review
- Repository
- Archive

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Summary

micompm is a MATLAB (*MATLAB and Statistics Toolbox Release 2013a* 2013) / GNU Octave (Eaton et al. 2015) port of the original *micompr* (Fachada et al. 2016) R (R Core Team 2017) package for comparing multivariate samples associated with different groups. Its purpose is to determine if the compared samples are significantly different from a statistical point of view. This method, described in detail by Fachada et al. (2017), uses principal component analysis to convert multivariate observations into a set of linearly uncorrelated statistical measures, which are then compared using statistical tests and score plots. This technique is independent of the distributional properties of samples and automatically selects features that best explain their differences, avoiding manual selection of specific points or summary statistics. The procedure is appropriate for comparing samples of time series, images, spectrometric measures or similar multivariate observations. It is aimed at researchers from all fields of science, although it requires some knowledge on design of experiments, statistical testing and multidimensional data analysis.

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