

Package ‘QuantileGH’

July 16, 2026

Type Package
Title Quantile Least Mahalanobis Distance Estimator for Tukey g-&-h Mixture
Version 0.3.0
Date 2026-07-16
Description Functions for simulation, estimation, and model selection of finite mixtures of Tukey g-and-h distributions. The author has retired from academic research. Accordingly, this package should not be considered a validated tool for use in peer-reviewed publications or as the basis for grant applications. Backward compatibility with user-code published in <doi:10.1007/s11222-025-10596-9> is not maintained in versions >= 0.3.0 (July 2026) of this package. The authors of those publications are the appropriate contacts for reproducibility inquiries.
License GPL-2
Encoding UTF-8
Language en-US
Depends R (>= 4.6)
Imports cli
Config/roxygen2/version 8.0.0
NeedsCompilation no
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Repository CRAN
Date/Publication 2026-07-16 20:50:07 UTC

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Description

Functions for simulation, estimation, and model selection of finite mixtures of Tukey g-and-h distributions. The author has retired from academic research. Accordingly, this package should not be considered a validated tool for use in peer-reviewed publications or as the basis for grant applications. Backward compatibility with user-code published in [doi:10.1007/s11222025105969](https://doi.org/10.1007/s11222025105969) is not maintained in versions $\geq 0.3.0$ (July 2026) of this package. The authors of those publications are the appropriate contacts for reproducibility inquiries.

Details

Tools for simulating and fitting finite mixtures of the 4-parameter Tukey *g*-&-*h* distributions. Tukey *g*-&-*h* mixture is highly flexible to model multimodal distributions with variable degree of skewness and kurtosis in the components. The Quantile Least Mahalanobis Distance estimator (QLMDe) is used for estimating parameters of the finite Tukey *g*-&-*h* mixtures. QLMDe is an indirect estimator that minimizes the Mahalanobis distance between the sample and model-based quantiles. A backward-forward stepwise model selection algorithm is provided to find

- a parsimonious Tukey *g*-&-*h* mixture model, conditional on a given number-of-components; and
- the optimal number of components within the user-specified range.

Note

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[doi:10.1007/s11222025105969](https://doi.org/10.1007/s11222025105969)

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