Package: QuantileGH (via r-universe)

November 13, 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 https://tingtingzhan.r-universe.dev

Date/Publication 2026-07-23 08:44:37 UTC

RemoteUrl https://github.com/cran/QuantileGH

RemoteRef HEAD

RemoteSha d840b0f90502d6a21d8cef348dafdf69883384f3

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`QuantileGH-package` *QuantileGH: Quantile Least Mahalanobis Distance Estimator for Tukey g-&-h Mixture*

Description

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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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Backward compatibility with user-code published in the following publications is not maintained in versions `>= 0.3.0` of this package. The authors of those publications are the appropriate contacts for reproducibility inquiries.

doi:10.1007/s11222025105969

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