

Package ‘MatSkew’

July 21, 2025

Type Package

Title Matrix Skew-T Parameter Estimation

Version 0.1.5

Author Michael P.B. Gallagher, Paul D. McNicholas

Maintainer Michael P.B. Gallagher <gallaump@mcmaster.ca>

Description Performs matrix skew-t parameter estimation, Gallagher and McNicholas (2017) <[doi:10.1002/sta4.143](https://doi.org/10.1002/sta4.143)>.

License GPL (>= 2)

Encoding UTF-8

LazyData true

RoxygenNote 6.1.1

NeedsCompilation no

Repository CRAN

Date/Publication 2019-07-28 10:00:06 UTC

Contents

Fit_Skewt	1
SimX	2

Index	3
--------------	----------

Fit_Skewt	<i>Matrix Skew t Parameter Estimation</i>
-----------	---

Description

Performs paramter estimation for the matrix variate skew-t distribution using an ECM algorithm.

Usage

```
Fit_Skewt(X, Tol = 0.001, max_iter = 1000)
```

Arguments

<code>X</code>	A list of matrices of the same size
<code>Tol</code>	The tolerance of the ECM algorithm. Defaults to 0.001
<code>max_iter</code>	The maximum number of iterations. Defaults to 1000

Value

Returns a list with elements `M` (the estimate of the location), `A` (the estimate of the skewness), `nu` (the estimate of the degrees of freedom), `Sigma` (the estimate of Sigma), `Psi` (the estimate of Psi), `loglik` (a vector of log likelihood values), `flag` (returns TRUE if a numerical issue occurred, FALSE otherwise).

Examples

```
data(SimX)
Fit_st<-Fit_Skewt(SimX)
```

`SimX`*Simulated Data*

Description

This is a simulated dataset with 100 observations from 4 by 3 matrix skew-t distribution.

Usage

```
data(SimX)
```

Format

An object of class `list` of length 100.

Index

* **data**

SimX, [2](#)

Fit_Skewt, [1](#)

SimX, [2](#)