Package 'CICA'

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Type Package

Title Clusterwise Independent Component Analysis

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Description

Clustering multi-subject resting state functional Magnetic Resonance Imaging data. This methods enables the clustering of subjects based on multi-subject resting state functional Magnetic Resonance Imaging data. Objects are clustered based on similarities and differences in cluster-specific estimated components obtained by Independent Component Analysis.

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Encoding UTF-8

LazyData true

RoxygenNote 7.1.1

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https://github.com/jeffreydurieux/CICA

NeedsCompilation no

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R topics documented:

CICA *CICA: Clusterwise Independent Component Analysis*

Description

Main function to perform Clusterwise Independent Component Analysis

Usage

```
CICA(
  DataList,
  nStarts,
  nComp,
  nClus,
  scale = TRUE,
  center = TRUE,
  rational = NULL,
  maxiter = 100,
  verbose = TRUE
)
```

Arguments

DataList	a list of matrices
nStarts	number of multiple starts
nComp	number of ICA components per cluster
nClus	number of clusters
scale	scale each matrix to have an equal sum of squares
center	mean center matrices
rational	a rational starting seed, if NULL no rational starting seed is used
maxiter	maximum number of iterations for each start
verbose	print loss information to console

Value

CICA returns an object of class "CICA". It contains the estimated clustering, cluster specific component matrices and subject specific time course matrices

P	partitioning vector of size length(DataList)
Sr	list of size nClus, containing cluster specific independent components
Ais	list of size length(DataList), containing subject specific time courses
Loss	loss function value of the best start
LossStarts	loss function values of all starts

Author(s)

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Examples

```
data('ExampleData', package = 'CICA')
output <- CICA(DataList = ExampleData, nStarts = 3, nComp = 5, nClus = 3, verbose = FALSE)
summary(output)
```

ExampleData *Example data for CICA*

Description

Example data for CICA

Usage

```
data(ExampleData)
```

Format

An object of class `list` of length 9.

Examples

```
data(ExampleData)
```

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summary.CICA *Summary method for class CICA*

Description

Summarize a CICA analysis

Usage

```
## S3 method for class 'CICA'
summary(object, ...)
```

Arguments

`object`	Object of the type produced by `CICA`
`...`	Additional arguments

Value

`summary.CICA` returns an overview of the estimated clustering of a `CICA` analysis

`PM`	Partitioning matrix
`tab`	tabulation of the clustering
`Loss`	Loss function value of the solution

Examples

```
data('ExampleData', package = 'CICA')
output <- CICA(DataList = ExampleData, nStarts = 3, nComp = 5, nClus = 3, verbose = FALSE)
summary(output)
```

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