

Package ‘essde’

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Type Package

Title ESS dimension estimator

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Description Provides functions to do manifold dimension estimation.

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URL <http://www.maths.lu.se/staff/kerstin-johnsson/research/manifold-dimension-estimation/>

LazyLoad yes

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ESS *Expected Simplex Skewness Dimension Estimation*

Description

Does dimension estimation with the ESS method

Usage

```
ESS(data, verbose = FALSE, ver, d = 1, maxdim = 20)
```

Arguments

data	Data set for which dimension should be estimated.
verbose	should information about the process be printed out?
ver	Possible values: 's' and 'c'.
d	For ver = 's', any value of d is possible, for ver = 'c', only d = 1 is supported.
maxdim	The maximal dimension the data could have. Used for interpolation.

Value

A vector with two components:

de	The interpolated dimension estimate.
ess	The ESS value produced by the algorithm.

Author(s)

Kerstin Johnsson, Lund University

Examples

```
library(manifgen)
data <- hball(100, 4, 15, .05)
ESS(data, ver = 's', d = 1)
```

ESS.interpol

Interpolation of Dimension Estimate from ESS-value

Description

Takes an ESS-value returned by the ESS dimension estimation algorithm and returns an interpolated dimension estimate.

Usage

```
ESS.interpol(essval, ver, d = 1, maxdim = 20)
```

Arguments

essval	ESS-value returned by the ESS dimension estimation algorithm.
ver	Possible values: 's' and 'c'.
d	For ver = 's', any value of d is possible, for ver = 'c', only d = 1 is supported.
maxdim	The maximal dimension the data could have. Used for interpolation.

Value

The interpolated dimension estimate.

Author(s)

Kerstin Johnsson, Lund University

Examples

```
library(manifgen)
data <- hball(100, 100)
de.data <- ESS(data, ver = 's', d = 1)
ESS.interpol(de.data['ess'], ver = 's', d = 1, maxdim = 150)
```

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