Package 'matrixLaplacian'

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Title Normalized Laplacian Matrix and Laplacian Map

Version 1.0

Imports scatterplot3d, graphics

Description Constructs the normalized Laplacian matrix of a square matrix, returns the eigenvectors (singular vectors) and visualization of normalized Laplacian map.

Depends R (>= 3.2.2)

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R topics documented:

`matrixLaplacian` *Normalized Laplacian Matrix and Laplacian Map*

Description

Constructs the normalized Laplacian matrix of a square matrix, returns the eigenvectors (singular vectors) and visualization of normalized Laplacian map.

Usage

```
matrixLaplacian(A, plot2D=TRUE, plot3D=TRUE)
```

Arguments

A	a numeric or complex matrix whose normalized Laplacian matrix is to be computed
plot2D	a logical value indicating whether a 2-D map should be plotted
plot3D	a logical value indicating whether a 3-D map should be plotted

Value

LaplacianMatrix	the symmetric normalized Laplacian matrix
eigenvector	the eigenvectors of normalized Laplacian matrix, which are same as singular vectors

Examples

```
#Create a square matrix
A <- matrix(c(1:16), 4, 4)
#Construct normalized Laplacian matrix and plot map
m <- matrixLaplacian(A, plot2D=TRUE, plot3D=TRUE)
#See the eigenvectors
vector<-m$eigenvector
```

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