

Package ‘andrews’

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Type Package

Title Andrews curves

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Author Jaroslav Myslivec <jaroslav.myslivec@upce.cz>

Maintainer Jaroslav Myslivec <jaroslav.myslivec@upce.cz>

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Description Andrews curves for visualization of multidimensional data

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andrews

*Andrews curves***Description**

Andrews curves for visualization of multidimensional data

Usage

```
andrews(df, type=1, clr=NULL, step=100, ymax=10, main=NULL, sub=NULL)
```

Arguments

df	data frame.
type	type of curve 1: $f(t)=x1/(2^{0.5})+x2*\sin(t)+x3*\cos(t)+x4*\sin(2*t)+x5*\cos(2*t)+\dots$ 2: $f(t)=x1*\sin(t)+x2*\cos(t)+x3*\sin(2*t)+x4*\cos(2*t)+\dots$ 3: $f(t)=x1*\cos(t)+x2*\cos((2*t)^{0.5})+x3*\cos((3*t)^{0.5})+\dots$ 4: $f(t)=1/(2^{0.5})*(x1+x2*(\sin(t)+\cos(t))+x3*(\sin(t)-\cos(t))+x4*(\sin(2*t)+\cos(2*t))+\dots)$
clr	number of column id date frame for color of curves.
step	smoothness of curves.
ymax	maximum of y coordinate.
main	main title for the plot.
sub	sub title for the plot.

Details

Andrews curves transform multidimensional data into curves. This package presents four types of curves.

Author(s)

Jaroslav Myslivec <jaroslav.myslivec@upce.cz>

References

Andrews, D. F. (1972) Plots of High-Dimensional Data. *Biometrics*, vol. 28, no. 1, pp. 125-136.
 Khattree, R., Naik, D. N. (2002) Andrews Plots for Multivariate Data: Some New Suggestions and Applications. *Journal of Statistical Planning and Inference*, vol. 100, no. 2, pp. 411-425.

Examples

```
data(iris)
andrews(iris,clr=5,ymax=3)
andrews(iris,type=4,clr=5,ymax=2)
```

normalize	<i>Nomralization</i>
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Description

Normalization of variable.

Usage

```
normalize(ar)
```

Arguments

ar numeric variable.

Details

Normalization of variable: $ar \leftarrow (ar - \min(ar)) / (\max(ar) - \min(ar))$

Value

Returns normalized variable.

Author(s)

Jaroslav Myslivec <jaroslav.myslivec@upce.cz>

numarray	<i>Numeric array</i>
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Description

Extracts numeric array from data frame.

Usage

```
numarray(df)
```

Arguments

df data frame.

Details

Extracts numeric array from data frame.

Value

Returns numeric array.

Author(s)

Jaroslav Myslivec <jaroslav.myslivec@upce.cz>

selectand

Selecting in Andrews curves

Description

Selecting object utility in Andrews curves

Usage

```
selectand(df, type=1, step=100, ncol=0, from=0, to=1, col=2)
```

Arguments

df	data frame.
type	type of curve.
step	smoothness of curves.
ncol	number of column in data frame for selection.
from	from value.
to	to value.
col	color of selected objects.

Details

Define which objects will be selected (colored) in Andrews curves.

Author(s)

Jaroslav Myslivec <jaroslav.myslivec@upce.cz>

Examples

```
data(iris)
andrews(iris, clr=5, ymax=3)
selectand(iris, ncol=1, from=5, to=5.5, col=1)
```

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