Package 'contourPlot'

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Type Package

Title Plots x,y,z Co-Ordinates in a Contour Map

Version 0.2.0

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Description Plots a set of x,y,z co-ordinates in a contour map. Designed to be similar to plots in base R so additional elements can be added using lines(), points() etc. This package is intended to be better suited, than existing packages, to displaying circular shaped plots such as those often seen in the semi-conductor industry.

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Encoding UTF-8

LazyData true

RoxygenNote 7.1.0

Depends R (>= 2.10), grDevices, interp, RColorBrewer

NeedsCompilation no

Repository CRAN

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Contents

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circle	*Create a Set of Circle Co-Ordinates*

Description

Creates a set of circle co-ordinates, of radius r, at position x,y

Usage

```
circle(x, y, r = 1)
```

Arguments

x	x position of the center of the circle
y	y position of the center of the circle
r	radius of the circle

Value

Matrix of x,y co-ordinates for a circle

Examples

```
plot(circle(0, 0, r = 1), type = 'l', asp = 1)
```

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contourPlot	*Plot a contour map*

Description

Takes x,y,z co-ordinates and plots them on a contour map. Smoothing and interpolation is done by means of fitting a spline to the data.

Usage

```
contourPlot(
  x,
  y,
  z,
  nx = length(unique(x)),
  main = NULL,
  axis = TRUE,
  legend = TRUE,
  xlab = "",
  ylab = "",
```

```
    col = NULL,
    breaks = NULL,
    nlevels = 10,
    legend_pos = 4
)
```

Arguments

x	a vector of x co-ordinates
y	a vector of y co-ordinates
z	a vector of z co-ordinates representing the height of the contours
nx	The number of pixels that will be in final plot. default is length(unique(x))
main	Title of plot
axis	logical if TRUE displays the axes of the plot
legend	logical if TRUE displays the legend
xlab	label on x axis
ylab	label on y axis
col	list of colors to be applied to contours.
breaks	list of values indicating the contour ranges
nlevels	useful if breaks and col are left as null. Sets the number of levels of the contours to be plotted
legend_pos	set position of the colour bar. Default = 4.

Value

A contour plot (similar to those in base, additional elements can be added using lines, points functions etc.

Examples

```
x <- Volcontour$x
y <- Volcontour$y
z <- Volcontour$z

contourPlot(x = x, y = y, z = z)

# A smoother contour
contourPlot(x = x, y = y, z = z, nx = 500)

# Changing breaks and colours
breaks = pretty(c(min(z),max(z)))
col = brewer.pal(n = length(breaks)-1, "Blues")
contourPlot(x = x, y = y, z = z, nx = 500, breaks = breaks, col = col)

# add lines
lines(circle(0, 0, 26.5))
```

| Volcontour | *Re-formatted version of the base dataset volcano.* |

Description

A dataset containg the x,y,z co-ordinates of the base data set volcano. Data is cropped in a radius <25 from the center of the volcano crater

Usage

```
Volcontour
```

Format

An object of class `tbl_df` (inherits from `tbl`, `data.frame`) with 1941 rows and 3 columns.

Details

@format a data frame with 1941 obs. and 3 variables

@source r base package

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