

Package ‘SPOUSE’

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Type Package

Title Scatter Plots Over-Viewed Using Summary Ellipses

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Description Summary ellipses superimposed on a scatter plot contain all bi-variate summary statistics for regression analysis. Furthermore, the outer ellipse flags potential outliers. Multiple groups can be compared in terms of centers and spreads as illustrated in the examples.

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summaryEllipse *SPOUSE (Scatter Plots Over-Viewed Using Summary Ellipses)*

Description

Summary ellipses superimposed on a scatter plot contain all bi-variate summary statistics for regression analysis. Furthermore, the outer ellipse flags potential outliers. Multiple groups can be compared in terms of centers and spreads as illustrated in the examples.

Usage

```
summaryEllipse(
  data1,
  data2,
  InEllipse = TRUE,
  OutEllipse = TRUE,
  InRect = TRUE,
  OutRect = TRUE,
  xlab = "X",
  ylab = "Y",
  main = "Summary Ellipse",
  coverage = 0.98,
  add = FALSE,
  wspace = 0.2,
  REGyonx = TRUE,
  REGxony = TRUE,
  ylim = c(min(data2) - wspace * (max(data2) - min(data2)), max(data2) + wspace *
    (max(data2) - min(data2))),
  xlim = c(min(data1) - wspace * (max(data1) - min(data1)), max(data1) + wspace *
    (max(data1) - min(data1))),
  pch = 1,
  cex = 0.7,
  col = "black"
)
```

Arguments

data1	explanatory variable; numeric vector x
data2	response variable; numeric vector y
InEllipse	LOGICAL; True (Default) for showing the inner ellipse
OutEllipse	LOGICAL; TRUE (Default) for showing the outer ellipse
InRect	LOGICAL; TRUE (Default) for showing the inner rectangle
OutRect	LOGICAL; TRUE (Default) for showing the outer rectangle
xlab	x-variable label
ylab	y-variable label
main	Main title of the plot.
coverage	the percentage of data that falls inside the outer ellipse
add	adds a summary ellipse of a new data set to an existing plot. Compares multiple groups.
wspace	the amount of white space around the plot window; negative to suppress details around the boundaries (zoom in); positive to zoom out. Default is 0.2.
REGyonx	LOGICAL; TRUE (Default) for showing the regression line of y on x.
REGxony	LOGICAL; TRUE (Default) for showing the regression line of x on y.
ylim	bounds for the y-axis

xlim	bounds for the x-axis
pch	display symbols for the points in the scatter plot; Use different pch for different groups.
cex	size of the points
col	color of the points

Value

A new plot which shows the ellipses superimposed on top of each other.

Examples

```
x1<-iris3[,"Sepal L.", "Setosa"]
y1<-iris3[,"Sepal W.", "Setosa"]
x2<-iris3[,"Sepal L.", "Versicolor"]
y2<-iris3[,"Sepal W.", "Versicolor"]
x3<-iris3[,"Sepal L.", "Virginica"]
y3<-iris3[,"Sepal W.", "Virginica"]
xlim=c(4,8)
ylim=c(1.5,5)
summaryEllipse(x1,y1,xlim=xlim,ylim=ylim,InEllipse='F',InRect='F',
OutRect='F',REGxony='F',REGyonx='F')
summaryEllipse(x2,y2,add=TRUE,pch=20,col="brown",InEllipse='F',InRect='F',
OutRect='F',REGxony='F',REGyonx='F')
summaryEllipse(x3,y3,add=TRUE,pch=19,col="grey",InEllipse='F',InRect='F',
OutRect='F',REGxony='F',REGyonx='F')
#end of example
```

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