

# Package ‘vioplot’

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**Title** Violin plot

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**Depends** sm

**Description** A violin plot is a combination of a box plot and a kernel density plot.

**License** BSD

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vioplot	<i>violin plot</i>
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### Description

Produce violin plot(s) of the given (grouped) values.

**Usage**

```
vioplot( x, ..., range=1.5, h, ylim, names, horizontal=FALSE,
         col="magenta", border="black", lty=1, lwd=1, rectCol="black",
         colMed="white", pchMed=19, at, add=FALSE, wex=1,
         drawRect=TRUE)
```

**Arguments**

x	data vector
...	additional data vectors
range	a factor to calculate the upper/lower adjacent values
h	the height for the density estimator, if omit as explained in sm.density, h will be set to an optimum
ylim	y limits
names	one label, or a vector of labels for the datas must match the number of datas given
col, border, lty, lwd	Graphical parameters for the violin passed to lines and polygon
rectCol, colMed, pchMed	Graphical parameters to control the look of the box
drawRect	logical. the box is drawn if TRUE.
at	position of each violin. Default to 1:n
add	logical. if FALSE (default) a new plot is created
wex	relative expansion of the violin.
horizontal	logical. horizontal or vertical violins

**Details**

A violin plot is a combination of a box plot and a kernel density plot. Specifically, it starts with a box plot. It then adds a rotated kernel density plot to each side of the box plot.

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Romain Francois <francoisromain@free.fr> ; <http://francoisromain.free.fr> : horizontal violins and additionnal graphical parameters

**References**

Hintze, J. L. and R. D. Nelson (1998). *Violin plots: a box plot-density trace synergism*. The American Statistician, 52(2):181-4.

**See Also**

[boxplot sm](#)

**Examples**

```
# box- vs violin-plot
par(mfrow=c(2,1))
mu<-2
si<-0.6
bimodal<-c(rnorm(1000,-mu,si),rnorm(1000,mu,si))
uniform<-runif(2000,-4,4)
normal<-rnorm(2000,0,3)
vioplot(bimodal,uniform,normal)
boxplot(bimodal,uniform,normal)

# add to an existing plot
x <- rnorm(100)
y <- rnorm(100)
plot(x, y, xlim=c(-5,5), ylim=c(-5,5))
vioplot(x, col="tomato", horizontal=TRUE, at=-4, add=TRUE,lty=2, rectCol="gray")
vioplot(y, col="cyan", horizontal=FALSE, at=-4, add=TRUE,lty=2)
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