

# Package ‘rasterImage’

October 14, 2022

**Type** Package

**Title** An Improved Wrapper of image()

**Version** 0.4.0

**Author** Martin Seilmayer

**Maintainer** Martin Seilmayer <m.seilmayer@hzdr.de>

**Description** This is a wrapper function for image(), which makes reasonable raster plots with nice axis and other useful features.

**License** GPL-2

**Depends** plotrix,grDevices,R (>= 2.15.0)

**LazyData** TRUE

**RoxygenNote** 6.1.1

**NeedsCompilation** no

**Repository** CRAN

**Date/Publication** 2019-10-14 08:40:07 UTC

## R topics documented:

colorPalette	1
rasterImage2	3

<b>Index</b>	<b>5</b>
--------------	----------

---

colorPalette	<i>Defines a color palette</i>
--------------	--------------------------------

---

## Description

This function defines a color palette and returns a vector of colors. The palettes itself are adapted from the ColorBrewer project.

**Usage**

```
colorPalette(n = NULL, type = "spectral", inv = F)
```

**Arguments**

n	number of colors to produce
type	sets the type of color palette. See Details
inv	revert the order of colors

**Details**

The parameter type controls the output palette type as follows:

- "spectral" spectral colors from blue to red
- "spectralHalf" spectral colors from green to red
- "green" MultiHue yellow - green
- "blue" MultiHue yellow - green blue
- "orange" MultiHue yellow - orange - brown
- "red" MultiHue yellow - orange red
- "red-white-blue","bwr" red - white - blue colors
- "rainbow" reproduces the rainbow color set
- "black-white","bw" gray scale colors
- "white-black","wb" gray scale colors from white to black
- "jet.colors","jc" dark blue to dark red
- "hzdr1" HZDR cooperate design colors
- "hzdr2" HZDR cooperate design colors

If a vector of color names is supported, then a customized palette will be calculated according to these colors.

**Value**

returns a vector of colors to be passed to image or rasterImage

**References**

<http://colorbrewer2.org> by Cynthia A. Brewer, Geography, Pennsylvania State University

**Examples**

```
# default "spectral" palette
barplot(rep(1,10), col = colorPalette(10))

# custom color palette
barplot(rep(1,10), col = colorPalette(n = 10, type = c("red","blue","yellow")))
```

**Description**

The function is a wrapper for the `image()` function, but with a comfortable control of the z-axis and its color legend. The wrapper also supports image resizing (resolution) and png output for better export.

**Usage**

```
rasterImage2(x = NULL, y = NULL, z, zlim = NULL, xlim = NULL,
             ylim = NULL, dim.max = NULL, plot.zero.line = T, regularGrid = T,
             zlab = NULL, z.cex = 0.5, z.adj = c(0.5, 0.5), z.format = "fg",
             ndz = 7, ncolors = 256, palette = "spectral", palette.inv = F,
             ...)
```

**Arguments**

<code>x</code>	x-axis vector corresponding to the z-matrix
<code>y</code>	y-axis vector corresponding to the z-matrix
<code>z</code>	numeric matrix to be plotted
<code>zlim</code>	sets the range of the color coded z-axis
<code>xlim</code>	the x limits ( <code>x1</code> , <code>x2</code> ) of the plot. Note that <code>x1 &gt; x2</code> is allowed and leads to a 'reversed axis'. The default value, <code>NULL</code> , indicates that the range of the <a href="#">finite</a> values to be plotted should be used.
<code>ylim</code>	the y limits of the plot.
<code>dim.max</code>	defines the dimensions of the visible area of <code>z</code> . It automatically invokes a rescale. In case of large data sets this parameter can improve plotting speed.
<code>plot.zero.line</code>	logical, if a line at <code>x = 0</code> and <code>y = 0</code> is to be plotted.
<code>regularGrid</code>	logical, if <code>FALSE</code> then a vector plot is generated, which is the slow and standard behaviour of <code>image</code> . If this parameter is <code>TRUE</code> then a raster image is generated, which can be processed much faster, compared to the <code>FALSE</code> option.
<code>zlab</code>	defines the z-label
<code>z.cex</code>	cex value for the z-label. It sets the font size in relation to the global <code>par()\$cex</code> value
<code>z.adj</code>	a two component vector. It sets the left/right and top/bottom justification
<code>z.format</code>	controls how the numbers besides the color scale are composed. It works like the <code>format</code> option of <a href="#">formatC</a>
<code>ndz</code>	sets the axis breaks right to the color scale
<code>ncolors</code>	number of colors to use in the plot
<code>palette</code>	defines the color palette to be used in the plot
<code>palette.inv</code>	logical, if <code>TRUE</code> reverts the color palette
<code>...</code>	further arguments to the plot function, e.g. ' <code>xlab</code> '

**Details**

The `regularGrid` option forces interpolation in case of irregular spacing of `x` or `y`. All data is then projected on a regular grid. This correction invokes a spline interpolation. Missing NA values are ignored.

**Examples**

```
rasterImage2( z = volcano, palette = "spectral", dim.max = c(500,100)
              ,zlab = "Height", z.adj = c(0,1) ,z.cex = 1
              ,main = "Volcano Data Set"
              )
```

# Index

`colorPalette`, 1

`finite`, 3

`formatC`, 3

`rasterImage2`, 3