Package 'viridis'

March 29, 2018

Type Package

Title Default Color Maps from 'matplotlib'

Version 0.5.1

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Description Implementation of the 'viridis' - the default -, 'magma', 'plasma',
'inferno', and 'cividis' color maps for 'R'. 'viridis', 'magma', 'plasma',
and 'inferno' are ported from 'matplotlib' <http://matplotlib.org/>, a
popular plotting library for 'python'. 'cividis', was developed by Jamie R.
Nuñez and Sean M. Colby. These color maps are designed in such a way that
they will analytically be perfectly perceptually-uniform, both in regular
form and also when converted to black-and-white. They are also designed to
be perceived by readers with the most common form of color blindness (all
color maps in this package) and color vision deficiency ('cividis' only).

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LazyData TRUE

Encoding UTF-8

Depends R (>= 2.10), viridisLite (>= 0.3.0)

Imports stats, ggplot2 (>= 1.0.1), gridExtra

Suggests hexbin (>= 1.27.0), scales, MASS, knitr, dichromat,
colorspace, rasterVis, httr, mapproj, vdiffr, svglite (>=
1.2.0), testthat, covr, rmarkdown, rgdal

VignetteBuilder knitr

URL https://github.com/sjmgarnier/viridis

BugReports https://github.com/sjmgarnier/viridis/issues

RoxygenNote 6.0.1

NeedsCompilation no

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R **topics documented:**

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scale_color_viridis *Viridis color scales*

Description

Uses the viridis color scale.

Usage

```
scale_color_viridis(..., alpha = 1, begin = 0, end = 1, direction = 1,
  discrete = FALSE, option = "D")

scale_colour_viridis(..., alpha = 1, begin = 0, end = 1, direction = 1,
  discrete = FALSE, option = "D")

scale_fill_viridis(..., alpha = 1, begin = 0, end = 1, direction = 1,
  discrete = FALSE, option = "D")
```

Arguments

...	parameters to discrete_scale or scale_fill_gradientn
alpha	pass through parameter to viridis
begin	The (corrected) hue in [0,1] at which the viridis colormap begins.
end	The (corrected) hue in [0,1] at which the viridis colormap ends.
direction	Sets the order of colors in the scale. If 1, the default, colors are as output by viridis_pal. If -1, the order of colors is reversed.
discrete	generate a discrete palette? (default: FALSE - generate continuous palette)
option	A character string indicating the colormap option to use. Four options are available: "magma" (or "A"), "inferno" (or "B"), "plasma" (or "C"), "viridis" (or "D", the default option) and "cividis" (or "E").

Details

For discrete == FALSE (the default) all other arguments are as to scale_fill_gradientn or scale_color_gradientn. Otherwise the function will return a discrete_scale with the plot-computed number of colors.

See viridis for more information on the color scale.

Author(s)

Noam Ross <noam.ross@gmail.com> / @noamross (continuous version), Bob Rudis <bob@rud.is>
/ @hrbrmstr (combined version)

Examples

```
library(ggplot2)

# ripped from the pages of ggplot2
p <- ggplot(mtcars, aes(wt, mpg))
p + geom_point(size=4, aes(colour = factor(cyl))) +
    scale_color_viridis(discrete=TRUE) +
    theme_bw()

# ripped from the pages of ggplot2
dsub <- subset(diamonds, x > 5 & x < 6 & y > 5 & y < 6)
dsub$diff <- with(dsub, sqrt(abs(x-y))* sign(x-y))
d <- ggplot(dsub, aes(x, y, colour=diff)) + geom_point()
d + scale_color_viridis() + theme_bw()


# from the main viridis example
dat <- data.frame(x = rnorm(10000), y = rnorm(10000))

ggplot(dat, aes(x = x, y = y)) +
  geom_hex() + coord_fixed() +
  scale_fill_viridis() + theme_bw()

library(ggplot2)
library(MASS)
library(gridExtra)

data("geyser", package="MASS")

ggplot(geyser, aes(x = duration, y = waiting)) +
  xlim(0.5, 6) + ylim(40, 110) +
  stat_density2d(aes(fill = ..level..), geom="polygon") +
  theme_bw() +
  theme(panel.grid=element_blank()) -> gg

grid.arrange(
  gg + scale_fill_viridis(option="A") + labs(x="Virdis A", y=NULL),
  gg + scale_fill_viridis(option="B") + labs(x="Virdis B", y=NULL),
  gg + scale_fill_viridis(option="C") + labs(x="Virdis C", y=NULL),
  gg + scale_fill_viridis(option="D") + labs(x="Virdis D", y=NULL),
  gg + scale_fill_viridis(option="E") + labs(x="Virdis E", y=NULL),
  ncol=3, nrow=2
)
```

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viridis.map	*Original 'viridis'and 'cividis' color map*

Description

A dataset containing the original RGB values of the default Matplotlib color map ('viridis') and
the color vision deficiencies optimized color map 'cividis'. Sources: `https://github.com/BIDS/`
`colormap/blob/master/option_d.py` and `https://github.com/pnnl/cmaputil/blob/master/`
`colormaps/cividis.txt`.

Usage

```
viridis.map
```

Format

A data frame with 1280 rows and 4 variables:

- R: Red value
- G: Green value
- B: Blue value
- opt: The colormap "option" (A: magma; B: inferno; C: plasma; D: viridis; E: cividis)

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viridis_pal	*Viridis palette (discrete)*

Description

Viridis palette (discrete)

Usage

```
viridis_pal(alpha = 1, begin = 0, end = 1, direction = 1,
  option = "D")
```

Arguments

alpha	pass through parameter to `viridis`
begin	The (corrected) hue in [0,1] at which the viridis colormap begins.
end	The (corrected) hue in [0,1] at which the viridis colormap ends.
direction	Sets the order of colors in the scale. If 1, the default, colors are ordered from darkest to lightest. If -1, the order of colors is reversed.
option	A character string indicating the colormap option to use. Four options are available: "magma" (or "A"), "inferno" (or "B"), "plasma" (or "C"), "viridis" (or "D", the default option) and "cividis" (or "E").

Details

Here is an example of a 20-element palette:

See viridis for more information on the color scale.

Author(s)

Bob Rudis <bob@rud.is>

Examples

```
library(scales)
show_col(viridis_pal()(10))
```

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