

Package ‘WeibullR.plotly’

July 21, 2025

Type Package

Title Interactive Weibull Probability Plots

Version 0.3.1

Description Build interactive Weibull Probability
Plots with 'WeibullR' by David Silkworth and Jurgen Symynck (2022)
<<https://CRAN.R-project.org/package=WeibullR>>, an R package for
Weibull analysis, and 'plotly' by Carson Sievert (2020) <<https://plotly-r.com>>,
an interactive web-based graphing library.

URL <https://paulgovan.github.io/WeibullR.plotly/>,
<https://github.com/paulgovan/WeibullR.plotly>

BugReports <https://github.com/paulgovan/WeibullR.plotly/issues>

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Imports plotly, ReliaGrowR, WeibullR

Suggests knitr, rmarkdown, spelling, testthat (>= 3.0.0),
WeibullR.learnr, WeibullR.shiny

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plotly_contour	<i>Interactive Contour Plot</i>
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Description

This function creates an interactive contour plot for one or more ‘wblr’ objects, each assumed to have confidence contours generated via ‘method.conf = ‘lrb’’. The function overlays all contours in a single plot and displays their respective MLE point estimates.

Usage

```
plotly_contour(  
  wblr_obj,  
  main = "Contour Plot",  
  xlab = "Eta",  
  ylab = "Beta",  
  showGrid = TRUE,  
  cols = NULL,  
  gridCol = "lightgray",  
  signif = 3  
)
```

Arguments

wblr_obj	A single ‘wblr’ object or a list of ‘wblr’ objects.
main	Main title for the plot.
xlab	X-axis label (typically Eta or Sigmalog).
ylab	Y-axis label (typically Beta or Mulog).
showGrid	Logical; whether to show grid lines (default TRUE).
cols	Optional vector of colors for each contour/estimate pair. If not provided, colors are chosen from a default palette.
gridCol	Color of the grid lines (default ‘lightgray’).
signif	Number of significant digits to display for estimates and contour coordinates.

Value

A ‘plotly’ object representing the interactive contour plot.

Examples

```
library(WeibullR)
library(WeibullR.plotly)

failures1 <- c(30, 49, 82, 90, 96)
failures2 <- c(20, 40, 60, 80, 100)
obj1 <- wblr.conf(wblr.fit(wblr(failures1), method.fit = 'mle'), method.conf = 'lrb')
obj2 <- wblr.conf(wblr.fit(wblr(failures2), method.fit = 'mle'), method.conf = 'lrb')
plotly_contour(list(obj1, obj2), main = "Overlaid Contours")
```

plotly_duane	<i>Interactive Duane Plot.</i>
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Description

This function creates an interactive Duane plot for a duane object.

Usage

```
plotly_duane(  
  duane_obj,  
  showGrid = TRUE,  
  main = "Duane Plot",  
  xlab = "Cumulative Time",  
  ylab = "Cumulative MTBF",  
  pointCol = "black",  
  fitCol = "black",  
  gridCol = "lightgray"  
)
```

Arguments

duane_obj	An object of class 'duane'.
showGrid	Show grid (TRUE) or hide grid (FALSE).
main	Main title.
xlab	X-axis label.
ylab	Y-axis label.
pointCol	Color of the point values.
fitCol	Color of the model fit.
gridCol	Color of the grid.

Value

The function returns no value.

Examples

```
library(ReliaGrowR)
times<-c(100, 200, 300, 400, 500)
failures<-c(1, 2, 1, 3, 2)
fit<-duane_plot(times, failures)
plotly_duane(fit)
```

plotly_rga

Interactive Reliability Growth Plot.

Description

This function creates an interactive reliability growth plot for an rga object.

Usage

```
plotly_rga(
  rga_obj,
  showConf = TRUE,
  showGrid = TRUE,
  main = "Reliability Growth Plot",
  xlab = "Cumulative Time",
  ylab = "Cumulative Failures",
  pointCol = "black",
  fitCol = "black",
  confCol = "black",
  gridCol = "lightgray",
  breakCol = "black"
)
```

Arguments

rga_obj	An object of class 'rga'.
showConf	Show the confidence bounds (TRUE) or not (FALSE).
showGrid	Show grid (TRUE) or hide grid (FALSE).
main	Main title.
xlab	X-axis label.
ylab	Y-axis label.
pointCol	Color of the point values.
fitCol	Color of the model fit.
confCol	Color of the confidence bounds.
gridCol	Color of the grid.
breakCol	Color of the breakpoints.

Value

The function returns no value.

Examples

```
library(ReliaGrowR)
times<-c(100, 200, 300, 400, 500)
failures<-c(1, 2, 1, 3, 2)
rga<-rga(times, failures)
plotly_rga(rga)
```

plotly_wblr

Interactive Probability Plot.

Description

This function creates an interactive probability plot for a wblr object.

Usage

```
plotly_wblr(
  wblr_obj,
  susp = NULL,
  showConf = TRUE,
  showSusp = TRUE,
  showRes = TRUE,
  showGrid = TRUE,
  main = "Probability Plot",
  xlab = "Time to Failure",
  ylab = "Probability",
  probCol = "black",
  fitCol = "black",
  confCol = "black",
  intCol = "black",
  gridCol = "lightgray",
  signif = 3
)
```

Arguments

wblr_obj	An object of class 'wblr'.
susp	An optional numeric vector of suspension data.
showConf	Show the confidence bounds (TRUE) or not (FALSE).
showSusp	Show the suspensions plot (TRUE) or not (FALSE).
showRes	Show the results table (TRUE) or not (FALSE).
showGrid	Show grid (TRUE) or hide grid (FALSE).

<code>main</code>	Main title.
<code>xlab</code>	X-axis label.
<code>ylab</code>	Y-axis label.
<code>probCol</code>	Color of the probability values.
<code>fitCol</code>	Color of the model fit.
<code>confCol</code>	Color of the confidence bounds.
<code>intCol</code>	Color of the intervals for interval censored models.
<code>gridCol</code>	Color of the grid.
<code>signif</code>	Significant digits of results

Value

The function returns no value.

Examples

```
library(WeibullR)
library(WeibullR.plotly)
failures<-c(30, 49, 82, 90, 96)
obj<-wblr.conf(wblr.fit(wblr(failures)))
plotly_wblr(obj)
```

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