

# Package ‘DPQBootstrap’

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**Title** Dirichlet Quantile Bootstrap for Time Series

**Version** 0.1.1

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**Description** Provides a Dirichlet-based quantile bootstrap method for time series with rank-preserving reconstruction and averaged bootstrap samples. The package generates bootstrap trajectories, a mean bootstrap series, and uncertainty intervals for time series resampling.

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**Encoding** UTF-8

**RoxygenNote** 7.3.3

**Imports** stats, rlang

**Suggests** ggplot2

**NeedsCompilation** no

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**Repository** CRAN

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dpq_bootstrap	<i>DP-Quantile Bootstrap for Time Series</i>
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## Description

Generate bootstrap time series using a Dirichlet-based quantile bootstrap with rank-preserving reconstruction.

**Usage**

```
dpq_bootstrap(x, R = 500, alpha = 1, seed = NULL)
```

**Arguments**

x	Numeric vector. Original time series.
R	Integer. Number of bootstrap replications.
alpha	Positive numeric. Dirichlet concentration parameter.
seed	Optional seed.

**Value**

A list containing bootstrap samples, mean series, quantiles and ranks.

**Examples**

```
x <- c(120, 125, 118, 130, 128, 135, 140, 138, 145, 150)
res <- dpq_bootstrap(x, R = 20, alpha = 1, seed = 123)
res$mean_series
dim(res$samples)
```

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plot\_dpq

*Plot DP-Quantile Bootstrap Result*


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**Description**

Plot DP-Quantile Bootstrap Result

**Usage**

```
plot_dpq(object, dates = NULL, interval = "50")
```

**Arguments**

object	Object returned by dpq_bootstrap().
dates	Optional vector of dates.
interval	Character. Either '50' or '95'.

**Value**

A ggplot object.

**Examples**

```
x <- c(120, 125, 118, 130, 128, 135, 140, 138, 145, 150)
res <- dpq_bootstrap(x, R = 20, alpha = 1, seed = 123)
if (requireNamespace('ggplot2', quietly = TRUE)) {
  plot_dpq(res, interval = '50')
}
```

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