

# Package: optband (via r-universe)

October 22, 2024

**Type** Package

**Title** 'surv' Object Confidence Bands Optimized by Area

**Version** 0.2.2.9000

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**Description** Given a certain coverage level, obtains simultaneous confidence bands for the survival and cumulative hazard functions such that the area between is minimized. Produces an approximate solution based on local time arguments.

**Depends** R (>= 3.1.0)

**Imports** utils, LambertW

**License** GPL-2 | GPL-3

**URL** <https://github.com/seasamgo/optband>

**BugReports** <https://github.com/seasamgo/optband/issues>

**RoxygenNote** 7.1.1

**Suggests** stats, survival, km.ci, knitr, rmarkdown

**VignetteBuilder** knitr, rmarkdown

**Repository** <https://seasamgo.r-universe.dev>

**RemoteUrl** <https://github.com/seasamgo/optband>

**RemoteRef** HEAD

**RemoteSha** 89599d7b63b676dee5b3fa256916cd43a223adea

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`opt.ci`*Confidence bands optimized by area*

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**Description**

`opt.ci` obtains simultaneous confidence bands for the survival or cumulative-hazard functions such that the area between is minimized.

**Usage**

```
opt.ci(survi, conf.level = 0.95, fun = "surv", tl = NA, tu = NA, samples = 1)
```

**Arguments**

<code>survi</code>	a <code>survfit</code> object.
<code>conf.level</code>	desired coverage level.
<code>fun</code>	"surv" for survival function and "cumhaz" for the cumulative-hazard. function, with "surv" as the default.
<code>tl</code>	a lower bound for truncation.
<code>tu</code>	an upper bound for truncation.
<code>samples</code>	the number of groups (1 or 2).

**Details**

Produces an approximate solution based on local time arguments.

**Value**

A `survfit` object with optimized confidence bands.

**Examples**

```
library(survival)
# fit and plot a Kaplan-Meier curve
fit <- survfit(Surv(stop, event) ~ 1, data=bladder)
plot(fit)
fit2 <- opt.ci(fit)
plot(fit2)
```

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