Package 'circumstance'

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Type Package

Title pomp parallelized

Version 0.0.1.0

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Description Helper functions for parallelizing pomp computations.

URL https://kingaa.github.io/circumstance/

Depends R(>= 3.6.0), methods, foreach, pomp(>= 2.8)

Suggests doParallel, doRNG, tidyr, ggplot2

Remotes kingaa/pomp

License GPL-3

LazyData true

BugReports https://github.com/kingaa/circumstance/issues/

Contact kingaa at umich dot edu

Encoding UTF-8

RoxygenNote 7.1.0

Collate 'circumstance-package.R'
'pfilter.R'

R topics documented:

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circumstance-package   *circumstance package*

Description

circumstance provides tools for parallelizing certain **pomp** calculations.

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pfilter   *Parallel particle filter computations*

Description

Runs multiple instances of pfilter using foreach.

Usage

```
## S4 method for signature 'ANY,numeric'
pfilter(data, Nrep, ...)

## S4 method for signature 'ANY,missing'
pfilter(data, Nrep, ...)

## S4 method for signature 'pompList,numeric'
pfilter(data, Nrep, ...)

## S4 method for signature 'pompList,missing'
pfilter(data, Nrep, ...)
```

Arguments

data	passed to pomp::pfilter
Nrep	number of replicate particle filter computations to run. By default, Nrep = 1.
...	all additional arguments are passed to pomp::pfilter

See Also

pomp::pfilter.

Examples

```
options(digits=3)
png(filename="pfilter-%02d.png",res=100)

set.seed(789744859)

library(circumstance)
library(tidyr)
library(ggplot2)
library(doParallel)
library(doRNG)

registerDoParallel()
registerDoRNG(789744859)

ou2() -> ou2
ou2 %>%
  pfilter(Np=1000,Nrep=6) -> pfs

pfs %>%
  logLik() %>%
  logmeanexp(se=TRUE)

pfs %>%
  as.data.frame() %>%
  head()

ou2 %>%
  pfilter(Np=1000) %>%
  logLik()

pfs %>%
  lapply(simulate) %>%
  setNames(LETTERS[1:6]) %>%
  do.call(c,.) %>%
  pfilter(Nrep=2,Np=200) -> pfs2

pfs2 %>%
  data.frame() %>%
  separate(.id,c("po","rep")) %>%
  ggplot(aes(x=time,y=ess,group=rep,color=rep))+
  geom_line()+
  facet_wrap(~po)

registerDoSEQ()

dev.off()
```

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