Package 'mcmcderive'

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Title Derive MCMC Parameters

Version 0.0.1

Description Generates derived parameter(s) from Monte Carlo Markov Chain (MCMC) samples using R code. This allows Bayesian models to be fitted without the inclusion of derived parameters which add unnecessary clutter and slow model fitting. For more information on MCMC samples see Brooks et al. (2011) <isbn:978-1-4200-7941-8>.

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Depends R (>= 3.4.0)

Imports abind, err, checkr, mcmcr, purrr

Suggests covr, coda, plyr, doParallel, testthat

URL https://github.com/poissonconsulting/mcmcderive

BugReports https://github.com/poissonconsulting/mcmcderive/issues

Encoding UTF-8

LazyData true

RoxygenNote 6.1.1

Language en-US

NeedsCompilation no

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Repository CRAN

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R topics documented:

`ilogit` *Inverse Logistic Transformation*

Description

Inverse Logistic Transformation

Usage

```
ilogit(x)
```

Arguments

`x`	The numeric vector to transform.

Examples

```
ilogit(c(0.25,0.5,0.75))
```

`log<-` *Log Transformation*

Description

Log Transformation

Usage

```
log(x) <- value
```

Arguments

`x`	The object to replace.
`value`	The numeric vector to transform

Examples

```
x <- 1
log(x) <- 0.5
x
```

logit *Logistic Transformation*

Description

Logistic Transformation

Usage

```
logit(x)
```

Arguments

x	The numeric vector to transform.

Examples

```
logit(c(0.25,0.5,0.75))
```

logit<- *Logistic Transformation*

Description

Logistic Transformation

Usage

```
logit(x) <- value
```

Arguments

x	The object to replace.
value	The numeric vector to transform

Examples

```
x <- 1
logit(x) <- 0.5
x
```

`mcmc_derive` *MCMC Derive*

Description

Generate an MCMC object of derived parameter(s) from an MCMC an `mcmcr`, `mcmc.list` or `mcmcrs` object.

Usage

```
mcmc_derive(object, ...)

## S3 method for class 'mcmcr'
mcmc_derive(object, expr, values = list(),
  monitor = ".*", parallel = FALSE, silent = FALSE, ...)

## S3 method for class 'mcmc.list'
mcmc_derive(object, expr, values = list(),
  monitor = ".*", parallel = FALSE, silent = FALSE, ...)

## S3 method for class 'mcmcrs'
mcmc_derive(object, expr, values = list(),
  monitor = ".*", parallel = FALSE, silent = FALSE, ...)
```

Arguments

`object`	The original MCMC object.
`...`	Unused.
`expr`	A string of the R code defining the values of the derived parameter(s) with respect to the parameters in object.
`values`	A named list of additional R objects to evaluate in the R expression.
`monitor`	A regular expression specifying the derived parameter(s) in expr to monitor.
`parallel`	A flag specifying whether to generate the derived parameters for each chain in parallel.
`silent`	A flag specifying whether to suppress messages and warnings.

Value

An MCMC object of the derived parameter(s).

Methods (by class)

- `mcmcr`: MCMC Derive for an mcmcr object
- `mcmc.list`: MCMC Derive for an mcmc.list object
- `mcmcrs`: MCMC Derive for an mcmcrs object

Examples

```
mcmcr::mcmcr_example

expr <- "
 log(alpha2) <- alpha
 gamma <- sum(alpha) * sigma"

mcmc_derive(mcmcr::mcmcr_example, expr, silent = TRUE)
```

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phi *Phi*

Description

The standard normal cumulative density function.

Usage

```
phi(x)
```

Arguments

x	A numeric vector

Examples

```
phi(0:2)
```

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pow *Power*

Description

R equivalent to the C++ function.

Usage

```
pow(x, n)
```

Arguments

x	A numeric vector
n	A numeric vector of the power term.

Examples

```
pow(10,2)
```

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