Package 'porce'

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Title Photosynthesis, allocation, Organic matter dynamics and RadioCarbon Exchange (Porce) model

Version 0.0.1

Description
Set of functions, classes and methods to model carbon and radiocarbon dynamics in ecosystems.

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Encoding UTF-8

Imports methods

LazyData true

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Depends R (>= 3.5.0)

R topics documented:

`equilibriumOutflux` *Equilibrium output flux for a linear autonomous model*

Description

Equilibrium output flux for a linear autonomous model

Usage

```
equilibriumOutflux(model)
```

Arguments

model	an object of class lam, a linear autonomous model

Value

a vector with the output fluxes for all compartments

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equilibriumStock *Equilibrium stocks for a linear autonomous model*

Description

Equilibrium stocks for a linear autonomous model

Usage

```
equilibriumStock(model)
```

Arguments

model	an object of class lam, a linear autonomous model

Value

a vector with the equilibrium stocks for all compartments

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inputGPP *Input vector from a scalar gpp value*

Description

Input vector from a scalar gpp value

Usage

```
inputGPP(gpp, npools = 7)
```

Arguments

gpp	a scalar value of gross primary production
npools	integer. Number of pools in the system

Value

a vector of npool elements with GPP as first argument

Examples

```
inputGPP(25, 7)
```

lam-class *Linear autonomous model*

Description

Linear autonomous model

Value

An object of lam class

Slots

`input` numeric vector with inputs for each compartment.

`matrix` a compartmental matrix with dimension equal to length of input.

Examples

```
toyModel<-lam(input=c(1,2,3), matrix=diag(-1,3,3))
```

makeB *Compartmental matrix from a set of prior parameters of Porce model*

Description

This function builds a compartmental matrix of seven pools using a set of 16 parameter values. It is mostly used to build a matrix from the parameter values stored in the modpars dataset.

Usage

```
makeB(pars)
```

Arguments

`pars`	a numeric vector of 16 parameter values

Value

A compartmental matrix of dimension 7

Examples

```
makeB(pars=modpars[1,])
```

`modpars` *Model parameters for Porce*

Description

A dataset of model parameters that can be used as prior information for the Porce model. The dataset corresponds to a seven pool model developed for the Porce region of Colombia.

Usage

```
data(modpars)
```

Format

An object of class `matrix` (inherits from `array`) with 1000 rows and 16 columns.

References

Sierra et al. (2021). Journal of Ecology 109(8): 2845–2855.

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