Package 'daRt'

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Type Package

Title Read DART Model Outputs

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Description For reading outputs from the Discrete Anisotropic Radiative Transfer (DART) model, formatted in a ``long" dplyr-ready format suitable for efficient analysis.

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Encoding UTF-8

RoxygenNote 6.1.1

R topics documented:

`accessors` *Access object information*

Description

Generic functions to access information from the objects with classes defined in this package

Usage

```
product(x)

simname(x)

files(x)

bands(x)

iters(x)

variables(x)

variablesRB3D(x)

typeNums(x)

imageType(x)

imageNo(x)
```

`Directions-class` *Directions data class*

Description

Directions data class that extends SimulationData-class class.

`getData` *Main function: get DART data*

Description

Main function to get data from DART simulation outputs in a friendly 'long' data format that is part of an object that extends a SimulationData-class type object

Usage

```
getData(x = "character", sF = "SimulationFilter")
```

Arguments

`x`	simulation directory or directories (character)
`sF`	SimulationFilter-class object

getFiles *Get DART output filenames*

Description

Get DART output filenames

Usage

```
getFiles(x = "character", sF = "SimulationFilter")
```

Arguments

x	simulation directory or directories (character)
sF	SimulationFilter-class object

Images-class *Images data class*

Description

Image data class extends SimulationData-class class.

RB3D-class *RB3D class*

Description

RB3D (Radiative Budget 3D) class that extends SimulationData-class class.

SimulationData-class *Generic SimulationData class*

Description

Generic SimulationData class that extends to data classes for specific DART products

Slots

`data` data.frame.

See Also

Images-class Directions-class RB3D-class

SimulationFiles-class *SimulationFiles class*

Description

An S4 class to represent the files within a simulation or simulations. Created using the `getFiles` method. Specific files within the class are modified by the object with class SimulationFilter-class

Usage

```
simdir(x)
```

Slots

`simulationFilter` contains SimulationFilter-class object

`files` a data.frame, with each row describing the file

`sequenceInfoList` a list, with each list element showing the variable permutation(s) within this specific simulation sequence.

simulationFilter *Create SimulationFilter class*

Description

Function for creating the SimulationFilter class

Usage

```
simulationFilter(product = "character", ...)
```

Arguments

`product`	One of "directions", "rb3D", "images".
`...`	

See Also

`SimulationFilter-class`

SimulationFilter-class *SimulationFilter class.*

Description

SimulationFilter class.

Usage

```
product(x) <- value

iters(x) <- value

bands(x) <- value

variablesRB3D(x) <- value

variables(x) <- value

typeNums(x) <- value

imageType(x) <- value

imageNo(x) <- value
```

Slots

`bands` character.

`variables` character.

`iters` character.

`variablesRB3D` character.

`typeNums` character.

`imageType` character.

`imageNo` numeric.

`product` character.

See Also

`simulationFilter`

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