Package 'FAIRmaterials'

September 14, 2021

Title Make Materials Data FAIR

Version 0.0.2

Description
We provide here tools used by the Solar Durability and Lifetime Extension Center (SDLE) for FAIRifying data from materials science projects. Functions have been created for numerous tools common
in the field in order to make the metadata more Findable, Accessible, Interoperable, and Reproducible.

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Encoding UTF-8

LazyData true

Imports dplyr, glue, stringr

RoxygenNote 7.1.1

Depends R (>= 2.10)

Suggests testthat (>= 3.0.0)

Config/testthat/edition 3

NeedsCompilation no

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R topics documented:

`ftir_fair` *FTIR FAIR*

Description

Automatically generates a .json-ld file with metadata for a given run of the FTIR instrument

Usage

```
ftir_fair(method_in)
```

Arguments

`method_in`	The method that was used for the experiment run

Value

Returns a .json-ld file with desired metadata

Examples

```
ftir_fair('method1')
```

`ivallreal_fair` *IVAllReal FAIR*

Description

Automatically generates a .json-ld file with metadata for a given run of the IVAllReal instrument

Usage

```
ivallreal_fair(method_in)
```

Arguments

`method_in`	The method that was used for the experiment run

Value

Returns a .json-ld file with desired metadata

Examples

```
ivallreal_fair('li-cor')
```

`powerplant_fair` *Powerplant FAIR*

Description

Given a table of metadata, this function generates a .json-ld file with the metadata for a solar powerplant

Usage

```
powerplant_fair(specific_data)
```

Arguments

`specific_data`	This is a dataframe with specially formatted metadata

Value

Returns a .json-ld file with desired metadata

Examples

```
powerplant_fair(test_metadata)
```

`QUV1_fair` *QUV1 FAIR*

Description

Automatically generates a .json-ld file with metadata for a given run of the QUV1 instrument

Usage

```
QUV1_fair(method_in)
```

Arguments

`method_in`	The method that was used for the experiment run

Value

Returns a .json-ld file with desired metadata

Examples

```
QUV1_fair('hot-quv')
```

`sunsvoc_fair` *SunsVoc FAIR*

Description

Automatically generates a .json-ld file with metadata for a given run of the SunsVoc instrument

Usage

```
sunsvoc_fair(method_in)
```

Arguments

`method_in`	The method that was used for the experiment run

Value

Returns a .json-ld file with desired metadata

Examples

```
sunsvoc_fair('default.svi')
```

`test_metadata` *Florida Metadata*

Description

A dataset containing metadata for a solar powerplant in Florida

Usage

```
test_metadata
```

Format

A data frame with 1 row and 14 variables:

latd latitude, degrees

invs inverter supplier name, encrypted

rcid system alpha-numeric delimiter, matches time-series data to metadata

modm module model name, encrypted

lond longitude, degrees

kgcz Koppen-Geiger climate zone specification of the system

npow nameplate power of the modules in the string, watts

ninv number of total inverters located at a site

mods module supplier or brand name, encrypted

tilt angle of tilt of the modules, degrees

invtsite the site name at which the inverter is located, in this case it is labeled by state

nmod the number of modules per inverter

tsrt the time-series start time

cell the Si crystalline state of the cells used in the modules

Source

https://osf.io/yvzhk/

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