Package: bdXdata (via r-universe)

July 14, 2024

Type Package

Title Shared Data in Use at the CRP2A Laboratory

Version 0.1.0

Description A collection of shared data in use at the Archéosciences Bordeaux laboratory (UMR 6034 - CNRS, Université Bordeaux Montaigne, Université de Bordeaux). This package contains data specific to the laboratory instruments (calibration, monitoring, quality control, etc.). These data sets are openly distributed in order to ensure transparency and reproducibility of the results published by the laboratory team.

License GPL (>= 3)

URL https://crp2a.github.io/bdXdata/, https://github.com/crp2a/bdXdata

BugReports https://github.com/crp2a/bdXdata/issues

Depends R (>= 2.10)

Encoding UTF-8

LazyData true

Roxygen list(markdown = TRUE)

RoxygenNote 7.2.1

Repository https://crp2a.r-universe.dev

RemoteUrl https://github.com/crp2a/bdXdata

RemoteRef HEAD

RemoteSha 9fe9e6067eeb6b63c57e243a923f4740f36cd7e7

Contents

`BEGe_12cc` *BEGe 12cc Calibration Data*

Description

Background and standard intensity values for 12cc BEGe.

Usage

```
BEGe_12cc
```

Format

A `list` of `data.frame` with 8 variables:

`isotope` Isotope.

`series` Radioactive decay series.

`energy` Theoretical energy of the peak (keV).

`bkg` Background intensity value (c/ks).

`bkg_error` Background intensity error (c/ks).

`std` Standard intensity value (c/ks).

`std_error` Standard intensity error (c/ks).

`std_name` Name of the standard.

`mac` Mass absorption coefficient (cm2/g).

See Also

Other BEGe: `BEGe_60cc`

`BEGe_60cc` *BEGe 60cc Calibration Data*

Description

Background and standard intensity values for 60cc BEGe.

Usage

```
BEGe_60cc
```

Format

A list of data.frame with 8 variables:

isotope Measured isotope.

series Radioactive decay series.

energy Theoretical energy of the peak.

bkg Background intensity value (c/ks).

bkg_error Background intensity error (c/ks).

std Standard intensity value (c/ks).

std_error Standard intensity error (c/ks).

std_name Name of the standard.

mac Mass absorption coefficient (cm2/g).

See Also

Other BEGe: BEGe_12cc

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clermont *Clermont Reference Data*

Description

Clermont Reference Data

Usage

```
clermont
```

Format

An object of class data.frame with 9 rows and 15 columns.

Source

Guérin, G., Mercier, N. & Adamiec, G. (2011). Dose-Rate Conversion Factors: Update. *Ancient TL*, 29(1): 5-8.

Miallier, D., Guérin, G., Mercier, N., Pilleyre, T. & Sanzelle, S. (2009). The Clermont Radiometric Reference Rocks: A Convenient Tool for Dosimetric Purposes. *Ancient TL*, 27(2): 37-44.

See Also

Other standards: std_activity

interferences *Interferences*

Description

Interferences

Usage

```
interferences
```

Format

A data.frame with 8 observations of 6 variables:

isotope Isotope.

energy Theoretical energy of the peak (keV).

target

target_energy (keV).

proba

proba_error

See Also

Other references: isotopes, ref_mac

isotopes *Isotopic Data*

Description

Isotopic Data

Usage

```
isotopes
```

Format

A data.frame with 18 observations of 4 variables:

isotope Isotope.

series Series

energy Theoretical energy of the peak (keV).

mac Mass absorption coefficient (cm2/g).

proba_emission

See Also

Other references: interferences, ref_mac

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ref_mac *Mass Absorption Coefficient*

Description

Mass Absorption Coefficient

Usage

```
ref_mac
```

Format

A data.frame with 22 observations of 18 variables:

energy Energy (keV).

hydrogen Mass absorption coefficient of hydrogen (cm2/g).

carbon Mass absorption coefficient of carbon (cm2/g).

nitrogen Mass absorption coefficient of nitrogen (cm2/g).

oxygen Mass absorption coefficient of oxygen (cm2/g).

fluorine Mass absorption coefficient of fluorine (cm2/g).

sodium Mass absorption coefficient of sodium (cm2/g).

magnesium Mass absorption coefficient of magnesium (cm2/g).

aluminium Mass absorption coefficient of aluminium (cm2/g).

silicium Mass absorption coefficient of silicium (cm2/g).

phosphorus Mass absorption coefficient of phosphorus (cm2/g).

sulfur Mass absorption coefficient of sulfur (cm2/g).

chlorine Mass absorption coefficient of chlorine (cm2/g).

potassium Mass absorption coefficient of potassium (cm2/g).

calcium Mass absorption coefficient of calcium (cm2/g).

titanum Mass absorption coefficient of titanum (cm2/g).

manganese Mass absorption coefficient of manganese (cm2/g).

iron Mass absorption coefficient of iron (cm2/g).

See Also

Other references: interferences, isotopes

std_activity *Characteristics of Standard Materials*

Description

Characteristics of Standard Materials

Usage

```
std_activity
```

Format

A data.frame with 2 rows and 14 variables:

`standard` Name of the standard.

`thickness` Thickness (cm).

`volume` Volume (cm3).

`mass` Mass (g).

`activity_U` Uranium specific activity (Bq/kg).

`activity_U_error` Uranium specific activity error (Bq/kg).

`activity_Th` Thorium specific activity (Bq/kg).

`activity_Th_error` Thorium specific activity error (Bq/kg).

`activity_K` Potassium specific activity (Bq/kg).

`activity_K_error` Potassium specific activity error (Bq/kg).

`content_U` Uranium content (ppm).

`content_Th` Thorium content (ppm).

`content_K` Potassium content (%).

See Also

Other standards: clermont

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