Package 'rxylib'

July 11, 2017

Type Package

Title Import XY-Data into R

Description Provides access to the 'xylib' C library for to import xy data from powder diffraction, spectroscopy and other experimental methods.

Version 0.2.0

Date 2017-XX-XX

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URL https://github.com/R-Lum/rxylib

BugReports https://github.com/R-Lum/rxylib/issues

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Depends R (>= 3.3.0), utils

Imports methods, Rcpp (>= 0.12.11), httr (>= 1.2.1)

Suggests testthat (>= 1.0.2)

LinkingTo Rcpp (>= 0.12.11), BH (>= 1.62.0-1)

Encoding UTF-8

Collate 'methods_rxylib.R' 'rxylib.R' 'RcppExports.R' 'read_xyData.R'

RoxygenNote 6.0.1

NeedsCompilation yes

R topics documented:

`rxylib-package` *Import XY-Data into R*

Description

Provides access to the 'xylib' C library for to import xy data from powder diffraction, spectroscopy and other experimental methods, like gamma-ray spectrometry.

Package:	rxylib
Type:	Package
Version:	0.2.0
Date:	2017-XX-XX
License:	GPL-3 | LGPL-2.1 (for the C++ library 'xylib')

Details

Supported data formats library version: 1.6.0

ID	NAME	DESCRIPTION	FILE EXTENSION	VALID_OPTIONS	DATATYPE
[1,]	cpi	Sietronics Sieray CPI	cpi		ascii
[2,]	uxd	Bruker Diffrac-AT UXD	uxd		ascii
[3,]	rigaku_dat	Rigaku DAT	dat		ascii
[4,]	bruker_raw	Siemens/Bruker RAW	raw		binary
[5,]	bruker_spc	Bruker ESP300-E SPC	spc		binary
[6,]	vamas	VAMAS ISO-14976	vms		ascii
[7,]	philips_udf	Philips UDF	udf		ascii
[8,]	spe	PI WinSpec SPE	spe		binary
[9,]	pdcif	Powder Diffraction CIF	cif		ascii
[10,]	philips_rd	Philips PC-APD RD/SD	rd sd		binary
[11,]	xrdml	PANalytical XRDML	xrdml		ascii
[12,]	canberra_mca	Canberra MCA	mca dat		binary
[13,]	canberra_cnf	Canberra CNF	cnf		binary
[14,]	xfit_xdd	XFIT XDD	xdd		ascii
[15,]	riet7	RIET7/LHPM/PSI_DMC	dat		ascii
[16,]	dbws	DBWS data	dbw rit neu		ascii
[17,]	chiplot	ChiPLOT data	chi		ascii
[18,]	spectra	Spectra / VGX 900	1 2 3 4 5 6 7 8 9		ascii
[19,]	specsxy	SPECS SpecsLab2 xy	xy		ascii
[20,]	csv	CSV or TSV	csv tsv tab	decimal-comma	ascii
[21,]	xsyg	Freiberg Instruments (FI) Lexsyg	xsyg		ascii

Author(s)

Sebastian Kreutzer, IRAMAT-CRP2A, Universite Bordeaux Montaigne (France), Johannes Friedrich (University of Bayreuth, Germany), RLum Team (family support), Marcin Wojdyr (maintainer and author of the C++ library 'xylib'), Peng Zhang (author of the C++ library 'xylib')

`methods_rxylib` *methods_ryxlib*

Description

S3-methods support by the package `rxylib`. Listed functions can be passed directly into S3 generics (e.g., plot, print) without reshaping the data.

Usage

```
## S3 method for class 'rxylib'
print(x, ...)

## S3 method for class 'rxylib'
plot(x, ...)
```

Arguments

`x`	(**required**): input opject
`...`	further arguments that can be passed to the method

`read_xyData` *Import xy-Data for Supported Formats into R*

Description

The function provides access to the underlying `xylib` to import data for supported file formats into R. In most cases, only the file path is needed with further arguments to import the data. The function automatically recognises allowed formats. See rxylib-package for supported formats.

Usage

```
read_xyData(file, options = "", verbose = TRUE, metaData = TRUE)
```

Arguments

`file`	character (**required**): path and file to be imported. The argument accepts an `URL`.
`options`	character (with default): set format options (see rxylib-package)
`verbose`	logical (*with default*): enables/disables verbose mode
`metaData`	logical (*with default*): enables/disbales the export of metadata

Value

The functions returns a list of matrices.

Function version

0.2.0

Author(s)

Sebastian Kreutzer, IRAMAT-CRP2A, Universite Bordeaux Montaigne (France), Johannes Friedrich, University of Bayreuth (Germany)

Examples

```
##load example dataset
file <- system.file("extdata/ExampleSpectrum.CNF", package = "rxylib")
results <- read_xyData(file)
results

##plot spectrum
plot(results,
 type = "l",
 log = "y",
 xlab = "Energy [keV]",
 ylab = "Counts",
 main = "Thorite - 1800 s")

mtext(side = 3, "Canberra Inspector 1000, 3 x 3 NaI probe")
```

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