Package 'alabaster.bumpy'

September 5, 2025

Title Save and Load BumpyMatrices to/from file

Version 1.9.1

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Description Save BumpyMatrix objects into file artifacts, and load them back into memory.
This is a more portable alternative to serialization of such objects into RDS files.
Each artifact is associated with metadata for further interpretation;
downstream applications can enrich this metadata with context-specific properties.

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Depends BumpyMatrix, alabaster.base

Imports methods, rhdf5, Matrix, BiocGenerics, S4Vectors, IRanges

Suggests BiocStyle, rmarkdown, knitr, testthat, jsonlite

VignetteBuilder knitr

RoxygenNote 7.2.3

biocViews DataImport, DataRepresentation

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readBumpyDataFrameMatrix *Read a BumpyDataFrameMatrix from disk*

Description

Read a BumpyDataFrameMatrix from its on-disk representation.

Usage

```
readBumpyDataFrameMatrix(path, metadata, ...)
```

Arguments

path	String containing a path to a directory, itself created using the saveObject method for BumpyDataFrameMatrix objects.
metadata	Named list of metadata for this object, see readObjectFile for details.
...	Further arguments passed to internal altReadObject calls.

Value

A BumpyDataFrameMatrix object.

Author(s)

Aaron Lun

Examples

```
# Mocking up a BumpyMatrix.
library(BumpyMatrix)
library(S4Vectors)
df <- DataFrame(x=runif(100), y=runif(100))
f <- factor(sample(letters[1:20], nrow(df), replace=TRUE), letters[1:20])
out <- S4Vectors::split(df, f)
mat <- BumpyMatrix(out, c(5, 4))

# Saving it:
tmp <- tempfile()
saveObject(mat, tmp)

# Reading it:
readBumpyDataFrameMatrix(tmp)
```

saveObject,BumpyDataFrameMatrix-method
Save a BumpyDataFrameMatrix to disk

Description

Save a BumpyDataFrameMatrix to its on-disk representation.

Usage

```
## S4 method for signature 'BumpyDataFrameMatrix'
saveObject(x, path, ...)
```

Arguments

x	A BumpyDataFrameMatrix object.
path	String containing the path to a directory in which to save x.
...	Further arguments to pass to specific methods.

Value

x is saved into path and NULL is invisibly returned.

Author(s)

Aaron Lun

Examples

```
# Mocking up a BumpyMatrix.
library(BumpyMatrix)
library(S4Vectors)
df <- DataFrame(x=runif(100), y=runif(100))
f <- factor(sample(letters[1:20], nrow(df), replace=TRUE), letters[1:20])
out <- S4Vectors::split(df, f)
mat <- BumpyMatrix(out, c(5, 4))

# Saving it:
tmp <- tempfile()
saveObject(mat, tmp)
```

useBumpyHDF5 *Save BumpyMatrix data to HDF5*

Description

Use HDF5 for the underlying data frame, i.e., obtained after unlisting the BumpyMatrix. This is less intuitive than a CSV but preserves the precision of floating-point numbers.

Usage

```
useBumpyHDF5(use)
```

Arguments

use	Logical scalar indicating whether to save in HDF5.

Value

If use is missing, a logical scalar is returned indicating whether data should be saved in HDF5.

If use is provided, it is used to set the corresponding flag globally. The previous value of the flag is returned invisibly.

Examples

```
useBumpyHDF5()

old <- useBumpyHDF5(FALSE)
useBumpyHDF5()

# Setting it back.
useBumpyHDF5(old)
```

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