Package 'groupedHyperframe'

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Type Package

Title Grouped Hyper Data Frame

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Description Extensions of ``hyper data frame'' (from package 'spatstat.geom') with a grouping structure. The author has retired from academic research. Accordingly, this package should not be considered a validated tool for use in peer-reviewed publications or as the basis for grant applications. Backward compatibility with user-code published in <doi:10.1093/bioinformatics/btaf430> is not maintained in versions >= 0.4.0 (June 2026) of this package. The authors of those publications are the appropriate contacts for reproducibility inquiries.

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`groupedHyperframe-package`

groupedHyperframe: Grouped Hyper Data Frame

Description

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doi:10.1093/bioinformatics/btaf430

Author(s)

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aggregate.hyperframe *Aggregate Hyper Data Frame*

Description

To aggregate a hyperframe.

Usage

```
## S3 method for class 'hyperframe'
aggregate(x, by, ...)
```

Arguments

x	hyperframe
by	two-sided formula, whose right-hand-side contains only the regular-column names of the input x
...	additional parameters of the function aggregate.data.frame, *except for* simplify

Value

The S3 method `aggregate.hyperframe()` returns a hyperframe.

Examples

```
spatstat.data::demohyper |>
 aggregate(by = . ~ Group, FUN = unique)

spatstat.data::flu |>
 aggregate(by = . - frameid ~ virustype:stain, FUN = unique)

spatstat.data::osteo |>
 aggregate(by = . - brick ~ shortid, FUN = unique)
```

aggregate2 *Aggregate, an Alternative formula-Interface*

Description

An alternative aggregation function with a formula-interface, to avoid the cbind-operation in the function aggregate.formula.

Usage

```
aggregate2(data, by, ...)
```

Arguments

`data`	a data.frame
`by`	a two-sided formula
`...`	additional parameters of the function aggregate.data.frame, except for `simplify`

Details

The cbind-operation in the function aggregate.formula messes up with column(s) that are

factor and treat them as integer

Surv and treat them as matrix

The function aggregate.data.frame only accepts a list of factors for the parameter `by`.

Therefore, the function `aggregate2()` is created to take care of the factor and Surv columns of the input, with a formula-interface.

Value

The function `aggregate2()` returns a data.frame.

Note

The function aggregate.data.frame is the workhorse of the function aggregate.formula.

The function as.hyperframe.data.frame is **designed** to handle the list-columns returned by the function aggregate.

---

aug4gam *Augment Hypercolumn(s) for gam*

Description

Augment *all* numeric vector hypercolumns in a hyperframe for gam.

Usage

```
aug4gam(x, ...)

## S3 method for class 'data.frame'
aug4gam(x, ...)

## S3 method for class 'hyperframe'
aug4gam(x, ...)

## S3 method for class 'vectorlist'
aug4gam(x, ...)
```

Arguments

x	see **Usage**
...	additional parameters, currently of no use

Value

The S3 generic function aug4gam() returns a data.frame.

Author(s)

Tingting Zhan, Erjia Cui

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is.vectorlist *Vector-List*

Description

To determine if an R object is a list of vectors with the same storage.mode, length and attributes.

Usage

```
is.vectorlist(
  x,
  mode = c("logical", "integer", "numeric", "double", "character")
)
```

Arguments

x	a listof
mode	character scalar other than 'any', 'complex' and 'raw', see the function is.vector

Value

The function is.vectorlist() returns a logical scalar.

Examples

```
spatstat.data::Kovesi$values |>
 is.vectorlist(mode = 'character') |>
 stopifnot()
spatstat.data::Kovesi$values |>
 is.vectorlist(mode = 'numeric')
```

pppBy *Hyper Data Frame with One-and-Only-One ppp-Hyper Column*

Description

To create a hyper data frame with one-and-only-one ppp-hyper column.

Usage

```
pppBy(
  marks,
  coords = ~x + y,
  by,
  data,
  window = owin(xrange = range(.x), yrange = range(.y)),
  ...
)
```

Arguments

`marks`	one-sided formula, e.g., `~ m1+m2`, where m_i's are one or more marks
`coords`	one-sided formula, variable names of the x- and y-coordinates in `data`. Default value is `~x+y`.
`by`	two-sided formula
`data`	data.frame
`window`	observation window owin, default value is the x- and y-span of `coords` in `data`.
`...`	additional parameters of the function ppp

Value

The function `pppBy()` returns a hyper data frame with one-and-only-one ppp-hyper column.

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