

Package: cisp (via r-universe)

January 24, 2025

Title A Correlation Indicator Based on Spatial Patterns

Version 0.2.0

Description Use the spatial association marginal contributions derived from spatial stratified heterogeneity to capture the degree of correlation between spatial patterns.

License GPL-3

Encoding UTF-8

Roxygen list(markdown = TRUE)

RoxygenNote 7.3.2

URL <https://stscl.github.io/cisp/>, <https://github.com/stscl/cisp>

BugReports <https://github.com/stscl/cisp/issues>

Depends R (>= 4.1.0)

Imports dplyr, forcats, gdverse (>= 1.3-2), ggplot2, ggraph, igrph, magrittr, parallel, purrr, sdsfun (>= 0.7.0), sf, tibble, tidy

Suggests knitr, rmarkdown

Remotes stscl/gdverse

VignetteBuilder knitr

Config/pak/sysreqs libfontconfig1-dev libfreetype6-dev libgdal-dev gdal-bin libgeos-dev libglpk-dev make libicu-dev libpng-dev libxml2-dev libssl-dev libproj-dev python3 libsqlite3-dev libudunits2-dev

Repository <https://stscl.r-universe.dev>

RemoteUrl <https://github.com/stscl/cisp>

RemoteRef HEAD

RemoteSha c7e0cf251c4af76ca06a784ab7cd153a48d74054

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spc *spatial pattern correlation*

Description

spatial pattern correlation

Usage

```
spc(
  data,
  overlay = "and",
  discnum = 3:8,
  discmethod = c("sd", "equal", "geometric", "quantile", "natural"),
  cores = 1
)
```

Arguments

data	A data.frame, tibble or sf object of observation data.
overlay	(optional) Spatial overlay method. One of and, or, intersection. Default is and.
discnum	(optional) A vector of number of classes for discretization. Default is 3:8.
discmethod	(optional) A vector of methods for discretization, default is using c("sd", "equal", "geometric", "quantile", "natural") by invoking sdsfun.
cores	(optional) Positive integer (default is 1). When cores are greater than 1, use parallel computing.

Value

A list.

cor_tbl A tibble with power of spatial pattern correlation

cor_mat A matrix with power of spatial pattern correlation

Examples

```
sim1 = sf::st_as_sf(gdverse::sim, coords = c('lo', 'la'))
sim1

g = spc(sim1, discnum = 3:6, cores = 1)
g
plot(g, "matrix")
```

ssh_marginalcontri	<i>spatial association marginal contributions derived from spatial stratified heterogeneity</i>
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Description

spatial association marginal contributions derived from spatial stratified heterogeneity

Usage

```
ssh_marginalcontri(formula, data, overlay = "and", cores = 1)
```

Arguments

formula	A formula of ISP model.
data	A data.frame, tibble or sf object of observation data.
overlay	(optional) Spatial overlay method. One of and, or, intersection. Default is and.
cores	(optional) Positive integer (default is 1). When cores are greater than 1, use parallel computing.

Value

A list.

pd robust power of determinants

spd shap power of determinants

determination determination of the optimal interaction of variables

Examples

```
NTDs1 = sf::st_as_sf(gdverse::NTDs, coords = c('X','Y'))
g = ssh_marginalcontri(incidence ~ ., data = NTDs1, cores = 1)
g
plot(g)
```

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