

Package: cisp (via r-universe)

September 18, 2026

Title A Correlation Indicator Based on Spatial Patterns

Version 0.3.0

Description Utilizes 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 7.3.3

URL <https://stsc1.github.io/cisp/>, <https://github.com/stsc1/cisp>

BugReports <https://github.com/stsc1/cisp/issues>

Depends R (>= 4.1.0)

Imports dplyr, forcats, gdverse (>= 1.6), ggplot2, ggraph, igraph, magrittr, parallel, purrr, sdsfun (>= 0.7.0), sf, tibble, tidyr

Suggests knitr, rmarkdown, spEDM, infoxtr, pc

VignetteBuilder knitr

Config/pak/sysreqs libabsl-dev cmake libfontconfig1-dev libfreetype6-dev libgdal-dev gdal-bin libgeos-dev libglpk-dev make libicu-dev libpng-dev libuv1-dev libxml2-dev libssl-dev libproj-dev python3 libsqlite3-dev libudunits2-dev

Repository <https://stsc1.r-universe.dev>

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RemoteUrl <https://github.com/stsc1/cisp>

RemoteRef HEAD

RemoteSha 8ed4ece32f6168bb2720fecb93d20eba2fdfe705

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spc	<i>spatial pattern correlation</i>
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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 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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