

USAGE

PACS(y, x, lambda, betawt, type=1, rr=0, eps=10⁻⁵)

ARGUMENTS

x	scaled design matrix
y	centered vector of response
lambda	non-negative tuning parameter
betawt	adaptive weights, usually OLS/ridge coefficient estimates
type	1 for Adaptive PACS 2 for Adaptive Correlated PACS 3 for Threshold with Adaptive PACS 4 for Threshold with Adaptive Correlated PACS
rr	correlation for Threshold PACS approaches, a value between 0 and 1 (needed for type=3 and type=4)
eps	criteria for convergence

VALUE

coefficients estimated PACS coefficients.

NOTES

This code estimates coefficient for the PACS procedure.

REFERENCE

Sharma, D. B., Bondell, H. D. and Zhang, H. H. (2012). Consistent Group Identification and Variable Selection in Regression with Correlated Predictors. Accepted at Journal of Computational and Graphical Statistics.

EXAMPLE

Example code to implement PACS approach.

```
library(mvtnorm,MASS)
```

```
n=50
```

```
betatrue=c(2,2,2,rep(0,5))
```

```
p=length(betrue)
```

```
rho = 0.7
```

```
Sigma = diag(p)
```

```
Sigma[1:3,1:3]=rho
```

```
diag(Sigma)=1
```

```
x=scale(rmvnorm(n,sigma=Sigma))
```

```
y=rnorm(n,x%*%betatrue,sd=1)
```

```
y=y-mean(y)
```

```
betawt=lm(y~x-1)$coef
```

```
PACS(y, x, lambda=1, betawt)
```