Package ‘bahc’

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Type Package

Title Filter Covariance and Correlation Matrices with Bootstrapped-Averaged Hierarchical Ansatz

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filterCorrelation  

Compute the BAHC correlation matrix.

Description

Compute the BAHC correlation matrix.

Usage

filterCorrelation(x, k = 1, Nboot = 100)

Arguments

- **x**: A matrix: $x_{i,f}$ is feature $f$ of object $i$
- **k**: The order of filtering. $k = 1$ corresponds to BAHC.
- **Nboot**: The number of bootstrap copies

Value

The BAHC-filtered correlation matrix of $x$.

Examples

```r
r=matrix(rnorm(1000),nrow=20)  # 20 objects, 50 features each
Cor_bahc=filterCorrelation(r)
```

filterCovariance  

Compute the BAHC covariance matrix.

Description

Compute the BAHC covariance matrix.

Usage

filterCovariance(x, k = 1, Nboot = 100)

Arguments

- **x**: A matrix: $x_{i,f}$ is feature $f$ of object $i$
- **k**: The order of filtering. $k = 1$ corresponds to BAHC.
- **Nboot**: The number of bootstrap copies

Value

The BAHC-filtered correlation matrix of $x$. 

Examples

\[
\begin{align*}
r &= \text{matrix(rnorm}(1000), \text{nrow}=20) \quad \# \ 20 \ \text{objects}, \ 50 \ \text{features each} \\
\sigma &= \exp(\text{runif}(20)) \\
rs &= t(\sigma \times r) \times \sigma \\
\text{Cov\_bhc} &= \text{filterCovariance}(rs)
\end{align*}
\]
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