# Package 'LLSM'

September 11, 2015

**Type** Package

**Title** Package to Fit Longitudinal Latent Space Model

**Version** 0.1

**Date** 2015-09-01

**Author** Samrachana Adhikari

**Maintainer** Samrachana Adhikari <asamrach@andrew.cmu.edu>

**Description** Package to Fit LSM in Longitudinal Network Data

**License** GPL (>=2)

**Imports** Rcpp (>= 0.11.6),MASS, mvtnorm,igraph

**LinkingTo** Rcpp, RcppArmadillo

## R topics documented:



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`LLSM-package` *Package to Fit Longitudinal Latent Space Model*

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### Description

Package to Fit LSM in Longitudinal Network Data

### Details

The DESCRIPTION file: This package was not yet installed at build time.

Index: This package was not yet installed at build time.
~~ An overview of how to use the package, including the most important ~~ ~~ functions ~~

### Author(s)

Samrachana Adhikari

Maintainer: Samrachana Adhikari <asamrach@andrew.cmu.edu>

### References

~~ Literature or other references for background information ~~

### See Also

~~ Optional links to other man pages, e.g. ~~ ~~ <pkg> ~~

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`genYY` *genYY*

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### Description

generate network data for simulation

### Usage

```
genYY(Phi, Tau, Beta, TT, dd, nn)
```

### Arguments

| | |
|---|---|
| `Phi` | dd by dd autoregressive parameter matrix |
| `Tau` | dd by dd variance-covariance matrix of the error |
| `Beta` | intercept |
| `TT` | Total time point |
| `dd` | dimension of the latent space positions |
| `nn` | Number of nodes in the network |

### Details

~~ If necessary, more details than the description above ~~

### Note

~~further notes~~

### Author(s)

SA

### References

~put references to the literature/web site here ~

`getAlpha` *~~function to do ... ~~*

## Description

~~ A concise (1-5 lines) description of what the function does. ~~

## Usage

```
getAlpha(object, burnin = 0, thin = 1)
```

## Arguments

| | |
|---|---|
| `object` | ~~Describe `object` here~~ |
| `burnin` | ~~Describe `burnin` here~~ |
| `thin` | ~~Describe `thin` here~~ |

## Details

~~ If necessary, more details than the description above ~~

## Value

~Describe the value returned

## Note

~~further notes~~

## Author(s)

~~who you are~~

## References

~put references to the literature/web site here ~

## See Also

~~objects to See Also as `help`, ~~~

`LLSMfullCondAR` *Function to run MCMC sampler for longitudinal latent space model with AR evolution*

## Description

`LLSMfullCondAR` runs and tunes MCMC sampler on the network data

## Usage

```
llsmAR(Y, initialVals = NULL, priors = NULL, tune = NULL, tuneIn = TRUE, dd, nit
```

## Arguments

| | |
|---|---|
| `Y` | list of sociomatrices |
| `initialVals` | List of initialization use default if NULL |
| `priors` | List of prior specification |
| `tune` | List of tuning parameters |
| `tuneIn` | Logical to indicate if tuning is required |
| `dd` | Dimension of the latent space positions |
| `niter` | Number of iterations for MCMC run |
| `prTransformed` | Logical to indicate if procrustes transformation is to be done during sampling of latent positions |

## Details

~~ If necessary, more details than the description above ~~

## Value

~Describe the value returned

## Note

~~further notes~~

## Author(s)

SA

## References

~put references to the literature/web site here ~

## See Also

~~objects to See Also as `help`, ~~~

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