R documentation
of all in 'man'

September 7, 2018

R topics documented:

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discreteLDSModel   *Title*

Description

Title

Usage

```
discreteLDSModel(data, eta, v0, s0, tune, K, steps, burn, skip)
```

Arguments

data	XxV matrix of counts
eta	prior for dirichlet dist for beta
v0	prior for invgamma dist for sigma
s0	prior rate for invgamma
tune	tuning parameter for SGLD step
K	number of states
steps	number of steps for sampler
burn	burn-in iterations for sampler
skip	thinning iterations for sampler

Value

List with posterior samples from 1) theta 2) sigma 3) beta

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discreteMSFast	*Runs Gibbs Sampler for markov switching model for discrete time series data with c++ loop*

Description

Runs Gibbs Sampler for markov switching model for discrete time series data with c++ loop

Usage

```
discreteMSFast(data, eta, alpha, K, steps, burn, skip)
```

Arguments

data	TimexV data frame of counts of data at time t with value v
eta	V-length prior for state-specific multinomial probabilities beta
alpha	K-length prior for transition matrix
K	Number of states
steps	Total number of gibbs sampling iterations
burn	Number of iterations to discard
skip	Thinning parameter for gibbs sampler

Value

List with posterior mean of 1) state-specific multinomial probabilities beta 2) transition matrix 3) states

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posteriorMean	*Get posterior mean for set of posterior estimates from sampler*

Description

Get posterior mean for set of posterior estimates from sampler

Usage

```
posteriorMean(estimate, out)
```

Arguments

estimate	3d array from sampler
out	vector of iterations to take mean over for gibbs sampler

Value

matrix of means of posterior over sampler slices

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umcsent	*Respondent-count data from Michigan Survey of Consumers*

Description

Matrix of respondent counts. Rows are months from January 1978 to November 2017. Columns are permutations of eight questions from the survey of consumers: PAGO, PEXP, PX1Q1, DUR, BUS12, BUS5, UNEMP, and GOVT in the codebook. Each question has possible responses 1,3,5 and 8. This derived from the raw data by mapping response code 9 to 8, 2 to 1, and 4 to 5.

Usage

```
data(umcsent)
```

Format

TxV matrix

Source

Survey of Consumers SDA Archive

References

Munro (2018) (Working Paper)

Examples

```
data(umcsent)
```

Index