

Package ‘gomms’

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Type Package
Title GLM-Based Ordination Method
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Description A zero-inflated quasi-Poisson factor model to display similarity between samples visually in a low (2 or 3) dimensional space.
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gomms-package	<i>GLM-Based Ordination Method</i>
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Description

preliminary analysis of similarity between samples in a low (2 or 3) dimensional display.

Author(s)

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References

Sohn, M.B. and Li, H. (2017). A GLM-Based Latent Variable Ordination Method for Microbiome Samples (Submitted).

Examples

```
## Not run:
# load test data

data(gomms_test_data);

# estimate factor scores
cdat <- as.matrix(gomms_test_data[, -ncol(gomms_test_data)]);
rslt <- gomms(cdat);

# plot estimated factor scores
y <- as.matrix(gomms_test_data$group);
gomms.plot(rslt, y);

## End(Not run)
```

gomms

GLM-Based Ordination Method for Microbiome Samples

Description

estimate factor loadings and scores.

Usage

```
gomms(X, n.factors = 2, min.prop.nonzeros = 0.05, show.max.delta = FALSE)
```

Arguments

X raw count data.

n.factors number of factors. Default value is 2.

min.prop.nonzeros minimum proportion of nonzeros allowed in analysis.

show.max.delta display the maximum different between jth and (j+1)th iterations.

Value

estimated factor scores.

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gomms.plot	<i>Plot Factor Loadings</i>
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Description

plot estimated factor loadings for each sample.

Usage

```
gomms.plot(X, Y, col.markers = NULL, pch.markers = NULL, ...)
```

Arguments

X	two dimensional matrix of factor scores.
Y	one or two dimensional matrix of classification.
col.markers	user specified colors for classification.
pch.markers	user specified plot symbols for classification.
...	optional graphical parameters to be passed.

gomms_test_data	<i>Test Data</i>
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Description

70 samples and 83 features. The last column contains the population identification for each sample.

Usage

```
data(gomms_test_data)
```

Qqpois	<i>Probability of a Zero from a Zero State</i>
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Description

estimate the probability of a zero from a zero state.

Usage

```
Qqpois(cdat, eta.hat, mu.hat, dispersion)
```

Arguments

cdat	count Data.
eta.hat	estimated proportion of zeros from a zero state.
mu.hat	estimated mean count.
dispersion	estimated values for dispersion.

Value

estimated probability of a zero from a zero state.

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