Package 'lmeSCED'

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Type Package

Title Fit Linear Mixed Effects Models for SCED Data

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Description Provides functions to fit linear mixed effects models tailored for Single-Case Experimental Designs (SCED) data, with options to account for AR(1) correlation structures.

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Encoding UTF-8

LazyData true

Imports nlme,
Matrix,
lmerTest,
pbkrtest

Suggests testthat,
roxygen2,
SingleCaseES,
knitr,
rmarkdown

Roxygen list(markdown = TRUE)

RoxygenNote 7.3.2

VignetteBuilder knitr

Contents

lme_sced *Fit Linear Mixed Effects Models for SCED Data*

Description

This function fits linear mixed effects models tailored for Single-Case Experimental Designs (SCED) data, with options to account for AR(1) correlation structures.

Usage

```
lme_sced(data, fixed, random, control = NULL, ar_1 = NULL)
```

Arguments

data	A data frame containing the variables in the model.
fixed	A formula specifying the fixed effects.
random	A formula specifying the random effects.
control	An optional list of control parameters. Defaults to `list(msMaxIter = 10000, opt = "optim")`.
ar_1	An optional formula specifying the AR(1) correlation structure.

Value

A list containing the fitted model, AR(1) coefficient, and transformed data (if AR(1) is specified).

Examples

```
# Example usage of lme_sced()
model <- lme_sced(data = my_data, fixed = Y ~ TIME + PHASE, random = ~ TIME | ID, ar_1 = ~ TIME | ID)
```

rlrt *Restricted Likelihood Ratio Test for Variance Components*

Description

Performs a restricted likelihood ratio test (RLRT) to test the significance of variance components in a linear mixed-effects model.

Usage

```
rlrt(data, id_var, fixed_vars, random_vars, control = NULL)
```

Arguments

data	A data frame containing the variables in the model.
id_var	A string specifying the name of the grouping variable.
fixed_vars	A character vector of fixed effect variable names.
random_vars	A character vector of random effect variable names.
control	An optional list of control parameters for model fitting.

Value

A list containing the full model, diagonal covariance model, p-values for random effects, and p-value for covariance between random effects.

Examples

```
# Example usage of rlrt()
results <- rlrt(data = my_data, id_var = "ID", fixed_vars = c("TIME", "PHASE"), random_vars = c("TIME"))
```