

# R documentation

of ‘NEWS.Rd’

January 10, 2015

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NEWS

*News for Package eRm*

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## Changes in Version 0.15-5

- implemented an `anova()` method for all models (except LLRAS, which have their own: `anova.llra`). see `?anova.eRm`
- added a function to compute separation reliability, as proposed in Wright & Stone (1999; see `?SepRel`).
- `plotINFO()` accepts more arguments via `...` (see `?plotINFO`).
- fixed a bug in `plotPWmap()`.
- fixed a bug in the internal function `get_item_cats()` related to NAs (affecting LLRA and item-information functions).
- switched encoding to UTF-8 to avoid problems with diacritics, etc. (e.g., Martin-Löf).
- updated citations.
- general improvements.

## Changes in Version 0.15-4

- streamlining some functions, updating the vignette, etc.
- warnings are now treated more consistently and can be suppressed with `suppressWarnings()`
- the `plotGOF()` function was revamped and tidied up in a couple of places, e.g.:
  - the plotting order of elements in a non-interactive call has been changed to put confidence ellipses and lines in the background and text in the foreground.
  - the  $x$ - and  $y$ -limits are now dynamically computed by default, so that confidence regions and ellipses are inside the plotting region.
  - the leading “I” before item numbers has been removed for better legibility.
- moved NEWS to the new fancy NEWS.Rd file/format

## Changes in eRm version 0.15-3

- an error in `test_info()` was fixed.
- **eRm** now depends on  $R \geq 3.0.0$

### Changes in eRm version 0.15-2

- an error in `Tpbis.stat` was fixed.

### Changes in eRm version 0.15-1

- a bug in `person.parameter()` has been fixed that caused the estimation to crash in some cases.
- a bug in `thresholds()` has been fixed that caused the routine to crash.

### Changes in eRm version 0.15-0

- the **RaschSampler** package has been merged into **eRm** for convenience (still available as a separate package).

### Changes in eRm version 0.14-5

- the package is now byte-compiled by default.
- some statistics added to `NPtest()`, `T7` and `T7a` removed.
- fixed a bug in `plotPWmap()`.
- fixed the `mplot` argument in plotting routines.
- fixed the split-criterion "all.r" in `LRtest()`.
- deleted all usages of `data()` in examples, since eRm uses "lazy data."

### Changes in eRm version 0.14-4

- when calling `NPtest()`, the **RaschSampler** can now be controlled more specifically (`burn_in`, `step`, `seed`).
- various improvements and bugfixes for LLRA-related functions.
- person parameter values can be extracted now for all persons using `coef()`. Additionally, in-/exclusion of extrapolated values (for 0 and perfect scores) can be controlled via the argument `extrapolated`.
- `LRtest` now computes standard errors (`se = TRUE`) by default.
- `plotDIF` now plots "difficulties" for all models (formerly, "easiness" parameters were plotted for Rasch models).

### Changes in eRm version 0.14-3

- minor bug fixed in `plotGOF()`, where on rare occasions confidence ellipses were plotted together with control lines (spotted by Peter Parker)
- improved labelling in `plotjointICC()`

### Changes in eRm version 0.14-2

- warning regarding group assignment when using median or mean split removed from `MLoef()`
- modification in `NPtest()` to split long output lines
- changed the delimiters of `plotDIF()` confidence intervals to `pch = 20` (small bullet).

### Changes in eRm version 0.14-1

- new experimental functions to calculate and plot item and test information (by Thomas Rusch)
- bug fixed in the calculation of item and person Infit  $t$  and Outfit  $t$  (hint from Rainer Alexandrowicz).
- **eRm** no longer depends on the **RaschSampler** package. However, it must be installed to use `NPtest()`.
- changed the delimiters of `plotDIF()` confidence intervals to `pch = 20`.

### Changes in eRm version 0.14-0

- new (wrapper) function `LLRA()` for fitting linear logistic models with relaxed assumptions including utilities for preparing data (`llra.datprep()`), setting up (`build_W()`) and modifying (`collapse_W()`) design matrices, comparing LLRA models (`anova()`) and plotting results (`plotTR()` and `plotGR()`) (by Thomas Rusch).
- “exact” version of the Martin-Löf test for binary items and arbitrary splits added as method to `NPtest()`.
- in `plotGOF()` confidence ellipses can now be drawn for subsets of items, optionally using different colours
- new function `plotDIF()` (by Kathrin Gruber): plots confidence intervals for item parameters estimated separately in subgroups, uses LR objects as input
- adapted the `MLoef()` function to work with polytomous data and more than two item groups
- error checks in `NPtest`:
  1. 0/full responses for items meaningless for `NPtest`,
  2. group in `method = "T4"` must be of type logical,
  3. specifying all items for T4 gives meaningless results.
- warning regarding group assignment when using median split removed from `LRtest()` and `Waldtest()`.
- some modifications in `plotPWmap()`: horizontal plotting, different default plotting symbols, option to change size of plotting symbols
- bug in `MLoef()` fixed (now using logs in calculating the person contributions)
- **eRm** now depends on  $R \geq 2.12.0$
- Latin1 encoding removed
- bug in `plotICC()` (always same title) fixed

### Changes in eRm version 0.13-0

- `LLTM()`, `LRSM()`, and `LPCM()` work now for repeated measurement designs with treatment groups and missing values.
- Rename vignette to “eRm”.

### Changes in eRm version 0.12-2

- new function `plotPWmap()` to plot Bond-and-Fox style pathway maps for the data by Julian Gilbey. Since calculation of the  $t$ -statistics requires calculation of the kurtosis of the standardized residuals, according changes to `itemfit.ppar()`, `personfit.ppar()`, `pifit.internal()`, `print.ifit()`, and `print.pfit()`.

- `plotPImap()` patched by Julian Gilbey: length of `item.subset` did not match the documentation, warning stars did not all appear, pre-calculated person.parameter data can be passed to the function via `pp`, mis-ordered items can be coloured. some minor bugs fixed.
- the optimizer can be changed to `optim()` using `fitctrl <- "optim"` and reset to `nlm()` (the default) with `fitctrl <- "nlm"`
- value of `LRtest()` now contains the list `fitobj` which contains the model objects according to the subgroups specified by `splitcr`
- `MLoef()` no longer supports missing values

#### Changes in eRm version 0.12-1

- function `invalid` from package **gtools** integrated into **eRm**. **eRm** no longer depends on **gtools**.

#### Changes in eRm version 0.12-0

- for `RM()`, `RSM()`, and `PCM()`: eta parameters are now displayed as difficulty parameters; `print()` and `summary()` methods changed accordingly.
- new labeling of eta parameters in `RM()`, `RSM()`, and `PCM()`. they now are labeled according to the estimated parameters for items (`RM()`), items + categories (`RSM()`), items x categories (`PCM()`)
- function `MLoef()` for Martin-Löf-Test added
- `df` in `personfit()` and `itemfit()` corrected
- the `logLik()` functions now extract the log-likelihood and `df` into objects of class `"logLik.eRm"` and `"loglik.ppar"` with elements `loglik` and `df`. the corresponding print methods have been modified accordingly.
- method `coef.ppar()` to extract person parameter estimates added
- option for beta parameters added to `coef.eRm`
- in `confint.eRm`: default `parm = "beta"`
- minor modifications in the help file for `IC()`
- `plotPImap()`: revised rug added, bug concerning `item.subset` fixed, minor modifications to enhance readability
- minor modifications in `plotjointICC()`: allows for main title and colors, option `legpos = FALSE` suppresses legends, `dev.new` removed, `legend = FALSE` produced incorrect labeling
- minor modifications in `plotICC()`: allows for main title and colors, default coloring with `col = NULL` instead of `NA` for compatibility, option `legpos = FALSE` suppresses legends, `mplot` is now `FALSE` if only one item is specified
- `plot.ppar`: `dev.new` removed
- option "visible" in `print.ifit` und `print.pfit` to allow for avoiding overly long output and for extraction of `infit` and `outfit` values (maybe changed to a `coef` method later)
- `strwrap()` for `NPtest` print methods to break long lines
- new methods `IC.default()` and `pmat.default()` for enhanced error messages
- lazy loading package and datafiles

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