Package 'dwdradar'

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Title Read Binary Radar Files from 'DWD' (German Weather Service)

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Description The 'DWD' provides gridded radar data for Germany in binary format.
'dwdradar' reads these files and enables a fast conversion into numerical format.

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Encoding UTF-8

Suggests testthat, terra, berryFunctions, R.utils

NeedsCompilation yes

RoxygenNote 7.3.3

URL https://github.com/brry/dwdradar

BugReports https://github.com/brry/dwdradar/issues

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Repository CRAN

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Contents

bin2num *binary to numeric*

Description

Call FORTRAN routines

Usage

```
bin2num(dat, len, na = NA, clutter = NA, RX = FALSE)
```

Arguments

dat	Binary data returned by readBin
len	Length of data.
na	Value to be set for missing data (bit 14). DEFAULT: NA
clutter	Value to be set for clutter data (bit 16). DEFAULT: NA
RX	Logical: call rx routine? DEFAULT: FALSE

Value

numerical vector

Author(s)

Berry Boessenkool, <berry-b@gmx.de>, May + Oct 2019

See Also

readRadarFile

readHeader *Read header part of binary DWD files*

Description

Read and process header of binary radar files

Usage

```
readHeader(file)
```

Arguments

file	Name of a single binary file

Value

List with original string, nchar, derived information

Author(s)

Berry Boessenkool, <berry-b@gmx.de>, Feb 2020

See Also

Used in readRadarFile

Examples

```
# See readRadarFile
```

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readRadarFile *read binary radolan radar file*

Description

Read a single binary DWD Radolan file. To be used in rdwd, especially for proper [1/10 mm] unit correction in rdwd::readDWD.
If any files ar not read correctly, please let me know, referencing the Kompositformatbeschreibung at https://www.dwd.de/DE/leistungen/radolan/radolan.html.
The meta-info is extracted with readHeader (not exported, but documented).
Binary bits are converted to decimal numbers with Fortran routines, see https://github.com/brry/dwdradar/tree/master/src. They are called via bin2num (not exported, but documented).

Usage

```
readRadarFile(binfile, na = NA, clutter = NA)
```

Arguments

binfile	Name of a single binary file
na	Value to be set for missing data (bit 14). DEFAULT: NA
clutter	Value to be set for clutter data (bit 16). DEFAULT: NA

Value

Invisible list with dat (matrix) and meta (list with elements from header, see Kompositformatbeschreibung).

Author(s)

Maintained by Berry Boessenkool, <berry-b@gmx.de>, May + Oct 2019.
Original codebase by Henning Rust & Christoph Ritschel at FU Berlin

See Also

real-world usage in rdwd: https://brry.github.io/rdwd/raster-data.html

Examples

```
f <- system.file("extdata/raa01_sf_2019-10-14_1950", package="dwdradar")
out <- readRadarFile(f)
out$meta

if(requireNamespace("terra", quietly=TRUE))
  terra::plot(terra::rast(out$dat))

# for more files, see the tests.
# for real-world usage, readDWD.binary / readDWD.radar in the rdwd package
```

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