Package 'dwdradar'

August 10, 2021

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

Version 0.2.7

Date 2021-08-09

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, raster, berryFunctions, R.utils

NeedsCompilation yes

RoxygenNote 7.1.1

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Repository CRAN

Date/Publication 2021-08-10 04:30:02 UTC

R topics documented:

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.
If any files ar not read correctly, please let me know. So far, tests have only been conducted for some files. Optimally, check the Kompositformatbeschreibung at https://www.dwd.de/DE/leistungen/radolan/radolan.html and let me know what needs to be changed. 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://bookdown.org/brry/rdwd/raster-data.html

Examples

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

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

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

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