Package 'AcuityView'

May 6, 2026

Title A Package for Displaying Visual Scenes as They May Appear to an Animal with Lower Acuity

Version 1.1.1

Date 2026-01-28

Description This code provides a simple method for representing a visual scene as it may be seen by an animal with less acute vision. When using (or for more information), please cite the original publication.

Depends R (>= 3.0.0)

Imports imager (>= 0.40.1), fftwtools (>= 0.9-7), plotrix (>= 3.2.3), tools, grid, grDevices, graphics

License GPL (>= 2)

Encoding UTF-8

RoxygenNote 7.3.3

NeedsCompilation no

Author Eleanor Caves [aut, cre], Sönke Johnsen [aut]

Maintainer Eleanor Caves <eleanor.caves@gmail.com>

Repository CRAN

Date/Publication 2026-01-29 14:00:02 UTC

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AcuityView *AcuityView*

Description

This function provides a simple method for displaying a visual scene as it may appear to an animal with lower acuity.

Usage

```
AcuityView(
  photo = NULL,
  distance = 2,
  realWidth = 2,
  eyeResolutionX = 0.2,
  eyeResolutionY = NULL,
  plot = TRUE,
  output = NULL
)
```

Arguments

photo	The photo you wish to alter; if NULL then a pop up window allows you to navigate to your photo, otherwise include the file path here
distance	The distance from the viewer to the object of interest in the image; can be in any units so long as it is in the same units as RealWidth
realWidth	The real width of the entire image; can be in any units as long as it is in the same units as distance
eyeResolutionX	The resolution of the viewer in degrees
eyeResolutionY	The resolution of the viewer in the Y direction, if different than ResolutionX; defaults to NULL, as it is uncommon for this to differ from eyeResolutionX
plot	Whether to plot the final image; defaults to T
output	The name of the output file, must be in the format of output="image_name.filetype"; acceptable filetypes are .bmp, .png, or .jpeg

Value

Returns an image in the specified format

Image Format Requirements

Image must be in 3-channel format, either PNG, JPEG or BMP. Note: some PNG files have an alpha channel that makes them 4-channel images; this will not work with the code. The image must be 3-channel.

Image size

Image must be square with each side a power of 2 pixels. Example: 512x512, 1024 x 1024, 2048 x 2048 pixels

For Linux Users

You may need to install the fftw library in order for the R package "fftwtools" to install and perform correctly. The FFTW website and install information can be found here: http://www.fftw.org/ This library can easily be installed on Ubuntu with: apt-get install fftw3-dev

Examples

```
## Not run:
require(imager)
photo <- system.file("extdata/reef.bmp", package = "AcuityView")
reef <- load.image(photo)
AcuityView(photo = reef, distance = 2, realWidth = 2,
          eyeResolutionX = 2, eyeResolutionY = NULL,
          plot = TRUE,
          output = file.path(tempdir(), "Example.jpeg"))

## End(Not run)
```

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