

Visualizing Images from NIIfTI file

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Read an NIIfTI file

This is example to read a NIIfTI file and display an image , by using this example code you must be install package oro.nifti) first.

Download a NIIfTI file from Neurohacking_data repository

```
library(oro.nifti)

url <- "https://raw.githubusercontent.com/muschellij2/Neurohacking_data/master/BRAINIX/NIIfTI/Output_3D_1
destfile <- "Output_3D_File.nii.gz"
name <- file.path(getwd(), destfile)
download.file(url, destfile, mode="wb") # NIIfTI is binaryfile format
nii_T1 <- readNIIfTI(destfile)
```

Show meta data from the file

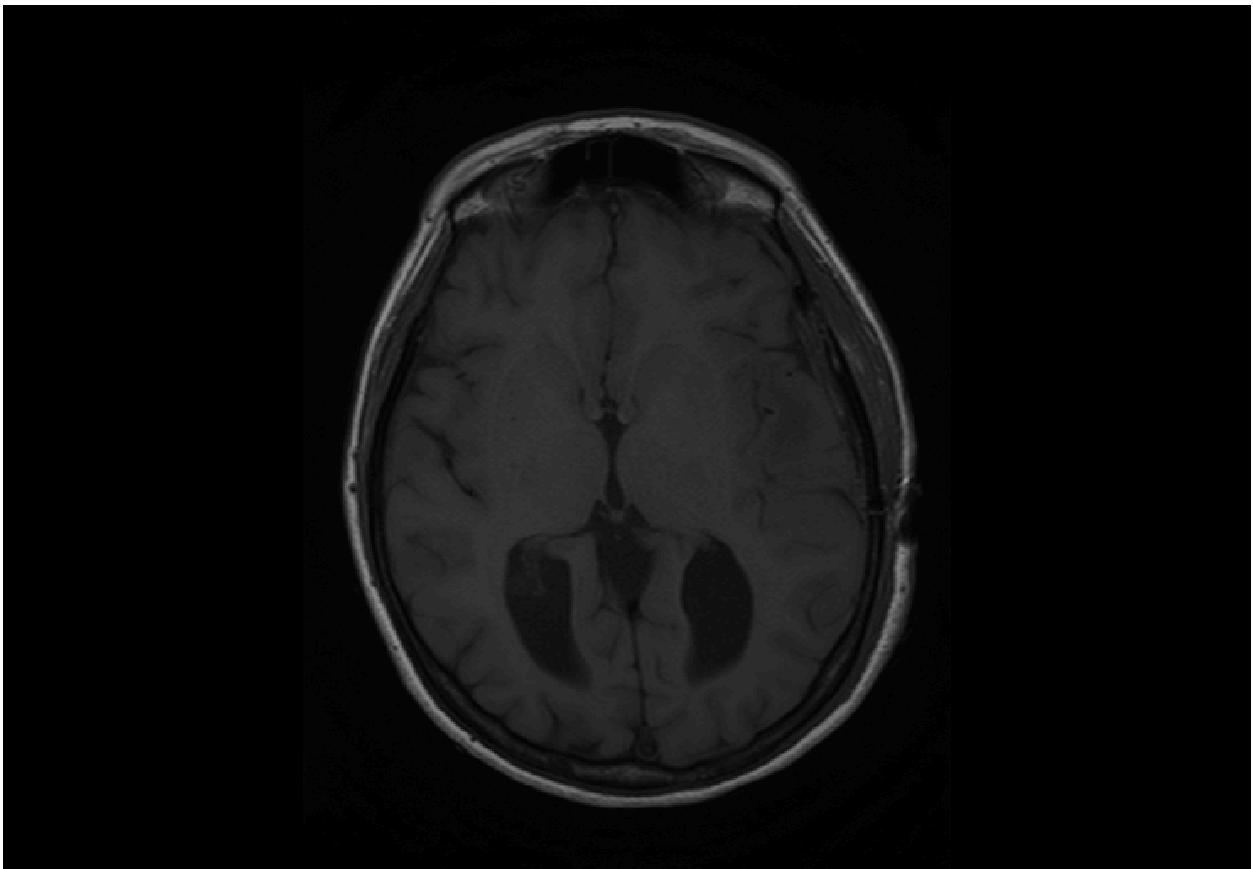
```
print (nii_T1)

## NIIfTI-1 format
##   Type          : nifti
##   Data Type     : 4 (INT16)
##   Bits per Pixel: 16
##   Slice Code    : 0 (Unknown)
##   Intent Code   : 0 (None)
##   Qform Code    : 2 (Aligned_Anat)
##   Sform Code    : 2 (Aligned_Anat)
##   Dimension     : 512 x 512 x 22
##   Pixel Dimension: 0.47 x 0.47 x 5
##   Voxel Units   : mm
##   Time Units    : sec
```

As you see this file contain 22 images 512 x 512 pixels, one pixel using 16 bits

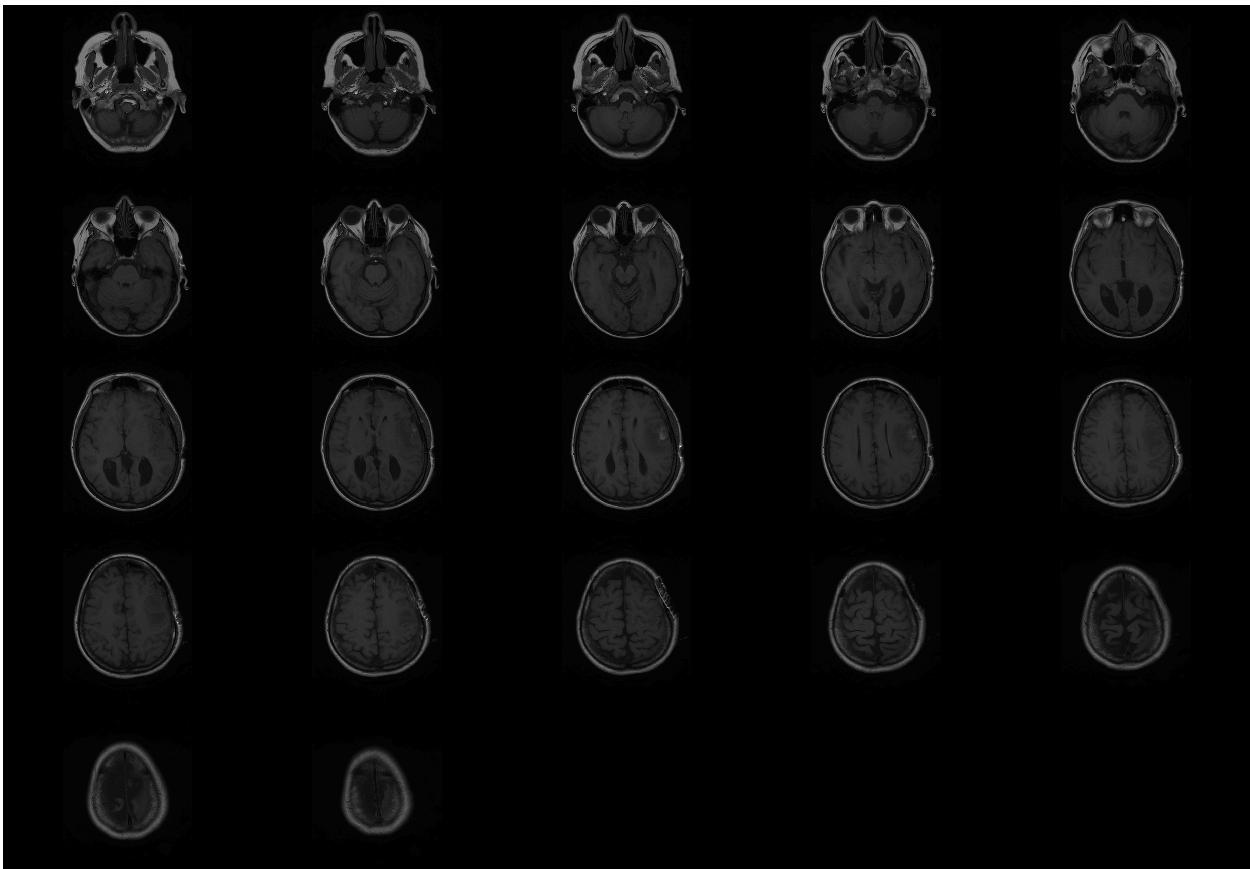
Visial an Slice an NIIfTI file

```
image(nii_T1,z=11,plot.type="single")
```



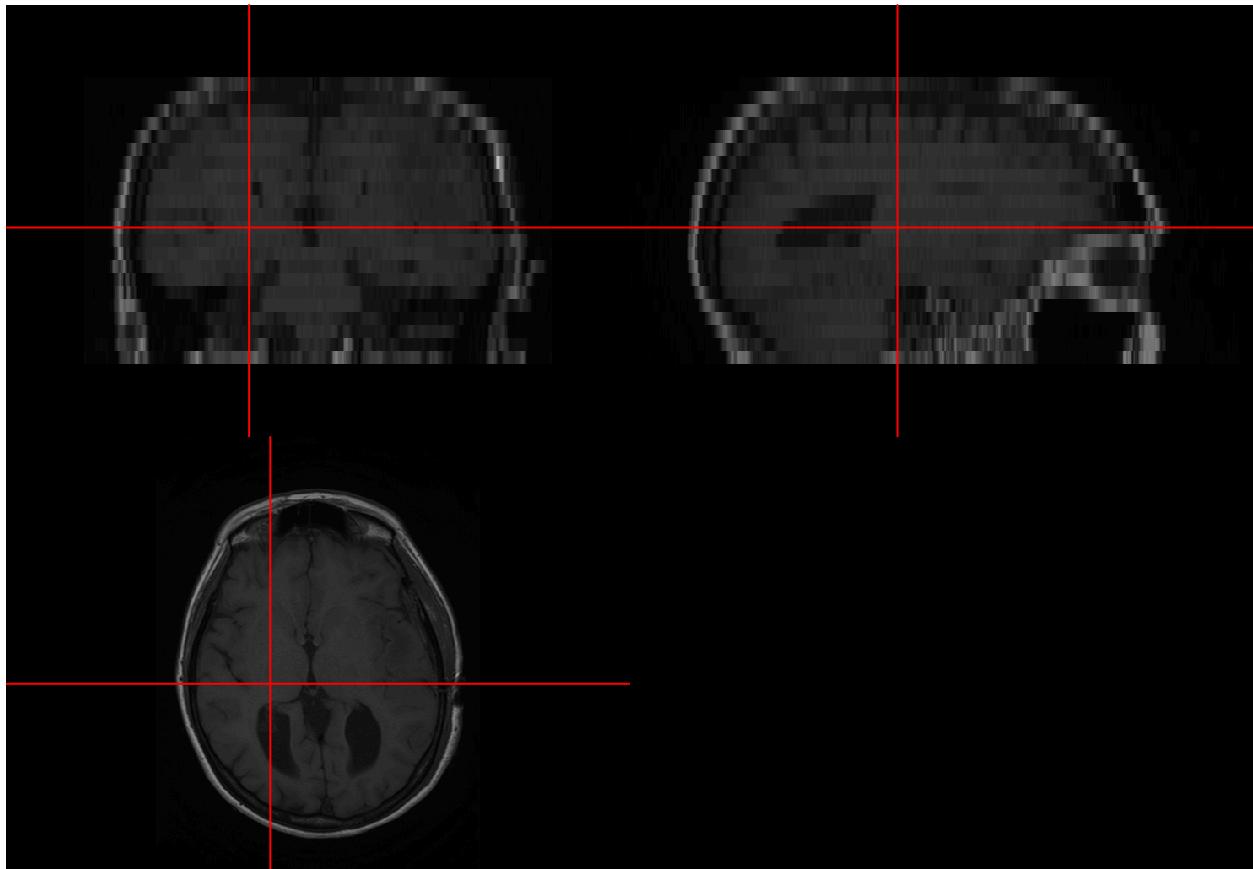
Visualizing All Slices

```
image(nii_T1)
```



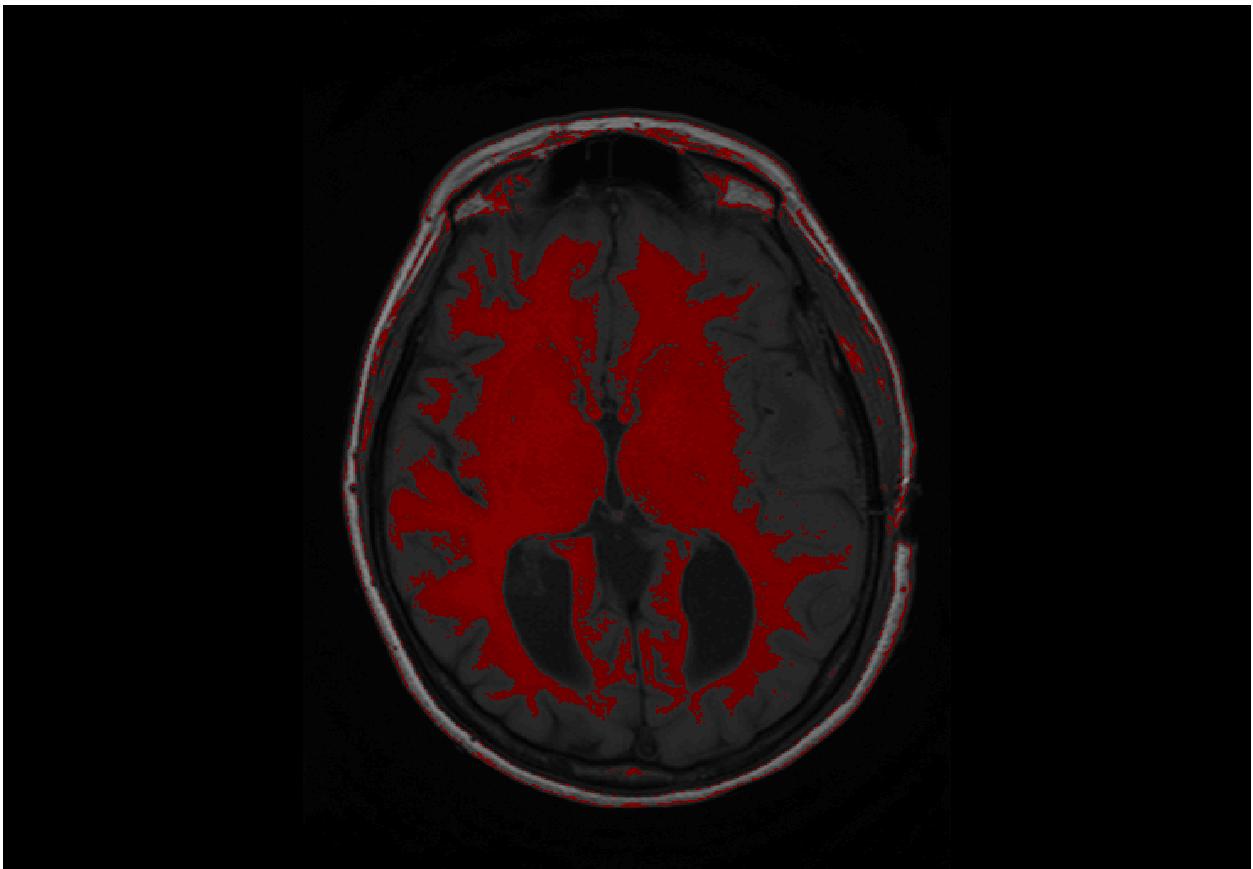
All Planes: Coronal, Sagittal, Axial

```
orthographic(nii_T1,xyz=c(200,220,11))
```



Backmapping One Slice

```
is_btw_300_400<- ((nii_T1>300) &
(nii_T1<400))
nii_T1_mask<-nii_T1
nii_T1_mask[!is_btw_300_400]=NA
overlay(nii_T1,nii_T1_mask,z=11,plot.type="
single")
```



This example not show how to change or write NIfTI file.