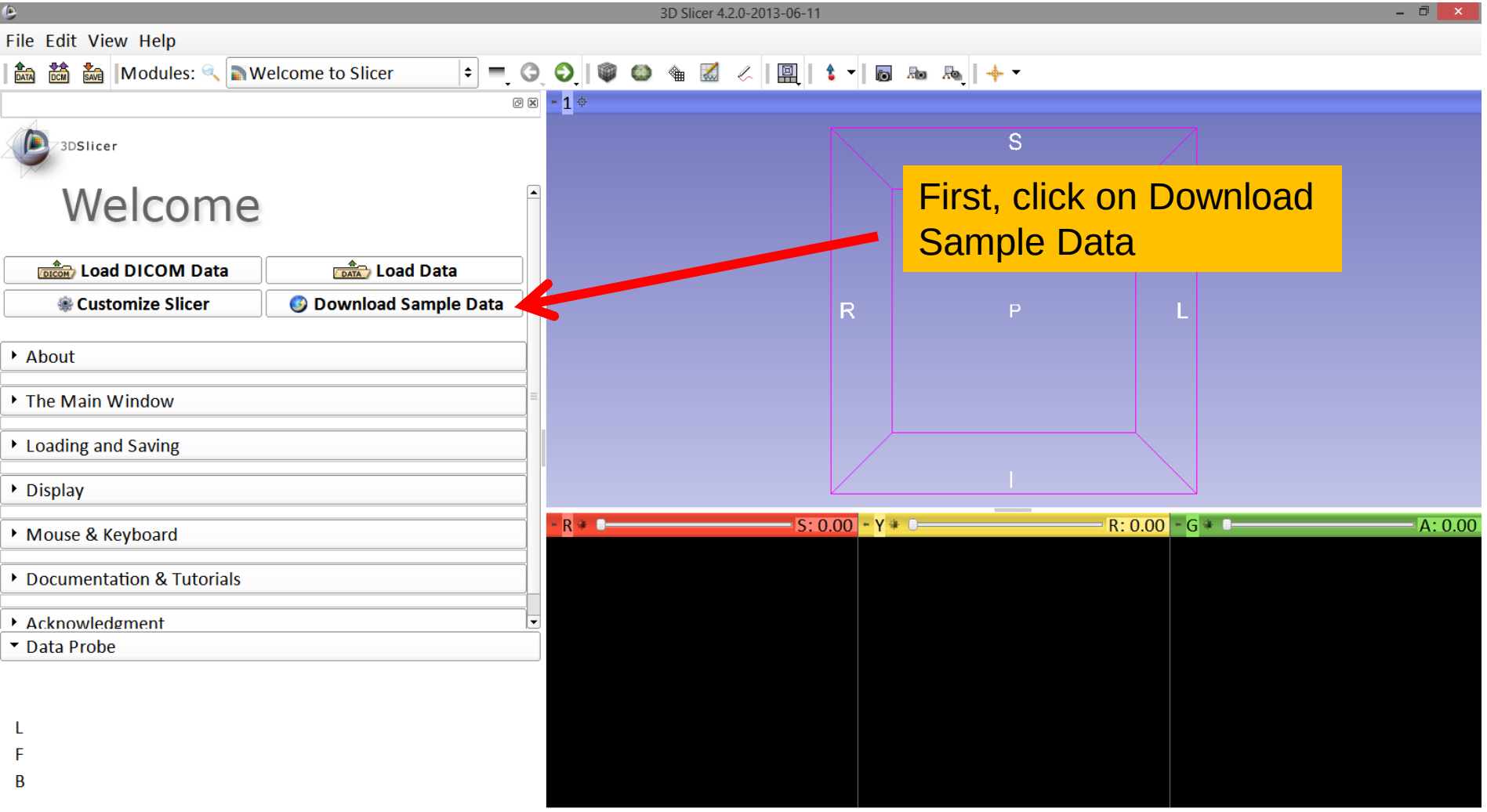
3D Data Loading and Visualization

Sonia Pujol, Ph.D.

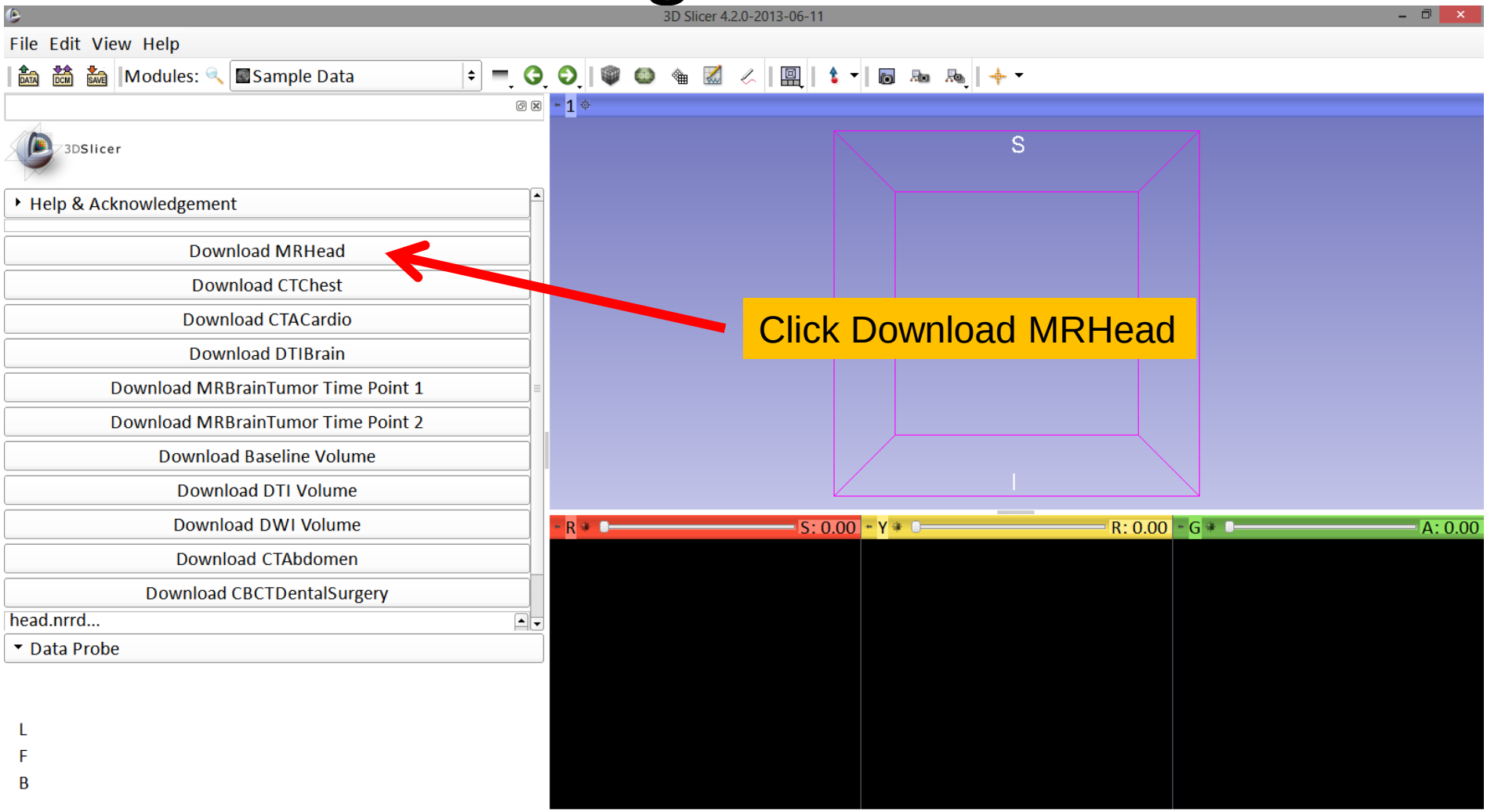
Surgical Planning Laboratory

Harvard University

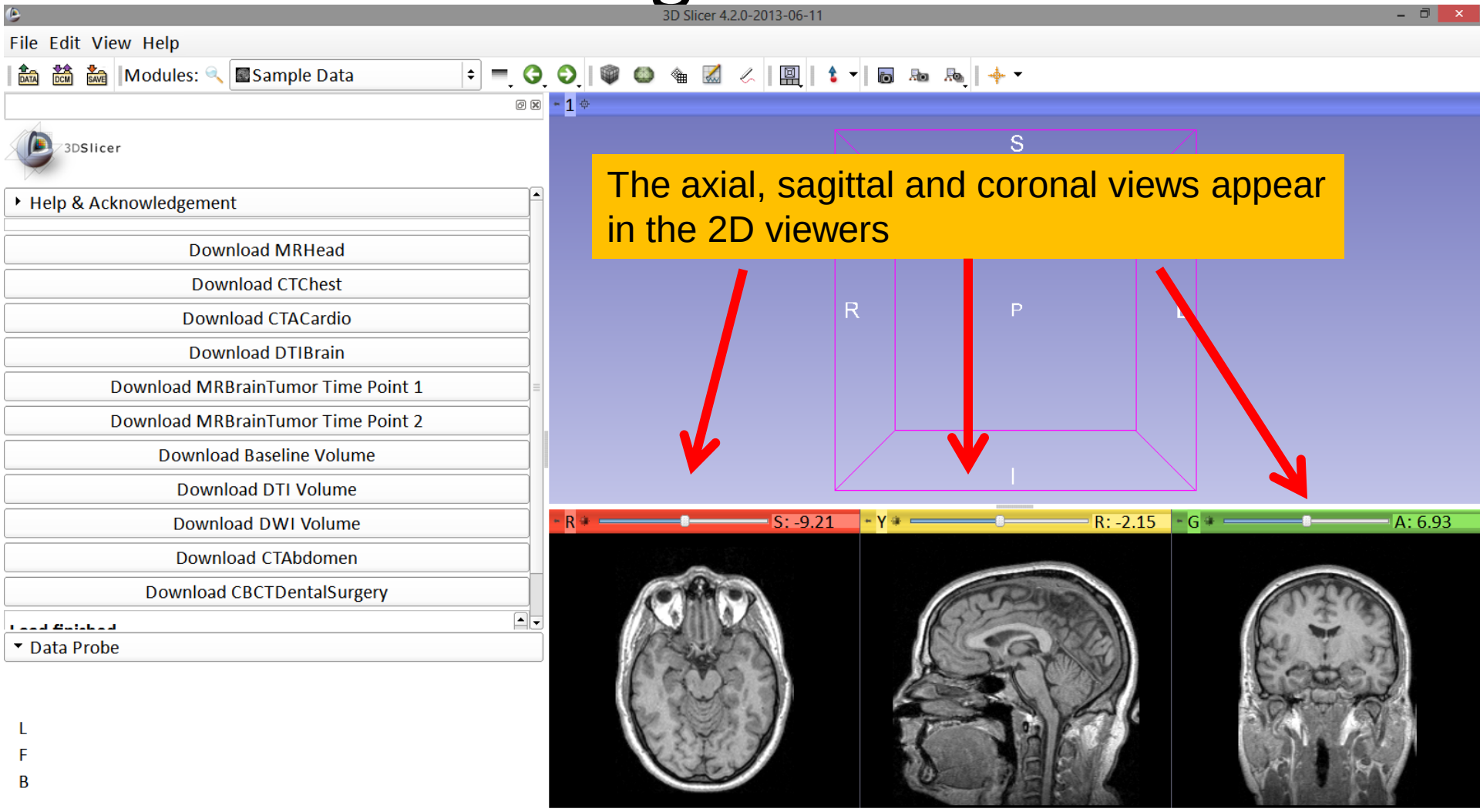
Loading a volume



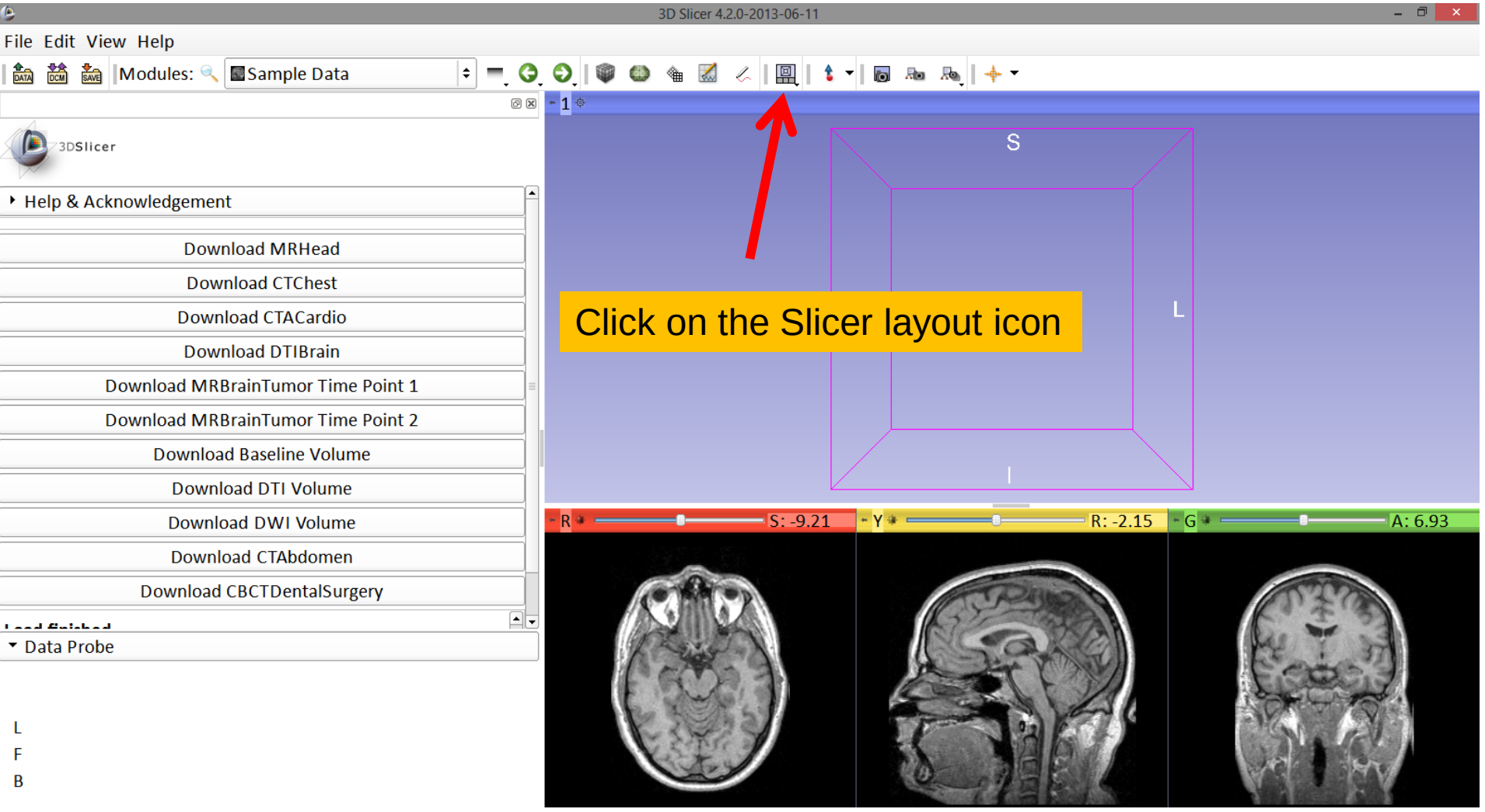
Loading a volume



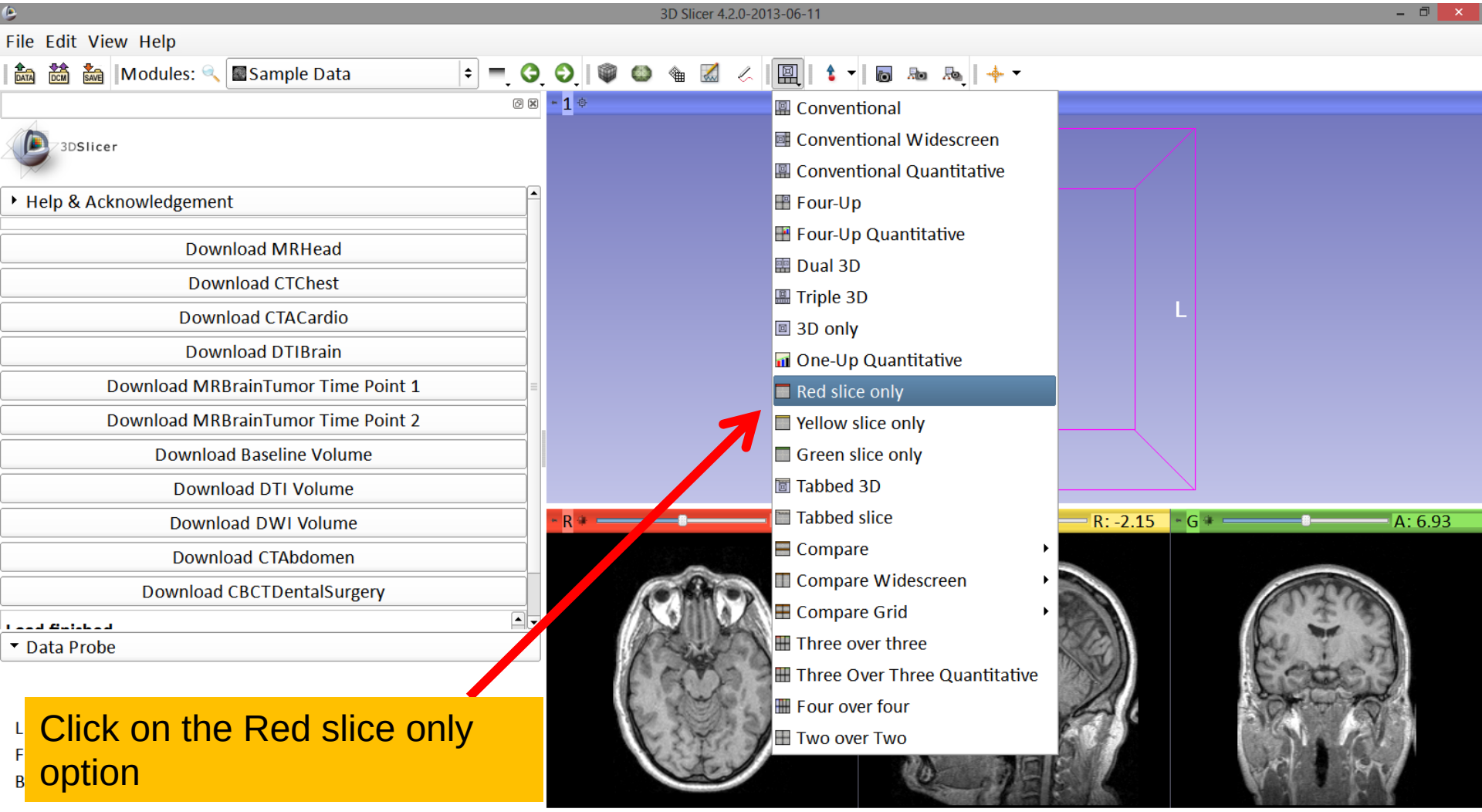
Loading a volume



Loading a volume

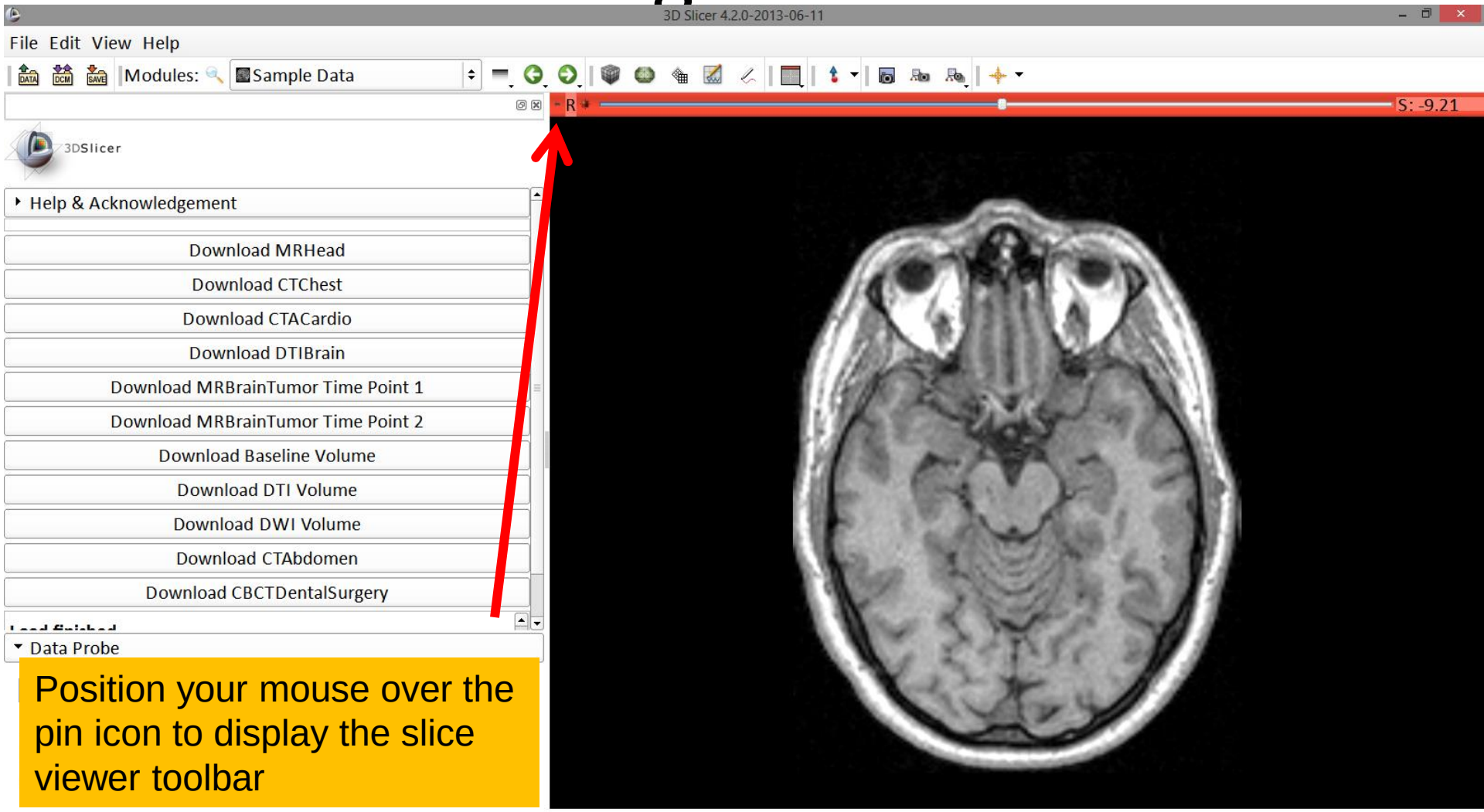


Loading a volume



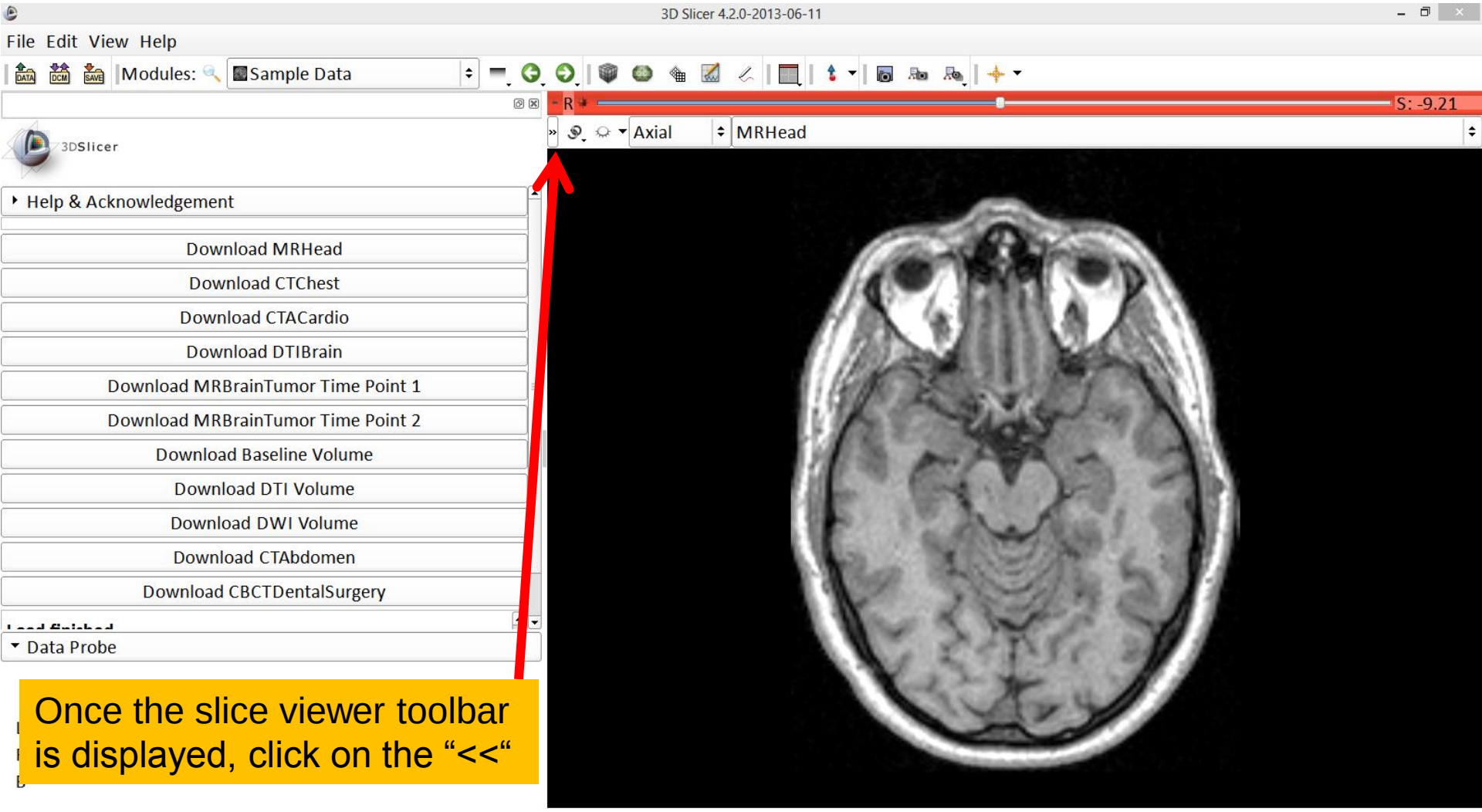
Click on the Red slice only option

Loading a volume

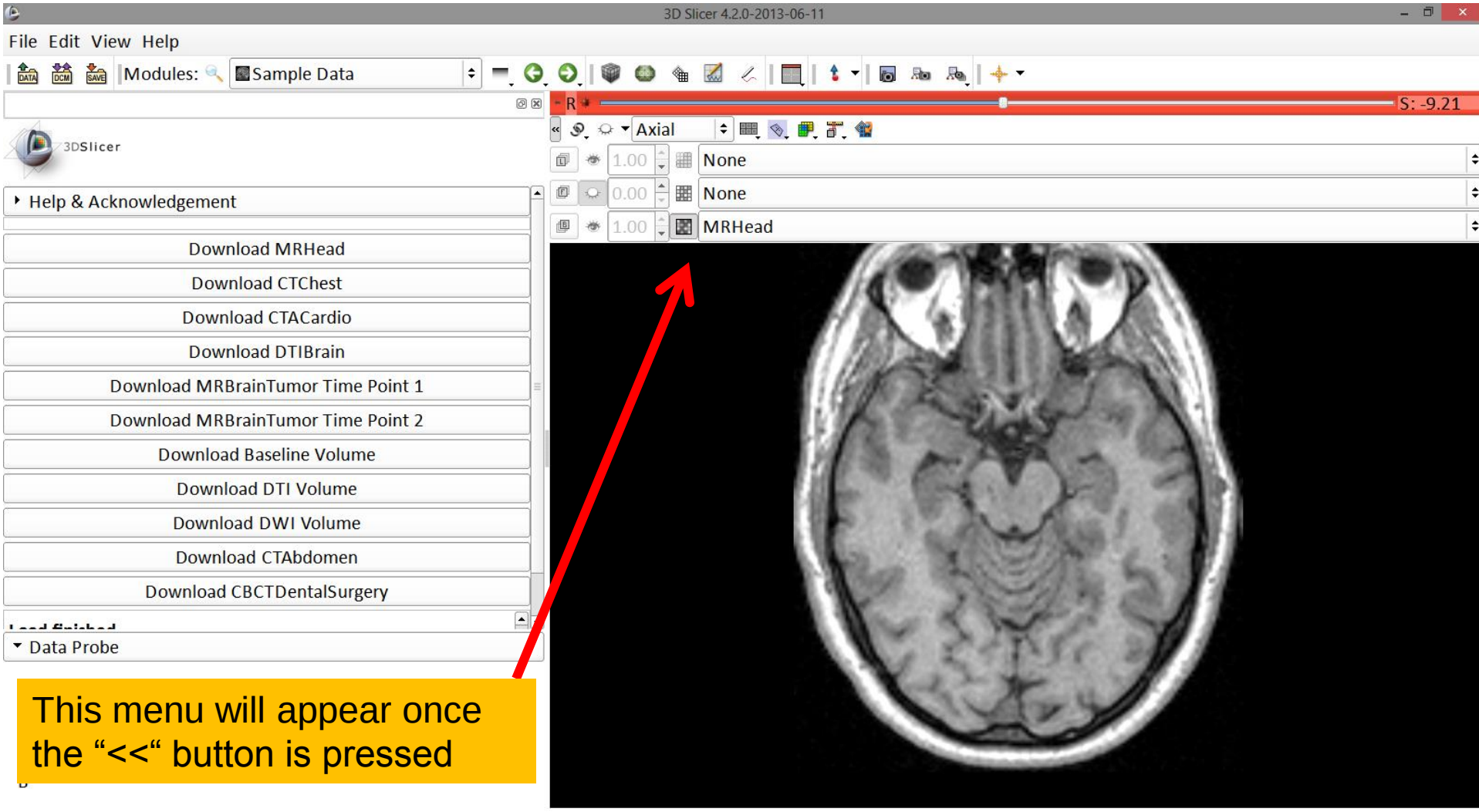


Position your mouse over the pin icon to display the slice viewer toolbar

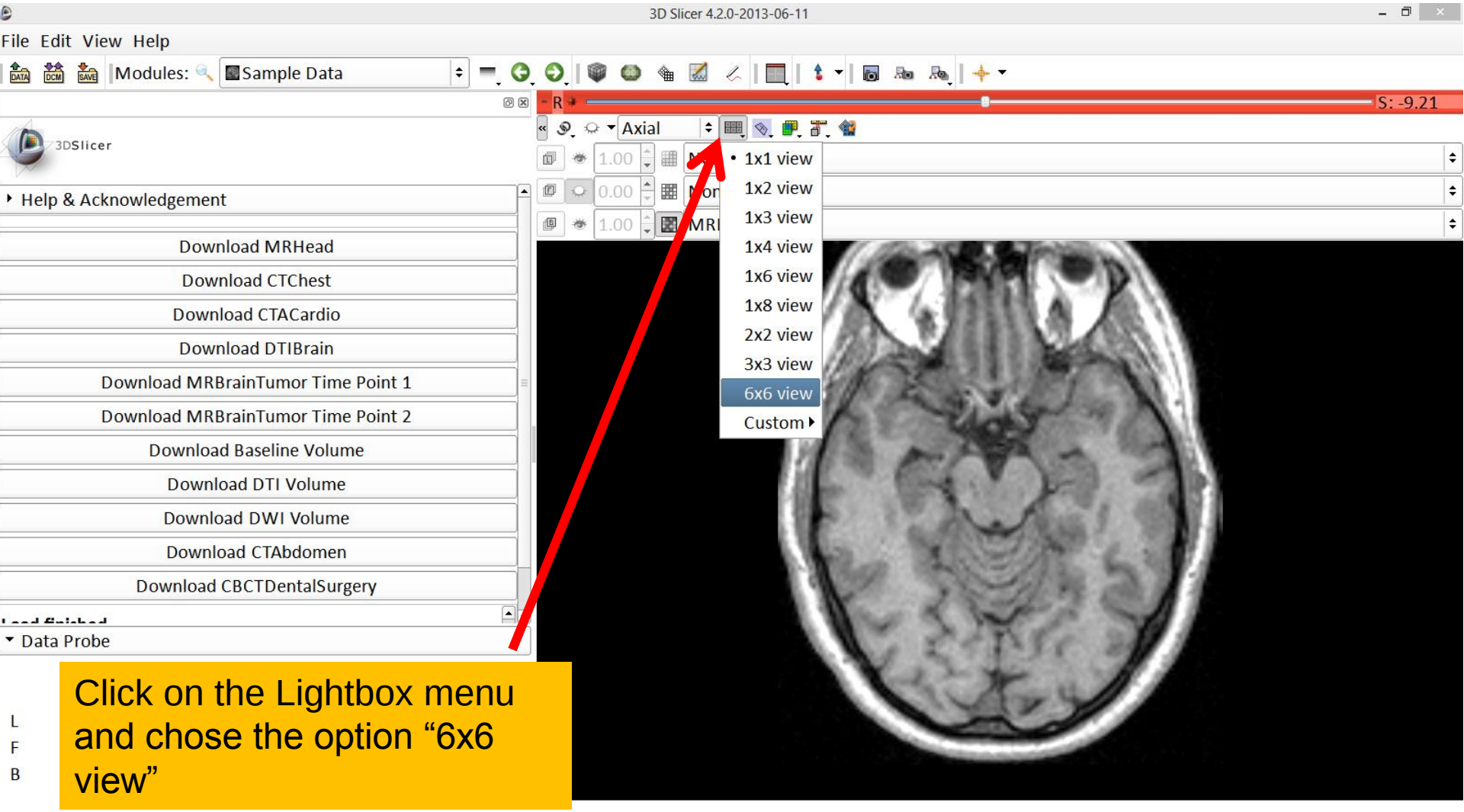
Loading a volume



Loading a volume

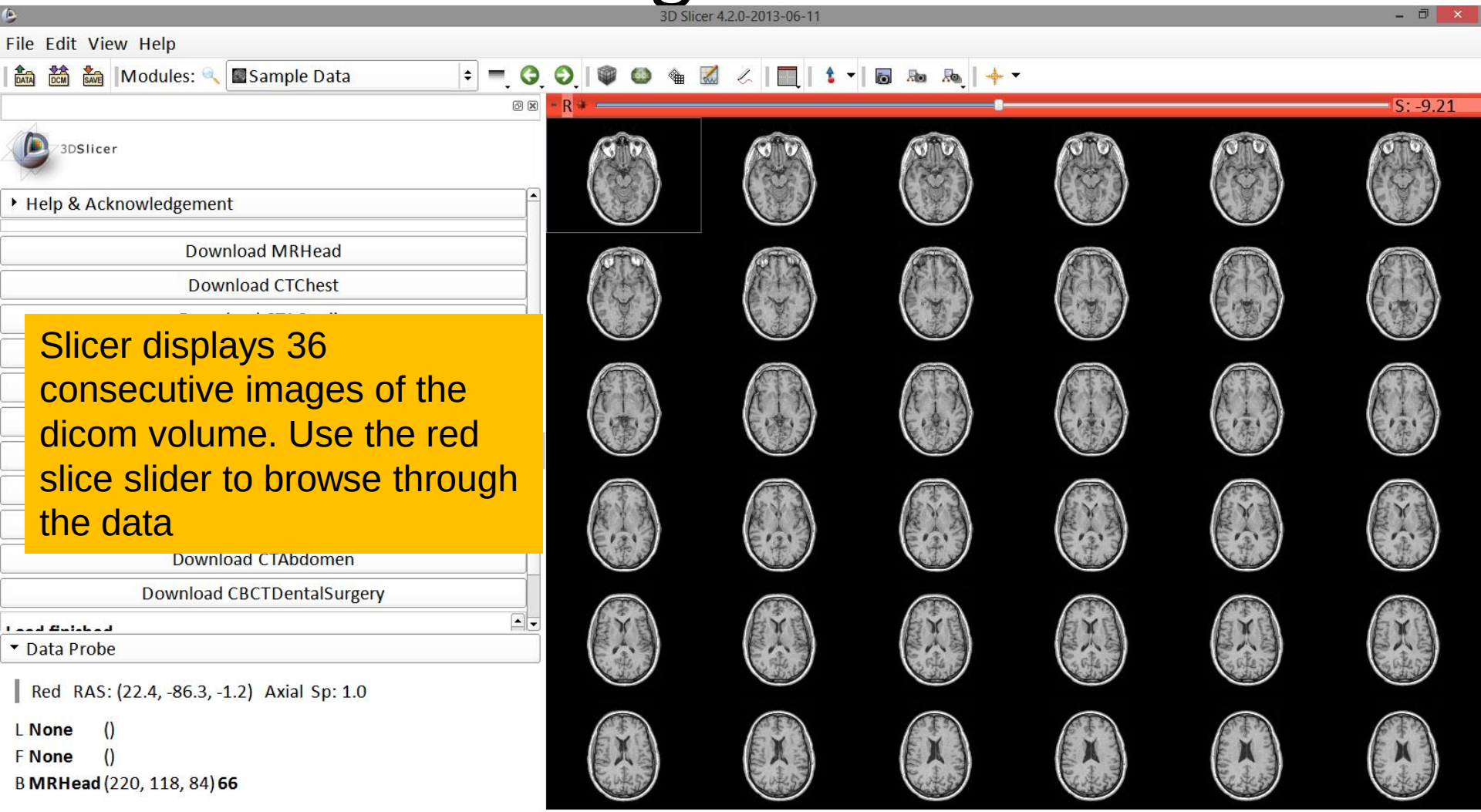


Loading a volume



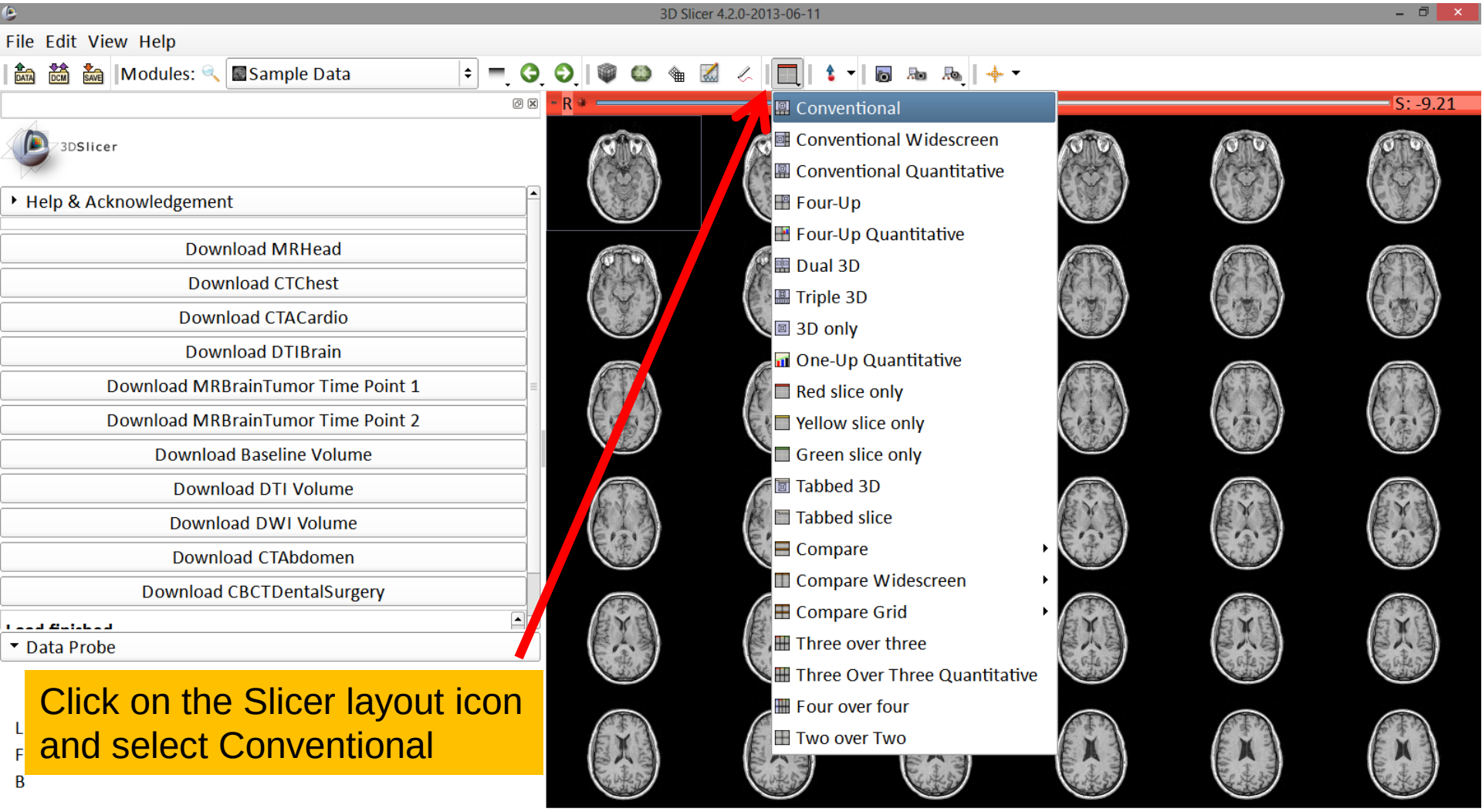
Click on the Lightbox menu and chose the option “6x6 view”

Loading a volume



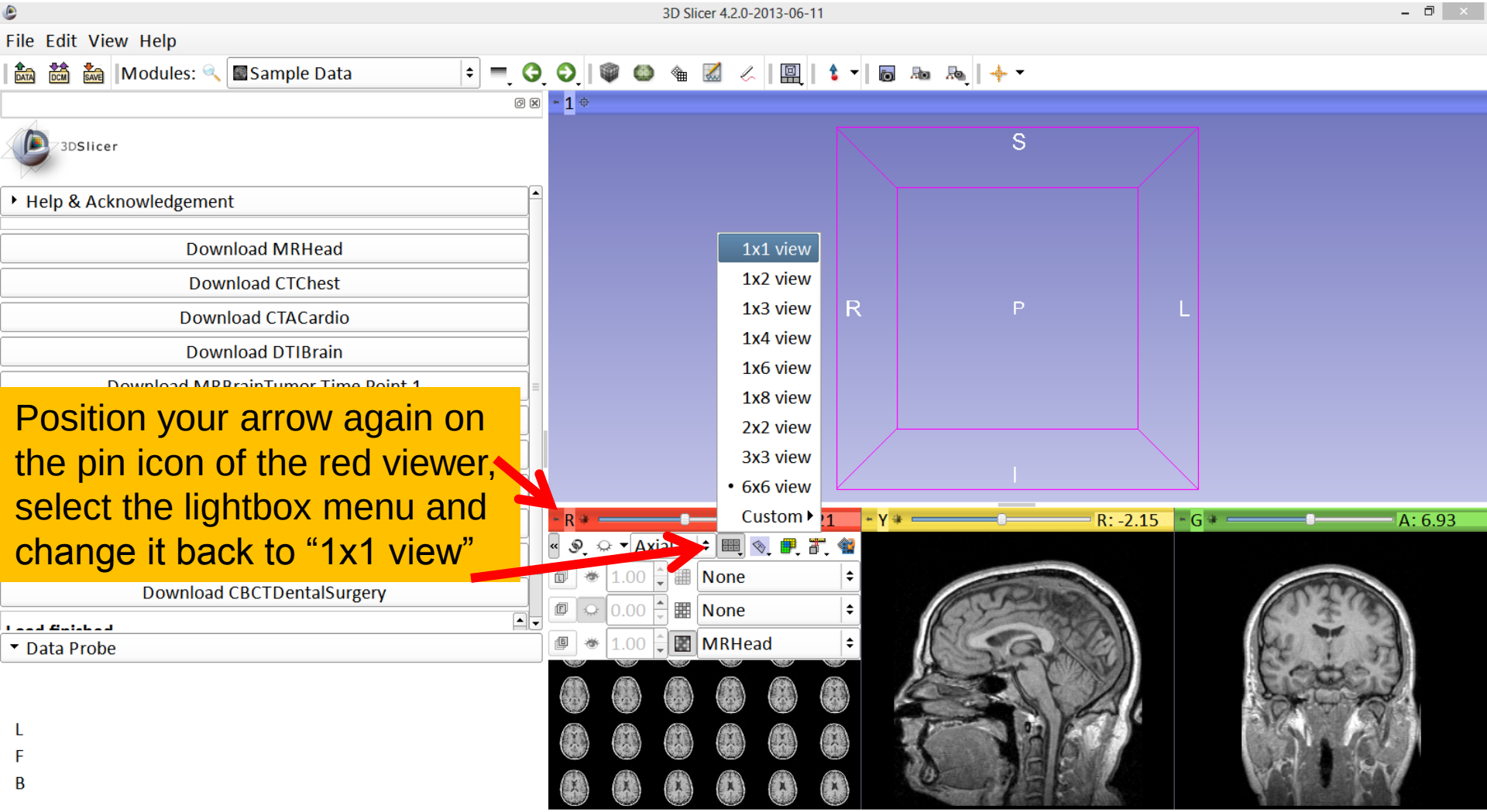
Slicer displays 36 consecutive images of the dicom volume. Use the red slice slider to browse through the data

Loading a volume

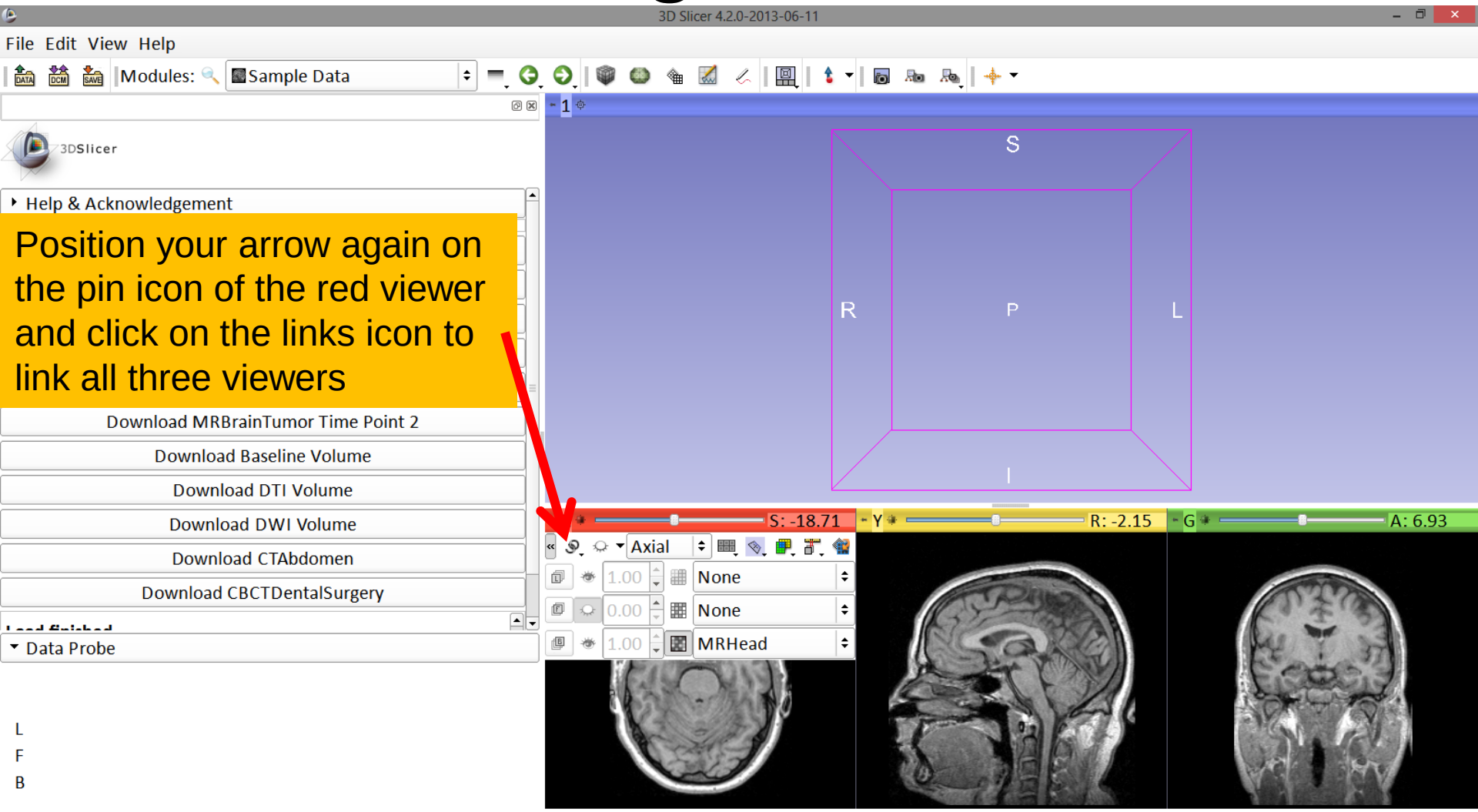


Click on the Slicer layout icon and select Conventional

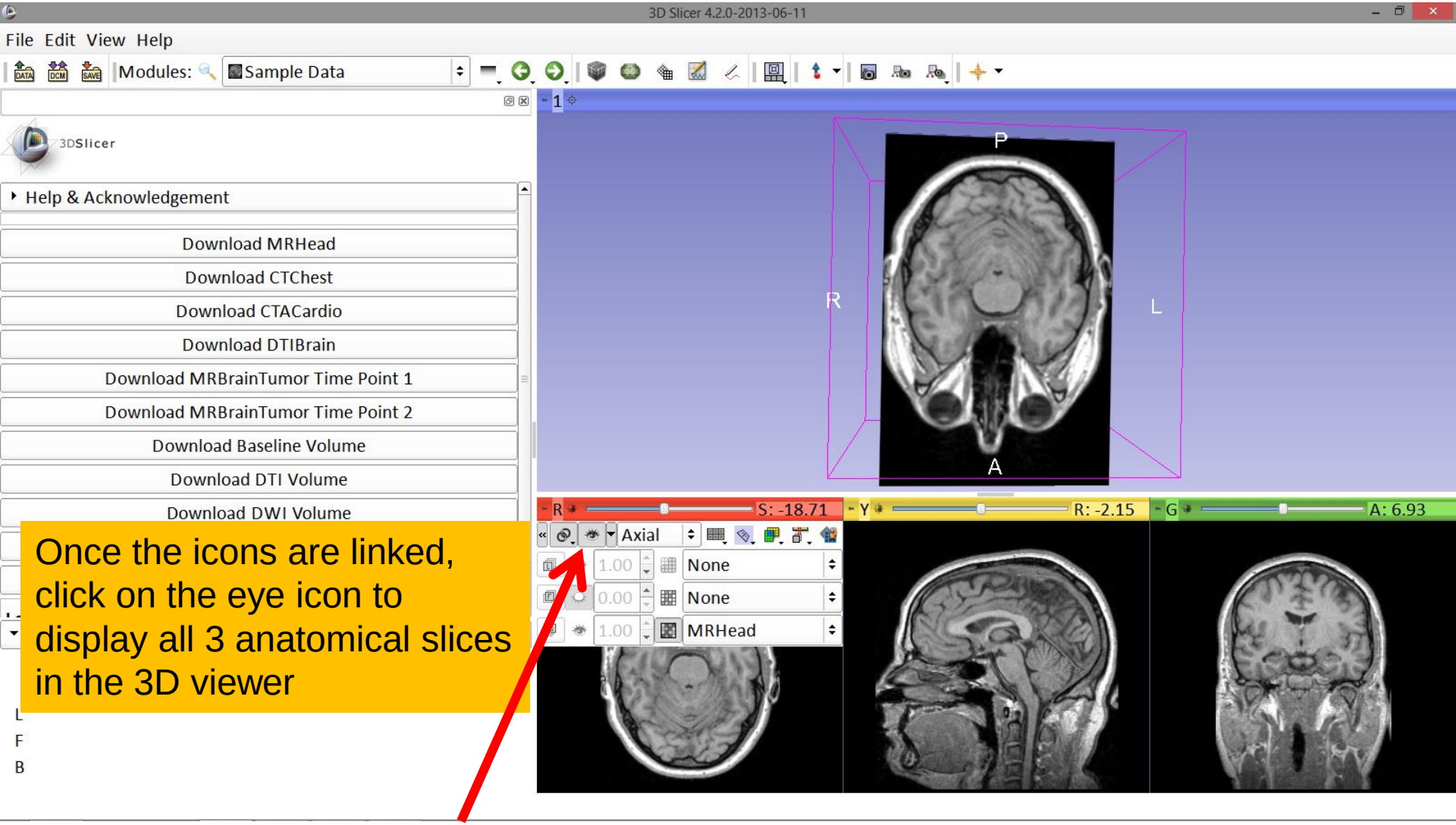
Loading a volume



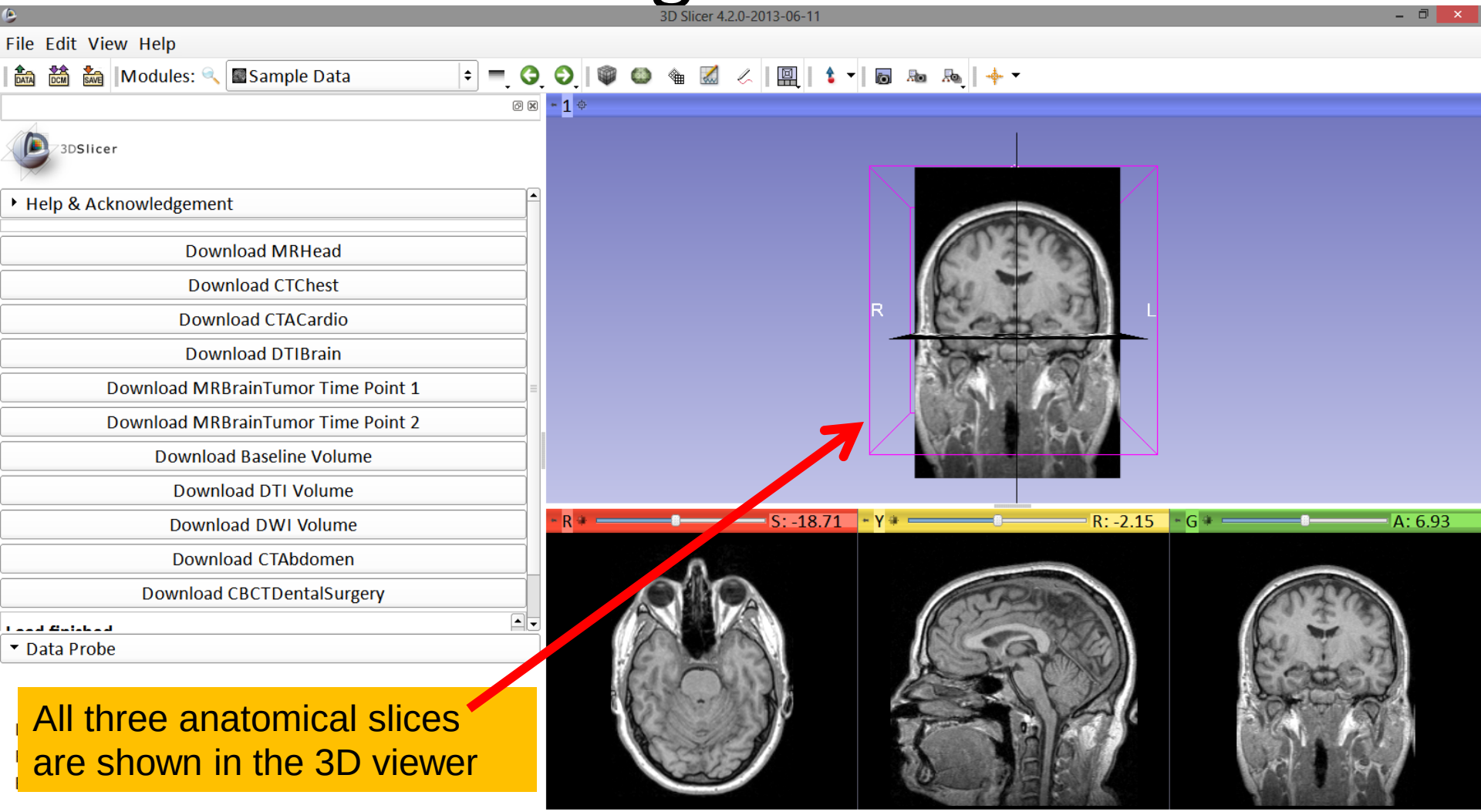
Loading a volume



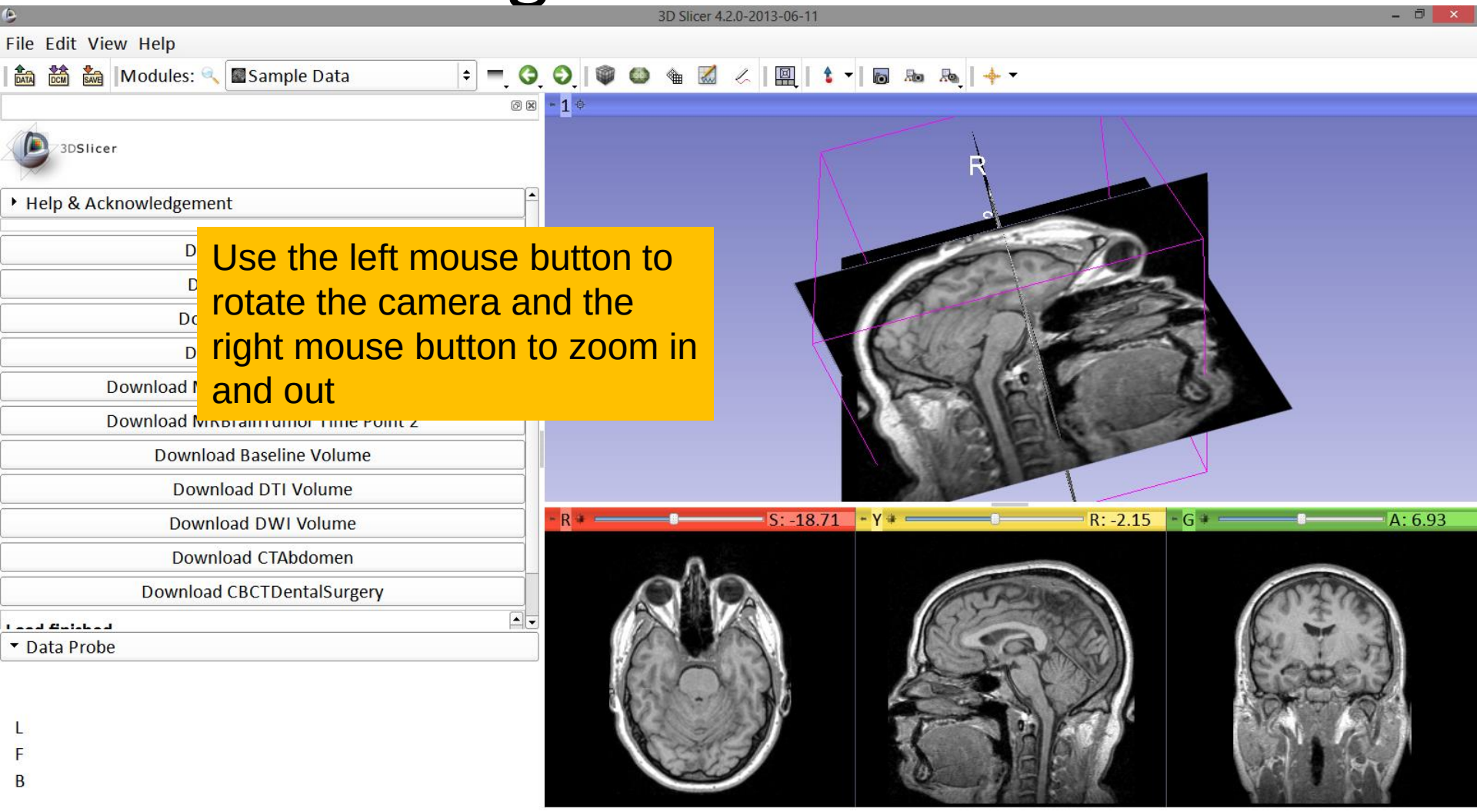
Loading a volume



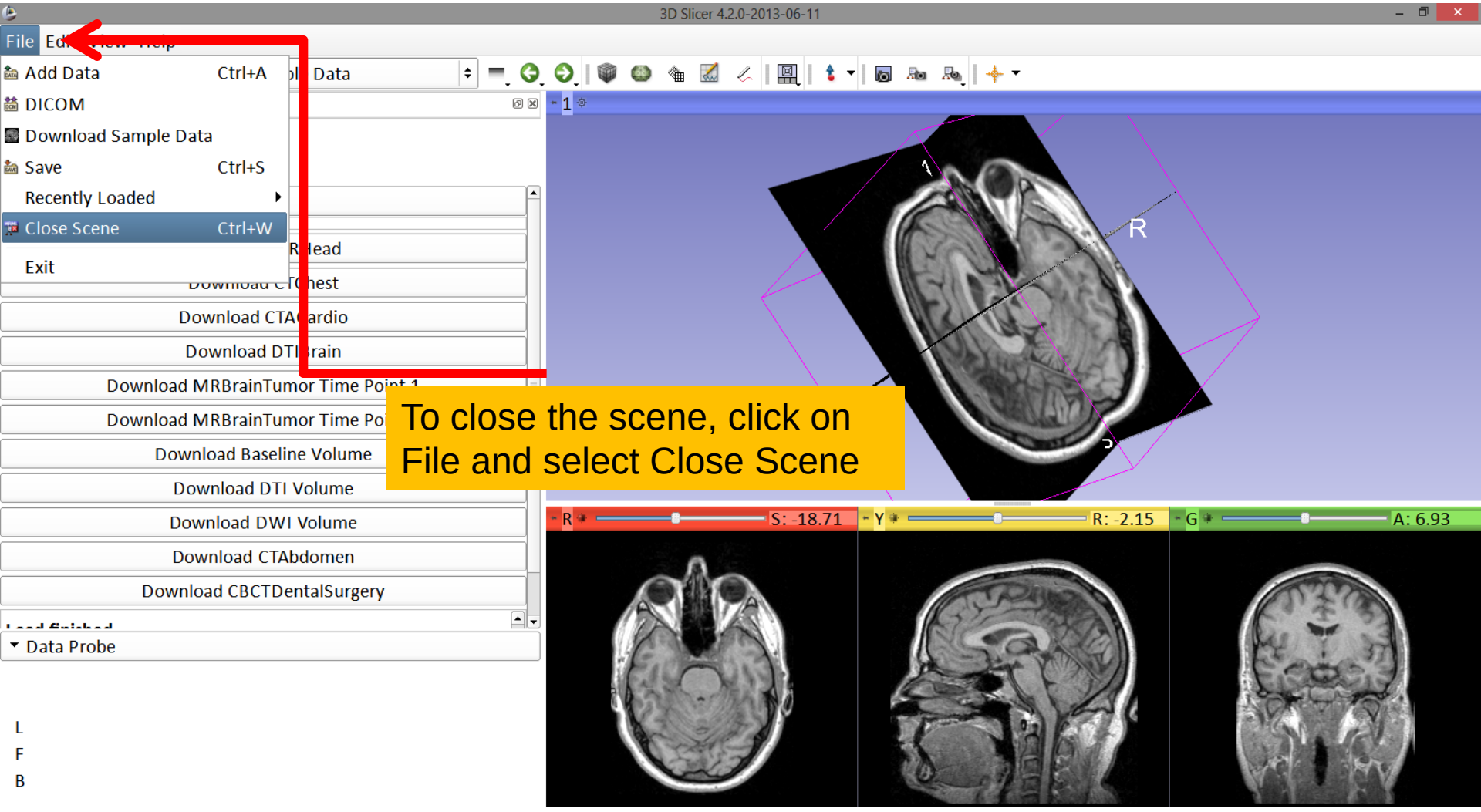
Loading a volume



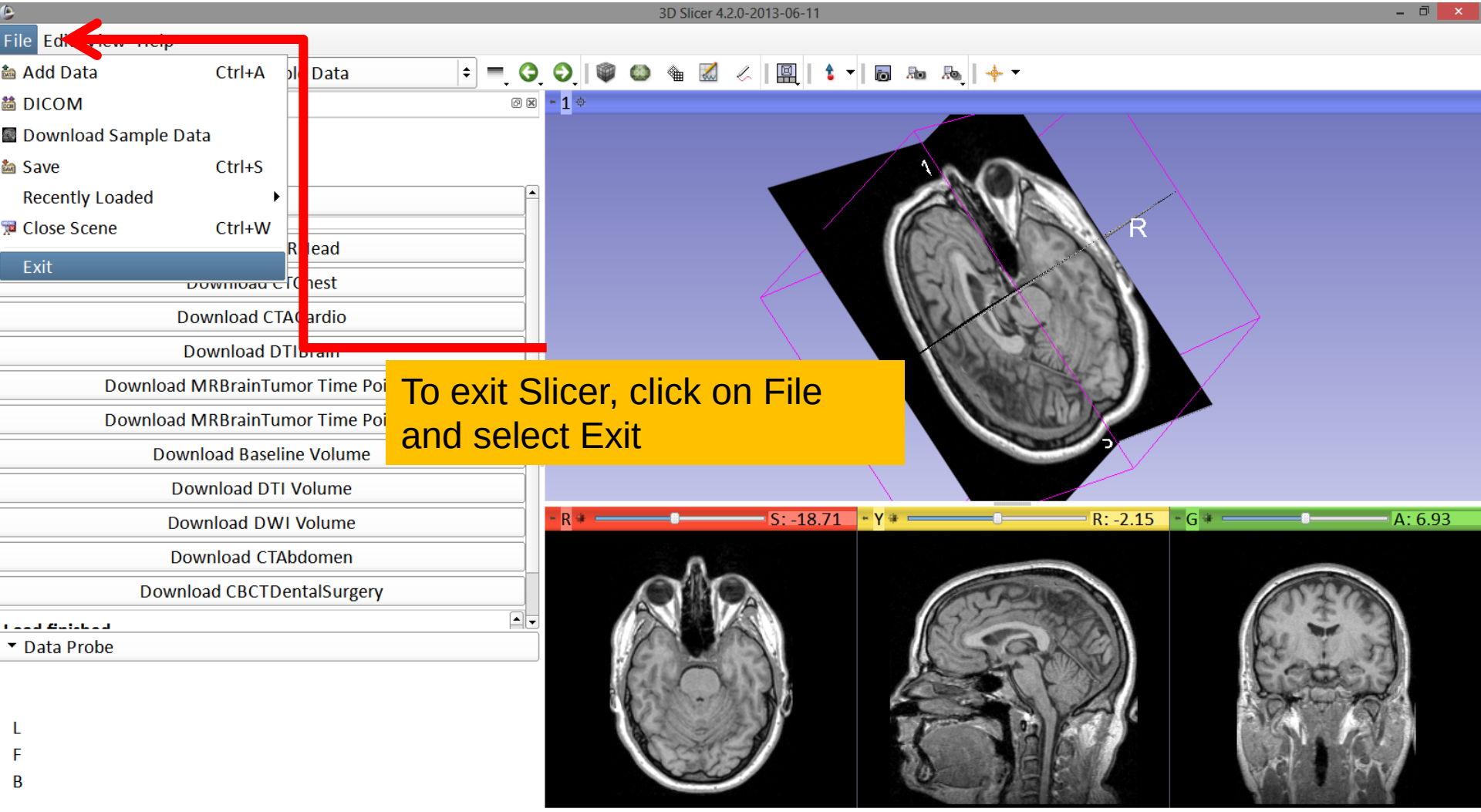
Loading a DICOM volume

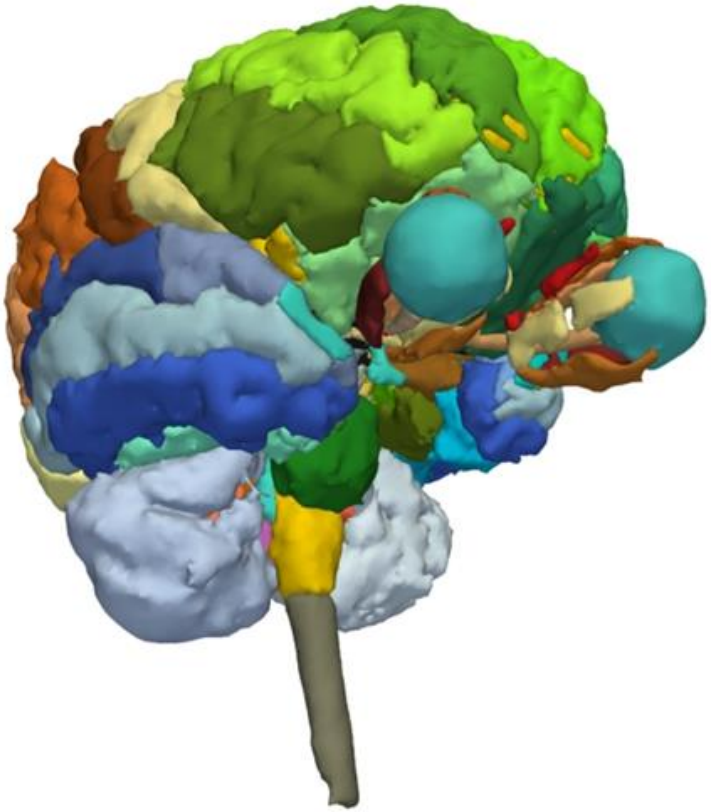


Close the scene



Exit Slicer

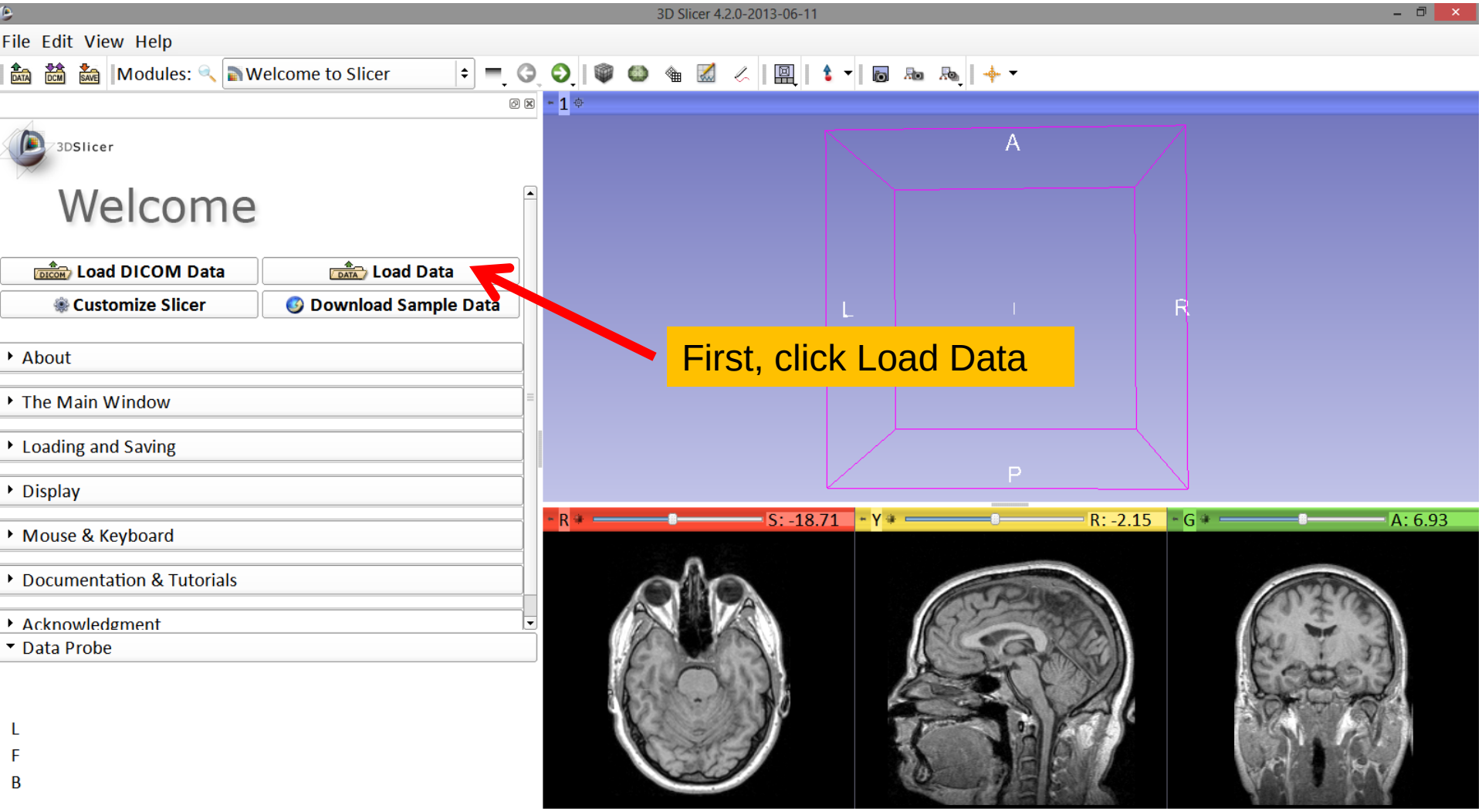

3D Slicer 4.2.0-2013-06-11
File
Add Data Ctrl+A
DICOM
Download Sample Data
Save Ctrl+S
Recently Loaded
Close Scene Ctrl+W
Exit
Download CTAbdomen
Download DTI Volume
Download DWI Volume
Download Baseline Volume
Download CBCTDentalSurgery
Data Probe
To exit Slicer, click on File and select Exit
R
S: -18.71
R: -2.15
A: 6.93



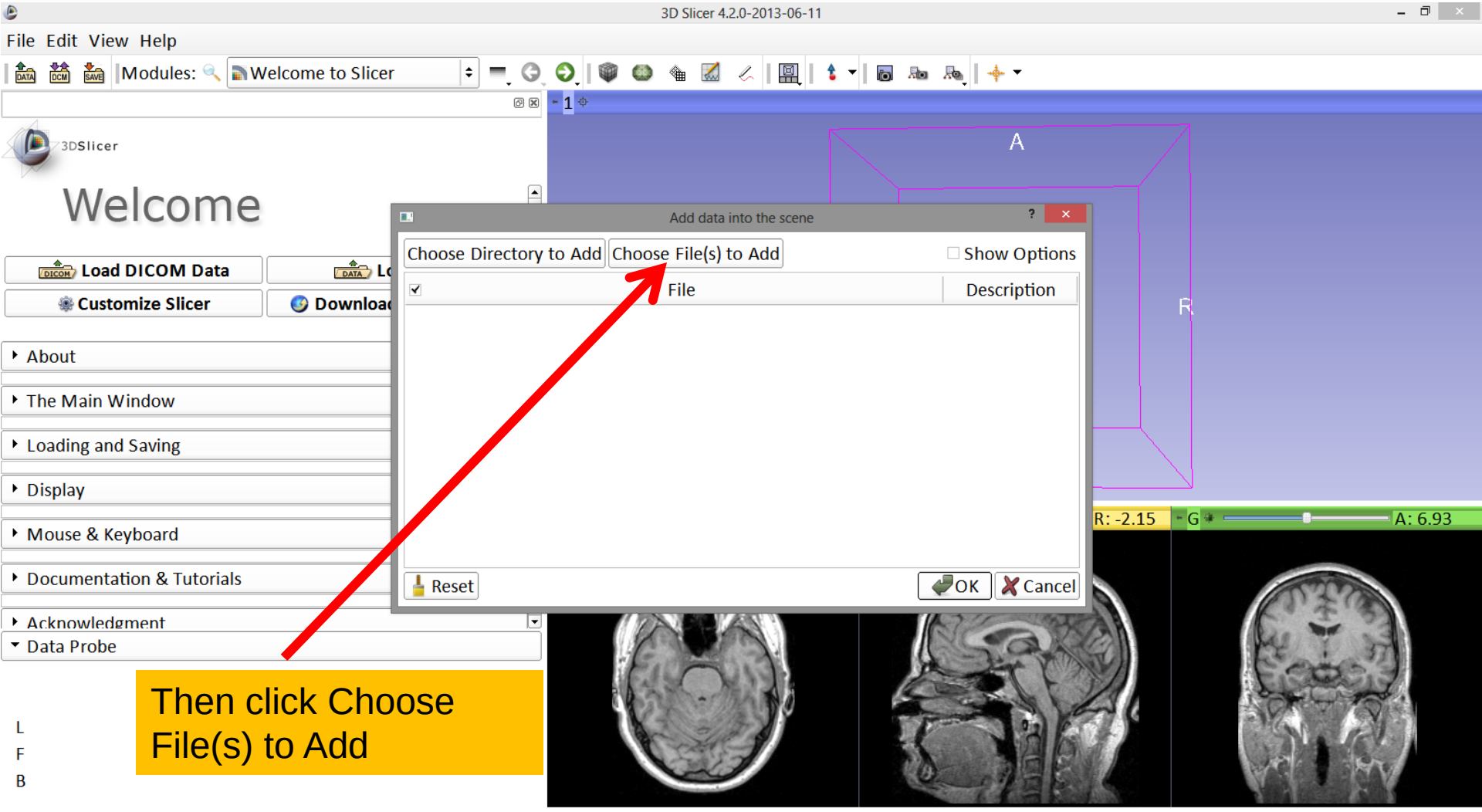
Part 2:

3D visualization of surface models of the brain

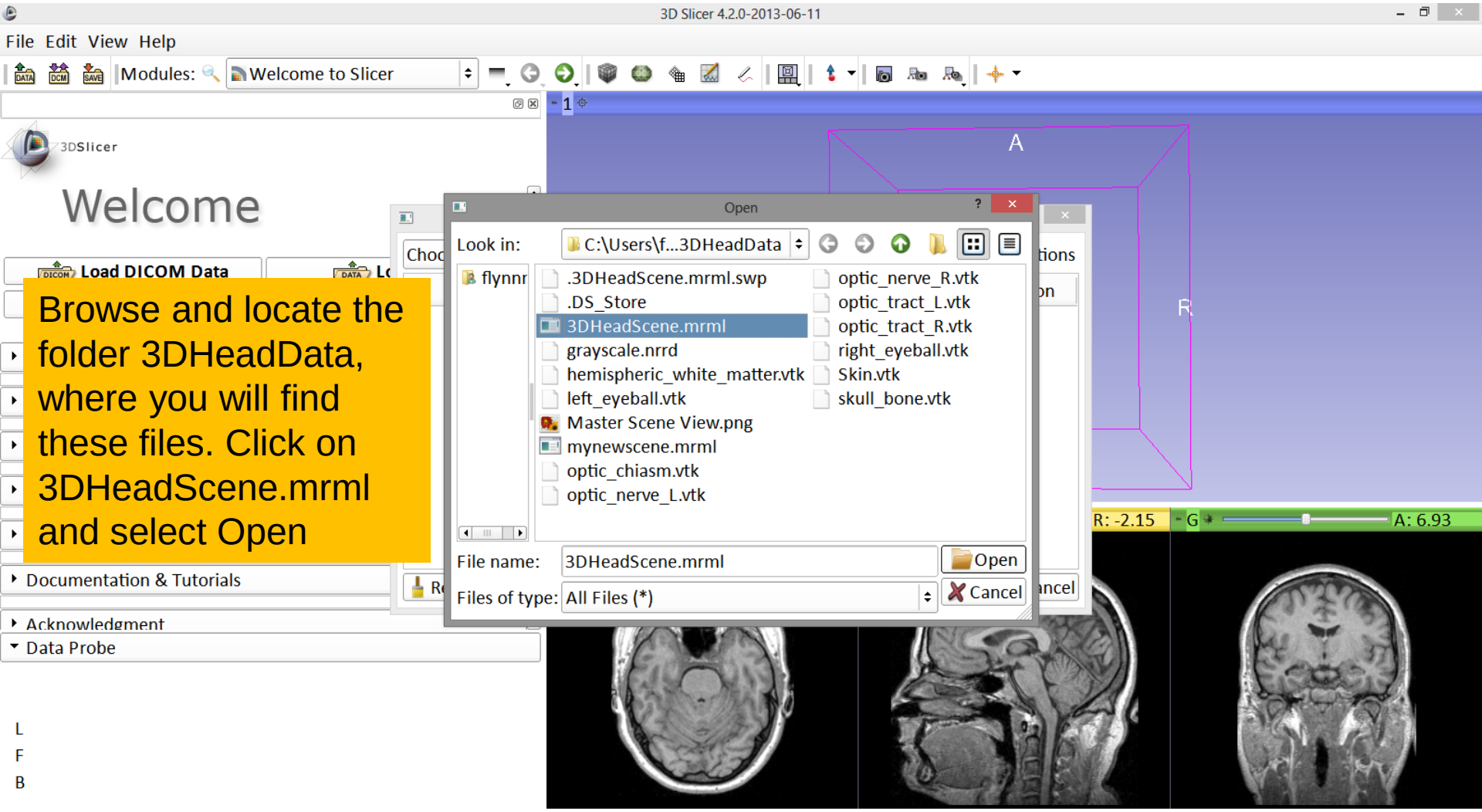
Loading a Scene



Loading a Scene

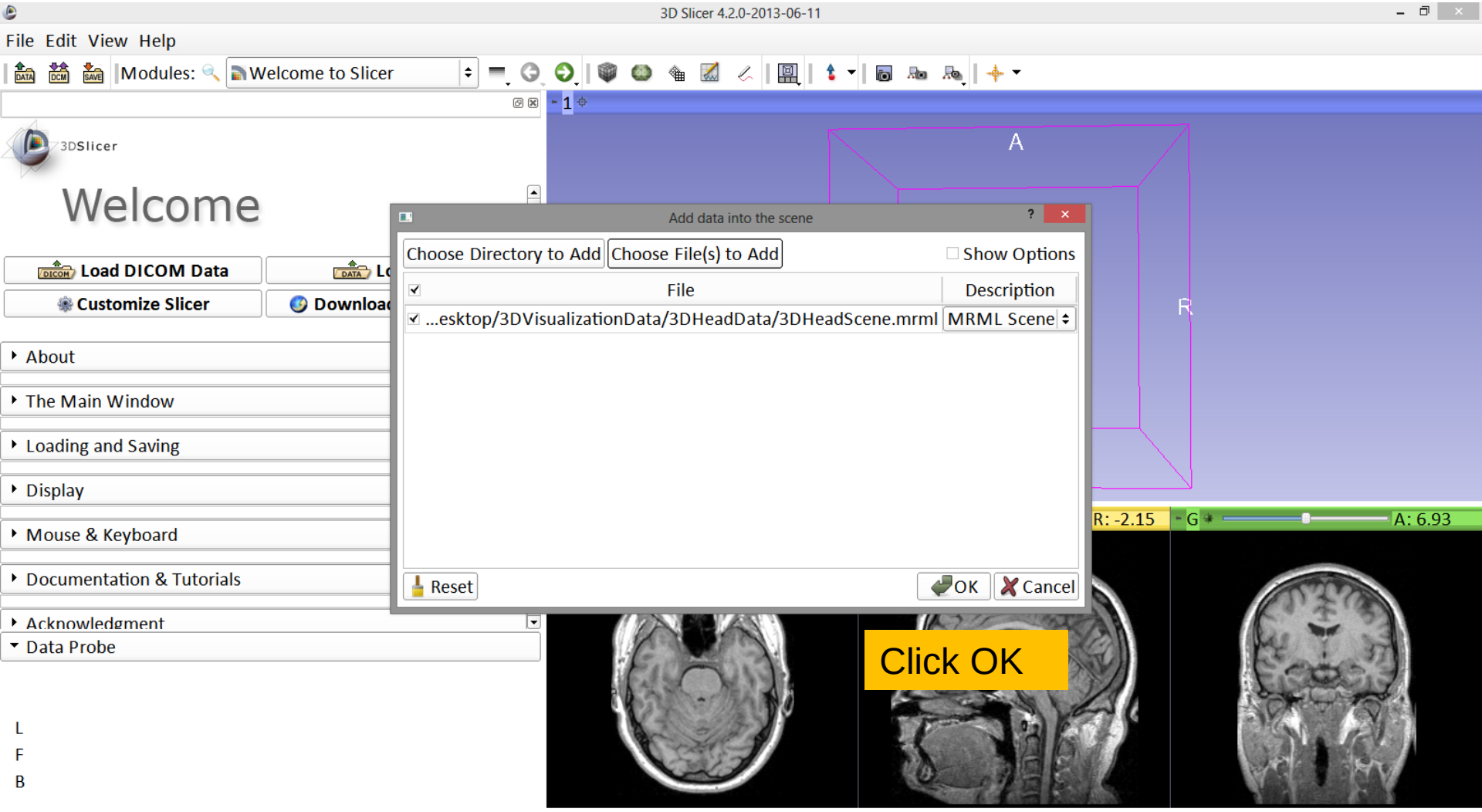


Loading a Scene

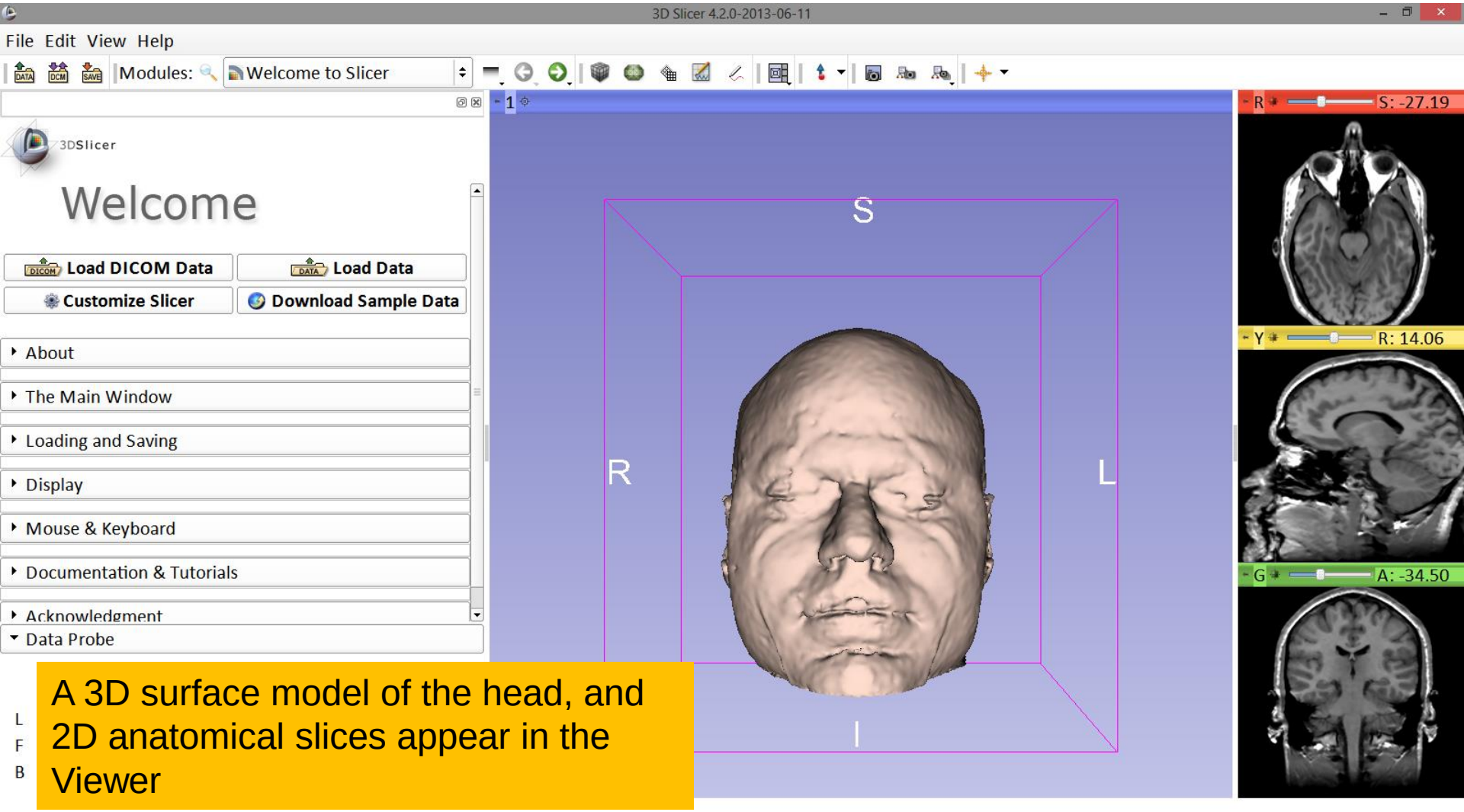


Browse and locate the folder 3DHeadData, where you will find these files. Click on 3DHeadScene.mrml and select Open

Loading a Scene

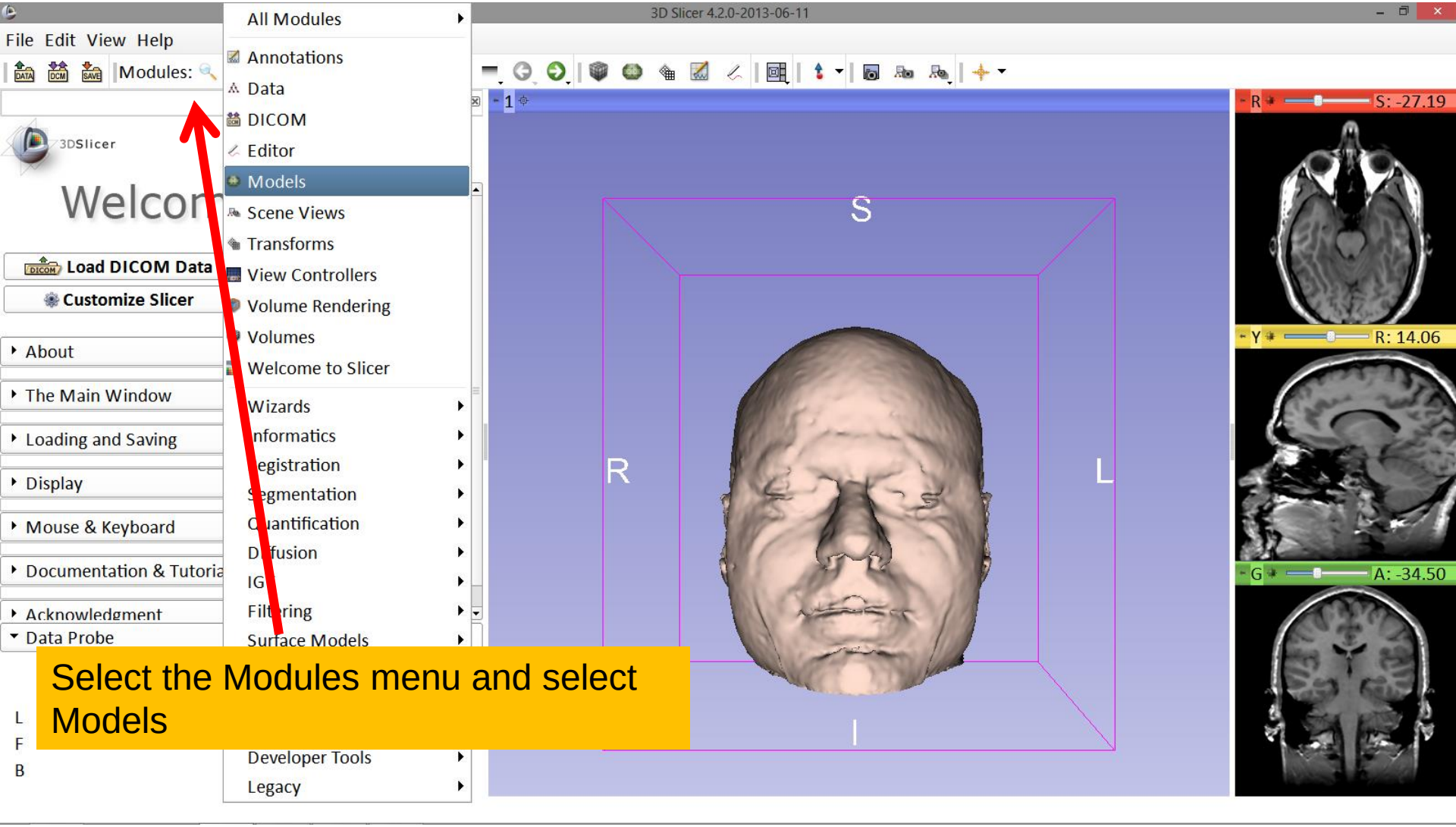


Loading the Slicer Scene

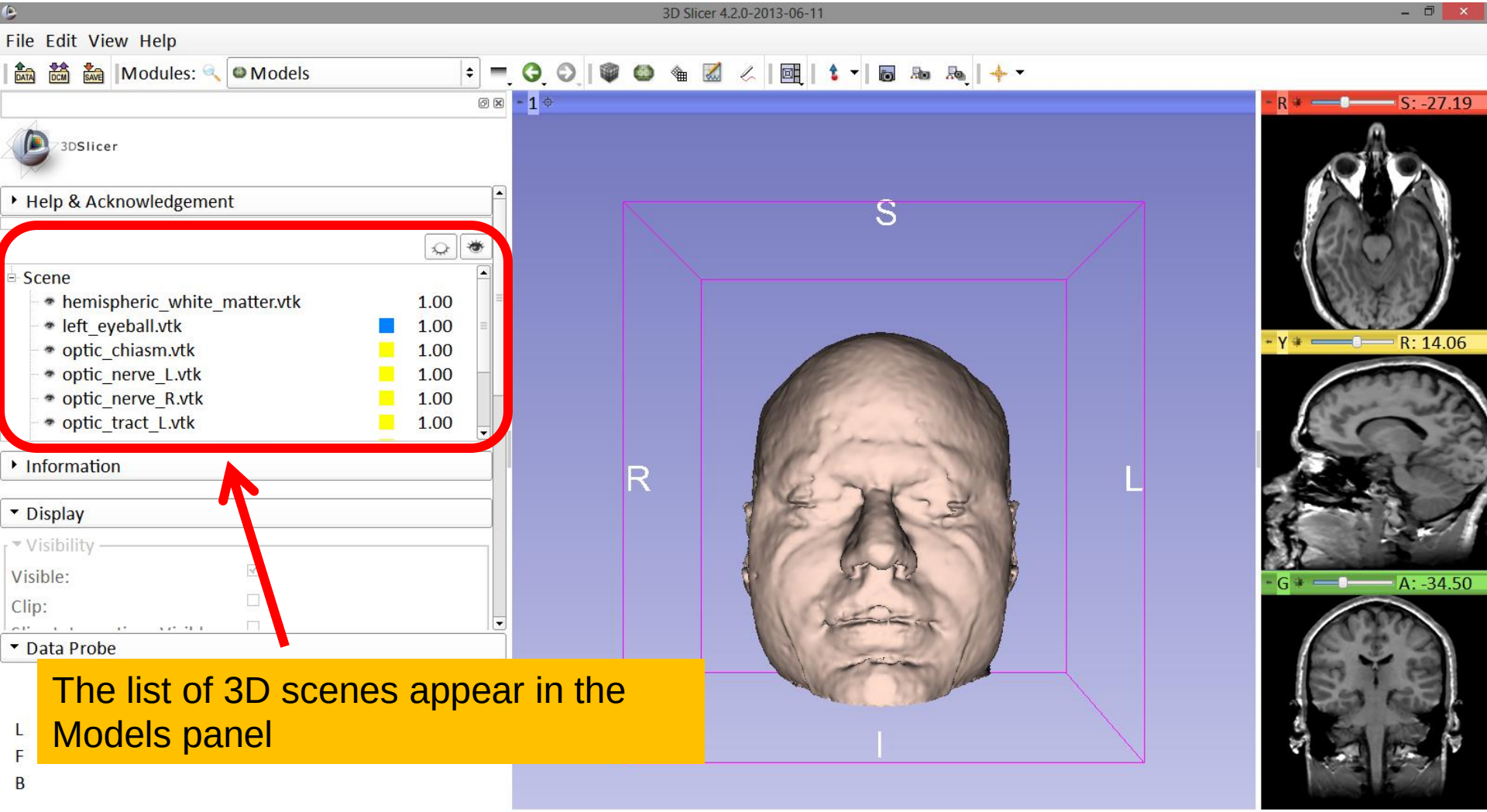


A 3D surface model of the head, and 2D anatomical slices appear in the Viewer

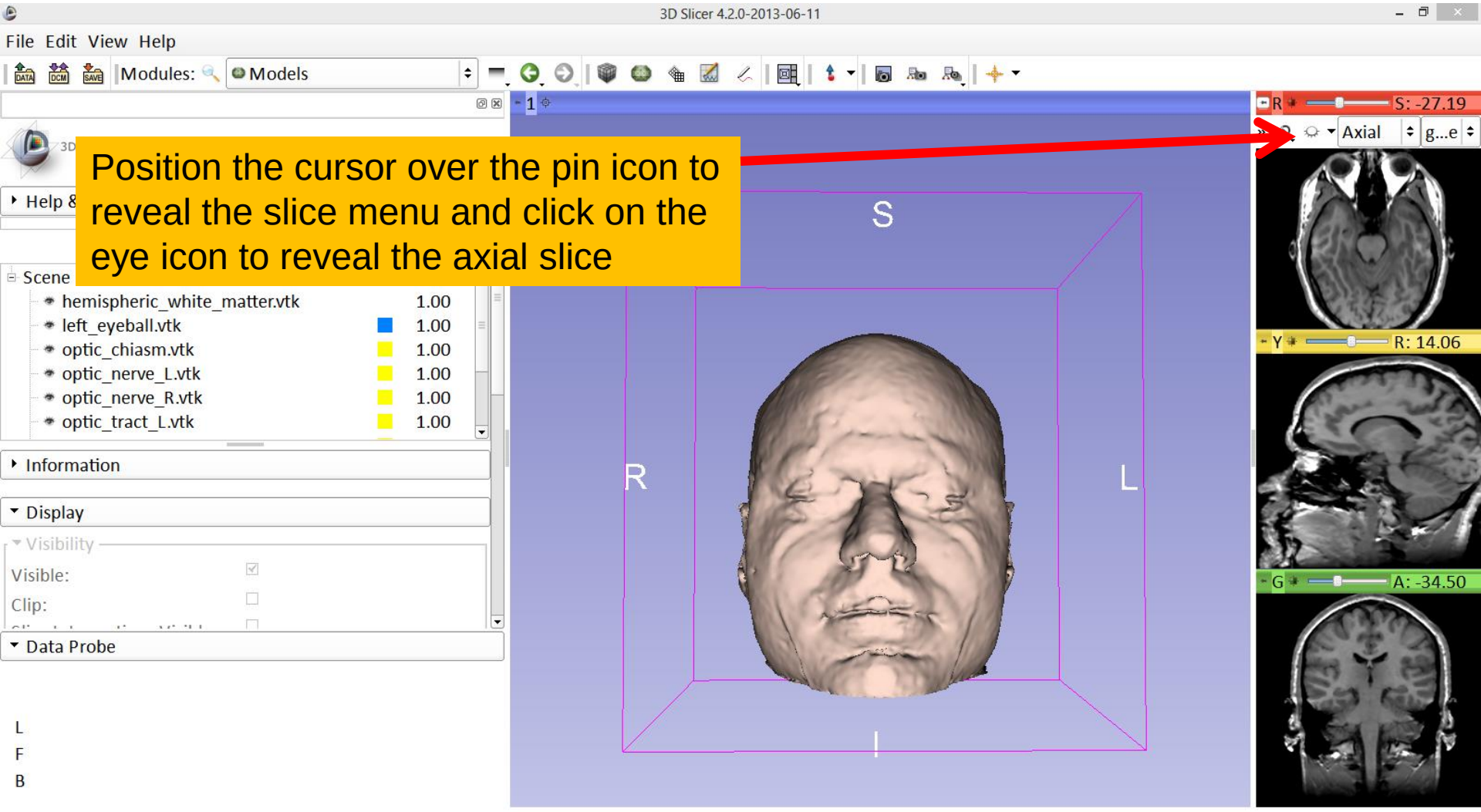
Loading the Slicer Scene



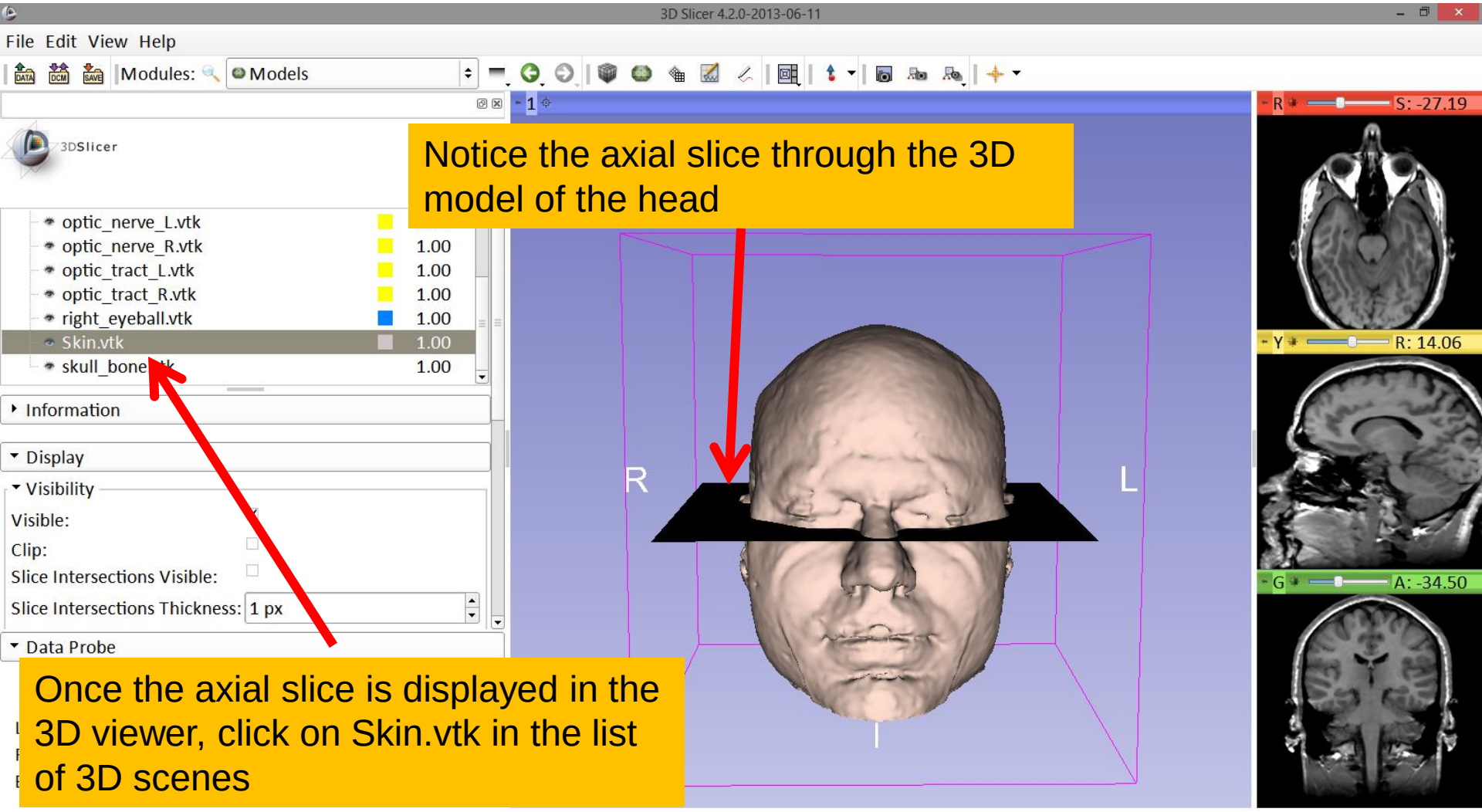
Models Module



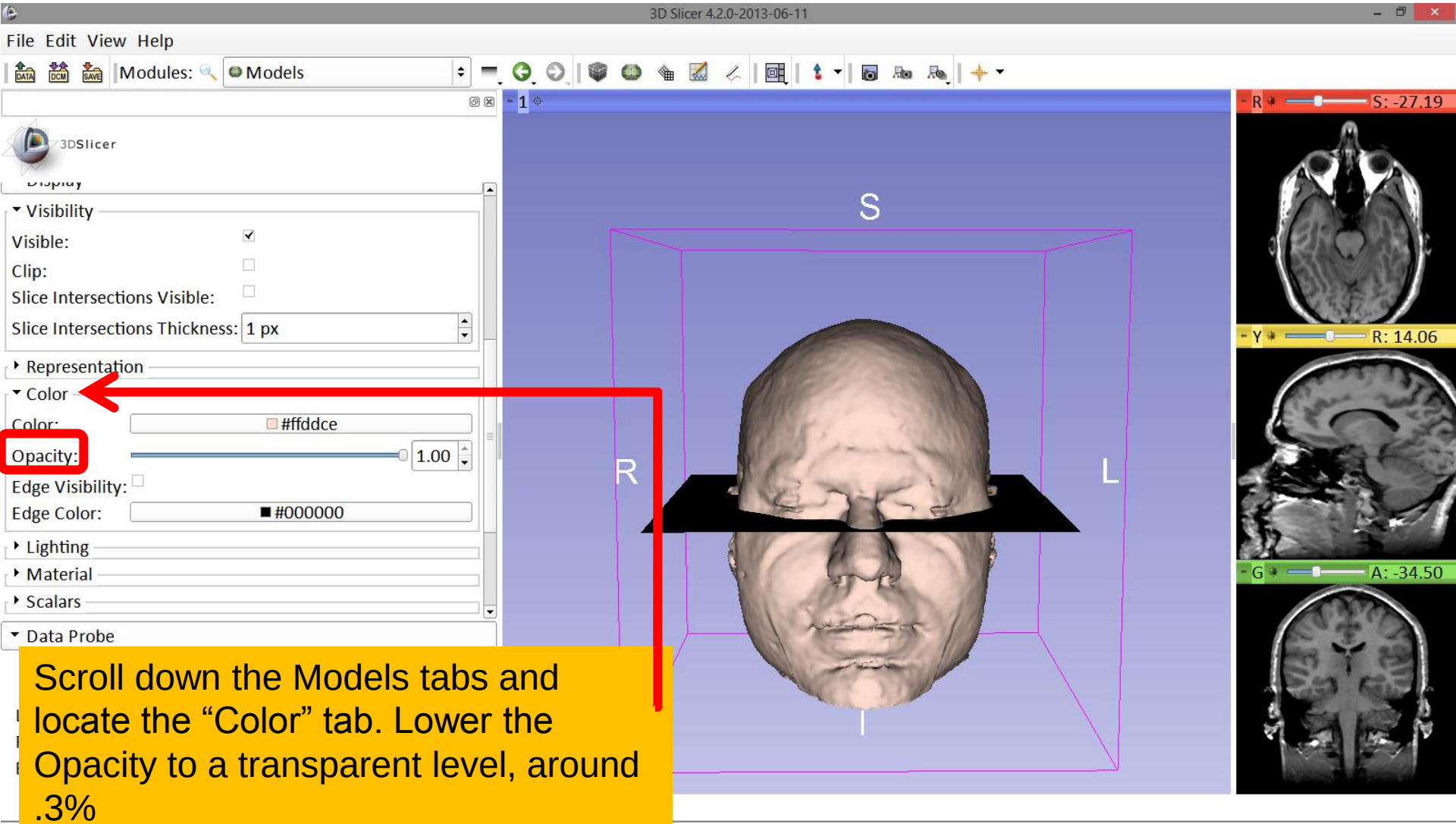
3D Visualization



3D Visualization

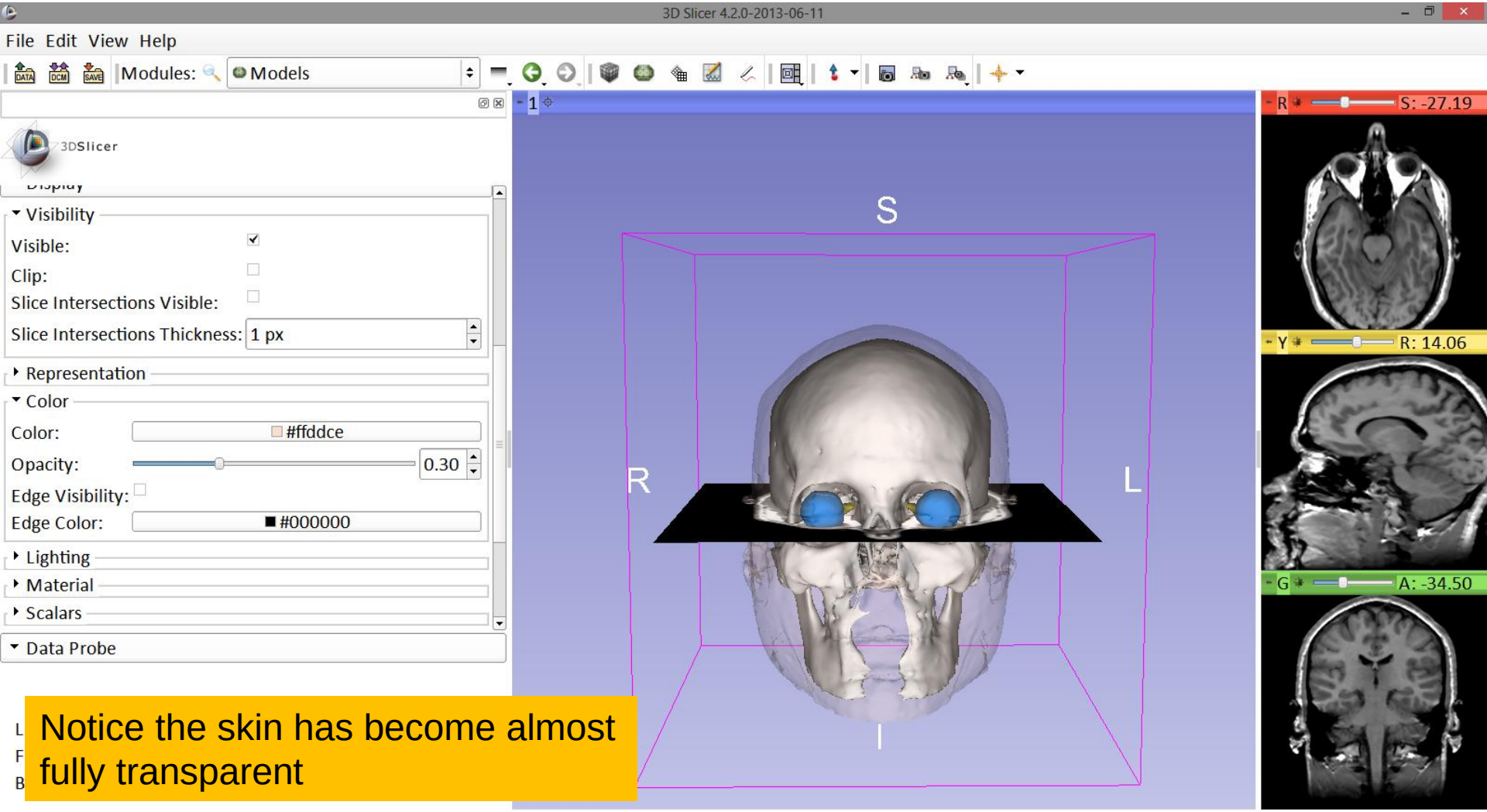


3D Visualization



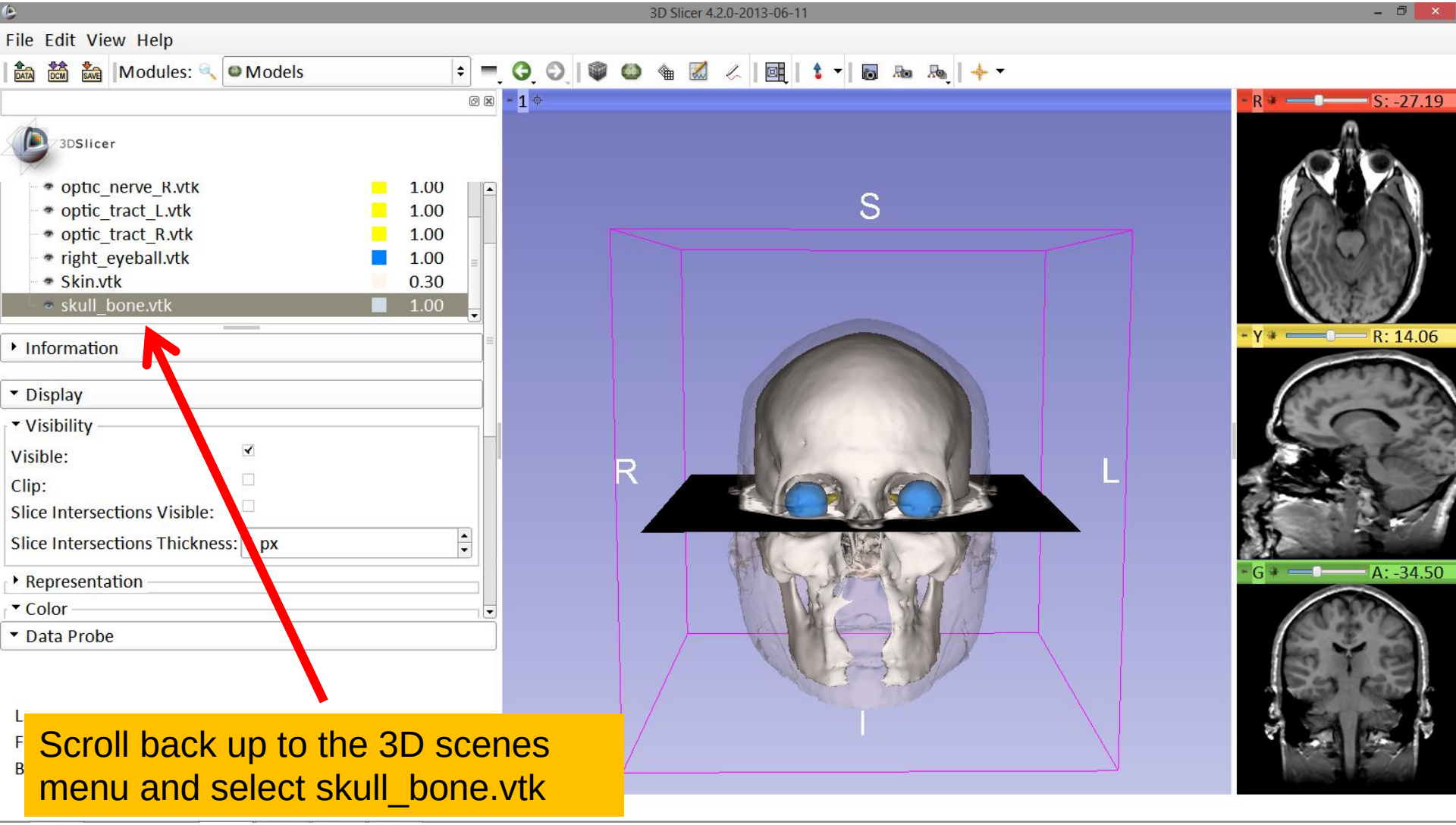
Scroll down the Models tabs and locate the “Color” tab. Lower the Opacity to a transparent level, around .3%

3D Visualization

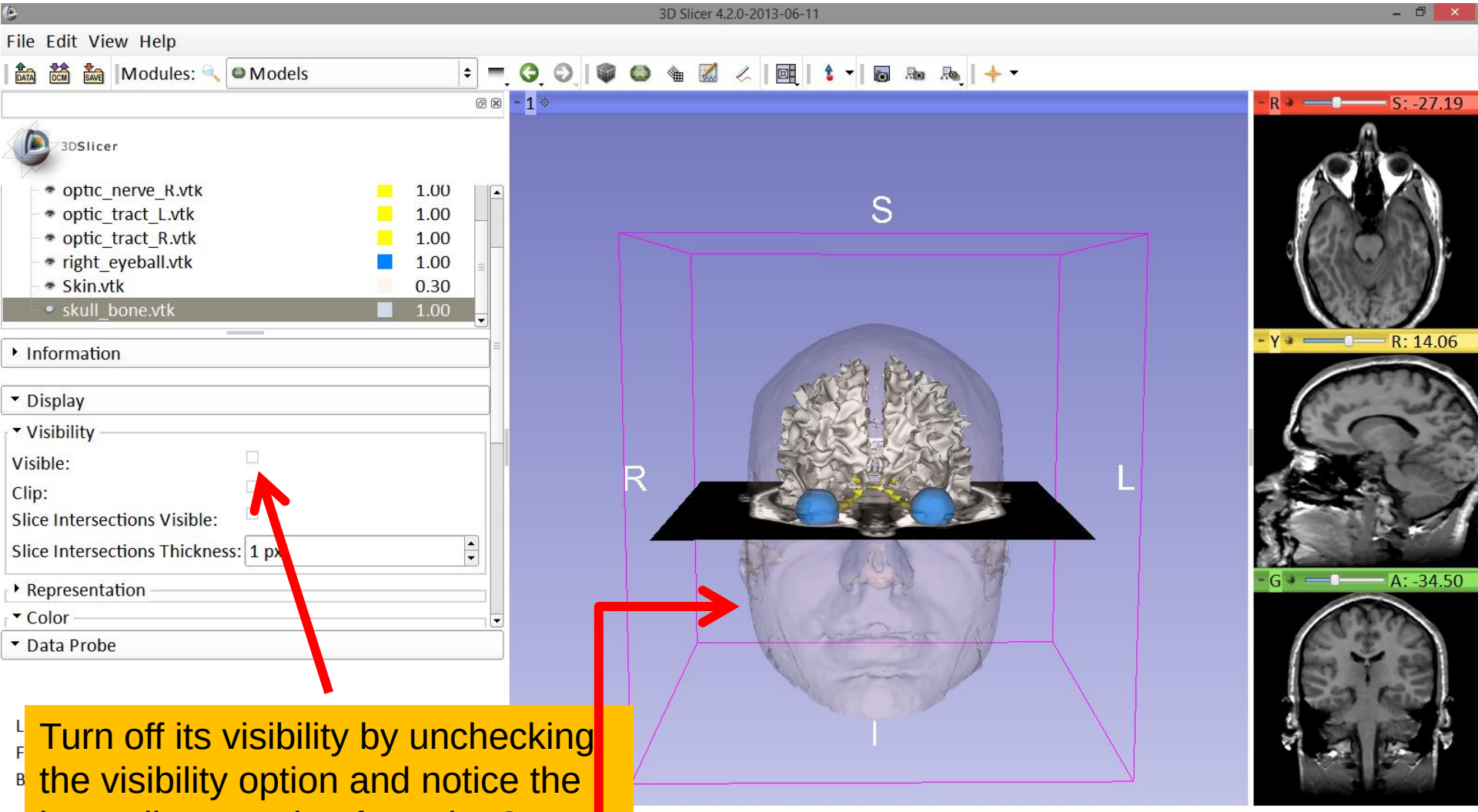


Notice the skin has become almost fully transparent

3D Visualization

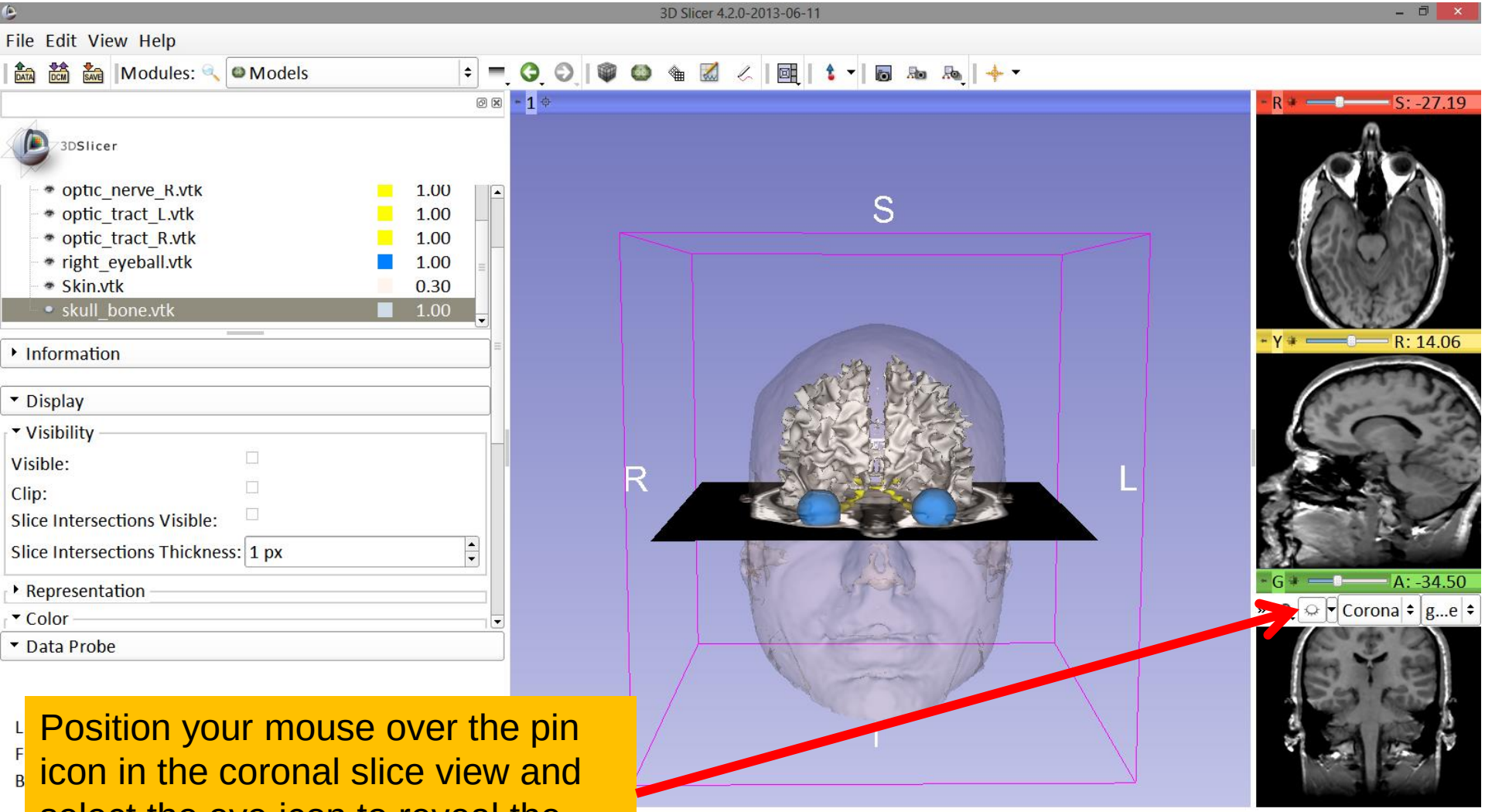


3D Visualization



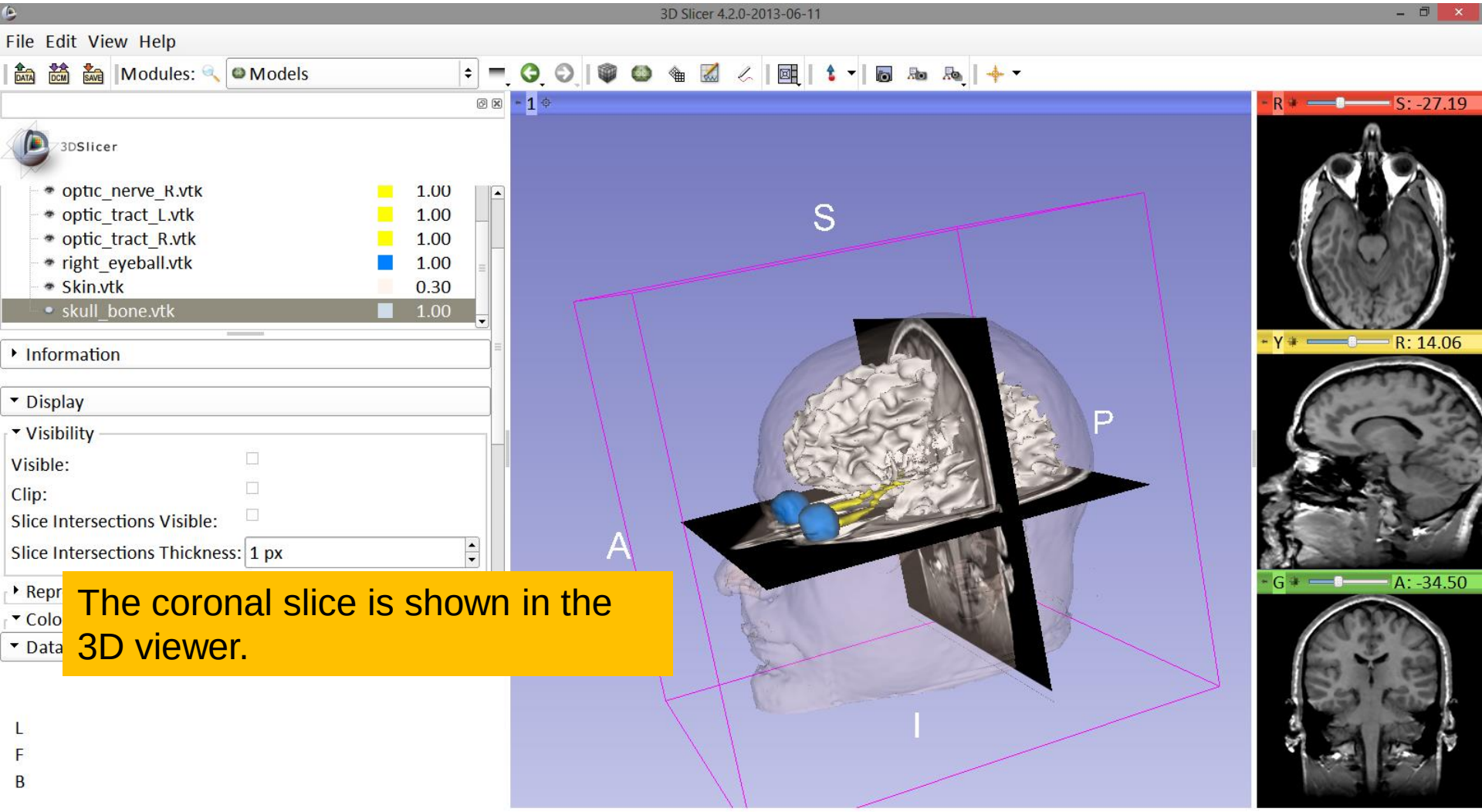
Turn off its visibility by unchecking the visibility option and notice the bone disappearing from the 3D view of the head

3D Visualization



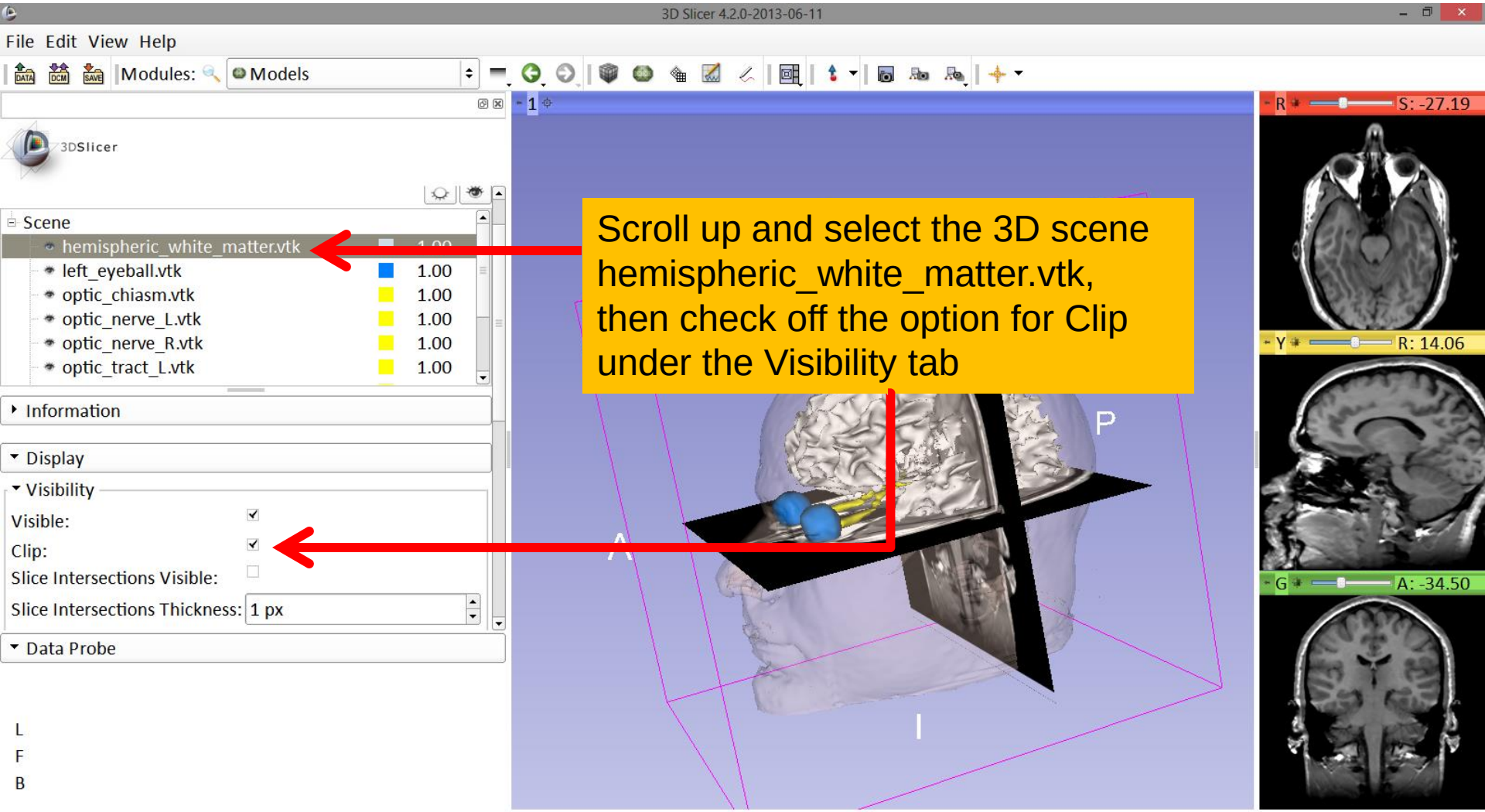
Position your mouse over the pin icon in the coronal slice view and select the eye icon to reveal the coronal slice in the 3D view

3D Visualization

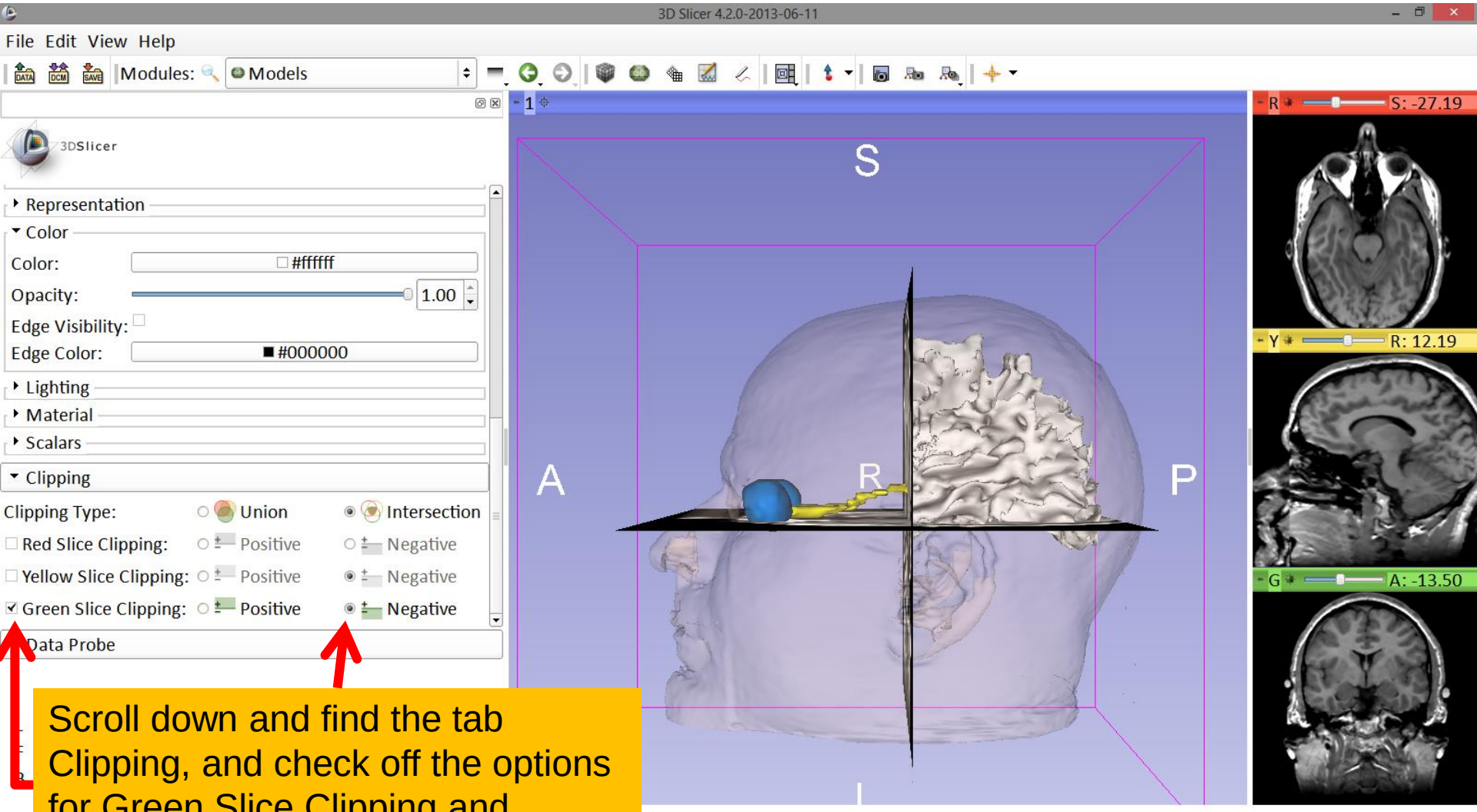


The coronal slice is shown in the 3D viewer.

3D Visualization

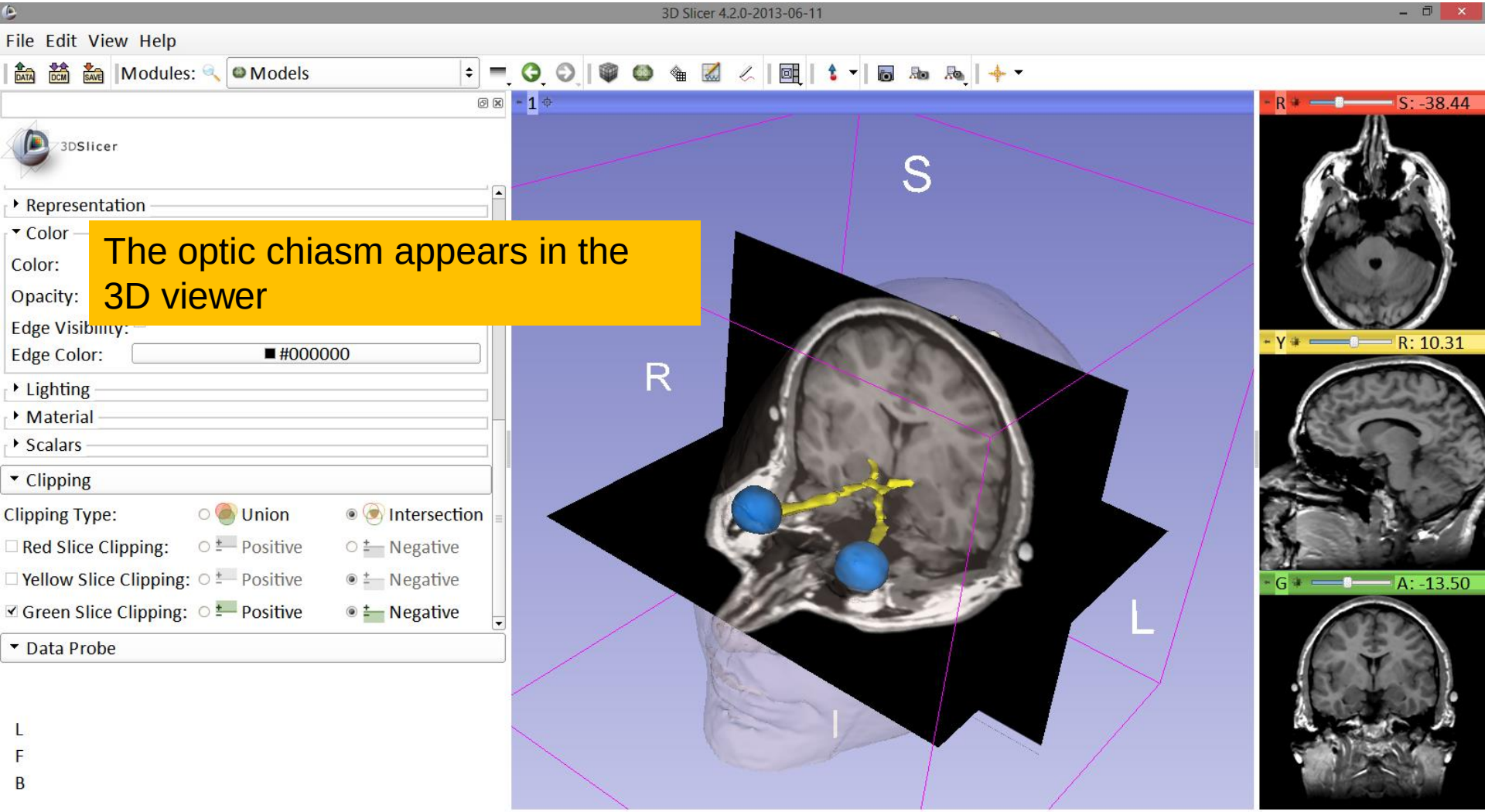


3D Visualization

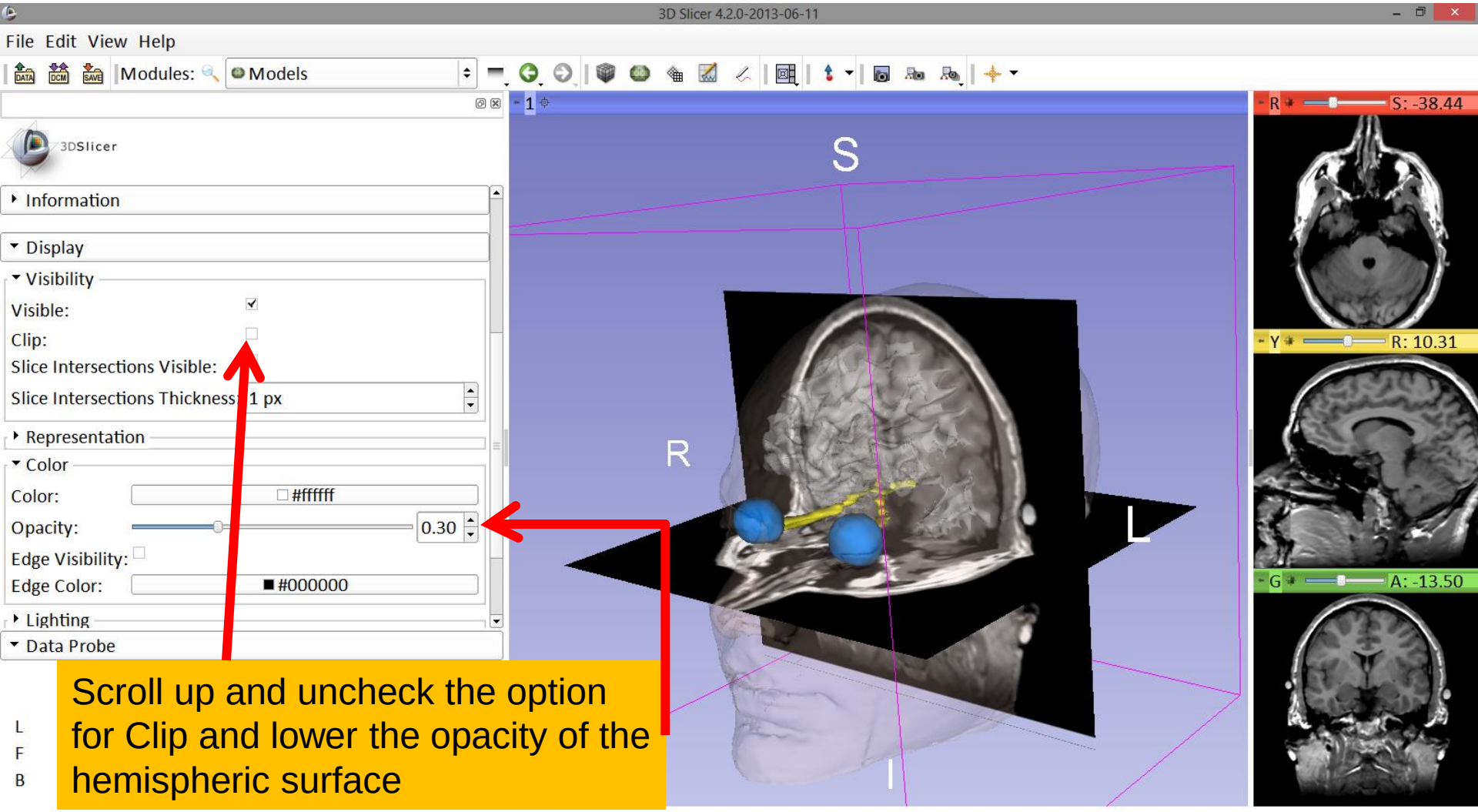


Scroll down and find the tab Clipping, and check off the options for Green Slice Clipping and Negative Space

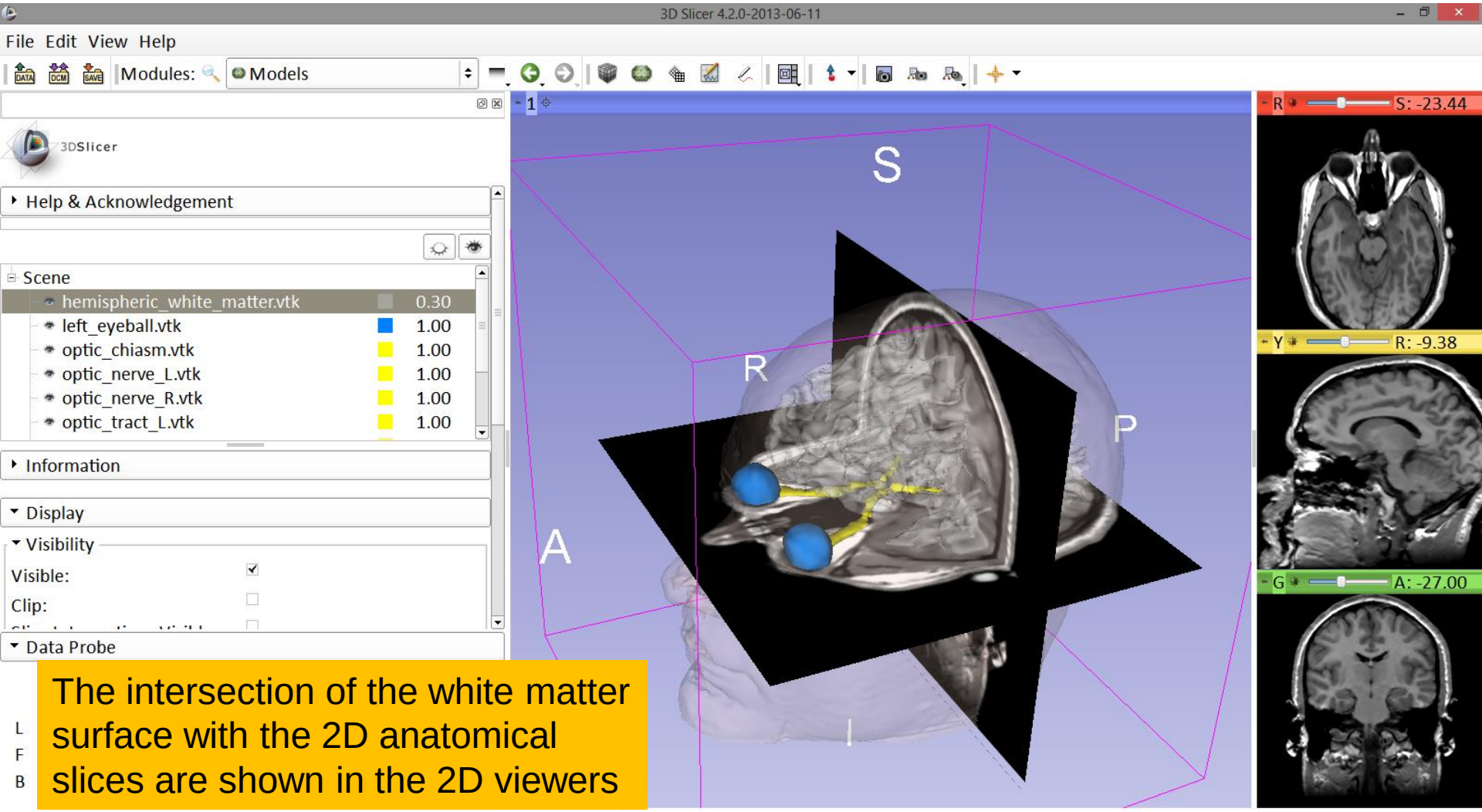
3D Visualization



3D Visualization

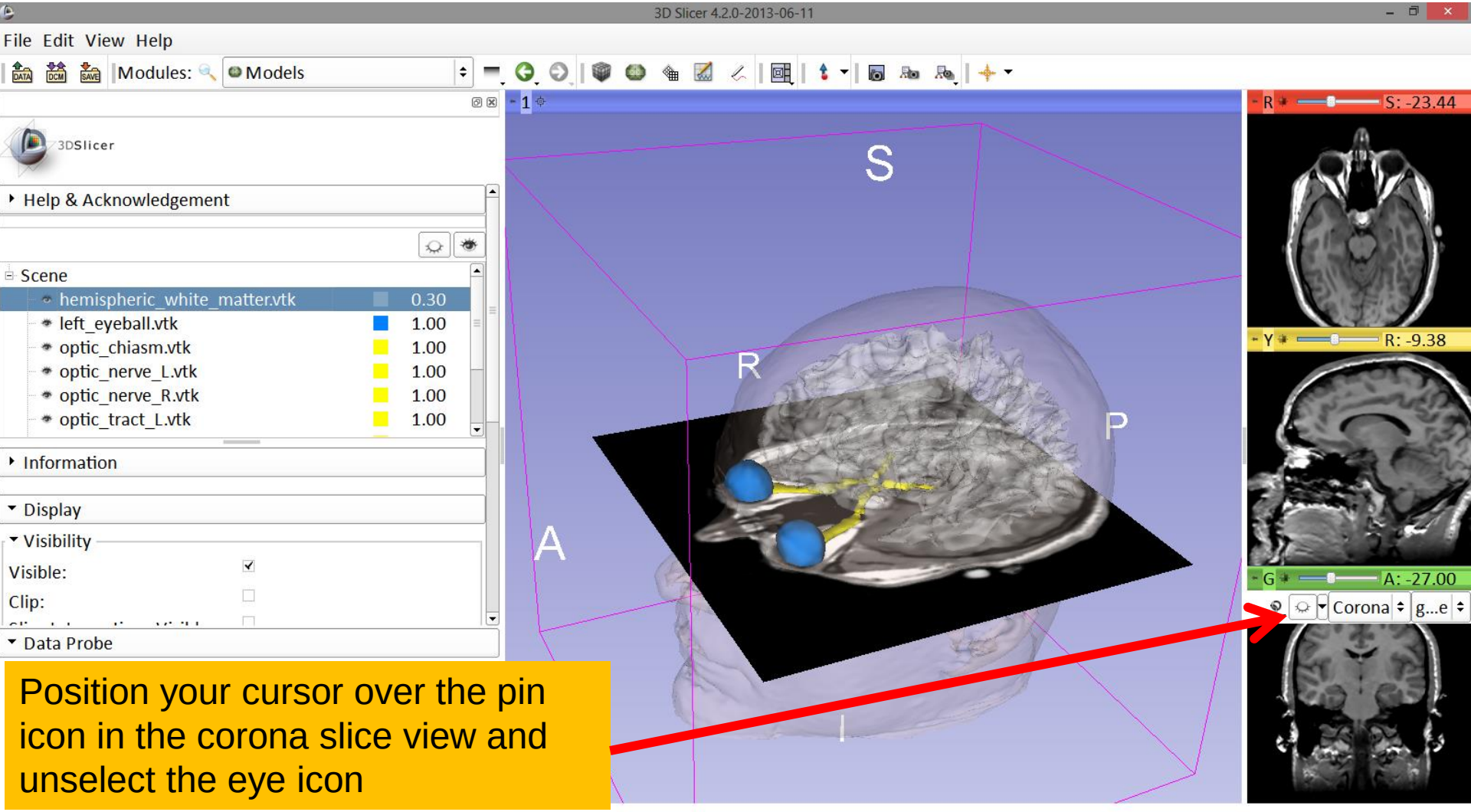


3D Visualization

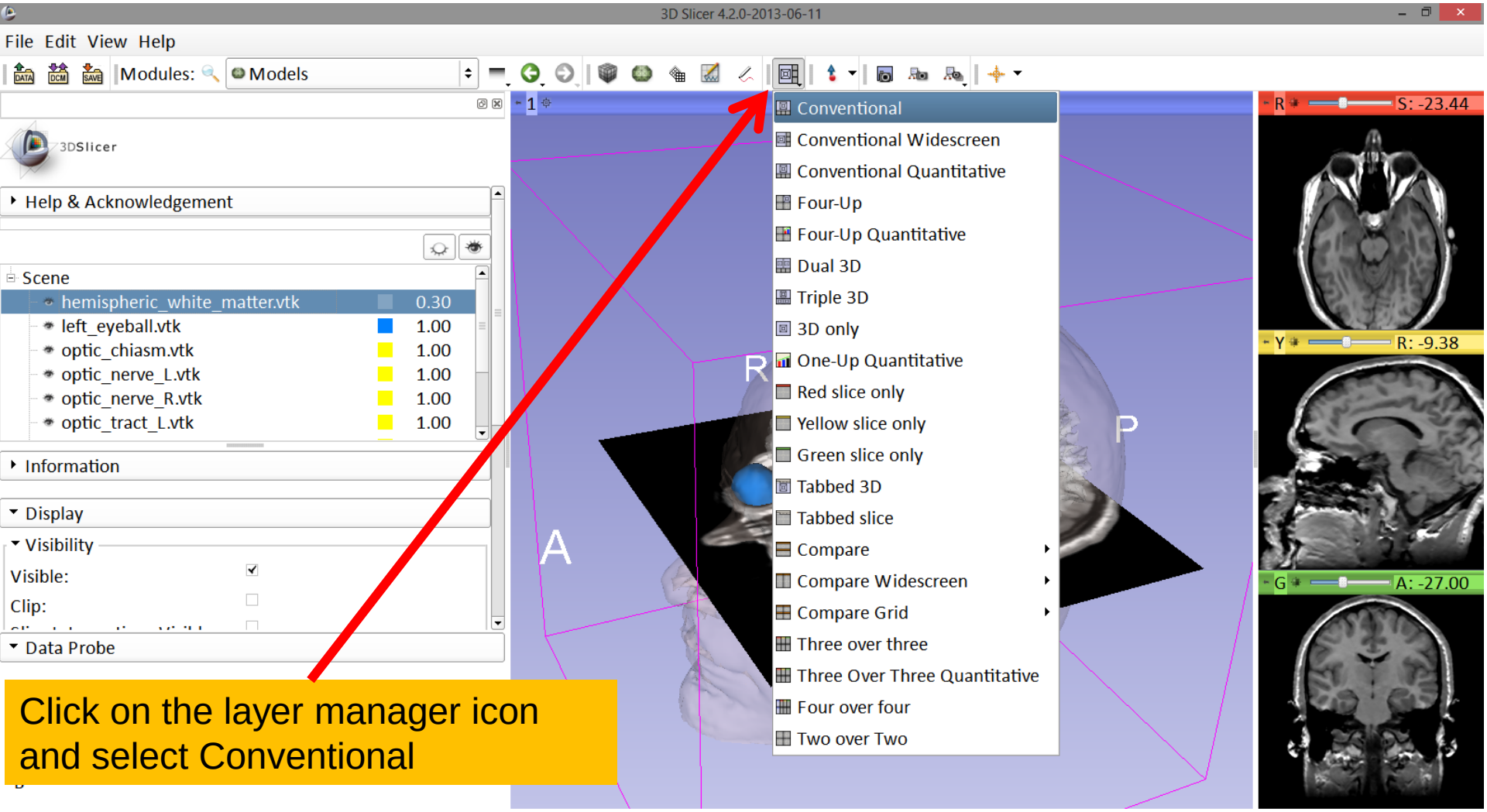


The intersection of the white matter surface with the 2D anatomical slices are shown in the 2D viewers

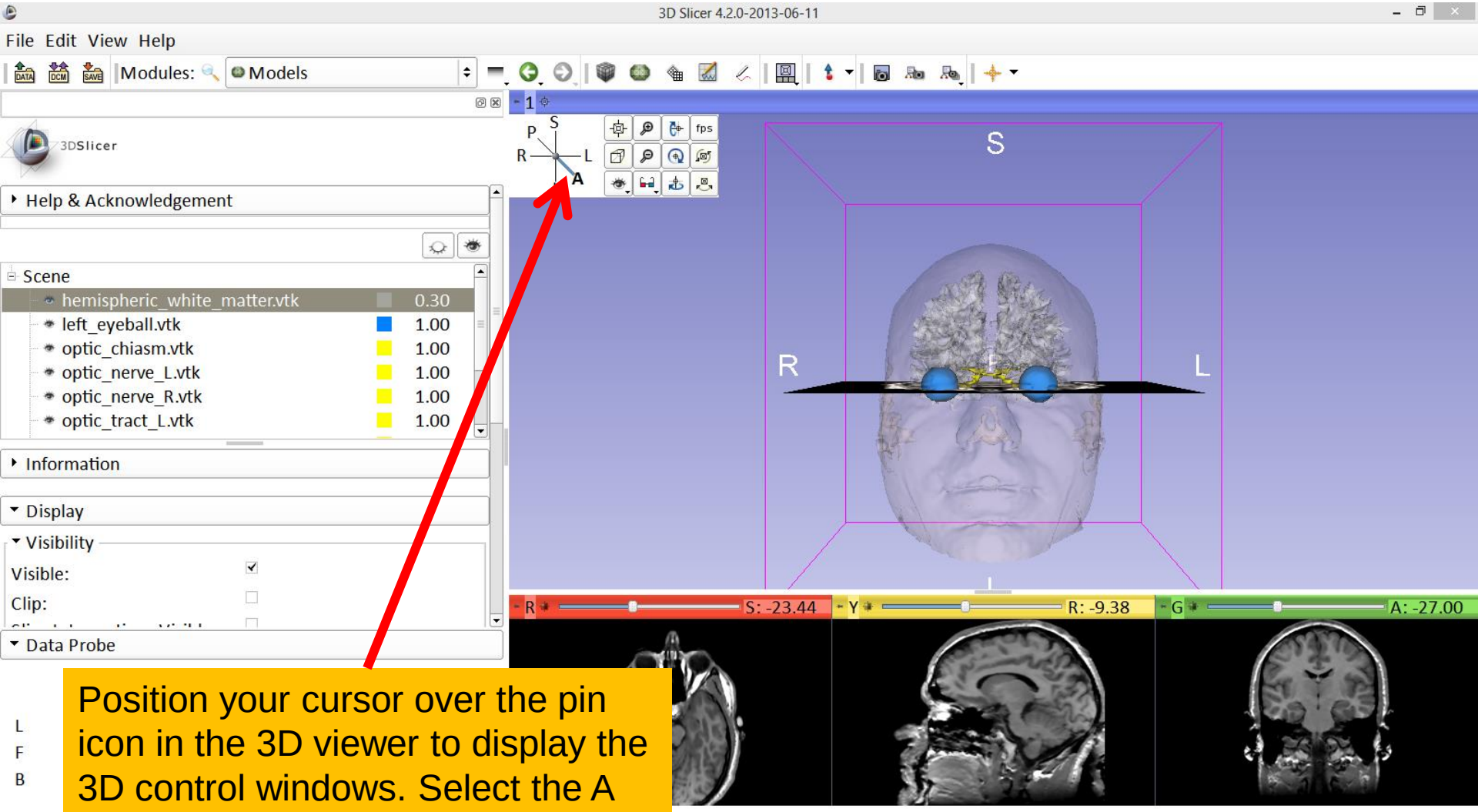
3D Visualization



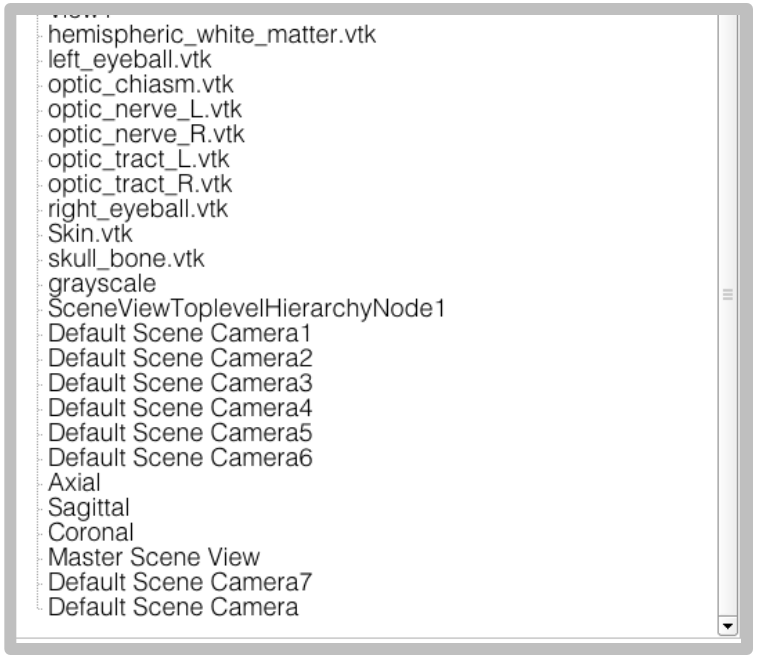
3D Visualization



3D Visualization



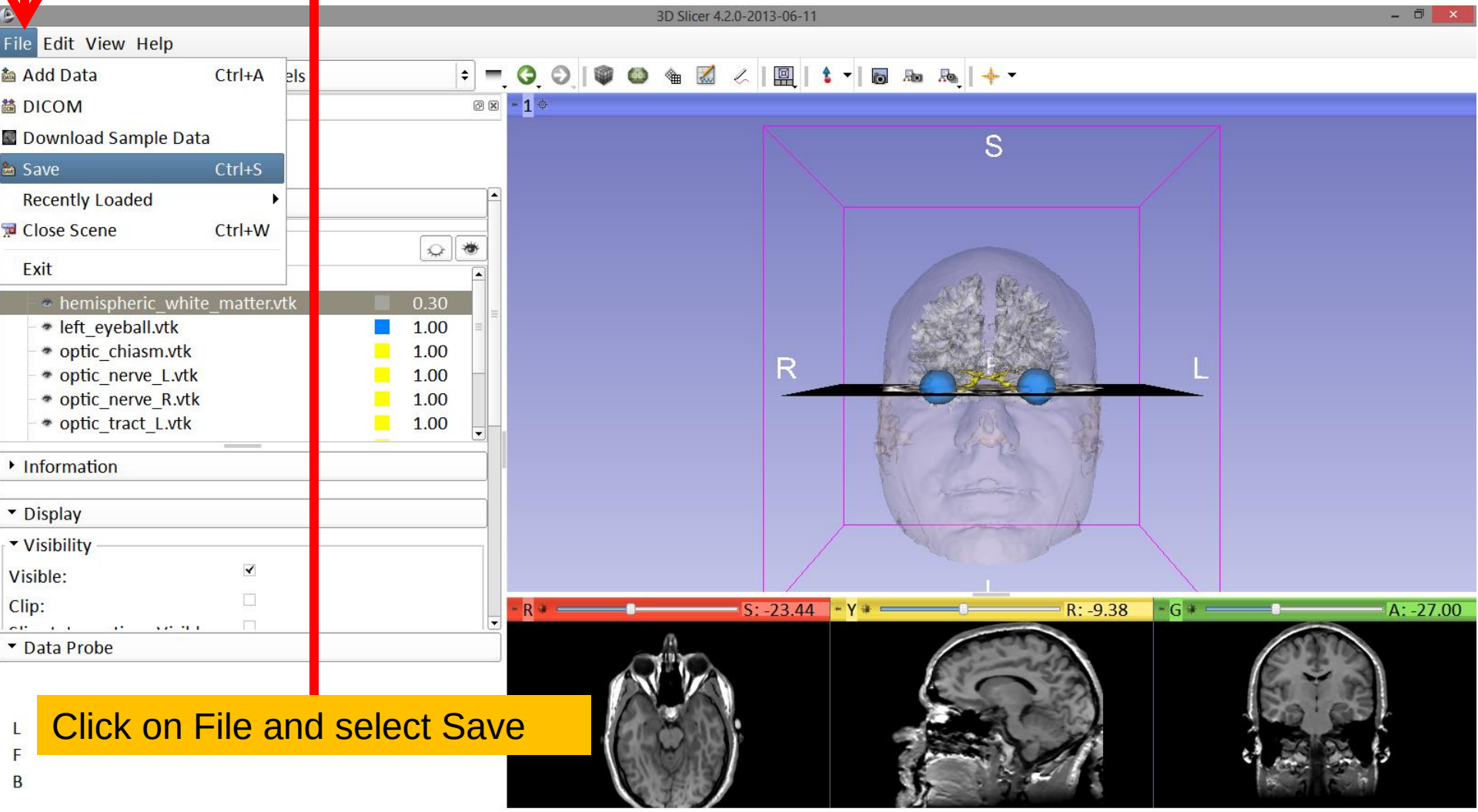
Position your cursor over the pin icon in the 3D viewer to display the 3D control windows. Select the A (Anterior) view of the 3D models



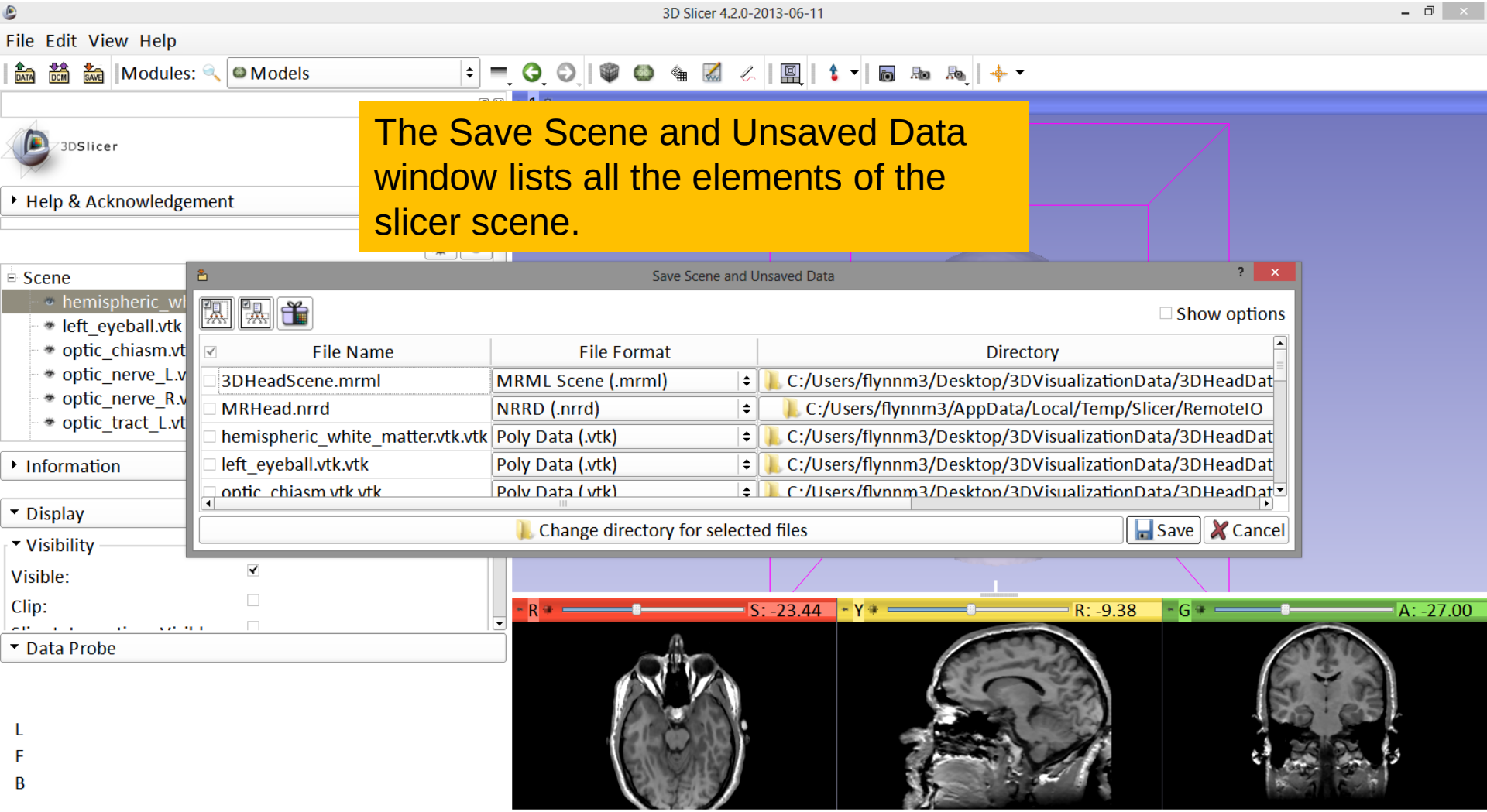
Part 3:

Saving a scene

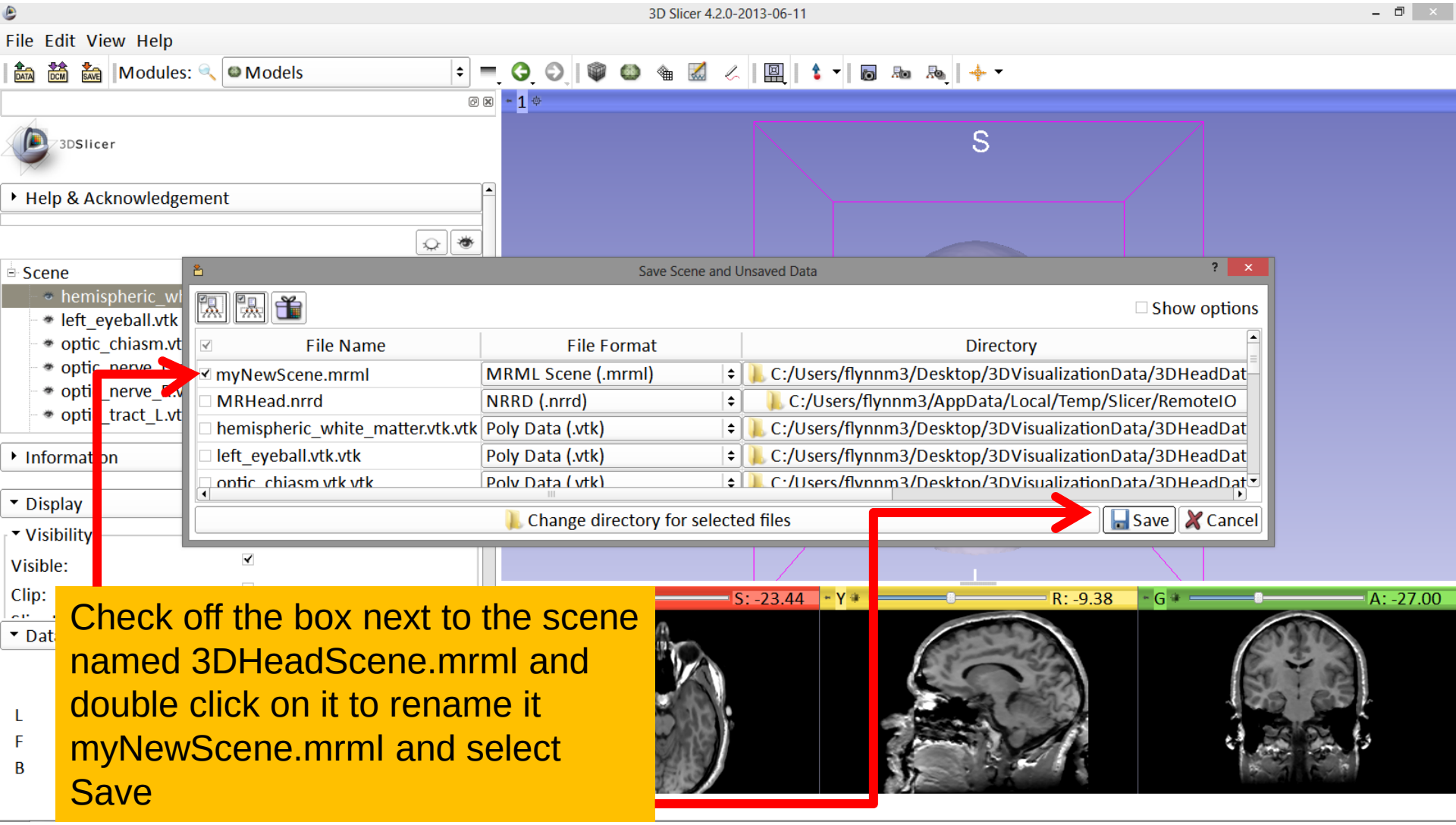
Saving a Scene



Saving a Scene

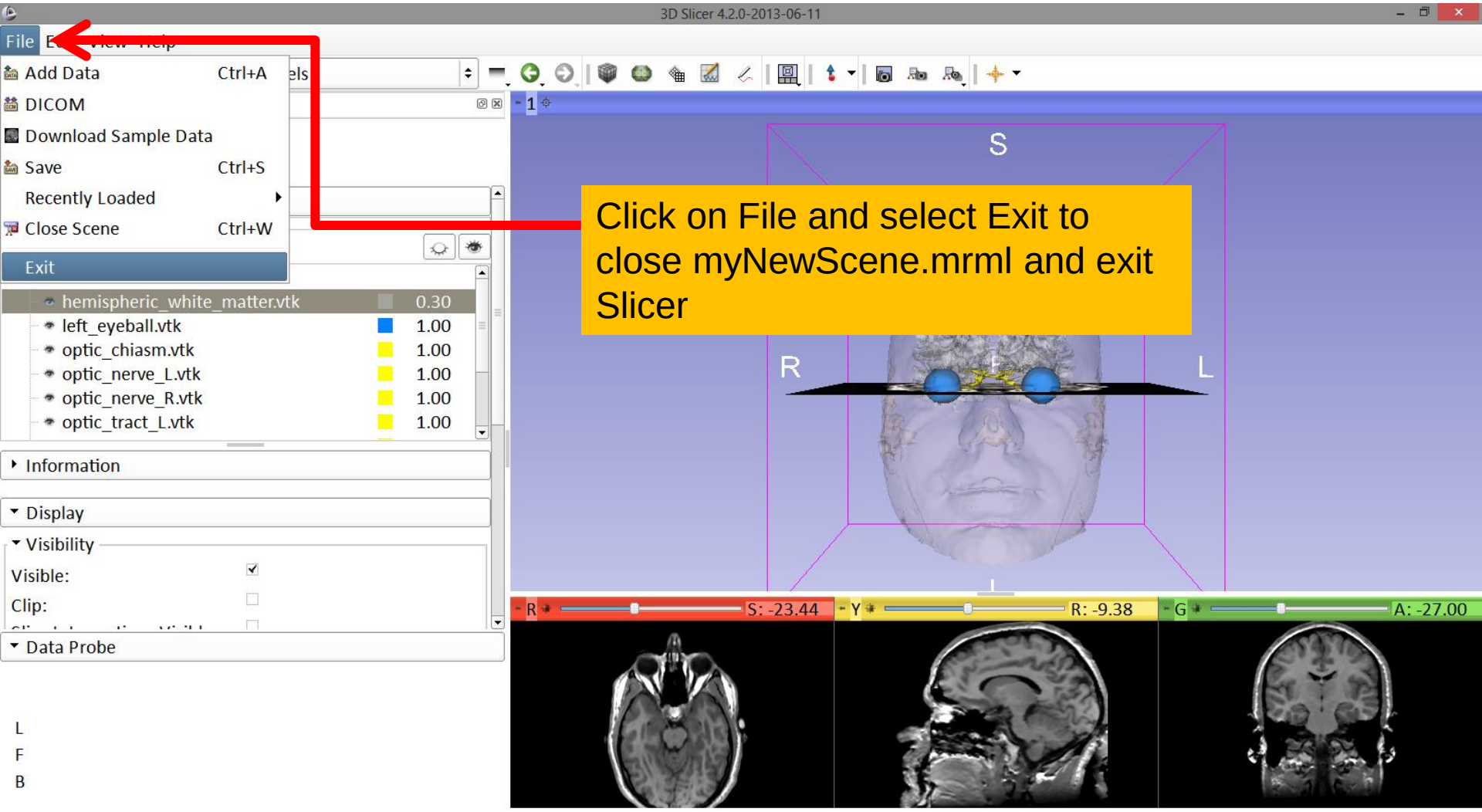


Saving a Scene

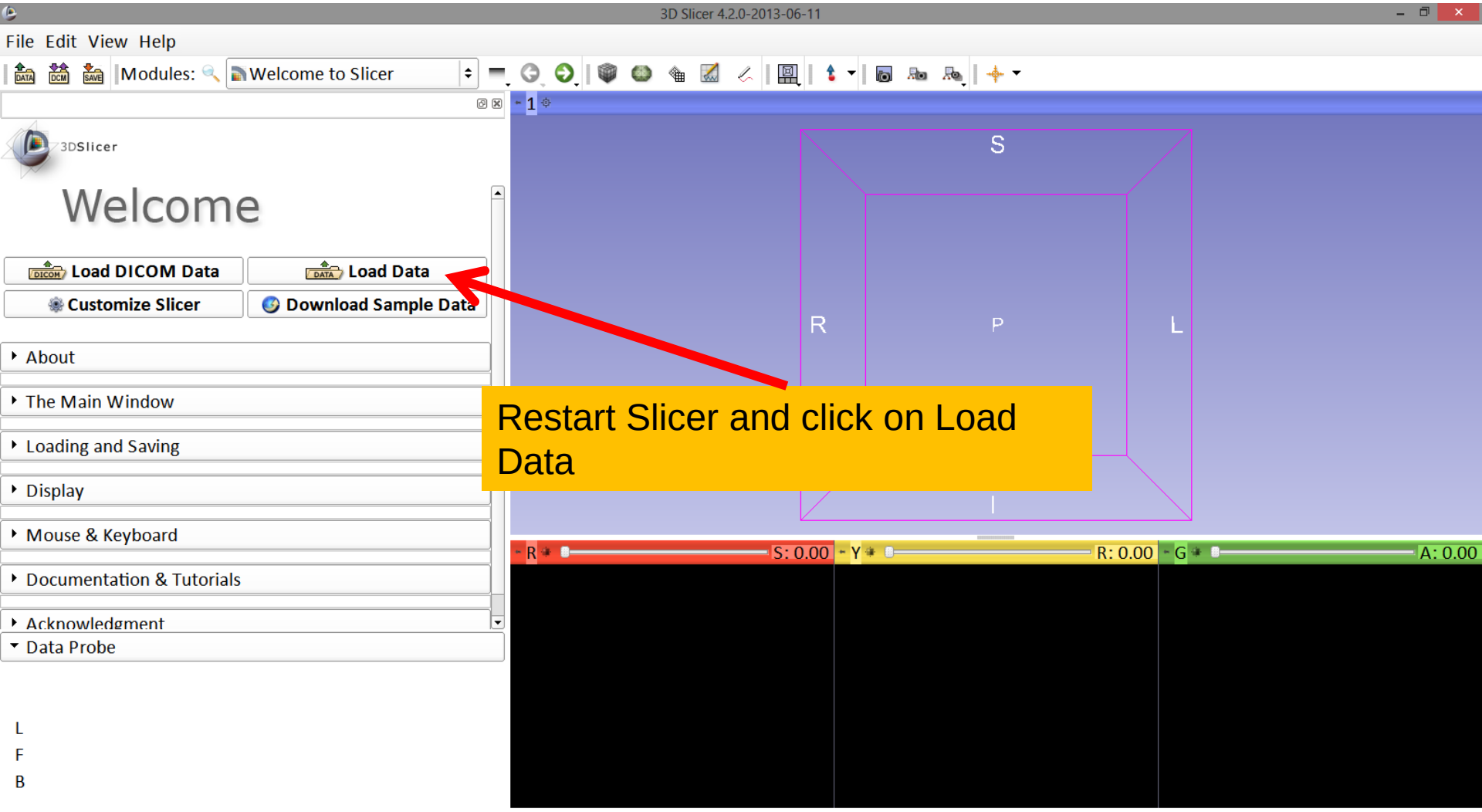


Check off the box next to the scene named 3DHeadScene.mrml and double click on it to rename it myNewScene.mrml and select Save

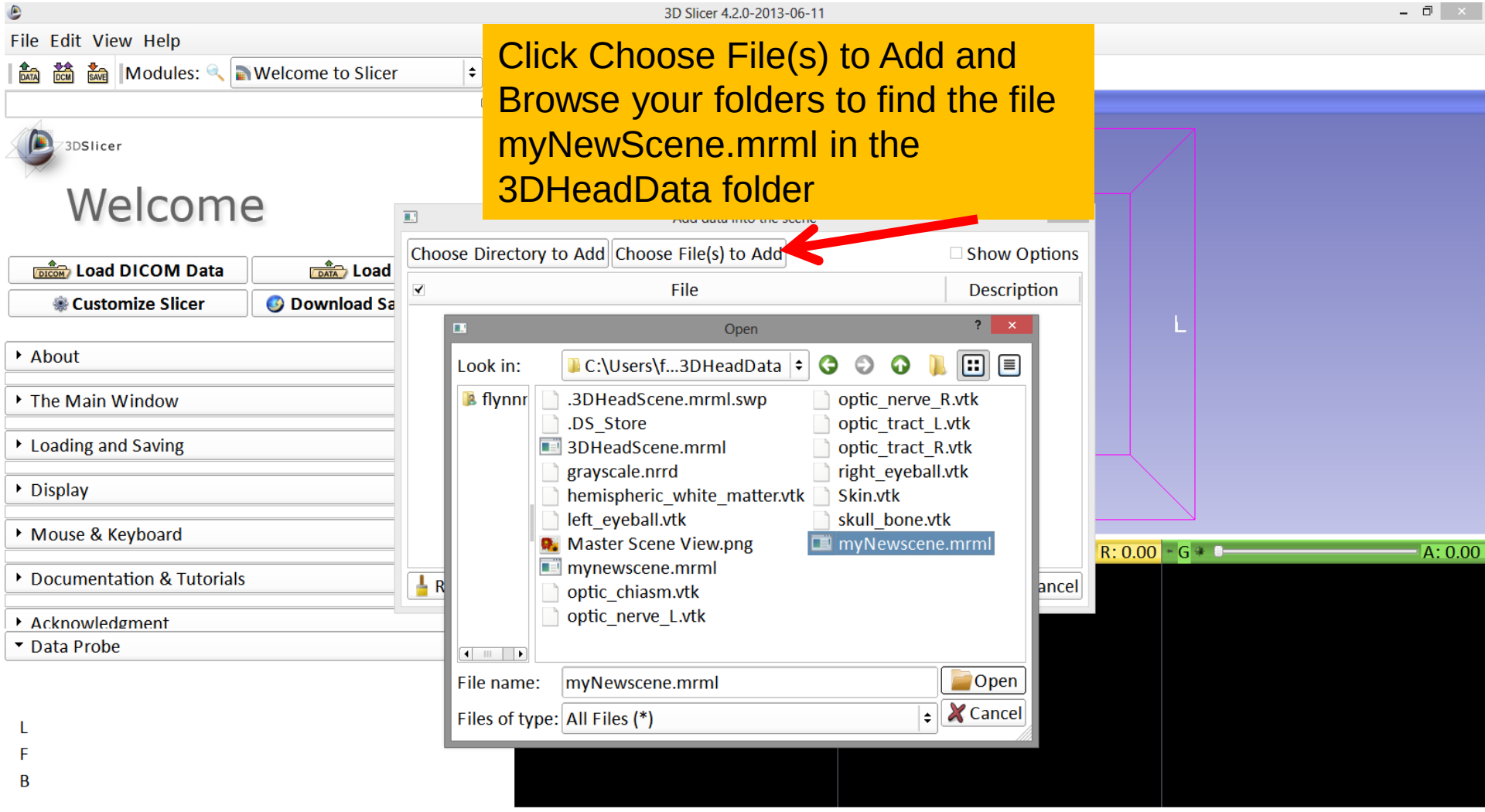
Saving a Scene



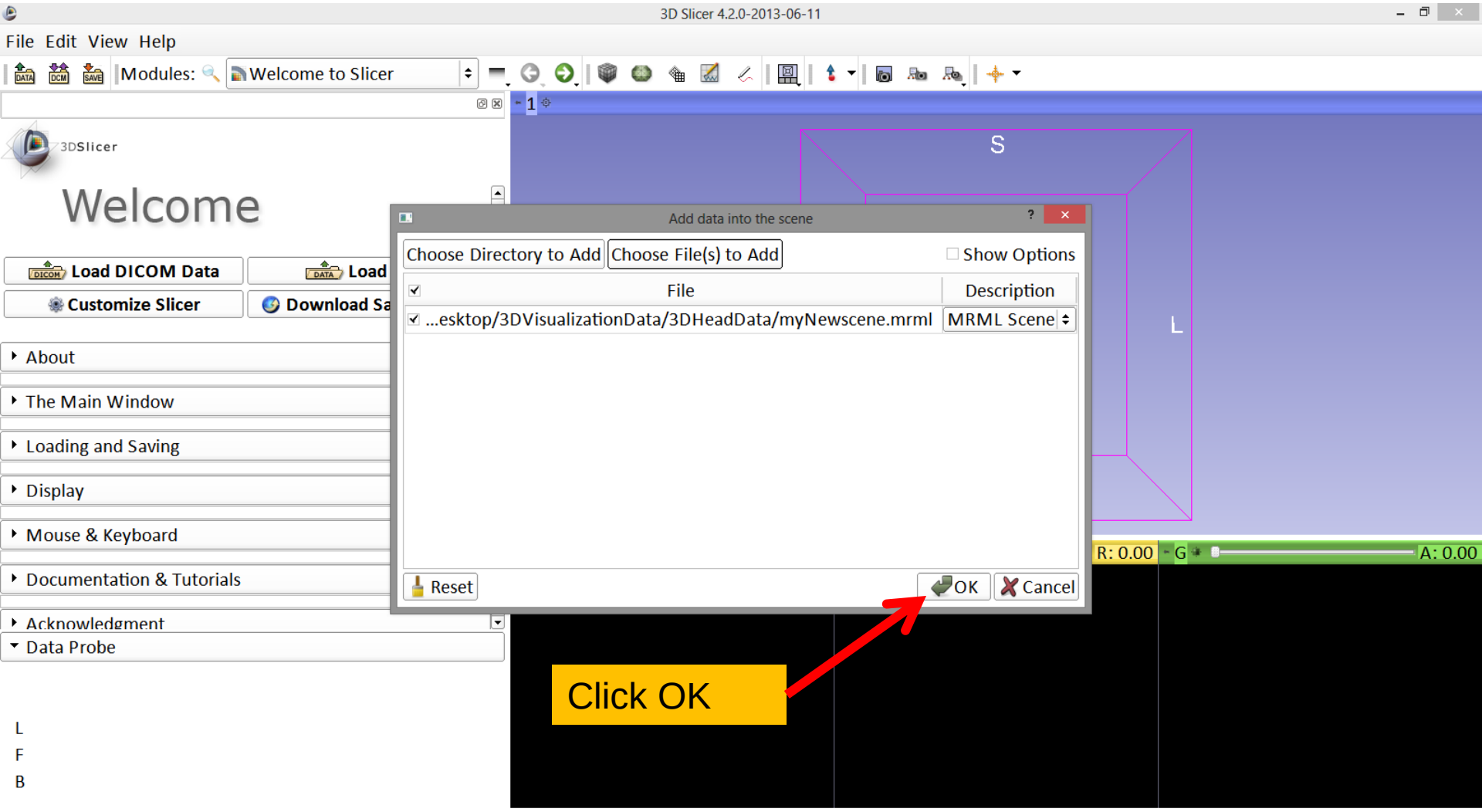
Scene Restore



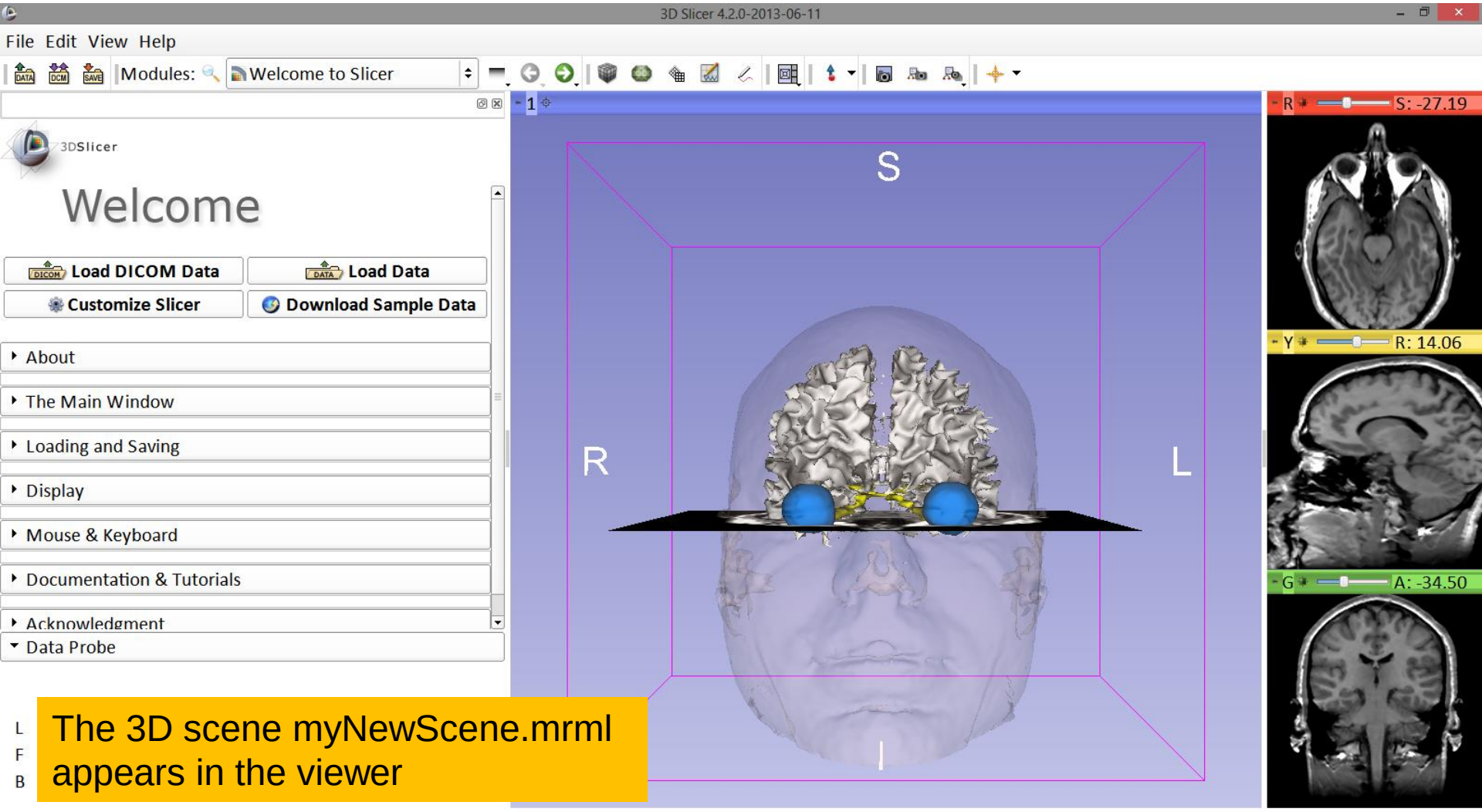
Scene Restore



Scene Restore



Slicer4



The 3D scene myNewScene.mrml appears in the viewer

Acknowledgments

- National Alliance for Medical Image Computing (NA-MIC)

  NIH U54EB005149

- Neuroimage Analysis Center (NAC)

  NIH P41RR013218

Parth Amin WIT ‘16

Matthew Flynn WIT ‘16