DICOM to NRRD Conversion Tutorial

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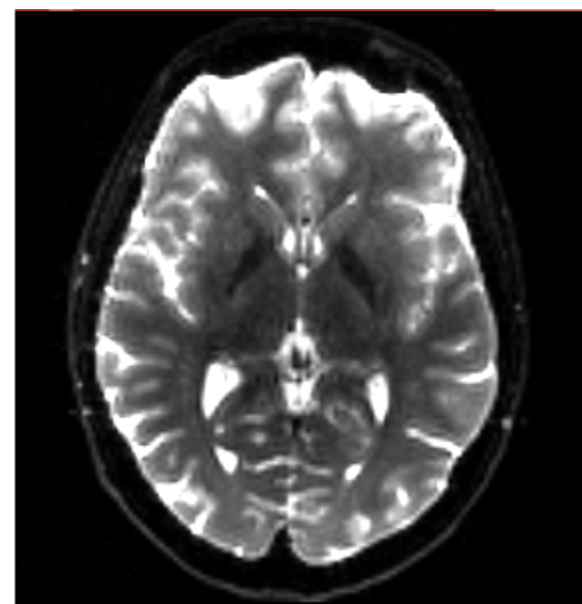
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DICOM to NRRD Tutorial

This tutorial guides you through the process of converting DICOM files from a DWI acquisition into a NRRD volume, load that DWI volume into 3D Slicer for further processing.

Dataset

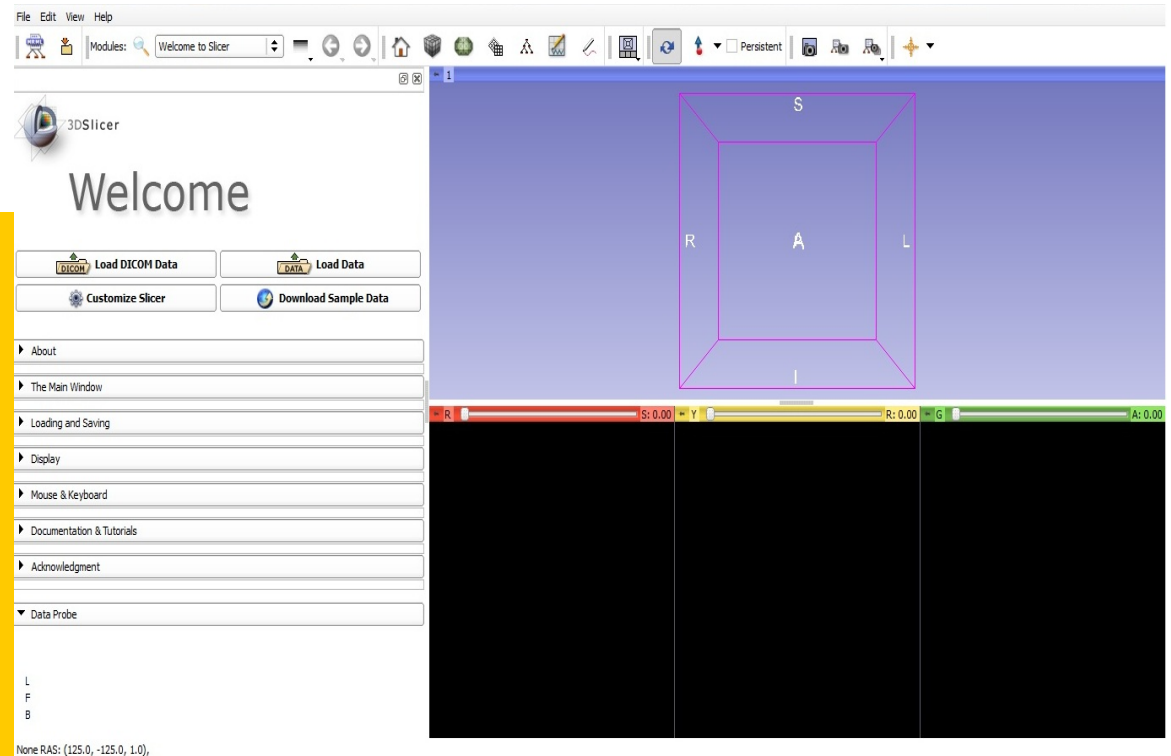For this tutorial you will need some DICOM data files that can be found on this link :
http://hdl.handle.net/1926/1759

Start Slicer 4

Linux/Mac users :

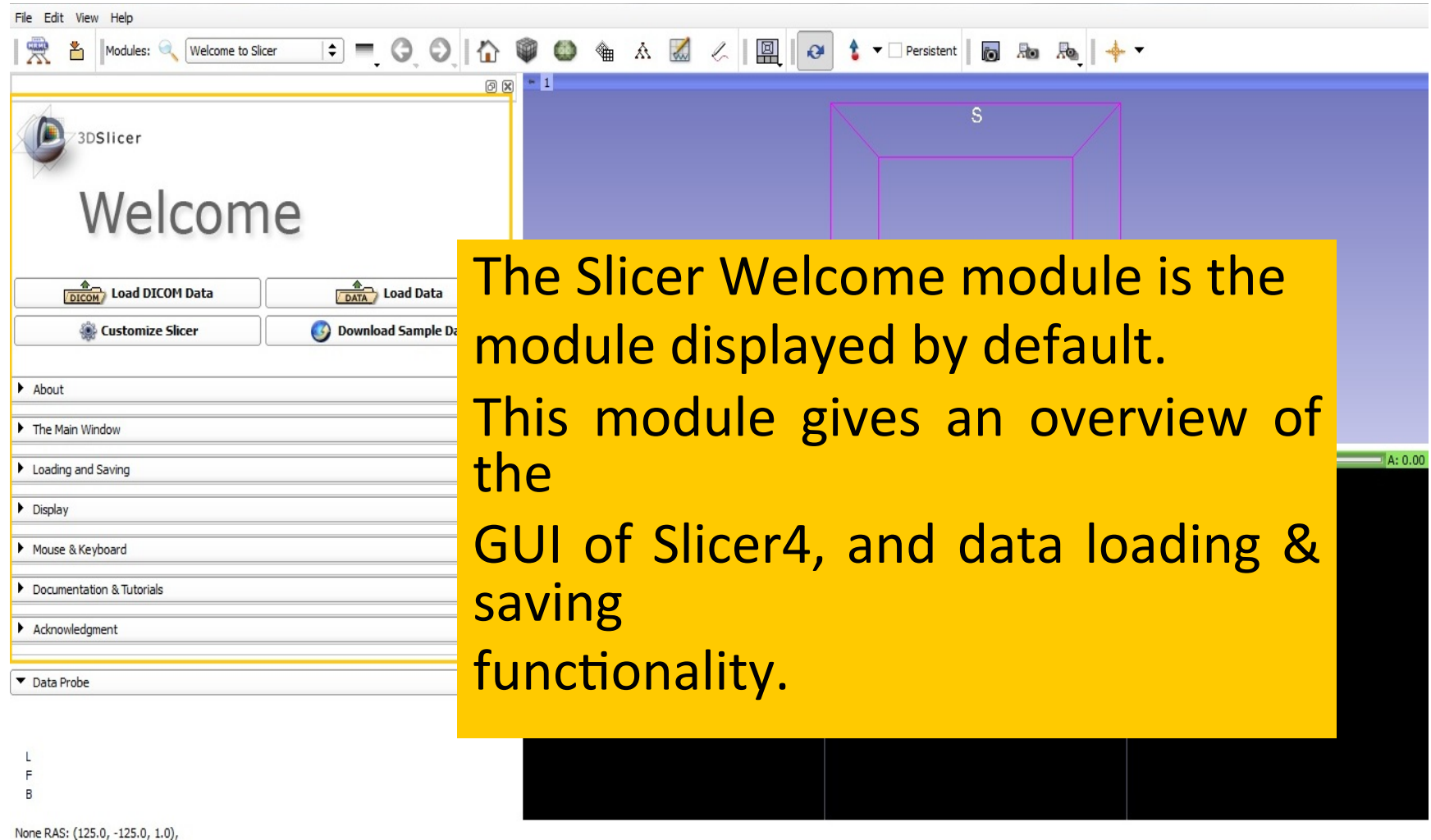Launch the Slicer executable located in the Slicer4 directory

Windows users :

Select Start→All Programs→Slicer4.0.1→Slicer

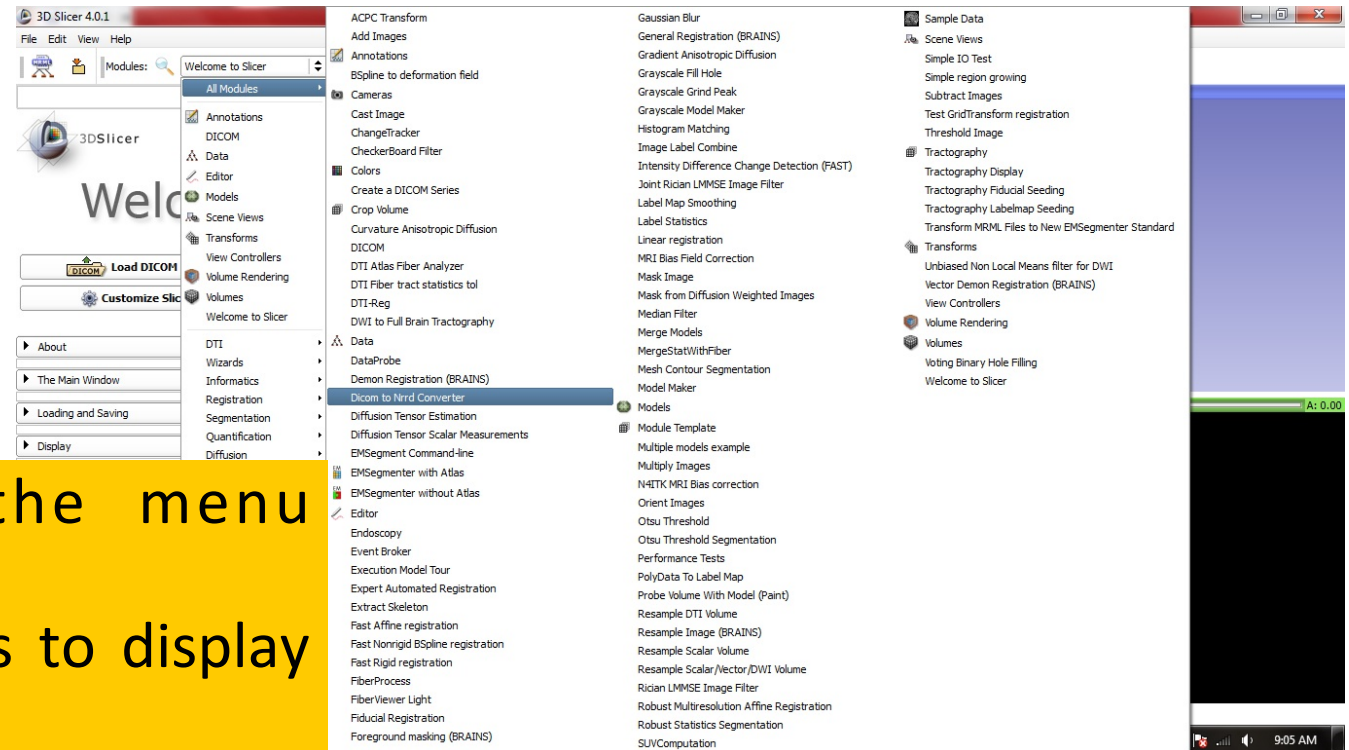Or launch the Slicer executable from Slicer4 directory

Welcome Module

The Slicer Welcome module is the module displayed by default.

This module gives an overview of the

GUI of Slicer4, and data loading & saving
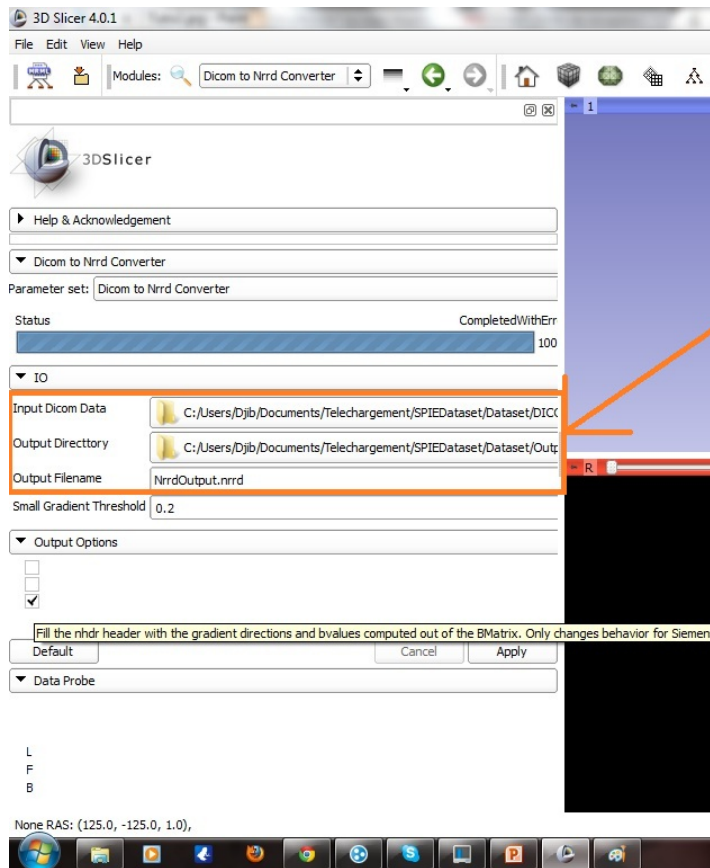
functionality.

DICOMtoNRRD Module

Left click on the menu Modules and

select All Modules to display the list

of modules available for image

analysis and 3D visualization.

Select the module Dicom to Nrrd converter

DICOMtoNRRD Module

Select the Input DICOM directory

Select the Output directory

Choose an Output name for your Nrrd file

DICOMtoNRRD Module

Left click on Output Option to get it extended

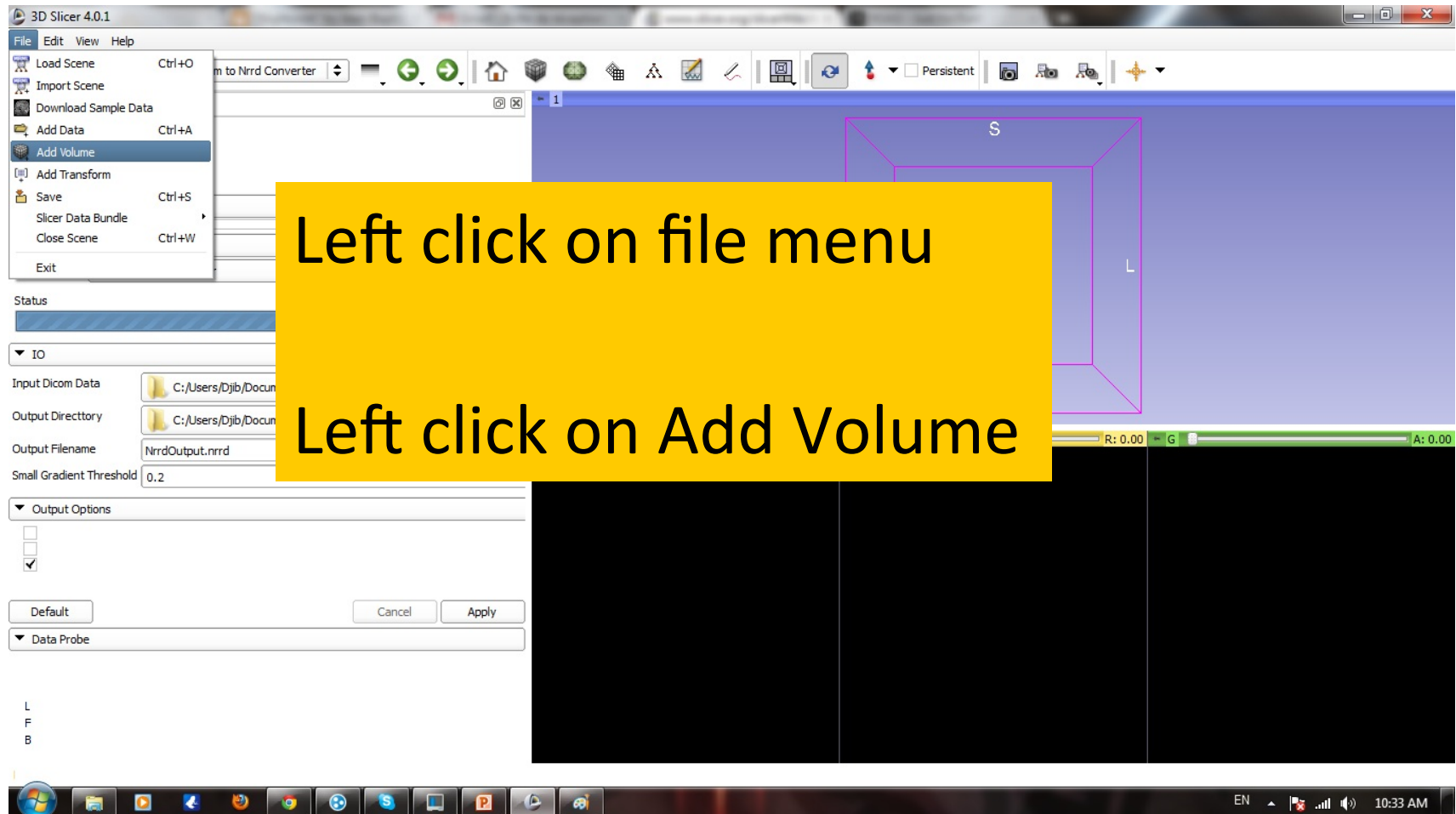Left click on the 3rd check box (If you leave the mouse near it, it will display the ToolTip)

Left click on Apply button
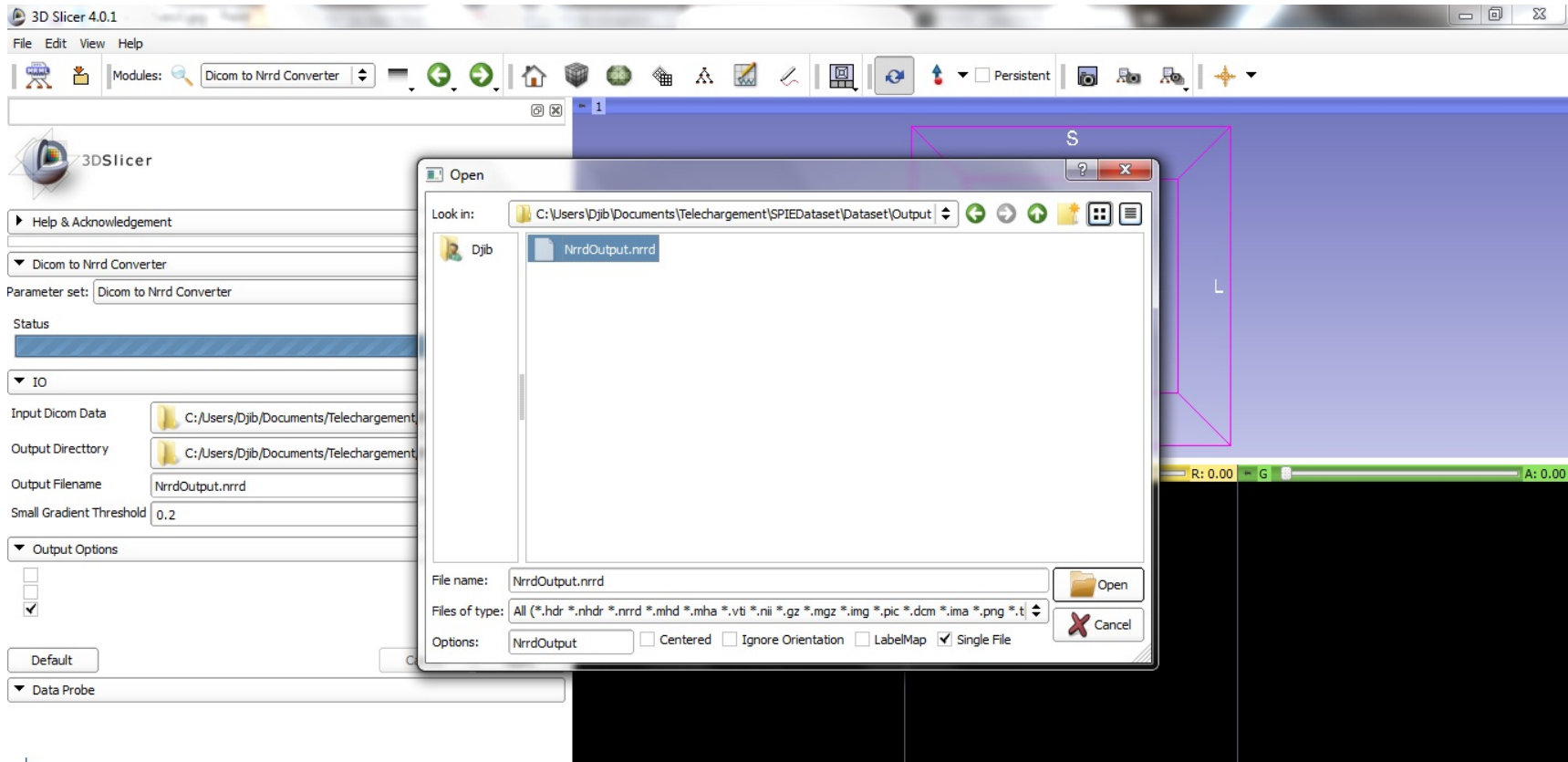
What does this 3rd box do?

- Uses B-matrix to compute the diffusion gradient information
  - B-Matrix is the actual diffusion matrix applied during acquisition
  - Principal eigenvector of B-Matrix is the diffusion gradient direction
- Potential for incorrect/inadequate information in the diffusion gradient direction
  - B-Matrix use is safest, if present
  - Siemens DICOM provide B-Matrix information
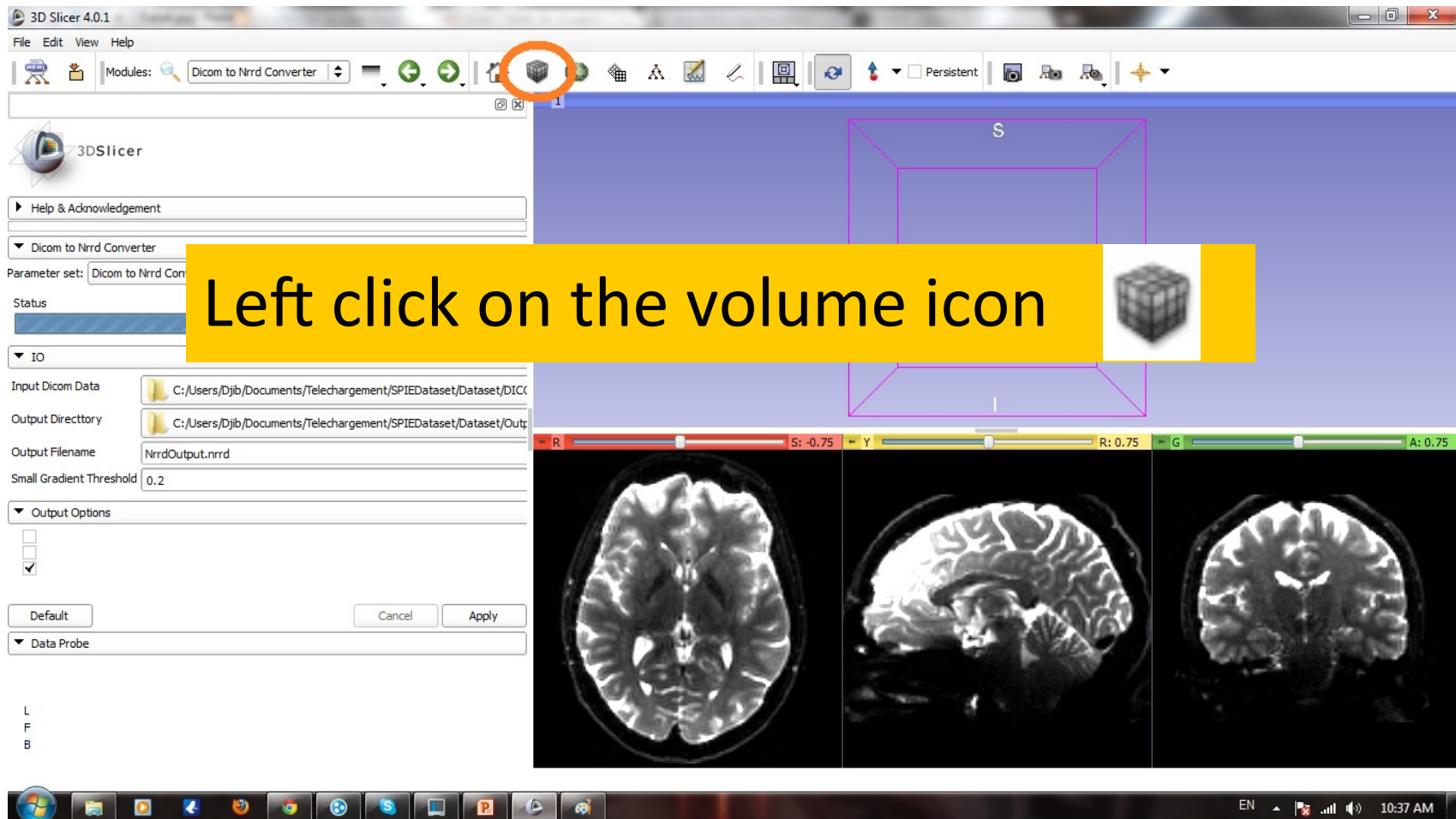
Loading DWI NRRD Volume

Left click on file menu

Left click on Add Volume

Adding Nrrd Volume

Select your previously created Nrrd volume

Volumes

Left click on the volume icon

Volumes

Select the volume you just opened in the "Active Volume" Section

Volumes

Choose the Lookup Table that suits best your needs

Conclusion

This tutorial guided you through the conversion from DICOM to NRRD file using Slicer 4 Software

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