

## DICOM Tractography Converter

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The aim is to convert between DICOM TrackSet and Slicer-style VTK tractography.

Following this tutorial, you'll be able to:

- 1) Save DICOM format tractography files in 3D Slicer
- 2) Load DICOM format tractography files into 3D Slicer
- 3) Convert between VTK format tractography files and DICOM format using command line

For more information about Tractography Supplement DICOM standard, please visit this website: http://www.dclunie.com





# The tutorial uses the 3D Slicer (Version 4.8.1, revision 26813, Stable Release) software available at:

http://download.slicer.org

Disclaimer:

It is the responsibility of the user of 3DSlicer to comply with both the terms of the license and with the applicable laws, regulations and rules. Slicer is a tool for research, and is not FDA approved.



An open-source project to improve and extend diffusion magnetic resonance imaging software in 3D Slicer:

http://dmri.slicer.org

Please visit the following website to install Slicer dMRI: http://dmri.slicer.org/download/

## **Tutorial Data**



#### Download sample data, at:

https://www.na-mic.org/Wiki/images/f/fc/Example\_data.zip

### The following data are provided:

- DICOM image
- Whole brain tractography (conducted using UKF tractography from the same data) in VTK format.

**NOTE:** Both use cases require a reference diffusion-weighted MRI DICOM scan. The reference scan must be the DICOM data from which the tractography was created.

For more information about UKF tractography, please follow this tutorial: https://dmri.slicer.org/docs/tutorials/UKFTractography.pdf

UKF

The UKF tutorial B guides through the use of the Unscented Kalman Filter (UKF) tractography module.

Author: Pegah Kahali, Brigham and Women's Hopital

Dataset: UKF tutorial Dataset 🛛





#### Load VTK file





#### Load VTK file





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#### Convert between DICOM TrackSet and Slicerstyle VTK tractography in CLI mode.

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EXAMPLE\_DATA\_FOLDER=/Users/fan/Desktop/example\_data/

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Command for Tractography DICOM Save:

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Command for Tractography DICOM Load:

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## Conclusion





This tutorial guided you to convert between DICOM TrackSet and Slicer-style VTK tractography.

Support: https://discourse.slicer.org



**Open Source Diffusion MRI Technology For Brain Cancer Research** NIH U01CA199459

**National Center for Image Guided Therapy (NCIGT)** NIH P41EB015898

Neuroimage Analysis Center (NAC) NIH P41EB015902

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