

Diffusion MRI Software

DiPy, TRN and Fosl

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- 1 Overview
- 2 Dtk + trackvis
- 3 Fsl/fdt
- 4 Dipy/trn
- 5 Fos

A bit less than 30 tools

- AFNI (via a diffusion plug-in, C/C++)
- Camino (Java)
- GTract (C++)
- FSL/FDT(shell, C/C++)
- DTK/TrackVis(closed source)
- med- INRIA (currently closed source, C/C++)
- DTI-Query (C/C++)
- CINCH (closed source)
- mrDiffusion (Matlab with links to C/C++ code)
- ConTrack (C/C++)
- Biolmage Suite (C/C++)
- DTI Studio (closed source, Windows only)
- 3D Slicer (C/C++ with Python shell)
- BrainVISA (Python/C/C++, some closed source)
- Diffusion II (Matlab)
- DST (C/- Fortran)

Wait there are some more

- BRAINS (closed source; C/C++/Python/Tcl/Tk/Bash)
- DSI Studio (closed source, Windows only)
- MRtrix (C++)
- Numerical Fibre Generator (C/C++)
- JDTI (Java; ImageJ plugin)
- fibertracker / fiberviewer (closed source)
- DTIChecker (closed source)
- ExploreDTI (Matlab, no source available at time of writing)
- CATNAP (Matlab; uses FSL, dtiproc)
- dtiproc (Java).
- TractoR (R).

- Deterministic Tractography.
- Very fast.
- Many propagation models.
- Not enough documentation.
- No analysis between subjects.
- Show demo.

- Dtifit
- BedpostX / Probabilistic tractography (slow...).
- TBSS
- Documentation / FSL List.
- Use practicals.

- Mori Atlas
- LONI ICBM DTI-81
- Fiber Pathways of the Brain by Schmahmann and Pandya

- DiPy (Diffusion Imaging in Python).
- Part of NiPy (Neuroimaging in Python).
- Using volumeimages i.e. reading Nifti, Analyze files.
- Reads Trackvis *.trk files.
- Detects tracks.
- Detects bundles.
- Finds “important” tracks ('skeletal').

- 3d engine
- Using python-vtk
- Picking tracks.
- Visualizing volumes with tracks together.
- Visualizing multiple track brains simultaneously.
- Show demo.