

Resource Summary Report

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DTI and Fibertools Software Package

RRID:SCR_001641

Type: Tool

Proper Citation

DTI and Fibertools Software Package (RRID:SCR_001641)

Resource Information

URL: <https://www.uniklinik-freiburg.de/mr-en/research-groups/diffperf/fibertools.html>

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Description: Implemented under MATLAB, this DTI image processing toolbox provides import-filters for several MR file standards, a processing unit to calculate the diffusion tensors; several GUI based tools to calculate fiber tracks and to evaluate the DTI dataset. The results can be filed as images with 3D impression or can be logged in formatted ASCII files. Tools and features: * DTI Processing Unit: Calculates the diffusion tensors and their eigenvalues and eigenvectors. Different file formats are supported (like DICOM, Bruker, binary files, Matlab structures). The standard SIEMENS and GE diffusion encoding schemes are supported; other schemes have to be defined in a separate text, .m or .mat file. * FiberTracking: ** Fiber tracking is realized by using the FACT algorithm (Mori et al., Annal. Neurol 1999). ** Probabilistic tracking realized by using the PiCo (Parker et al., JMRI 2003) approach but with DTI data as basis. It is possible to extract pathways between two seeds by combining two maps (Kreher et al., NeuroImage 2008). ** Global Fiber Tracking on basis of HARDI or DTI data. The method is based on the approach reported in (Marco Reisert et al: Global fiber reconstruction becomes practical. NeuroImage 54(2):955-62) * FiberViewer: ** Visualization and Navigation through different data modalities like DTI maps, fiber tracks, diffusion main directions. ** Supports different kinds of DTI maps (e.g. FA, Trace, lambda images) ** Creation and manipulation of mask based ROIs. ** Selection of streamline fibers ** Visualization of probabilistic fiber tracking results ** Documentation by logging statistics of ROIs and fiber tracks into text files. ** Import/Export from/to ANALYZE or Nifti * 3D Visualizer: Visualization of map slices, ROIs, and fiber tracks with 3D impression. * Batch Editor: Automatic processing of high amounts of data. Possibility to link processing with SPM8 easily.

Abbreviations: DTI and Fibertools, DTI&FiberTools

Synonyms: DTI & Fibertools

Resource Type: software resource, image processing software, software toolkit, data processing software, software application

Keywords: diffusion, dti, fiber tracking, diffusion tensor, visualization, navigation

Availability: Free, Available for download, Freely available

Resource Name: DTI and Fibertools Software Package

Resource ID: SCR_001641

Alternate IDs: nlx_153913

Record Creation Time: 20220129T080208+0000

Record Last Update: 20260807T042526+0000

Ratings and Alerts

No rating or validation information has been found for DTI and Fibertools Software Package.

No alerts have been found for DTI and Fibertools Software Package.

Data and Source Information

Source: [SciCrunch Registry](#)

Usage and Citation Metrics

We found 5 mentions in open access literature.

Listed below are recent publications. The full list is available at [dkNET](#) .

Würtemberger U, et al. (2024) Advanced diffusion imaging reveals microstructural characteristics of primary CNS lymphoma, allowing differentiation from glioblastoma. Neuro-oncology advances, 6(1), vdae093.

Würtemberger U, et al. (2022) Differentiation of Perilesional Edema in Glioblastomas and Brain Metastases: Comparison of Diffusion Tensor Imaging, Neurite Orientation Dispersion and Density Imaging and Diffusion Microstructure Imaging. Cancers, 15(1).

Zifan A, et al. (2018) Connectivity of the Superficial Muscles of the Human Perineum: A Diffusion Tensor Imaging-Based Global Tractography Study. Scientific reports, 8(1), 17867.

Horn A, et al. (2016) Toward a standardized structural-functional group connectome in MNI space. NeuroImage, 124(Pt A), 310.

Klein E, et al. (2013) Processing pathways in mental arithmetic--evidence from probabilistic fiber tracking. PloS one, 8(1), e55455.