

Resource Summary Report

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MRtrix

RRID:SCR_006971

Type: Tool

Proper Citation

MRtrix (RRID:SCR_006971)

Resource Information

URL: <http://www.brain.org.au/software/mrtrix/>

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Description: A set of tools to perform diffusion-weighted MRI white matter tractography in the presence of crossing fibres, using Constrained Spherical Deconvolution (Tournier et al., 2004; Tournier et al., 2007), and a probabilistic streamlines algorithm (e.g. Behrens et al., 2003; Parker et al., 2003). These applications have been written from scratch in C++, using the functionality provided by the GNU Scientific Library, and gtkmm. The software is currently capable of handling DICOM, NIfTI and AnalyseAVW image formats, amongst others. Installation * Unix/Linux * Microsoft Windows * Mac Os X, THIS RESOURCE IS NO LONGER IN SERVICE. Documented on September 16, 2025.

Abbreviations: MRtrix

Resource Type: data processing software, software toolkit, source code, software resource, software application

Keywords: white matter tractography, diffusion mri, tractography, fiber tracking, crossing fiber, constrained spherical deconvolution, diffusion mr fiber tracking, image display, dti, linux, c++, analyze, bshort, bfloat, dicom, nifti-1, magnetic resonance

Availability: THIS RESOURCE IS NO LONGER IN SERVICE

Resource Name: MRtrix

Resource ID: SCR_006971

Alternate IDs: nlx_153918

Alternate URLs: <http://www.nitrc.org/projects/mrtrix/>, <https://sources.debian.org/src/mrtrix/>

License: GNU GPL

Record Creation Time: 20220129T080239+0000

Record Last Update: 20260731T042730+0000

Ratings and Alerts

No rating or validation information has been found for MRtrix.

No alerts have been found for MRtrix.

Data and Source Information

Source: [SciCrunch Registry](#)

Usage and Citation Metrics

We found 205 mentions in open access literature.

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

Kanel D, et al. (2025) Structure-function coupling in network connectivity and associations with negative affectivity in a group of transdiagnostic adolescents. *Journal of mood and anxiety disorders*, 9.

Ruan J, et al. (2025) Connectional differences between humans and macaques in the MT+ complex. *iScience*, 28(1), 111617.

Dollomaja B, et al. (2025) Virtual epilepsy patient cohort: Generation and evaluation. *PLoS computational biology*, 21(4), e1012911.

Tinney EM, et al. (2025) White matter microstructure mediates the association between cardiorespiratory fitness and cognitive performance in older adults. *Alzheimer's & dementia (New York, N. Y.)*, 11(3), e70125.

Beyer F, et al. (2025) Exploring the effect of multi-modal intervention against cognitive decline on atrophy and small vessel disease imaging markers in the AgeWell.de imaging study. *NeuroImage. Clinical*, 46, 103796.

Quabs J, et al. (2025) Structural Connectivity Differences Reflect Microstructural Heterogeneity of the Human Insular Cortex. *Human brain mapping*, 46(8), e70231.

Raikes AC, et al. (2025) White matter micro- and macrostructural properties in midlife individuals at risk for Alzheimer's disease: Associations with sex and menopausal status. *bioRxiv : the preprint server for biology*.

Haverland B, et al. (2025) Human cortical high-gamma power scales with movement rate in healthy participants and stroke survivors. *The Journal of physiology*, 603(4), 873.

Popp JL, et al. (2025) Structural-functional brain network coupling during cognitive demand reveals intelligence-relevant communication strategies. *Communications biology*,

8(1), 855.

Wallstein N, et al. (2025) An unconstrained four pool model analysis of proton relaxation and magnetization transfer in ex vivo white matter. *Scientific reports*, 15(1), 4354.

Hu HY, et al. (2025) Microstructural white matter injury contributes to cognitive decline: Besides amyloid and tau. *The journal of prevention of Alzheimer's disease*, 12(2), 100037.

Rivas-Fernández MÁ, et al. (2025) Brain microstructure alterations in subjective cognitive decline: a multi-component T2 relaxometry study. *Brain communications*, 7(1), fcac017.

Wang Z, et al. (2025) Along-Tract Diffusion Alterations in the Dentato-Rubro-Thalamic Tract Correlate With Motor and Cognitive Decline in Huntington's Disease. *Human brain mapping*, 46(11), e70305.

Sahlas E, et al. (2025) Alterations in Cortical Microstructure, Morphology, and Intrinsic Local Function in Spiking Tissue in Patients With Focal Epilepsy. *Neurology*, 104(12), e213733.

Witt AA, et al. (2025) Tract-specific analysis of diffusion MRI at 3T detects cervical spinal cord aberrations in multiple sclerosis. *Imaging neuroscience (Cambridge, Mass.)*, 3.

Uchida Y, et al. (2025) Quantification of perforant path fibers for early detection of Alzheimer's disease. *Alzheimer's & dementia : the journal of the Alzheimer's Association*, 21(4), e70142.

Schifani C, et al. (2025) In Vivo Cortical Microstructure: Relationships With Tauopathy and Cognitive Impairment in the Elderly. *Journal of neurochemistry*, 169(8), e70167.

Jansen J, et al. (2025) Differentiating unirradiated mice from those exposed to conventional or FLASH radiotherapy using MRI. *bioRxiv : the preprint server for biology*.

Perera MR, et al. (2025) Imaging and Image Processing Techniques for High-Resolution Visualization of Connective Tissue with MRI: Application to Fascia, Aponeurosis, and Tendon. *Journal of imaging*, 11(2).

Zhang K, et al. (2025) Brain plasticity associated with prolonged shooting training: a multimodal neuroimaging investigation from a cross-sectional study. *Frontiers in human neuroscience*, 19, 1530642.