

Resource Summary Report

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TORTOISE

RRID:SCR_001645

Type: Tool

Proper Citation

TORTOISE (RRID:SCR_001645)

Resource Information

URL: <https://github.com/QMICodeBase/TORTOISEV4>

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Description: An integrated and flexible software package for processing of DTI data, and in general for the correction of diffusion weighted images to be used for DTI and potentially for high angular resolution diffusion imaging (HARDI) analysis. It can be run on both Linux and Mac platforms. It is composed of two modules named DIFF PREP and DIFF CALC. * DIFF_PREP - software for image resampling, motion, eddy current distortion and susceptibility induced EPI distortion corrections, and for re-orientation of data to a common space * DIFF_CALC - software for tensor fitting, error analysis, color map visualization and ROI analysis In addition, TORTOISE contains additional Utilities, such as a tool for the analysis of multi-center phantom data.

Abbreviations: TORTOISE

Synonyms: Tolerably Obsessive Registration and Tensor Optimization Indolent Software Ensemble

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

Keywords: diffusion mri, dti, image motion correction, distortion correction, tensor computation, visualization, analysis, tensor fitting, modeling, magnetic resonance, tensor metric

Funding: NICHD

Availability: Free, Available for download, Freely available

Resource Name: TORTOISE

Resource ID: SCR_001645

Alternate IDs: nlx_153921

Alternate URLs: <http://www.nitrc.org/projects/tortoise>

License: Other/Commercial license License, TORTOISE License

Record Creation Time: 20220129T080208+0000

Record Last Update: 20260912T200007+0000

Ratings and Alerts

No rating or validation information has been found for TORTOISE.

No alerts have been found for TORTOISE.

Data and Source Information

Source: [SciCrunch Registry](#)

Usage and Citation Metrics

We found 108 mentions in open access literature.

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

Saleem KS, et al. (2026) Asymmetric scaling of cerebellar cortex and deep nuclei reshapes input-output architecture across primates. Research square.

Saleem KS, et al. (2026) Nonuniform scaling of cerebellar cortical-nuclear architecture across primates revealed by cross-species atlases. bioRxiv : the preprint server for biology.

Park JS, et al. (2026) Informed Dictionary-Guided Monte Carlo Inversion for Robust and Reproducible Multidimensional MRI. Magnetic resonance in medicine, 95(5), 2947.

Yüksel Dal D, et al. (2026) Local brain connectome parameters across the spectrum of clinical cognitive decline. Frontiers in neuroscience, 20, 1840382.

Di Stefano M, et al. (2025) Characterizing white matter hyperintensities in myotonic dystrophy type 1 through IVIM derived metrics. Scientific reports, 15(1), 42996.

Loução R, et al. (2025) Structural Connectivity of the Basal Ganglia from Patient-Individual Tractography Is Key for Understanding the Effects of Deep Brain Stimulation in Parkinson's Disease. Stereotactic and functional neurosurgery, 103(4), 279.

Szaflarski JP, et al. (2025) Exploratory study of peripheral immune changes associated with diffusion MRI multi-compartment model in temporal lobe epilepsy. Epilepsia, 66(12), 4910.

Schalk L, et al. (2025) White matter microstructure of the cingulum bundle and the uncinate fasciculus in primary and secondary callous-unemotional traits. *European child & adolescent psychiatry*, 34(12), 4035.

Sakaie K, et al. (2025) Diffusion tensor imaging in the SPRINT-MS clinical trial: Advancing trial methodology. *Multiple sclerosis journal - experimental, translational and clinical*, 11(3), 20552173251361225.

Jinnou H, et al. (2025) Outer radial glia promotes white matter regeneration after neonatal brain injury. *Cell reports. Medicine*, 6(3), 101986.

Saini F, et al. (2025) White matter trajectories in Down syndrome and Alzheimer's disease: Insights from diffusion tensor-based morphometry. *Alzheimer's & dementia : the journal of the Alzheimer's Association*, 21(6), e70382.

Bagautdinova J, et al. (2025) Anatomical White Matter Tracts Span the Cortical Hierarchy to Support Cognitive Diversity. *bioRxiv : the preprint server for biology*.

Roos A, et al. (2025) The impact of prenatal alcohol and tobacco exposure on white matter integrity in 8-12-year-old children. *NeuroImage. Clinical*, 48, 103886.

Wang S, et al. (2024) Post-mortem changes of anisotropic mechanical properties in the porcine brain assessed by MR elastography. *Brain multiphysics*, 6.

Magondo N, et al. (2024) Distinct alterations in white matter properties and organization related to maternal treatment initiation in neonates exposed to HIV but uninfected. *Scientific reports*, 14(1), 8822.

Madzime J, et al. (2024) Reduced white matter maturation in the central auditory system of children living with HIV. *Frontiers in neuroimaging*, 3, 1341607.

Donald KA, et al. (2024) Prenatal alcohol exposure and white matter microstructural changes across the first 6-7 years of life: A longitudinal diffusion tensor imaging study of a South African birth cohort. *NeuroImage. Clinical*, 41, 103572.

Pas KE, et al. (2024) Direct segmentation of cortical cytoarchitectonic domains using ultra-high-resolution whole-brain diffusion MRI. *bioRxiv : the preprint server for biology*.

Manninen E, et al. (2024) Variability of multidimensional diffusion-relaxation MRI estimates in the human brain. *Imaging neuroscience (Cambridge, Mass.)*, 2.

Comrie CJ, et al. (2024) Identification of diffusion, kurtosis, and propagator MRI markers of Alzheimer's disease pathology in post-mortem human tissue. *Imaging neuroscience (Cambridge, Mass.)*, 2.