

Resource Summary Report

Generated by T1D on Aug 3, 2026

NODDI Matlab Toolbox

RRID:SCR_006826

Type: Tool

Proper Citation

NODDI Matlab Toolbox (RRID:SCR_006826)

Resource Information

URL: <http://cmic.cs.ucl.ac.uk/mig/index.php?n=Tutorial.NODDI matlab>

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Description: This MATLAB toolbox implements a data fitting routine for Neurite Orientation Dispersion and Density Imaging (NODDI). NODDI is a new diffusion MRI technique for imaging brain tissue microstructure. Compared to DTI, it has the advantage of providing measures of tissue microstructure that are much more direct and hence more specific. It achieves this by adopting the model-based strategy which relates the signals from diffusion MRI to geometric models of tissue microstructure. In contrast to typical model-based techniques, NODDI is much more clinically feasible and can be acquired on standard MR scanners with an imaging time comparable to DTI.

Abbreviations: NODDI Matlab Toolbox

Resource Type: software toolkit, software resource

Keywords: analyze, matlab, magnetic resonance, nifti, os independent, neurite orientation dispersion and density imaging, diffusion mri

Availability: Artistic License

Resource Name: NODDI Matlab Toolbox

Resource ID: SCR_006826

Alternate IDs: nlx_155892

Alternate URLs: http://www.nitrc.org/projects/noddi_toolbox

Record Creation Time: 20220129T080238+0000

Record Last Update: 20260803T040448+0000

Ratings and Alerts

No rating or validation information has been found for NODDI Matlab Toolbox.

No alerts have been found for NODDI Matlab Toolbox.

Data and Source Information

Source: [SciCrunch Registry](#)

Usage and Citation Metrics

We found 25 mentions in open access literature.

Listed below are recent publications. The full list is available at [T1D](#).

Jiang S, et al. (2025) Cognitive Implications of White Matter Alterations in Overweight Chinese Individuals: An NODDI and DTI Study. *Brain and behavior*, 15(8), e70777.

Diamandi J, et al. (2025) Use of multi-modal non-contrast MRI to predict functional outcomes after stroke: A study using DP-pCASL, DTI, NODDI, and MAP MRI. *NeuroImage. Clinical*, 45, 103742.

Filip P, et al. (2025) Clinical and MRI Correlates of ??-Amyloid Load Inconsistent With Its Presumed Neurotoxicity in Cognitively Healthy Ageing. *Journal of neurochemistry*, 169(9), e70241.

Basaia S, et al. (2025) Unveiling hidden neurodegeneration in isolated REM sleep behavior disorder through MRI microstructure and glymphatic flow. *NPJ Parkinson's disease*, 11(1), 346.

Gallotti AL, et al. (2025) Non-invasive identification of mesenchymal glioblastoma using quantitative radiomic features from advanced diffusion MRI: a preclinical-to-clinical transfer learning strategy. *European radiology experimental*, 9(1), 111.

Agosta F, et al. (2025) Modelling pathological spread through the structural connectome in the frontotemporal dementia clinical spectrum. *Brain : a journal of neurology*, 148(6), 1994.

Danciut I, et al. (2024) Understanding the mechanisms of fatigue in multiple sclerosis: linking interoception, metacognition and white matter dysconnectivity. *Brain communications*, 6(5), fcae292.

Wong SH, et al. (2024) Visual Snow Syndrome Improves With Modulation of Resting-State Functional MRI Connectivity After Mindfulness-Based Cognitive Therapy: An Open-Label Feasibility Study. *Journal of neuro-ophthalmology : the official journal of the North American Neuro-Ophthalmology Society*, 44(1), 112.

Wei X, et al. (2024) Gait impairment-related axonal degeneration in Parkinson's disease by neurite orientation dispersion and density imaging. *NPJ Parkinson's disease*, 10(1), 45.

Taubert M, et al. (2024) Higher surface folding of the human premotor cortex is associated with better long-term learning capability. *Communications biology*, 7(1), 635.

Churchill NW, et al. (2024) Effects of post-acute COVID-19 syndrome on cerebral white matter and emotional health among non-hospitalized individuals. *Frontiers in neurology*, 15, 1432450.

Cheng Y, et al. (2024) Efficacy, safety, and response predictors of Astragalus in patients with mild to moderate Alzheimer's disease: A study protocol of an assessor-blind, statistician-blind open-label randomized controlled trial. *Contemporary clinical trials communications*, 41, 101339.

Mouchtouris N, et al. (2024) The impact of mechanical thrombectomy on the blood-brain barrier in patients with acute ischemic stroke: A non-contrast MR imaging study using DP-pCASL and NODDI. *NeuroImage. Clinical*, 43, 103629.

Saito Y, et al. (2023) Traveling Subject-Informed Harmonization Increases Reliability of Brain Diffusion Tensor and Neurite Mapping. *Aging and disease*, 15(6), 2770.

Henriques RN, et al. (2023) Unique information from common diffusion MRI models about white-matter differences across the human adult lifespan. *Imaging neuroscience (Cambridge, Mass.)*, 1.

Meijboom R, et al. (2022) Rationale and design of the brain magnetic resonance imaging protocol for FutureMS: a longitudinal multi-centre study of newly diagnosed patients with relapsing-remitting multiple sclerosis in Scotland. *Wellcome open research*, 7, 94.

Kelly CE, et al. (2021) White matter tracts related to memory and emotion in very preterm children. *Pediatric research*, 89(6), 1452.

Sato J, et al. (2021) White matter alterations and cognitive outcomes in children born very low birth weight. *NeuroImage. Clinical*, 32, 102843.

Kawata K, et al. (2020) Association Between Proteomic Blood Biomarkers and DTI/NODDI Metrics in Adolescent Football Players: A Pilot Study. *Frontiers in neurology*, 11, 581781.

Stoye DQ, et al. (2020) Maternal cortisol is associated with neonatal amygdala microstructure and connectivity in a sexually dimorphic manner. *eLife*, 9.