Resource Summary Report

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LEAD-DBS

RRID:SCR_002915
Type: Tool

Proper Citation

LEAD-DBS (RRID:SCR_002915)

Resource Information

URL: http://www.lead-dbs.org/

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Description: MATLAB toolbox for deep-brain-stimulation (DBS) electrode reconstructions and visualizations based on postoperative MRI and computed tomography (CT) imaging. The toolbox also facilitates visualization of localization results in 2D/3D, analysis of DBS-electrode placement's effects on clinical results, simulation of DBS stimulations, diffusion tensor imaging (DTI) based connectivity estimates, and fiber-tracking from the VAT to other brain regions (connectomic surgery).

Synonyms: Lead-DBS, LEAD DBS, Lead DBS

Resource Type: software toolkit, software resource

Keywords: matlab, deep brain stimulation, structural mri, reconstruction, dwi, dti, volume of activated tissue, modeling, subcortical atlas, depression, mri, computed tomography, atlas application, simulation, diffusion mr fiber tracking, three dimensional display, two dimensional display, surface rendering, volume rendering, workflow, neuroimaging, data repository

Related Condition: Parkinson's disease, Dystonia, Depressive Disorder

Funding: DFG KFO 247

Availability: Free, Available for download

Resource Name: LEAD-DBS

Resource ID: SCR_002915

Alternate IDs: SciRes_000188

Alternate URLs: http://www.nitrc.org/projects/lead-dbs

License: GNU General Public License version 3

Record Creation Time: 20220129T080216+0000

Record Last Update: 20250412T054745+0000

Ratings and Alerts

No rating or validation information has been found for LEAD-DBS.

No alerts have been found for LEAD-DBS.

Data and Source Information

Source: SciCrunch Registry

Usage and Citation Metrics

We found 167 mentions in open access literature.

Listed below are recent publications. The full list is available at FDI Lab - SciCrunch.org.

Wang Y, et al. (2024) Subthalamic stimulation causally modulates human voluntary decision-making to stay or go. NPJ Parkinson's disease, 10(1), 210.

Zheng Z, et al. (2024) The effect of pallidal stimulation on sleep outcomes and related brain connectometries in Parkinson's disease. NPJ Parkinson's disease, 10(1), 212.

Slepneva N, et al. (2024) Therapeutic DBS for OCD Suppresses the Default Mode Network. bioRxiv : the preprint server for biology.

Chikermane M, et al. (2024) Cortical beta oscillations map to shared brain networks modulated by dopamine. eLife, 13.

Bange M, et al. (2024) Subthalamic stimulation modulates context-dependent effects of beta bursts during fine motor control. Nature communications, 15(1), 3166.

Butenko K, et al. (2024) Engaging dystonia networks with subthalamic stimulation. medRxiv : the preprint server for health sciences.

Baldermann JC, et al. (2024) A critical role of action-related functional networks in Gilles de la Tourette syndrome. Nature communications, 15(1), 10687.

Halász L, et al. (2024) Predictive modeling of sensory responses in deep brain stimulation. Frontiers in neurology, 15, 1467307.

Ponce-Alvarez A, et al. (2024) The Hopf whole-brain model and its linear approximation. Scientific reports, 14(1), 2615.

Bo?ková M, et al. (2024) Coupling between beta band and high frequency oscillations as a clinically useful biomarker for DBS. NPJ Parkinson's disease, 10(1), 40.

Acevedo N, et al. (2024) Clinical outcomes of deep brain stimulation for obsessive-compulsive disorder: Insight as a predictor of symptom changes. Psychiatry and clinical neurosciences, 78(2), 131.

Leserri S, et al. (2024) Linking connectivity of deep brain stimulation of nucleus accumbens area with clinical depression improvements: a retrospective longitudinal case series. European archives of psychiatry and clinical neuroscience, 274(3), 685.

Loehrer PA, et al. (2024) Microstructure predicts non-motor outcomes following deep brain stimulation in Parkinson's disease. NPJ Parkinson's disease, 10(1), 104.

Calvano A, et al. (2024) Structural connectivity of low-frequency subthalamic stimulation for improving stride length in Parkinson's disease. NeuroImage. Clinical, 42, 103591.

Elias GJB, et al. (2024) A large normative connectome for exploring the tractographic correlates of focal brain interventions. Scientific data, 11(1), 353.

Hollunder B, et al. (2024) Mapping dysfunctional circuits in the frontal cortex using deep brain stimulation. Nature neuroscience, 27(3), 573.

Wilkins KB, et al. (2024) Beta Burst-Driven Adaptive Deep Brain Stimulation Improves Gait Impairment and Freezing of Gait in Parkinson's Disease. medRxiv : the preprint server for health sciences.

Filip P, et al. (2024) Mixed anxiety-depressive disorder in Parkinson's disease associated with worse resting state functional response to deep brain stimulation of subthalamic nucleus. Heliyon, 10(10), e30698.

Torres V, et al. (2024) Image-guided programming deep brain stimulation improves clinical outcomes in patients with Parkinson's disease. NPJ Parkinson's disease, 10(1), 29.

Vohryzek J, et al. (2024) Time-resolved coupling between connectome harmonics and subjective experience under the psychedelic DMT. bioRxiv : the preprint server for biology.