Resource Summary Report

Generated by PRECISE-TBI on Sep 8, 2026

exact Low Resolution Electromagnetic Tomography

RRID:SCR_013830
Type: Tool

Proper Citation

exact Low Resolution Electromagnetic Tomography (RRID:SCR_013830)

Resource Information

URL: http://www.uzh.ch/keyinst/loreta

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Description: Software application which computes cortical three-dimensional distribution of current density of the brain based on the scalp-recorded electric potential distribution. The exact low resolution brain electromagnetic tomography method has the property of exact localization to test point sources, yielding images of current density with exact localization, albeit with low spatial resolution. eLORETA has no localization bias even in the presence of structured noise. Deep structures, such as the anterior cingulate cortex and mesial temporal lobes, can be correctly localized with these methods.

Abbreviations: eLORETA

Synonyms: Exact Low Resolution Brain Electromagnetic Tomography

Resource Type: software application, software resource

Keywords: LORETA, EEG, MEG, brain, image, electromagnetic tomography

Availability: Free, Not ready for public distribution, Must have administrator rights

Resource Name: exact Low Resolution Electromagnetic Tomography

Resource ID: SCR_013830

Old URLs: http://www.uzh.ch/keyinst/loretaOldy.htm

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in any of the images produced by this software, not make changes to this software, not change the name of this method, LORETA, sLORETA, eLORETA to any other name, not misuse this software, as explained below under sLORETA MISUSE.

Record Creation Time: 20220129T080318+0000

Record Last Update: 20260905T133256+0000

Ratings and Alerts

No rating or validation information has been found for exact Low Resolution Electromagnetic Tomography.

No alerts have been found for exact Low Resolution Electromagnetic Tomography.

Data and Source Information

Source: SciCrunch Registry

Usage and Citation Metrics

We found 279 mentions in open access literature.

Listed below are recent publications. The full list is available at PRECISE-TBI .

du Bois N, et al. (2026) Advancing EEG-based assessment of consciousness and cognition in prolonged disorders of consciousness. Communications medicine, 6(1).

Yue Y, et al. (2026) Machine learning-based identification of abnormal functional connectivity in obesity across different metabolic states. Communications medicine, 6(1).

Nordén F, et al. (2026) Olfactory bulb-cortex oscillations encode perceived odor intensity rather than concentration. PLoS biology, 24(5), e3003810.

Lees T, et al. (2026) Modulatory effects of ketamine on EEG source-based resting state connectivity in treatment resistant depression. Translational psychiatry, 16(1).

Lombardo FL, et al. (2026) Mild cognitive impairment-to-Alzheimer's dementia progression risk: the contribution of the Interceptor project. Alzheimer's & dementia : the journal of the Alzheimer's Association, 22(4), e71204.

Graff K, et al. (2026) Towards precision EEG connectomics: Evaluating the benefits of dense sampling. Imaging neuroscience (Cambridge, Mass.), 4.

Bochin M, et al. (2026) Effects of THC, CBD, and Their Combination on EEG Dynamics in Rats. Physiological research, 75(2), 385.

Lopez S, et al. (2026) The compensatory effect of education as revealed by resting-state electroencephalographic alpha rhythms in patients with dementia due to Parkinson's disease: findings from an exploratory study. GeroScience, 48(1), 1189.

Depuydt E, et al. (2026) The Impact of Brain Tumors and Craniotomy Lesions on Scalp EEG. Brain topography, 39(2), 24.

Biswas A, et al. (2026) Simultaneous enhancement of stimulus-induced and stimulus-free gamma in open-eye meditators. Imaging neuroscience (Cambridge, Mass.), 4.

Dattola S, et al. (2026) High-density EEG network analysis in MCI: an exploratory study of electrode density and cognitive performance. Frontiers in aging neuroscience, 18, 1854225.

Elmer S, et al. (2026) EEG-Based Multifocal Tomographic Neurofeedback in Older Individuals With Chronic Tinnitus Does Not Lead to Persistent Electrophysiological Changes. Brain and behavior, 16(4), e71293.

Ueno K, et al. (2025) Current source density and functional connectivity extracted from resting-state electroencephalography as biomarkers for chronic low back pain. Pain reports, 10(1), e1233.

Leon C, et al. (2025) Investigating Emotional Interference as a Potential Endophenotypic Marker in Attention-deficit Hyperactivity Disorder: A QEEG Study. Indian journal of psychological medicine, 02537176251356127.

Sevilla-García M, et al. (2025) Brain power comparison between microgravity and head-down tilt bed rest: an electroencephalography approach. Scientific reports, 15(1), 42314.

Serrano JI, et al. (2025) Gut microbiota profiles are associated with different spontaneous cortical activity in healthy older people. Scientific reports, 15(1), 31590.

Zotev V, et al. (2025) Evaluation of Theta EEG Neurofeedback Procedure for Cognitive Training Using Simultaneous fMRI in Counterbalanced Active-Sham Study Design. Human brain mapping, 46(1), e70127.

Bitsika V, et al. (2025) Low-Level Social Demand Is Associated with Anxiety-Related Gamma Wave Responses in Autistic Male Youth. Brain sciences, 15(1).

Mathew J, et al. (2025) Can EEG-Neurofeedback Training Enhance Effective Connectivity in People With Chronic Secondary Musculoskeletal Pain? A Secondary Analysis of a Feasibility Randomized Controlled Clinical Trial. Brain and behavior, 15(6), e70541.

Park J, et al. (2025) Age-related changes in neural oscillations vary as a function of brain region and frequency band. Frontiers in aging neuroscience, 17, 1488811.