

Resource Summary Report

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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: 20260727T040555+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 265 mentions in open access literature.

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

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.

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).

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

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

Mathew J, et al. (2025) Closed-Loop Infralow Brain-Computer Interface can Modulate Cortical Activity and Connectivity in Individuals With Chronic Painful Knee Osteoarthritis: A Secondary Analysis of a Randomized Placebo-Controlled Clinical Trial. Clinical EEG and neuroscience, 56(2), 165.

de la Salle S, et al. (2025) Acute subanesthetic ketamine-induced effects on the mismatch negativity and their relationship to early and sustained treatment response in major depressive disorder. Journal of psychopharmacology (Oxford, England), 39(6), 577.

Gimenez-Aparisi G, et al. (2025) Abnormal dynamic features of cortical microstates for detecting early-stage Parkinson's disease by resting-state electroencephalography: Systematic analysis of the influence of eye condition. *Heliyon*, 11(1), e41500.

Rajabi N, et al. (2025) Exploring the feasibility of olfactory brain-computer interfaces. *Scientific reports*, 15(1), 18404.

Quivira-Lopesino A, et al. (2025) Changes of EEG beta band power and functional connectivity during spaceflight: a retrospective study. *Scientific reports*, 15(1), 13399.

Ebadi A, et al. (2025) Beyond homogeneity: charting the landscape of heterogeneity in neurodevelopmental and psychiatric electroencephalography. *Translational psychiatry*, 15(1), 223.

Piorecka V, et al. (2025) Microstate in rats' EEG: a proof of concept study. *Translational psychiatry*, 15(1), 494.

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.

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.

Scala I, et al. (2025) Analysis of the effect of 6-Hz binaural beats on electroencephalographic and autonomic parameters of healthy individuals: An exploratory study. *Physiological reports*, 13(10), e70271.

Adhia DB, et al. (2025) Functional connectivity-targeted high-definition transcranial infraslow grey noise stimulation for chronic low back pain: protocol for a double-blinded, randomised, controlled clinical trial. *BMJ open*, 15(8), e103019.

Orui J, et al. (2025) Altruism Enhances Frontal Alpha Asymmetry and Reduces Sympathetic Activity: A Multimodal EEG-ECG Study With Implications for Therapeutic Interventions. *Brain and behavior*, 15(8), e70747.

Blanco-Gomez G, et al. (2025) The Development of Lateralized Brain Oscillations in Infants: Lessons From Autism. *Developmental psychobiology*, 67(6), e70101.

Coleman SL, et al. (2025) Electroencephalogram Gamma Band Power Correlates with Anhedonia in a Community Sample. *Journal of personalized medicine*, 15(11).

Subramani V, et al. (2025) Structure-function coupling and decoupling during movie watching and resting state: Novel insights bridging EEG and structural imaging. *Imaging neuroscience (Cambridge, Mass.)*, 3.