

Resource Summary Report

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CleanLine

RRID:SCR_002233

Type: Tool

Proper Citation

CleanLine (RRID:SCR_002233)

Resource Information

URL: <http://www.nitrc.org/projects/cleanline/>

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Description: An EEGLAB plugin which adaptively estimates and removes sinusoidal artifacts from independent component analysis (ICA) components or scalp channels using a frequency-domain (multi-taper) regression technique with a Thompson F-statistic for identifying significant sinusoidal artifacts. This approach has been advocated by Partha Mitra and Hemant Bokil (Observed Brain Dynamics, Chapter 7.3.4., 2007) and CleanLine utilizes modified routines from the Mitra Lab's Chronux Toolbox (www.chronux.org). Sinusoidal noise can be a prominent artifact in recorded electrophysiological data. This can stem from AC power line fluctuations (e.g. 50/60 Hz line noise + harmonics), power suppliers (e.g. in medical equipment), fluorescent lights, etc. Notch filtering is generally undesirable due to creation of band-holes, and significant distortion of frequencies around the notch frequency (as well as phase distortion at other frequencies and Gibbs rippling in the time-domain).

Abbreviations: CleanLine

Resource Type: software resource

Keywords: eeg, meg, electrocorticography, spectral analysis, temporal transformation

Availability: GNU General Public License

Resource Name: CleanLine

Resource ID: SCR_002233

Alternate IDs: nlx_155529

Record Creation Time: 20220129T080212+0000

Record Last Update: 20260905T132445+0000

Ratings and Alerts

No rating or validation information has been found for CleanLine.

No alerts have been found for CleanLine.

Data and Source Information

Source: [SciCrunch Registry](#)

Usage and Citation Metrics

We found 140 mentions in open access literature.

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

Kim J, et al. (2026) Physiological Measures of Reduced Listening Effort in Active Noise Canceling: Evidence From a Low-? Functional Network in an Event-Related Potential Study. Clinical and experimental otorhinolaryngology, 19(2), 145.

Chien YL, et al. (2026) Altered spectral patterns of aperiodic electroencephalography in autism. Psychiatry and clinical neurosciences, 80(5), 423.

Brandão DS, et al. (2026) Dream content and slow waves benefit prey against predator in a video game confrontation. Scientific reports, 16(1).

Bandrey DS, et al. (2026) Protocol and Preliminary Findings from the BrainPALS Study in Very Preterm Children: A Randomized Controlled Trial of a Digital Parenting Program. Children (Basel, Switzerland), 13(6).

Szabó JP, et al. (2026) Neurons of the human subthalamic nucleus engage with local delta frequency processes during action cancellation. Nature communications, 17(1).

De Stefano LA, et al. (2026) Acute and chronic dosing of the GABA A alpha 2,3 selective agonist BAER-101 do not alter behavior but may impact auditory-evoked EEG responses in adults with fragile X syndrome. Scientific reports, 16(1).

Iammarino E, et al. (2026) Assessment of the Psycho-Emotional State Induced by Open-Skill Sport Activity: An Electroencephalography-Based Study. Sensors (Basel, Switzerland), 26(4).

Contier F, et al. (2026) No Effect of Continuous Transcutaneous Auricular Vagus Nerve Stimulation on the P3, the P600, or Physiological Markers of Noradrenergic Activity in an Oddball and Sentence Comprehension Task. Psychophysiology, 63(2), e70258.

Romo-De León R, et al. (2026) Neurophysiological assessment of biometric patterns during semi-immersive and traditional learning experiences in the humanities. Frontiers in human neuroscience, 20, 1692599.

Laughlin H, et al. (2026) Individual variability in neural correlates of visual engagement in premature toddlers. *Developmental cognitive neuroscience*, 79, 101731.

Werchan D, et al. (2026) Unpredictable caregiving is associated with disrupted neurophysiological measures of attention and autonomic function in three-month-old infants. *Developmental cognitive neuroscience*, 79, 101688.

Basavanahalli Jagadeesh A, et al. (2026) Hemispheric Asymmetry in Cortical Auditory Processing: The Interactive Effects of Attention and Background Noise. *Audiology research*, 16(1).

Zhao Z, et al. (2026) Microstate permutation complexity of EEG signals distinguishes minimally conscious state plus from minimally conscious state minus. *Journal of neuroengineering and rehabilitation*, 23(1).

De Stefano LA, et al. (2026) Gaboxadol increases resting theta and alpha power without affecting evoked responses in fragile X syndrome in a home-based setting. *Journal of neurodevelopmental disorders*, 18(1).

Wu YC, et al. (2026) Alleviating Job-Related Burnout in Medical Professionals through Guided Imagery Hypnotherapy. *Journal of evidence-based integrative medicine*, 31, 2515690X261418396.

Kingir E, et al. (2026) Disentangling Respiratory Phase-Dependent and Phase-Independent Components of Anticipatory Cardiac Deceleration. *Psychophysiology*, 63(3), e70271.

Ramne M, et al. (2026) Resting-State Theta and Alpha Oscillations in Amputation and Phantom Limb Pain: A Pre-Registered High-Density EEG Study. *Brain topography*, 39(4).

Ávila-Garibay A, et al. (2026) Theta and Alpha Oscillations Reflect Distinct Control and Stabilization Processes Across Working Memory. *Brain sciences*, 16(6).

Pohle C, et al. (2026) Uncovering a hidden modulator for women in sports: An exploratory study of menstrual pain and brain connectivity. *Women's health (London, England)*, 22, 17455057261456871.

Piskin D, et al. (2025) Cortical changes associated with an anterior cruciate ligament injury may retrograde skilled kicking in football: preliminary EEG findings. *Scientific reports*, 15(1), 2208.