Resource Summary Report

Generated by NIF on May 4, 2025

Chronux

RRID:SCR_005547
Type: Tool

Proper Citation

Chronux (RRID:SCR_005547)

Resource Information

URL: http://chronux.org

Proper Citation: Chronux (RRID:SCR_005547)

Description: Open-source software package for the analysis of neural data. Chronux routines may be employed in the analysis of both point process and continuous data, ranging from preprocessing, exploratory and confirmatory analysis. The current release is implemented as a MATLAB library. Chronux offers several routines for computing spectra and coherences for both point and continuous processes. In addition, it also offers several general purpose routines that were found useful such as a routine for extracting specified segments from data, or binning spike time data with bins of a specified size. Since the data can be continuous valued, point process times, or point processes that are binned, methods that apply to all these data types are given in routines whose names end with ""c"" for continuous, ""pb"" for binned point processes, and ""pt"" for point process times. Thus, mtspectrumc computes the spectrum of continuous data, mtspectrumpb computes a spectrum for binned point processes, and mtspectrumpt compute spectra for data consisting of point process times. Hybrid routines are also available and similarly named - for instance coherencycpb computes the coherency between continuous and binned point process data.

Abbreviations: Chronux

Synonyms: Chronux Analysis Software

Resource Type: data processing software, software resource, data analysis software, software application

Keywords: fmri, brain mapping, brain, matlab

Funding: NIMH

Availability: Open-source. Please cite.

Resource Name: Chronux

Resource ID: SCR_005547

Alternate IDs: nif-0000-00082

Record Creation Time: 20220129T080231+0000

Record Last Update: 20250503T055750+0000

Ratings and Alerts

No rating or validation information has been found for Chronux.

No alerts have been found for Chronux.

Data and Source Information

Source: SciCrunch Registry

Usage and Citation Metrics

We found 501 mentions in open access literature.

Listed below are recent publications. The full list is available at NIF.

García F, et al. (2025) Prefrontal cortex synchronization with the hippocampus and parietal cortex is strategy-dependent during spatial learning. Communications biology, 8(1), 79.

Badawy M, et al. (2025) Major individual and regional variations in unit entrainment by oscillations of different frequencies. Scientific reports, 15(1), 1772.

Chen JE, et al. (2025) Simultaneous EEG-PET-MRI identifies temporally coupled, spatially structured hemodynamic and metabolic dynamics across wakefulness and NREM sleep. bioRxiv : the preprint server for biology.

Walsh C, et al. (2025) Transient cortical beta-frequency oscillations associated with contextual novelty in high density mouse EEG. Scientific reports, 15(1), 2897.

Wang X, et al. (2024) Correlation between desynchrony of hippocampal neural activity and hyperlocomotion in the model mice of schizophrenia and therapeutic effects of aripiprazole. CNS neuroscience & therapeutics, 30(5), e14739.

Wang Y, et al. (2024) Ventral Hippocampal CA1 Pyramidal Neurons Encode Nociceptive Information. Neuroscience bulletin, 40(2), 201.

Altas B, et al. (2024) Nedd4-2-dependent regulation of astrocytic Kir4.1 and Connexin43 controls neuronal network activity. The Journal of cell biology, 223(1).

Ma L, et al. (2024) Dynamic Changes of the Infralimbic Cortex and Its Regulation of the Prelimbic Cortex in Rats with Chronic Inflammatory Pain. Neuroscience bulletin, 40(7), 872.

Singh B, et al. (2024) Brain-wide human oscillatory local field potential activity during visual working memory. iScience, 27(3), 109130.

Lara-Vasquez A, et al. (2024) Dominance hierarchy regulates social behavior during spatial movement. Frontiers in neuroscience, 18, 1237748.

Lu Y, et al. (2024) Differential depletion of GluN2A induces heterogeneous schizophrenia-related phenotypes in mice. EBioMedicine, 102, 105045.

Kanth ST, et al. (2024) Gamma Responses to Colored Natural Stimuli Can Be Predicted from Local Low-Level Stimulus Features. eNeuro, 11(7).

Blanpain LT, et al. (2024) Multisensory flicker modulates widespread brain networks and reduces interictal epileptiform discharges. Nature communications, 15(1), 3156.

Troppoli TA, et al. (2024) Neuronal PAS domain 1 identifies a major subpopulation of wakefulness-promoting GABAergic neurons in the basal forebrain. Proceedings of the National Academy of Sciences of the United States of America, 121(21), e2321410121.

He Q, et al. (2024) Early synaptic dysfunction of striatal parvalbumin interneurons in a mouse model of Parkinson's disease. iScience, 27(11), 111253.

Sun Q, et al. (2024) Enhancing glymphatic fluid transport by pan-adrenergic inhibition suppresses epileptogenesis in male mice. Nature communications, 15(1), 9600.

Aliramezani M, et al. (2024) Delta-alpha/beta coupling as a signature of visual working memory in the prefrontal cortex. iScience, 27(8), 110453.

Zhang Z, et al. (2024) State-specific Regulation of Electrical Stimulation in the Intralaminar Thalamus of Macaque Monkeys: Network and Transcriptional Insights into Arousal. Advanced science (Weinheim, Baden-Wurttemberg, Germany), 11(33), e2402718.

Zhou DW, et al. (2024) Alpha coherence is a network signature of cognitive recovery from disorders of consciousness. medRxiv : the preprint server for health sciences.

Sun H, et al. (2024) Aftereffect of single transcranial direct and alternating current stimulation on spontaneous home-cage and open-field EEG activities in a mouse model of Alzheimer's disease. Frontiers in aging neuroscience, 16, 1492838.