Resource Summary Report

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Chronux

RRID:SCR_005547
Type: Tool

Proper Citation

Chronux (RRID:SCR_005547)

Resource Information

URL: http://chronux.org

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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 application, software resource, data analysis software

Keywords: fmri, brain mapping, brain, matlab

Funding Agency: NIMH

Availability: Open-source. Please cite.

Resource Name: Chronux

Resource ID: SCR_005547

Alternate IDs: nif-0000-00082

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 456 mentions in open access literature.

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

Yang Y, et al. (2024) Morphological disruption and visual tuning alterations in the primary visual cortex in glaucoma (DBA/2J) mice. Neural regeneration research, 19(1), 220.

Song Z, et al. (2024) Chronic, Reusable, Multiday Neuropixels Recordings during Free-Moving Operant Behavior. eNeuro, 11(1).

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).

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.

Wu Y, et al. (2024) The neural origin for asymmetric coding of surface color in the primate visual cortex. Nature communications, 15(1), 516.

Wei S, et al. (2024) Shape-changing electrode array for minimally invasive large-scale intracranial brain activity mapping. Nature communications, 15(1), 715.

Das A, et al. (2024) Alpha and SSVEP power outperform gamma power in capturing attentional modulation in human EEG. Cerebral cortex (New York, N.Y. : 1991), 34(1).

Marriott BA, et al. (2024) Brain-state-dependent constraints on claustrocortical communication and function. Cell reports, 43(1), 113620.

Li Q, et al. (2023) Reinstating olfactory bulb-derived limbic gamma oscillations alleviates depression-like behavioral deficits in rodents. Neuron, 111(13), 2065.

Lo Y, et al. (2023) A prolonged stress rat model recapitulates some PTSD-like changes in sleep and neuronal connectivity. Communications biology, 6(1), 716.

Pattisapu S, et al. (2023) Stimulus-induced narrow-band gamma oscillations in humans can be recorded using open-hardware low-cost EEG amplifier. PloS one, 18(1), e0279881.

McCafferty C, et al. (2023) Decreased but diverse activity of cortical and thalamic neurons in consciousness-impairing rodent absence seizures. Nature communications, 14(1), 117.

Pophale A, et al. (2023) Wake-like skin patterning and neural activity during octopus sleep. Nature, 619(7968), 129.

Rodríguez Díaz JC, et al. (2023) A Novel Approach to Study Coherent ?-Band Oscillations in Hippocampal Brain Sections. eNeuro, 10(7).

He Y, et al. (2023) Microglia facilitate and stabilize the response to general anesthesia via modulating the neuronal network in a brain region-specific manner. eLife, 12.

Angelucci A, et al. (2023) An Optrode Array for Spatiotemporally Precise Large-Scale Optogenetic Stimulation of Deep Cortical Layers in Non-human Primates. Research square.

Sierra RO, et al. (2023) Closed-loop brain stimulation augments fear extinction in male rats. Nature communications, 14(1), 3972.

Jayachandran M, et al. (2023) Nucleus reuniens transiently synchronizes memory networks at beta frequencies. Nature communications, 14(1), 4326.