agricolab / **pyARtACS**   Public

Python modules for removal of periodic artifacts, even when non-stationary and non-sinusoidal. Developed with application for tACS-EEG in mind.

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View code

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Python Implementation

Repo contains source code for creating and filtering EEG data from *periodic, non-sinusoidal* and *non-stationary* tCS artifacts using ***weighted comb filters***.

Includes also code for artifact removal using ***adaptive DFT*** and ***adaptive PCA***, and for simulation of tACS recordings.

This module is shared under a X11 license. Its development is supported by the BMBF: FKZ 13GW0119.

Example application

Upper Limb Bipolar ECG recording during 11 Hz tACS

Weighted Comb Filter

Artifacts can be *non-stationary* and *non-sinusoidal*, but are required to be *periodic*. Comb filters natively support only frequencies which are integer divisibles of the sampling frequency. This can be circumvented by resampling the signal, and has been implemented.

Documentation

See

Matlab

See also DOI 10.5281/zenodo.2706064 for a similar implementation in Matlab.

Releases 1

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Packages

No packages published

Languages

● **Python** 100.0%