

Resource Summary Report

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PESTICA fMRI Physio Detection/Correction

RRID:SCR_002513

Type: Tool

Proper Citation

PESTICA fMRI Physio Detection/Correction (RRID:SCR_002513)

Resource Information

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

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Description: Software tool to detect physiologic signals from the data itself as well as an adaptive physiologic noise removal tool (Impulse Response Function or IRF-RETROICOR) that zooms in on noise with only 6 regressors, getting all the noise that 5th order RETROICOR gets. These tools will allow you to correct your data for physiologic noise with what you currently have. These signals are equivalent to a parallel monitored pulse signal and a respiratory chest-bellows signal. Do you have 3D+time EPI data (BOLD or perfusion) but no usable physio signals for pulse and respiration? Are you concerned about the effect of physio noise on your data but don't know what to do but regress data-derived signals that mix unknown functional signal with possible physio noise signal? Are you concerned about the number of regressors you're incorporating once you add 5th order RETROICOR (20 more regressors!)? This is for you.

Abbreviations: PESTICA

Synonyms: Physiologic EStimation by Temporal ICA

Resource Type: software resource, software application

Keywords: algorithm, analyze, console (text based), hardware, independent component analysis, linux, macos, matlab, magnetic resonance, multivariate analysis, physiological recording, posix/unix-like, sh/bash, statistical operation, unix shell, workflow, fmri, detection, correction

Availability: Free, Available for download, Freely available

Resource Name: PESTICA fMRI Physio Detection/Correction

Resource ID: SCR_002513

Alternate IDs: nlx_155912

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Record Creation Time: 20220129T080213+0000

Record Last Update: 20260808T190440+0000

Ratings and Alerts

No rating or validation information has been found for PESTICA fMRI Physio Detection/Correction.

No alerts have been found for PESTICA fMRI Physio Detection/Correction.

Data and Source Information

Source: [SciCrunch Registry](#)

Usage and Citation Metrics

We found 6 mentions in open access literature.

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

Zimmermann J, et al. (2024) Unresponsiveness induced by sevoflurane and propofol is associated with reduced basal forebrain cholinergic nuclei functional connectivity in humans, a pilot exploratory study. *Neuroimage. Reports*, 4(4), 100224.

Schinz D, et al. (2023) Indirect evidence for altered dopaminergic neurotransmission in very premature-born adults. *Human brain mapping*, 44(15), 5125.

Jung YH, et al. (2018) Altered Amygdala Resting-State Functional Connectivity and Hemispheric Asymmetry in Patients With Social Anxiety Disorder. *Frontiers in psychiatry*, 9, 164.

Cha J, et al. (2015) Assessment of Functional Characteristics of Amnesic Mild Cognitive Impairment and Alzheimer's Disease Using Various Methods of Resting-State FMRI Analysis. *BioMed research international*, 2015, 907464.

Brooks JC, et al. (2013) Physiological noise in brainstem FMRI. *Frontiers in human neuroscience*, 7, 623.

Li YC, et al. (2011) Impact of visual repetition rate on intrinsic properties of low frequency fluctuations in the visual network. *PloS one*, 6(5), e18954.