

Resource Summary Report

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Generalized Covariance Analysis

RRID:SCR_009488

Type: Tool

Proper Citation

Generalized Covariance Analysis (RRID:SCR_009488)

Resource Information

URL: http://www.nitrc.org/projects/gcva_pca/

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Description: A platform for any Principal Component Analysis (PCA)-based analysis on functional neuroimaging data (PET and fMRI). Includes: * Ordinal Trend Canonical Variance Analysis for parametric designs (C. Habeck et al. A New Approach to Spatial Covariance Modeling of Functional Brain Imaging Data: Ordinal Trend Analysis. Neural Computation 2005; 17: 1602-1645) * Partial Least Squares for any design matrix * Subprofile Scaling Model for cross-sectional designs (JR. Moeller, Strother SC. A regional covariance approach to the analysis of functional patterns in positron emission tomographic data. J Cereb Blood Flow Metab. 1991 Mar;11(2):A121-35.)

Abbreviations: gCVA

Synonyms: Generalized Covariance Analysis (gCVA)

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

Keywords: magnetic resonance, pet, spect, fmri

Availability: GNU General Public License

Resource Name: Generalized Covariance Analysis

Resource ID: SCR_009488

Alternate IDs: nlx_155635

Record Creation Time: 20220129T080253+0000

Record Last Update: 20260731T042822+0000

Ratings and Alerts

No rating or validation information has been found for Generalized Covariance Analysis.

No alerts have been found for Generalized Covariance Analysis.

Data and Source Information

Source: [SciCrunch Registry](#)

Usage and Citation Metrics

We found 8 mentions in open access literature.

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

Colloby SJ, et al. (2025) Cerebral metabolic covariance in delirium: pattern response to symptomatic changes. *Alzheimer's & dementia : the journal of the Alzheimer's Association*, 21(12), e70993.

Harrison JR, et al. (2025) A spatial covariance 123I-5IA-85380 SPECT study of $\alpha_4\beta_2$ nicotinic receptors in dementia with Lewy bodies. *Journal of neurology*, 272(10), 660.

Colloby SJ, et al. (2020) Cholinergic muscarinic M1/M4 receptor networks in dementia with Lewy bodies. *Brain communications*, 2(2), fcaa098.

Colloby SJ, et al. (2016) A spatial covariance 123I-5IA-85380 SPECT study of $\alpha_4\beta_2$ nicotinic receptors in Alzheimer's disease. *Neurobiology of aging*, 47, 83.

Colloby SJ, et al. (2016) Cholinergic and perfusion brain networks in Parkinson disease dementia. *Neurology*, 87(2), 178.

Gazes Y, et al. (2015) Functional network mediates age-related differences in reaction time: a replication and extension study. *Brain and behavior*, 5(5), e00324.

Blumen HM, et al. (2014) Behavioral and neural correlates of imagined walking and walking-while-talking in the elderly. *Human brain mapping*, 35(8), 4090.

Taylor JP, et al. (2013) Covariant perfusion patterns provide clues to the origin of cognitive fluctuations and attentional dysfunction in dementia with Lewy bodies. *International psychogeriatrics*, 25(12), 1917.