

# Resource Summary Report

Generated by [NIF](#) on Jul 31, 2026

## NIRS-SPM

RRID:SCR\_009630

Type: Tool

### Proper Citation

NIRS-SPM (RRID:SCR\_009630)

### Resource Information

**URL:** <http://bisp.kaist.ac.kr/NIRS-SPM>

**Proper Citation:** NIRS-SPM (RRID:SCR\_009630)

**Description:** A SPM and MATLAB-based software package for statistical analysis of near-infrared spectroscopy (NIRS) signals. Based on the general linear model (GLM), and Sun's tube formula / Lipschitz-Killing curvature (LKC) based expected Euler characteristics, NIRS-SPM not only provides activation maps of oxy-, deoxy-, and total-hemoglobin, but also allows for super-resolution activation localization. Additional features, including a wavelet-minimum description length detrending algorithm and cerebral metabolic rate of oxygen (CMRO<sub>2</sub>) estimation without hypercapnia, were implemented in the NIRS-SPM software package., THIS RESOURCE IS NO LONGER IN SERVICE. Documented on September 16,2025.

**Abbreviations:** NIRS-SPM

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

**Keywords:** optical imaging, near-infrared spectroscopy, spm, matlab

**Availability:** THIS RESOURCE IS NO LONGER IN SERVICE

**Resource Name:** NIRS-SPM

**Resource ID:** SCR\_009630

**Alternate IDs:** nlx\_155885

**Alternate URLs:** [http://www.nitrc.org/projects/nirs\\_spm](http://www.nitrc.org/projects/nirs_spm)

**Record Creation Time:** 20220129T080254+0000

**Record Last Update:** 20260731T042822+0000

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## Ratings and Alerts

No rating or validation information has been found for NIRS-SPM.

No alerts have been found for NIRS-SPM.

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## Data and Source Information

**Source:** [SciCrunch Registry](#)

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## Usage and Citation Metrics

We found 134 mentions in open access literature.

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

Liu K, et al. (2025) Requirement of a complex motor task to identify neuroplastic changes in motor control of the lower extremity in patients with anterior cruciate ligament reconstruction: a fNIRS study. *Frontiers in human neuroscience*, 19, 1595284.

Xiao F, et al. (2025) Intertemporal meditation regulates time perception and emotions: an exploratory fNIRS study. *Social cognitive and affective neuroscience*, 20(1).

Yin Z, et al. (2025) The influence of task and interpersonal interdependence on cooperative behavior and its neural mechanisms. *NPJ science of learning*, 10(1), 9.

Vitorio R, et al. (2025) Effects of Internal and External Cues on Brain Activity and Gait in Parkinson's Disease: Findings From BARC-PD. *Neurorehabilitation and neural repair*, 39(10), 826.

Tachibana A, et al. (2025) Exploratory Study on Screening Dementia Based on Frontal Polar Cognitive Activation Using Portable Wireless Functional Near-Infrared Spectroscopy. *Cureus*, 17(6), e85902.

Liao J, et al. (2025) Cortical activity during painful and non-painful stimulation over four lower limb body sites: a functional near-infrared spectroscopy study. *Scientific reports*, 15(1), 5070.

Xu X, et al. (2025) Unveiling the neural mechanisms of supernatural fiction comprehension using fNIRS. *NPJ science of learning*, 10(1), 32.

Huang J, et al. (2025) Application of Near-Infrared Spectroscopy in Early Detection of Antidepressant Treatment Efficacy in Major Depressive Disorder: A Longitudinal Study. *Actas espanolas de psiquiatria*, 53(2), 275.

Nemoto M, et al. (2025) Long-Term Multimodal Exercise Intervention for Patients with Frontotemporal Lobar Degeneration: Feasibility and Preliminary Outcomes. *Dementia and geriatric cognitive disorders extra*, 15(1), 19.

Zhou S, et al. (2025) The role of peer relationship on children's creativity during cooperative and competitive interactions: An fNIRS-based hyperscanning study. *Developmental cognitive neuroscience*, 75, 101592.

Wang H, et al. (2025) An fNIRS hyperscanning study on the influence of team type and sex on athletes' interpersonal trust and neural mechanisms. *Scientific reports*, 15(1), 28456.

Tang Z, et al. (2025) Neural responses to social touch with different emotional valences: an fNIRS study. *Social cognitive and affective neuroscience*, 20(1).

Gemmerich R, et al. (2025) The application of fNIRS in studies on occupational workload: a systematic review. *Frontiers in public health*, 13, 1560605.

Zhang H, et al. (2024) Neurovascular coupling in the attention during visual working memory processes. *iScience*, 27(4), 109368.

Lu J, et al. (2024) Age-related differences of subjective visual vertical perception in adults- a functional near-infrared spectroscopy study. *Frontiers in aging neuroscience*, 16, 1449455.

Liu Y, et al. (2024) Brain activation patterns in patients with post-stroke cognitive impairment during working memory task: a functional near-infrared spectroscopy study. *Frontiers in neurology*, 15, 1419128.

Wang J, et al. (2024) Comparison of different rhythmic auditory stimuli on prefrontal cortex cortical activation during upper limb movement in patients with Parkinson's disease: a functional near-infrared spectroscopy study. *Frontiers in neurology*, 15, 1336268.

Wu J, et al. (2024) Effects of rhythmic visual cues on cortical activation and functional connectivity features during stepping: an fNIRS study. *Frontiers in human neuroscience*, 18, 1337504.

Wang H, et al. (2024) Effects of two-person synchronized cycling exercise on interpersonal cooperation: A near-infrared spectroscopy hyperscanning study. *International journal of clinical and health psychology : IJCHP*, 24(3), 100492.

Chen S, et al. (2024) Cortical activity in patients with high-functioning ischemic stroke during the Purdue Pegboard Test: insights into bimanual coordinated fine motor skills with functional near-infrared spectroscopy. *Neural regeneration research*, 19(5), 1098.