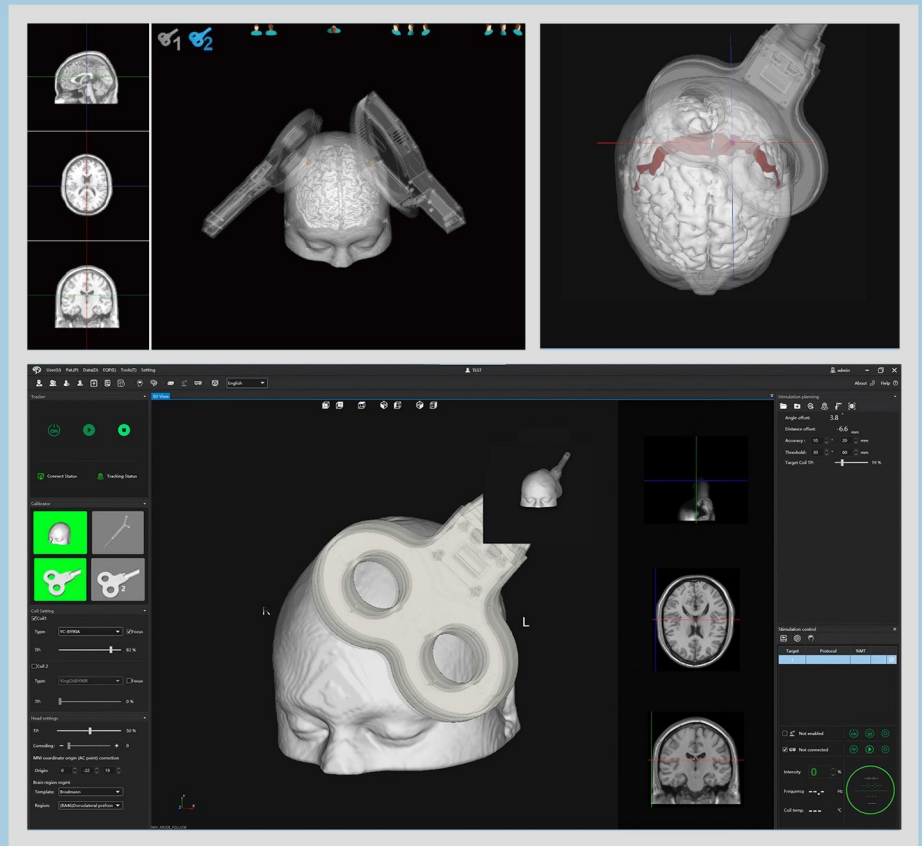




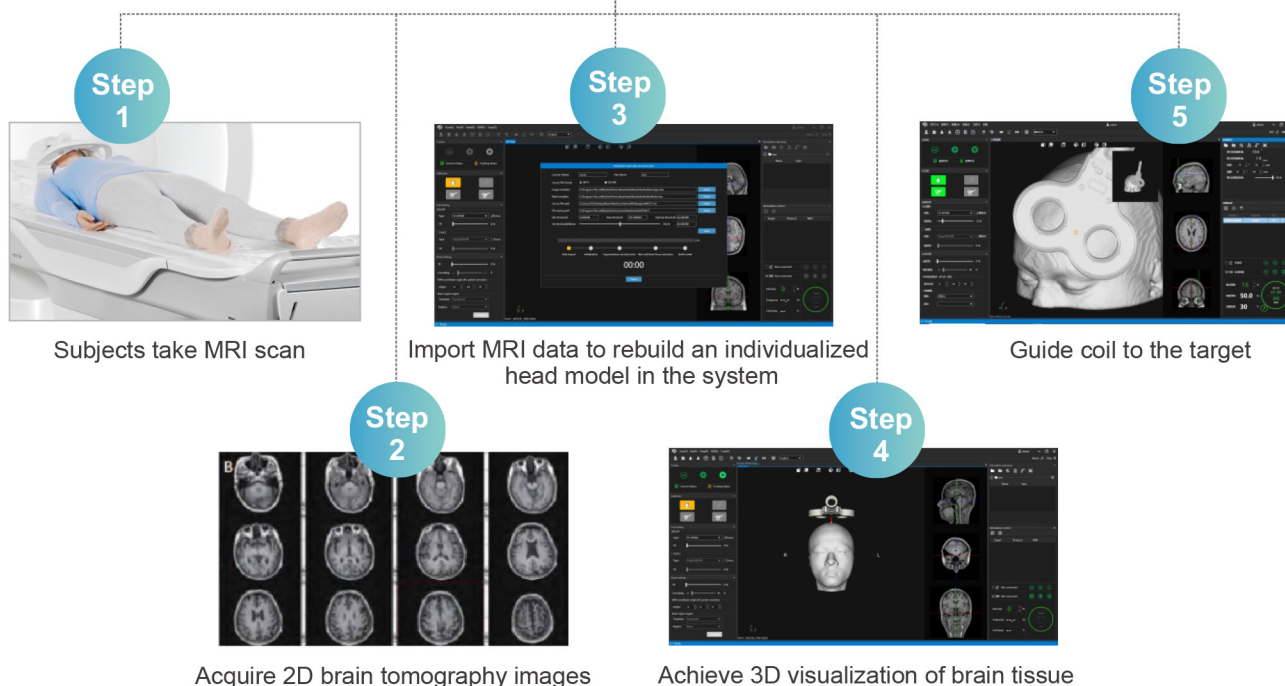
Submillimeter tracking accuracy | Dual-coil whole-brain tracking
Personalized head model intelligent reconstruction

Transcranial Magnetic Stimulation 3D Navigation System

TMS Navigation "Gold Standard": Infrared Optical Navigation and Positioning Technology

Transcranial magnetic stimulation (TMS) navigation is a positioning technology that provides precise targeting and guidance for TMS based on individual structural imaging. Infrared optical navigation and positioning technology based on MRI imaging is currently the most accurate strategy for TMS coil positioning.

Targeting Procedure



Authoritative Recommendation



The U.S. National Institutes of Health recommends that for any application of TMS, individual-based neuroimaging and electric field modeling should be used to standardize coil placement and orientation, and to control for individual differences in applied dosage, in order to enhance the rigor and reproducibility of non-invasive brain stimulation research. ^{[1][2]}



The International Federation of Clinical Neurophysiology (IFCN) states that improvements in the precision of neuroimaging and neuroanatomy can reduce off-target side effects and enhance the safety of transcranial magnetic stimulation, and therefore should be recommended. ^[3]

[1] Bikson M, et al. Rigor and reproducibility in research with transcranial electrical stimulation: An NIMH-sponsored workshop. *Brain Stimul.* 2018 May-Jun;11(3):465-480.

[2] McMullen DP. Where to Target? The Precision Medicine Approach to Brain Stimulation. *Biol Psychiatry.* 2018 Jul 1;84(1):e1-e2.

[3] Rossi S, et al. Safety and recommendations for TMS use in healthy subjects and patient populations, with updates on training, ethical and regulatory issues: Expert Guidelines. *Clin Neurophysiol.* 2021 Jan;132(1):269-306.

YINGCHI TMS 3D Navigation System

YINGCHI TMS 3D Navigation System uses infrared optical navigation and positioning technology, achieving sub-millimeter spatial precision. It can cover any target in the entire brain, assisting operators in quickly and accurately locating TMS targets, significantly improving treatment effectiveness and efficiency.



Head Tracking Tool



Coil Tracking Tool

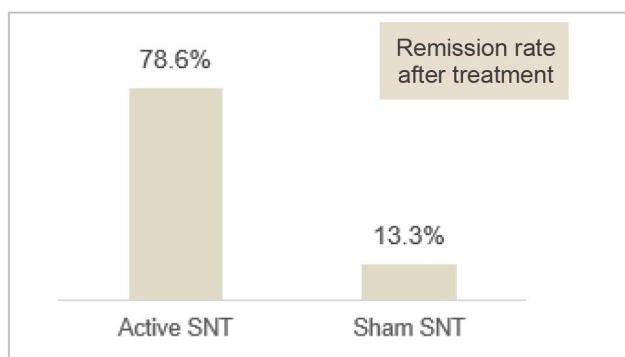
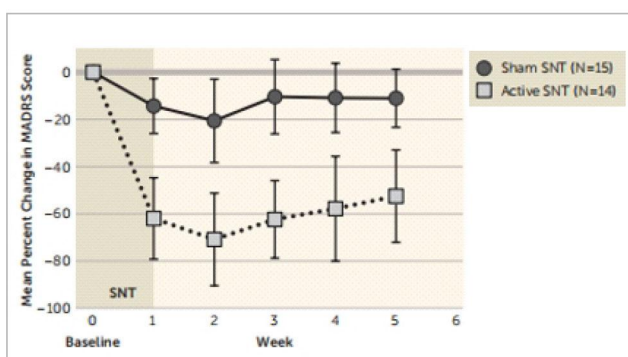


Calibration Pen

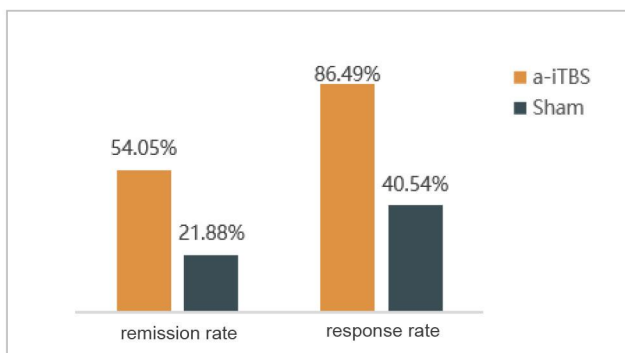
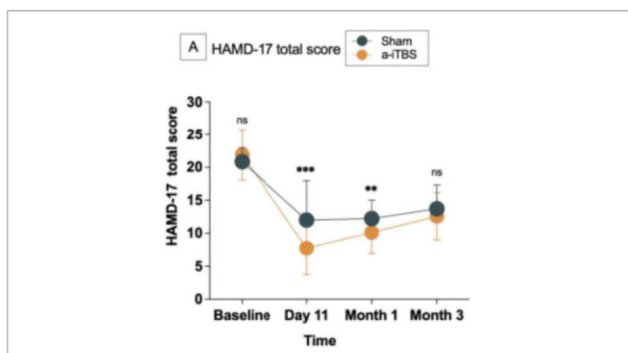
YINGCHI TMS 3D Navigation - Reproduce SNT Therapeutic Effects

Stanford Neuromodulation Therapy (SNT) is an accelerated, high-dose intermittent Theta Burst Stimulation (iTBS) treatment protocol guided by resting-state functional MRI (fcMRI). It uses a navigation system to precisely target key points in the depression circuit, offering an FDA-approved novel neuromodulation treatment for Major Depressive Disorder (MDD). Compared to current standard depression therapies, SNT is more effective and works faster.

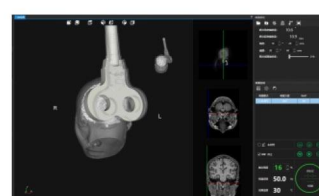
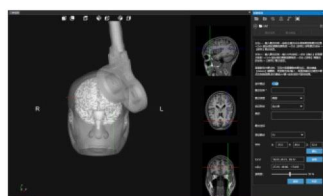
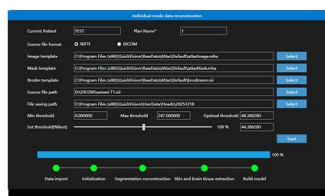
A double-blind randomized controlled study showed that SNT achieved a remission rate of 78.6% for treatment-resistant depression, demonstrating significant antidepressant effects.^[1]



The research team of Professor Zhou Dongsheng at the Affiliated Kangning Hospital of Ningbo University, based on SNT, innovatively proposed the accelerated intermittent Theta-Burst Stimulation (a-iTBS) therapy. This treatment method is capable of rapidly improving symptoms in adolescent patients with Major Depressive Disorder (MDD) and exhibits good safety.^[2]



YINGCHI TMS 3D Navigation System Reproduces the SNT Treatment Protocol



Rebuild individualized head model

Set target

Set SNT protocol

Real-time process tracking

①

②

③

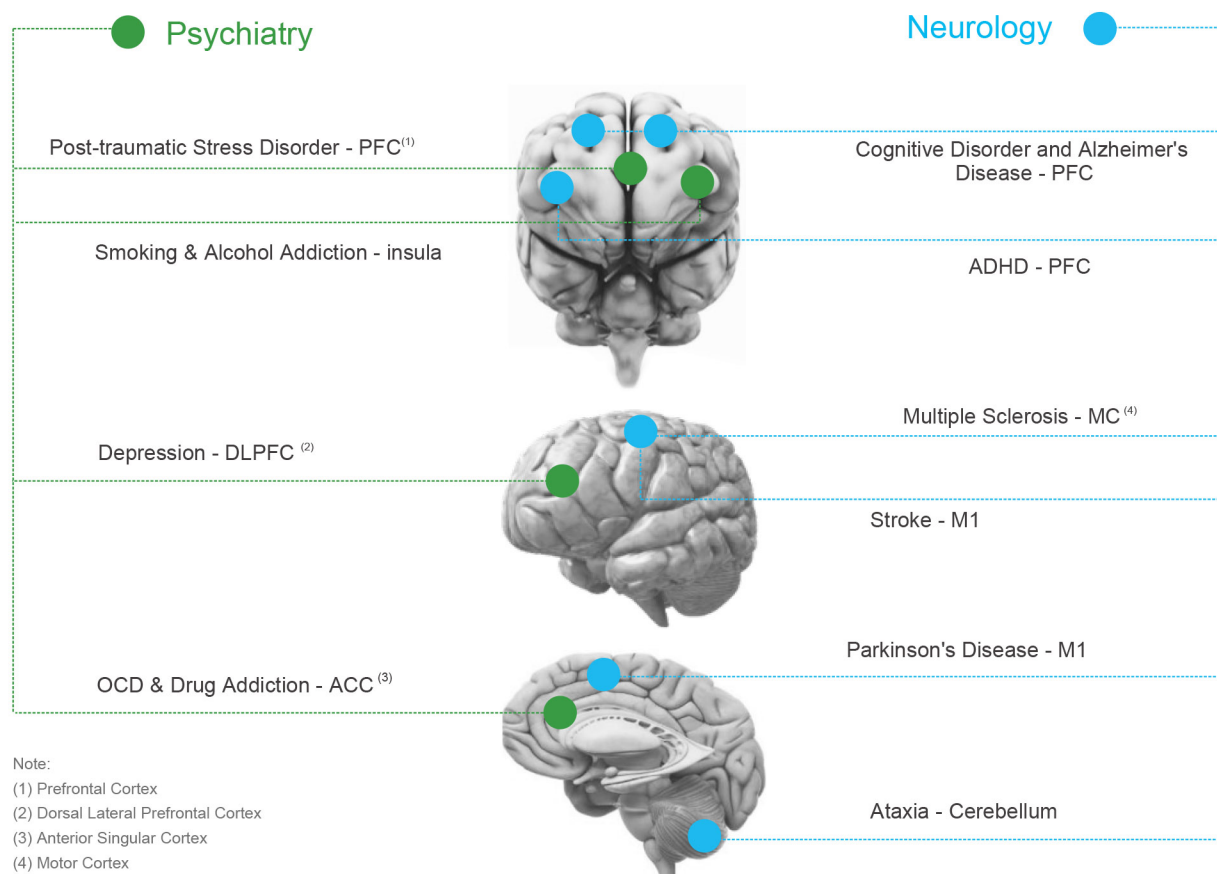
④

[1] Cole EJ, et al. Stanford Neuromodulation Therapy (SNT): A Double-Blind Randomized Controlled Trial. Am J Psychiatry. 2022 Feb;179(2):132-141.

[2] Liu X, et al. Efficacy and Safety of Accelerated Intermittent Theta-burst Stimulation for Adolescents with Major Depressive Disorder: A Randomized, Double-Blind, Sham-controlled study. Biol Psychiatry. 2025 Jul 28:S0006-3223(25)01356-3.

YINGCHI TMS 3D Navigation System - More Than Just SNT: New Paradigm for Neuromodulation in Multiple Diseases

YINGCHI TMS 3D Navigation System ensures that each stimulation reliably and precisely targets the intended area. It can be used to assist in the diagnosis and treatment of various psychiatric and neurological disorders, as well as to aid in the diagnosis of central and peripheral nervous system diseases.



Scientific Research



Cortical Excitability

Precisely locate the brain cortex, quantify cortical excitability and plasticity, reveal neural mechanisms, and provide a foundation for disease research and treatment.



Neuroscience and Cognitive Psychology

Use TMS for precise intervention in specific brain regions, establish a "causal" relationship between structure and function, and explore the neural basis of cognitive processes.



Motor and Language Rehabilitation

Individually and accurately target functional circuits, objectively assess their remodeling process, and promote the optimization of rehabilitation strategies.

YINGCHI TMS 3D Navigation System - Derived from the "Gold Standard" of TMS Navigation Technology

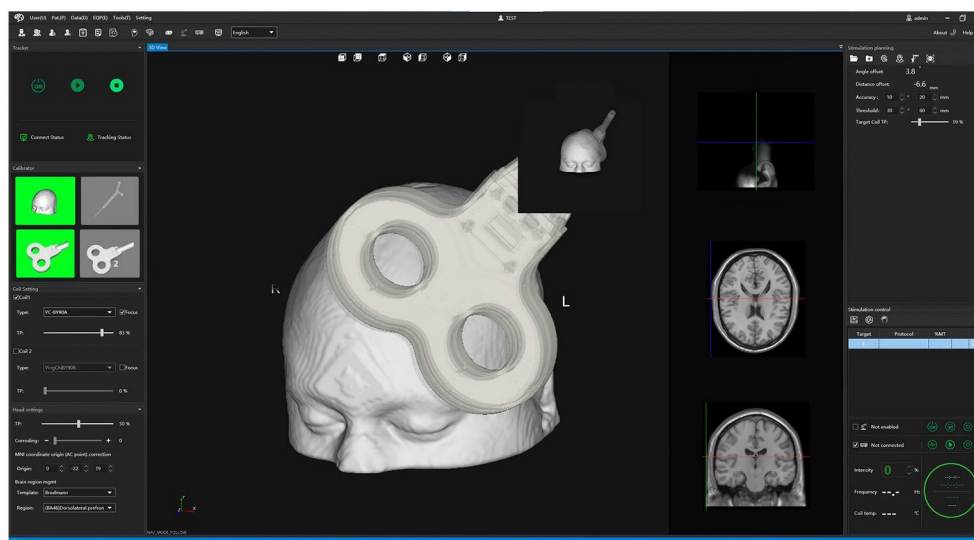
Sub-millimeter Tracking Precision

YINGCHI TMS 3D Navigation System uses NDI binocular infrared cameras with a maximum sampling rate of 120Hz, offering surgical-grade positioning accuracy and enabling real-time target tracking at sub-millimeter precision. This camera has received multiple authoritative international certifications from the EU, Canada, the UK, and others, and is the only camera approved by the U.S. FDA for use in navigation systems.

International Authoritative Certification

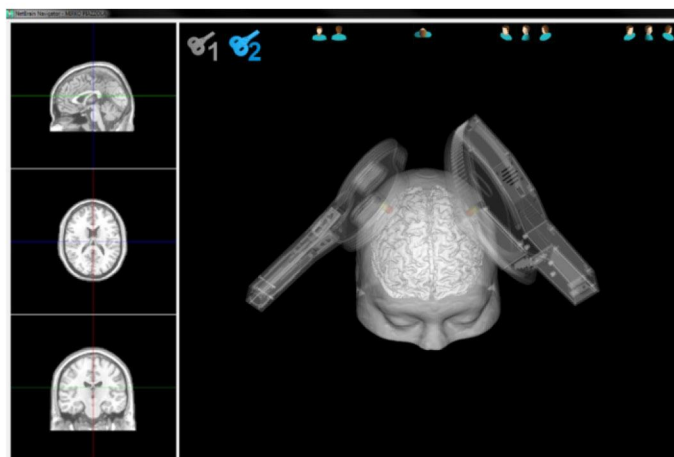


Sub-millimeter Precision Real-time Target Tracking



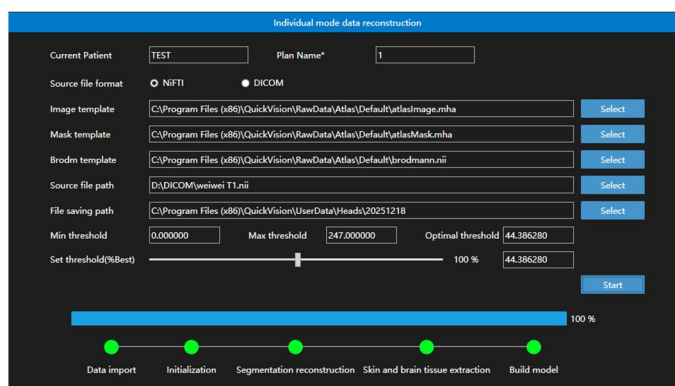
Dual-Coil Whole-Brain Tracking

- Supports simultaneous tracking and navigation of dual coils, enabling precise paired-pulse stimulation, significantly enhancing the modulation effect on specific neural circuits.
- Comprehensively covers all regions of the brain cortex, allowing for the localization and navigation of any target point.



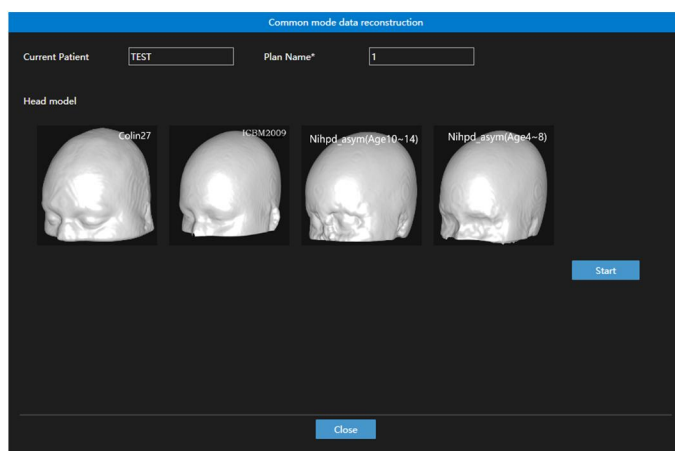
Personalized Head Model Intelligent Rebuild

Allows importation of individual MRI data to reconstruct a personalized head model for tailored TMS stimulation. Supports standard DICOM and NiFTI formats for MRI data import. The software automatically calculates and reconstructs a 3D model of the individual's head, completing the reconstruction in as little as 3 minutes, with the fastest reconstruction taking just 1 minute.



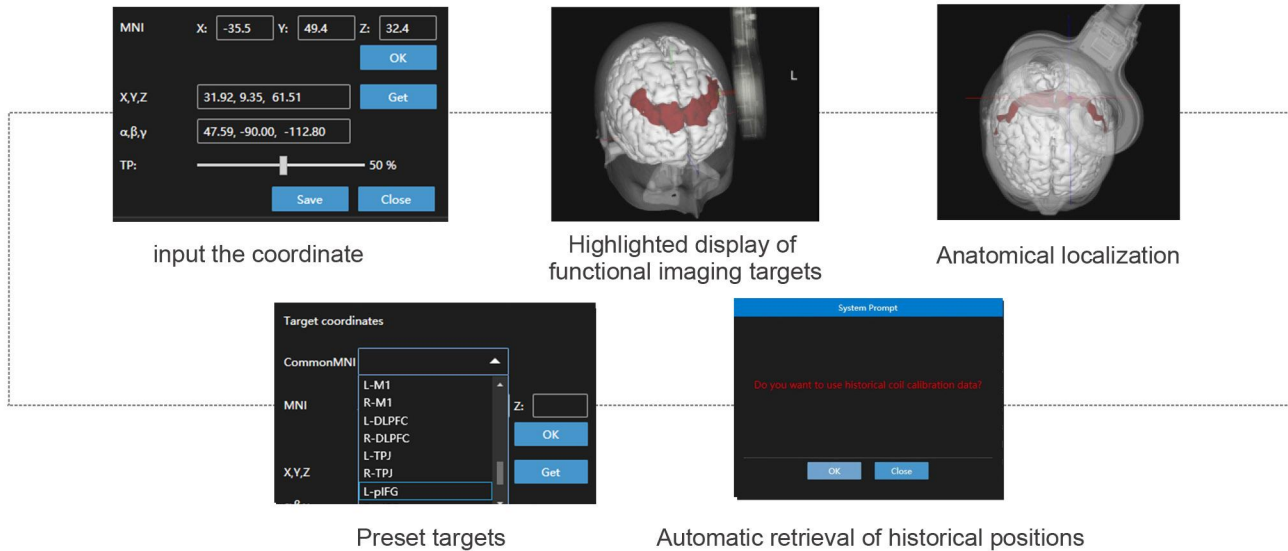
Support for Standard Head Models

The software includes built-in standard MNI average head models for adults and children, enabling TMS navigation for subjects without individual MRI data, with a simple calibration process.



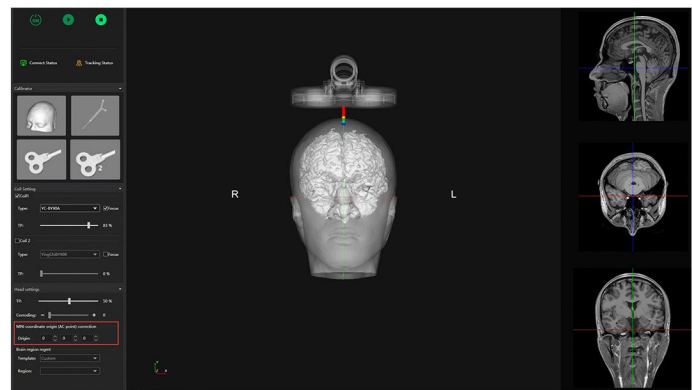
Multiple Target Localization Methods

Supports various target localization methods, including coordinate input, highlighted display of functional imaging targets, anatomical localization, preset targets, and automatic retrieval of historical positions.



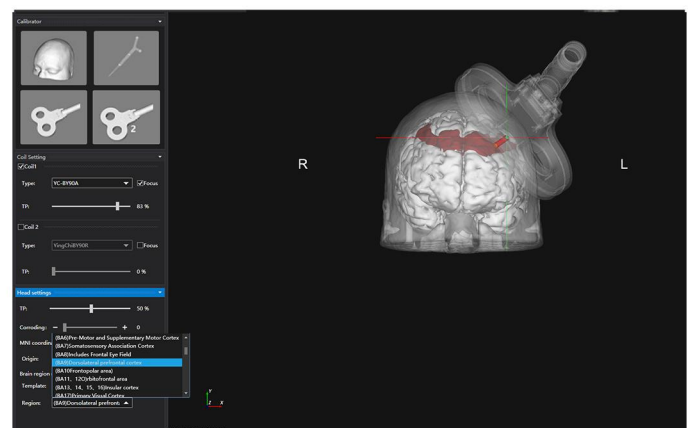
MNI Coordinate Origin Correction

Corrects the MNI coordinate origin of the personalized head model, which can be automatically saved with the model.



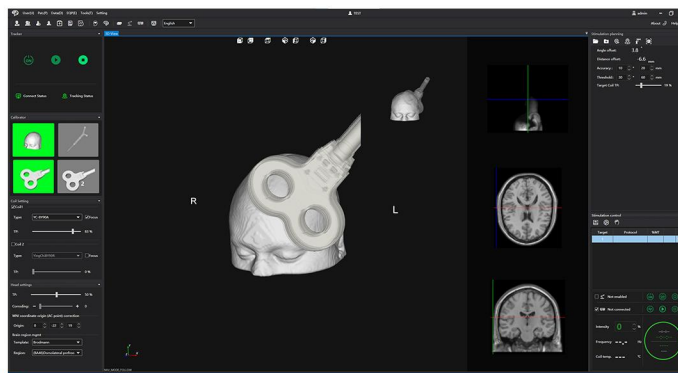
Supports Custom Brain Functional Areas

The system has integrated brain functional area atlases, and allows for custom drawing of brain functional areas.



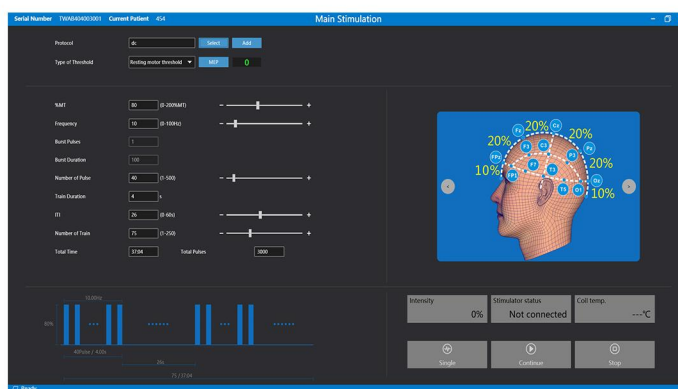
Real-Time Position Deviation Warning

Displays and records the three-dimensional coordinates of the stimulation coil, its distance from the cerebral cortex, the coil's angle, etc. When the stimulation coil deviates from the preset stimulation target, the system provides a warning alert via a pop-up window and sound.



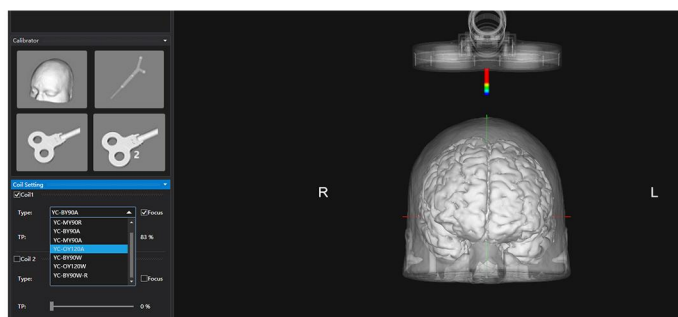
Seamless Integration and One-Stop Neuromodulation with YINGCHI TMS

YINGCHI TMS 3D Navigation System is seamlessly integrated with the YINGCHI TMS. Controlled from the same console, there is no need to input patient information separately for navigation and stimulation, achieving shared synchronization of patient information, treatment protocols, and records. This makes navigation-guided precision therapy more efficient.



Compatible with All TMS Brands

- In addition to supporting the YINGCHI TMS, it also supports various third-party brand.
- It supports all coil types, simultaneously displaying the focal point and simulated intensity of the coil-induced electric field.



YINGCHI TMS Navigation Assists Localized SNT (Accelerated iTBS) Research

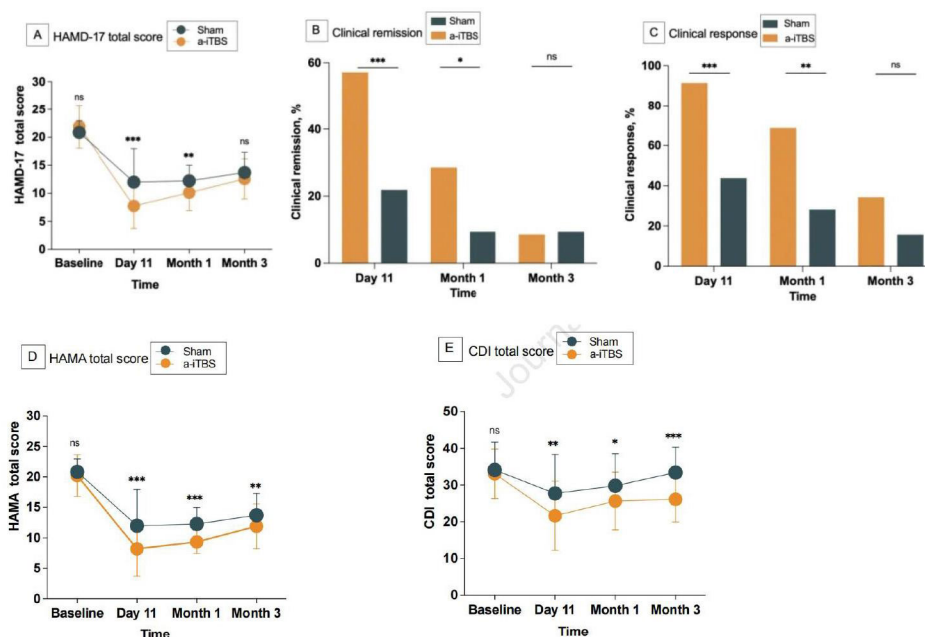
ARCHIVAL REPORT · Articles in Press, July 28, 2025

Efficacy and Safety of Accelerated Intermittent Theta-burst Stimulation for Adolescents with Major Depressive Disorder: A Randomized, Double-Blind, Sham-controlled study

Xiaoli Liu^a · Ziyang Peng^a · Fang Cheng^a · ... · Jun Fu^a · Wenwu Zhang^a · Dongsheng Zhou^a ... Show more

Affiliations & Notes Article Info

IF=9.0



- 74 non-treatment-resistant adolescent MDD patients, accelerated iTBS (a-iTBS) stimulation group 37 patients, sham stimulation group 37 patients.
- Protocol: 5 sessions per day, 1800 pulses per session, at a stimulation intensity of 90% RMT. 50-minute intervals between each session. A total of 10 days of treatment.
- Target: The stimulation target was the left dorsolateral prefrontal cortex (DLPFC), MNI coordinates: (-44, 40, 29).
- Results: One day after the intervention (day 11), compared to the sham group, the a-iTBS group showed a significant decrease in mean HAMD-17 scores (active: 8.09 points, sham: 12.28 points, mean difference 4.92 points), with statistical significance. Compared to the sham group, the a-iTBS group had significantly higher remission rates (54.05% vs. 21.88%) and response rates (86.49% vs. 40.54%), with statistical significance.

Liu X, et al. Efficacy and Safety of Accelerated Intermittent Theta-burst Stimulation for Adolescents with Major Depressive Disorder: A Randomized, Double-Blind, Sham-controlled study. *Biol Psychiatry*. 2025 Jul 28:S0006-3223(25)01356-3.



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Official Website



SHENZHEN YINGCHI TECHNOLOGY CO.,LTD.

Block B, 2/F, Phoenix City Building, 15 Sci-tech North 1st Road, Xili,
Shenzhen 518057, China
Tel: 0086-755-2647 5399
Email: sales@yingchitech.com

www.yingchitech.com



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