

# Research and Development of Jinping Neutrino Experiment

*Saturday 20 July 2024 18:15 (15 minutes)*

The Jinping Neutrino Experiment (JNE), situated in the world's deepest underground laboratory, the China Jinping Underground Laboratory (CJPL), conducts research on solar neutrinos, geo-neutrinos, supernova neutrinos, and neutrinoless double beta decay. The Jinping Neutrino one-ton prototype, located in CJPL-I, has completed measurements of cosmic rays and background. Next, JNE plans to build a multi-hundred-ton neutrino detector in CJPL-II by the end of 2026. Using simulations, we've optimized the detector's geometry and finished structural design. The excavation of the foundation pit in D2 Hall of CJPL-II is completed. The detector will use new 8-inch MCP-PMTs, undergoing tests; self-developed ADC has been tested on the one-ton prototype. Oil and water-based slow liquid scintillators (SLSs) are developed. We have also developed reconstruction algorithms for SLSs, enabling particle identification of electrons, gamma rays, and protons in the several MeV energy range.

## Alternate track

### I read the instructions above

Yes

**Primary author:** LUO, Wentai (Center for High Energy Physics, Tsinghua University)

**Presenter:** LUO, Wentai (Center for High Energy Physics, Tsinghua University)

**Session Classification:** Neutrino Physics

**Track Classification:** 02. Neutrino Physics