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Progress of Jinping Neutrino Experiment Program

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China Jinping underground laboratory is an ideal place for geoneutrino observation. No nuclear reactors are within 1000km, making the geoneutrino signal-to-noise ratio to be more than 5:1. The site is on the corner of the world's thickest crust, Tibet plateau, giving more statistics to pin down Th/U ratio by neutrinos.

With 4500 kton-day exposure, more than 500 geoneutrinos will be observed. The geoneutrino flux will be measured to 4% precision and Th/U ratio to be 27%. The data will also be able to confirm or reject the geo-reactor hypothesis of 3-10TW at that exposure.

At this stage, we are focusing on building a ~100-ton scale detector for testing key detection technologies for the ultimate design and aim for the first observation of geoneutrinos from the Tibet plateau.

Author: Prof. XU, Benda (Tsinghua University)

Presenter: Prof. XU, Benda (Tsinghua University)