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Progress of Jinping Neutrino 1-t detector – the prototype of future low background neutrino detectors at CJPL

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CJPL is an ideal place for low background facilities due to its deepest rock overburden. To prepare for future liquid scintillator based experiments such as solar neutrino observation or $0\nu\beta\beta$ searching, Jinping 1-t prototype is built for measuring various backgrounds and verify new technologies. In 2017-2020, it has detected numerous MeV radioactive background events, hundreds of high energy muons as well as muon induced neutrons. Radioactive isotope (U, Th, Rn) contamination in liquid scintillator is studied and measured. The radioactivity of LS will be further suppressed after the distillation system is online. Muon flux and neutron yield is given, too. Those results indicates that CJPL is an ideal place for low background experiments. We are making steady progresses on lowering radioactive isotopes of materials, to prepare for future detectors.

In-person participation

No

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