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Cosmic Moun flux measurement using the 1-ton prototype detector of water phase in the CJPL-I

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The China Jinping Underground Laboratory (CJPL) offers an ideal environment for low-background neutrino studies. As part of the Jinping Neutrino Experiment (JNE), the one-ton prototype detector at CJPL-I has undergone significant upgrades, including improved electronics and an increased number of photomultiplier tubes (PMTs), to enhance its performance and inform future large-scale detectors. After the upgrade, the detector operated in pure water mode for 75 days. This report will present a precise measurement of the underground muon flux, which is consistent with previous results. The direction reconstruction also matches expectations. This is the first time that the Jinping experiment has used a pure water detector to measure the muon flux, significantly expanding the data sample for muon analysis in the deep underground laboratory, andproviding important reference value for the background analysis of pure water detectors.

Collaboration you are representing

JNE

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