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# Background measurements for Jinping Neutrino 1-t prototype at CJPL

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In 2017-2020, Jinping Neutrino 1-t prototype has detected numerous MeV radioactive background events, 343 high energy muon events and muon induced neutrons. By Bi-Po coincidence, the U238 contamination of liquid scintillator (LS) is measured as  $(6.98 \pm 0.73) \times 10^{-13}$  g/g, and Th232 upperlimit is  $3.7 \times 10^{-13}$  g/g (95% C.L., preliminary). On PMT glass, K40 contamination is  $(5.73 \pm 0.79_{stat.} \pm 1.49_{sys.}) \times 10^{-8}$  g/g and Tl208 event rate is  $(3.86 \pm 0.26_{stat.} \pm 0.85_{sys.}) \times 10^{-3}$  Bq/g, indicating  $(2.64 \pm 0.18_{stat.} \pm 0.58_{sys.}) \times 10^{-6}$  g/g Th232. The radioactivity of LS will be further suppressed after the distillation system is online. The muon flux is  $(3.61 \pm 0.19_{stat.} \pm 0.10_{sys.}) \times 10^{-10} \text{cm}^{-2}\text{s}^{-1}$  with an average energy of 340 GeV, and its neutron yield is  $(3.44 \pm 1.86_{stat.} \pm 0.76_{syst.}) \times 10^{-4} \text{g}^{-1}\text{cm}^2$ . Those results indicates that CJPL is an ideal place for low background experiments. We are making steady progresses on lowering radioactive isotopes of detector materials.

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