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Muon induced neutron study at medium depths underground

WING HONG ANTONY LUK, The Chinese University of Hong Kong, ABERDEEN TUNNEL EXPERIMENT COLLABORATION — Muon induced neutron background is one of the most important backgrounds for many underground experiments, such as dark matter search and neutrino experiments. We have launched an experiment to study muon-induced neutron rate at the Aberdeen Tunnel Laboratory in Hong Kong, which has a 600 m.w.e. overburden. The overburden and rock composition of the Aberdeen Tunnel Laboratory are similar to those of the experiment halls of the Dayabay Reactor Neutrino Oscillation experiment, and thus our results will provide valuable information for the latter. A 650kg Gd-doped liquid scintillator neutron detector with muon tracker is used in this experiment. I will report on the progress of the Aberdeen Tunnel experiment as well as simulation results.

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