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Prospects for Neutron-Antineutron Oscillation Searches with Convolutional Neural Networks in Liquid Argon Time Projection Chambers

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Future, large-scale liquid argon time projection chamber (LArTPC) detectors provide a unique opportunity to search for neutron-antineutron oscillation. This is a rare, baryon-number-violating signature predicted only by theories beyond the Standard Model. This talk will present a convolutional neural network approach that can be used to search for neutron-antineutron oscillation events in the future Deep Underground Neutrino Experiment (DUNE). The network performance will be presented, along with preliminary sensitivity results.

Primary authors: KARAGIORGI, Georgia (Columbia University); Mr HEWES, Jeremy (The University of Manchester); Dr TERAO, Kazuhiro (Nevis Laboratories, Columbia University)

Presenter: KARAGIORGI, Georgia (Columbia University)

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