

Abstract Submitted
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ANNIE Makes Progress Towards First Neutron Multiplicity Measurement JULIE HE, University of California, Davis, ANNIE COLLABORATION — The Accelerator Neutrino Neutron Interaction Experiment (ANNIE) is progressing towards achieving its physics goals. Situated on the Booster Neutrino Beam (BNB) at Fermilab, ANNIE is a 26-ton gadolinium-doped water Cherenkov detector with the main goal of measuring the final state neutron multiplicity of neutrino-nucleus interactions as a function of momentum transfer. This measurement will improve our understanding of these complex interactions and help reduce the associated systematic uncertainties, thus benefiting the next-generation of long-baseline neutrino experiments. ANNIE will be the first to make this high-statistics measurement. ANNIE will also be the first to deploy an array of a new type of photodetector, the Large Area Picosecond Photodetector (LAPPD). The characterization of the LAPPDs picosecond timing and centimeter-level spatial capabilities is underway. ANNIE has successfully acquired commissioning beam and calibration data. This talk will focus on the results of the LAPPD development testing, detector calibration, and neutrino beam commissioning.

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