

Neutrino Seminar
Feb 25, 1:30 pm

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**Results from engineering run of the Coherent Neutrino Nucleus Interaction
Experiment (CONNIE)**

The CONNIE detector prototype is operating at a distance of 30 m from a 3.8 GW nuclear power plant with the goal of establishing a new technology for the detection of coherent neutrino-nucleus scattering. We report on the results of the engineering run with 4 g of active mass. The Charge- Coupled Device (CCD) detector array is described, and the performance observed during the first year is discussed. The results demonstrate the cryogenic CCD-based detector can be remotely operated at the reactor site with stable noise below 2 e⁻ RMS and stable background rates. The reach of the engineering array is presented and compared to expectations from the standard model, and some models of new physics in the low energy neutrino sector. The success of the engineering test provides a clear path for the upgraded 100 g detector to be deployed during 2016.