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**Detection system for electron-proton coincidences in neutron decay** LEAH BROUSSARD, Oak Ridge National Lab, NAB COLLABORATION, UCNB COLLABORATION, TRISTAN COLLABORATION — By precisely measuring angular correlations in neutron decay, we can perform precise tests of the Standard Model and search for new physics beyond the Standard Model. The upcoming Nab and UCNB experiments will measure the correlations  $a$  and  $b$ , and  $B$ , respectively, in neutron decay. The collaborations have jointly developed a prototype detection system based on thick, large area silicon detectors which meets experimental requirements of  $\sim 3$  keV FWHM energy resolution, rise times of  $\sim 50$  ns, and energy thresholds below 10 keV. We will present results of characterization of the prototype and an update on the development of the final, fully instrumented detection system. We also present a study of very thin deadlayer silicon drift detectors in development by the TRISTAN collaboration, and their possible applicability to neutron decay correlation experiments.

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