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Background studies for neutron beta decay experiments NOAH BIRGE, University of Tennessee, Knoxville, THE NAB COLLABORATION COLLABORATION — Neutron β-decay experiments provide access to important parameters of the Standard Model and are sensitive to new physics Beyond the Standard Model. Modern neutron decay experiments aim to measure decay correlation parameters with a high sensitivity and therefore require very precise particle detection in either energy, time-of-flight, or both. The Nab (a and b parameters) and UCNB (B parameter) experimental apparatuses use thick, large-area, and highly segmented (127 pixels) silicon detectors with a 100 nm thick dead layer. Characterization of this detector and electronics has been conducted at the Los Alamos National Laboratory on a measurement of the ^{45}Ca β spectrum. Results of detector studies as well as the status of data analysis will be presented.

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