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Preliminary Characterization of Silicon Detectors for the Neutron Beta Decay Experiment (Nab) using the Manitoba II 30 keV Proton Source NICHOLAS MACSAI, University of Manitoba — Neutron beta decay is a fundamental nuclear process that provides a means to perform precision measurements that test the limits of our present understanding of the weak interaction described by the Standard Model of particle physics and puts constraints on physics beyond the Standard Model. The Nab experiment will measure a, the electron-neutrino angular correlation parameter and b, the Fierz interference term. The Nab experiment implements large area segmented silicon detectors to detect proton momentum and electron energy to determine a to a precision of $\delta a/a \sim 10^{-3}$ and b to a precision of $\delta b = 3 \cdot 10^{-3}$. The Nab silicon detectors are being characterized by protons prior the execution of Nab experiment. This talk will present preliminary measurements on the electronic response of detector pixels.

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