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Magnetometry of the Nab Spectrometer[1] ELIZABETH SCOTT, University of Tennessee, THE NAB COLLABORATION COLLABORATION — The Nab experiment uses a novel asymmetric superconducting magnetic spectrometer and two large-area segmented Si detectors to extract the neutron beta decay electron-neutrino correlation coefficient a and the Fierz interference term b from the proton momentum and electron energy spectrum. Nab was designed to achieve a 10^{-3} relative uncertainty in a, and this requires a detailed characterization and analysis of the magnetic field in the spectrometer. Using a Hall probe calibrated to better than 10^{-3} relative precision and the laser trackers that can measure distances within tens of microns, we mapped a field that ranged from tens of gauss to 4.2 Tesla over 7 meters. This talk will cover the measurement technique, results of the field characterization scheme, and the field expansion methods used.

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