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Precision Measurement of a and b in Neutron Beta Decay L. PETER ALONZI III, The University of Virginia, NAB COLLABORATION — Using a novel 4π detector the Nab collaboration intends to measure a, the electron-neutrino correlation parameter, and b, the Fierz interference term, in neutron beta decay. Our target accuracy is 10^{-3} for $\Delta a/a$ and 10^{-3} for Δb. The Nab experiment will be conducted in the Fundamental Neutron Physics Beamline at the Spallation Neutron Source in Oak Ridge, TN. The ultimate goal is to combine the results of the Nab experiment with measurements of the neutron lifetime to resolve discrepancies regarding $\lambda = G_A/G_V$ and the CKM matrix element V_{ud}. We will present a design of the Electro-Magnetic Spectrometer which will be used to confine the decay products and guide them to the detector.

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