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An update on the analysis of the Princeton ^{19}Ne beta asymmetry measurement DUSTIN COMBS, North Carolina State University, FRANK CALAPRICE, Princeton University, GORDON JONES, Hamilton College, ROBERT PATTIE, ALBERT YOUNG, North Carolina State University — We report on the progress of a new analysis of the 1994 ^{19}Ne beta asymmetry measurement conducted at Princeton University. In this experiment, a beam of ^{19}Ne atoms were polarized with a Stern-Gerlach magnet and then entered a thin-walled mylar cell through a slit fabricated from a piece of micro channel plate. A pair of Si(Li) detectors at either end of the apparatus were aligned with the direction of spin polarization (one parallel and one anti-parallel to the spin of the ^{19}Ne) and detected positrons from the decays. The difference in the rate in the two detectors was used to calculate the asymmetry. A new analysis procedure has been undertaken using the Monte Carlo package PENELOPE with the goal of determining the systematic uncertainty due to positrons scattering from the face of the detectors causing the incorrect reconstruction of the initial direction of the positron momentum. This was a leading cause of systematic uncertainty in the experiment in 1994.

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