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Frequentist Analysis of SLAC Rosenbluth Data DOUGLAS HIGINBOTHAM, EVAN MCCLELLAN, STEPHEN SHAMAIENGAR, Jefferson Lab — Analysis of the SLAC NE-11 elastic electron-proton scattering data typically assumes that the 1.6 GeV spectrometer has a systematic normalization offset as compared to the well-known 8 GeV spectrometer, yet such an offset should have been observed globally. A review of doctoral theses from the period finds that analysis with high statistics, inelastic data saw no significant normalization difference. Moreover, the unique kinematics utilized to match the two spectrometers for normalization required the 8 GeV to be rotated beyond its well-understood angular range. We try to quantify the confidence level of rejecting the null hypothesis, i.e. that the 1.6 GeV spectrometer normalization is correct, and will show the result of simply analyzing the cross section data as obtained. This is a critical study, as the 1.6 GeV spectrometer data drives the epsilon lever arm in Rosenbluth extractions, and therefore can have a significant impact on form factor extractions at high momentum transfer.

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