Abstract Submitted
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3He Spin Transport in the SNS nEDM Experiment[1] JOSEPH PECK, Univ of Kentucky, SNS NEDM COLLABORATION — Towards achieving a precision of $3 \times 10^{-28} e \cdot cm$, the SNS nEDM experiment will use a ^{3}He comagnetometer, polarized by an external atomic beam source. The challenge of preserving the ^{3}He polarization involves collecting spins from the ABS quadrupole field and tapering the field from 1 T down to 30 mG while passing through three layers of a magnetic shield enclosure. Using the magnetic scalar potential, we designed a system of coils to achieve an adiabatic magnetic field profile matching these requirements with less than 1% loss in polarization. I will describe the design of our plans to characterize these coils.

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