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【442】 PSI nEDM Systematic: Leakage Currents

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The Paul Scherrer Institute Neutron Electric Dipole Moment (PSI nEDM) experiment is a room temperature experiment using the Ramsey technique of separated oscillating fields. The PSI nEDM experiment aims to achieve a sensitivity of $d_n \sim < 1 \times 10^{-26}$ e·cm. Since the main magnetic and electric fields applied to the stored neutrons are flipped regularly, constant residual fields are canceled out. Leakage currents, arising from high voltage system, which are correlated with the electric field may induce a false measurable EDM. A study of the possible pathways taken by the leakage currents will be discussed. Furthermore, we will also present a study which constrains the false EDMs arising from such leakage currents to under $9.62(1) \times 10^{-28}$ e·cm.

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