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[310] Johnson-Nyquist Noise Studies for the n2EDM Experiment at PSI

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The n2EDM experiment being mounted at the Paul Scherrer Institute (PSI) will search for the neutron electric dipole moment (nEDM) with a baseline sensitivity of $1.1 \times 10^{-27} e \cdot \text{cm}$. With the increase in statistical sensitivity, an accordingly better control of systematic effects is required. This study investigates the impact of Johnson-Nyquist noise originating from thermal agitations of electrons in the electric conducting materials in the apparatus. The presentation covers the concepts and methods used to calculate the magnetic noise and shows preliminary results discussing the possible impacts on the measurement sensitivity.

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nEDM project: <https://www.psi.ch/en/nedm>

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