

# Challenges of the world-wide experimental search for the electric dipole moment of the neutron



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## Magnetometry Overview for the PSI nEDM Experiment

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One of the most important design criteria for an improved nEDM experiment is the realization of a stable and homogeneous main magnetic field  $B_0$ . The level at which  $B_0$  can be controlled or measured is directly linked to the achievable nEDM sensitivity since uncompensated  $B_0$  fluctuations add noise to the extracted nEDM value and field inhomogeneities give rise to several systematic effects. Neutron EDM experiment uses a wide range of techniques to meet the demands on  $B_0$  control. These include a spectrum of different specialized magnetometers based on  $^{199}\text{Hg}$ ,  $^3\text{He}$ , and Cs atoms. We present an overview over currently used techniques, devices under development and approaches for future improvements.

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