

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



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An NMOR-based magnetometer for studying magnetometry and magnetic fields

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Precision magnetometers placed close to the nEDM measurement cell(s) can give additional information on field stability and homogeneity. We have developed a magnetometer based on non-linear magneto-optical rotation of laser light resonant with the D1 transition in Rb. In addition to characterizing magnetometer performance, we have used this magnetometer to measure large axial shielding factors for a set of concentric cylindrical shields with small applied external fields. I will report on the development of the magnetometer, on our results and plans for future development.

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