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Field uniformity and systematics in the n2EDM experiment

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Searches for electric dipole moments (EDMs) of spin 1/2 particles such as the neutron are sensitive probes for CP violation beyond the standard model, a key to solving the baryon asymmetry problem. In this presentation I give a brief overview of n2EDM, an experiment aiming to measure the neutron EDM with a sensitivity of $1 \times 10^{-27} e \cdot \text{cm}$. I then focus on two areas of my PhD work related to magnetic field uniformity in n2EDM: analysis of magnetic field maps of the apparatus, and calculation of a systematic effect generated by field non-uniformities referred to as the “false EDM”.

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