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The neutron electric dipole moment experiment at Los Alamos National Laboratory

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The electric dipole moment of the neutron (nEDM) is exceedingly small in standard model of particle physics. However, beyond standard model theories allow for larger values of the nEDM, possibly within the reach of upcoming experiments. This talk will present an overview and status of the nEDM experiment under development at the Los Alamos National Laboratory (LANL) ultracold neutron source and targeting a measurement uncertainty of 3×10^{-27} e-cm. The experiment features a double-cell geometry, ^{199}Hg co-magnetometry, external optical magnetometers, precision holding field and gradient coils, and a large, state-of-the-art magnetically shielded enclosure. Some of the experimental team's findings during the present commissioning of major components of the apparatus will be described.

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