The n2EDM experiment at the Paul Scherrer Institute

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High-precision measurements of the permanent electric dipole moment (EDM) could provide crucial information for probing charge-parity (CP) violation and exploring physics Beyond the Standard Model. The n2EDM experiment, carried out by the international nEDM collaboration at the ultracold neutron source of the Paul Scherrer Institute, searches for a neutron EDM with a sensitivity of 1×10^{-27} e cm in the baseline setup. This represents an order of magnitude improvement over the current experimental limit measured with our previous apparatus at PSI [1].

This talk will provide an overview of the experiment and measurement method, and present preliminary results from the ongoing commissioning. First physics data taking is planned to start in 2025.

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References

[1] C. Abel et al. (the nEDM collaboration), *Phys. Rev. Lett.* **124**, 081803 (2020).