

Physics Division Colloquium

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Measuring the Shape of the Neutron

Is the neutron round? If not, so what? It turns out that the “roundness” of the neutron’s electric charge distribution (measured by the electric dipole moment (EDM)) is connected at a deep level to a rather fundamental question – “Why is there any matter in the Universe?” Seeking an answer to this question, steadily improving measurements of the neutron’s EDM have been made over the last seventy years. But still, as far as we can tell – at this point significantly better than one part per trillion – the neutron is round. In this talk I will describe an experiment, under development at Oak Ridge National Lab, that aims to improve on the current neutron EDM measurement precision by nearly two orders of magnitude.

To meet with the speaker (remotely), please contact the host Ivan Tolstukhin.