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【307】Precision Experiments with Cold and Ultracold Neutrons

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The European Strategy Forum on Research Infrastructures (ESFRI) pursues various research approaches in the field of particles and cosmology. In this talk, I will present precise symmetry tests of various kinds, which are coming within reach with ESFRI Landmarks and new neutron sources. In focus are searches for possible deviations from the Standard Model (SM) of particle physics with cold and ultra-cold neutrons. Next, we present a novel direct search strategy with neutrons in the gravity potential of the earth. The aim is to test the law of gravitation with a quantum interference technique, providing constraints on dark matter and dark energy.

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