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Fundamental Physics with Cold and Ultracold Neutrons[1]

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Advances in techniques for neutron production, neutron transport, and particle detection over the past several decades have culminated in a now burgeoning era of precision work in fundamental neutron physics experiments. These advances have enabled a broad spectrum of fundamental physics tests to be carried out in experiments utilizing cold neutron beams and ultracold neutrons, with physics implications ranging from the hadronic weak interaction to searches for beyond Standard Model physics to Big Bang Nucleosynthesis. This talk will review the physics case for this diverse program of measurements, highlight recent progress in the field, and point to prospects for studies of fundamental physics in ongoing and future experiments.

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