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Lattice-QCD Inputs for Probing TeV-Scale Physics in Ultra-Cold Neutron Beta Decays

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Precision measurements of the low-energy nucleon sector provide constraints on the Standard Model and can discern the signatures predicted for particles beyond the Standard Model. In the case of neutron beta decay, new TeV-scale particles can be probed through operators that couple to the nucleon isovector scalar and tensor charges. Lattice QCD can provide the most accurate low-energy nucleon matrix elements to relate ultra-cold neutron experiments to constraints on potential new particles. I present both constraints in the low-energy sector and compare with current and near-future limits from the LHC.