

Uncovering new-physics signals in nucleons and nuclei with lattice QCD

Monday, 16 October 2023 14:00 (30 minutes)

In this talk, I will discuss opportunities for Lattice Quantum Chromodynamics (LQCD) in the research frontier in fundamental symmetries and signals for new physics. LQCD, in synergy with effective field theories and nuclear many-body studies, provides theoretical support to ongoing and planned experimental programs using nucleonic and nuclear targets, including searches for electric dipole moments of the nucleon, nuclei and atoms, decay of the proton, neutron-antineutron oscillations, neutrinoless double- β decay of a nucleus, conversion of muon to electron, and direct dark-matter detection, among others. I will comment on research priorities for the program for the upcoming years, and elaborates on the areas that will likely demand a high degree of innovation in both numerical and analytical frontiers of the LQCD research.

Parallel Session

Fundamental Symmetries / New Physics Searches

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Session Classification: Symmetries and New Physics