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Abstract for an Invited Paper for the HAW14 Meeting of the American Physical Society

Strangeness Physics on the Lattice

MARTIN SAVAGE, Institute for Nuclear Theory

Through advances in high performance computing and associated algorithms, it is finally becoming possible to determine basic properties of simple hadronic systems at the physical quark masses, including QED, directly from the underlying theory of the strong interactions with the numerical technique of Lattice QCD. After reviewing this recent progress, my presentation will focus on the developments in Lattice QCD calculations of quantities of importance to nuclear physics where strange quarks play a key role, e.g. the interactions between hyperons and nucleons, the binding energies of light hypernuclei and matrix elements of strange-quark operators in the nucleon.