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Status and perspectives of nuclear effective field theories¹ SEBASTIAN KOENIG, North Carolina State University

The nuclear physics landscape appears today as a sequence of effective field theories (EFTs) that are connected to the Standard Model through symmetries and lattice simulations of Quantum Chromodynamics (QCD). EFTs in this sequence are expansions around different low-energy limits of QCD, each with its own characteristics, scales, and ranges of applicability regarding energy and number of nucleons. This talk gives an overview of the three main EFTs formulated in terms of nucleons and clusters thereof: Chiral EFT, Pionless EFT, and Halo/Cluster EFT. Covering both their history as well as recent developments, it will elucidate the similarities and differences of these theories, focusing in particular on their connections to each other and to lattice field theory.

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