

Hyperon Physics at Jefferson Lab

Hyperons play important role in the study of non-perturbative Quantum Chromodynamics. Hyperon-nucleon scattering experiments and hypernuclear spectroscopy provide much needed experimental constraints on poorly known low-energy parameters of the hyperon-nucleon interaction, such as scattering lengths, that are needed in the calculations of the properties of neutron stars. Measurements of properties of strange baryons, such as masses, widths, and line shapes allow to test lattice QCD and QCD-based calculations and to advance the current understanding of the dynamics of confinement. In this presentation we will give an overview key hyperon-nucleon and hyperon spectroscopy programs carried out at the Thomas Jefferson National Accelerator Facility. We will highlight recent results and discuss future perspectives.

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