

XVth Quark Confinement and the Hadron Spectrum



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Lambda Hypernuclear Spectroscopy by Electron Scattering at JLab

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The strong interaction between a hyperon and a nucleon (YN) is able to be studied by spectroscopy of hypernuclei, which are nuclei with a bound hyperon or hyperons. Hypernuclear spectroscopy at Jefferson Lab in the US uses an electron scattering to precisely measure the masses of Lambda hypernuclei. The resolution and accuracy for the mass measurement are 0.6 (FWHM) and <0.1 MeV, respectively. The precise and accurate mass spectroscopy at JLab covers various topics to be investigated such as charge symmetry breaking in the Lambda-N interaction, hypertriton puzzle, heavy neutron star puzzle (hyperon puzzle) etc. We are preparing the experiment, in which high resolution spectrometers HES and HKS will be used, aiming at a beam time in 2027-. I will overview the experimental project.

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