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K-Long Beam Facility at Jefferson Lab

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Study of hadron spectrum provides one of the best avenues for understanding properties of the strong interactions in the non-perturbative regime. The spectrum of hadronic states containing one or more constituent strange quarks has not been well established compared to the spectrum of hadrons with lightest u- and d-quarks. In order to advance our knowledge of the hyperon spectrum, a new experimental facility is being designed and built in Hall D at Jefferson Lab that will provide a high intensity K_L -beam impinging on fixed hydrogen and deuterium cryo-targets. The experiments will use existing GlueX detector for identifying the final states produced in the reactions. During this talk, I will introduce the physics motivation for proposed experiments, present the conceptual design of the facility, and show the current status of the project.

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