

Abstract Submitted
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High Resolution Hypernuclear Spectroscopy by the $(e,e'K^+)$ Reaction (JLab E01-011) AKIHIKO MATSUMURA, Tohoku Univ., E01-011 COLLABORATION — Λ hypernuclear spectroscopy by the $(e,e'K^+)$ reaction is a powerful tool to investigate ΛN interaction because this reaction excites various states up to deep inside of hypernucleus and sub-MeV resolution can be achieved thanks to the high quality primary electron beam from CEBAF at JLab. The second generation hypernuclear spectroscopy at JLab Hall C, E01-011, was successfully performed in the summer of 2005 introducing High resolution Kaon Spectrometer (HKS) and a new configuration for scattered electron spectrometer. These unique techniques significantly improved both energy resolution and hypernuclear tagging efficiency, and we succeeded to study various hypernuclei including ${}^7_{\Lambda}\text{He}$ and ${}^{28}_{\Lambda}\text{Al}$ with high resolution and sufficient statistics for the first time by this reaction. The analysis is now in the final stage and systematic errors of binding energy and cross section were estimated with a help of the detailed Monte Carlo simulation. The overview and recent result of E01-011 experiment will be presented in this talk.

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