

Abstract Submitted
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High resolution Λ spectroscopy in Jefferson Laboratory via $(e,e'K^+)$ reaction PAVLO BATURIN, Florida International University, E01-011 COLLABORATION — The E01-011* (HKS) experiment was conducted in the Fall 2005 at Jefferson Laboratory, Hall-C. It employed a 1.8 GeV, high intensity, quasi-continuous electron beam to produce high resolution spectroscopy of exotic neutron rich Λ hypernuclei via associated K electroproduction mechanism, ${}^AZ(e,e'K^+){}^A(Z-1)\Lambda$. The experiment utilized ${}^6,7\text{Li}$, ${}^9\text{Be}$, ${}^{10}\text{B}$, ${}^{28}\text{Si}$ targets for spectroscopy analysis and ${}^{51}\text{V}$, ${}^{89}\text{Y}$, ${}^{208}\text{Pb}$ targets for rate studies. The newly introduced tilt method of the electron spectrometer (ENGE) in combination with a brand new high resolution hadron spectrometer (HKS) significantly increased kaon yield and reduced the background rates associated with Bremsstrahlung and Moller scattering. Such kinematics together with the low momentum transfer to Λ and a forward angle of recoil electrons, allowed achieving high kaon rates, comparable with mesonic reactions. It also resulted in energy resolution of approximately 400-500 keV (FWHM), an unprecedented value in hypernuclear reaction spectroscopy. This presentation will give a general description of the experiment and will show preliminary results. * This work was in part supported by DoE ER41047 & ER41065 and MEXT, Japan.

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