Precise measurement of binding energies of hypernuclei will contribute greatly to comprehensive understanding of the $YN$ interaction. Large charge symmetry breaking effect of the $\Lambda N$ interaction is widely discussed. The starting point of the discussion is $350 \text{ keV}$ binding energy differences of $A=4$ iso-doublet hypernuclei $^4\Lambda H$ and $^4\Lambda\text{He}[1]$. A recent experimental result[2] enable to compare the CSB effect with theoretical calculation in $A=7$ iso-triplet hypernuclei $^7\Lambda\text{He}$, $^7\Lambda\text{Li}^*$, and $^7\Lambda\text{Be}$. However, the experimental data of $A=7$ hypernuclei favor the calculation without CSB though CSB is necessary to explain the mass difference of $A=4$ systems. Higher accuracy measurements with new experimental technique is necessary for light hypernuclei to understand this inconsistency. The decay pion spectroscopy for electro-produced hypernuclei was designed to measure the binding energy of hypernuclear ground state with the accuracy of 30 keV. The binding energy of hypernucleus is deduced by detecting monochromatic pion from two-body decay of a hypernucleus stopped in the target. $K^+$ is detected simultaneously to tag strangeness formation.

The experiment was performed at Mainz Microtron (MAMI-C) from 2011 with system upgrades. The decayed pion measure in Spek-A and Spek-C, which are well-studied high resolution spectrometer, and tagged $K^+$ detected in Kaos, which is short orbit spectrometer. The statistics were limited by large positron backgrounds in Kaos due to the bremsstrahlung at 2011 experiments. We have updated detectors to improve statistics in Kaos and taken the additional data in 2012. In this talk, I will present the current status of decay pion spectroscopy.