

Abstract Submitted
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The investigation of strangeness photoproduction in the threshold region at LNS-Tohoku MASASHI KANETA, Department of Physics, Tohoku University, NKS2 COLLABORATION — Strangeness photoproduction near the threshold is important to study the production mechanism. The process had been intensively studied based on the high-quality data of the charged kaon channel, $\gamma + p \rightarrow K^+ + \Lambda(\Sigma^0)$. However, there was no reliable data for the neutral kaon channel $\gamma + n \rightarrow K^0 + \Lambda$ and the theoretical investigations suffered seriously from the lack of the data. In order to obtain reliable data for the neutral kaon photoproduction process, we have been making an effort to measure the $\gamma + n \rightarrow K^0 + \Lambda$ reaction in the $\pi^+ \pi^-$ decay channel of K_S^0 , using a liquid deuterium target and a tagged photon beam in the energy region from 0.8 to 1.1 GeV at Laboratory of Nuclear Science (LNS), Tohoku University. We have taken exploratory data quite successfully with use of Neutral Kaon Spectrometer (NKS). Now we are at the second stage of the experimental study using a new spectrometer for extending the previous experiment in the statistics and the momentum/angular acceptance for K^0 s and Λ . The data was taken in 2005-2007. In this talk, we will present recent results from the NKS2 experiment and future plan of the experiment.

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