Contribution ID: **74** Type: **not specified**

Study of the d(γ, K+)ΣπN reaction at LEPS

Friday, 29 July 2016 16:50 (30 minutes)

The production mechanism of a \Sigma \pi pair from a deuteron target gives us an essential information on the interaction between \Lambda(1405) and nucleon. J-PARC E27 group studied the d(\pi+, K+)X reaction, and reported a large mass shift in the hyperon resonance region. Checking the spectrum using the other reaction is helpful to reveal the source of the large shift. We measured the d(gamma, K+)\Sigma \pi reaction using the \gamma beam with the energy of 1.5 – 2.4 GeV at LEPS, and investigated the shape of the invariant mass spectrum of \Sigma \pi. We applied a Fermi motion correction technique, and compared the spectrum of \Sigma \pi from a deuterium target with the one of a hydrogen target data. Our results can be interpreted with the quasi-free reactions, and the large mass shift in the hyperon resonance region which was seen in d(\pi+, K+)X reaction was not observed. The quantitative evaluation against to the large mass shift was performed using a statistical method. The details of the analysis and the results are reported in this contribution.

Presenter: TOKIYASU, Atsushi (Tohoku Univeristy)

Session Classification: Meson-Nucleon Interactions