Abstract Submitted
for the HAW09 Meeting of
The American Physical Society

Experimental Study of Λ(1405) by a Virtual Meson-Baryon Scattering[1] HIROYUKI NOUMI, RCNP, Osaka University — It is a long standing problem if Λ(1405) is a 3-quark state or a kaon nucleon bound state. Recent theoretical studies based on chiral unitary model claimed that Λ(1405) may consist of two components in a coupled-channel $\bar{K}N - \pi\Sigma$ system. Namely, poles coupled to $\bar{K}N$ and $\pi\Sigma$ are suggested at different positions. If it is true, decomposition of the two components are desired in the Λ(1405) spectrum. Since the Λ(1405) state sits below $\bar{K}N$ threshold, it is of essentially importance to investigate a $\bar{K}N$ scattering process in a virtual state. The (K^-,n) reaction on deuteron is promissing to enhance a virtual $\bar{K}N$ reaction to produce Λ(1405). The experimetal study of Λ(1405) via the reaction has been proposed at J-PARC.

[1]A collaboration of this experimetal work is being formed based on the E15 collaboration

Hiroyuki Noumi
RCNP, Osaka University

Date submitted: 02 Jul 2009 Electronic form version 1.4