Dynamical coupled-channels study of photo- and electro-production reactions\(^1\) H. KAMANO, EBAC@JLab, B. JULIA-DIAZ, EBAC@JLab, University of Barcelona, T.-S.H. LEE, EBAC@JLab, ANL, A. MATSUYAMA, EBAC@JLab, Shizuoka University, T. SATO, N. SUZUKI, EBAC@JLab, Osaka University — A comprehensive study of the meson production reactions with initial $\pi N$, $\gamma N$, and $N(e, e')$ based on a dynamical coupled-channels approach is being made to explore the structure of the $N^*$ states in the Excited Baryon Analysis Center (EBAC) at Jefferson Lab. In this talk we present a current status of our study of the photo- and electro-production reactions, particularly focusing on the single and double pion production reactions. We will also discuss what impact the so-called “complete-measurement” of single pseudoscalar meson photoproduction reactions has on the construction of reaction models, which is a key to the precise determination of the $N^*$ properties.

\(^1\)Supported by U.S. Department of Energy, Office of Nuclear Physics, under contract No. DE-AC02-06CH11357 and No. DE-AC05-06OR23177.

Hiroyuki Kamano
Jefferson Lab

Date submitted: 29 Jun 2009  Electronic form version 1.4