



Contribution ID: 4

Type: **Parallel**

## A study of excited nucleons' space-time properties with Bose-Einstein Correlations

*Saturday, 17 August 2019 14:55 (20 minutes)*

The space-time properties of the excited nucleons may provide useful information to test the non-perturbative QCD models attempting to describe the hadron production process. In this work we attempt to measure the excited baryon  $\Delta(1232)$ 's radius using Bose-Einstein correlations (BEC) between two neutral pions from photo-production off a hydrogen/deuterium target at the incident photon energies around 1 GeV carried out at the Research Center for Electron Photon Science (ELPH) in Tohoku University with a  $4\pi$  electromagnetic calorimeter complex, named FOREST. For this end, we try to establish a new BEC observing model to extract radius information from BEC effects in the presence of resonance decays and to develop an event mixing technique for measuring low-multiplicity BEC effects through adding additional mixing constraints to delicately deal with the influence of non-BEC correlations arising from global conservation laws and resonance decays.

**Primary author:** HE, Qinghua (Nanjing University of Aeronautics and Astronautics)

**Presenter:** HE, Qinghua (Nanjing University of Aeronautics and Astronautics)

**Session Classification:** Session 6: QCD and hadron structure

**Track Classification:** Session 6: QCD and hadron structure