



Contribution ID: 95

Type: **invited talk**

## Recent progress and prospects of the LEPS2/BGOegg experiment at SPring-8

*Friday, 28 June 2019 15:25 (25 minutes)*

High statistics data of hadron photoproduction have been collected by the BGOegg experiment at the SPring-8 LEPS2 beamline, where a photon beam with high degree of linear polarization is available in the tagged energy range of 1.3-2.4 GeV. The experiment is equipped with an “egg”-shaped electromagnetic calorimeter, which comprises of 1,320 BGO crystals covering the polar angles of 24-144 degrees, and associated charged particle detectors. With a liquid hydrogen target of 54 mm thickness, we measured the differential cross sections and photon beam asymmetries of single meson photoproduction processes (e.g.  $\pi^0$ ,  $\eta$ ,  $\omega$ ) for the studies of baryon resonance spectroscopy. New experimental results will be shown with the extension to the high energy region for which the photon beam asymmetries have not been well measured. In addition, we will report on the progress of our analyses about the  $\eta'$  meson mass in a Carbon nucleus target, investigated by a) the two  $\gamma$  invariant mass spectroscopy for the medium modification signal and b) the  $\eta'$ -mesic nuclei search in the missing mass spectrum of a high momentum proton. The future prospects of the BGOegg experiment will be also presented as we have embarked on the system upgrade.

**Primary author:** MURAMATSU, Norihito (ELPH, Tohoku University)

**Presenter:** MURAMATSU, Norihito (ELPH, Tohoku University)

**Session Classification:** Friday