Contribution ID: **7** Type: **Oral**

Enhanced understanding of the structure of nuclei around 100Sn from gamma rays

Wednesday, 7 September 2016 09:45 (20 minutes)

The doubly-magic 100Sn stands as a testing ground for many topics of nuclear structure, such as N = Z = 50 shell strength in proximity to the proton dripline, and evolution in the single particle structure and shell evolution. For decades, these have been actively investigated in both theoretical and experimental efforts. In order for modern large-scale shell model calculations with increasing computational power to be validated, excited states of nuclei in the vicinity of 100Sn and their transitions must be probed with gamma-ray measurements. In an experiment in June 2013, record quantities of 100Sn and its neighboring nuclei were produced at RIKEN RIBF. Gamma rays following isomeric/beta/bp decays were measured with EURICA with greater statistics and sensitivity, enriching the knowledge of the structure of N ~ Z ~ 50 nuclei with new measurements in energy, half-life, and branching ratio. These results will be presented in comparison with shell model calculations, revealing both the robustness and weaknesses of the current theory in this region of nuclei.

Primary author: Mr PARK, Jason (University of British Columbia / TRIUMF)

Presenter: Mr PARK, Jason (University of British Columbia / TRIUMF)

Session Classification: Proton-rich nuclei