Contribution ID: **56** Type: **poster presentation**

Study of Gamow-Teller Transition on N=Z nucleus Cr-48 with an improved DAQ

Saturday, 24 August 2019 17:20 (15 minutes)

A (p,n) reaction experiment on two N=Z nuclei, Cr-48, was performed in RIBF. In this study, we used inverse kinematics with 190MeV/u Cr-48 beam. We would like to make missing mass spectra using time of flight of neutrons. As neutrons are quite easy to pass through materials and heavy particles carrying up to 190MeV/u don't loss much energy in liquid hydrogen, a 6mm-thick liquid hydrogen target was used to increase statistics. We used PANDORA detector system, which has capability of discriminating neutrons and gamma rays, to detect neutrons from (p,n) reaction. The reaction residues were analyzed using SAMURAI spectrometer. By optimizing the DAQ setup, we achieved about 5.5kHz accepted trigger rate (which was at maximum ~2kHz before optimization). In this contribution, some preliminary result of Cr-48 data analysis and DAQ optimization information will be shown.

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Session Classification: Poster Session by Young Scientists