

## Status report of the SEASTAR experiment: DALI calibration for $^{78}\text{Ni}$ excited states

*Monday, 15 September 2014 16:40 (20 minutes)*

Since  $^{78}\text{Ni}$  is the most neutron rich doubly-magic-nuclei humankind can reach, the information of the shell structure of  $^{78}\text{Ni}$  is an important clue to examine the “shell evolution”. The experiment named as “Shell Evolution And Search for Two-plus energies At RIBF” (SEASTAR) was done in May 2014 to obtain the information of the excited states of  $^{78}\text{Ni}$ .

In this experiment, the nuclides of  $^{79}\text{Cu}$  were produced by BigRIPS separator and bombarded with a thick liquid hydrogen target named as MINOS. Deexcited gamma-rays were measured by DALI2 detector array, which consist of around 200 NaI(Tl) scintillators surrounding MINOS. After the reaction at MINOS, one-proton knockout reaction was identified by tagging  $^{78}\text{Ni}$  with ZeroDegree spectrometer placed at the downstream of the target.

Because the measurement run for  $^{78}\text{Ni}$  was lasted almost 6days, fluctuations of gains of all detectors should be checked. The gain of DALI2 gamma-ray detector was shifted depending on time, because it was perhaps activated by high-rate beam. In this presentation, as the current status of analysis for the excited state of  $^{78}\text{Ni}$ , the gain shift of DALI2 detector will be shown and discussed.

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**Session Classification:** Session 4