

## Development of a measurement system for the surrogate reaction method/代理反応法測定用測定装置の開発

Thursday, 14 November 2024 16:00 (2 hours)

We are developing a measurement system for the simultaneous determination of  $(n,\gamma)$ ,  $(n,f)$ ,  $(n,n')$ , and  $(n,2n)$  reaction cross sections using the surrogate reaction method. The system consists of  $\text{LaBr}_3(\text{Ce})$  scintillators for high-energy  $\gamma$  rays, Ge detectors for low-energy discrete  $\gamma$  rays, Si detectors for scattered particles, and solar cell charged-particle detectors for fission fragment measurements. To investigate the performance of the measurement system,  $^3\text{He}$  beams were irradiated to a  $^{243}\text{Am}$  target at the JAEA-Tokai tandem accelerator facility to observe the scattered particles from the target, and  $\gamma$ -rays and fission fragments emitted from the compound nuclei produced by the  $^3\text{He}$ -induced reaction. In this poster presentation, the details of the measurement system and the results of the experiment will be discussed

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