

Development of position-sensitive mosaic detector

In order to design the experiments to study Very/Super Heavy Nuclei (VHN/SHN) as well as towards Island of Stability, a model which can predict reaction cross section precisely is needed. However, reaction dynamics for Fusion-Evaporation reaction has not been established yet. In particular, quantitative understanding of fusion hindrance effect is far from being achieved due to lack of experimental studies. Several experiments have been scheduled at HIMAC to evaluate the fusion hindrance effect in sub-symmetric systems. To extract fusion cross section, we will measure the energies of α particles of Evaporation Residuals (ERs). After the reaction, ERs will be stopped in the back material of the target and emit α particles at various angles. To compensate for the angular difference, a mosaic-type detector made of Si Photo-Diodes (PDs) has been developed. The details of the detector will be given.

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