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Developments of thick solid neon as an active target NAGAAKI KAMIGUCHI, TETSUROU MORIGUCHI, AKIRA OZAWA, Institute of Physics, University of Tsukuba, SIGERU ISIMOTO, KEK — One of research subjects in our group is to measure reaction cross sections (σ_R) of RI beams. By measuring σ_R, we can deduce root mean square radii of unstable nuclei. In the measurements of σ_R, we usually used a carbon as the reaction targets (a few cm thickness). If we use the reaction target as a detector (active target), there are some advantages in the measurements; (1)The events only colliding with the reaction target can be selected. (2)If position information is available, we may define the colliding point inside the target. (3)If energy information is available, we may measure the energy loss of the beams inside the target. As the active target in the σ_R measurements, we noticed the solid neon. Since the neon is a noble gas, it is predicted to emit scintillations and work as an ionization chamber for charged particles. Indeed, scintillations from liquid and solid neon have been already observed. We will present production of the thick solid neon ($\sim$30mm thickness), and observations of scintillations and ionization signals from the solid neon. We will also discuss possibility to use the sold neon as the active target in the σ_R measurements.

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