

Abstract Submitted  
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**Reaction cross section of  $^{22}\text{C}$**  YASUHIRO TOGANO, Department of Physics, Tokyo Institute of Technology, SAMURAI COLLABORATION — Reaction cross section of  $^{22}\text{C}$  on a carbon target at an energy of 240 MeV/nucleon have been measured by using the transmission method. The most neutron-rich carbon isotopes  $^{22}\text{C}$  is a candidate of a two-neutron halo nucleus. Tanaka *et al.* [1] measured the reaction cross section of  $^{22}\text{C}$  on a hydrogen target at 40 MeV/nucleon. It is showed  $^{22}\text{C}$  to have a large matter radius of  $5.9 \pm 0.9$  fm, which is much larger than the ones of carbon isotopes with  $N \leq 14$ , suggesting  $^{22}\text{C}$  is the halo nucleus. This reported radius has a large uncertainty due to a lack of statistics. To deduce a more accurate matter radius of  $^{22}\text{C}$ , the measurement of reaction cross section with higher statistics at a higher beam energy are required. The experiment was performed by using the SAMURAI spectrometer at RIBF. The  $^{22}\text{C}$  beam at 240 MeV/nucleon was impinged on a carbon target, and the reaction product was identified by using SAMURAI spectrometer. In the present talk, the extracted reaction cross section and derived matter density distribution of  $^{22}\text{C}$  will be presented.

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