FIRST RESULT FROM SCRIT ELECTRON SCATTERING FACILITY : CHARGE DENSITY DISTRIBUTION OF ^{132}Xe

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We have constructed the SCRIT (Self-Confining Radioactive Ion Target) electron scattering facility to realize electron scattering off short-lived unstable nuclei at RIKEN in Japan.

Electron scattering provides the most powerful and reliable information about the structure of atomic nuclei. It has been, however, extremely difficult to apply electron scattering for unstable nuclei due to target preparation problems.

SCRIT is a novel ion-trapping technique to achieve high luminosity of more than 10^{27} [/cm^2/s] with a small amount of target ions, typically 10^7, which are trapped in the electron beam.

Following the installation of a scattered electron spectrometer, WiSES (Window-frame Spectrometer for Electron Scattering) and a luminosity monitor in 2014, a series of commissioning experiments of the whole facility with several stable nuclear targets have been performed.

Recently, the angular distributions of elastic scattering for ^{132}Xe target had been successfully measured at several electron beam energies. No electron scattering has been ever performed so far although ^{132}Xe is a stable nucleus. The information of the shape of ^{132}Xe nucleus can be extracted from the angular distributions for the first time.

In this contribution, the first result from the SCRIT electron scattering facility and future plans towards electron scattering off unstable nuclei will be presented.