Abstract Submitted
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Development of a Recoil Ion Detector for Self-Confining RI Target (SCRIT)[1] KAZUYOSHI KURITA, Rikkyo University, TAKASHI EMOTO, RIKEN, KENICHI ISHII, Rikkyo Univerisity, SACHIKO ITO, RIKEN, ATSUHIRO KUWAJIMA, Tohoku University, AKIRA NODA, TOSHIYUKI SHIRAI, Kyoto University, TOSHIMI SUDA, RIKEN, TADAAKI TAMAE, Tohoku Univerisity, HIROMU TONGU, MASANORI WAKASUGI, SHUO WANG, YASUSHIGE YANO, RIKEN, SCRIT TEAM — SCRIT is a radioactive isotope target formed by an electrostatic trap in an electron storage ring. We have recently proved that the principle of SCRIT can be applied to realize electron scattering experiments for unstable nuclei. We started an R&D for a recoil ion detector by measuring the background rate inside an electron storage ring at Kaken Storage Ring (KSR) using micro channel plates. After several trial measurements, we came up to a solution to reduce 10MHz background to about 10kHz level. The background radiation which could not be reduced by applying repelling potential on fine meshes was found to be photons. Two sets of electrostatic mirrors were combined to guide the recoil ions to a low background environment. The current status of the recoil arm development will be reported.

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