

Abstract Submitted  
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**Development of Residual Gas Ionization Profile Monitor for slowly extracted proton beams** YOSHINORI SATO, High Energy Accelerator Research Organization (KEK), KEIZO AGARI, MASAHARU IEIRI, YOHJI KATOH, ERINA HIROSE, YOICHI IGARASHI, SUSUMU INABA, MICHIFUMI MINAKAWA, HIROYUKI NOUMI, MASATOSHI SAITO, YOSHIHIRO SUZUKI, HITOSHI TAKAHASHI, MINORU TAKASAKI, KAZUHIRO TANAKA, AKIHISA TOYODA, YOSHIKAZU YAMADA, YUTAKA YAMANOI, HIROAKI WATANABE, High Energy Accelerator Research Organization (KEK) — We have developed Residual Gas Ionization Profile Monitor (RGIPM) for slowly extracted proton beams at Japan Proton Accelerator Research Complex (J-PARC). Beam monitors must be non-destructive to keep beam losses as low as possible for maintenance reasons. The profiles of beams are measured by collecting knock-on electrons produced by ionization of residual gas in 1 Pa vacuum. Applying the magnetic field parallel to the collection electric field is essential to reduce diffusion by collisions of electrons with residual gas molecules. A prototype RGIPM has been installed in the slow-extraction beam line at KEK 12 GeV Proton Synchrotron. The results of the test experiments of the prototype monitor are presented.

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