

Abstract Submitted
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Study of an electron beam deflection with channeling in silicon crystals SHINYA SAWADA, High Energy Accelerator Research Organization (KEK), ICHITA ENDO, MASATAKA IINUMA, Graduate School of Advanced Sciences of Matter, Hiroshima University, HIROTOSHI KUROIWA, TAKEHIRO OHNISHI, Venture Business Laboratory, Hiroshima University, SERGEY STROKOV, TOHRU TAKAHASHI, KEITAROU UEDA, Graduate School of Advanced Sciences of Matter, Hiroshima University — Crystal channeling is a promising way to deflect high energy particles. As the basis for future applications of crystal channeling for a beam-handling system, such as a beam-splitting system at J-PARC and a collimator at the International Linear Collider, electron-beam deflection with silicon crystals has been studied. A 150-MeV electron beam from the REFER electron ring at Hiroshima University was incident on a silicon crystal (16 μm). The profile of the beam after passing through the crystal was measured by an image intensifier at 2.34-m downstream of the crystal. If channeling occurs, the profile will change as the angle of the crystal changes. In this talk, results of the experiments are presented, as well as a comparison with a simulation and future prospects.

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