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Performance evaluation of the Scattered particle Fiber Tracker for J-PARC E10 experiment YOSHIYUKI NAKADA, ATSUSHI SAKAGUCHI, SHUHEI H. HAYAKAWA, MANAMI NAKAGAWA, KENICHIRO OUE, TOMONARI HAYAKAWA, Department of Physics, Osaka University, KOJI MIWA, RYOTARO HONDA, YUYA AKAZAWA, Department of Physics, Tohoku University, HITOSHI SUGIMURA, SHOICHI HASEGAWA, Japan Atomic Eenegy Agency (JAEA) — J-PARC E10 experiment was proposed to produce the neutron-rich Λ-hypernucleus ${}^{6}_{\Lambda}\mathrm{H}$ by using the ${}^{6}\mathrm{Li}(\pi^-, \mathrm{K}^+)$ reaction at 1.2 GeV/c and to study its structure. The experiment was performed at the K1.8 beam line of J-PARC Hadron Experimental Facility. The Scattered particle Fiber Tracker (SFT) is a scintillating fiber tracker which was newly installed just downstream the target. In this experiment we required high intensity π^- beams of typically 1.4×10^7 π/spill. So, we replace a tracking wire chamber with SFT to obtain more precise timing information and higher rate tolerance. SFT has x, u, v-planes constructed by scintillating fibers. The light signals from the scintillating fibers are read out by Multi Pixel Photon Counters (MPPCs). The Extended Analogue SiPM ReadOut Chip (EASIROC) system was used as readout electronics. The multi-hit TDC program has introduced in FPGA of the EASIROC system. We analyzed the time information of SFT and studied the influence of high counting rate upon the performance of SFT using the data of the E10 experiment. We report the results of the analysis.

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