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Development of the diagnostic beamline for muon acceleration test with APF IH-DTL

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The muon-dedicated linear accelerator is being developed for the muon g-2/EDM experiment at J-PARC. To suppress the decay loss during acceleration, the alternative phase focusing (APF) method inter-digital H-mode drift tube linac (IH-DTL) is adopted in the low-velocity region following a radio-frequency quadrupole linac (RFQ). We are planning to accelerate muons in 2024 using the RFQ and the IH-DTL which will accelerate muons from 8% to 30% of the speed of light with an operating frequency of 324 MHz. After the IH-DTL, a diagnostic beamline will be placed to measure the beam energy and quality after acceleration, and its design, which consists of magnets and bunchers, is underway. In this poster, we will report on the development status of the diagnostic beamline.

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Footnotes

I have read and accept the Privacy Policy Statement

Yes

Primary author: IBARAKI, Yuka (Nagoya University)

Co-authors: CICEK, Ersin (High Energy Accelerator Research Organization); EGO, Hiroyasu (High Energy Accelerator Research Organization); SUMI, Kazumichi (Nagoya University); INAMI, Kenji (Nagoya University); YOTSUZUKA, Mai (Nagoya University); OTANI, Masashi (High Energy Accelerator Research Organization); YOSHIDA, Mitsuhiro (High Energy Accelerator Research Organization); SAITO, Naohito (High Energy Accelerator Research Organization); KAWAMURA, Naritoshi (High Energy Accelerator Research Organization); HAYASHIZAKI, Noriyosu (Research Laboratory for Nuclear Research); KITAMURA, Ryo (Japan Proton Accelerator Research Complex (J-PARC)); MORISHITA, Takatoshi (Japan Atomic Energy Agency); YAMAZAKI, Takayuki (High Energy Accelerator Research Organization); IIJIMA, Toru (Nagoya University); MIBE, Tsutomu (High Energy Accelerator Research Organization); KONDO, Yasuhiro (Japan Atomic Energy Agency); IWATA, Yoshiyuki (National Institute of Radiological Sciences); NAKAZAWA, Yuga (Ibaraki University); SUE, Yuki (Nagoya University); TAKEUCHI, Yusuke (Kyushu University)

Presenter: IBARAKI, Yuka (Nagoya University)

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