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Development of beam position measurement algorithm for single bunch mode in the RAON accelerator

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The rare-isotope accelerator complex for ON-line experiments (RAON) is a heavy-ion accelerator facility in Korea. The bunch repetition rate of RAON is 81.25 MHz with normal operation. The beam position monitor (BPM) electronics calculate the beam position using IQ method with a sampling rate of 93 MSPS and a 300 MHz low-pass filter. RAON can operate in single bunch mode with a less than 10 μ s interval. The BPM electronics is also required to measure the beam position in single bunch mode. We developed the position measurement algorithm for single bunch mode using the same electronics. This poster presents the development process and simulation results for beam position measurement in single bunch mode.

Footnotes

Funding Agency

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Yes

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