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Design and Programming of a Multifunctional Device for Accelerator Beam Profile Measurement and Beam Stop

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During the pre-research phase of China Spallation Neutron Source (CSNS) upgrade project (CSNS-II), in order to conduct beam commissioning of the Radio Frequency Quadrupole (RFQ) under high-intensity beam conditions, The structure of the last-stage wire scanner of the Medium Energy Beam Transport (MEBT) was innovatively modified. This modification not only added a Beam Stop but also significantly enhanced the efficiency of wire scanner. This paper presents the architecture and operational programming of a novel multifunctional device designed for accelerator beam diagnostics and beam termination: beam profile measurement via advanced sensing mechanisms and Beam Stop using a braided carbon fiber plate as the primary beam stop.

Footnotes

Funding Agency

I have read and accept the Conference Policies

Yes

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