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Commissioning of an Optical IPM for the CSNS LINAC

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A residual gas Ionization Profile Monitor (IPM) was designed and installed in CSNS-Linac for horizontal beam profile measurement. In the design of the IPM, the use of equipotential electrodes was abandoned. Instead, a honeycomb structure is incorporated at the openings of the anode plate to suppress the horizontal component of the electric field. The shadowing introduced by the honeycomb during imaging is corrected using the DIP machine learning model, resulting in a post-correction measurement error of 8.3 %, which meets the measurement requirements for the IPM at the Linac location.

Footnotes

Funding Agency

I have read and accept the Privacy Policy Statement

Yes

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