Contribution ID: **287** Contribution code: **MOP083** Type: **Poster Presentation**

Resonant cavity for quadrupole moment measurements of heavy ion beams

Monday 11 August 2025 16:00 (2 hours)

Non-invasive and fast beam emittance measurement is highly demanded for accelerated multi-charge-states heavy ion beams. The driver linac of the Facility for Rare Isotope Beams is the first accelerator intended to accelerate multiple charge states of stripped heavy ion beams and deliver up to 400 kW to the isotope production target. Emittance measurements of, for example, five charge states of uranium beam using conventional wire profile monitors take more than an hour in one location and add up to a few hours throughout the linac. This work presents design studies for a resonant cavity monitor capable of instantaneous measurement of the quadrupole moment of the beam distribution. Coupling with the beam and signal acquisition system, the separation between monopole, dipole, and quadrupole modes of the cavity are discussed.

Please consider my poster for contributed oral presentation

No

Would you like to submit this poster in student poster session on Sunday (August 10th)

No

Footnotes

Funding Agency

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I have read and accept the Privacy Policy Statement

Yes

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