Contribution ID: **176** Contribution code: **WEP023** Type: **Poster Presentation**

Design study of an RF-Kicker module for bunch cleaning at the ATLAS Positive-Ion Injector.

Wednesday 13 August 2025 16:00 (2 hours)

Positive-Ion Injector at ATLAS accelerator facility can accelerate heavy ions and has three key subsystems – an electron cyclotron resonance (ECR) ion source, a 12-MHz multi-stage beam bunching system, and a 12-MV superconducting linac accelerator. The first stage of the bunching system is a multi-harmonic buncher that operates at 12.125 MHz and creates a bunch train with a period of 82.5 ns at ˜70% bunching efficiency. The remaining unbunched beam must be removed to avoid the production of undesirable 'satellite'bunches, which can quench the superconducting solenoids downstream during operation. In this paper, we present the design of a resonant sine-wave RF-structure that effectively removes the bunch 'tails'using a vertically deflecting kick. We also discuss the effects of the RF-Kicker on the beam quality, which was estimated by TRACK3D simulations.

Please consider my poster for contributed oral presentation

No

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

Yes

Footnotes

Funding Agency

I have read and accept the Privacy Policy Statement

Yes

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