Contribution ID: **86** Contribution code: **TUBD02** Type: **Contributed Oral Presentation**

Dramatically Reduced Beam Losses at BNL 200 MeV Linac

Tuesday 12 August 2025 11:50 (20 minutes)

The Brookhaven National Laboratory (BNL) 200 MeV drift tube linac (DTL) delivers H- beam at 6.67 Hz and 200 MeV to both the polarized proton program at the Relativistic Heavy Ion Collider (RHIC) and the Brookhaven Linac Isotope Production (BLIP) facility. Through a series of upgrades, particularly in the last two decades, the linac's performance has significantly improved. Reconfigurations of the low-energy and medium-energy beam transport systems have been key contributors to this progress. Key improvement include:
A 50% increase in transmission for high-peak-current isotope production, a 50% reduction in transverse emittance and A dramatic three-order-of-magnitude reduction in beam loss.
These upgrades and has significantly enhanced the overall performance and efficiency of the BNL 200 MeV linac.

Please consider my poster for contributed oral presentation

Yes

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

No

Footnotes

Funding Agency

Work supported by Brookhaven Science Associates, LLC under Contract No. DE-SC0012704 with the U.S. Department of Energy

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Yes

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Session Classification: TUBD: Hadron Accelerators (Contributed)

Track Classification: MC4 –Hadron Accelerators