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Beam bunchers for LANSCE Modernization Project

Thursday 14 August 2025 16:00 (2 hours)

The Los Alamos Neutron Science Center (LANSCE) accelerator complex delivers both protons and negative hydrogen ions with various beam time patterns simultaneously to multiple users. The LANSCE linac front end is still based on Cockcroft-Walton voltage generators. An upgrade of the front end to a modern, RFQ-based version –a part of the LANSCE Modernization Project (LAMP) –is now in the conceptual design stage. The LAMP will need beam bunchers both in the low-energy transport (LEBT, 100 keV) before RFQ, and in the medium-energy transport (MEBT, 3 MeV) after RFQ. We use CST modeling to develop buncher cavities for LAMP. A few RF cavity types for MEBT: re-entrant, quarter-wave, and half-wave –are considered and compared. The LEBT low-frequency buncher is different: it is based on a two-gap structure driven by an LC-circuit and used for beam velocity bunching.

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

I have read and accept the Privacy Policy Statement

Yes

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