

Design of a high-current LEBT

Thursday 29 August 2024 16:00 (2 hours)

We have designed a 4-solenoid LEBT, aiming at transporting high-current high-repetition short-pulse proton beam to RFQ acceptance. In this paper, we present the designs of the key parameters for the LEBT dynamics and the conical scraper. The influence of the solenoid magnetic fields and drift spaces were discussed. The performance of the scraper with different dimensions were compared. The designed LEBT and scraper can significantly remove the unwanted particles and reduce the beam loss in subsequent RFQ while maintaining a relatively high transmission efficiency.

Footnotes

Funding Agency

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