

# An alternative design scheme for CSNS-II MEBT dynamics

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The China Spallation Neutron Source (CSNS) has been operating at a stable beam power of 160 kW since March 2024, marking a significant 60% increase from its original design capacity. The ongoing CSNS upgrading project, known as CSNS-II. As part of this upgrade, a versatile Medium Energy Beam Transport (MEBT) system has been meticulously studied and redesigned to meet the stringent requirements for beam control in the presence of strong space charge effects. The MEBT system boasts several key functions and features, including beam chopping for optimizing beam structure, scrapers for confining and removing beam halo particles. Detailed studies on beam performance, in conjunction with the main linac, have been carried out and are presented in this article.

## Footnotes

## Funding Agency

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