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## A novel two stage collimation unit for Fermilab booster

*Tuesday, 21 May 2024 16:00 (2 hours)*

A new two-stage collimation unit (2SC) for Fermilab Booster will be installed during 2024 summer shutdown. It is a supplementary collimator for existing single stage Booster collimators. Unique operational principles of this new 2SC adapted to Booster conditions are described. Results of beam dynamics simulations on collimation efficiency of the new 2SC are presented. Evaluation of collimator shielding has been performed with MARS code. The analysis on prompt and residual activation was found to meet Fermilab Radiological Control limits. We will also present the results from analysis on shielding as well as residual activation.

### Footnotes

### Funding Agency

### Paper preparation format

Word

### Region represented

North America

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