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Study of the beam losses and the radiation levels in the electrostatic septum for slow extraction at 8 GeV

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Extraction of beam from the Fermilab Delivery Ring for the Mu2e Experiment is hindered by large radiative losses initiated within the electrostatic septum (ESS) components of the resonant extraction system (RES). Of particular concern are beam losses causing potential damages to the support components of the RES, diminished intensity for experimental statistics, and high radiation levels in the area of the RES. Here we present the detailed study of beam energy deposition and radiation levels of components and surrounding regions of the ESS in the RES at Fermilab using the MARS Monte Carlo code system.

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Footnotes

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Yes

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