

Calculating Residual Dose in Mu2e Downstream Hall

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This project sets to meet two objectives. Firstly, use a newly developed code packed called FermiCORD to calculate the residual dose in the Mu2e DS hall. Due to the fact that running accelerator-based experiments can result in neutron activation of their surroundings, radiation can persist even after beam is off. Therefore, one of the main motivations of calculating the dose in Mu2e's downstream hall is to know its severity for compliance with safety standards. In other words, we wish to know how long personnel can be in parts of the hall to limit the amount of radiation exposure they may receives during times like maintenance. The second objective of the project is to provide feedback for new users of the code after having been someone unfamiliar with it or its development. Despite the useful tools that the package offers, it has had little use outside of those who originally played a part in its development. This issue has been attributed to the difficulty of understanding aspects of the code when going in blind. Part of the project involves resolving this problem by creating more introductory material to assist users when using package for the first time.

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