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Code intercomparison and benchmark for muon fluence and absorbed dose induced by an 18 GeV electron beam after massive iron shielding

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In 1974, Nelson, Kase, and Svenson published an experimental investigation on muon shielding using the SLAC high energy LINAC. They measured muon fluence and absorbed dose induced by a 18 GeV electron beam hitting a copper/water beamdump and attenuated in a thick steel shielding. In their paper, they compared the results with the theoretical models available at the time. In order to compare their experimental results with present model calculations, we use the modern transport Monte Carlo codes to model the experimental setup and run simulations. The results will then be compared between the codes, and with the SLAC data.

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