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NuMi Beam Muon Monitor Simulation for Neutrio Beam Quality Improvement

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Muon monitors are a very important diagnostic tool for the NOvA experiment at Fermilab. With the MINOS experiment decommissioned, MM are the only detectors to indicate and help mitigate the issues with the NuMI beam. The goal of our study is to maintain the quality of the MM signal and to establish the neutrino beam profile and MM signal correlations. This study could also inform the LBNF decision on the beam diagnostic tools. We report here on the progress of beam scan data analysis (beam position, spot size, and magnetic horn current scan) and comparison with the simulation outcomes.

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