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Investigation of Beam Emittance and Beam Transport Line Optics on Polarization

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Effects of beam emittance, energy spread, optical parameters and magnet misalignment on beam polarization through particle transport systems are investigated. Particular emphasis will be placed on the beam lines being used at Fermilab for the development of the muon beam for the Muon g-2 experiment, including comparisons with the natural polarization resulting from pion decay, and comments on the development of systematic correlations among phase space variables.

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