

Racetrack FFAG muon decay ring for NuStorm Project

The interest for NuStorm Project is growing recently for neutrino physics experiments as an early stage of Neutrino Factories. The facility requires a racetrack muon decay ring with both large transverse acceptance and large momentum acceptance. On the one hand, FODO lattices can achieve very large transverse acceptance, but natural chromaticity strongly limits the momentum acceptance, even for a few turns. On the other hand, zero-chromatic Fixed Field Alternating Gradient (FFAG) accelerators can achieve huge 6D acceptance, and recent developments made possible to design zero-chromatic racetrack FFAG lattices. Details of such an FFAG lattice for NuStorm are presented here.

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