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Status of the neutrinos from STOREd Muons (nuSTORM) facility

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This talk reviews the current status of the neutrinos from STOREd Muons (nuSTORM) facility. The basic idea for nuSTORM (the production of neutrino beams from the decay of muons in a racetrack-like decay ring) was discussed in the literature over 30 years ago in the context of searching for non-interacting ("sterile") neutrinos. However, it was only in the past five years that the concept was fully developed, motivated again in large part, by the facility's unmatched reach in addressing the evolving data on oscillations involving sterile neutrinos. The talk will include a brief review of the physics motivation behind nuSTORM, a high-level description of the facility and then describe in detail the neutrino beams it can produce. Although nuSTORM is a neutrino factory-like facility, due to its particular nature, it can also provide an intense, very pure, muon neutrino beam from pion decay. This so-called "Neo-conventional" muon neutrino beam from nuSTORM makes nuSTORM a hybrid neutrino factory. The talk will include sensitivity plots that indicated how well the facility can perform for short-baseline oscillation searches and show its potential for a neutrino interaction physics program.

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