

A neutrino factory based on a muon storage ring is the ultimate tool for studies of neutrino oscillations, including possibly the discovery of leptonic CP violation. We present a simulation of the neutrino factory baseline near detector interaction rates for the purely leptonic process $\nu_\mu + e^- \rightarrow \nu_e + \mu^-$ and for $\nu_\mu + N \rightarrow \mu^- + X$ scattering in view of measuring the first one and suppressing the second one for neutrino flux estimation. A set of most sensitive measurable quantities are discussed and their selective power against experimental uncertainties is examined.

Keywords: neutrino factory, near detector, neutrino flux measurement, leptonic interactions

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