

Neutrino Mass with Accelerated ions [arXiv:0904.1089]

Bob McElrath

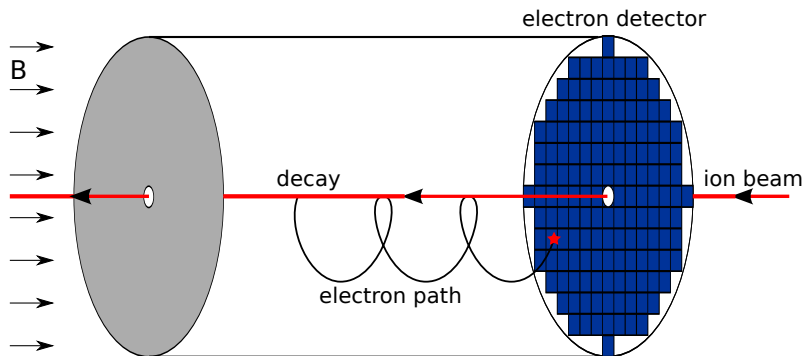
CERN

October 1, 2009

arXiv:0904.1089 [EPJC accepted]

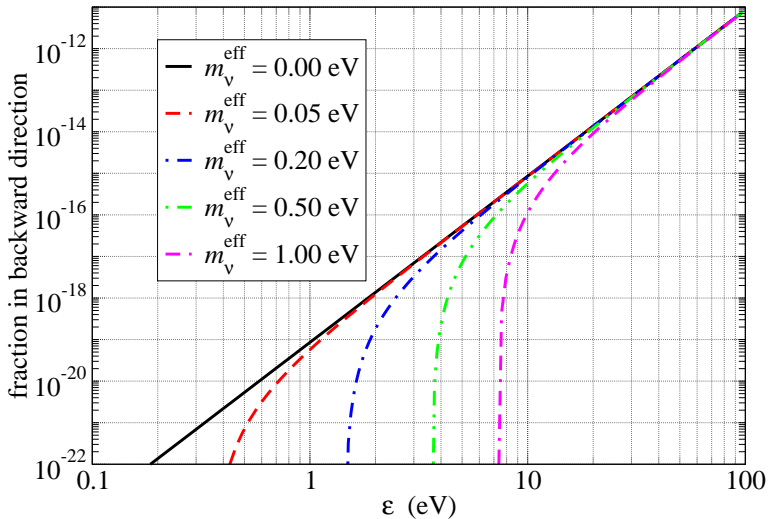
European Strategy for Future Neutrino Physics

Experiment Design



- ▶ Precision on $\delta p \lesssim m_\nu$ is required on the initial state and final state for any mass measurement.
- ▶ “Crystallized Beam” technology has demonstrated $\delta p/p \lesssim 10^{-6}$ [Diedrich et al. PRL **59** (1987) 2931; Bluemel et al. Nature **334** (1988) 309; Schramm et al., Progress in Particle and Nuclear Physics 53, 583 (2004)]

Backward-Going Neutrino Fraction (Q=5 keV)



Mass Sensitivity

