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## Decoherence effects from sterile neutrinos in short baseline oscillation experiments.

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Oscillations of light Dirac and Majorana sterile neutrinos with  $m_s \simeq eV$  produced in meson decays are suppressed through decoherence aspects arising from lifetime effects of the decaying mesons and the stopping distance of the charged lepton in short baseline experiments. We obtain the transition probability from production to detection via charged current interactions including these decoherence effects for 3+1 and 3+2 scenarios and the impact of these effects on the determination of mixing angles, mass differences and CP-violating amplitudes. We argue that decoherence effects are important in current short baseline accelerator experiments, leading to an underestimate of masses, mixing and CP-violating angles. At MiniBooNE/SciBooNE we estimate that these effects lead to an  $\sim 15$

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