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Heavy Neutrino Decay: Detection Sensitivity and Decay Width

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We investigate the decay of MeV-scale sterile neutrinos into $e+e^-$ pairs, which is a signature that can be exploited by current solar neutrino and future dark matter experiments to set stringent limits in mass-mixing parameter space. We present a closed-form cross-section correctly accounting for the neutral/charged current interference and rederive Borexino bounds based on this result. We also comment on future sensitivities.

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