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Accelerator and Reactor Complementarity in Coherent Neutrino-Nucleus Scattering

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Coherent elastic neutrino-nucleus elastic scattering (CEνNS) experiments can be used to constrain new physics in the form of non-standard neutrino interactions (NSI). First, we consider the current data from the recent observation by the Coherent experiment within a Bayesian framework. Second, we demonstrate the complementarity of future reactor and accelerator experiments, by employing at least two distinct target materials at each source. This enables a degeneracy between up and down flavor-diagonal NSI terms to be broken. Considering four flavor-diagonal ($ee/\mu\mu$) up- and down-type NSI parameters, we find that all terms can be measured with high local precision (to a width as small as $\sim$5% in Fermi units) by next-generation experiments.

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