

## Accelerator and Reactor Complementarity in Coherent Neutrino-Nucleus Scattering

*Wednesday, May 30, 2018 3:20 PM (20 minutes)*

Coherent elastic neutrino-nucleus elastic scattering (CE $\nu$ NS) 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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