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## Constraining NSIs through CEvNS measurements at the European Spallation Source

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**Abstract:** The European Spallation Source (ESS), currently under construction in Sweden, will provide an intense pulsed neutrino flux allowing for high-statistics measurements of coherent elastic neutrino-nucleus scattering (CEvNS) with advanced nuclear recoil detectors. In this paper, we investigate in detail the possibility of constraining non-standard neutrino interactions (NSIs) through such precision CEvNS measurements at the ESS, considering the different proposed detection technologies, either alone or in combination. We first study the sensitivity to neutral-current NSI parameters that each detector can reach in 3 years of data taking. We then show that operating two detectors simultaneously can significantly improve the expected sensitivity on flavor-diagonal NSI parameters. Combining the results of two detectors turns out to be even more useful when two NSI parameters are assumed to be nonvanishing at a time. In this case, suitably chosen detector combinations can reduce the degeneracies between some pairs of NSI parameters to a small region of the parameter space.

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