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CEvNS in dark matter experiments to constrain neutrino NSI

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Direct dark matter detection experiments will soon be sensitive to solar neutrinos through their coherent scattering with the target nuclei, as well as their scattering with electrons. This offers an excellent opportunity to test new physics in this sector. By combining data from the two signatures, direct detection will provide a complementary test of the non-standard neutrino interactions (NSI) landscape to that of spallation sources and neutrino oscillation experiments. To illustrate this, in this talk I will show the constraints on the NSI parameter space from current xenon-based experiments such as LZ, and the potential reach from next generation detectors. This talk is based on arXiv:2302.12846.

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