

Coherent neutrino-nucleus scattering, dark matter, and Beyond Standard Model physics

Friday, 23 June 2017 15:30 (20 minutes)

I will discuss the prospects for near future coherent neutrino-nucleus scattering experiments to test Standard Model physics and Beyond Standard Model physics. I will discuss how existing dark matter direct detection technology can be employed to explore novel neutrino interactions and explore hidden sector models using reactor, stopped pion, and solar sources. I will also comment on the implications of such physics on upcoming dark matter direct detection experiments. With their low threshold and large exposure, current and future direct detection efforts will begin to encounter an irreducible neutrino background, and thus probe not only dark matter parameter space, but coherent neutrino-nucleus interactions as well.

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