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## **Neutrino Background in Dark Matter Direct Detection Experiments: Standard Model and beyond**

*Monday, 30 July 2018 10:00 (30 minutes)*

Negative results of direct detection searches so far have driven proposals for the next generation experiments with higher exposures. Nevertheless, such future facilities will face an irreducible background coming from the elastic scattering of solar and atmospheric neutrinos with the nuclei in the detector. Such background is usually parametrized through the introduction of the so-called neutrino floor. Interestingly, if beyond the Standard Model interactions are present in the scattering, the neutrino floor can be significantly modified; thus, direct detection experiments can constrain such new interactions. We will present flavour dependent and independent scenarios in which neutrinos can couple with the Dark Matter particle, and we will show their impact in future searches.

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