

# Dark matter electron interactions in graphene detectors

*Tuesday 23 November 2021 16:30 (15 minutes)*

We develop a formalism to describe electron ejections from graphene by dark matter (DM) scattering for general forms of spin 1/2 DM electron interactions. This novel formalism allows for accurate prediction of the daily modulation signal expected from DM in upcoming direct detection experiments employing graphene sheets as target material. The general interaction is captured using non-relativistic effective field theory methods, whereas the physics of the graphene sheet is treated with state-of-the-art DFT.

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**Session Classification:** Tuesday afternoon session 3