

Migdal effect: New insights and updated predictions

Thursday 22 September 2022 15:30 (20 minutes)

Previous calculations of the Migdal effect assumed small values of the nuclear recoil velocity and were limited to the ionisation of single electrons. I will discuss new calculations of the Migdal effect that are robust for any conceivable value of the nuclear recoil velocity and allow for the ionisation of multiple electrons. Our results enable robust predictions of the Migdal effect scattering rate in experiments using neutron sources, and in dark matter direct detection experiments.

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Session Classification: Session 3 (late pm)