



Contribution ID: 487

Type: **not specified**

## Boosted Dark Matter Resonant Scattering

*Monday 13 May 2024 14:30 (15 minutes)*

We study the physics of the intermediate scattering regime for boosted dark matter (BDM) interacting with standard model (SM) target nucleons. The phenomenon of BDM, which is consistent with many possible DM models, occurs when DM particles receive a Lorentz boost from some process. BDM would then exhibit similar behavior to neutrinos as it potentially interacts, at relativistic speeds, in terrestrial based neutrino detectors. Producing (in)direct DM signatures in these experiments, as opposed to recoil experiments which probe the interactions of the non-relativistic halo of DM in our solar system. We investigate the intermediate scattering regime, between elastic and inelastic events, of such processes involving BDM at energies of order 1-2 GeV where resonant scattering processes occur. The application of this research is an event generator GENIE code for implementation in future experiments such as LArTPC at DUNE.

### Mini Symposia (Invited Talks Only)

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**Session Classification:** Dark Matter

**Track Classification:** Dark Matter