Contribution ID: **142** Type: **not specified**

A general upper bound on the light dark matter scattering rate in materials

Tuesday 27 May 2025 17:40 (20 minutes)

Within the framework of linear response theory combined with effective description of interactions of fermion dark matter (DM) with electrons, it is possible to derive a material-independent theoretical upper limit on the rate of DM-induced electronic excitations in direct-detection experiments. In my talk, I will describe how this limit can be obtained, and compare it to the interaction rate calculated for some actual materials, in a few popular effective models of DM-e^- interactions.

Primary author: IGLICKI, Michał (Chalmers U. of Technology)

Presenter: IGLICKI, Michał (Chalmers U. of Technology)

Session Classification: Dark Matter experiments