



LNGS SEMINARS

Paolo Panci

LNGS

Dark Matter Direct Detection: brief theory status

- Abstract -

Dark Matter (DM) Direct detection aim at detecting the tiny nuclear recoils arising from non-relativistic DM-nucleus collisions. This talk is organised in three parts where I will present: i) the most useful approach to study signal in direct detection based on non-relativistic EFT; ii) how to match a non-complete set of high-energy effective operators to the non-relativistic EFT describing DM-nucleus collisions; iii) how the running of the SM couplings between the energy scale of the mass of the mediator and the nuclear energy scale generates operator mixing and, in turn, new interactions at low-energy. The inclusion of the running is not optional and give rise to important phenomenological consequences that I'll discuss.

June 28, 2019 - h 11:00 am

LNGS - "B. Pontecorvo" room

https://agenda.infn.it/e/panci_2019