**Istituto Nazionale di Fisica Nucleare Laboratori Nazionali di Frascati**

Avviso di Seminario Teorico

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**Hunting axion dark matter with anti-ferromagnets: a case study with nickel oxide**

In this talk, I will explore how effective field theories (EFTs) provide a powerful framework for describing interactions—particularly non-linear couplings—between dark matter particles and the collective excitations of target materials. I will focus specifically on the interaction between axion dark matter and magnons, which are quasiparticles arising from spin-wave excitations in antiferromagnetic materials. Materials such as nickel oxide emerge as optimal candidates for detecting sub-MeV dark matter with spin-dependent interactions, as well as for the absorption of meV-scale QCD axions.

## Mercoledi’ 26/3 ore 14:30 Aula Salvini

https://agenda.infn.it/event/46075/

L'invito è esteso a tutto il personale interessato, che è caldamente invitato a partecipare.