LNGS SEMINARS

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Ancient Minerals, Dark Matter, and the Neutrino Floor

Abstract

We consider a radically different approach to the detection of Dark Matter via coherent scattering on nuclei. We propose to use ancient minerals obtained from depths much deeper (up to 12 km) than those of current underground laboratories to search for the traces left by Dark Matter scattering. We will use a plurality of different read-out technologies.
We provide a first estimate of the sensitivity, which extends down to the neutrino floor for a wide range of Dark Matter masses. Both low mass DM (0.5 < MDM < 15 GeV/c2) and high mass DM (0.5 < MDM < 10 Tev/c2) may be detected. Both SI and SD interaction can be detected.

July 9, 2018 - h 11:30 am
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http://agenda.infn.it/event/drukier