



Contribution ID: 545

Type: **not specified**

A neutrino floor for the Migdal effect

Tuesday 14 May 2024 17:00 (15 minutes)

Neutrino-nucleus scatterings in the detector could induce electron ionization signatures due to the Migdal effect. We derive prospects for a future detection of the Migdal effect via coherent elastic solar neutrino-nucleus scatterings in liquid xenon detectors, and discuss the irreducible background that it constitutes for the Migdal effect caused by light dark matter-nucleus scatterings. Furthermore, we explore the ionization signal induced by some neutrino electromagnetic and non-standard interactions on nuclei. In certain scenarios, we find a distinct peak on the ionization spectrum of xenon around 0.1 keV, in clear contrast to the Standard Model expectation.

Mini Symposia (Invited Talks Only)

Primary author: HERRERA, Gonzalo (TUM, MPP)

Presenter: HERRERA, Gonzalo (TUM, MPP)

Session Classification: Neutrino Physics

Track Classification: Neutrino Physics