Contribution ID: **219** Type: **Oral**

Results from the ARIS experiment

Tuesday, 5 June 2018 17:50 (20 minutes)

Noble liquid time projection chambers (TPCs) are the leading technology in direct dark matter detection. Among the different targets, Liquid Argon (LAr) plays an important role thanks to its exceptional capabilities to distinguish between nuclear recoils and electronic recoils. The sensitivity of LAr detectors can be enhanced by constraining the parameters of the liquid argon response to interacting particles, such as the quenching of nuclear recoils and the electron-ion recombination effect.
The ARIS (Argon Response to Ionization and Scintillation) experiment has been designed to characterize the LAr response to low energy neutrons and gamma scatters with and without an electric field. A 0.5 kg LAr TPC was exposed to a highly collimated and quasi mono-energetic neutron beam produced with the LICORNE source at the IPN of Orsay and allowed to perform a precise measurement of quenching and recombination effects in LAr in the energy range of interest for dark matter searches.

Subject

BSM+DM

Abstract Title

Results from the ARIS experiment

Author's e-mail

anavrera@lpnhe.in2p3.fr

Author's Name

Anyssa Navrer-Agasson

Author's Institute

LPNHE

Primary author: NAVRER-AGASSON, Anyssa (LPNHE)

Presenter: NAVRER-AGASSON, Anyssa (LPNHE)

Session Classification: Parallel Session BSM+DM