Contribution ID: **14** Type: **not specified**

Direct dark matter detection with superheated liquids

Wednesday 7 February 2018 09:55 (20 minutes)

Through the Multidark Consolider, the Universitat Politècnica de València (UPV) research group "Acoustics for Astroparticle Detectors"has been participating in several direct dark matter detection experiments using superheated liquids since 2011. This technique presents the advantages of being efficient to nuclear recoils, easily scalable to large volumes, cost-effective, very small (almost zero) background and some freedom in selection of active targets, as for example using Fluor compounds. In this sense, the PICO bubble chamber detectors installed at SNOLAB have provided the best constrains to proton-WIMP spin-dependent interactions. Besides this, we have also been participating in the gesyser detector MOSCAB which is being installed in LNGS. Our activities within the Collaborations are mainly related to the acoustic systems needed to discriminate signal from background. We have also developed an acoustic test-bench in UPV to better understand the technique to optimise the acoustic systems.
In the talk we will review the technique, the different detectors and results, and the prospects for the future, presenting as well our activities in the field.

Author: ARDID, Miguel (UPV)

Presenter: ARDID, Miguel (UPV)

Session Classification: Review of direct detection of dark matter