Contribution ID: **371** Type: **Parallel session talk**

Detection of low mass WIMPs with Spherical Proportional Counters

Tuesday 25 May 2021 06:42 (18 minutes)

NEWS-G is an experiment searching for dark matter using the Spherical Proportional Counter (SPC) technique. Such detectors can operate significant mass of target while keeping single ionization electron detection sensitivity. They can use light target gases such as hydrogen, helium, and neon. NEWS-G aspires to extend the sensitivity of direct dark matter searches to the mass range from 0.1 GeV to few GeV, opening a window to non-standard model physics.
The talk will cover principle of operations of the SPC and a description of the 140cm diameter detector and compact shielding, with projected WIMP detection sensitivity. Preliminary results obtained in 2019 with a temporary shield at the underground laboratory of Modane (LSM, France) with neon and methane as target gases will be presented. Very early results of the experiment final installation at SNOLAB (Canada) might be included in this talk.
Another contribution to this conference describes SPC characterisation.

TIPP2020 abstract resubmission?

Yes, this would have been presented at TIPP2020.

Funding information

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Session Classification: Experiments: Dark Matter Detectors

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