

New results from the NEWS-G dark matter experiment

Friday, 17 February 2023 20:00 (15 minutes)

In the Fall of 2019, the NEWS-G experiment used its latest detector, a 140 cm diameter Spherical Proportional Counter (SPC) to search for low-mass dark matter at the *Laboratoire souterrain de Modane* (LSM), in France. Having the sphere filled with pure methane, hydrogen was used as the target to produce new limits on the spin-dependent cross-section around masses of 1 GeV.

This talk will first describe the commissioning at the LSM with the shielding used, the SPC detection principle and the new multi-anode sensor. It will then focus on the energy calibration using a UV laser and argon-37, as well as the background discrimination methods to remove alpha-induced events and electronic spike signals. The talk will conclude with a presentation of recent results from NEWS-G and the status of the current commissioning of the detector at SNOLAB.

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