



Canadian Association
of Physicists

Association canadienne
des physiciens et physiciennes

Contribution ID: 344

Type: Oral (Non-Student) / Orale (non-étudiant(e))

Status of the NEWS-G dark matter experiment first run data analysis and installation at SNOLAB

Monday, 7 June 2021 12:10 (10 minutes)

The NEWS-G collaboration aims to detect sub-GeV WIMPs using Spherical Proportional Counters (SPC). During the past 6 years, the collaboration developed a new 140 cm diameter detector. This detector - larger than the previous generation - is made from stringently selected materials for their radio-purity and is enclosed in a spherical shielding made of different layers of polyethylene and low background lead. Finally, the inner surface of the detector was plated with a half millimeter of pure copper to reduce Pb-210 induced backgrounds. A new calibration method using a UV laser was also used in addition to Ar-37, neutron, and gamma sources. The new detector performed a first measurement campaign at the Laboratoire Souterrain de Modane in France in 2019 before being moved and installed at SNOLAB. Here we present a summary of the work done on the data analysis of the first campaign. This presentation will be followed by a status of the current installation and the first data taking of the experiment at SNOLAB.

Primary author: BROSSARD, Alexis (Queen's University)

Presenter: BROSSARD, Alexis (Queen's University)

Session Classification: M1-9 Dark matter experiment and Channel of detection I (PPD) / Expérience sur la matière sombre et canal de détection I (PPD)

Track Classification: Particle Physics / Physique des particules (PPD)