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

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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.

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