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Past, present and future activities of NEWS-G at the LSM and SNOLAB

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New Experiments With Spheres-Gas (NEWS-G) is a dark matter direct-detection experiment using spherical proportional counters (SPCs) with light noble gases. First results obtained with a SPC prototype operated with Ne gas at the Laboratoire Souterrain de Modane (LSM) have already placed NEWS-G as a leader in the search for low-mass WIMPs. The forthcoming next phase of the experiment consists of a large 140 cm diameter SPC to be operated at SNOLAB with H and He gas. The use of lighter targets, improved thresholds and detector performance together with a significant reduction of the background levels will allow for unprecedented sensitivity to sub-GeV WIMPs down to 0.1 GeV. A status report on the research project at SNOLAB is given. Recent improvements in detector performance and data quality with the experiment at the LSM are also discussed.

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