

9th SYMPOSIUM ON LARGE TPCs FOR LOW-ENERGY RARE EVENT DETECTION



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Review of NEWS-G Dark Matter searches and related projects

The NEWS-G (New Experiments With Spheres –Gas) collaboration searches for light dark matter using spherical proportional counters (SPCs) located in deep underground laboratories. A choice of light gas targets (Ne, He, H) in conjunction with sub-KeV nuclear recoil thresholds allow for sensitivity to low-mass WIMPs (Weakly Interacting Massive Particles) down to $0.1 \text{ GeV}/c^2$. The recent results from SEDINE, a 60-cm diameter SPC located at LSM (Laboratoire Souterrain de Modane), set new constraints for WIMP masses lighter than $0.6 \text{ GeV}/c^2$ and will be presented. New gas quenching factor measurements obtained at the TUNL (Triangle Universities Nuclear Laboratory) facility and the status and outlook of the 1.4-metre diameter ultra-low background SPC project to be installed at SNOLAB will also be presented.

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